



BA Group

CALEDON STATION SECONDARY PLAN

Transportation Study – Update

Prepared For: Caledon Community Partners

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1.0 INTRODUCTION

1.1 BACKGROUND

BA Consulting Group Ltd. represents the Caledon Community Partners for the Caledon Station (formerly referred to as Macville Community) lands for urban development including residential, commercial, mixed uses, community uses and related servicing and infrastructure. The lands subject to this proposal consist of approximately 182 hectares (450 acres) of land and are generally located north of King Street, east of The Gore Road and west of the CP Railway tracks. The subject lands are municipally known as 14396 Humber Station Road; 14384 Humber Station Road; 14226 Humber Station Road; 14206 Humber Station Road; 14196 Humber Station Road; 14166 Humber Station Road; 14100 Humber Station Road; 14042 Humber Station Road; 14155 The Gore Road; 0 The Gore Road; 0 The Gore Road; 14211 The Gore Road; 14275 The Gore Road; 0 Humber Station Road; 14389 The Gore Road; 0 King Street; 0 King Street; 7844 King Street; 7816 King Street; 0 King Street; 7640 King Street (herein referred to as the “Subject Lands”).

The site location is illustrated in **Figure 1**.

The Subject Lands are entirely within the Region of Peel’s 2051 Urban Area (ROP, Nov 2022) and the Region’s Major Transit Station Area (MTSA).

It is also important to note that on March 5, 2021, the Province of Ontario issued a Ministerial Zoning Order (‘MZO’) under Ontario Regulation 171 / 21 (‘O. Reg. 171 / 21’) for the Subject Lands. This MZO established two zones for the Subject Lands, a ‘Mobility Transit Hub Zone’ and ‘Mixed Use Residential Zone’. These Zone permit a) a public transit depot with accessory parking and service buildings as well as a variety of commercial, retail services and public uses; and b) a range of detached, semi-detached and townhouse dwellings as well as a range of mid-rise residential and commercial uses.

The analysis within this updated traffic analysis (consistent with prior studies submitted in February 2021 and January 2022) remains related to the entirety of the lands extending to Gore Road, including what was formerly outside of the ROPA 30 boundary and is now included in the ROP Urban Area.

The latest Secondary Plan framework is provided in **Appendix A**.

The site context is illustrated in **Figure 2**.

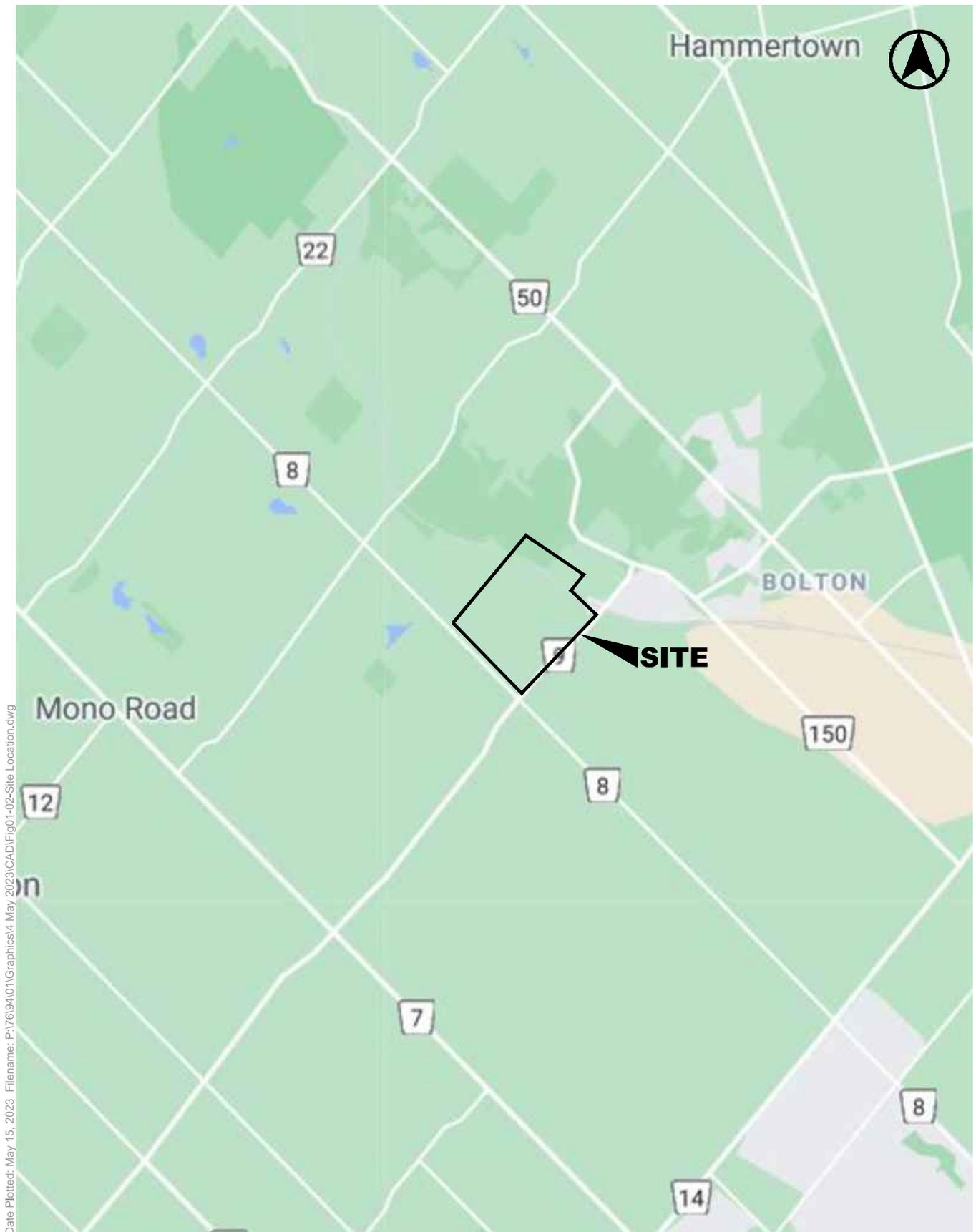
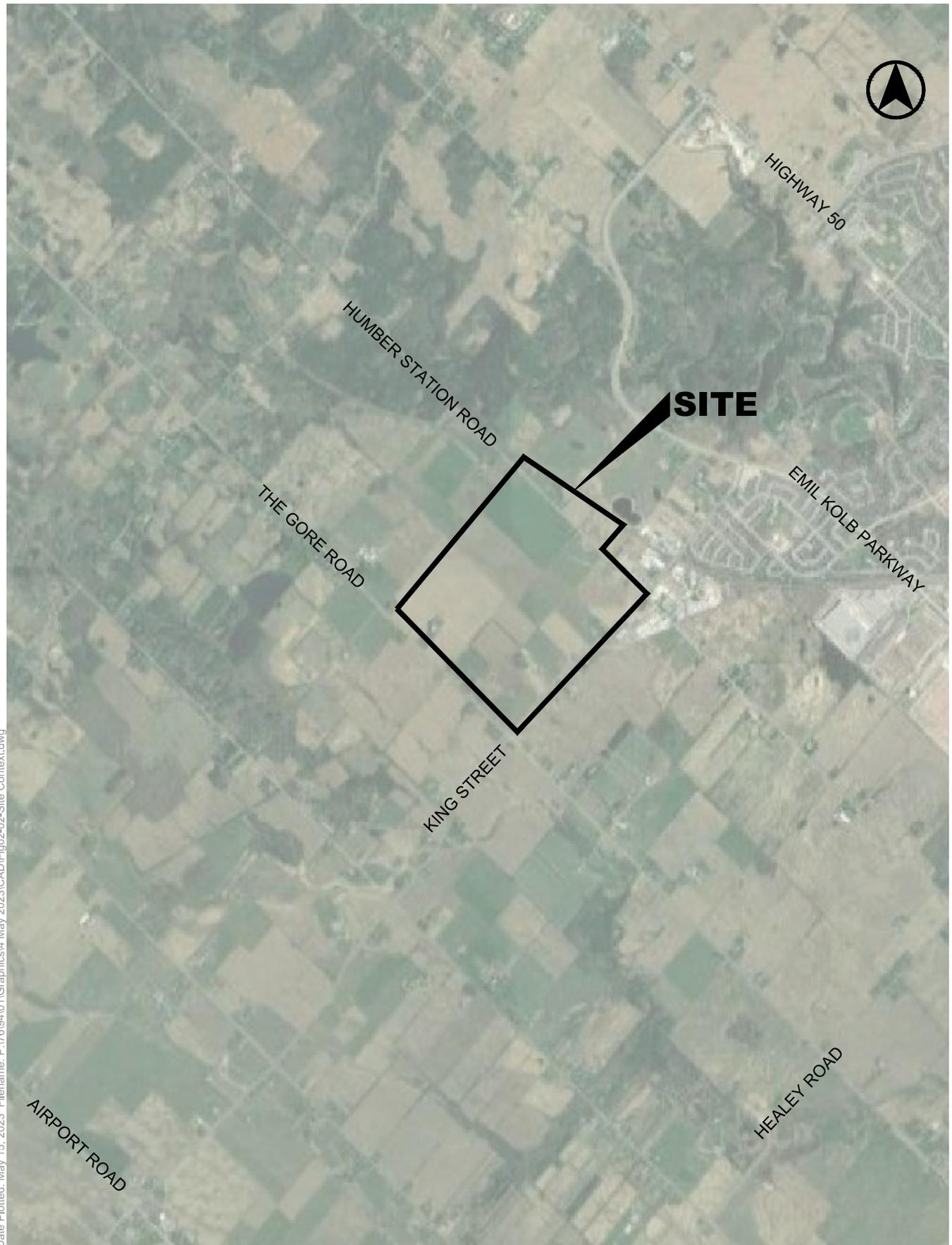


FIGURE 1 SITE LOCATION



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FIGURE 2 SITE CONTEXT

1.2 THIS STUDY

This Transportation Study Report (the “Report”) is an update to the report prepared in support of a Local Official Plan Amendment (LOPA, POPA 2021-0002) to establish a Secondary Plan for Caledon Station (formerly Macville) Community in Bolton. The Secondary Plan will facilitate the development of these lands for residential and mixed-use development with related complimentary uses, such as open spaces, parks, trails, commercial uses, the future GO Station, the Natural Heritage System (NHS), and stormwater management facilities.

This report has been prepared in support of the LOPA process to create the Caledon Station Secondary Plan for the subject lands.

The LOPA Transportation Study will focus on the impacts of the proposed community on the existing adjacent road network, namely King Street, The Gore Road, Humber Station Road, and Emil Kolb Parkway. There is a proposed new east-west road link connecting Humber Station Road directly to the future GO Station within the community via Emil Kolb Parkway which will also be assessed.

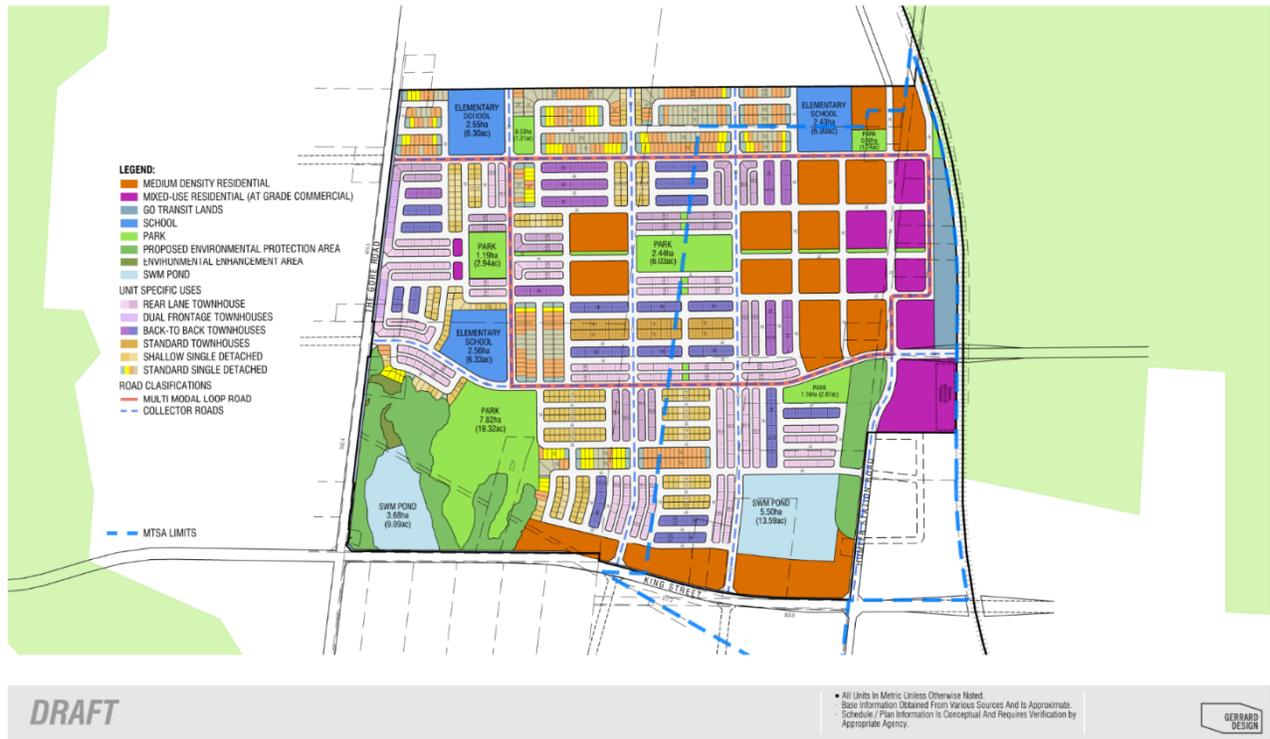
A Terms of Reference was circulated to the Town on December 16, 2020 identifying the scope of this study. A copy of the Terms of Reference is provided in **Appendix B**.

The transportation issues to be examined in this study are set out below.

- Arterial and collector road network requirements.
- Traffic controls at major road intersections.
- Roles of the arterial, collector and neighbourhood streets within the community.
- External arterial road and internal community road patterns.
- Traffic distribution.
- Transit and active transportation strategy to reduce single-occupant auto use during the peak periods and to optimize/minimize transportation infrastructure.
- Integration with GO rail transit and the resulting impacts on trip generation rates.
- Mode split assumptions for auto, transit, walk, and cycling.
- Bicycle routes and pedestrian trail network, and integration with the rest of Caledon.

1.3 PRELIMINARY FRAMEWORK PLAN

The group is proposing to construct a new mixed-use community, Caledon Station, on these lands, comprising of about 8,700 dwellings units. The community will also include three schools, retail and employment uses within the areas identified as mixed-use zones. The Secondary Plan Land Use Plan, Preliminary Framework Plan, and Road Hierarchy for Caledon Station are provided in **Appendix A**. The Framework Plan (May 2023) for entirety of the lands is also illustrated below.



CALEDON STATION FRAMEWORK PLAN

MAY 5, 2023
 PROJECT 1420
 SCALE 1:8000
CP-37

The proposed Caledon Station Community is bounded to the east by the Canadian Pacific (CP) rail line. This line has been identified by the Province and is identified in the latest Regional Official Plan for future GO rail service to Bolton and as a Major Transit Station Area (MTSA). The location of the Caledon Station Community within this MTSA creates an opportunity to develop a transit oriented community that will create an ideal impetus for implementing this new GO line in a staged manner, providing a new level of transit service to not just the Bolton area but also to northeast Brampton, and communities such as Woodbridge, Vaughan, and Kleinburg in the west of York Region.

As such, it is critical that the design of this community be undertaken in a manner that promotes multi-modal, sustainable transportation that is not just focused on the future GO station, but leverages the opportunity to develop it as a key transportation hub servicing the broader Bolton and northeast Brampton areas.

This report provides a transportation perspective on the work that has been undertaken to develop this community, as well as a preliminary assessment of the impact of this development on the surrounding road network and the need for transportation network improvements to support the development.

2.0 EXISTING AND PLANNED AREA TRANSPORTATION CONTEXT

The area transportation context is described in this report section, including a description of existing conditions and planned improvements as contemplated in the Region OP, Town OP, and other studies where available. Reference to the Town's draft OP and draft MMTMP is also made, where applicable.

- The Region of Peel has updated their 2051 Official Plan (November 2022) to include Settlement Area Boundary Expansion (SABE) and an MTSA associated with a Caledon GO Station. The Region's latest Transportation Master Plan (RTMP) update is currently ongoing and will include SABE and other recent planning decisions.
- The Town of Caledon has prepared a draft Official Plan and draft Multi Modal Transportation Master Plan (MMTMP) that includes urban boundary expansion and an MTSA associated with a Caledon GO Station. The draft Official Plan and MMTMP are undergoing revisions to be completed in 2023 that will enable the Town to:
 - Undertake additional public and agency consultation;
 - Provide Caledon's Growth Concept directly to the province; and,
 - Innovate around key areas.

Roads within the Secondary Plan are subject to future detailed design and coordination with area growth related findings of the RTMP and MMTMP studies that are currently underway.

2.1 AREA ROAD CONTEXT

2.1.1.1 King Street

Existing

King Street (Regional Road 9) is a regional arterial that provides an east-west connection from Winston Churchill Boulevard at Peel Region's west boundary with Halton Region to Caledon King Townline South at Peel Region's east boundary with York Region. King Street continues through York Region as King Road.

At the west end of Bolton, King Street is separated into two sections approximately 1 kilometre apart, connected by Emil Kolb Parkway. The section of King Street to the east of Emil Kolb Parkway is herein referred to as the east section of King Street, whilst the section of King Street to the west of Emil Kolb Parkway will continue to be referred to as King Street for the purpose of this study.

King Street extends along the southern boundary of the site, along which it operates with a single traffic lane in each direction. Localized widening along King Street at The Gore Road provides for the provision of left turn lanes. King Street is classified in the Town of Caledon Official Plan as a medium capacity arterial.

Adjacent the site, King Street has a posted speed limit of 80 kilometres per hour. There are no sidewalks along King Street in the vicinity of the site. A level rail crossing is located on King Street between Humber Station Road and Emil Kolb Parkway, operating with crossing gates and flashing lights.

Planned

The Region OP identifies King Street as a Major Road with mid-block right-of-way requirements of 30 metres (Schedule F-3) plus additional property dedication up to 35.5 metres (Policy 7.10.13).

A rail grade separation of King Street has been planned by Peel for over 10 years and is also identified as a project in the current Region of Peel Development Charges Bylaw, with an estimated capital cost of \$15 million, and an estimated completion date of 2026. The update to this DC Bylaw (which is currently underway) identifies an estimated capital cost of \$22 million for this crossing, and an estimated completion date of 2027. A more detailed description of planned road-rail grade separations is provided in *Section 4.3 - Road-Rail Grade Separations*.

2.1.1.2 The Gore Road

Existing

The Gore Road (Regional Road 8) is a north-south regional arterial extending from Highway 9 at Peel Region's north boundary with Simcoe County to Highway 50 at Peel Region's east boundary with York Region.

The Gore Road extends along the western boundary of the site, along which it operates with a single traffic lane in each direction. Localized widening along The Gore Road at King Street provides for the provision of left turn lanes. The Gore Road is classified in the Town of Caledon Official Plan as a medium capacity arterial.

Adjacent the site, The Gore Road has a posted speed limit of 70 kilometres per hour. There are no sidewalks along The Gore Road in the vicinity of the site.

The King Street / The Gore Road intersection is signalized.

Planned

The Town draft MMTMP has identified a new east-west collector road extending west from Emil Kolb to west of The Gore Road (draft MMTMP, PIC#2).

The Region OP identifies The Gore Road as a Major Road with mid-block right-of-way requirements of 30 metres (Schedule F-3) plus additional property dedication up to 35.5 metres (Policy 7.10.13).

2.1.1.3 Humber Station Road

Existing

Humber Station Road extends from Highway 9 at Caledon's north boundary with Simcoe County to Mayfield Road at Caledon's south boundary with Brampton.

Humber Station Road extends partially along the site's eastern boundary and partially through the site, where it operates with a single traffic lane in each direction. Humber Station Road is classified in the Town of Caledon Official Plan as a collector.

There are no sidewalks along Humber Station Road in the vicinity of the site. A level rail crossing is located on Humber Station Road to the north of the site, operating with flashing lights. North of the site, Humber

Station Road also experiences several grade changes and curves (posted as reduced visibility) as it traverses through the Greenbelt lands.

The King Street / Humber Station Road intersection is signalized.

Planned

The Town has identified Humber Station Road as a 26 metre collector in its in-force OP and redesignates Humber Station Road as a 4-lane arterial with a 36 metre right-of-way in its draft OP. Specific road cross sections have been developed by the Caledon Station team to support all modes of travel and to support continued development of a road network within Caledon Station that promote continuous and connected active transportation and transit supportive facilities. Among these, are a 26 metre proposed cross-section for Humber Station (from King Street to the GO Station) and 22 metre collector roads elsewhere throughout. See Section 4.2 for further details on proposed Community Cross Sections.

The Town's draft MMTMP (PIC #2) also identifies Humber Station Road to have separated cycling facilities in future.

2.1.1.4 Emil Kolb Parkway

Existing

Emil Kolb Parkway (Regional Road 150) is an arterial connection extending between Highway 50 to the north of Bolton and the east section of King Street in the west end of Bolton. Emil Kolb Parkway continues south of the east section of King Street as Coleraine Drive.

In the vicinity of the west section of King Street, Emil Kolb Parkway operates with two traffic lanes in each direction. Further north of the west section of King Street, Emil Kolb Parkway reduces to a single traffic lane in each direction. The Town of Caledon Official Plan identifies Emil Kolb Parkway as an arterial route.

In the vicinity of the west section of King Street, Emil Kolb Parkway has a posted speed limit of 60 kilometres per hour. There are no sidewalks along Emil Kolb Parkway to the north of the west section of King Street, whilst a sidewalk is provided on the west side of Emil Kolb Parkway to the south of the west section of King Street.

The King Street / Emil Kolb Parkway intersection is a roundabout.

Planned

The Town draft MMTMP has identified a new east-west collector road extending west from Emil Kolb to west of The Gore Road (draft MMTMP, PIC#2).

2.1.1.5 New East-West Collector Road

The Town draft MMTMP has also identified a new east-west collector road extending west from Emil Kolb to west of The Gore Road (draft MMTMP, PIC#2).

A more detailed description of planned road-rail grade separations is provided in *Section 4.3 - Road-Rail Grade Separations*.

2.2 AREA TRANSIT CONTEXT

Existing

Bolton is serviced by a single bus route in the AM and PM peak hours, operated by Voyago. The nearest stop on the route is approximately 2 km southeast of the site.

Existing GO Services on the Caledon GO bus route 38 are accessible through stops along Highway 50, approximately 3 kilometres to the east of the site. GO bus route 38 provides access to Malton Station on the Kitchener GO Train Line.

Planned

Both the Region's OP and Town draft OP have included a future MTSA and GO Station within the site lands to serve future GO rail service.

In addition to the future GO Station, the Town has also identified several opportunities for transit routing in the draft MMTMP 2051 Transit Network (PIC#2), including along The Gore, Emil Kolb Parkway, King Street, Humber Station Road.

The Town of Caledon has also identified in their draft MMTMP (PIC #2) the need for a Transit Strategy Study to establish a governance structure and develop a 5-year service plan.

2.2.1 Mode Share Targets

While Region of Peel's latest Transportation Master Plan (RTMP) update is currently ongoing and will include SABE and other recent planning decisions, their current RTMP (2019) envisions the following mode share targets for 2041 in Caledon as part of their 50% sustainable mode share targets for the Region:

Peel Region Mode Share Targets for Caledon (2019 RTMP):

- 68.1% driving
- 3.6% walking
- 0.8% cycling
- 2.5% transit
- 9.9% carpool
- 15.1% other

The Town of Caledon TMP (2017) identifies that 89% of all existing trips are auto (driver and passenger), while 11% of trips are made by other modes.

The Caledon Station MTSA is an ideal area to build infrastructure that will directly encourage the transit and non-auto trips in alignment with the Region's targets for non-auto mode share and Caledon's plans to increase transit service within key areas of the community.

3.0 CALEDON STATION COMMUNITY TRANSPORTATION CONTEXT

3.1 A NEW GO RAIL LINE

The impetus for the development of a community in this location is both its proximity to the existing community of Bolton and its direct adjacency to the CPR MacTier subdivision. This key rail line located along the east boundary of the proposed Caledon Station Community, carries exclusively freight rail traffic today. In 2010, Metrolinx completed the *“Bolton Commuter Rail Service Feasibility Study”* which explored options for developing GO service in this corridor. The report concluded that such a service was entirely feasible. The Caledon Station team has since built on the Metrolinx findings to determine that such a service can be implemented in a staged fashion, starting with peak period peak direction service on the existing rail line with minimal infrastructure improvements required, and ultimately building up to a full service line as the community grows and the ridership demand warrants.

The Caledon Station team has also been actively engaged with the Town and Metrolinx on Station Area planning workshops to identify how the lands at the future GO station could be envisioned in the short and long-term.

Most recently, the Region has identified the subject lands as part of the 2051 Urban Area and has identified Caledon Station in their Official Plan (OP) as a future GO station and Major Transit Station Area (MTSA). The Town, in its draft OP and draft Multimodal Transportation Master Plan (MMTMP) has also identified the future GO station and MTSA.

The implementation of a new high order regional rail service creates an opportunity to develop the lands adjacent to the future station in a transit supportive manner. This opportunity extends to supporting the clean environment & sustainable development initiatives of the Province of Ontario, the Region of Peel, and the Town of Caledon.

The opportunity for the Caledon Station team is therefore to design and implement a community that doesn't just support transit, but integrates into the design of the entire community by:

- facilitating alternative modes of transportation;
- encouraging alternative transportation behaviours;
- encouraging clean transportation technologies; and
- new and advanced technologies that promote the above.



3.2 CALEDON STATION TRANSIT HUB

The development of the future GO station on the will be the centrepiece of the community's transit infrastructure, as well as a focus for active transportation modes.

Major transit station areas (MTSAs) are typically supported by robust active transportation connections, an appropriate mix of commercial uses, and higher density residential and employment uses. Within the context of Caledon Station, it is appropriate to locate the transit terminal in a location that accommodates intra and inter-city transit services and associated transfer activity, in proximity to public amenity, and high density and mixed land uses.

In addition to GO Rail service, an onsite bus terminal will support GO bus services such as the existing Bolton service (run by Brampton Transit). It is anticipated that as the community develops, additional bus connections to the station will be established by Brampton Transit. Such a service could operate on the existing north-south routes connecting Brampton to this area, namely Highway 50/Coleraine Drive, or ultimately Humber Station Road as development proceeds. As the GTA West corridor is implemented with an integral transitway corridor to the south of Caledon Station Community, the presence of a full interchange at Gore Road and Humber Station Road will also provide an additional opportunity to connect Caledon Station to the broader GTA wide transit network.

These north-south routes will also directly serve the existing and growing Provincially Significant Employment Zone (PSEZ) located between Caledon Station Community and Mayfield Road. Not only will these bus services provide employees in the PSEZ convenient access to high order rail transit, they will allow existing residents of the Bolton area and future residents of Caledon Station to commute to work by transit instead of driving.

The Town of Caledon does not currently operate a bus transit service in the Caledon Station area, but the opportunity presented by this Bolton transportation hub provides impetus to initiate such a service in the Caledon Station community, such as:

- Extension of Brampton Transit (currently operating in Bolton);
- Extension of GO bus services (currently terminating in Bolton) and/or;
- New Shuttle / Bus Services connecting to Bolton and Brampton.

The Town has also identified several opportunities for transit routing in their draft MMTMP 2051 Transit Network (PIC#2), including along The Gore, Emil Kolb Parkway, King Street, Humber Station Road and the future GO rail line.

Cross-sections for all collector roads within the Caledon Station have been developed to account for implementation of bus service, further described in Section 4.2.

Potential connecting routes and looping routes within the Caledon Station Secondary Plan area are identified in concept on the Road Hierarchy plan (provided in Appendix A), which would provide extensive coverage (400 metre walking distance or less) for for all future residents of the community to local bus or shuttle service connecting to Caledon GO Station and Bolton/Brampton.

3.3 CYCLING

The future GO station will also become the focus of active transportation infrastructure. The community road network will support cycling on all of the collector roads. The goal of this network is to connect the community to the transit facilities at the GO station, to arterial networks, to destinations within the neighbourhood, and to trail connections as conveniently and safely as possible.

As a community, Caledon Station will be designed to fully support several types of cycling.

Recreational cycling connections will allow residents to fully utilize existing and future cycling facilities along Emil Kolb Parkway, the Humber Valley Heritage Trail, the Caledon Trailway and facilities in the Bolton Resource Management Tract (TRCA) located immediately north of Bolton and Albion Hills Conservation Area.

Short distance commuting by bicycle will be accommodated by the network of cycle lanes and paths associated with the arterial, collector and off-street network.

Longer distance commuting by bicycle will be accommodated by connections from the community to existing and future cycling infrastructure developed by the Region of Peel (such as the paved multi-use trails on Emil Kolb Parkway) and the Town of Caledon. The Region of Peel Long Range Transportation Plan also identifies King Street, The Gore Road, and Coleraine Drive as part of the proposed Cycling Network (LRTP, Figure 3-5). The Town's TMP (and draft TMP) identifies proposed active transportation facilities along Humber Station Road, and illustrates the Region's plans on The Gore Road, King Street, Emil-Kolb (existing multi-use trail), and Coleraine Drive.

Design and development of the Caledon Station cycling infrastructure will be done so as to be consistent with and coordinated with (as appropriate) Region of Peel active transportation initiatives such as Walk+Roll as well as Town of Caledon initiatives and guidelines.

As opportunities present themselves, initiatives such as bike sharing can be accommodated onsite at the future GO station, as well as other nodes within the community as appropriate.



3.4 PEDESTRIAN

Pedestrian traffic will be accommodated as in all communities by the presence of sidewalks on every collector and local road. What will set Caledon Station apart is:

- A focus on pedestrian safety at intersections.
 - Road cross sections are being proposed that minimize crossing distances.
 - Roads are generally developed to minimize vehicular speeds through the neighbourhoods, which inherently enhances pedestrian safety.
 - Pedestrian crossings will be prioritized at signalized intersections and along major active transportation routes.
- Exploration of the use of “living street” designs in selected locations to promote safe multi-modal travel

As with the cycling network, the focus of pedestrian movement will be safely and conveniently accessing the future GO Station.

Caledon Station is located immediately adjacent to a number of recreational hiking areas including the Humber Valley Heritage Trail and the Bolton Resource Management Tract, both located directly north of Caledon Station and Bolton. Active transportation connections from Caledon Station to Emil Kolb Parkway as well as to the section of Humber Station Road to the north of Caledon Station will allow ambitious hikers to access these greenbelt resources directly from their homes.



3.5 ADVANCING TECHNOLOGY

The Caledon Station design team is contemplating the manner in which new and advanced transportation technologies might be incorporated into and supported by the community.

3.5.1 Electric Vehicles

Electric vehicle (EV) charging stations are proposed to be implemented within residential, mixed use, and retail developments that have shared parking facilities so as to meet or exceed current bylaw requirements. Charging stations will also be a key feature at the future GO station.

3.5.2 Ride Sharing

While ridesharing services (such as Uber and Lyft) are no longer new technologies per se, they are technologies that can be explicitly recognized and accommodated in higher density residential sites, in particular, can be done so as to accommodate space for ridesharing services to pick up or deliver passengers without impeding other users of the community's streets.

3.5.3 Car Share

As opportunities present themselves, initiatives such as car sharing can be accommodated on-street, at the future GO station, as well as other nodes within the community as appropriate to support future car-share services that allow access to a car for occasional trips without reliance on auto-ownership for everyday commuting.

3.5.4 Micro Transit

Of particular interest to the Caledon Station team is the prospect of being able to operate "Micro Transit" (conventional or autonomous). This service would connect the entire community to the future GO Station.

A system such as this could be deployed in a number of ways:

- operated on a predetermined schedule and set of routes; and/or
- implemented as an on demand service.

A micro-transit service is appropriate for a transportation hub based community, where the goal is to provide a clean and efficient travel option to move passengers between their homes and the GO transit hub.

4.0 PROPOSED MOBILITY NETWORK

The proposed Caledon Station Community mobility network is comprised of a hierarchy of arterial, collector and local roads. Specific road cross sections that have been developed by the Caledon Station team to support all modes of travel and to support continued development of a road network within Caledon Station that promotes continuous and connected active transportation and transit supportive facilities.

The mobility network provides:

- **connectivity to the existing higher order road network**, including regular collector road spacing along Regional Roads that's appropriate to extend into the urban boundary expansion areas north, west, and south of the community;
- an **internal grid-network** of collector roads that is direct, while providing distributed access and redundancy within the community;
- **convenient and direct access to the significant transit** facilities along collector roads (notably the Mobility Ring Road) and centred on the future GO station;
- **a complete active transportation network** with facilities on every collector roadway within the community that will facilitate both internal movement and connectivity to planned external gateways and trails.

Key to the transportation infrastructure proposed for the community is:

- the layout of roads to provide direct and distributed access;
- the specific road cross sections that have been developed by the Caledon Station team to support all modes; as well as,
- a pair of road-rail grade separations that will provide direct connectivity between Bolton and the future GO Station.

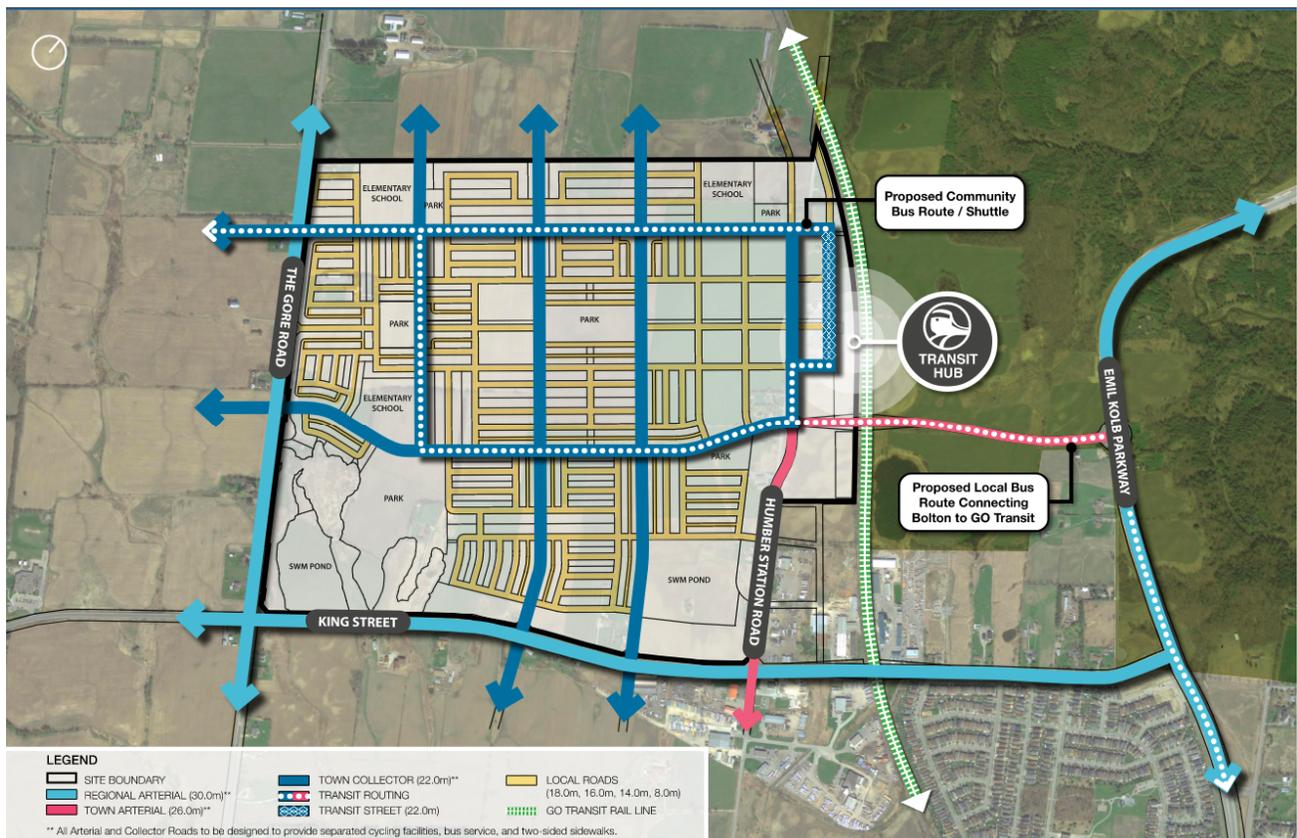
The Road Hierarchy and Mobility Network for Caledon Station is described in this section and provided in **Appendix A**, including individual road cross-sections.

4.1 COMMUNITY ROAD NETWORK

Throughout the network, thought has been given to prioritizing active transportation facilities on key routes, and in a manner that allows users to move to key destinations quickly and conveniently. At the same time, the lanes provided for automobile traffic have been kept to a minimum so as to reinforce and promote alternative modes of transportation.

A key feature is a Multi-Modal Mobility Ring Road that serves the entire community and provides important direct access to the entire frontage of the GO station transit hub. This road will carry automobile and internal transit vehicular traffic, and includes a dedicated 2-way cycle track and double sidewalks. This ring road also provides a key connection to The Gore Road to the west, and to Humber Station Road which is a key connection to the south and southeast.

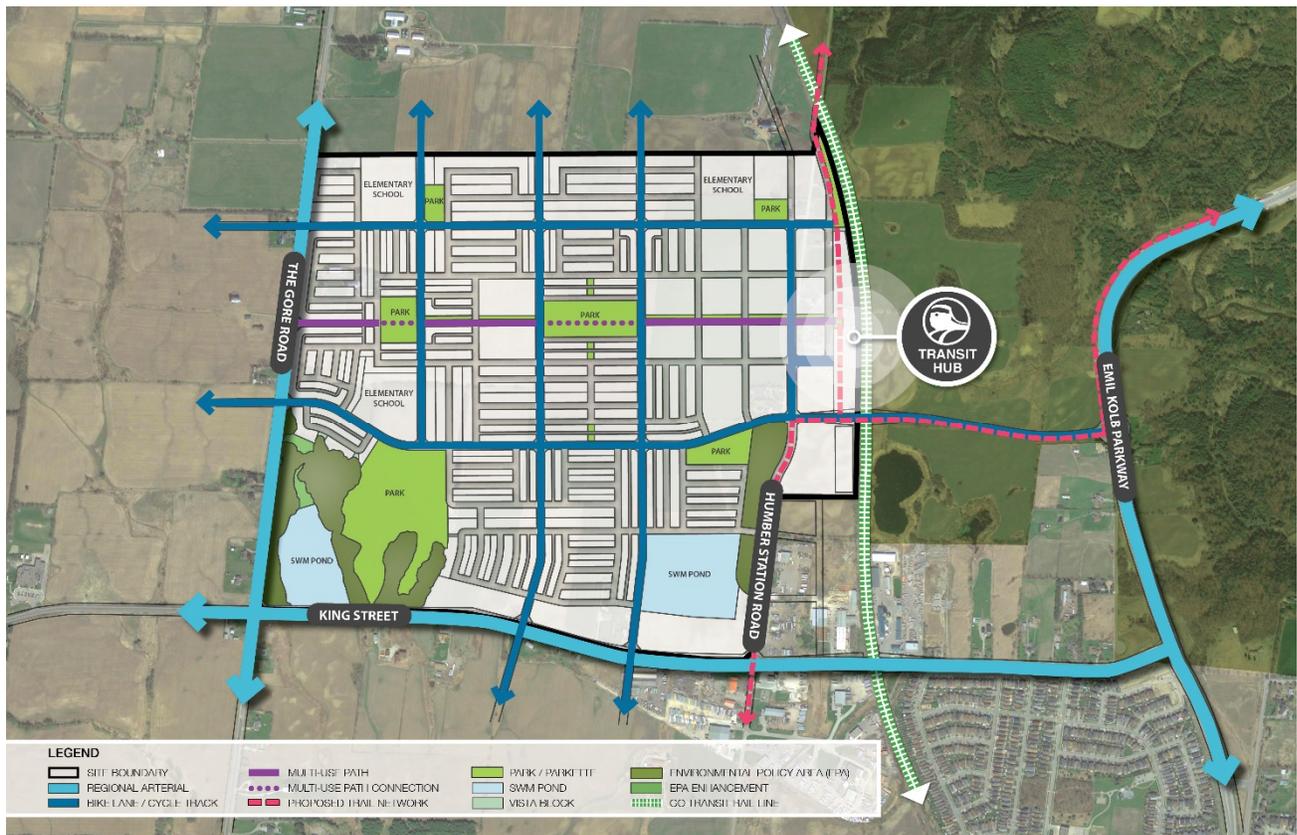
A potential looping route within the Caledon Station Secondary Plan area identified in concept on the Road Hierarchy plan (provided in Appendix A and below), would provide extensive coverage (400 metre walking distance or less) for all future residents of the community to access local bus or shuttle service connecting to Caledon GO Station and Bolton/Brampton.



A north axis is defined by Humber Station through the core of the community on the more densely built eastern area (adjacent to the GO station transit hub). A new east-west collector connection is proposed to tie the community to Emil Kolb Parkway, consistent with the road link envisioned in the draft MMTMP. This important link will provide access to the GO station transit hub for traffic originating outside of Caledon Station, in the Bolton North Hill area and beyond. This link, which will be grade separated from the CP rail

line, will provide a completely new route to the GO Station and Caledon Station itself, providing access for much of the external automobile and bus traffic without impacting the internal community roads. This link will also limit additional traffic demands on King Street and the intersections to the south of the Caledon Station during peak periods.

The Active Transportation Network (provided in Appendix A and below) is designed to fully support several types of cycling. In addition to providing area cyclists with convenient access to the GO Station, the east-west connecting collector it will allow cyclists from across the region to take advantage of the GO train service to gain access to the excellent existing cycle facilities in this area, including the Humber Valley Heritage Trail, and the Caledon Trailway and facilities in the Bolton Resource Management Tract (TRCA) located immediately north of Bolton and Albion Hills Conservation Area.



Alternative design standards are proposed for the arterial (Humber Station) and collector road cross-sections within Caledon Station. See Section 4.2 for a description of the proposed arterial and collector cross-sections. The transit hub is further envisioned to have parking facilities at the north and south ends of the Hub, to further encourage active transportation in the core of the MTSA and discourage most of the GO train commuter parkers from entering the hub area with their personal vehicles.

North of the site, at the urban boundary limits - Humber Station is proposed to continue in its current condition. Collector connections have been identified to the east, northwest, west, and south where other urban expansion lands (and future GO ridership catchment areas) are identified within the ROP and draft OP. This also plans for minimal disruption on either side of Humber Station where it traverses the Greenbelt lands.

4.2 COMMUNITY ROAD CROSS SECTIONS

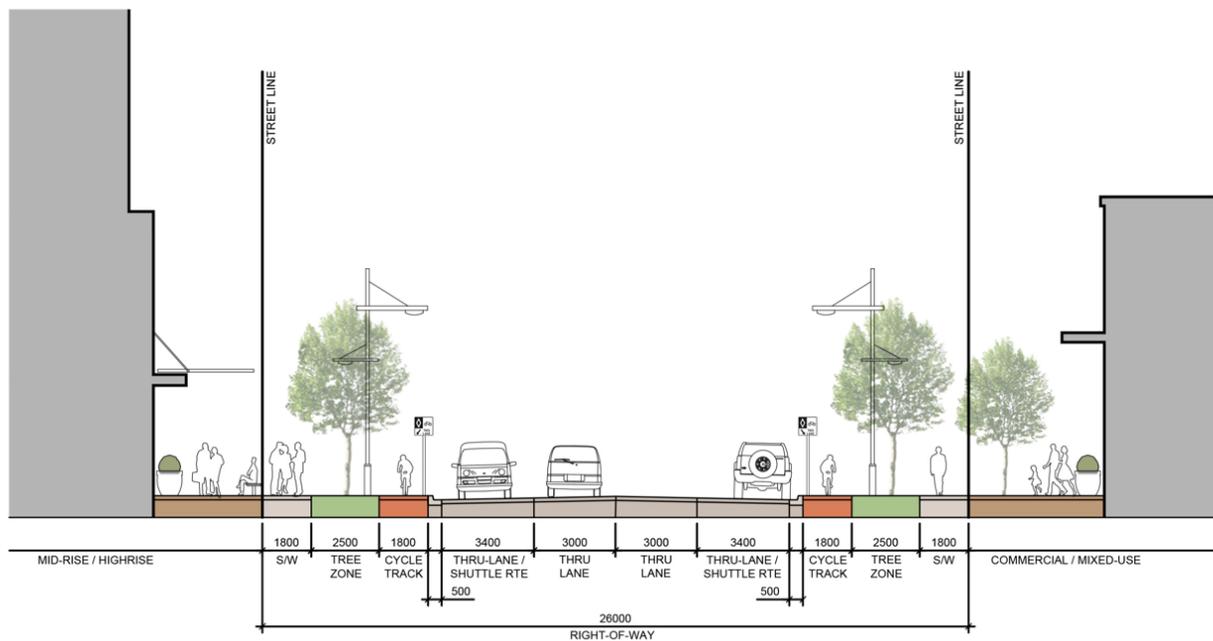
The community road network will be comprised of a hierarchy of roads that are custom tailored to the various demands placed on them. This has meant re-thinking the cross sections typically used in communities that do not have such a transit and active transportation focus.

4.2.1 Major Collector Roads

4.2.1.1 Humber Station Road and East-West Link Road

Humber Station Road and the East-West Link Road will be the major connections from the heart of Caledon Station to the south. These roads are designed to accommodate larger volumes of traffic in a 26 metre right-of-way to/from the community, allow for transit vehicles on regular service and up to four lanes of traffic in 12.8 metres of pavement. Additional pavement is anticipated to be required for left turns at key intersections. Due to the need to move more traffic on these roads, no provision is made for layby parking.

Cyclists on Humber Station are accommodated in dedicated 1.8 m cycle tracks on each side of the road and pedestrians on 1.8 m sidewalks on each side. Sidewalks are proposed on one side of the East-West Link Road with a multi-use path on one-side.



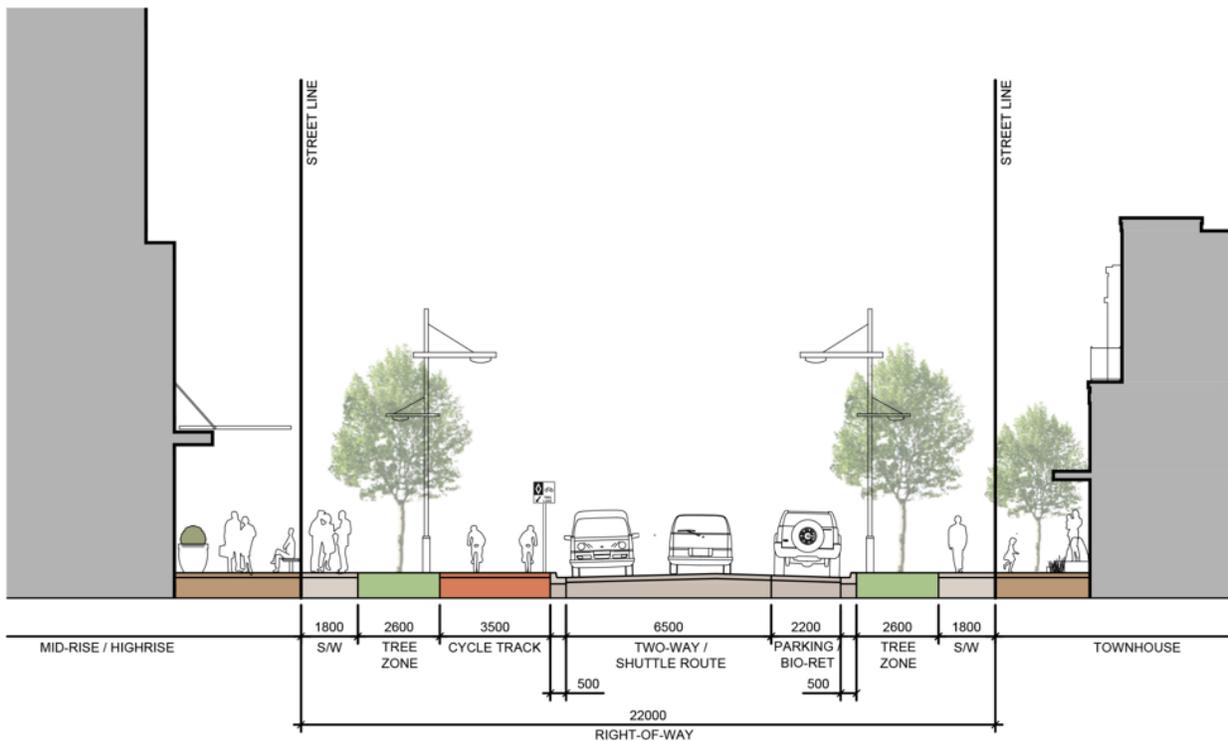
4.2.1.2 Collector Roads, Including Multimodal Ring Road

The design being considered for collector facilities fits in a 22.0 m right of way, and is key to facilitating community connectivity to the GO station transit hub and between school and park zones throughout the Secondary Plan.

Cyclists are provided with a two-way 3.5 m cycle track on one side of the roadway. Positioning the cycle track on the opposite side of the roadway from the layby parking lane ensures that conflicts between passengers egressing from parked cars and cyclists will not be a problem.

The cross section also provides full 1.8 m sidewalks on both sides, and appropriate landscaped areas separating the cyclists from the pedestrians.

The roadway is provided with 8.7 m of pavement (9.3 m travelway). On-street parking is recommended to be prohibited with signage or bump outs at intersections where bus stops and pads are positioned to allow for a clear width of 7m (3.5 m travel lanes) for buses.

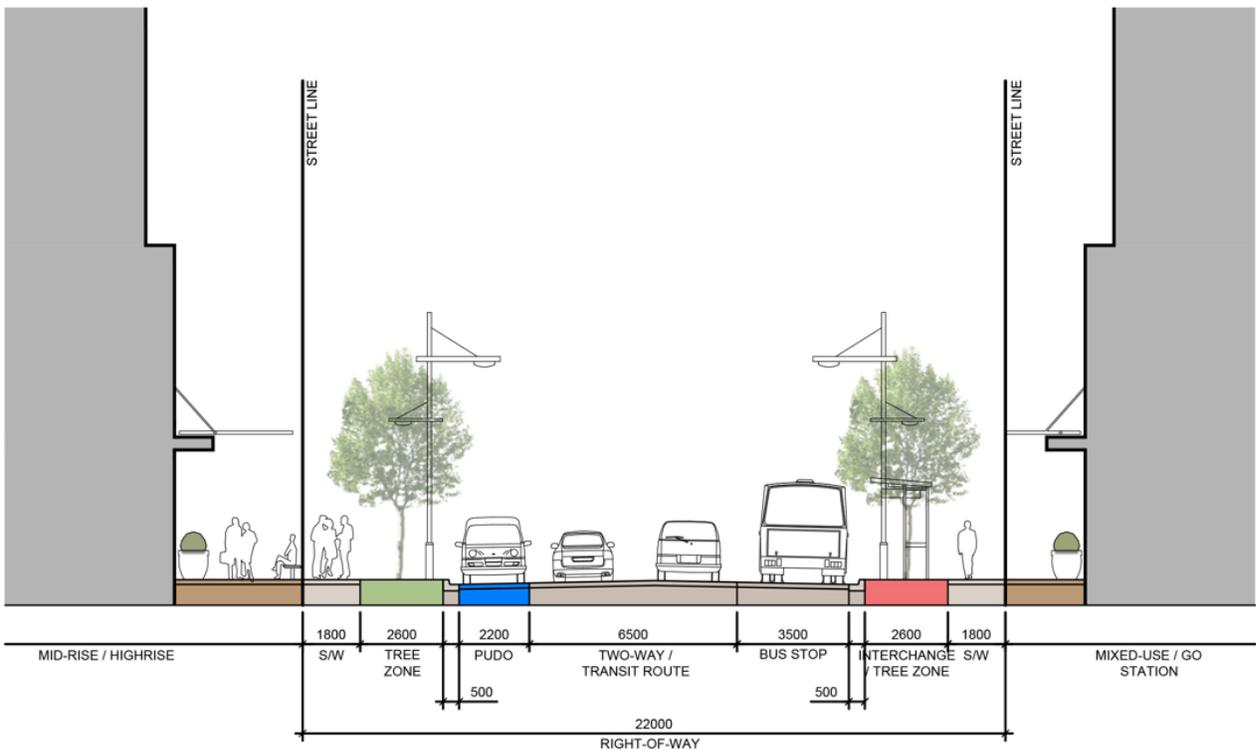


4.2.1.3 Transit Street

The design being considered for a segment of collector within the Transit Hub is key to facilitating lay-by bus stop and parking / pick-up drop-off activity within the Hub. Cycling is not contemplated within this section, given there are direct cycling connection provided to/from the GO station itself and a parallel north-south cycling connection provided along Humber Station Road.

The cross section also provides full 1.8 m sidewalks on both sides.

The roadway is provided with 12.2 m of pavement (12.8 m travelway). On-street parking is positioned opposite bus lay-bys to limit interaction between buses and passenger vehicles and provide direct access from community bus stops and the Interchange Zone with the future GO Station..



4.2.2 Local Roads

There are three cross-sections widths proposed for local roads: 18 m, 16m, 14m, and 8m laneway. The typical 18m and 16m local roads applied throughout are consistent with Town Standard No. 202 and No. 201, respectively. The 8m laneway standard is consistent with Town Standard No. 200.

In a few select locations along the central park elements of the framework plan, linear park elements have been added adjacent to an 18m local road, or within a one-way proposed 14m local road to respond to context of the park system and to deliver a recreational multi-use trail facility that weaves through the east-west park system into the Mixed Use Hub.

A full set of local road cross-sections, prepared by NAK, have been included in **Appendix C**.

4.3 ROAD-RAIL GRADE SEPARATIONS

In addition to the internal community roads there are two specific pieces of infrastructure that are required to ensure that the Caledon Station Community is appropriately accessible and connected to the existing road network and the community of Bolton. These are road-rail grade separations on the two key east-west roads that serve the community and that cross the CP MacTier subdivision rail line. The purpose of a road-rail grade separation is simply to eliminate the potential conflict between road vehicles and rail traffic. In this manner two important objectives are achieved:

- the elimination of rail related delays as vehicles wait for trains to pass; and
- the elimination of any risk of collision between road vehicles and rail traffic.

In addition to these general objectives for the roadways that cross the rail line, in the case of the Caledon Station Community there is an additional specific need, which relates to the provision of reliable emergency service (EMS) access. The nearest existing and planned stations are located within the community of Bolton, which lies to the east of the CP rail line.

As described in more detail below (Section 4.3.1), the Region has already planned for the road-rail grade separation of King Street and currently identifies that project for 2027 completion in their Development Charges Bylaw. The draft Secondary Plan policy directives also have been crafted to permit fire or ambulance/EMS facilities in any land use designation within the Secondary Plan, to allow for flexibility in the event the municipality decides to advance such facilities within the Secondary Plan.

4.3.1 King Street Grade Separation

The King Street corridor to the south of Caledon Station is the primary existing east-west road connection in the area. It provides access to Bolton, as well as to Coleraine Drive, which becomes Emil Kolb Parkway to the north of King Street and is configured as a north-south bypass of Bolton.

Between Humber Station Road and Emil Kolb Parkway, King Street currently crosses the CPR line at a level crossing. As an important future link between Bolton and Caledon Station and Urban Growth communities, it will be vital that this crossing be grade separated. This particular grade separation of King Street from the CPR MacTier Subdivision is a project that has been identified as being needed for over 10 years. The *Bolton Commuter Rail Feasibility Study* completed by Metrolinx in 2010 concluded that this grade separation was already warranted on the basis of existing traffic and train volumes and the arterial classification of King Street (pg 85, para 1):

“The exposure index indicates that grade-separation is needed now. The arterial classification of this two-lane road also supports grade separation.”

A 2014 Region of Peel Recommendation Report, completed as part of the *Goods Movement Study*, studied 12 at-grade rail crossings on Peel roads using 9 criteria, with a view to prioritizing those locations that came closest to warranting grade separation. This study found that the King Street rail crossing was one of 2 high priority locations identified as being needed in the near term, and recommended proceeding with a Feasibility Study.

A further *Feasibility Assessment* of the 2 high priority locations was completed in 2015 by CIMA. This study concluded that a grade separation on King Street had the highest cost-benefit ratio of the options considered. It recommended proceeding with an Environmental Assessment, which if initiated immediately, could mean that the grade separation would be completed in about 5 years.

This King Street rail grade separation was also identified as a project in the current Region of Peel Development Charges Bylaw, with an estimated capital cost of \$15 million, and an estimated completion date of 2026. The update to this DC Bylaw identifies an estimated capital cost of \$22 million for this crossing, and an estimated completion date of 2027.

4.3.2 East-West Road Link Grade Separation

The second road-rail grade separation related to Caledon Station will be where the future east-west road connection connecting Emil Kolb Parkway to Humber Station Road crosses the CPR line, adjacent to the future GO transit station.

The purpose of this road link is to provide an alternative route to connect the GO transit station to the Bolton area and beyond. This will also provide some redundancy in the road network in this area, ensuring that vehicular access to the station is not constrained to a single route and providing drivers with alternative routes in potentially busy peak periods. It will also provide a route for traffic external to Caledon Station to bypass the active transportation friendly corridors within the community as far as possible.

Given the volume of peak period traffic on this proposed east-west link road, and the importance of this line as a freight traffic line in addition to the future GO Rail service, CPR will likely insist that this road be grade separated from the rail line.

A grade separation for the East-West Road Link is also completely consistent with the objectives for the Caledon Station Community. To be consistent with the active transportation and pedestrian friendly nature of the community, the proposed road network in the core area around the GO transit station has a relatively limited capacity to move vehicular traffic. It is anticipated that under normal circumstances, the road network will move an appropriate amount of vehicular traffic, while at the same time ensuring that transit and active transportation users are fully supported. However, a level rail crossing at this location would mean that every time a train passes, traffic would queue up right back into the core of the community, blocking roads and intersections, and negatively impacting bus transit and active transportation users.

As such the importance of this road necessitates that it be grade separated from the CP line for the same reasons as the King Street crossing.

5.0 TRAFFIC VOLUME PROJECTIONS

5.1 SCOPE

Analysis has been completed for the following scenarios during the AM and PM peak hour:

- Existing Conditions
- Future Background Conditions (20 year horizon – 2041)
- Future Total Conditions (20 year horizon – 2041)

Intersections included within the analysis study area are listed below:

Existing Intersections

- King Street / The Gore Road (Signalized);
- King Street / Humber Station Road (Signalized);
- King Street / Emil Kolb Parkway (Unsignalized – Roundabout);

Proposed Intersections

- Emil Kolb Parkway / GO Station access (Unsignalized – Roundabout);
- King Street / Street JJ (Signalized);
- King Street / Street I (Signalized);
- The Gore Road / Street A (Signalized);
- The Gore Road / Street DDD (Unsignalized); and
- The Gore Road / Street Y (Signalized).

Internal Road Network

- Humber Station Road / Street EE (Signalized);
- Humber Station Road / Street Y (Signalized);
- Humber Station Road / Street E (Signalized);
- Humber Station Road / Street A (Unsignalized);
- Street A / Street I (Unsignalized);
- Street A / Street JJ (Unsignalized);
- Street A / Street VV (Unsignalized);
- Street Y / Street I (Unsignalized);
- Street Y / Street JJ (Unsignalized);
- Street Y / Street VV (Unsignalized);
- Street EE / Street I (Unsignalized); and
- Street EE / Street JJ (Unsignalized).

Existing lane configurations are shown in **Figure 3** and future lane configurations are shown in **Figure 4**.

5.2 EXISTING TRAFFIC VOLUMES

Existing peak hour traffic volumes have been established based on traffic counts undertaken by Spectrum Traffic Data on behalf of BA Group. The intersections which were counted are summarized in **Table 1**.

Existing traffic volumes are shown in **Figure 5** and the raw data is attached in **Appendix D**.

TABLE 1 EXISTING TRAFFIC DATA SOURCES

| Intersection | Count Date | Count Times | Source |
|-----------------------------|-------------------------|--------------------------------|-----------------------|
| King St / Emil Kolb Pkwy | Tuesday, April 12, 2022 | 7:00am-9:00am 4:00pm-6:00pm | Spectrum Traffic Data |
| King St / The Gore Rd | | | |
| King St / Humber Station Rd | | | |

5.3 FUTURE BACKGROUND TRAFFIC VOLUMES

5.3.1 Overview

Traffic growth in the site vicinity has been considered based upon an evaluation of traffic volume changes related to general corridor growth on the area road network.

Consideration has also been made for the proposed GO Station. It is noted that the GO Station does not occur without the construction of the proposed development, and is reliant on the site-related road infrastructure. In this respect, the Future Background scenario is theoretical in nature and it has been assumed for the purpose of this scenario, that site-related road infrastructure and the GO Station are in place. It is noted that site-related GO trips have been excluded from Future Background, and are incorporated at the Future Total scenario.

5.3.2 Background Development Growth

No background developments are currently proposed in the vicinity of the site.

5.3.3 GO Station

Projected vehicle trip generation associated with the proposed GO station for trips travelling to and from the existing catchment area around Bolton are based on proxy data collected at other GO Stations, as summarized in **Table 2**.

The resultant projected GO Station vehicle trip generation is summarized in **Table 3**. For the purpose of analysis, the following assumptions have been made:

- Part of the projected GO Station vehicle trips are associated with the proposed residential, as outlined further in **Section 5.4.1.2**.
- The vehicle trips to/from the proposed residential will include pass-by as follows:
 - 50% of GO Station outbound trips during the AM peak will be a drop off, then continues onto work external to the Site; and
 - 50% of GO Station inbound trips during the PM peak will be a pick up on the way home from work external to the Site.

As outlined in **Section 5.3.1**, for the purpose of the Future Background scenario, site-related GO trips have been excluded. These projected GO trips were assigned onto the area road network based on the distribution of residential population within Bolton, and are shown in **Figure 6**.

The assignment of the site-related GO trips at Future Total are discussed in further detail in **Section 5.4.1.1**.

TABLE 2 GO STATION VEHICLE TRIP GENERATION RATES

| Station | Date | AM Peak Hour | | | PM Peak Hour | | |
|---|--------------|--------------|-------------|-------------|--------------|-------------|-------------|
| | | In | Out | 2-Way | In | Out | 2-Way |
| Total Proxy Trip Rates | | | | | | | |
| Rutherford GO | 2012 | 0.63 | 0.15 | 0.78 | 0.12 | 0.64 | 0.76 |
| | Sep 20, 2016 | 0.90 | 0.24 | 1.14 | 0.17 | 0.60 | 0.77 |
| Bramalea GO | Oct 2, 2012 | 0.72 | 0.33 | 1.05 | 0.22 | 0.54 | 0.76 |
| | Jun 24, 2015 | 0.47 | 0.11 | 0.58 | 0.14 | 0.55 | 0.69 |
| Dixie GO | Apr 2, 2019 | - | | | 0.09 | 0.53 | 0.62 |
| Langstaff GO | Sep 26, 2013 | - | | | 0.07 | 0.38 | 0.45 |
| Barrie South GO | Jun 8, 2016 | 0.03 | 0.03 | 0.06 | 0.12 | 0.21 | 0.33 |
| Pickering GO | May 11, 2017 | 0.30 | 0.09 | 0.39 | 0.06 | 0.23 | 0.29 |
| Pick Up / Drop Off (PUDO) Proxy Trip Rates | | | | | | | |
| Rutherford GO | 2012 | 0.11 | 0.10 | 0.21 | 0.09 | 0.09 | 0.18 |
| | Sep 20, 2016 | 0.15 | 0.14 | 0.29 | 0.12 | 0.12 | 0.24 |
| Bramalea GO | Oct 2, 2012 | 0.13 | 0.13 | 0.26 | 0.06 | 0.08 | 0.14 |
| | Jun 24, 2015 | 0.12 | 0.12 | 0.24 | 0.14 | 0.14 | 0.28 |
| Adopted Trip Rates | | | | | | | |
| Total Trips | | 0.48 | 0.13 | 0.61 | 0.13 | 0.46 | 0.59 |
| PUDO Trips | | 0.13 | 0.12 | 0.25 | 0.10 | 0.11 | 0.21 |
| Parking Lot Trips | | 0.35 | 0.01 | 0.36 | 0.03 | 0.35 | 0.38 |

Notes:

- Data sources:
 Rutherford GO 2012 Data – GHD Study – Rutherford GO Station – 2013
 Rutherford GO 2016 Data – BA Group Study – Rutherford GO Station – November 2017
 Bramalea GO 2012 Data - BA Group Study – Bramalea GO Station Master Plan – June 2013
 Bramalea GO 2015 Data - BA Group Study – Bramalea GO Station – October 2016
 Dixie GO and Langstaff GO Data – LEA Study – Highway 27-Woodbine GO Station – April 2021
 Barrie South GO Data – Traffic Counts undertaken June 2016
 Pickering GO Data – Traffic Counts undertaken May 2017

TABLE 3 GO STATION VEHICLE TRIP GENERATION

| Land Use | Number | AM Peak Hour | | | PM Peak Hour | | |
|--|--|--------------|------------|------------|--------------|------------|------------|
| | | In | Out | 2-Way | In | Out | 2-Way |
| Parking Lot | 1,200 spaces | 0.35 | 0.01 | 0.36 | 0.03 | 0.35 | 0.38 |
| | | 424 | 14 | 438 | 36 | 423 | 459 |
| Pick Up / Drop Off | | 0.13 | 0.12 | 0.25 | 0.10 | 0.11 | 0.21 |
| | | 156 | 144 | 300 | 120 | 132 | 252 |
| Total Vehicle Trips | | 580 | 158 | 738 | 156 | 555 | 711 |
| To/From Internal Residential (Vehicle Trips) ¹ | | 66 | 22 | 88 | 40 | 67 | 107 |
| <i>Pass-by Internal Residential to External Work AM & Pass-by External work to Internal Residential PM (Vehicle Trips)²</i> | <i>0% In & 50% Out AM 50% In & 0% Out PM</i> | 0 | 11 | 11 | 20 | 0 | 20 |
| <i>To/from Internal Residential (Vehicle Trips)³</i> | <i>50% In & 0% Out AM 0% In & 50% Out PM</i> | 66 | 11 | 77 | 20 | 67 | 87 |
| Total Internal Vehicle Trips | | 66 | 11 | 77 | 20 | 67 | 87 |
| Total External Vehicle Trips | | 514 | 147 | 661 | 136 | 488 | 624 |

Notes:

1. As outlined in the residential vehicle trip generation calculations outlined in **Section 5.4.1.2.**
2. Assumes 50% of outbound trips during the AM peak will be a drop off then continues onto work external to the Site and 50% of inbound trips during the PM peak will be a pick up on the way home from work external to the Site
3. Assumes remainder of vehicle trips are to/from internal residential

5.3.4 Corridor Growth

Adopted corridor growth rates are based on the Region of Peel's Travel Demand Forecasting Model, as outlined in **Table 4**. Corridor growth traffic volumes are shown in **Figure 7**.

TABLE 4 ADOPTED CORRIDOR GROWTH RATES

| Road | Time Horizon | Direction | AM Peak | PM Peak |
|-------------------|--------------|-----------|---------|---------|
| King Street | 2021 to 2031 | EB and WB | 1.0% | 1.0% |
| | 2031 to 2041 | EB and WB | 1.0% | 1.0% |
| The Gore Road | 2021 to 2031 | NB and SB | 2.0% | 2.0% |
| | 2031 to 2041 | NB and SB | 2.0% | 2.0% |
| Emil Kolb Parkway | 2021 to 2031 | NB and SB | 1.0% | 1.0% |
| | 2031 to 2041 | NB and SB | 0.5% | 0.5% |

5.3.5 Future Background Traffic Volumes

The future background traffic volumes were determined by adding existing traffic volumes, corridor growth traffic volumes and GO Station traffic volumes and are shown in **Figure 8** for the 2041 analysis horizon year.

5.4 SITE TRAFFIC FORECASTS

5.4.1 Site Vehicle Trip Generation

Site vehicle trips were generated and distributed based on the proposed land use densities within the Secondary Plan area traffic zones. A reference plan for traffic zones is provided in **Appendix A**.

5.4.1.1 Site-Related GO Trips

As outlined in **Section 5.3.3**, part of the projected GO Station vehicle trips are associated with the proposed residential and are incorporated at Future Total. Site-related GO Station traffic was distributed based on the proposed distribution of residential density within the Site, and is shown in **Figure 9**.

5.4.1.2 Residential

Base residential vehicle trip generation rates were adopted based on the ITE 11th Edition, as outlined in **Table 5**. The adopted rates were applied to the proposed development, as shown in **Table 6**. For the purpose of analysis, the following additional assumptions have been made:

- A 15% reduction was applied to account for a projected mode shift to transit and car share, split evenly between car share/local transit and GO transit. It was assumed that of those using the GO train, population within 800 metres of the Station would walk estimated based on proposed population densities within the Site;
- Internal trips associated with the proposed retail and schools were considered, as outlined within **Sections 5.4.1.3** and **5.4.1.4** respectively;
- A 5% reduction was applied based on input provided to BA Group by urbanMetrics that work from home has increased from approximately 4% of the Caledon population pre-COVID, to 9.6% of the Caledon population currently.

Unit counts are based on the latest Secondary Plan (May 2023).

Residential site traffic volumes are shown in **Figure 10**.

TABLE 5 BASE RESIDENTIAL VEHICLE TRIP GENERATION RATES (ITE 11TH EDITION)

| Land Use | Land Use Code (ITE 11 th Edition) | Vehicle Trip Generation Rate (vehicle trips per dwelling) | | | | | |
|----------------------|---|--|------|-------|--------------|------|-------|
| | | AM Peak Hour | | | PM Peak Hour | | |
| | | In | Out | 2-Way | In | Out | 2-Way |
| Detached Dwelling | LUC 210 (Single-Family Detached Housing) | 0.18 | 0.52 | 0.70 | 0.59 | 0.35 | 0.94 |
| Low-Rise Residential | LUC 220 (Multifamily Housing (Low-Rise)) | 0.10 | 0.30 | 0.40 | 0.32 | 0.19 | 0.51 |
| Mid-Rise Residential | LUC 221 (Multifamily Housing (Mid-Rise)) | 0.09 | 0.28 | 0.37 | 0.24 | 0.15 | 0.39 |

TABLE 6 SITE RESIDENTIAL VEHICLE TRIP GENERATION

| Land Use | Number | AM Peak Hour | | | PM Peak Hour | | |
|---|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | | In | Out | 2-Way | In | Out | 2-Way |
| Detached Dwelling | 3,104 dwellings | 0.18 | 0.52 | 0.70 | 0.59 | 0.35 | 0.94 |
| | | 565 | 1,608 | 2,173 | 1,838 | 1,080 | 2,918 |
| Low-Rise Residential | 1,600 dwellings | 0.10 | 0.30 | 0.40 | 0.32 | 0.19 | 0.51 |
| | | 154 | 486 | 640 | 514 | 302 | 816 |
| Mid-Rise Residential | 3,967 dwellings | 0.09 | 0.28 | 0.37 | 0.24 | 0.15 | 0.39 |
| | | 338 | 1,130 | 1,468 | 944 | 603 | 1,547 |
| Base Vehicle Trip Generation | 8,671 dwellings | 1,057 | 3,224 | 4,281 | 3,296 | 1,985 | 5,281 |
| Car Share and Local Transit Mode Shift ¹ | 7.5% | 79 | 242 | 321 | 247 | 149 | 396 |
| To/From Internal GO Station ¹ | 7.5% | 79 | 242 | 321 | 247 | 149 | 396 |
| <i>Walking Trips²</i> | <i>75%</i> | <i>57</i> | <i>176</i> | <i>233</i> | <i>180</i> | <i>109</i> | <i>289</i> |
| <i>Vehicle Trips²</i> | <i>25%</i> | <i>22</i> | <i>66</i> | <i>88</i> | <i>67</i> | <i>40</i> | <i>107</i> |
| To/From Internal Retail (Walking Trips) ³ | | 20 | 32 | 52 | 76 | 74 | 150 |
| To/From Internal Retail (Vehicle Trips) ³ | | 7 | 12 | 19 | 28 | 28 | 56 |
| To/From Internal Elementary School (Vehicle Trips) ⁴ | | 77 | 90 | 167 | 19 | 17 | 36 |
| Total Internal Vehicle Trips | | 106 | 168 | 274 | 114 | 85 | 199 |
| Total External Vehicle Trips | | 795 | 2,606 | 3,401 | 2,679 | 1,568 | 4,247 |
| Work From Home Reduction ⁵ | 5% | 41 | 130 | 171 | 135 | 77 | 212 |
| Adjusted External Vehicle Trips | | 754 | 2,476 | 3,230 | 2,544 | 1,491 | 4,035 |

Notes:

1. Assumes total transit and car share shift of 15%, split evenly between car share/local transit and GO transit
2. Assumes population within 800 metres of the GO Station will walk (approximately 75% of subdivision residential density)
3. As outlined in the retail vehicle trip generation calculations in **Section 5.4.1.3**.
4. As outlined in the school vehicle trip generation calculations in **Section 5.4.1.4**. Walking trips to/from the schools have conservatively not been deducted from the residential trip generation.
5. A 5% reduction was applied based on input provided to BA Group by urbanMetrics that work from home has increased from approximately 4% of the Caledon population pre-COVID, to 9.6% of the Caledon population currently.

5.4.1.3 Retail

Base retail vehicle trip generation rates for were adopted based on the ITE 11th Edition, as outlined in **Table 7**. The adopted rates were applied to the proposed retail, as shown in **Table 8**. For the purpose of analysis, the following additional assumptions have been made:

- In the order of 10% of total retail will be destination retail and 90% will be local retail, based on input provided to BA Group by urbanMetrics
- Pass-by percentages of 0% and 34% were adopted in the AM and PM peaks respectively, based on the ITE Trip Generation Handbook 3rd Edition;
- Destination retail trips associated with residents of the proposed subdivision for the commercial mixed-use block were estimated using the methodology outlined in the ITE Trip Generation Handbook 3rd Edition, as outlined in **Section 5.4.1.5**;
- Local retail trips associated with residents of the proposed subdivision for the commercial mixed-use block were estimated based on the area and potential yield of the site compared with the surrounding local area; and
- Population within 800 metres of the commercial mixed-use block would walk, estimated based on proposed population densities within the Site.

Projected retail trips for destination and local retail are shown in **Table 9** and **Table 10** and respectively. Retail site traffic volumes are shown in **Figure 11**.

TABLE 7 RETAIL VEHICLE TRIP GENERATION RATE (ITE 11TH EDITION)

| Land Use | Land Use Code (ITE 10 th Edition) | Vehicle Trip Generation Rate (vehicle trips per 1,000 ft ²) | | | | | |
|------------|---|--|------|-------|--------------|------|-------|
| | | AM Peak Hour | | | PM Peak Hour | | |
| | | In | Out | 2-Way | In | Out | 2-Way |
| Commercial | LUC 820 (Shopping Centre) | 0.52 | 0.32 | 0.84 | 1.63 | 1.77 | 3.40 |

TABLE 8 SITE RETAIL VEHICLE TRIP GENERATION

| Land Use | Number | AM Peak Hour | | | PM Peak Hour | | |
|-------------------------------------|-------------------------------|--------------|-----------|------------|--------------|------------|------------|
| | | In | Out | 2-Way | In | Out | 2-Way |
| Commercial | | 0.52 | 0.32 | 0.84 | 1.63 | 1.77 | 3.40 |
| Base Vehicle Trip Generation | 207,050 ft² | 108 | 66 | 174 | 338 | 366 | 704 |

TABLE 9 SITE RETAIL VEHICLE TRIP GENERATION – DESTINATION RETAIL

| Land Use | | Number | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---------------------------|--------------|----------|-----------|--------------|-----------|-----------|
| | | | In | Out | 2-Way | In | Out | 2-Way |
| Base Vehicle Trip Generation | | 207,050 ft ² | 108 | 66 | 174 | 338 | 366 | 704 |
| Destination Retail Vehicle Trip Generation ¹ | | 10% | 11 | 7 | 18 | 34 | 37 | 71 |
| <i>External Pass-by Trips²</i> | | <i>0% AM 34% PM</i> | 0 | 0 | 0 | 12 | 12 | 24 |
| Primary Trips ¹ | <i>Total Primary</i> | <i>100% AM 66% PM</i> | 11 | 7 | 18 | 22 | 25 | 47 |
| | To/From Internal Residential (Total Trips) ³ | | 0 | 0 | 0 | 10 | 5 | 15 |
| | <i>To/From Internal Residential (Walking Trips)⁴</i> | 75% | 0 | 0 | 0 | 7 | 4 | 11 |
| | <i>To/From Internal Residential (Vehicle Trips)⁴</i> | 25% | 0 | 0 | 0 | 3 | 1 | 4 |
| | Total Internal Vehicle Trips | | 0 | 0 | 0 | 3 | 1 | 4 |
| | Total External Vehicle Trips | | 11 | 7 | 18 | 12 | 20 | 32 |

Notes:

1. Assumes 10% of total retail will be destination retail and 90% will be local retail, based on input provided to BA Group by urbanMetrics
2. Assumes 0% pass-by in the AM and 34% pass-by in the PM, based on ITE Trip Generation Handbook 3rd Edition
3. As determined by the internal interaction calculations outlined in **Section 5.4.1.5**.
4. Assumes population within 800 metres of the retail will walk (approximately 75% of subdivision residential density)

TABLE 10 SITE RETAIL VEHICLE TRIP GENERATION – LOCAL RETAIL

| Land Use | | Number | AM Peak Hour | | | PM Peak Hour | | |
|---|---|-------------------------------|--------------|-----------|------------|--------------|------------|------------|
| | | | In | Out | 2-Way | In | Out | 2-Way |
| Base Vehicle Trip Generation | | 207,050 ft² | 108 | 66 | 174 | 338 | 366 | 704 |
| Local Retail Vehicle Trip Generation¹ | | 90% | 97 | 59 | 156 | 304 | 329 | 633 |
| <i>External Pass-by Trips²</i> | | <i>0% AM 34% PM</i> | <i>0</i> | <i>0</i> | <i>0</i> | <i>103</i> | <i>112</i> | <i>215</i> |
| Primary Trips¹ | Total Primary | 100% AM 66% PM | 97 | 59 | 156 | 201 | 217 | 418 |
| | To/From Internal Residential (Total Trips) ³ | | 44 | 27 | 71 | 92 | 99 | 191 |
| | <i>To/From Internal Residential (Walking Trips)⁴</i> | <i>75%</i> | <i>32</i> | <i>20</i> | <i>52</i> | <i>67</i> | <i>72</i> | <i>139</i> |
| | <i>To/From Internal Residential (Vehicle Trips)⁴</i> | <i>25%</i> | <i>12</i> | <i>7</i> | <i>19</i> | <i>25</i> | <i>27</i> | <i>52</i> |
| | Total Internal Vehicle Trips | | 12 | 7 | 19 | 25 | 27 | 52 |
| | Total External Vehicle Trips | | 53 | 32 | 85 | 109 | 118 | 227 |

Notes:

1. Assumes 10% of total retail will be destination retail and 90% will be local retail, based on input provided to BA Group by urbanMetrics
2. Assumes 0% pass-by in the AM and 34% pass-by in the PM, based on ITE Trip Generation Handbook 3rd Edition
3. Assumes 45% internal based on area and potential yield of site compared with surrounding local area
4. Assumes population within 800 metres of the retail will walk (approximately 75% of subdivision residential density)

5.4.1.4 Schools

Base school vehicle trip generation rates were adopted based on the ITE 11th Edition, as outlined in **Table 11**. The subsequent projected school vehicle trip generations are outlined in **Table 12**.

It is expected that the proposed schools will primarily service residents of the proposed site, many of which will be within convenient walking distance of the schools. For the purpose of analysis, the following additional assumptions have been made:

- All trips associated with the proposed schools will be associated with residents of the proposed subdivision. The majority of the site is within 800 metres of one of the schools. However, for the purpose of assessment, it has been assumed that 85% of school trips will be walking trips, to allow for some people driving regardless of the distance.
- The resulting projected vehicle trips will include pass-by as follows:
 - 60% of school outbound trips during the AM peak will be a drop off, then continues onto work external to the Site; and
 - 60% of school inbound trips during the PM peak will be a pick up on the way home from work external to the Site.
- Remaining vehicle trips will be to and from internal residential.

School site traffic volumes are shown in **Figure 12**.

TABLE 11 BASE ELEMENTARY SCHOOL VEHICLE TRIP GENERATION RATES (ITE 11TH EDITION)

| Land Use | Land Use Code (ITE 11 th Edition) | Vehicle Trip Generation Rate (vehicle trips per student) | | | | | |
|-------------------|---|---|------|-------|--------------|------|-------|
| | | AM Peak Hour | | | PM Peak Hour | | |
| | | In | Out | 2-Way | In | Out | 2-Way |
| Elementary School | LUC 520 (Elementary School) | 0.40 | 0.34 | 0.74 | 0.07 | 0.09 | 0.16 |

TABLE 12 SITE ELEMENTARY SCHOOL TRIP GENERATION

| Land Use | Number | AM Peak Hour | | | PM Peak Hour | | |
|--|--|--------------|------------|--------------|--------------|------------|------------|
| | | In | Out | 2-Way | In | Out | 2-Way |
| Elementary School | | 0.40 | 0.34 | 0.74 | 0.07 | 0.09 | 0.16 |
| Base Vehicle Trip Generation | 1500 students¹ | 599 | 511 | 1,110 | 110 | 130 | 240 |
| To/From Internal Residential (Walking Trips) ² | 85% | 509 | 434 | 943 | 93 | 111 | 204 |
| Total Vehicle Trips | 15% | 90 | 77 | 167 | 17 | 19 | 36 |
| <i>Pass-by Internal Residential to External Work AM & Pass-by External work to Internal Residential PM (Vehicle Trips)³</i> | <i>0% In & 60% Out AM 60% In & 0% Out PM</i> | 0 | 45 | 45 | 9 | 0 | 9 |
| <i>To/from Internal Residential (Vehicle Trips)⁴</i> | <i>100% In & 40% Out AM 40% In & 100% Out PM</i> | 90 | 32 | 122 | 8 | 19 | 27 |
| Total Internal Vehicle Trips | | 90 | 32 | 122 | 8 | 19 | 27 |
| Total External Vehicle Trips | | 0 | 45 | 45 | 9 | 0 | 9 |

Notes:

1. Assume 1,500 students for the purpose of this assessment
2. Assumes 100% of school trips are associated with internal residential as either direct or pass-by trips and in the order of 85% of trips will walk
3. Assumes 60% of outbound trips during the AM peak will be a drop off then continues onto work external to the Site and 60% of inbound trips during the PM peak will be a pick up on the way home from work external to the Site
4. Assumes remainder of vehicle trips are to/from internal residential

5.4.1.5 Internal Interaction

As discussed in the above sections, allowances have been made for internal interaction between the proposed residential and retail using the methodology outlined in the ITE Trip Generation Handbook 3rd Edition.

The interaction trip rates by land use, as outlined in the ITE Handbook are reproduced in **Table 13**. Application of these rates to the projected vehicle trip generation yields the potential interaction for each land use, as summarized in **Table 14**. The resultant interaction trips by land use is summarized in **Table 15**.

TABLE 13 INTERACTION TRIP RATE BY LAND USE

| Land Use | AM Peak | | PM Peak | |
|---------------------------|---------|-----|---------|-----|
| | In | Out | In | Out |
| Residential | | | | |
| With Destination Retail | 2% | 1% | 46% | 42% |
| Destination Retail | | | | |
| With Residential | 17% | 14% | 10% | 26% |

TABLE 14 INTERACTION TRIP POTENTIAL BY LAND USE

| Land Use | AM Peak | | PM Peak | |
|---------------------------|---------|-----|---------|-----|
| | In | Out | In | Out |
| Residential | | | | |
| With Destination Retail | 15 | 25 | 1,285 | 705 |
| Destination Retail | | | | |
| With Residential | 0 | 0 | 5 | 10 |

TABLE 15 INTERACTION TRIPS BY LAND USE

| Land Use | AM Peak | | PM Peak | |
|---------------------------|---------|-----|---------|-----|
| | In | Out | In | Out |
| Residential | | | | |
| With Destination Retail | 0 | 0 | 10 | 5 |
| Destination Retail | | | | |
| With Residential | 0 | 0 | 5 | 10 |

5.4.1.6 Total Trip Generation

The resultant projected vehicle trip generation for the Site is summarized in **Table 16**.

TABLE 16 SITE TOTAL VEHICLE TRIP GENERATION

| Land Use | Number | AM Peak Hour | | | PM Peak Hour | | |
|--------------------------|-------------------------|--------------|-------|-------|--------------|-------|-------|
| | | In | Out | 2-Way | In | Out | 2-Way |
| Residential | | | | | | | |
| Internal Vehicle Trips | 8,671 dwellings | 106 | 168 | 274 | 114 | 85 | 199 |
| External Vehicle Trips | | 754 | 2,476 | 3,230 | 2,544 | 1,491 | 4,035 |
| Retail | | | | | | | |
| Internal Vehicle Trips | 207,050 ft ² | 12 | 7 | 19 | 28 | 28 | 56 |
| External Vehicle Trips | | 64 | 39 | 103 | 121 | 138 | 259 |
| Elementary School | | | | | | | |
| Internal Vehicle Trips | 1,500 students | 90 | 32 | 122 | 8 | 19 | 27 |
| External Vehicle Trips | | 0 | 45 | 45 | 9 | 0 | 9 |

5.4.2 Site Vehicle Trip Distribution

5.4.2.1 Residential

Residential site traffic was assigned onto the area road network based on the results of the 2016 Transportation Tomorrow Survey (TTS), prevailing traffic patterns and area turn restrictions. General direction of approach percentages was based on the results of the TTS and is summarized in **Table 17**.

TABLE 17 RESIDENTIAL SITE TRAFFIC DISTRIBUTION

| Direction | Roadway | Inbound/Outbound |
|--------------|---------------------|------------------|
| North | The Gore Road | 2.5% |
| | Humber Station Road | 2.5% |
| | Emil Kolb Parkway | 5% |
| South | The Gore Road | 25% |
| | Humber Station Road | 30% |
| | Emil Kolb Parkway | 25% |
| West | King Street | 10% |
| Total | | 100% |

Notes:

1. Based on TTS zones 3153, 3190, 3191, 3192, 3193, and 3194

5.4.2.2 Retail External Distribution

Retail site traffic was assigned onto the area road network based on the distribution of existing and future residential population within Bolton and is summarized in **Table 18**. The distribution for local retail is specific to nearby future development, while the distribution for destination retail is based on broader Bolton.

TABLE 18 RETAIL SITE TRAFFIC DISTRIBUTION

| Direction | Roadway | Destination Retail | Local Retail |
|--------------|---------------------|--------------------|------------------|
| | | Inbound/Outbound | Inbound/Outbound |
| North | The Gore Road | 5% | 29% |
| | Humber Station Road | 2% | 12% |
| | Emil Kolb Parkway | 12% | 0% |
| South | The Gore Road | 8% | 25% |
| | Humber Station Road | 24% | 17% |
| | Emil Kolb Parkway | 46% | 0% |
| West | King Street | 3% | 17% |
| Total | | 100% | 100% |

5.4.2.3 Internal Trip Distribution

Distributions associated with internal trips between residential and the proposed schools and retail are based on the proposed distribution of residential density within the Site. Pass-by trips which are assumed to/from work are assumed based on the residential distribution as outlined in **Section 5.4.2.1**.

5.4.3 Future Total Traffic Volumes

Future total traffic volumes were determined by adding the future background traffic volumes with the site traffic volumes and are shown in **Figure 13** for the 2041 analysis horizon year.

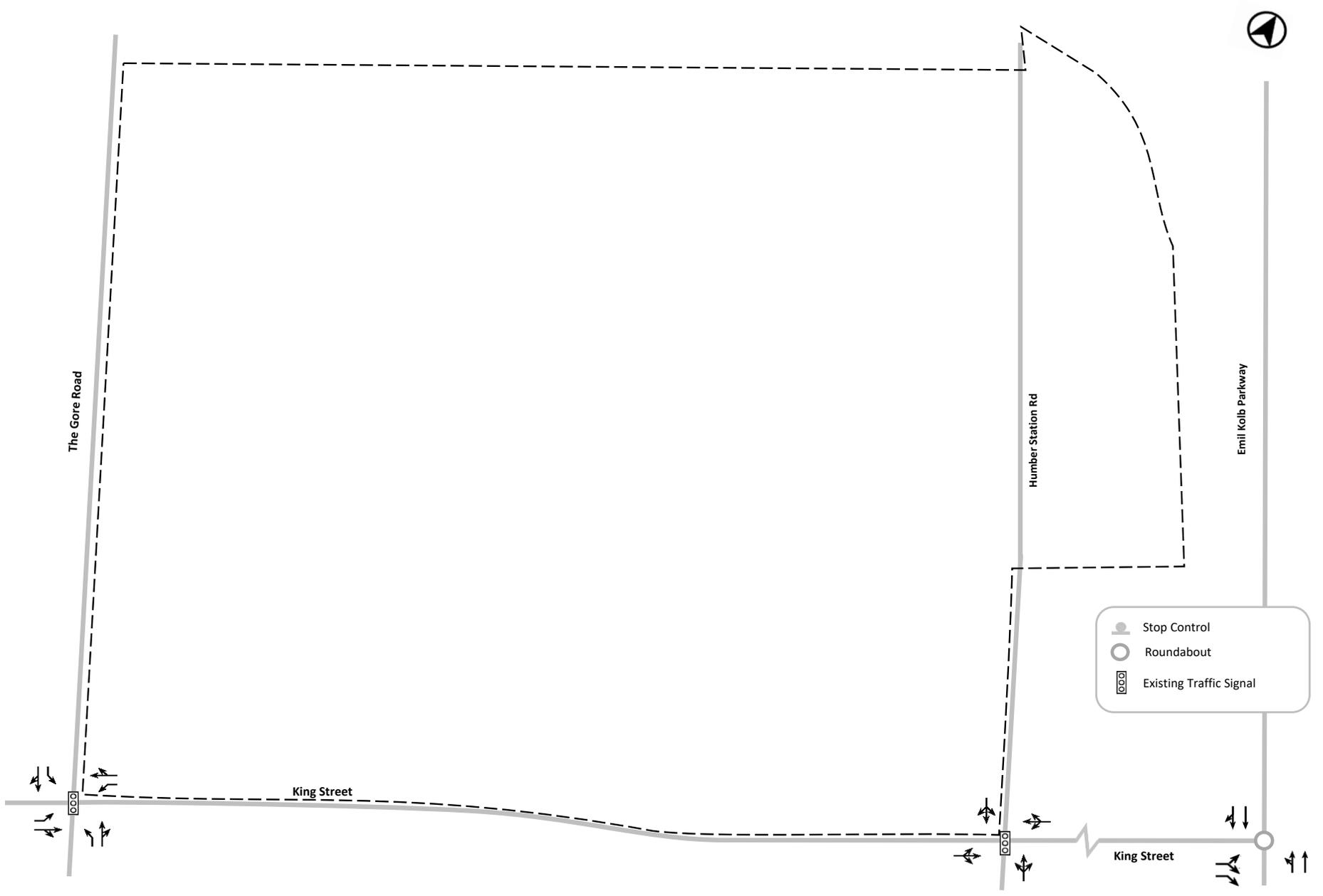


FIGURE 3 EXISTING LANE CONFIGURATIONS

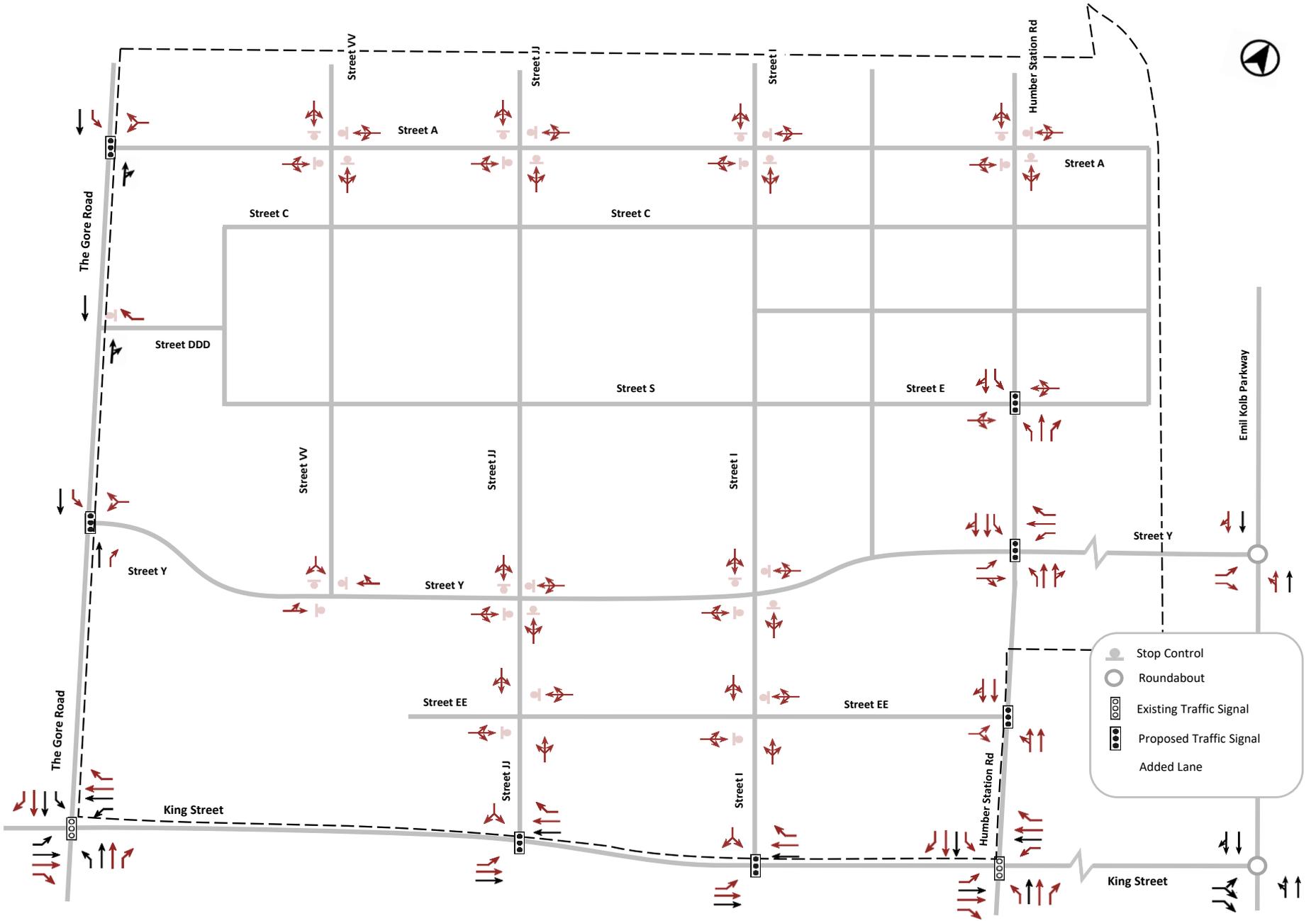


FIGURE 4 FUTURE LANE CONFIGURATIONS

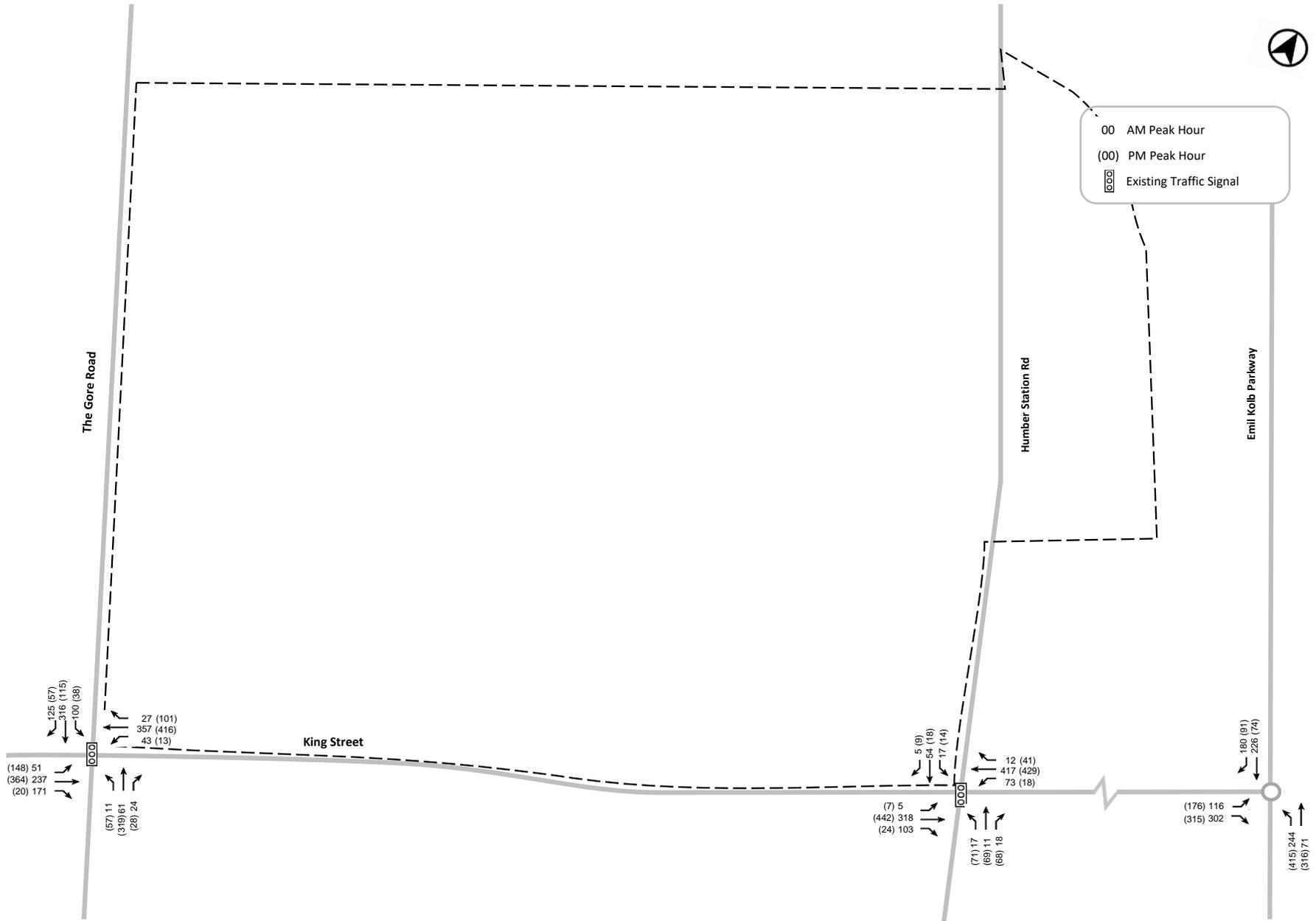
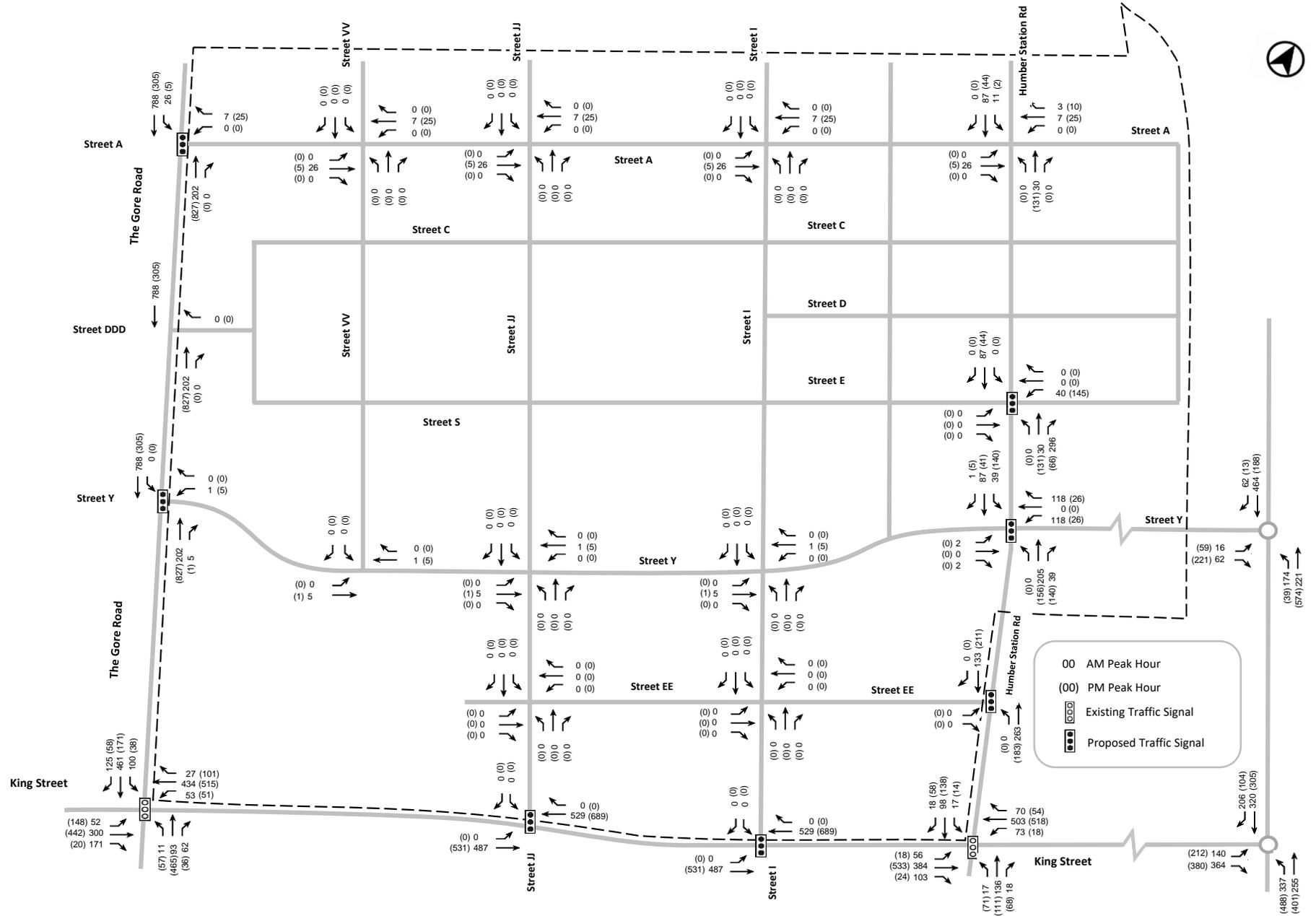


FIGURE 5 EXISTING TRAFFIC VOLUMES
 CALEDON STATION SECONDARY PLAN



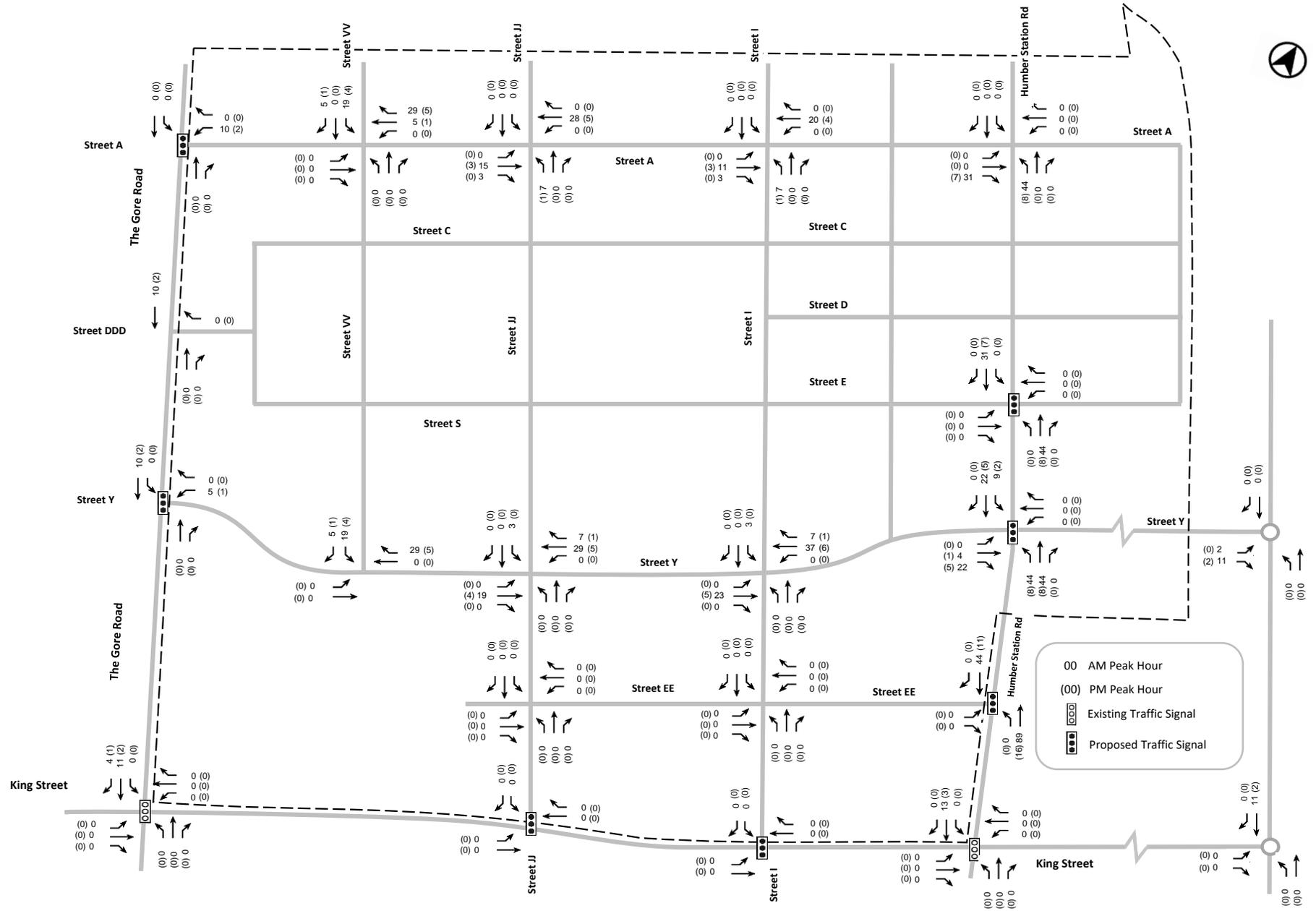


FIGURE 12 SCHOOL SITE TRAFFIC VOLUMES (2041)

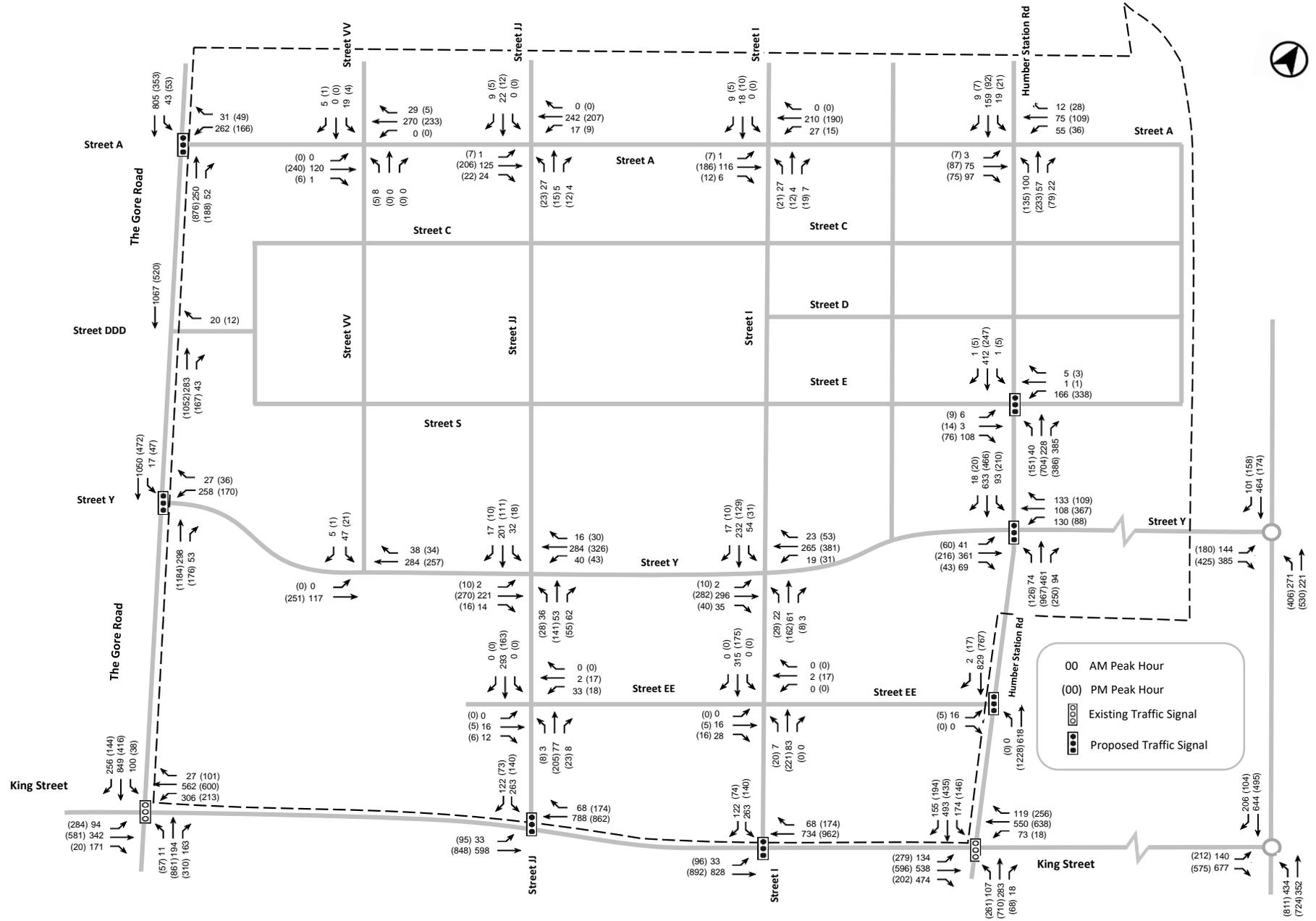


FIGURE 13 FUTURE TOTAL TRAFFIC VOLUMES (2041)

CALEDON STATION SECONDARY PLAN

6.0 OPERATION ANALYSIS

6.1 ANALYSIS METHODOLOGY

Synchro Version 11 and the Highway Capacity Manual (HCM) methodology were used to analyze the study area signalized and unsignalized stop-controlled intersections and site access points. In order to assess the unsignalized roundabout intersections, Arcady was used.

For signalized intersections, the volume-to-capacity ratio (v/c) is an indicator of the capacity utilization for the key movements in the intersection. A v/c of 1.00 indicates that a traffic movement through an intersection is operating at or near maximum capacity.

For unsignalized intersections, level of service (LOS) characterizes operational conditions for key movements in terms of average delay experienced by vehicles attempting to complete a manoeuvre through the intersection. LOS 'A' represents a good level of service with short delays, while LOS 'F' represents a poor level of service with extended delays.

Analysis summary tables are provided in **Appendix E** and detailed analysis worksheets are attached in **Appendix F**.

6.2 ANALYSIS ASSUMPTIONS AND PARAMETERS

Synchro analyses performed conform to the requirements of the Region of Peel's Guidelines for Using Synchro, December 2010. A base saturation flow of 1,900 vehicles per hour per lane and peak hour factor of 1.00 was assumed as per the Region's Synchro guidelines. Heavy vehicle percentages were calculated based on existing traffic volume data extracted from the traffic counts utilized in this study.

Existing traffic signal timing plans for the signalized intersections within the study area were obtained from the Region of Peel and are attached in **Appendix D**. Analyses were undertaken using these signal timing plans.

A summary of Existing Operations, Future Background Operations and Future Total Operations are illustrated in **Figure 14** to **Figure 16**.

A summary of Recommended Road Improvements are described in **Section 6.3**.

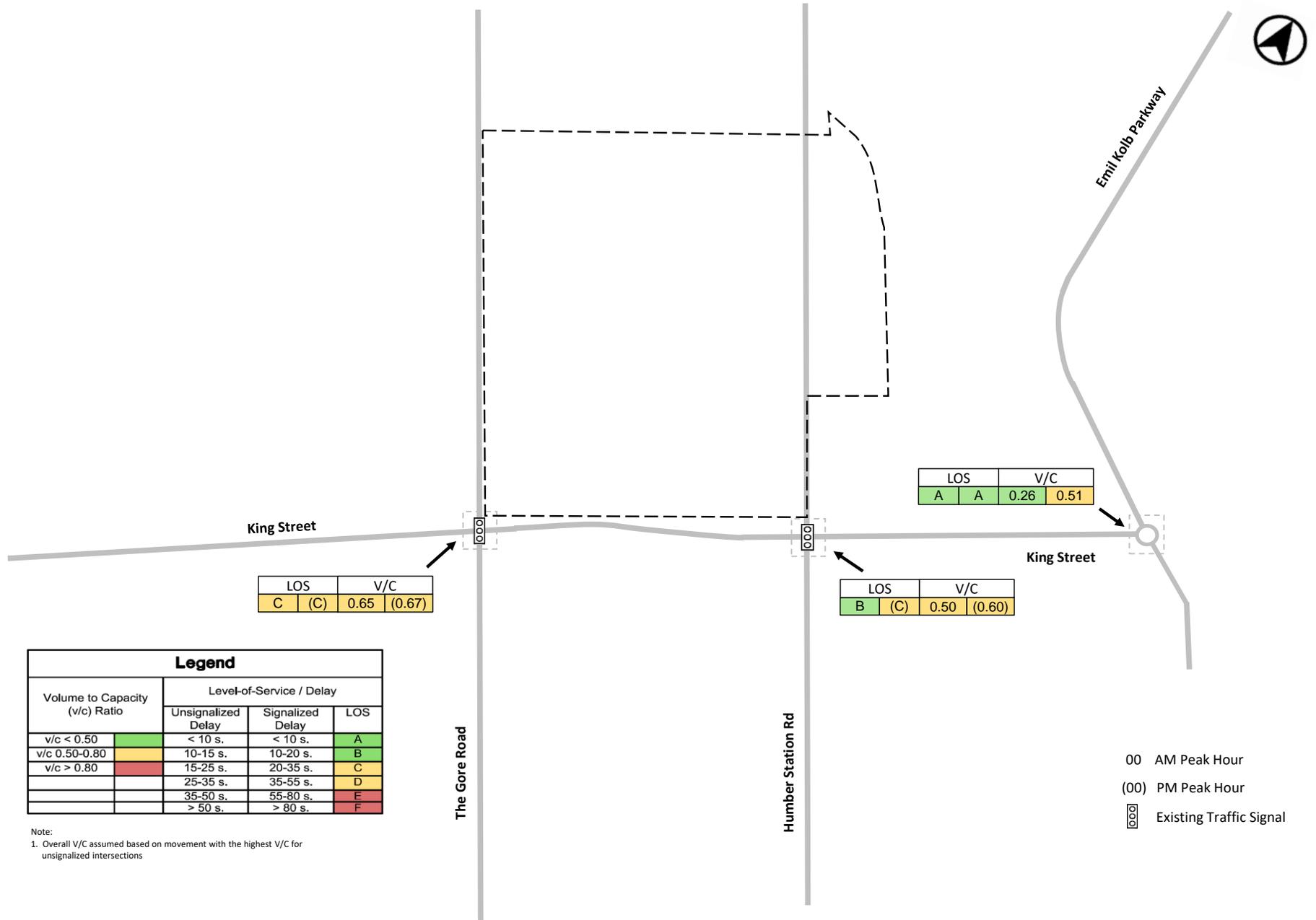
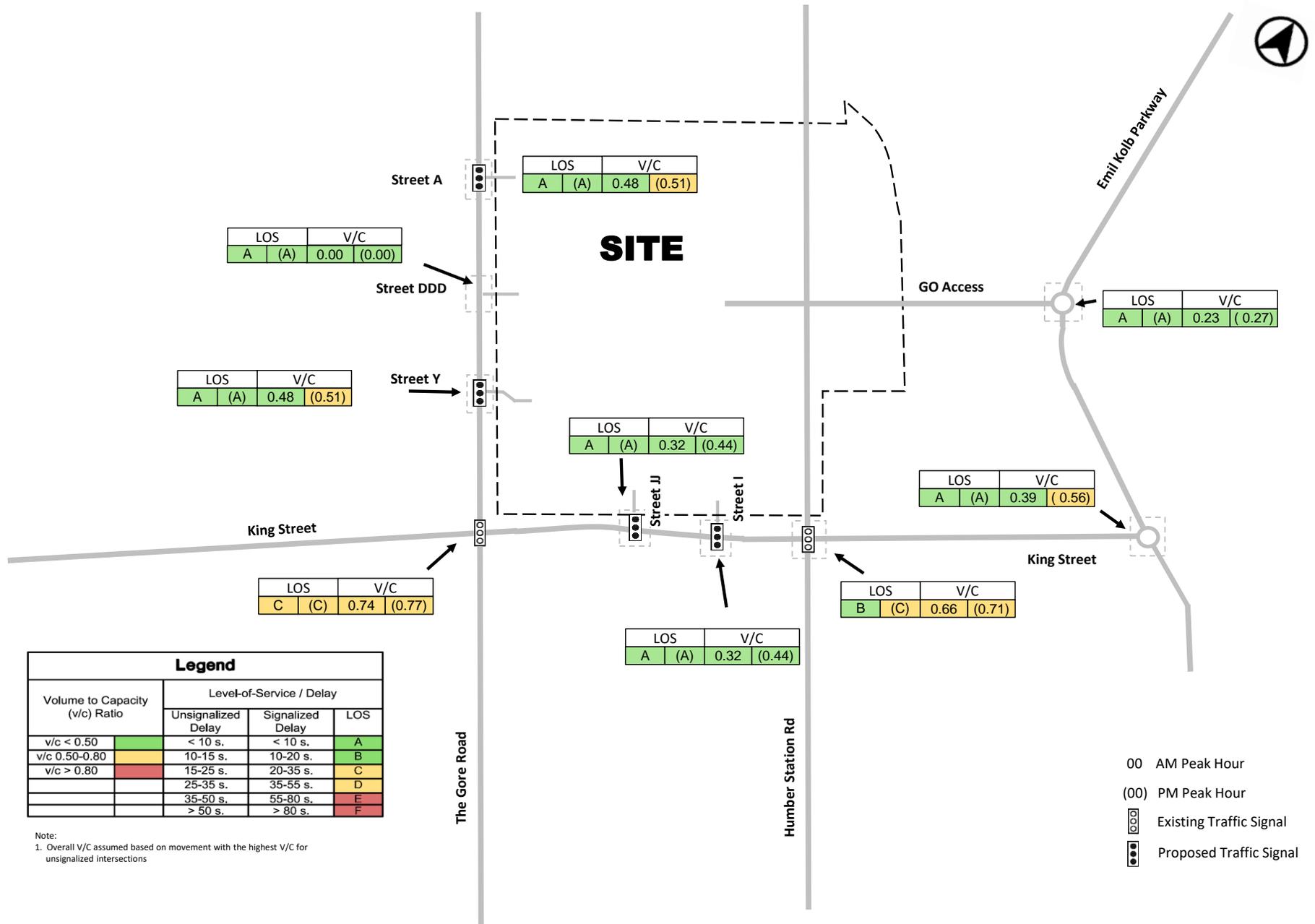
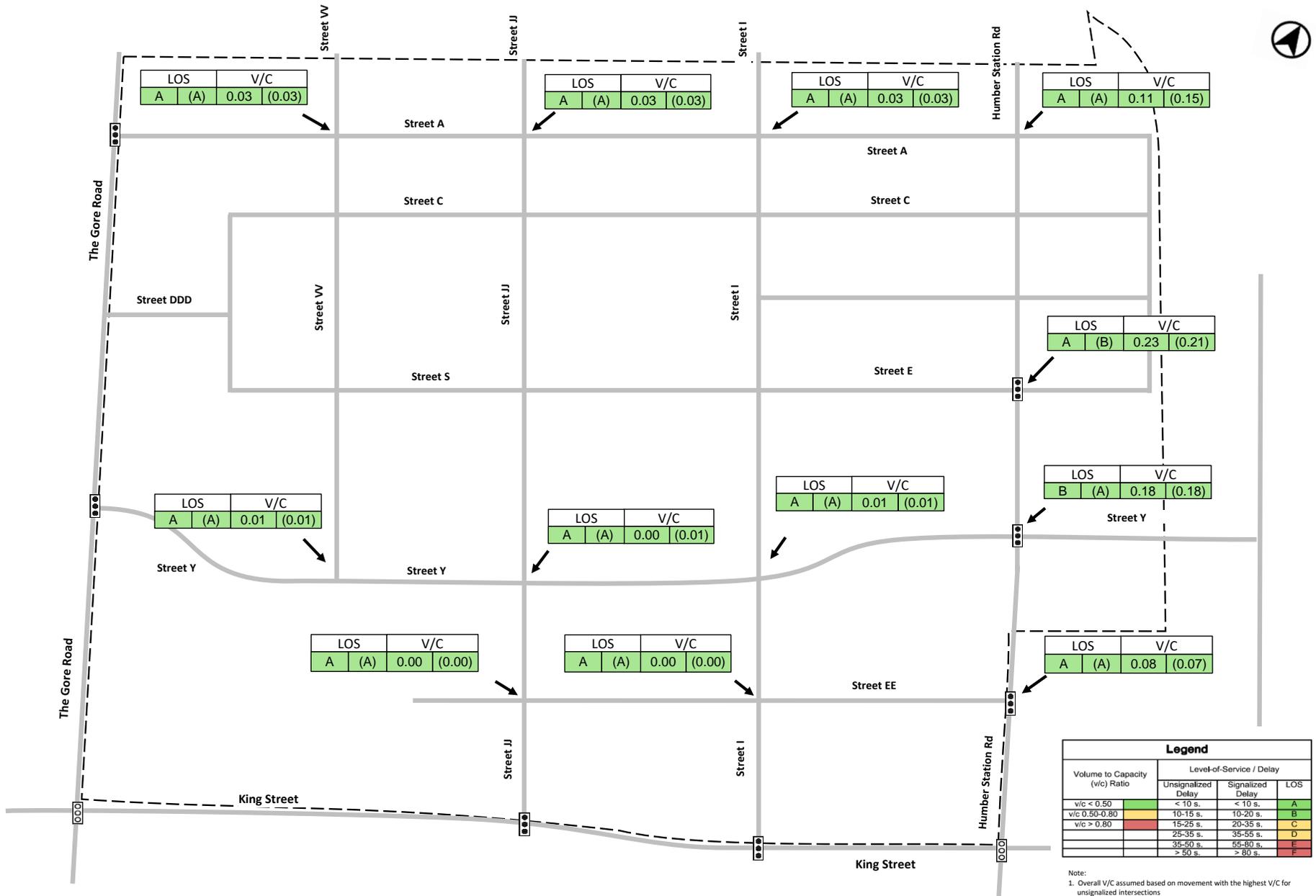




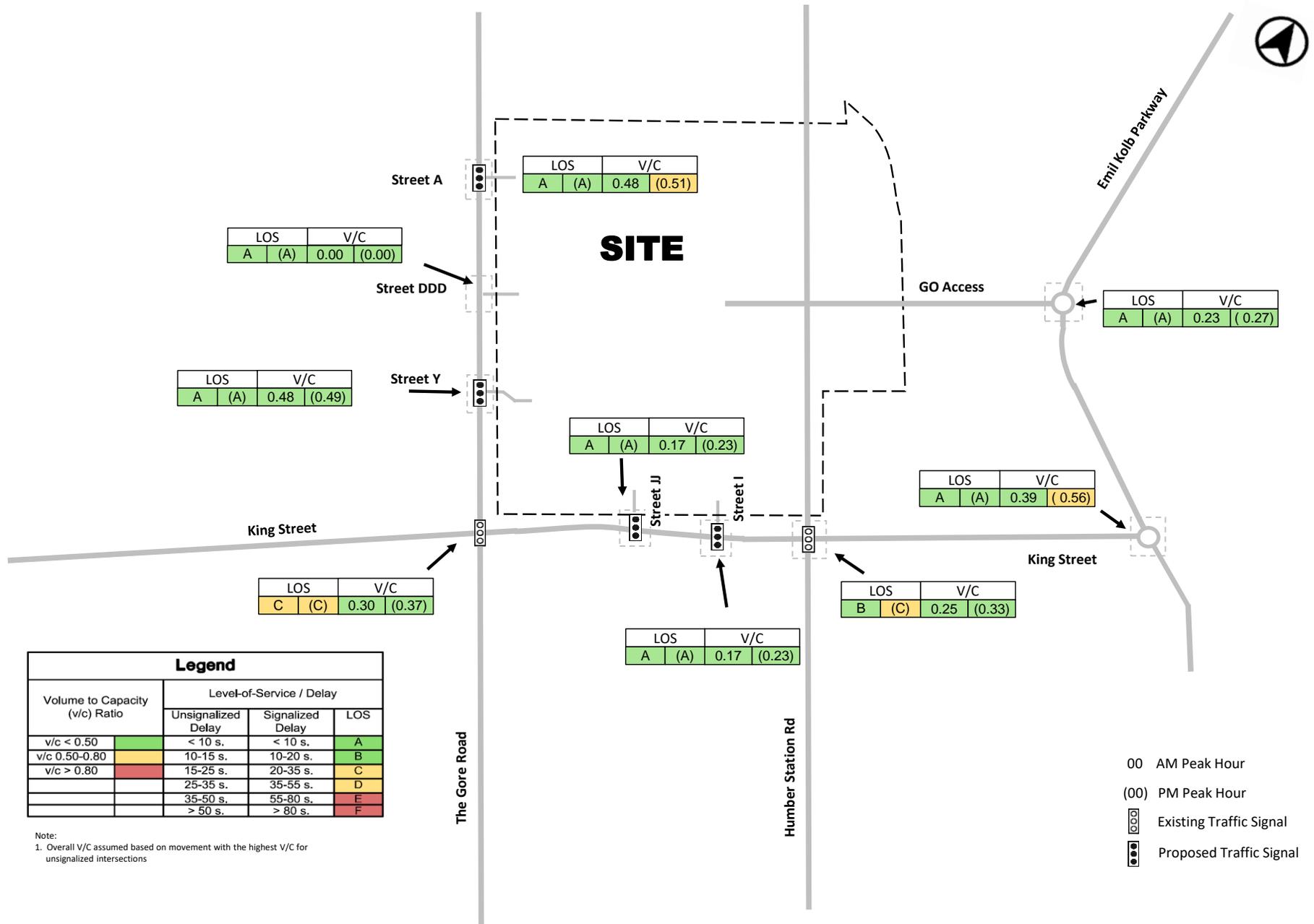
FIGURE 15A FUTURE BACKGROUND INTERSECTION OPERATIONS (2041) - INTERNAL (No Improvements)

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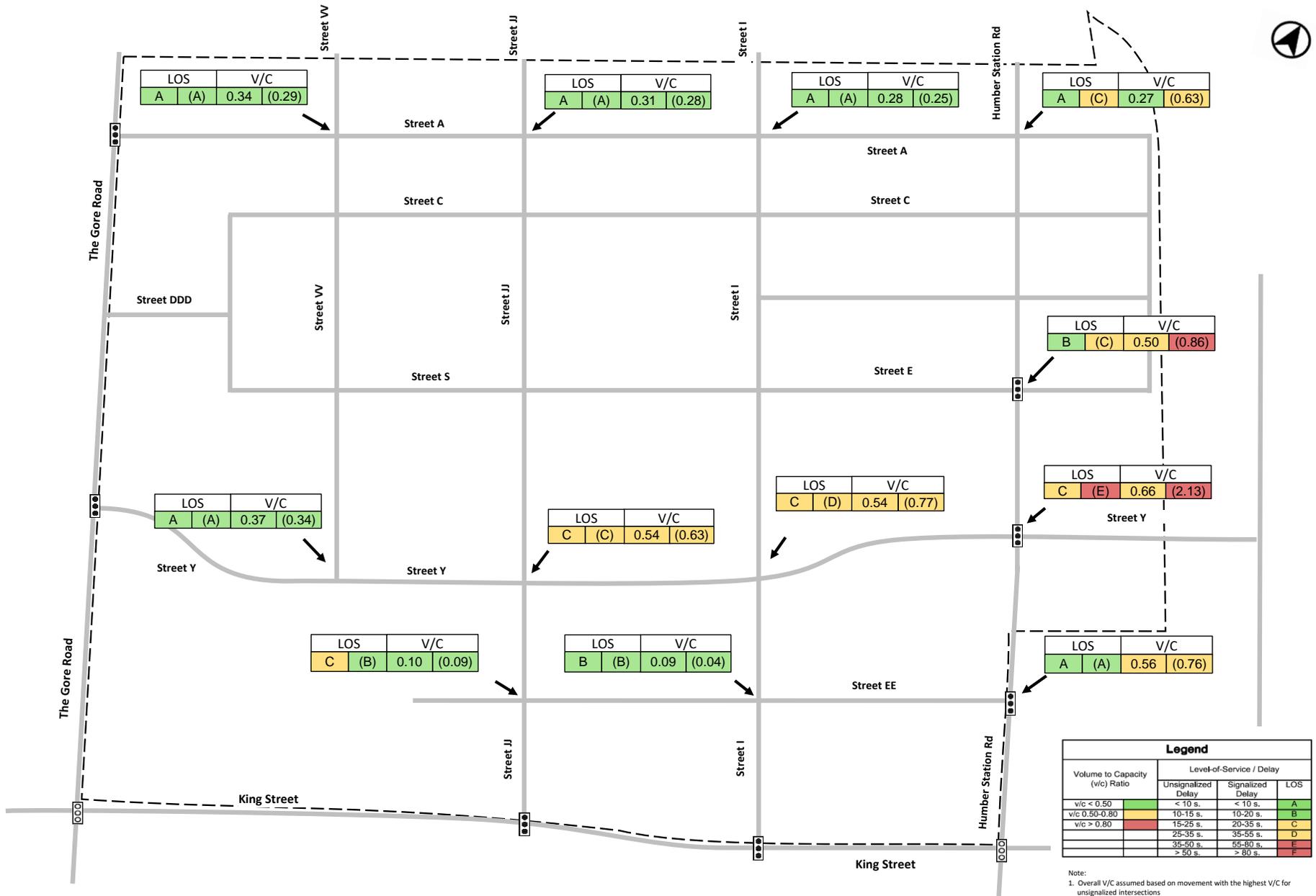
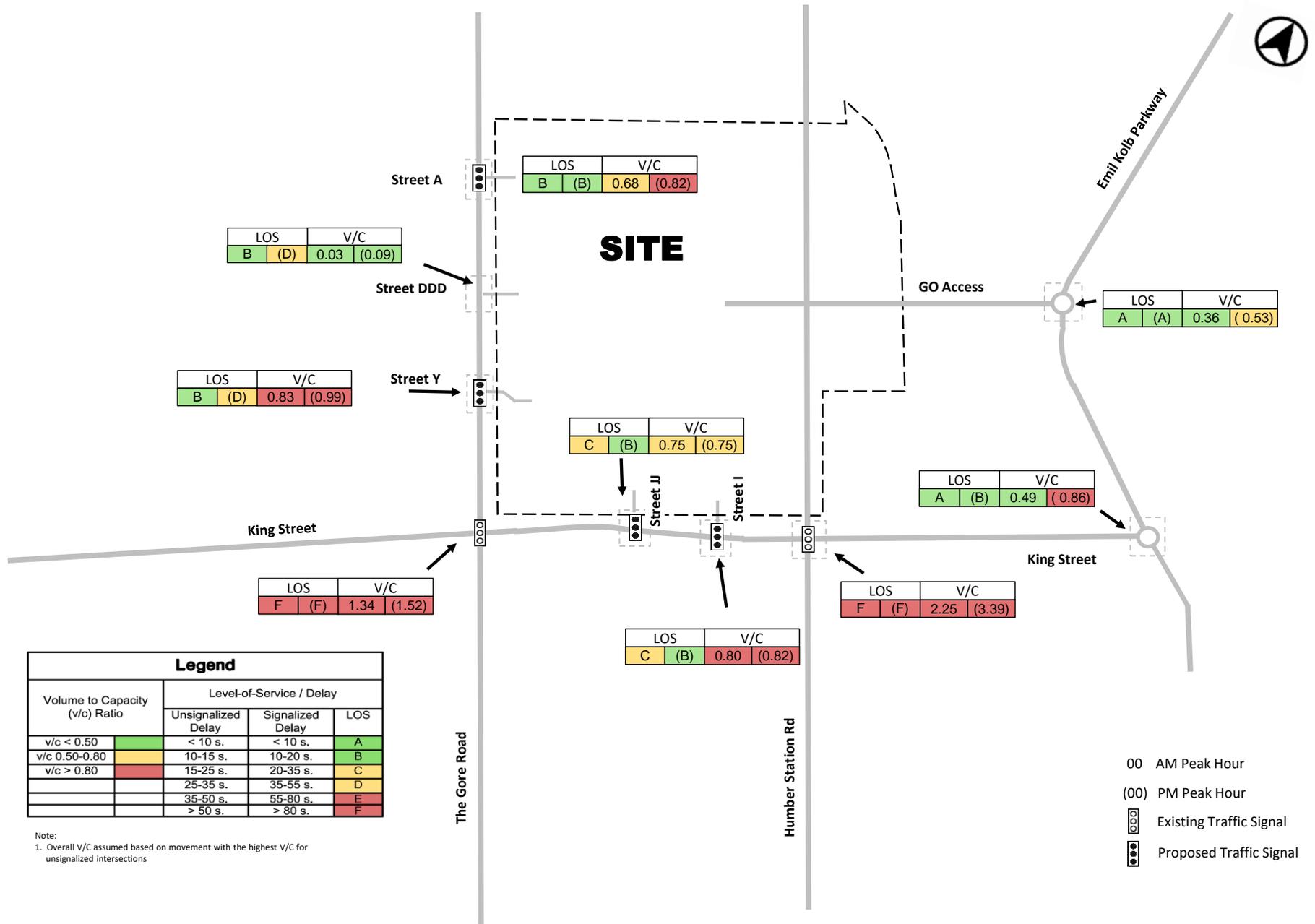
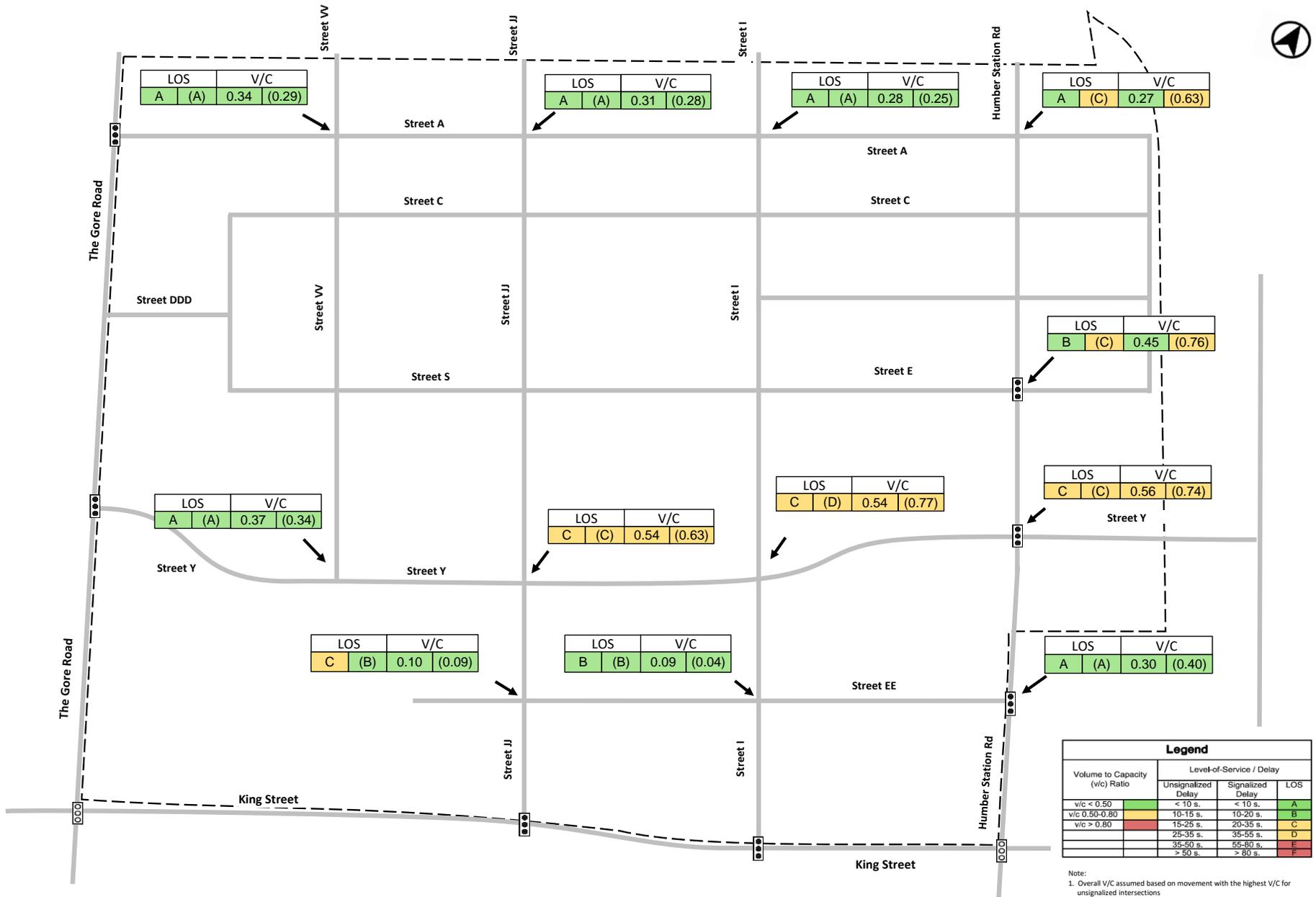


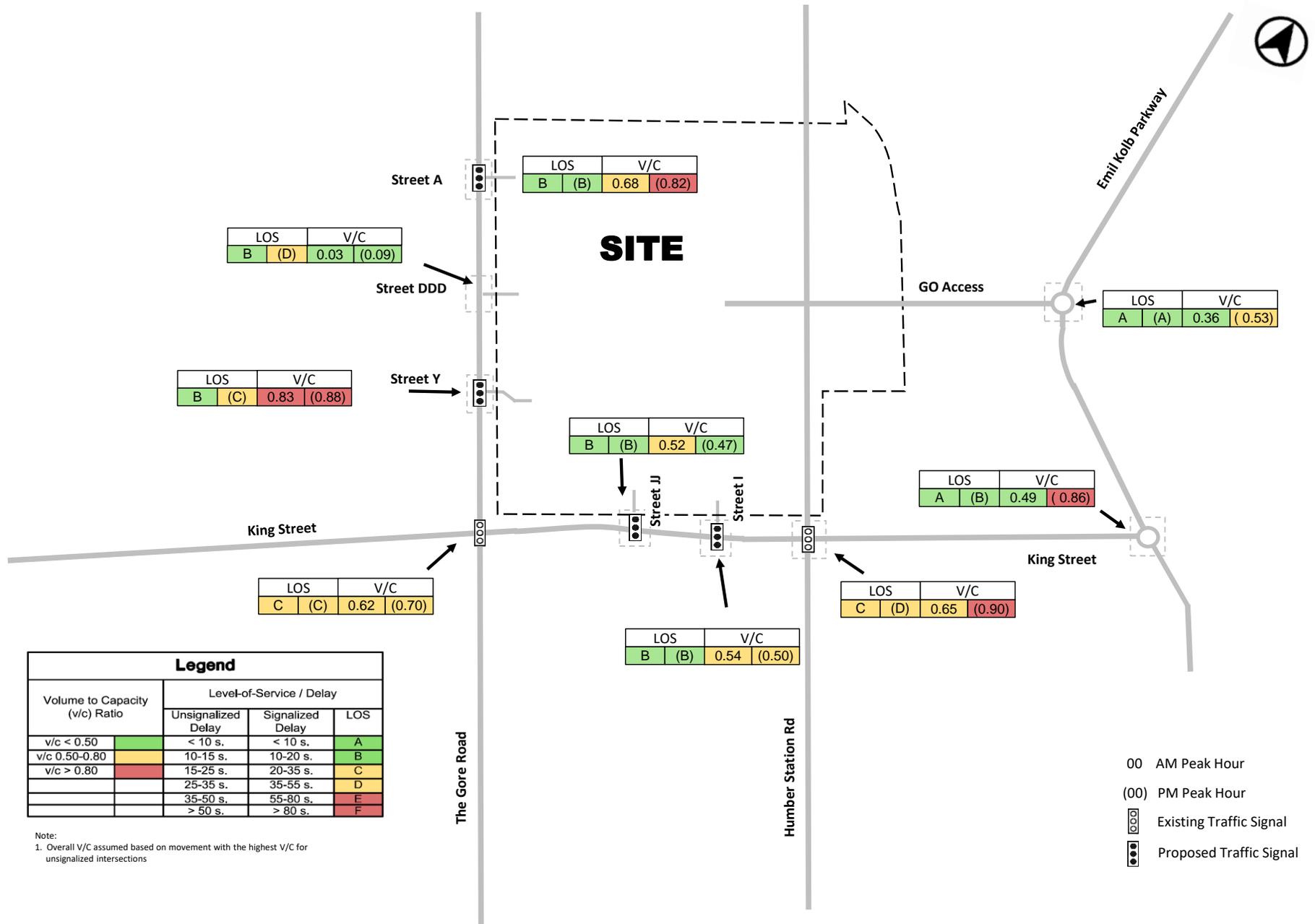
FIGURE 16A FUTURE TOTAL INTERSECTION OPERATIONS (2041) - INTERNAL (No Improvements)

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6.3 RECOMMENDED ROAD IMPROVEMENTS

Recommended area road improvements are summarized in **Table 19** – Intersection Improvements and **Table 20** – Road Widening for the road network surrounding the Caledon Station Community based on background growth and community traffic projections. Intersection configuration improvements are also summarized in Error! Reference source not found..

TABLE 19 RECOMMENDED ROAD NETWORK IMPROVEMENTS - INTERSECTIONS

| Road | Recommended Intersection Improvements |
|-------------------------------|---|
| Humber Station Road | <ul style="list-style-type: none"> Widen intersection approaches at King Street / Humber Station Road to include exclusive turning lanes. Provide continuous cycling facilities along Humber Station through entirety of the Caledon Station community. |
| King Street | <ul style="list-style-type: none"> Signals at arterial/collector road intersections Widen intersection approaches at King Street / Humber Station Road to include exclusive turning lanes. Widen intersection approaches at King Street / The Gore Road to include exclusive turning lanes. Monitor roundabout intersection operations at King Street / Emil Kolb Parkway as community grows Introduce Grade-separated crossing of rail line¹ |
| Gore Road | <ul style="list-style-type: none"> Provide exclusive left turn lanes at site accesses Widen intersection approaches at King Street / The Gore Road to include exclusive turning lanes. Minimum of two signals along Gore Road, to be located at arterial/collector road intersections |
| Go Access / Emil Kolb Parkway | <ul style="list-style-type: none"> New Collector Road Connection between GO station and Emil Kolb Parkway Introduce Grade-separated crossing of rail line New roundabout or signal at GO Access Road and Emil Kolb Parkway |

Notes:

1. Peel Region is currently planning to grade separate King Street at the CP rail line (south and east of Caledon Station). The need for this grade separation has been determined (by the Region of Peel) on the basis of existing and future traffic growth in the King Street corridor. This project would be necessary whether or not the Caledon Station Community is built. Policy directives drafted for the Secondary Plan also allow for fire or ambulance/EMS facilities in any land use designation within the Secondary Plan.

Corridor Road widenings along the boundary road network (arterials) are more closely tied to the broader area growth projection currently under review in the Region's RTMP and Town's MMTMP. We have included the corridor widenings anticipated under future total conditions for the Secondary Plan and area road network based on current findings in Table 20.

Roads within the Secondary Plan that are subject to future area growth related findings of the RTMP and MMTMP studies, will require coordination with the municipality once findings are made available.

TABLE 20 RECOMMENDED ROAD NETWORK IMPROVEMENTS – CORRIDOR WIDENINGS

| Road | Recommended Corridor Improvement | Segment |
|---------------------|---|-------------------------------------|
| Humber Station Road | <ul style="list-style-type: none"> Widen from 2 to 4 lanes (up to the GO Station) Maintain 2 lanes north of GO Station through “Hub” main Street environment. Provide separated cycling facilities along the entire length of Humber Station Road. | King Street to GO Station entrance. |
| King Street | <ul style="list-style-type: none"> Widen from 2 to 4 lanes Provide separated cycling facilities along the entire length of King Street. Design rail/road bridge crossing to accommodate 4 lanes and active transportation. | Gore Road to Emil Kolb Parkway |
| Gore Road | <ul style="list-style-type: none"> Maintain 2 lanes to 2041 under current growth rates analysis. Localized widening to 4 lanes at The Gore Road and King Street. Provide separated cycling facilities along the entire length of King Street. | North Site limits to King Street |
| E-W Collector | <ul style="list-style-type: none"> Provide 2 lanes. Design rail/road bridge crossing to accommodate 4 lanes and active transportation. | Emil Kolb to West of The Gore Road |

Coordination with area growth related findings of the RTMP and MMTMP studies that are currently underway will be required. Bridge facilities are recommended to be designed to accommodate the ultimate width of the Region and Town’s forecasting needs for number of lanes and active transportation to best allow for future widenings to occur (if/when needed) without rebuilding or re-designing key crossings.

Alternative design standards are proposed for the arterial (Humber Station) and collector road cross-sections within Caledon Station. The transit hub is further envisioned to have parking facilities at the north and south ends of the Hub, to further encourage active transportation in the core of the MTSA and discourage most of the GO train commuter parkers from entering the hub area with their personal vehicles.

North of the site, at the urban boundary limits - Humber Station is proposed to continue in its current condition. Collector connections have been identified to the east, northwest, west, and south where other urban expansion lands (and future GO ridership catchment areas) are identified within the ROP and draft OP. This also plans for minimal disruption on either side of Humber Station where it traverses the Greenbelt lands.

7.0 SIGNAL WARRANTS

Signal warrant analyses were undertaken for the proposed and potential signalized intersections along The Gore Road, King Street and Humber Station Road according to the Ontario Traffic Manual Book 12, and are attached in **Appendix G**. A signal warrant analysis was also undertaken for the proposed Emil Kolb Parkway / Street Y roundabout intersection as a high level assessment of the appropriateness of a roundabout at this location. A summary of the signal warrant analyses is provided in **Table 21**.

TABLE 21 SUMMARY OF SIGNAL WARRANT ANALYSES

| Intersection | Justified? | Justification |
|---|------------|--|
| King St / Street JJ | Yes | Justification 4 (4-hour) |
| King St / Street I | Yes | Justification 4 (4-hour) |
| The Gore Road / Street Y | Yes | Justification 4 (4-hour) |
| The Gore Road / Street A | Yes | Justification 4 (4-hour) |
| Humber Station Road / Street E | Yes | Justification 3 (Combination) and Justification 4 (4-hour) |
| Humber Station Road / Street Y | Yes | Justification 1 (Min. Volume), Justification 3 (Combination), and Justification 4 (4-hour) |
| Humber Station Road / Street EE | No | Not justified. Recommended to protect for potential future signal or signalized pedestrian crossing. |
| Emil Kolb Parkway / Street Y (roundabout) | Yes | Justification 3 (Combination) and Justification 4 (4-hour) |

All collector/arterial intersections within the Caledon Station Secondary Plan are justified for signalization by either Justification 1, 3, or 4. Justification 3 is typically considered only after remedial measures designed to reduce delay have failed and Justification 4 is focussed on (among other characteristics) commuter-dominated roadways – with heavy demands for two or more hours in the AM/PM peaks, but considerably reduced demand for the remainder of the day. The arterial roadways in this study area are representative of commuter dominated activity during the peak periods. Given this study has a number of long term traffic estimates, and is subject to coordination with ongoing RTMP and MMTMP analysis – signal warrants are also recommended to be conducted for each stage of phasing to determine timing of signal implementation relative to development and area growth.

8.0 FUTURE STUDIES

Based on the work done to date before and during this traffic study in support of the Caledon Station Local Official Plan Amendment, the following future transportation studies have been identified as being necessary or potentially needed as they relate to transportation facilities within or in the vicinity of the Caledon Station Community:

- Studies necessary for approval of developments in Caledon Station:
 - This TIS update provides the capacity analysis for the Secondary Plan Collector Road Network that may be relied upon as background information for Environmental Assessment (EA) requirements for the collector road network (including the East-West Link) and plan of subdivision applications.
 - Site specific traffic studies for non-residential uses, including schools.

- Studies potentially necessary before full build out of Caledon Station:
 - Environmental Study Report (ESR) for the grade separation of the East-West road and the CP rail line.
 - Traffic study for development of the GO station transit hub.
 - Transit Strategy Study (as identified and anticipated to be conducted by the Town of Caledon)

- Studies related to but not relevant to timing of Caledon Station approval or development:
 - ESR for the King Street Grade Separation. This will presumably be undertaken by the Region of Peel. As noted above, it is not necessary that this work commence or be completed prior to the commencement of development of Caledon Station. There is sufficient traffic capacity on the existing area road network to allow for residential occupancy to commence prior to the grade separation of King Street.
 - ESR's for the widening of King Street and The Gore Road. While not yet planned, the fact that these roads are boundary roads means that there may be some shared concerns with the Region of Peel with respect to the future rights-of-way, and the handling of storm water and adjacent to the rights-of-way. Future coordination with area growth related findings of the RTMP and MMTMP studies that are currently underway is recommended.

APPENDIX A:

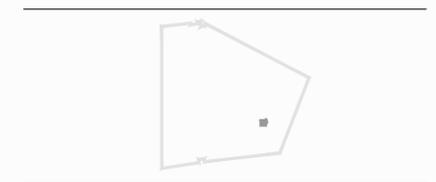
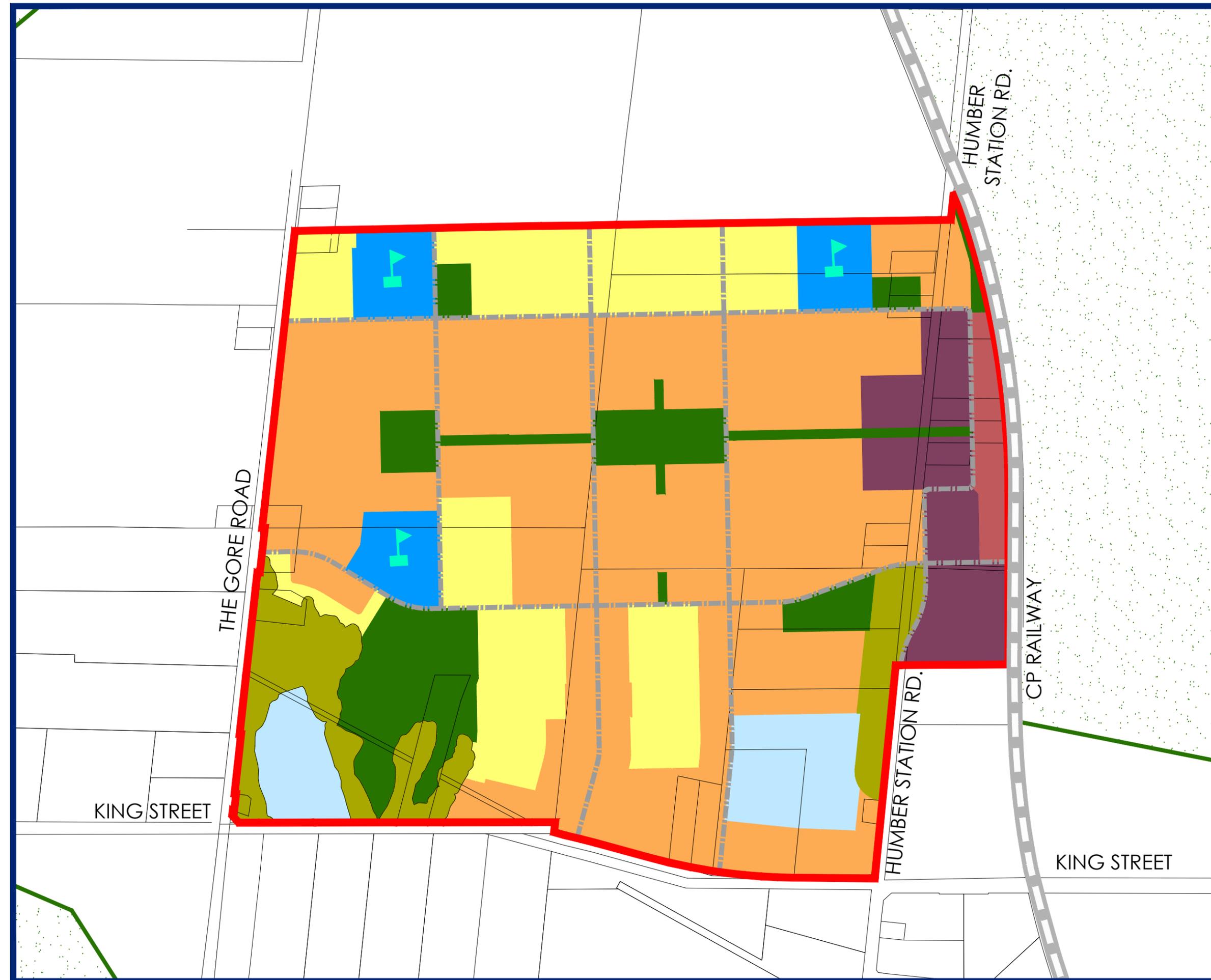
Caledon Station Preliminary Land Use Plan, Framework Plan, Road Hierarchy Plan, and Active Transportation Network Plan

As Provided by GSAI, Gerrard Design, and NAK Design Strategies



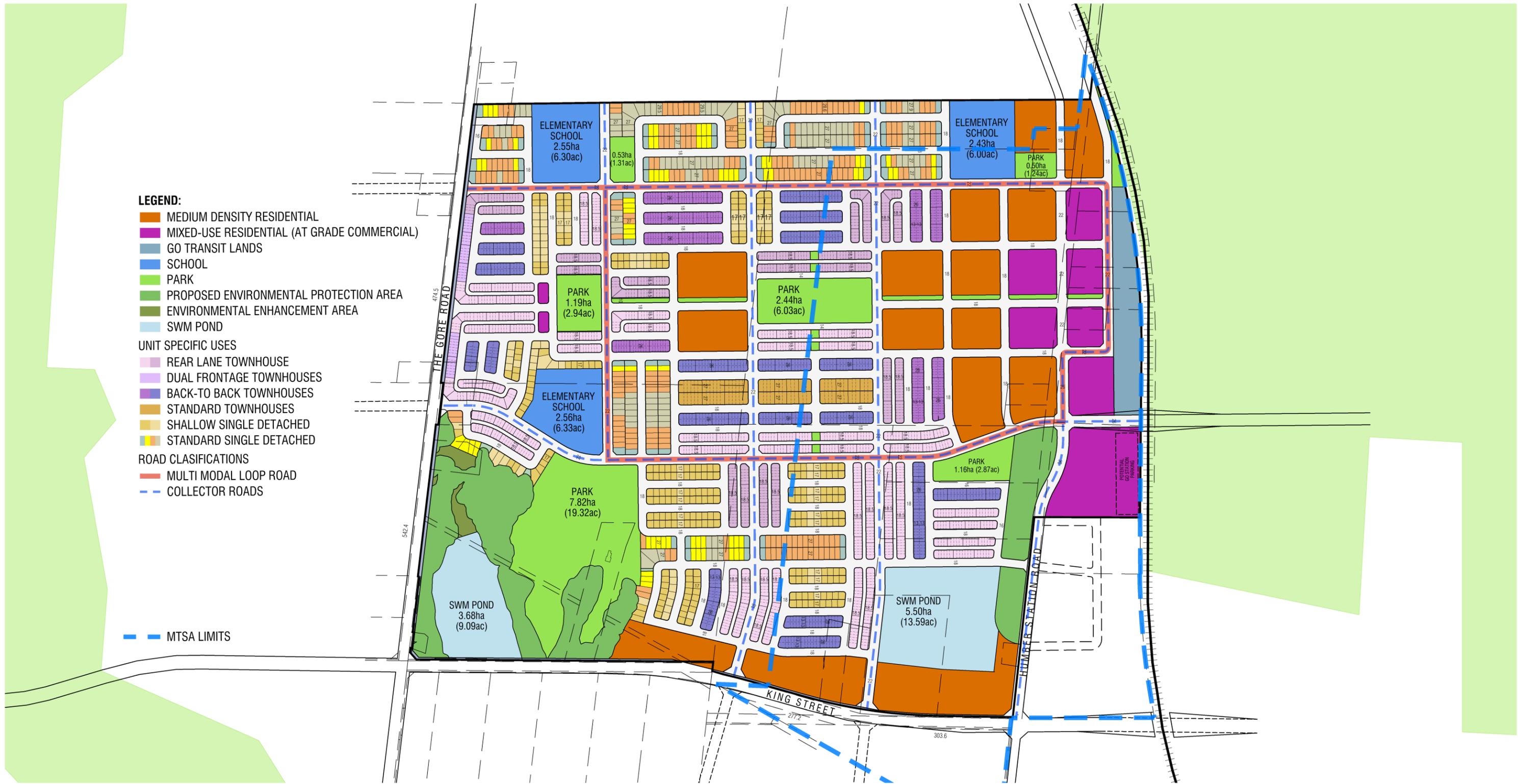
TOWN OF CALEDON **Schedule C-8**
 (A Subschedule to Schedule "C")
CALEDON STATION
SECONDARY PLAN:
LAND USE PLAN

- Low Density Residential
- Medium Density Residential
- Mixed-Use
- GO Transit Hub
- Institutional
- Open Space Policy Area
- Environmental Policy Area
- Boundary of Greenbelt Plan Area
- Stormwater Pond Facility
- Settlement Boundary
- Elementary School
- Collector Road
- Railway



Base Data Source: Teranet, 2013





DRAFT

- All Units In Metric Unless Otherwise Noted.
- Base Information Obtained From Various Sources And Is Approximate.
- Schedule / Plan Information Is Conceptual And Requires Verification by Appropriate Agency.



CALEDON STATION FRAMEWORK PLAN

MAY 5, 2023
 PROJECT 1420
 SCALE 1:8000

CP-37

LEGEND:

- MEDIUM DENSITY RESIDENTIAL
- MIXED-USE RESIDENTIAL (AT GRADE COMMERCIAL)
- GO TRANSIT LANDS
- SCHOOL
- PARK
- PROPOSED ENVIRONMENTAL PROTECTION AREA
- ENVIRONMENTAL ENHANCEMENT AREA
- SWM POND

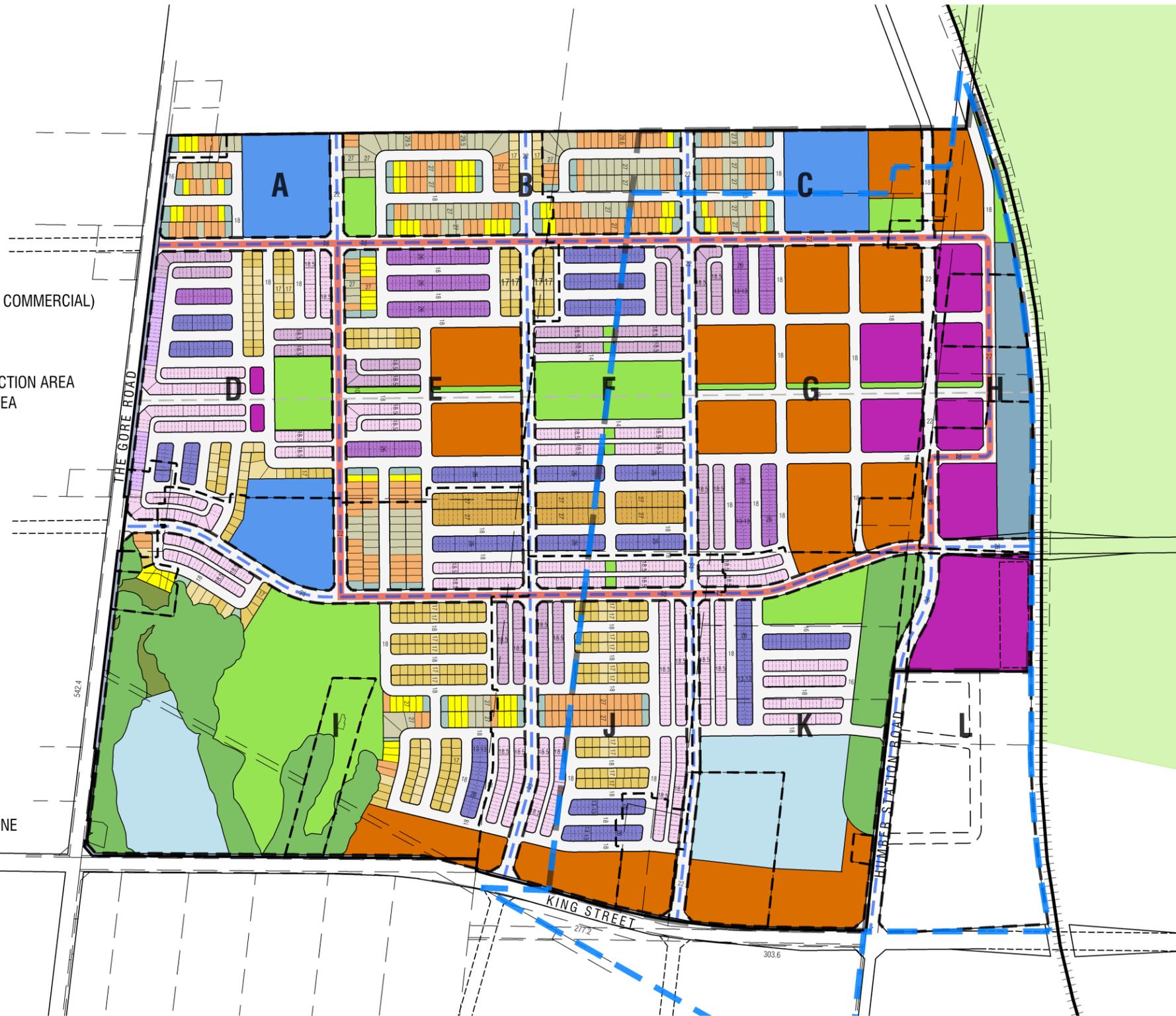
UNIT SPECIFIC USES

- REAR LANE TOWNHOUSE
- DUAL FRONTAGE TOWNHOUSES
- BACK-TO BACK TOWNHOUSES
- STANDARD TOWNHOUSES
- SHALLOW SINGLE DETACHED
- STANDARD SINGLE DETACHED

ROAD CLASSIFICATIONS

- MULTI MODAL LOOP ROAD
- COLLECTOR ROADS

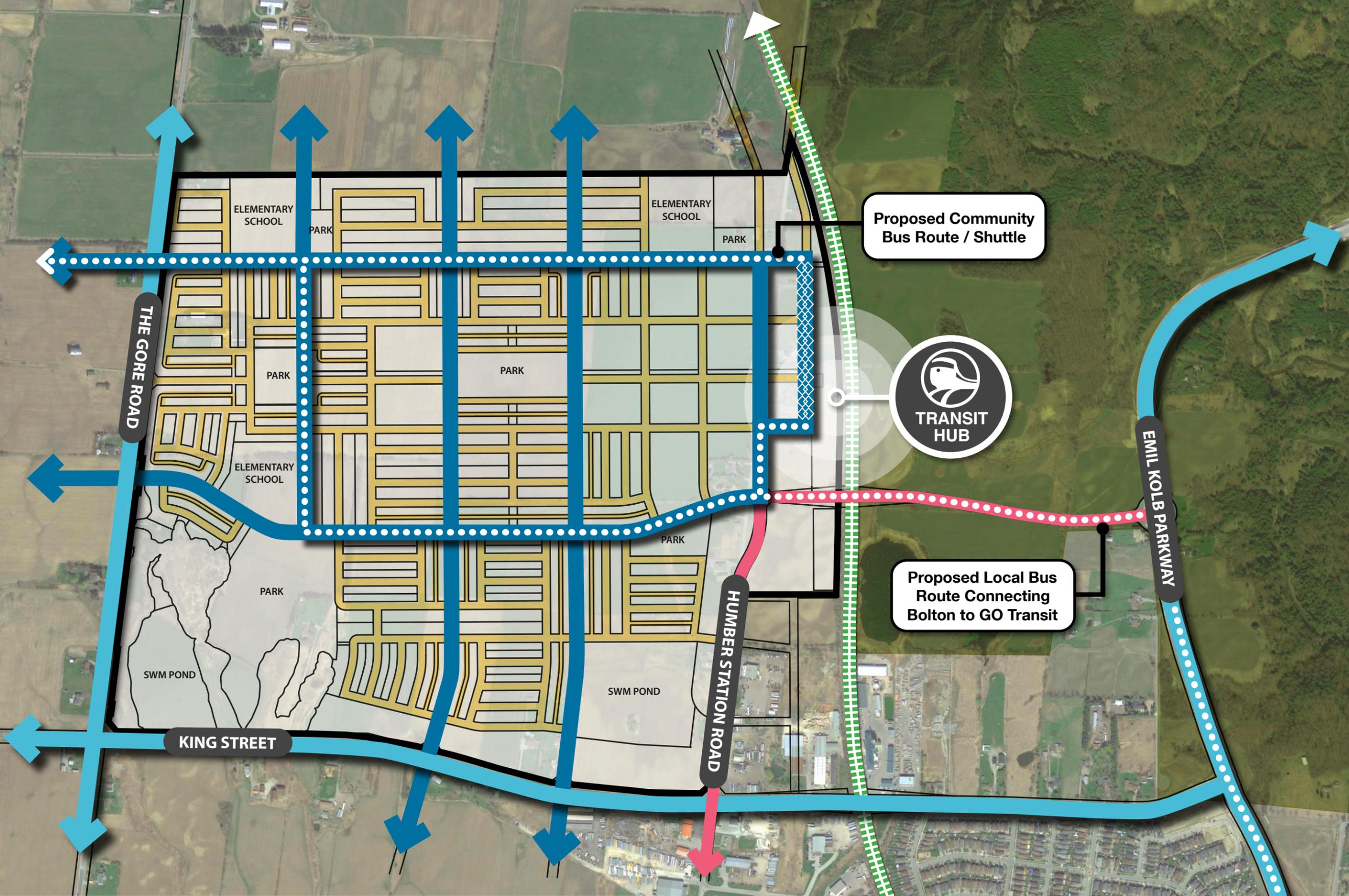
-- POST LAND EXCHANGE PROPERTY LINE



• All Units In Metric Unless Otherwise Noted.
 • Base Information Obtained From Various Sources And Is Approximate.
 • Schedule / Plan Information Is Conceptual And Requires Verification by Appropriate Agency.

DRAFT

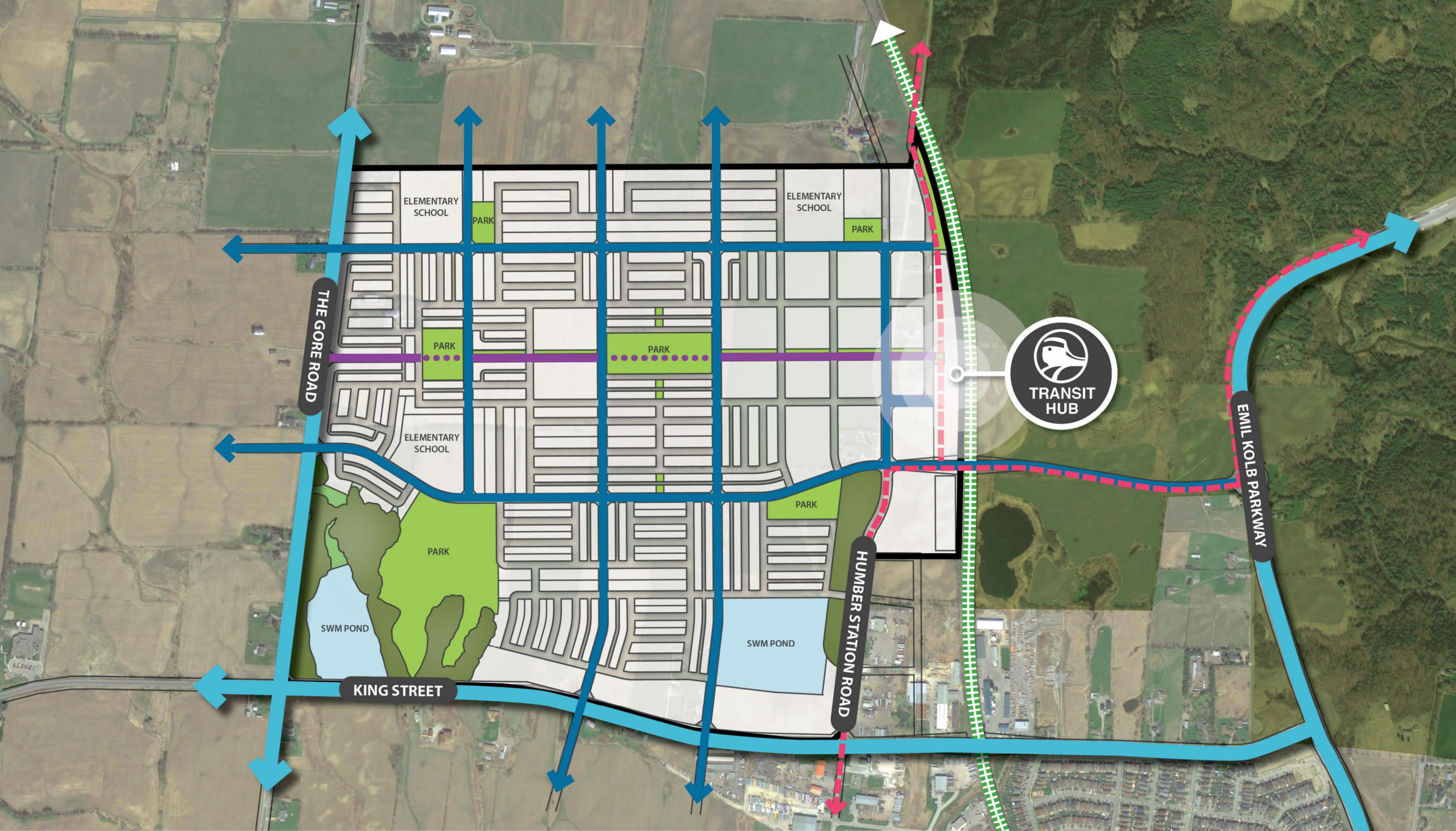




LEGEND

- SITE BOUNDARY
- REGIONAL ARTERIAL (30.0m)**
- TOWN ARTERIAL (26.0m)**
- TOWN COLLECTOR (22.0m)**
- TRANSIT ROUTING
- TRANSIT STREET (22.0m)
- LOCAL ROADS (18.0m, 16.0m, 14.0m, 8.0m)
- GO TRANSIT RAIL LINE

** All Arterial and Collector Roads to be designed to provide separated cycling facilities, bus service, and two-sided sidewalks.



THE GORE ROAD

KING STREET

HUMBER STATION ROAD

EMIL KOLB PARKWAY



ELEMENTARY SCHOOL

ELEMENTARY SCHOOL

ELEMENTARY SCHOOL

SWM POND

SWM POND

LEGEND

- | | | | |
|-------------------------|---------------------------|----------------------|---------------------------------|
| SITE BOUNDARY | MULTI-USE PATH CONNECTION | PARK / PARKETTE | ENVIRONMENTAL POLICY AREA (EPA) |
| REGIONAL ARTERIAL | PROPOSED TRAIL NETWORK | SWM POND | EPA ENHANCEMENT |
| BIKE LANE / CYCLE TRACK | VISTA BLOCK | GO TRANSIT RAIL LINE | |

APPENDIX B:
LOPA Transportation Study Terms of Reference



**LOPA Transportation Study
TERMS OF REFERENCE**

**In support of the
Macville Community
Local Official Plan Amendment**

December 2020

Town of Caledon

1.0 INTRODUCTION

1.1 Planning Background

BA Consulting Group represents the Bolton Option 3 Landowners Group in connection with seeking the necessary approvals required to permit the development of the Macville Community lands for urban development including residential, commercial, mixed uses, community uses and related servicing and infrastructure. The lands subject to this proposal consist of approximately 182 hectares (450 acres) of land and are generally located north of King Street, east of The Gore Road and west of the CP Railway tracks. The subject lands are municipally known as 14396 Humber Station Road; 14384 Humber Station Road; 14226 Humber Station Road; 14206 Humber Station Road; 14196 Humber Station Road; 14166 Humber Station Road; 14100 Humber Station Road; 14042 Humber Station Road; 14155 The Gore Road; 0 The Gore Road; 0 The Gore Road; 14211 The Gore Road; 14275 The Gore Road; 0 Humber Station Road; 14389 The Gore Road; 0 King Street; 0 King Street; 7844 King Street; 7816 King Street; 0 King Street; 7640 King Street (herein referred to as the “Subject Lands”).

The eastern portion of the Macville Community lands, consisting of lands on both sides of Humber Station Road, north of King Street, have been the subject of Regional Official Plan Amendment 30 (ROPA 30) which was recently approved by LPAT and succeeds in bringing these lands into the Bolton Rural Service Centre Settlement Area Boundary. Accordingly, the eastern portion of these lands are designated “Urban Area” in the Region of Peel Official Plan. The western portion of the Macville Community lands, consisting of lands north of King Street and east of The Gore Road are currently designated “Rural Area” within the Region of Peel’s Rural System in the Region of Peel Official Plan and “Prime Agricultural Area” in the Town of Caledon’s Official Plan. It is recognized that the western portion of the Macville Community lands are currently located outside of the Settlement Area Boundary of the Bolton Rural Service Centre and accordingly, in order to permit development of these lands for urban-related land uses, these lands will need to be brought into the Bolton Rural Service Centre Settlement Area Boundary. This review is currently underway at the Region of Peel through the Region’s 2051 Municipal Comprehensive Review of the Region’s Official Plan and it is expected that final Regional adoption of the new Regional Official Plan will occur before the end of 2021. Further, a local Official Plan Amendment is required to assign urban land use designations to all of the Macville Community lands.

This Terms of Reference for a Transportation Study represents one of several component studies to be undertaken as input to the Local Official Plan Amendment process to establish a Secondary Plan for the Macville Community in Bolton. This Secondary Plan will facilitate the development of these lands for residential and mixed-use development with related complimentary uses, such as open spaces, parks, trails, commercial uses, the Bolton GO Station, the Natural Heritage System (NHS), and stormwater management facilities.

This Terms of Reference sets out the tasks to be addressed and the expected deliverables of the study. The results of the study will contribute to the approval of the LOPA.

1.2 STUDY AREA

The Macville community lands are bounded to the west by The Gore Road, to the east by Humber Station Road and the Canadian Pacific (CP) MacTier subdivision rail line, and to the south by King Street, as shown in the figure on the following page.

The LOPA Transportation Study will focus on the impacts of the proposed community on the existing adjacent road network, namely King Street, The Gore Road, Humber Station Road, and Emil Kolb Parkway. There is a proposed new road link connecting the community to Emil Kolb Parkway to the north of King Street which will also be assessed.

Planning and design of the internal community road network is still underway, and as such will not be analyzed in this report. A subsequent and more comprehensive transportation study will be prepared in coordination with later submissions.

2.0 STUDY PURPOSE

The purpose of the Transportation Background Study is to assess and recommend the transportation infrastructure required to support the development of the Macville community.

The transportation analysis will be undertaken at a relatively high level to assess the road network impacts of the traffic generated and attracted by the development. The study will be of sufficient detail to assess arterial road network performance.

The determination of the transportation impacts will be undertaken in conjunction with an evaluation of through traffic growth on the existing arterial road corridors.

In addition, the report will speak in a qualitative way to the proposed character of the internal road network and cross sections, the significant role of integrating high order and community transit into the planning and design of Macville right from the start of development, the role of the community in supporting both Caledon and Peel active transportation and sustainability objectives, and the need for infrastructure such as grade separated access across the adjacent CP rail line.

The transportation issues to be examined in this study are set out below.

- Arterial road network requirements.
- Traffic controls at major road intersections.
- Roles of the arterial, community and neighbourhood streets within the community.
- External arterial road and internal community road patterns.
- Traffic distribution.
- Transit and active transportation strategy to reduce single-occupant auto use during the peak periods and to optimize/minimize transportation infrastructure.
- Integration with GO rail transit and the resulting impacts on trip generation rates.
- Mode split assumptions for auto, transit, walk, and cycling.
- Bicycle routes and pedestrian trail network, and integration with the rest of Caledon.
- Traffic calming on internal roads.

- On street and off street parking strategy and parking standards to support TDM and to encourage transit usage.

3.0 LOPA TRANSPORTATION STUDY

The transportation study will include principles, goals, and objectives with respect to transportation, consistent with the community vision.

Review of Past and Current Studies

The consultant will review past and current studies related to Macville with regards to their relevant policies, conclusions, and recommendations. Relevant data will be extracted from previous studies and applied to this study, if appropriate.

Transportation Network

Information on the existing and planned transportation system, including all surface transportation modes –highways, arterial roads, collector roads, pedestrian, trail, and bicycle networks and surface transit routes will be reviewed. Existing rights-of-way, designated rights-of-way, and roadway classifications will also be reviewed. The study will also discuss the manner in which innovative and alternative right-of-way solutions are being contemplated for the Macville community, in support of the Town of Caledon and Region of Peel’s objectives with respect to sustainability and reduced environmental burdens.

Traffic Counts

All relevant traffic counts currently available from Peel Region, and the Town of Caledon will be collected. Any missing traffic data that is not available through these sources will require additional counts to be undertaken. This information will be used to assess existing conditions and to provide input into forecasting future travel demand.

Existing Transportation Network Constraints and Opportunities

The existing road transportation network will be analyzed (as measured using level of service/volume to capacity ratios) during the weekday AM and PM peak hours to identify existing capacity deficiencies. This will be conducted at the intersection level. This analysis will identify existing capacity problems and the magnitude of these problems.

Study Horizon

Forecasting and analysis of the future road network traffic patterns in the study area will be undertaken for an ultimate build-out horizon of 2031. The weekday AM and weekday PM peak hour travel demand will be evaluated.

Traffic Generation and Mode Split

Forecasts of future traffic generated by the Secondary Plan Area will be based on vehicle trip generation rates for each type of land use and will reflect expected transit modal splits, adjustments for live/work targets, adjustments for TDM strategies, proportion of walking/cycling trips, and auto occupancy.

Sources for trip generation rates will include TTS, ITE Trip Generation publication.

The expected transit mode splits for this development and for background traffic growth will be rationalized based on consideration of several factors. The factors that will be reviewed, but not limited to, include:

- proposed transit network;
- expected service frequencies/headways;
- land use densities;
- average walking distances to bus stops and stations, and;
- built-form.

Traffic Distribution

The distribution of traffic generated by the Secondary Plan Area will rely on TTS data. The distribution will be documented and expressed as percentages via cardinal direction and routes used for review.

Land Use Scenarios

Background traffic growth in the study area will be accounted for by determining appropriate corridor growth percentage based on historic traffic count data for King Street, The Gore Road, and Humber Station Road.

Forecast traffic growth will be determined from the most current residential and commercial development estimates developed for the community.

Network Scenarios

The planned 2031 arterial road network will be utilized as the base future transportation network and will reflect current municipal and regional capital programs, and other studies as appropriate.

Future Transportation Network Problems and Needs

Selected intersection analysis will also be performed as required to assess the operation of major road intersections and identify any deficiencies. Intersection analysis will be conducted through use of Trafficware's Synchro Capacity Analysis software, version 9.0 and the Arcady software for Roundabouts. Mitigation measures and timing of improvements to the transportation network will be recommended to alleviate impacts to the adjacent

neighbourhoods and road network. The analyses will follow the Region of Peel Synchro Guidelines.

Future Studies

The need for and scope of specific future Environmental Assessment and/or Secondary Plan studies will be identified and summarized. Where possible the desired timing of these studies will be identified.

4.0 COMMUNITY TRANSPORTATION REQUIREMENTS

Internal Transportation Network Requirements

The Macville community planning team have developed a preliminary transportation network and community plan, including a set of proposed road cross sections. These will be discussed with respect to:

- adherence to the principles, goals and objectives established;
- compliance to Town and Region standards and bylaws;
- sustainability;
- support for the development, through transportation accessibility and service;
- network connectivity and continuity;
- community impacts;
- impacts on the natural environment; and
- feasibility of the improvements.

Sustainability and Support for Transit and Active Transportation

The integration of a high order transit hub into the community is of great significance in determining the location and structure of Macville. The:

- early integration of high order and community transit into the planning and design of Macville right from the beginning,
- role of the community in supporting both Caledon and Peel active transportation and sustainability objectives, and
- the need for investment to provide grade separated access across the adjacent CP rail line will be addressed.

5.0 TRANSPORTATION STUDY REPORT

The findings, conclusions, and recommendations of the Transportation study will be documented in a draft summary report that will be prepared for review and approval by the Town of Caledon. Once all comments from interested parties have been reviewed and resolved the summary report will be finalized and submitted to the Town of Caledon.

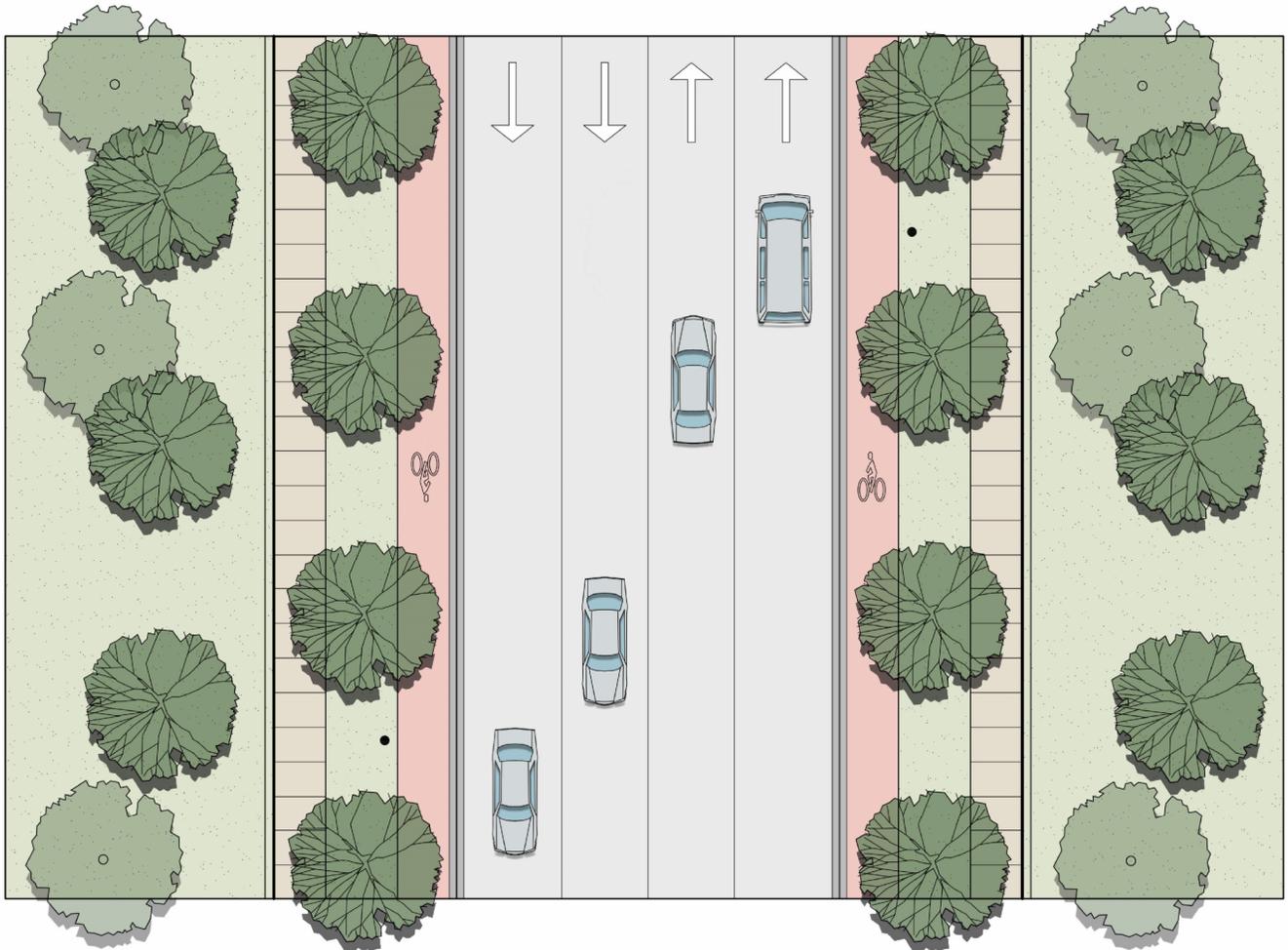
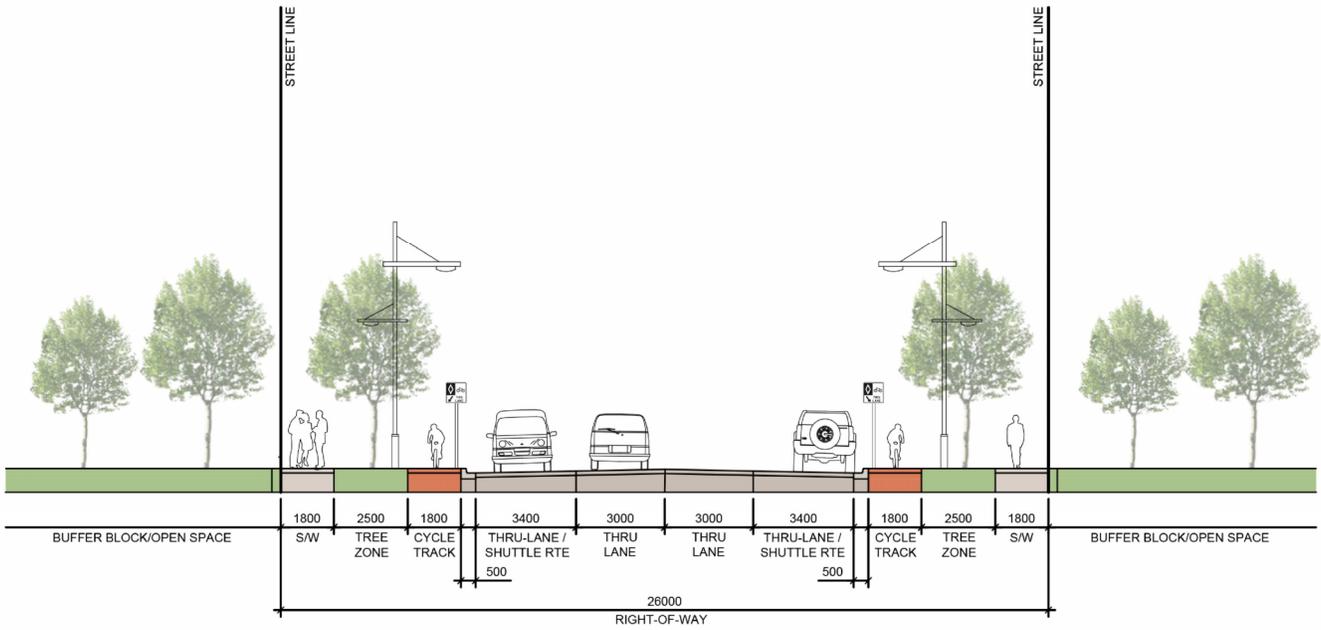
The draft and final reports will consist of the following:

- an executive summary;
- a description of the report methodology;
- an explanation of the various assumptions, considerations, evaluation criteria and overall assessment that lead to the conclusions and recommendations of the study;
- all relevant maps and tables as required to illustrate data, analytical findings, and recommendations respecting all the key issues identified in the Terms of Reference.

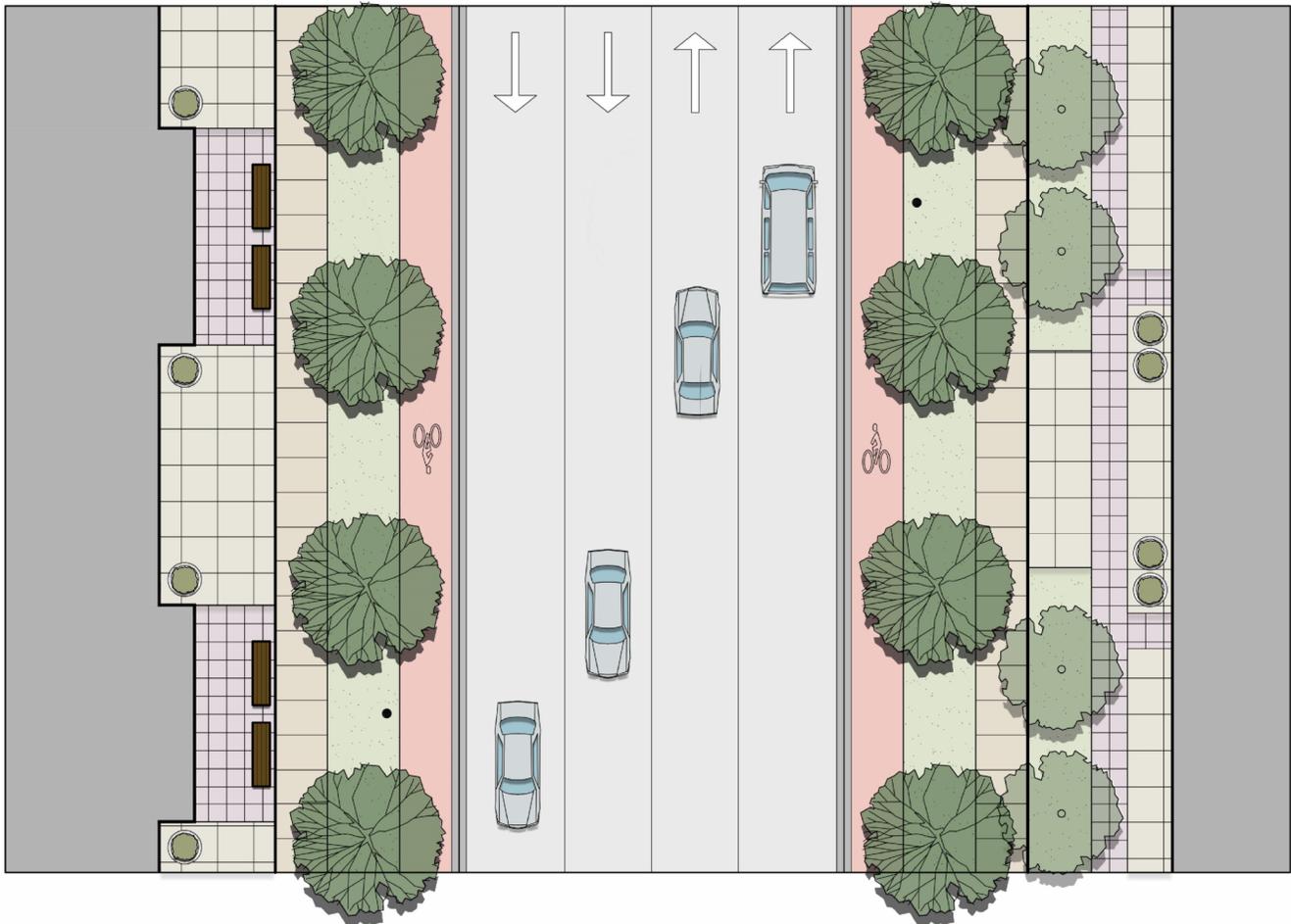
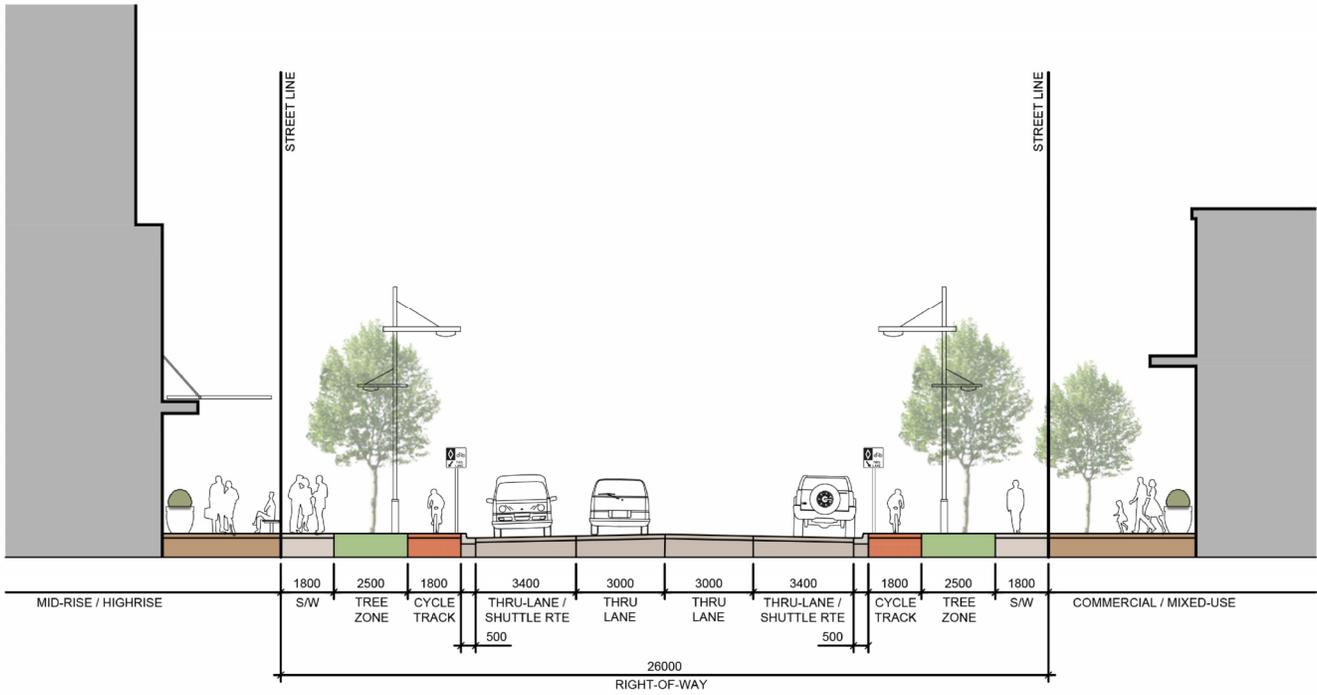
APPENDIX C: Concept Road Cross-Sections

As Provided by NAK Design Strategies

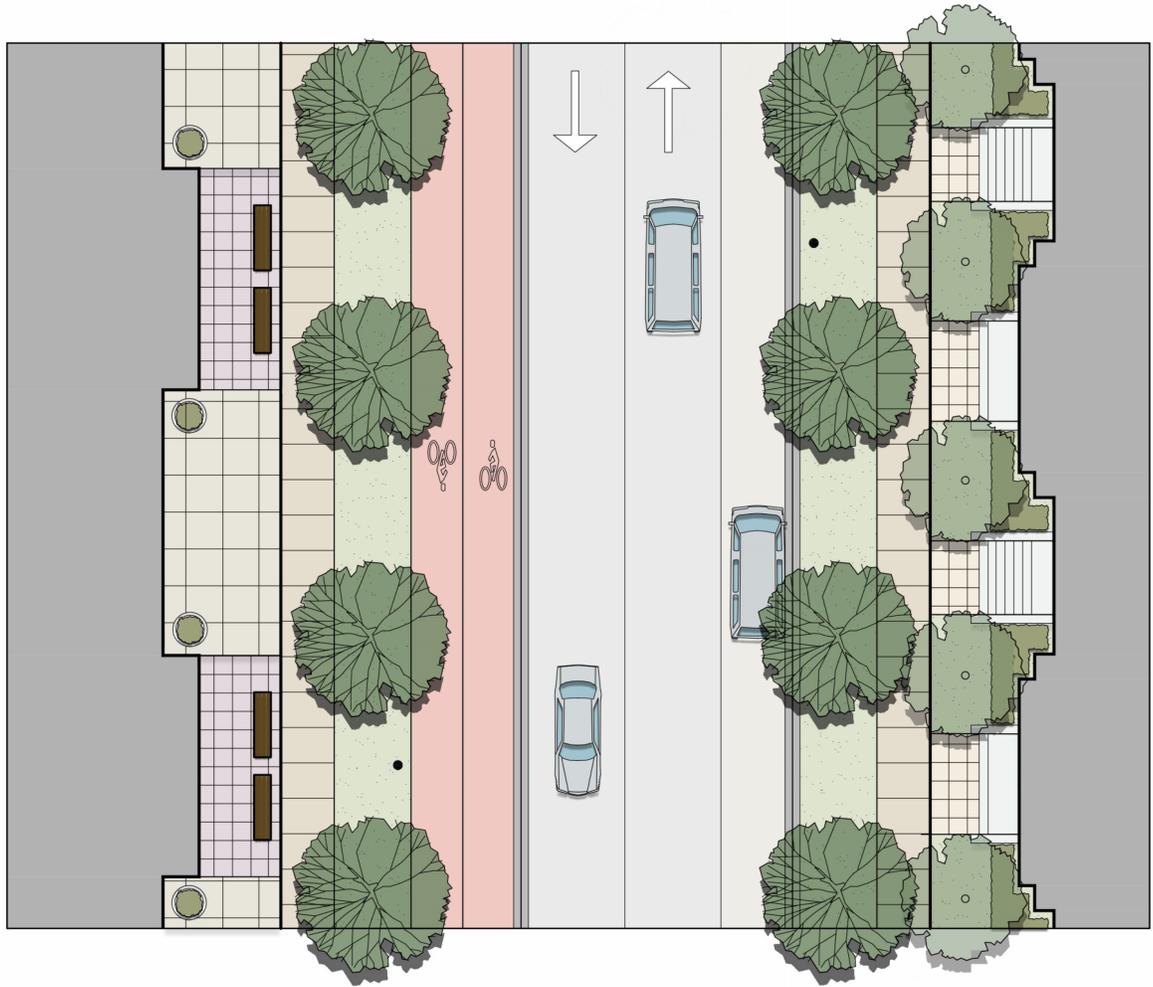
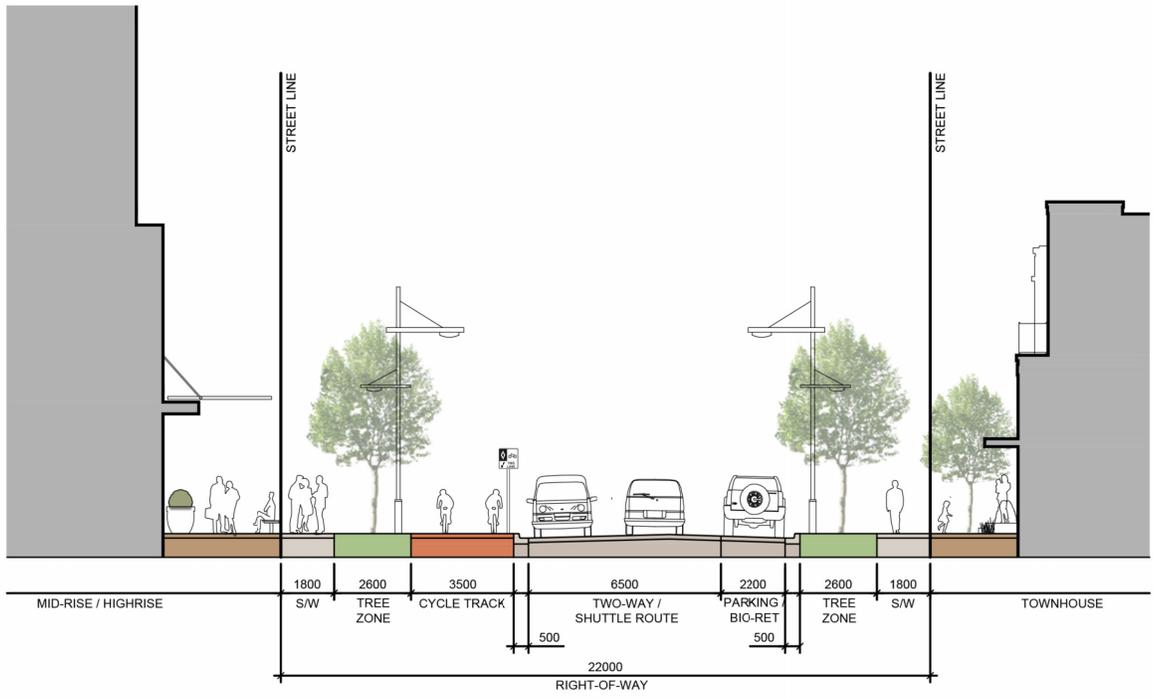




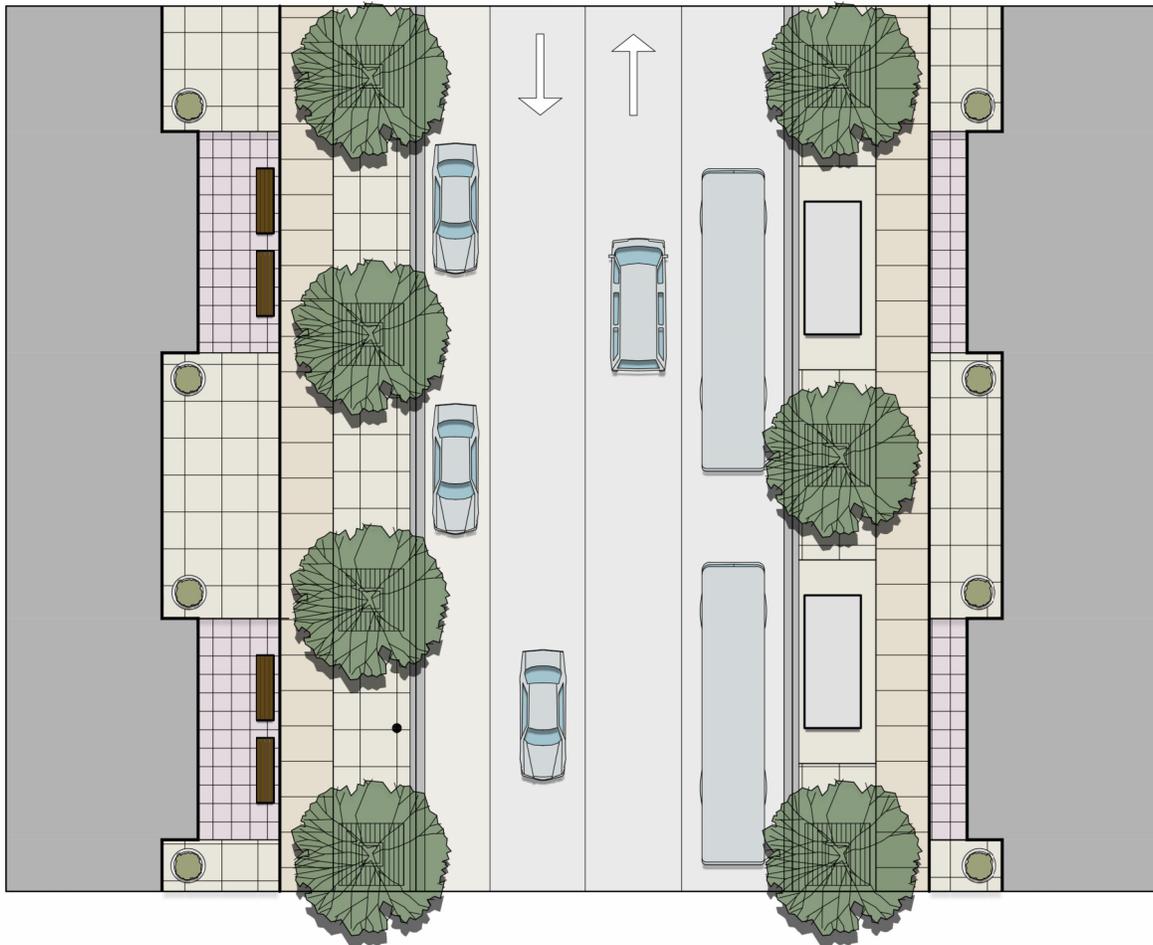
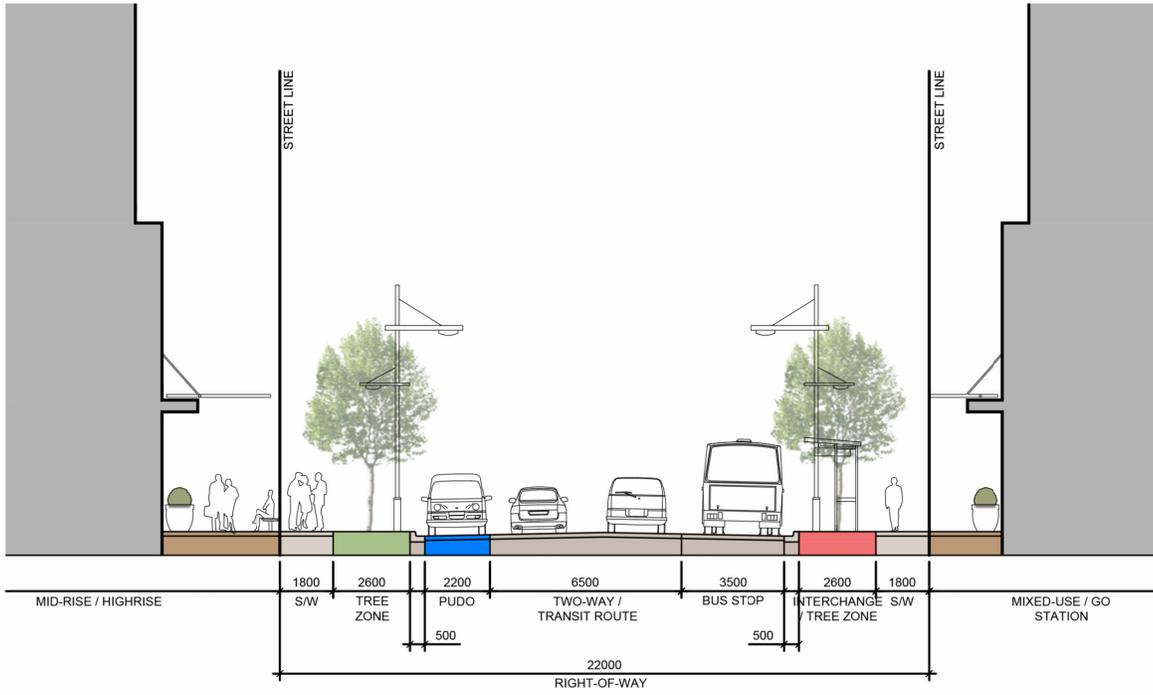
MAJOR COLLECTOR - 26.0m R.O.W.



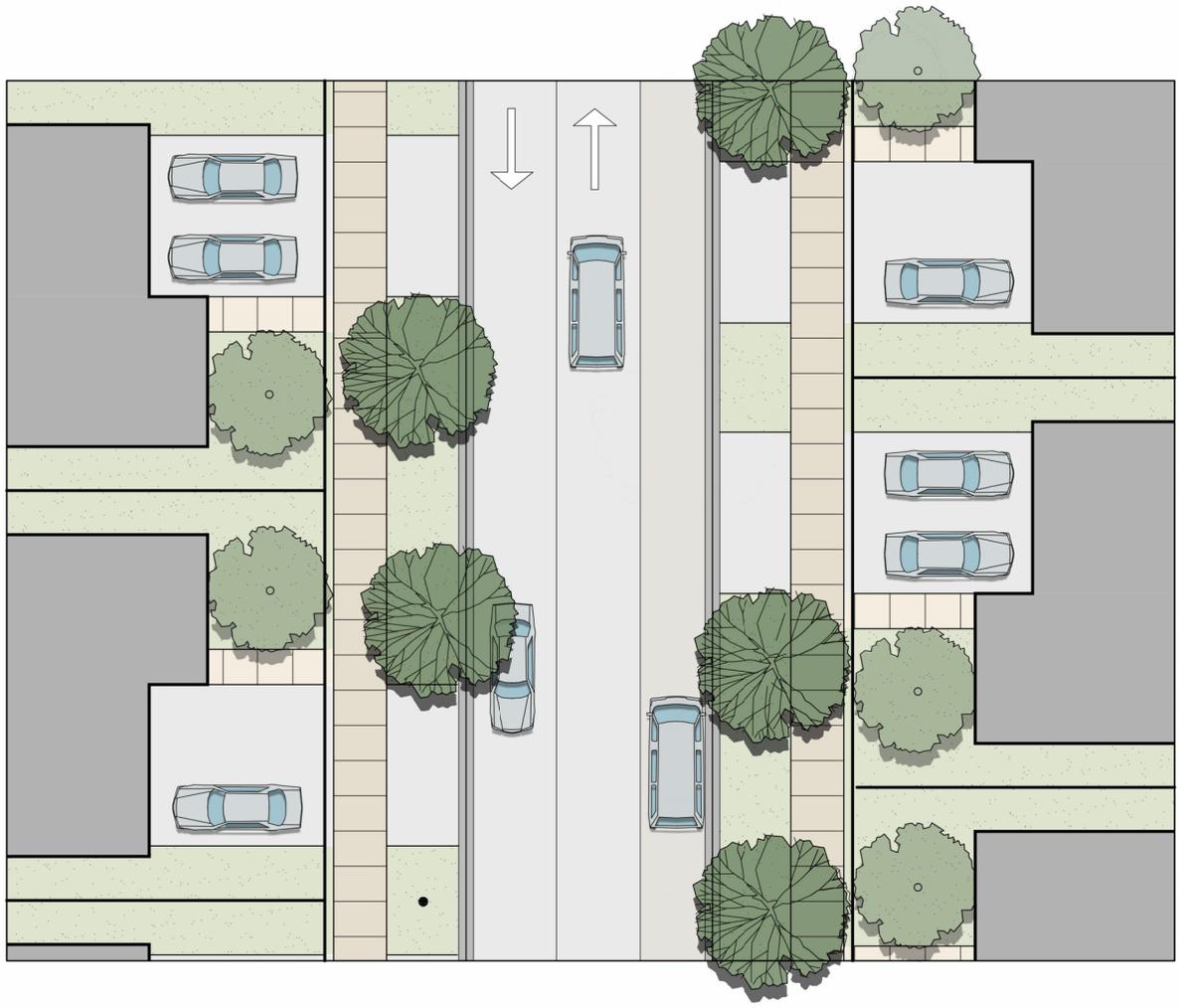
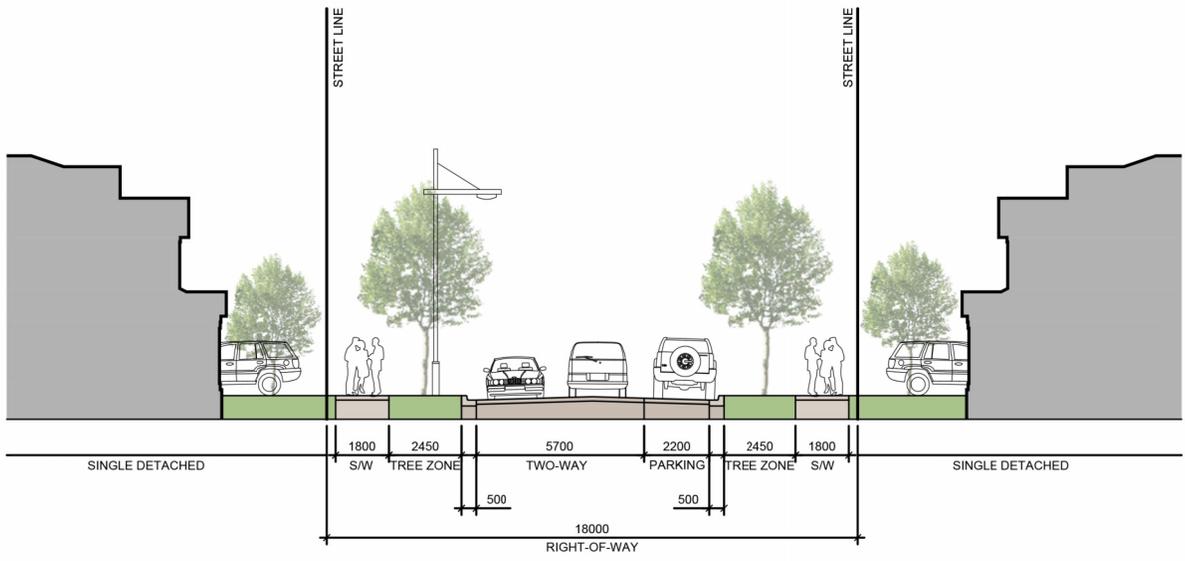
MAJOR COLLECTOR (HUMBER STATION) - 26.0m R.O.W.



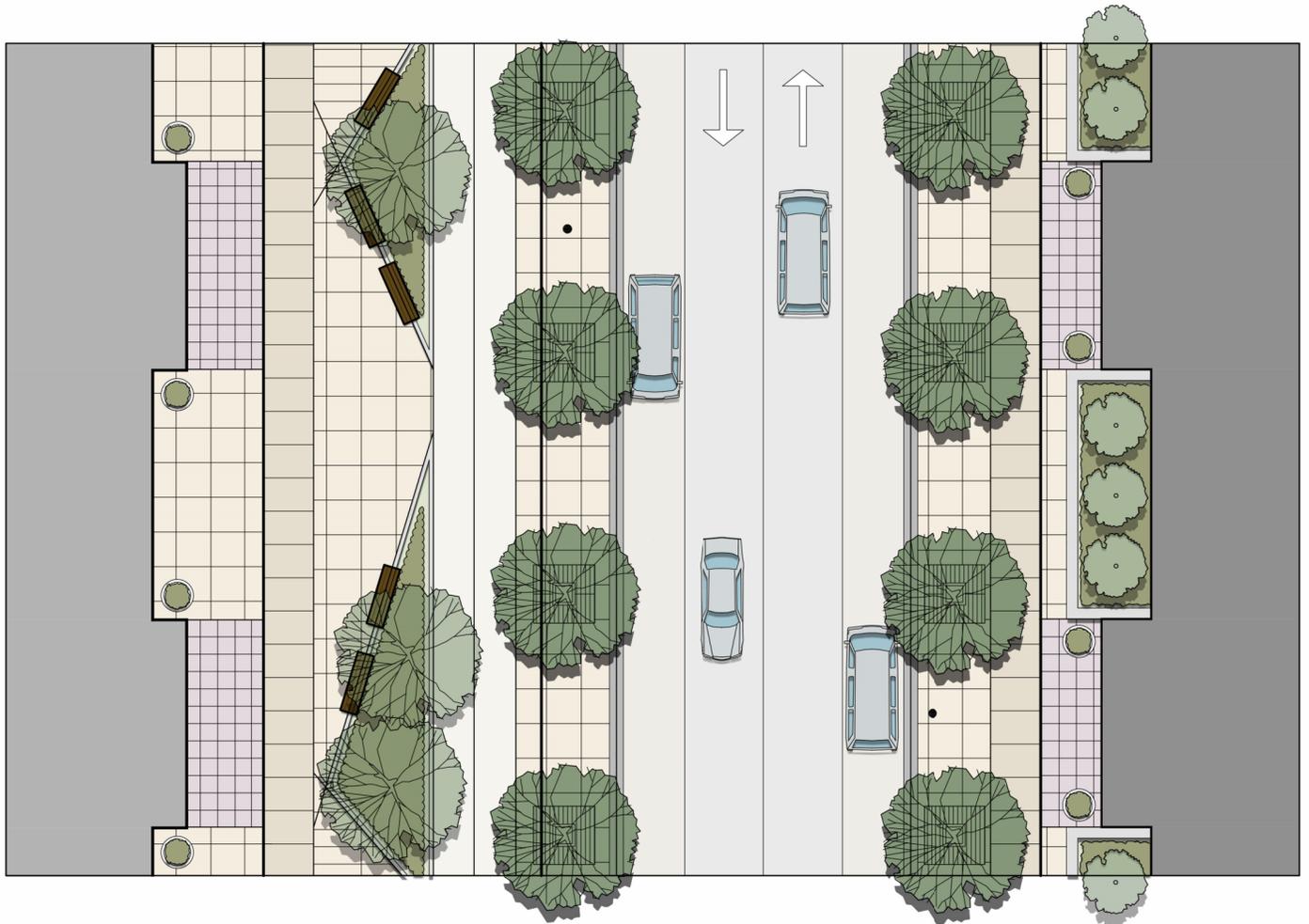
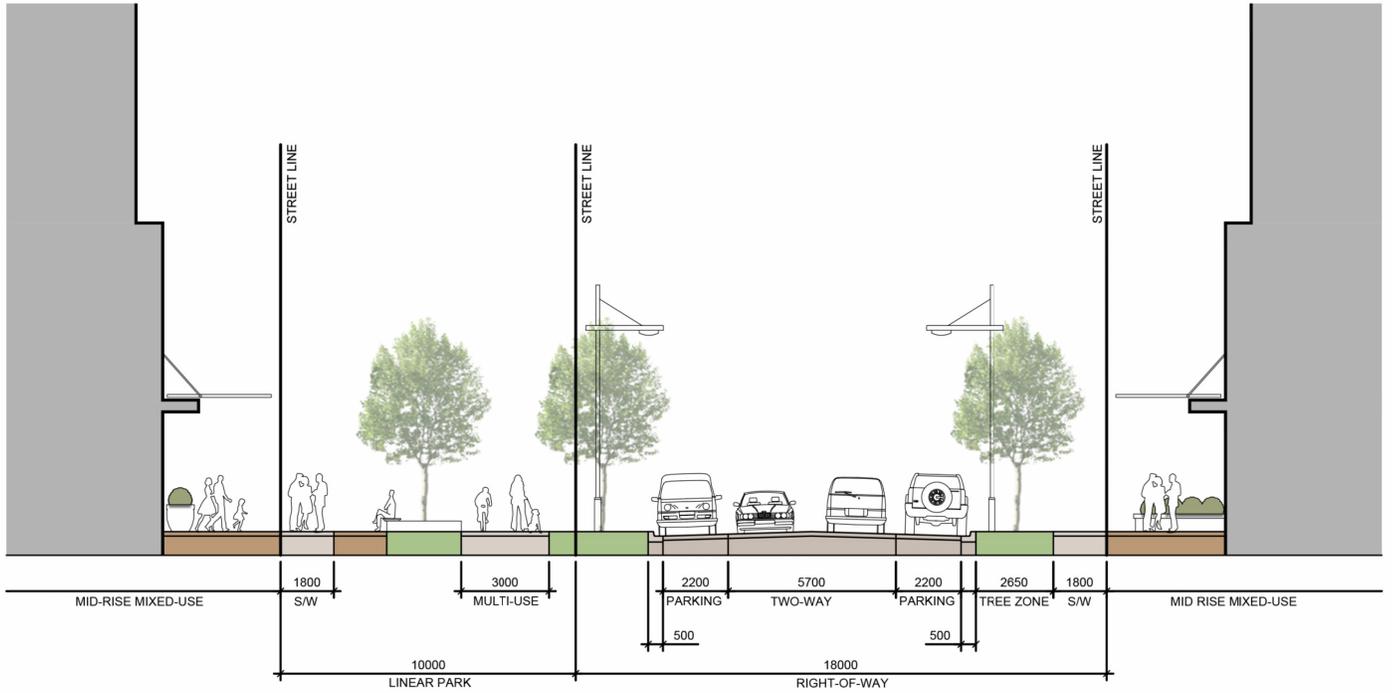
MAJOR COLLECTOR MULTI-MODAL RING ROAD - 22.0m R.O.W.



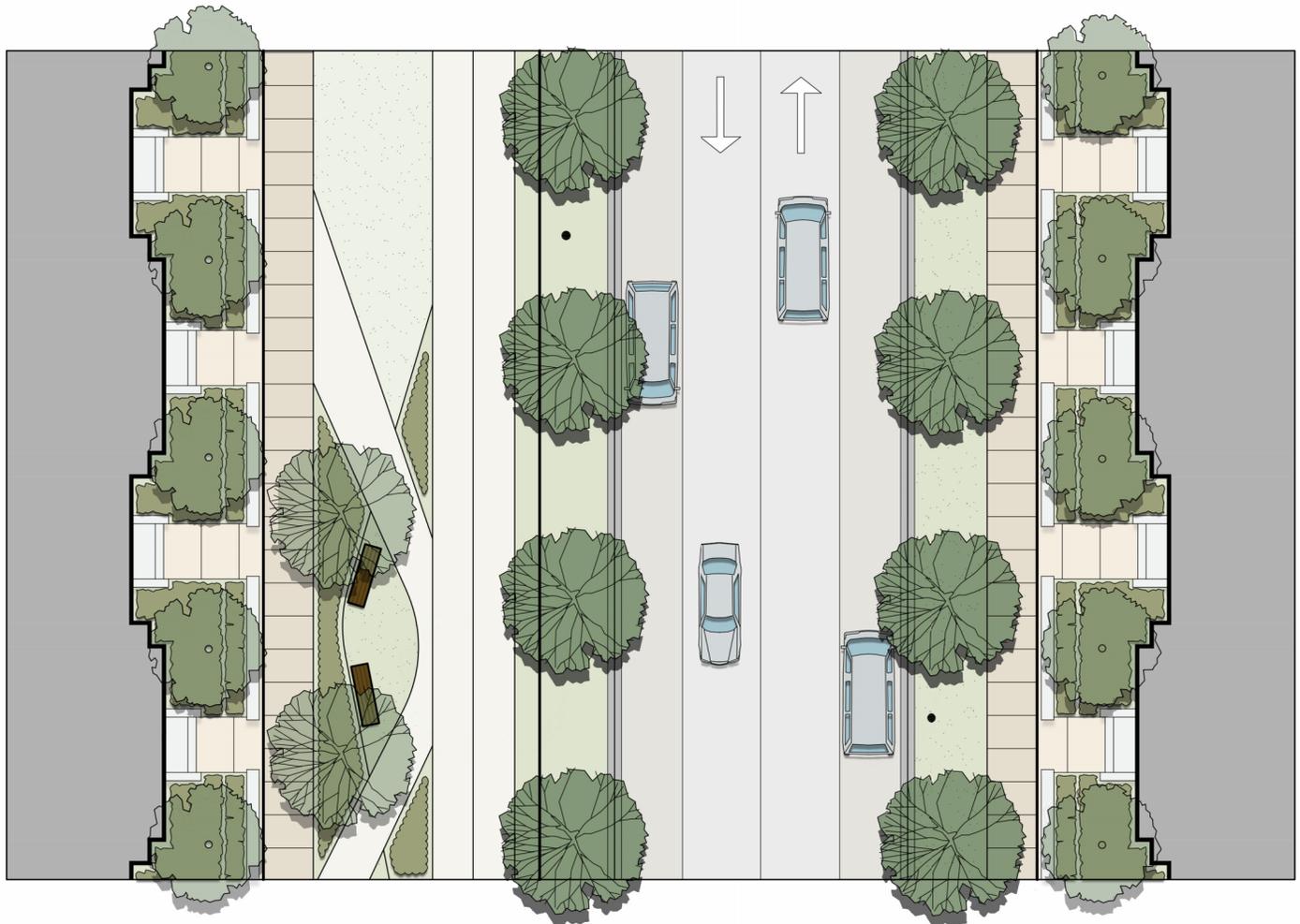
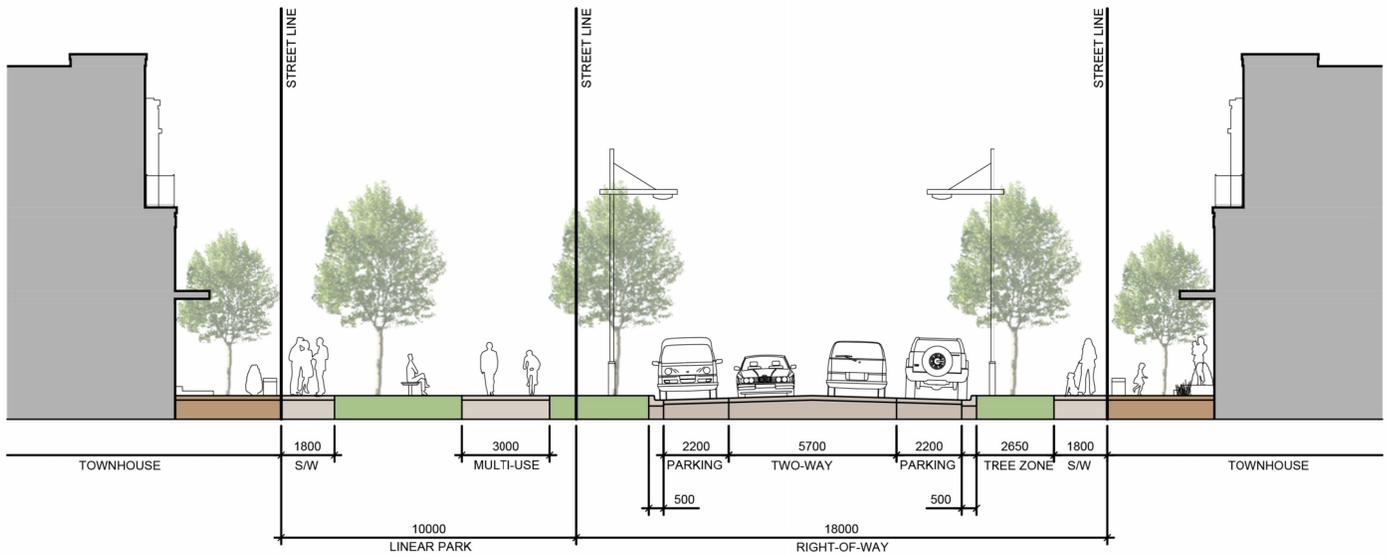
TRANSIT STREET - 22.0m R.O.W.



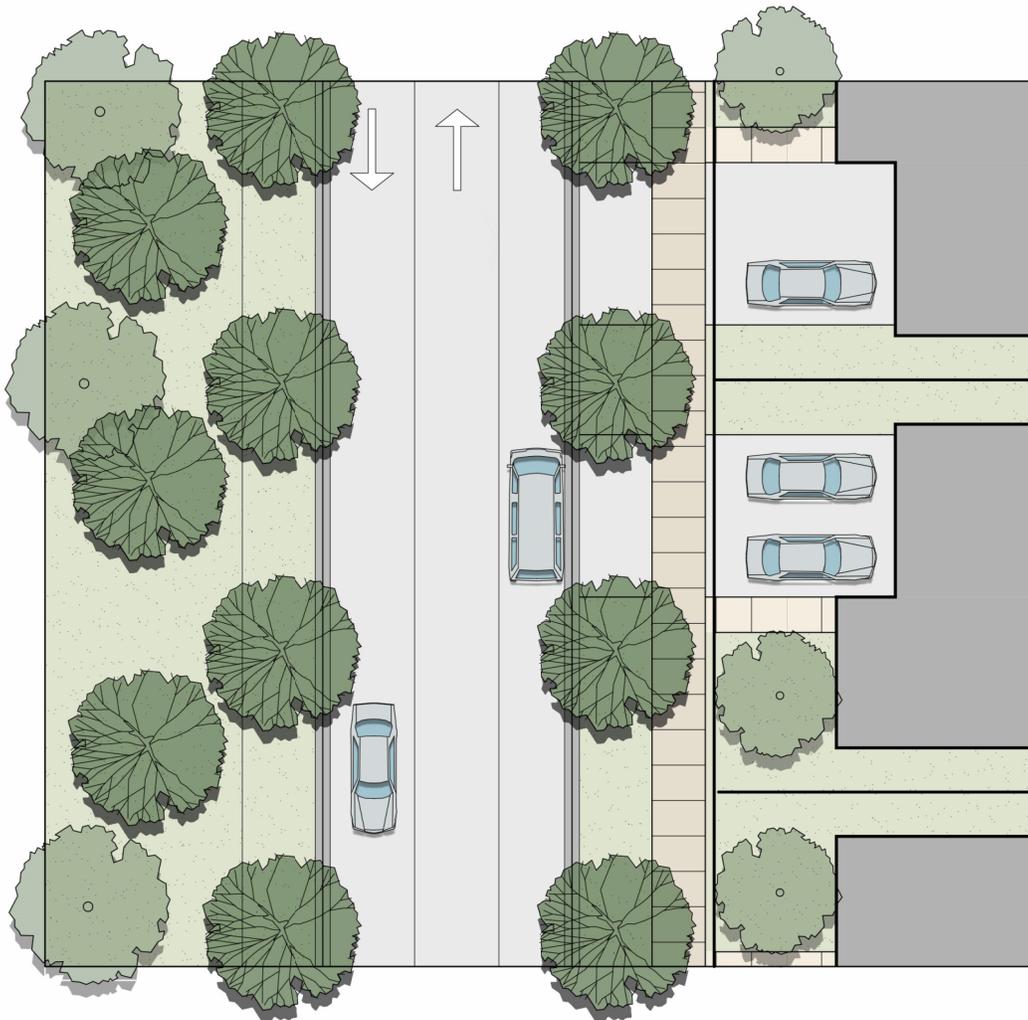
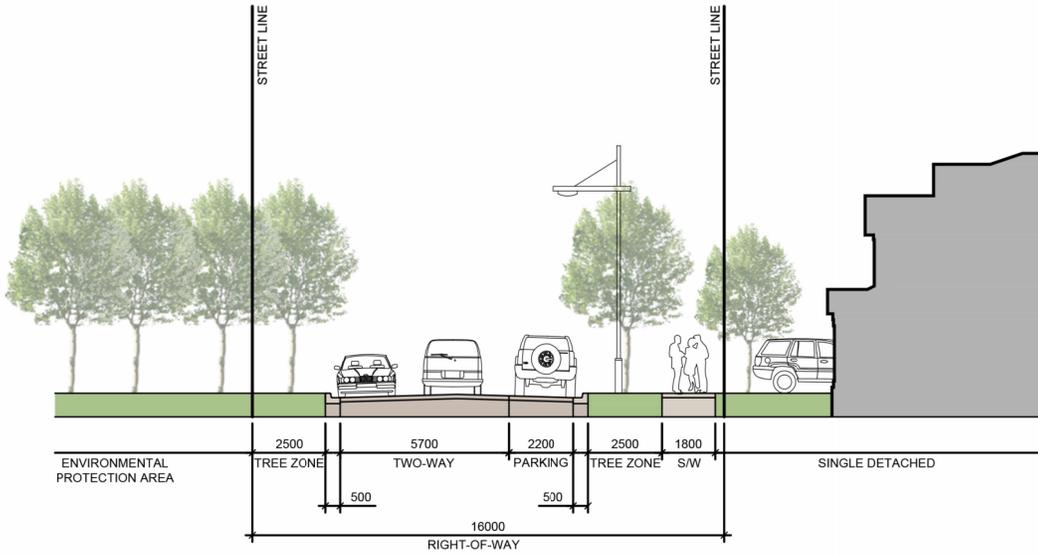
LOCAL ROAD - 18.0m R.O.W. (OPTION A - RESIDENTIAL CONTEXT)



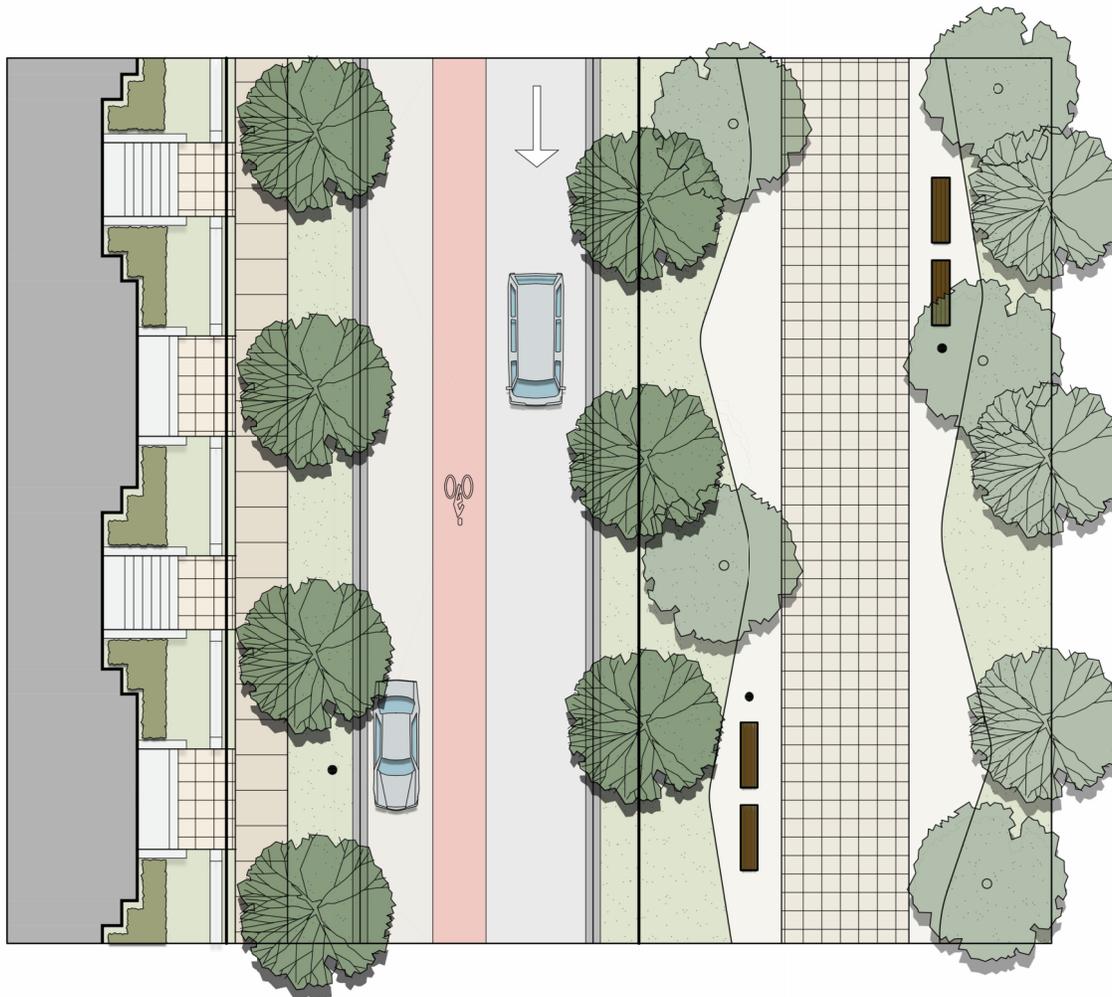
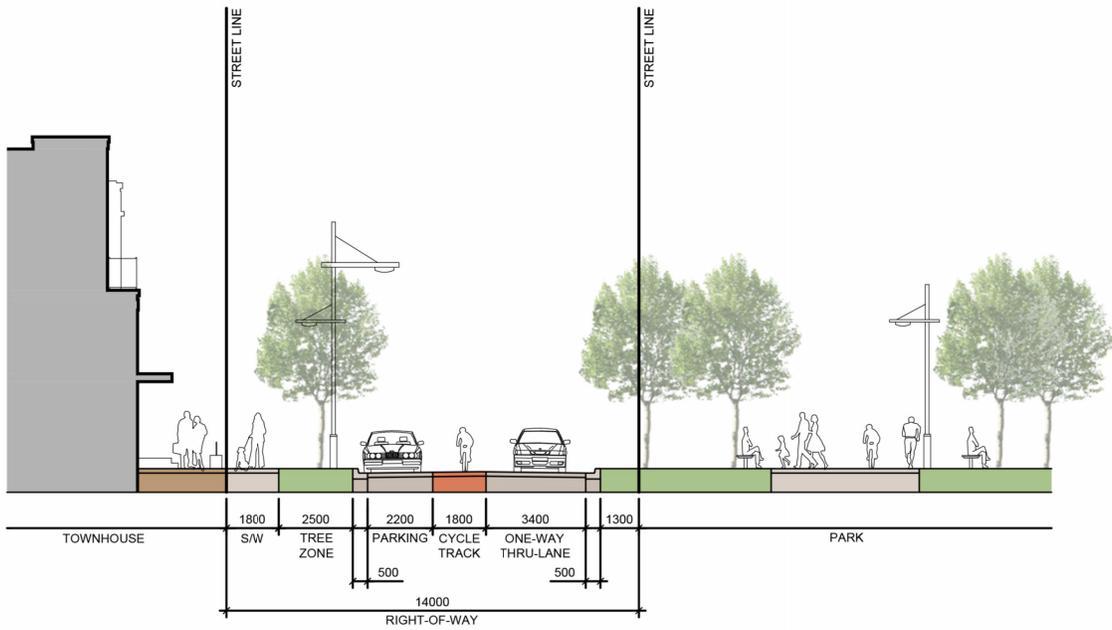
LOCAL ROAD - 18.0m R.O.W. WITH 10.0m LINEAR PARK (TYPICAL MIXED USE BLOCK WITH INTEGRATED LINEAR PARK)



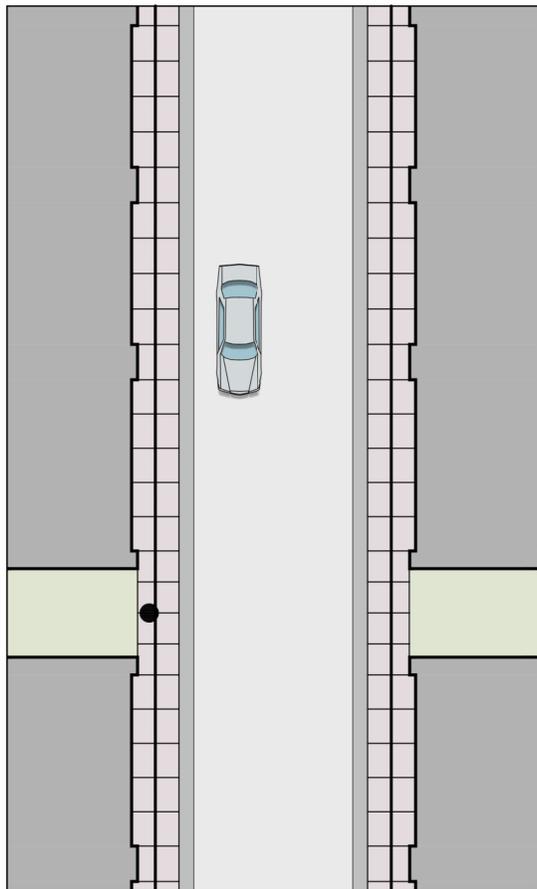
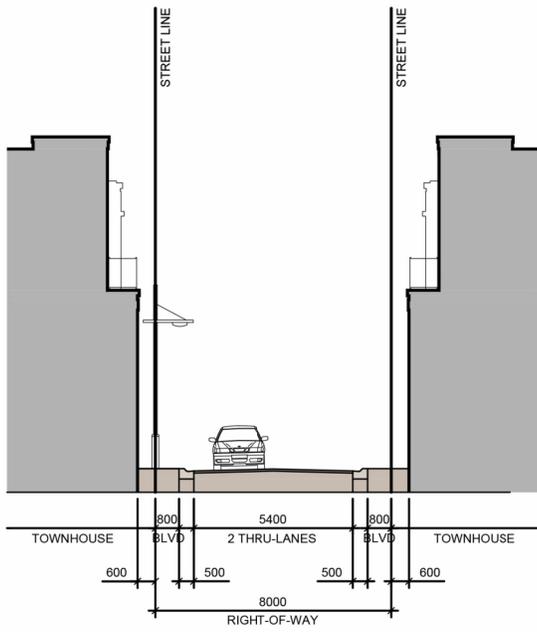
LOCAL ROAD - 18.0m R.O.W. WITH 10.0m LINEAR PARK (TYPICAL RESIDENTIAL BLOCK WITH INTEGRATED LINEAR PARK)



WINDOW STREET - 16.0m R.O.W.



CENTRAL PROMENADE GREEN LINK STREET (ONE WAY - 14.0m R.O.W.)



APPENDIX D:
Turning Movement Counts and Signal Timing Plans





Turning Movement Count (1 . KING ST & THE GORE RD) CustID: 00815910 MioID:

| Start Time | N Approach GORE RD | | | | | | E Approach KING ST | | | | | | S Approach GORE RD | | | | | | W Approach KING ST | | | | | | 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 | | |
| 07:00:00 | 30 | 56 | 23 | 0 | 0 | 109 | 10 | 84 | 3 | 0 | 0 | 97 | 1 | 8 | 1 | 0 | 0 | 10 | 6 | 69 | 5 | 0 | 0 | 80 | 296 | |
| 07:15:00 | 31 | 74 | 29 | 0 | 0 | 134 | 4 | 78 | 3 | 0 | 0 | 85 | 1 | 11 | 3 | 0 | 0 | 15 | 9 | 79 | 19 | 0 | 0 | 107 | 341 | |
| 07:30:00 | 44 | 83 | 25 | 0 | 0 | 152 | 2 | 103 | 10 | 0 | 0 | 115 | 0 | 13 | 2 | 0 | 0 | 15 | 12 | 78 | 9 | 0 | 0 | 99 | 381 | |
| 07:45:00 | 41 | 83 | 24 | 0 | 0 | 148 | 7 | 98 | 7 | 0 | 0 | 112 | 4 | 14 | 4 | 0 | 0 | 22 | 21 | 114 | 13 | 0 | 0 | 148 | 430 | 1448 |
| 08:00:00 | 18 | 77 | 21 | 0 | 0 | 116 | 7 | 93 | 6 | 0 | 0 | 106 | 4 | 20 | 3 | 0 | 0 | 27 | 64 | 38 | 12 | 0 | 0 | 114 | 363 | 1515 |
| 08:15:00 | 22 | 73 | 30 | 0 | 0 | 125 | 11 | 63 | 20 | 0 | 0 | 94 | 16 | 14 | 2 | 0 | 0 | 32 | 74 | 7 | 17 | 0 | 0 | 98 | 349 | 1523 |
| 08:30:00 | 3 | 79 | 21 | 0 | 0 | 103 | 40 | 1 | 53 | 0 | 0 | 94 | 16 | 34 | 2 | 0 | 0 | 52 | 10 | 0 | 1 | 0 | 0 | 11 | 260 | 1402 |
| 08:45:00 | 13 | 46 | 37 | 0 | 0 | 96 | 19 | 20 | 36 | 0 | 0 | 75 | 8 | 32 | 16 | 1 | 2 | 57 | 18 | 5 | 2 | 1 | 2 | 26 | 254 | 1226 |
| ***BREAK*** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:00:00 | 20 | 25 | 10 | 0 | 0 | 55 | 25 | 74 | 4 | 0 | 0 | 103 | 10 | 60 | 19 | 0 | 0 | 89 | 3 | 87 | 32 | 0 | 0 | 122 | 369 | |
| 16:15:00 | 11 | 20 | 10 | 0 | 0 | 41 | 25 | 84 | 4 | 0 | 0 | 113 | 13 | 71 | 16 | 0 | 0 | 100 | 5 | 96 | 30 | 0 | 0 | 131 | 385 | |
| 16:30:00 | 14 | 28 | 7 | 0 | 0 | 49 | 26 | 100 | 5 | 0 | 0 | 131 | 7 | 85 | 12 | 0 | 0 | 104 | 7 | 101 | 44 | 0 | 0 | 152 | 436 | |
| 16:45:00 | 13 | 32 | 12 | 0 | 0 | 57 | 16 | 91 | 2 | 0 | 0 | 109 | 7 | 78 | 17 | 0 | 0 | 102 | 1 | 102 | 38 | 0 | 0 | 141 | 409 | 1599 |
| 17:00:00 | 12 | 26 | 10 | 0 | 0 | 48 | 31 | 107 | 2 | 0 | 0 | 140 | 9 | 70 | 16 | 0 | 0 | 95 | 6 | 87 | 36 | 0 | 0 | 129 | 412 | 1642 |
| 17:15:00 | 18 | 29 | 9 | 0 | 0 | 56 | 28 | 118 | 4 | 0 | 0 | 150 | 5 | 86 | 12 | 0 | 0 | 103 | 6 | 74 | 30 | 0 | 0 | 110 | 419 | 1676 |
| 17:30:00 | 9 | 25 | 4 | 0 | 0 | 38 | 20 | 112 | 2 | 0 | 0 | 134 | 2 | 68 | 17 | 0 | 0 | 87 | 4 | 92 | 35 | 0 | 0 | 131 | 390 | 1630 |
| 17:45:00 | 13 | 27 | 12 | 0 | 0 | 52 | 6 | 77 | 1 | 0 | 0 | 84 | 5 | 57 | 14 | 0 | 0 | 76 | 7 | 69 | 19 | 0 | 0 | 95 | 307 | 1528 |
| Grand Total | 312 | 783 | 284 | 0 | 0 | 1379 | 277 | 1303 | 162 | 0 | 0 | 1742 | 108 | 721 | 156 | 1 | 2 | 986 | 253 | 1098 | 342 | 1 | 2 | 1694 | 5801 | - |
| Approach% | 22.6% | 56.8% | 20.6% | 0% | - | - | 15.9% | 74.8% | 9.3% | 0% | - | - | 11% | 73.1% | 15.8% | 0.1% | - | - | 14.9% | 64.8% | 20.2% | 0.1% | - | - | - | - |
| Totals % | 5.4% | 13.5% | 4.9% | 0% | 23.8% | - | 4.8% | 22.5% | 2.8% | 0% | 30% | - | 1.9% | 12.4% | 2.7% | 0% | 17% | - | 4.4% | 18.9% | 5.9% | 0% | 29.2% | - | - | - |
| Heavy | 7 | 11 | 6 | 0 | - | - | 13 | 112 | 27 | 0 | - | - | 13 | 19 | 2 | 0 | - | - | 11 | 91 | 12 | 0 | - | - | - | - |
| Heavy % | 2.2% | 1.4% | 2.1% | 0% | - | - | 4.7% | 8.6% | 16.7% | 0% | - | - | 12% | 2.6% | 1.3% | 0% | - | - | 4.3% | 8.3% | 3.5% | 0% | - | - | - | - |
| Bicycles | 0 | 0 | 0 | 0 | - | - | 0 | 7 | 0 | 0 | - | - | 0 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | 0 | - | - | - | - |
| Bicycle % | 0% | 0% | 0% | 0% | - | - | 0% | 0.5% | 0% | 0% | - | - | 0% | 0% | 0% | 0% | - | - | 0% | 0% | 0% | 0% | - | - | - | - |



Peak Hour: 07:30 AM - 08:30 AM Weather: Broken Clouds (5.22 °C)

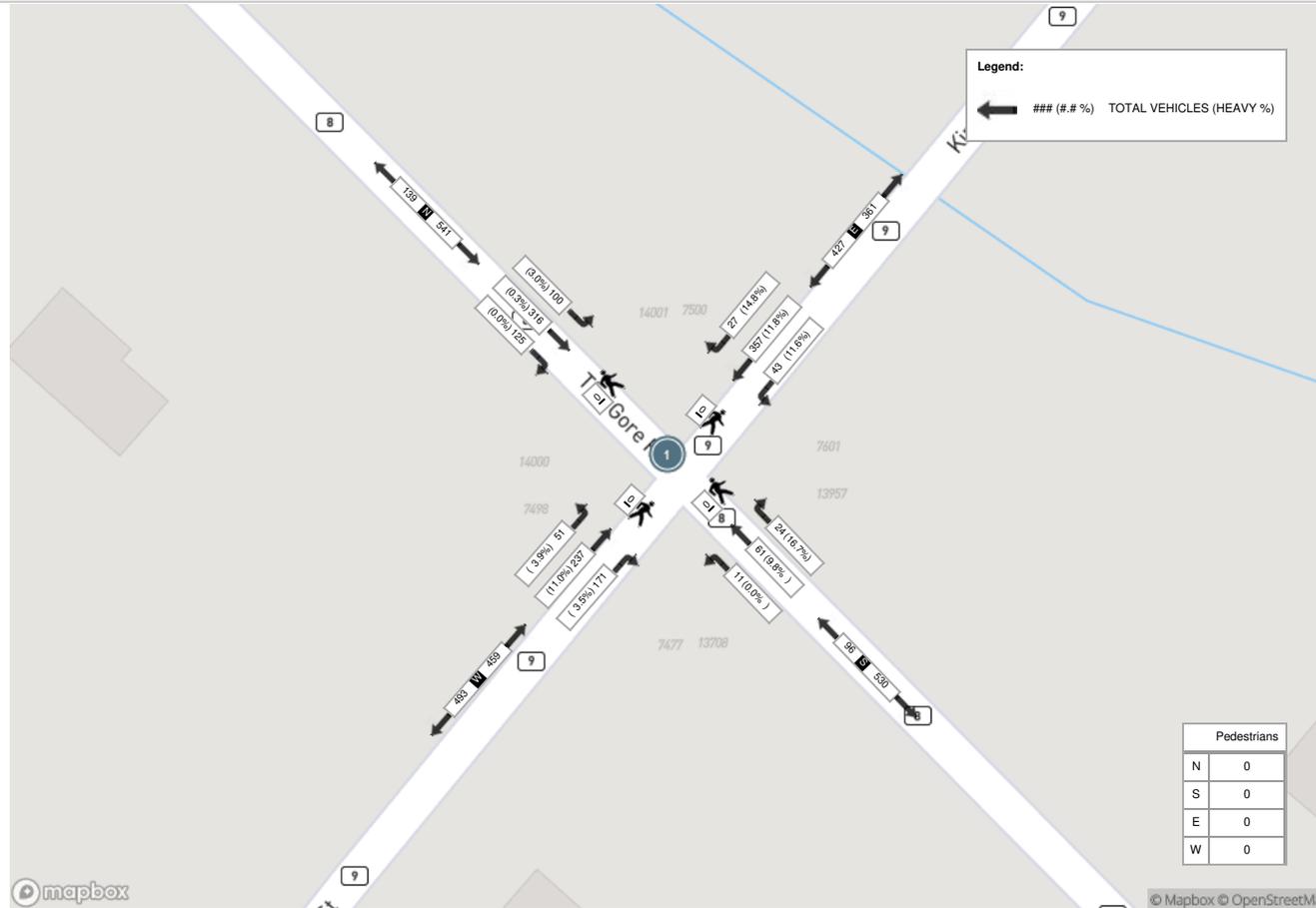
| Start Time | N Approach GORE RD | | | | | | E Approach KING ST | | | | | | S Approach GORE RD | | | | | | W Approach KING ST | | | | | | Int. Total (15 min) |
|-----------------------------|-----------------------|------------|------------|----------|----------|----------------|-----------------------|------------|-----------|----------|----------|----------------|-----------------------|-----------|-----------|----------|----------|----------------|-----------------------|------------|-----------|----------|----------|----------------|------------------------|
| | 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 | |
| 07:30:00 | 44 | 83 | 25 | 0 | 0 | 152 | 2 | 103 | 10 | 0 | 0 | 115 | 0 | 13 | 2 | 0 | 0 | 15 | 12 | 78 | 9 | 0 | 0 | 99 | 381 |
| 07:45:00 | 41 | 83 | 24 | 0 | 0 | 148 | 7 | 98 | 7 | 0 | 0 | 112 | 4 | 14 | 4 | 0 | 0 | 22 | 21 | 114 | 13 | 0 | 0 | 148 | 430 |
| 08:00:00 | 18 | 77 | 21 | 0 | 0 | 116 | 7 | 93 | 6 | 0 | 0 | 106 | 4 | 20 | 3 | 0 | 0 | 27 | 64 | 38 | 12 | 0 | 0 | 114 | 363 |
| 08:15:00 | 22 | 73 | 30 | 0 | 0 | 125 | 11 | 63 | 20 | 0 | 0 | 94 | 16 | 14 | 2 | 0 | 0 | 32 | 74 | 7 | 17 | 0 | 0 | 98 | 349 |
| Grand Total | 125 | 316 | 100 | 0 | 0 | 541 | 27 | 357 | 43 | 0 | 0 | 427 | 24 | 61 | 11 | 0 | 0 | 96 | 171 | 237 | 51 | 0 | 0 | 459 | 1523 |
| Approach% | 23.1% | 58.4% | 18.5% | 0% | - | - | 6.3% | 83.6% | 10.1% | 0% | - | - | 25% | 63.5% | 11.5% | 0% | - | - | 37.3% | 51.6% | 11.1% | 0% | - | - | - |
| Totals % | 8.2% | 20.7% | 6.6% | 0% | 35.5% | - | 1.8% | 23.4% | 2.8% | 0% | 28% | - | 1.6% | 4% | 0.7% | 0% | 6.3% | - | 11.2% | 15.6% | 3.3% | 0% | 30.1% | - | - |
| PHF | 0.71 | 0.95 | 0.83 | 0 | 0.89 | - | 0.61 | 0.87 | 0.54 | 0 | 0.93 | - | 0.38 | 0.76 | 0.69 | 0 | 0.75 | - | 0.58 | 0.52 | 0.75 | 0 | 0.78 | - | - |
| Heavy | 0 | 1 | 3 | 0 | 4 | - | 4 | 42 | 5 | 0 | 51 | - | 4 | 6 | 0 | 0 | 10 | - | 6 | 26 | 2 | 0 | 34 | - | - |
| Heavy % | 0% | 0.3% | 3% | 0% | 0.7% | - | 14.8% | 11.8% | 11.6% | 0% | 11.9% | - | 16.7% | 9.8% | 0% | 0% | 10.4% | - | 3.5% | 11% | 3.9% | 0% | 7.4% | - | - |
| Lights | 125 | 315 | 97 | 0 | 537 | - | 23 | 315 | 38 | 0 | 376 | - | 20 | 55 | 11 | 0 | 86 | - | 165 | 211 | 49 | 0 | 425 | - | - |
| Lights % | 100% | 99.7% | 97% | 0% | 99.3% | - | 85.2% | 88.2% | 88.4% | 0% | 88.1% | - | 83.3% | 90.2% | 100% | 0% | 89.6% | - | 96.5% | 89% | 96.1% | 0% | 92.6% | - | - |
| Single-Unit Trucks | 0 | 0 | 0 | 0 | 0 | - | 1 | 21 | 1 | 0 | 23 | - | 2 | 4 | 0 | 0 | 6 | - | 4 | 4 | 2 | 0 | 10 | - | - |
| Single-Unit Trucks % | 0% | 0% | 0% | 0% | 0% | - | 3.7% | 5.9% | 2.3% | 0% | 5.4% | - | 8.3% | 6.6% | 0% | 0% | 6.3% | - | 2.3% | 1.7% | 3.9% | 0% | 2.2% | - | - |
| Buses | 0 | 0 | 3 | 0 | 3 | - | 1 | 6 | 1 | 0 | 8 | - | 1 | 1 | 0 | 0 | 2 | - | 2 | 10 | 0 | 0 | 12 | - | - |
| Buses % | 0% | 0% | 3% | 0% | 0.6% | - | 3.7% | 1.7% | 2.3% | 0% | 1.9% | - | 4.2% | 1.6% | 0% | 0% | 2.1% | - | 1.2% | 4.2% | 0% | 0% | 2.6% | - | - |
| Articulated Trucks | 0 | 1 | 0 | 0 | 1 | - | 2 | 15 | 3 | 0 | 20 | - | 1 | 1 | 0 | 0 | 2 | - | 0 | 12 | 0 | 0 | 12 | - | - |
| Articulated Trucks % | 0% | 0.3% | 0% | 0% | 0.2% | - | 7.4% | 4.2% | 7% | 0% | 4.7% | - | 4.2% | 1.6% | 0% | 0% | 2.1% | - | 0% | 5.1% | 0% | 0% | 2.6% | - | - |
| Pedestrians | - | - | - | - | 0 | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | - | 0 | - | - |
| Pedestrians% | - | - | - | - | 0% | - | - | - | - | 0% | - | - | - | - | - | 0% | - | - | - | - | - | - | 0% | - | - |
| Bicycles on Road | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | 0 | 0 | - | - |
| Bicycles on Road% | - | - | - | - | 0% | - | - | - | - | 0% | - | - | - | - | - | 0% | - | - | - | - | - | - | 0% | - | - |



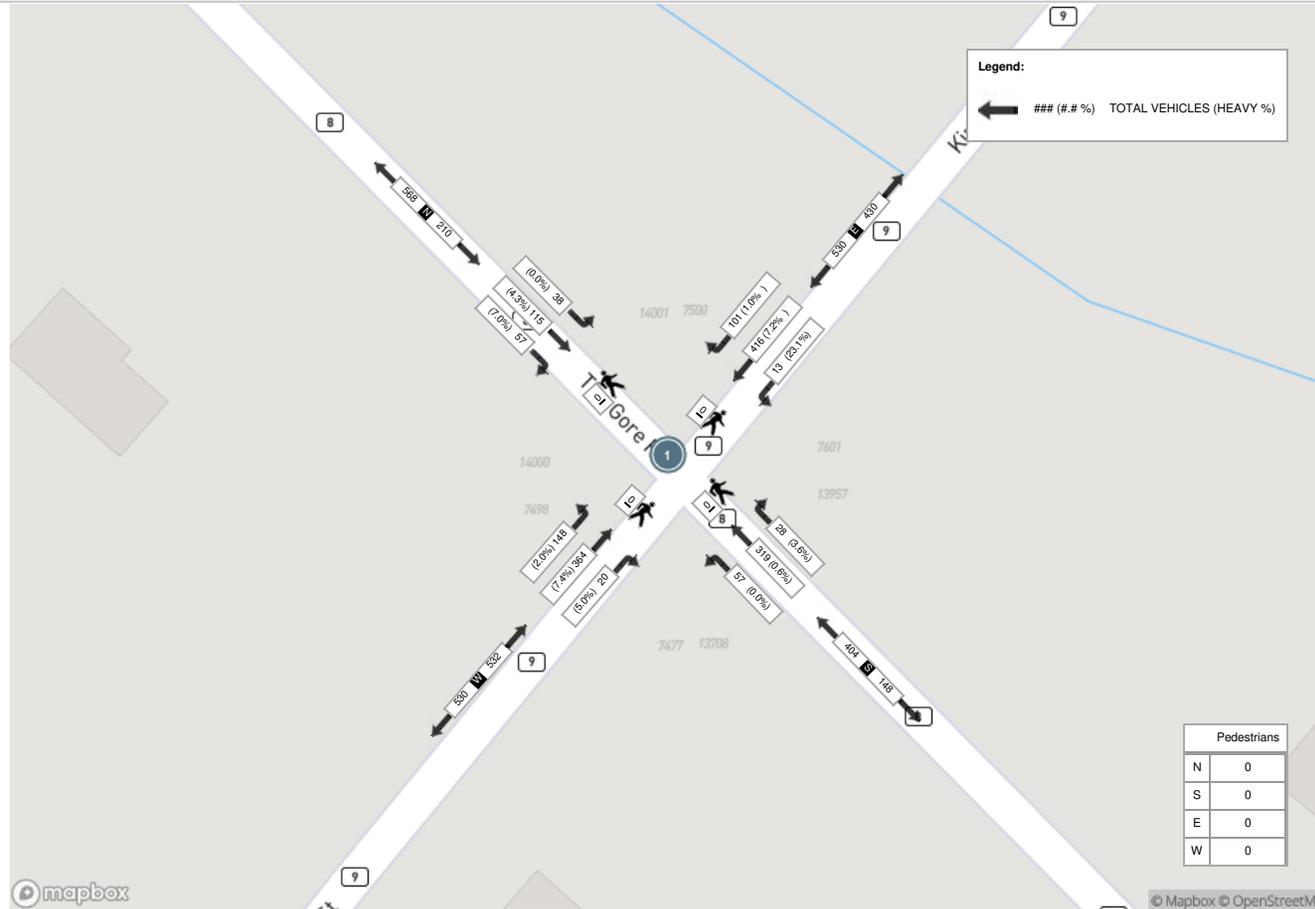
Peak Hour: 04:30 PM - 05:30 PM Weather: Overcast Clouds (16.43 °C)

| Start Time | N Approach GORE RD | | | | | | E Approach KING ST | | | | | | S Approach GORE RD | | | | | | W Approach KING ST | | | | | | 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 | |
| 16:30:00 | 14 | 28 | 7 | 0 | 0 | 49 | 26 | 100 | 5 | 0 | 0 | 131 | 7 | 85 | 12 | 0 | 0 | 104 | 7 | 101 | 44 | 0 | 0 | 152 | 436 |
| 16:45:00 | 13 | 32 | 12 | 0 | 0 | 57 | 16 | 91 | 2 | 0 | 0 | 109 | 7 | 78 | 17 | 0 | 0 | 102 | 1 | 102 | 38 | 0 | 0 | 141 | 409 |
| 17:00:00 | 12 | 26 | 10 | 0 | 0 | 48 | 31 | 107 | 2 | 0 | 0 | 140 | 9 | 70 | 16 | 0 | 0 | 95 | 6 | 87 | 36 | 0 | 0 | 129 | 412 |
| 17:15:00 | 18 | 29 | 9 | 0 | 0 | 56 | 28 | 118 | 4 | 0 | 0 | 150 | 5 | 86 | 12 | 0 | 0 | 103 | 6 | 74 | 30 | 0 | 0 | 110 | 419 |
| Grand Total | 57 | 115 | 38 | 0 | 0 | 210 | 101 | 416 | 13 | 0 | 0 | 530 | 28 | 319 | 57 | 0 | 0 | 404 | 20 | 364 | 148 | 0 | 0 | 532 | 1676 |
| Approach% | 27.1% | 54.8% | 18.1% | 0% | - | - | 19.1% | 78.5% | 2.5% | 0% | - | - | 6.9% | 79% | 14.1% | 0% | - | - | 3.8% | 68.4% | 27.8% | 0% | - | - | - |
| Totals % | 3.4% | 6.9% | 2.3% | 0% | 12.5% | 6% | 24.8% | 0.8% | 0% | 31.6% | 1.7% | 19% | 3.4% | 0% | 24.1% | 1.2% | 21.7% | 8.8% | 0% | 31.7% | - | - | - | - | - |
| PHF | 0.79 | 0.9 | 0.79 | 0 | 0.92 | 0.81 | 0.88 | 0.65 | 0 | 0.88 | 0.78 | 0.93 | 0.84 | 0 | 0.97 | 0.71 | 0.89 | 0.84 | 0 | 0.88 | - | - | - | - | - |
| Heavy | 4 | 5 | 0 | 0 | 9 | 1 | 30 | 3 | 0 | 34 | 1 | 2 | 0 | 0 | 3 | 1 | 27 | 3 | 0 | 31 | - | - | - | - | - |
| Heavy % | 7% | 4.3% | 0% | 0% | 4.3% | 1% | 7.2% | 23.1% | 0% | 6.4% | 3.6% | 0.6% | 0% | 0% | 0.7% | 5% | 7.4% | 2% | 0% | 5.8% | - | - | - | - | - |
| Lights | 53 | 110 | 38 | 0 | 201 | 100 | 386 | 10 | 0 | 496 | 27 | 317 | 57 | 0 | 401 | 19 | 337 | 145 | 0 | 501 | - | - | - | - | - |
| Lights % | 93% | 95.7% | 100% | 0% | 95.7% | 99% | 92.8% | 76.9% | 0% | 93.6% | 96.4% | 99.4% | 100% | 0% | 99.3% | 95% | 92.6% | 98% | 0% | 94.2% | - | - | - | - | - |
| Single-Unit Trucks | 2 | 5 | 0 | 0 | 7 | 1 | 14 | 3 | 0 | 18 | 0 | 1 | 0 | 0 | 1 | 0 | 6 | 3 | 0 | 9 | - | - | - | - | - |
| Single-Unit Trucks % | 3.5% | 4.3% | 0% | 0% | 3.3% | 1% | 3.4% | 23.1% | 0% | 3.4% | 0% | 0.3% | 0% | 0% | 0.2% | 0% | 1.6% | 2% | 0% | 1.7% | - | - | - | - | - |
| Buses | 1 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | - | - | - | - | - |
| Buses % | 1.8% | 0% | 0% | 0% | 0.5% | 0% | 0.7% | 0% | 0% | 0.6% | 0% | 0% | 0% | 0% | 0% | 5% | 0.3% | 0% | 0% | 0.4% | - | - | - | - | - |
| Articulated Trucks | 1 | 0 | 0 | 0 | 1 | 0 | 13 | 0 | 0 | 13 | 1 | 1 | 0 | 0 | 2 | 0 | 20 | 0 | 0 | 20 | - | - | - | - | - |
| Articulated Trucks % | 1.8% | 0% | 0% | 0% | 0.5% | 0% | 3.1% | 0% | 0% | 2.5% | 3.6% | 0.3% | 0% | 0% | 0.5% | 0% | 5.5% | 0% | 0% | 3.8% | - | - | - | - | - |
| Pedestrians | - | - | - | - | 0 | - | - | - | 0 | - | - | - | - | 0 | - | - | - | - | 0 | - | - | - | - | - | - |
| Pedestrians% | - | - | - | - | 0% | - | - | - | 0% | - | - | - | - | 0% | - | - | - | - | 0% | - | - | - | - | - | - |
| Bicycles on Road | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bicycles on Road% | - | - | - | - | 0% | - | - | - | 0% | - | - | - | - | 0% | - | - | - | - | 0% | - | - | - | - | - | - |

Peak Hour: 07:30 AM - 08:30 AM Weather: Broken Clouds (5.22 °C)



Peak Hour: 04:30 PM - 05:30 PM Weather: Overcast Clouds (16.43 °C)





Turning Movement Count (3 . KING ST & EMIL KOLB PARKWAY) CustID: 00904510 MioID:

| Start Time | E Approach EMIL KOLB PKWY | | | | | S Approach KING ST | | | | | W Approach EMIL KOLB PKWY | | | | | Int. Total (15 min) | Int. Total (1 hr) |
|--------------------|------------------------------|-------------|--------------|------------|----------------|-----------------------|-------------|--------------|------------|----------------|------------------------------|-------------|--------------|------------|----------------|------------------------|----------------------|
| | Thru E:W | Left E:S | UTurn E:E | Peds E: | Approach Total | Right S:E | Left S:W | UTurn S:S | Peds S: | Approach Total | Right W:S | Thru W:E | UTurn W:W | Peds W: | Approach Total | | |
| 07:00:00 | 15 | 56 | 0 | 0 | 71 | 64 | 25 | 0 | 0 | 89 | 36 | 61 | 0 | 0 | 97 | 257 | |
| 07:15:00 | 12 | 56 | 0 | 0 | 68 | 64 | 17 | 0 | 0 | 81 | 40 | 47 | 0 | 0 | 87 | 236 | |
| 07:30:00 | 21 | 60 | 0 | 0 | 81 | 80 | 20 | 0 | 0 | 100 | 46 | 54 | 0 | 0 | 100 | 281 | |
| 07:45:00 | 15 | 59 | 1 | 0 | 75 | 97 | 45 | 0 | 0 | 142 | 41 | 69 | 0 | 0 | 110 | 327 | 1101 |
| 08:00:00 | 23 | 69 | 0 | 0 | 92 | 61 | 34 | 1 | 0 | 96 | 53 | 56 | 0 | 0 | 109 | 297 | 1141 |
| 08:15:00 | 20 | 51 | 0 | 0 | 71 | 46 | 13 | 0 | 0 | 59 | 35 | 44 | 0 | 0 | 79 | 209 | 1114 |
| 08:30:00 | 12 | 61 | 1 | 0 | 74 | 35 | 17 | 0 | 0 | 52 | 34 | 37 | 0 | 0 | 71 | 197 | 1030 |
| 08:45:00 | 16 | 42 | 1 | 0 | 59 | 39 | 8 | 0 | 0 | 47 | 28 | 46 | 0 | 0 | 74 | 180 | 883 |
| ***BREAK*** | | | | | | | | | | | | | | | | | |
| 16:00:00 | 78 | 86 | 0 | 0 | 164 | 57 | 38 | 0 | 0 | 95 | 28 | 21 | 0 | 0 | 49 | 308 | |
| 16:15:00 | 75 | 115 | 0 | 0 | 190 | 87 | 45 | 1 | 0 | 133 | 16 | 24 | 0 | 0 | 40 | 363 | |
| 16:30:00 | 82 | 101 | 0 | 0 | 183 | 70 | 44 | 0 | 0 | 114 | 23 | 17 | 0 | 0 | 40 | 337 | |
| 16:45:00 | 73 | 84 | 0 | 0 | 157 | 81 | 41 | 0 | 0 | 122 | 24 | 15 | 0 | 0 | 39 | 318 | 1326 |
| 17:00:00 | 86 | 115 | 0 | 2 | 201 | 77 | 46 | 0 | 1 | 123 | 28 | 18 | 0 | 0 | 46 | 370 | 1388 |
| 17:15:00 | 69 | 108 | 0 | 0 | 177 | 44 | 43 | 0 | 0 | 87 | 38 | 19 | 0 | 0 | 57 | 321 | 1346 |
| 17:30:00 | 48 | 97 | 1 | 0 | 146 | 54 | 33 | 0 | 0 | 87 | 26 | 16 | 0 | 0 | 42 | 275 | 1284 |
| 17:45:00 | 61 | 74 | 0 | 0 | 135 | 68 | 29 | 0 | 1 | 97 | 32 | 15 | 0 | 1 | 47 | 279 | 1245 |
| Grand Total | 706 | 1234 | 4 | 2 | 1944 | 1024 | 498 | 2 | 2 | 1524 | 528 | 559 | 0 | 1 | 1087 | 4555 | - |
| Approach% | 36.3% | 63.5% | 0.2% | - | - | 67.2% | 32.7% | 0.1% | - | - | 48.6% | 51.4% | 0% | - | - | - | - |
| Totals % | 15.5% | 27.1% | 0.1% | - | 42.7% | 22.5% | 10.9% | 0% | - | 33.5% | 11.6% | 12.3% | 0% | - | 23.9% | - | - |
| Heavy | 74 | 127 | 2 | - | - | 93 | 34 | 0 | - | - | 48 | 70 | 0 | - | - | - | - |
| Heavy % | 10.5% | 10.3% | 50% | - | - | 9.1% | 6.8% | 0% | - | - | 9.1% | 12.5% | 0% | - | - | - | - |
| Bicycles | 1 | 2 | 0 | - | - | 0 | 0 | 0 | - | - | 0 | 0 | 0 | - | - | - | - |
| Bicycle % | 0.1% | 0.2% | 0% | - | - | 0% | 0% | 0% | - | - | 0% | 0% | 0% | - | - | - | - |



Peak Hour: 07:15 AM - 08:15 AM Weather: Broken Clouds (5.22 °C)

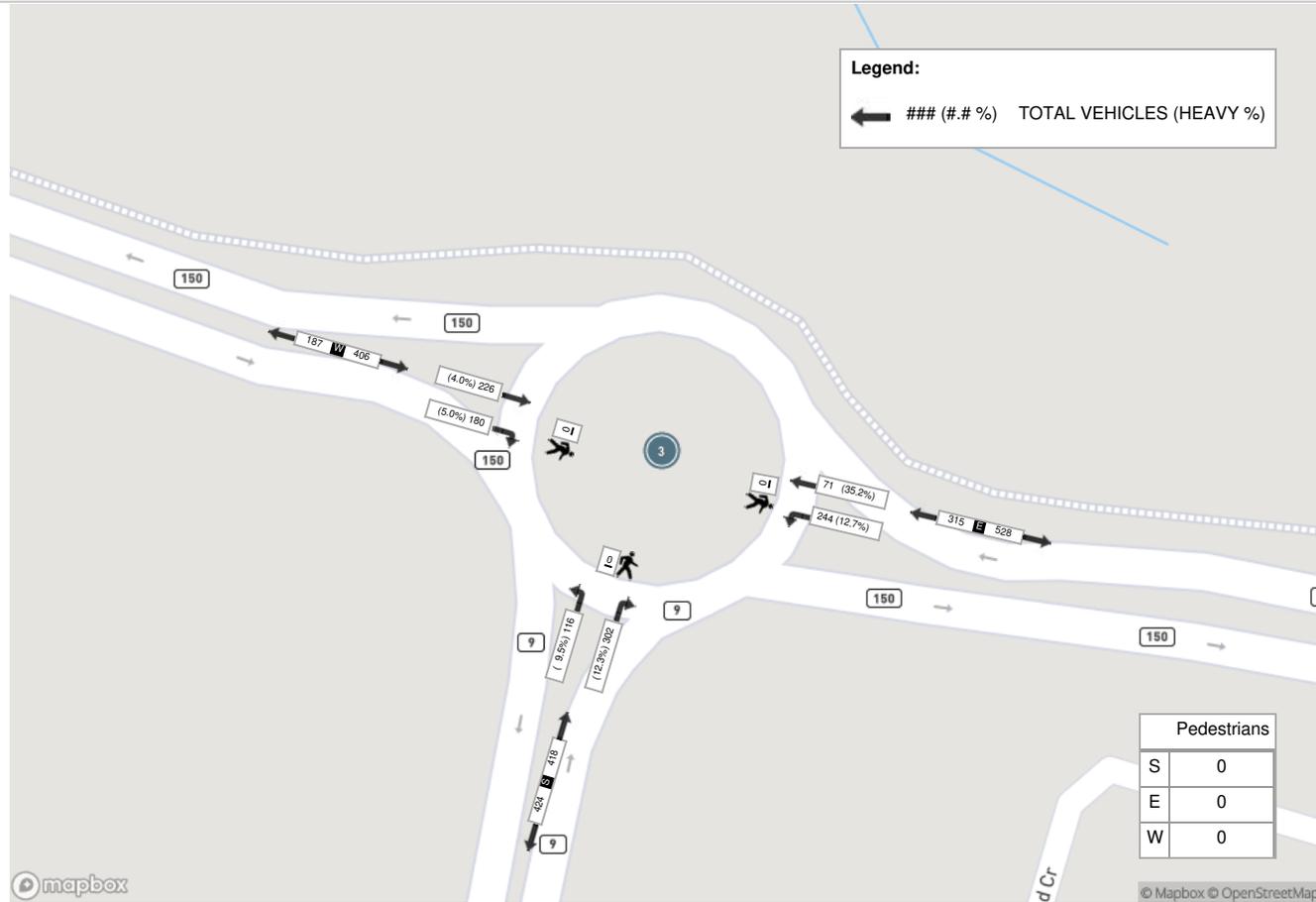
| Start Time | E Approach EMIL KOLB PKWY | | | | | S Approach KING ST | | | | | W Approach EMIL KOLB PKWY | | | | | Int. Total (15 min) |
|-----------------------------|------------------------------|------------|----------|----------|----------------|-----------------------|------------|----------|----------|----------------|------------------------------|------------|----------|----------|----------------|------------------------|
| | Thru | Left | UTurn | Peds | Approach Total | Right | Left | UTurn | Peds | Approach Total | Right | Thru | UTurn | Peds | Approach Total | |
| 07:15:00 | 12 | 56 | 0 | 0 | 68 | 64 | 17 | 0 | 0 | 81 | 40 | 47 | 0 | 0 | 87 | 236 |
| 07:30:00 | 21 | 60 | 0 | 0 | 81 | 80 | 20 | 0 | 0 | 100 | 46 | 54 | 0 | 0 | 100 | 281 |
| 07:45:00 | 15 | 59 | 1 | 0 | 75 | 97 | 45 | 0 | 0 | 142 | 41 | 69 | 0 | 0 | 110 | 327 |
| 08:00:00 | 23 | 69 | 0 | 0 | 92 | 61 | 34 | 1 | 0 | 96 | 53 | 56 | 0 | 0 | 109 | 297 |
| Grand Total | 71 | 244 | 1 | 0 | 316 | 302 | 116 | 1 | 0 | 419 | 180 | 226 | 0 | 0 | 406 | 1141 |
| Approach% | 22.5% | 77.2% | 0.3% | | - | 72.1% | 27.7% | 0.2% | | - | 44.3% | 55.7% | 0% | | - | - |
| Totals % | 6.2% | 21.4% | 0.1% | | 27.7% | 26.5% | 10.2% | 0.1% | | 36.7% | 15.8% | 19.8% | 0% | | 35.6% | - |
| PHF | 0.77 | 0.88 | 0.25 | | 0.86 | 0.78 | 0.64 | 0.25 | | 0.74 | 0.85 | 0.82 | 0 | | 0.92 | - |
| Heavy | 25 | 31 | 0 | | 56 | 37 | 11 | 0 | | 48 | 9 | 9 | 0 | | 18 | - |
| Heavy % | 35.2% | 12.7% | 0% | | 17.7% | 12.3% | 9.5% | 0% | | 11.5% | 5% | 4% | 0% | | 4.4% | - |
| Lights | 46 | 213 | 1 | | 260 | 265 | 105 | 1 | | 371 | 171 | 217 | 0 | | 388 | - |
| Lights % | 64.8% | 87.3% | 100% | | 82.3% | 87.7% | 90.5% | 100% | | 88.5% | 95% | 96% | 0% | | 95.6% | - |
| Single-Unit Trucks | 8 | 15 | 0 | | 23 | 18 | 3 | 0 | | 21 | 1 | 4 | 0 | | 5 | - |
| Single-Unit Trucks % | 11.3% | 6.1% | 0% | | 7.3% | 6% | 2.6% | 0% | | 5% | 0.6% | 1.8% | 0% | | 1.2% | - |
| Buses | 2 | 8 | 0 | | 10 | 9 | 5 | 0 | | 14 | 3 | 1 | 0 | | 4 | - |
| Buses % | 2.8% | 3.3% | 0% | | 3.2% | 3% | 4.3% | 0% | | 3.3% | 1.7% | 0.4% | 0% | | 1% | - |
| Articulated Trucks | 15 | 8 | 0 | | 23 | 10 | 3 | 0 | | 13 | 5 | 4 | 0 | | 9 | - |
| Articulated Trucks % | 21.1% | 3.3% | 0% | | 7.3% | 3.3% | 2.6% | 0% | | 3.1% | 2.8% | 1.8% | 0% | | 2.2% | - |
| Pedestrians | - | - | - | 0 | - | - | - | 0 | | - | - | - | - | 0 | - | - |
| Pedestrians% | - | - | - | 0% | - | - | - | 0% | | - | - | - | - | 0% | - | - |
| Bicycles on Road | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | - |
| Bicycles on Road% | - | - | - | 0% | - | - | - | 0% | | - | - | - | - | 0% | - | - |



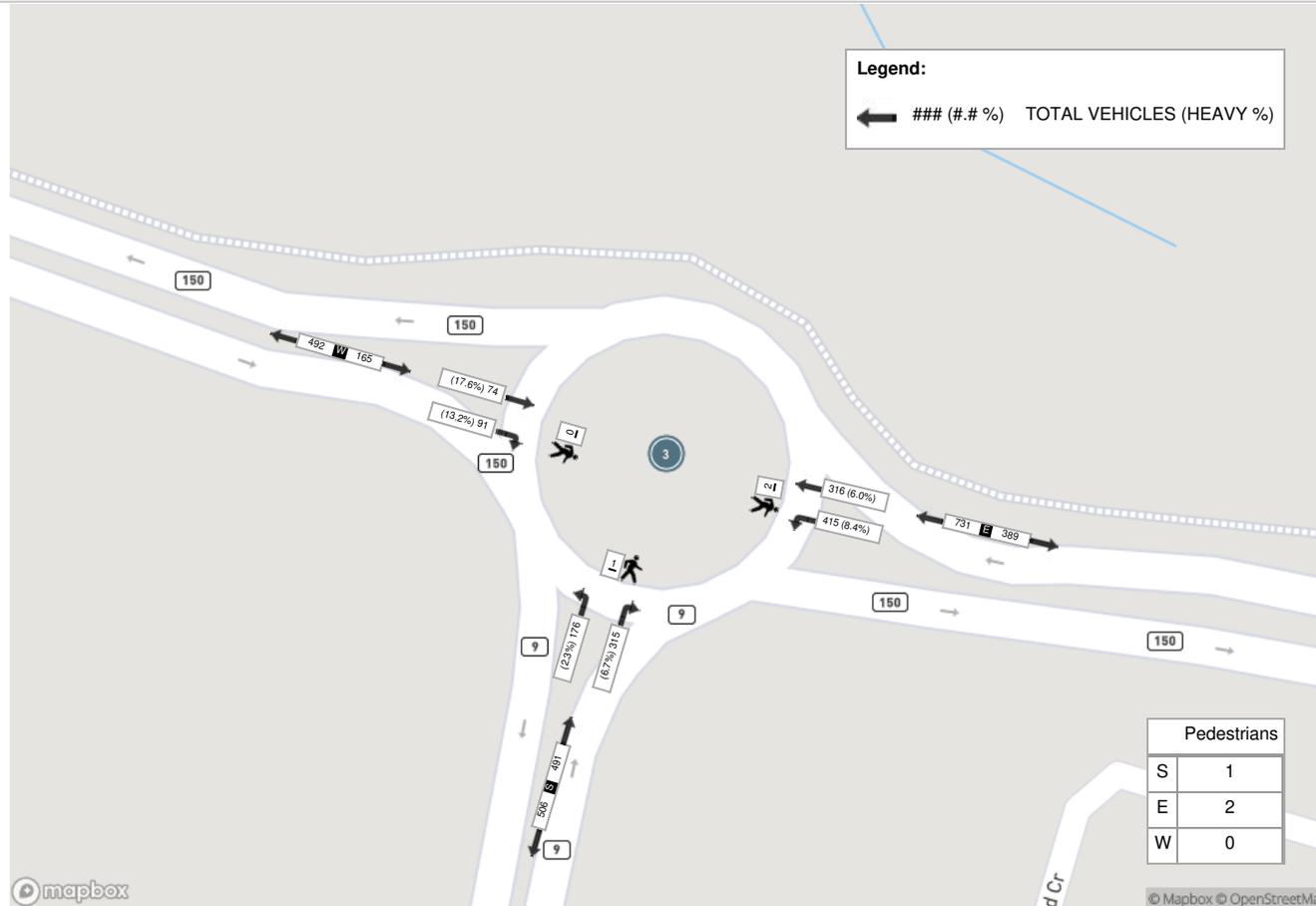
Peak Hour: 04:15 PM - 05:15 PM Weather: Overcast Clouds (16.43 °C)

| Start Time | E Approach EMIL KOLB PKWY | | | | | S Approach KING ST | | | | | W Approach EMIL KOLB PKWY | | | | | Int. Total (15 min) |
|-----------------------------|------------------------------|------------|----------|----------|----------------|-----------------------|------------|----------|----------|----------------|------------------------------|-----------|----------|----------|----------------|------------------------|
| | Thru | Left | UTurn | Peds | Approach Total | Right | Left | UTurn | Peds | Approach Total | Right | Thru | UTurn | Peds | Approach Total | |
| 16:15:00 | 75 | 115 | 0 | 0 | 190 | 87 | 45 | 1 | 0 | 133 | 16 | 24 | 0 | 0 | 40 | 363 |
| 16:30:00 | 82 | 101 | 0 | 0 | 183 | 70 | 44 | 0 | 0 | 114 | 23 | 17 | 0 | 0 | 40 | 337 |
| 16:45:00 | 73 | 84 | 0 | 0 | 157 | 81 | 41 | 0 | 0 | 122 | 24 | 15 | 0 | 0 | 39 | 318 |
| 17:00:00 | 86 | 115 | 0 | 2 | 201 | 77 | 46 | 0 | 1 | 123 | 28 | 18 | 0 | 0 | 46 | 370 |
| Grand Total | 316 | 415 | 0 | 2 | 731 | 315 | 176 | 1 | 1 | 492 | 91 | 74 | 0 | 0 | 165 | 1388 |
| Approach% | 43.2% | 56.8% | 0% | | - | 64% | 35.8% | 0.2% | | - | 55.2% | 44.8% | 0% | | - | - |
| Totals % | 22.8% | 29.9% | 0% | | 52.7% | 22.7% | 12.7% | 0.1% | | 35.4% | 6.6% | 5.3% | 0% | | 11.9% | - |
| PHF | 0.92 | 0.9 | 0 | | 0.91 | 0.91 | 0.96 | 0.25 | | 0.92 | 0.81 | 0.77 | 0 | | 0.9 | - |
| Heavy | 19 | 35 | 0 | | 54 | 21 | 4 | 0 | | 25 | 12 | 13 | 0 | | 25 | - |
| Heavy % | 6% | 8.4% | 0% | | 7.4% | 6.7% | 2.3% | 0% | | 5.1% | 13.2% | 17.6% | 0% | | 15.2% | - |
| Lights | 297 | 380 | 0 | | 677 | 294 | 172 | 1 | | 467 | 79 | 61 | 0 | | 140 | - |
| Lights % | 94% | 91.6% | 0% | | 92.6% | 93.3% | 97.7% | 100% | | 94.9% | 86.8% | 82.4% | 0% | | 84.8% | - |
| Single-Unit Trucks | 14 | 20 | 0 | | 34 | 8 | 2 | 0 | | 10 | 5 | 6 | 0 | | 11 | - |
| Single-Unit Trucks % | 4.4% | 4.8% | 0% | | 4.7% | 2.5% | 1.1% | 0% | | 2% | 5.5% | 8.1% | 0% | | 6.7% | - |
| Buses | 0 | 5 | 0 | | 5 | 1 | 0 | 0 | | 1 | 1 | 0 | 0 | | 1 | - |
| Buses % | 0% | 1.2% | 0% | | 0.7% | 0.3% | 0% | 0% | | 0.2% | 1.1% | 0% | 0% | | 0.6% | - |
| Articulated Trucks | 5 | 10 | 0 | | 15 | 12 | 2 | 0 | | 14 | 6 | 7 | 0 | | 13 | - |
| Articulated Trucks % | 1.6% | 2.4% | 0% | | 2.1% | 3.8% | 1.1% | 0% | | 2.8% | 6.6% | 9.5% | 0% | | 7.9% | - |
| Pedestrians | - | - | - | 2 | - | - | - | - | 1 | - | - | - | - | 0 | - | - |
| Pedestrians% | - | - | - | 66.7% | - | - | - | - | 33.3% | - | - | - | - | 0% | - | - |
| Bicycles on Road | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | - |
| Bicycles on Road% | - | - | - | 0% | - | - | - | - | 0% | - | - | - | - | 0% | - | - |

Peak Hour: 07:15 AM - 08:15 AM Weather: Broken Clouds (5.22 °C)



Peak Hour: 04:15 PM - 05:15 PM Weather: Overcast Clouds (16.43 °C)





Turning Movement Count (2 . KING ST & HUMBER STATION RD) CustID: 00905322 MioID:

| Start Time | N Approach HUMBER STATION RD | | | | | | E Approach KING ST | | | | | S Approach HUMBER STATION RD | | | | | | W Approach KING ST | | | | | 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 | |
| 07:00:00 | 0 | 9 | 10 | 0 | 0 | 19 | 4 | 92 | 10 | 0 | 0 | 106 | 7 | 2 | 7 | 0 | 0 | 16 | 26 | 67 | 1 | 0 | 0 | 94 | 235 | | |
| 07:15:00 | 2 | 6 | 5 | 0 | 0 | 13 | 2 | 91 | 23 | 0 | 0 | 116 | 1 | 1 | 3 | 0 | 0 | 5 | 34 | 69 | 0 | 0 | 0 | 103 | 237 | | |
| 07:30:00 | 1 | 12 | 4 | 0 | 0 | 17 | 1 | 115 | 17 | 0 | 0 | 133 | 3 | 3 | 3 | 0 | 0 | 9 | 21 | 81 | 2 | 0 | 0 | 104 | 263 | | |
| 07:45:00 | 0 | 21 | 7 | 0 | 0 | 28 | 5 | 95 | 18 | 0 | 0 | 118 | 7 | 5 | 7 | 0 | 0 | 19 | 30 | 110 | 3 | 0 | 0 | 143 | 308 | 1043 | |
| 08:00:00 | 2 | 15 | 1 | 0 | 0 | 18 | 4 | 116 | 15 | 0 | 0 | 135 | 7 | 2 | 4 | 0 | 0 | 13 | 18 | 58 | 0 | 0 | 0 | 76 | 242 | 1050 | |
| 08:15:00 | 3 | 9 | 4 | 0 | 0 | 16 | 0 | 79 | 9 | 0 | 0 | 88 | 5 | 5 | 8 | 0 | 1 | 18 | 11 | 39 | 2 | 0 | 0 | 52 | 174 | 987 | |
| 08:30:00 | 6 | 6 | 3 | 0 | 0 | 15 | 2 | 79 | 13 | 0 | 0 | 94 | 11 | 3 | 9 | 0 | 0 | 23 | 11 | 30 | 0 | 0 | 0 | 41 | 173 | 897 | |
| 08:45:00 | 3 | 8 | 4 | 0 | 0 | 15 | 1 | 60 | 10 | 0 | 0 | 71 | 13 | 4 | 6 | 0 | 0 | 23 | 14 | 34 | 1 | 0 | 0 | 49 | 158 | 747 | |
| ***BREAK*** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:00:00 | 1 | 6 | 3 | 0 | 0 | 10 | 9 | 96 | 7 | 0 | 0 | 112 | 16 | 22 | 12 | 0 | 0 | 50 | 13 | 96 | 5 | 0 | 0 | 114 | 286 | | |
| 16:15:00 | 1 | 3 | 3 | 0 | 0 | 7 | 18 | 97 | 3 | 0 | 0 | 118 | 21 | 18 | 17 | 0 | 0 | 56 | 6 | 123 | 0 | 0 | 0 | 129 | 310 | | |
| 16:30:00 | 2 | 9 | 4 | 0 | 0 | 15 | 7 | 112 | 7 | 0 | 0 | 126 | 19 | 20 | 16 | 0 | 0 | 55 | 6 | 106 | 3 | 0 | 0 | 115 | 311 | | |
| 16:45:00 | 2 | 1 | 3 | 0 | 0 | 6 | 8 | 93 | 4 | 0 | 0 | 105 | 18 | 15 | 12 | 0 | 0 | 45 | 6 | 101 | 2 | 0 | 0 | 109 | 265 | 1172 | |
| 17:00:00 | 4 | 5 | 4 | 0 | 0 | 13 | 8 | 127 | 4 | 0 | 0 | 139 | 10 | 16 | 26 | 0 | 0 | 52 | 6 | 112 | 2 | 0 | 0 | 120 | 324 | 1210 | |
| 17:15:00 | 3 | 8 | 5 | 0 | 0 | 16 | 11 | 105 | 8 | 0 | 0 | 124 | 13 | 17 | 21 | 0 | 0 | 51 | 8 | 73 | 2 | 0 | 0 | 83 | 274 | 1174 | |
| 17:30:00 | 3 | 9 | 0 | 0 | 0 | 12 | 13 | 119 | 10 | 0 | 0 | 142 | 6 | 15 | 16 | 0 | 0 | 37 | 8 | 89 | 2 | 0 | 0 | 99 | 290 | 1153 | |
| 17:45:00 | 2 | 2 | 3 | 0 | 0 | 7 | 11 | 72 | 6 | 0 | 0 | 89 | 8 | 7 | 7 | 0 | 0 | 22 | 6 | 81 | 2 | 0 | 0 | 89 | 207 | 1095 | |
| Grand Total | 35 | 129 | 63 | 0 | 0 | 227 | 104 | 1548 | 164 | 0 | 0 | 1816 | 165 | 155 | 174 | 0 | 1 | 494 | 224 | 1269 | 27 | 0 | 0 | 1520 | 4057 | - | |
| Approach% | 15.4% | 56.8% | 27.8% | 0% | | - | 5.7% | 85.2% | 9% | 0% | | - | 33.4% | 31.4% | 35.2% | 0% | | - | 14.7% | 83.5% | 1.8% | 0% | | - | - | - | |
| Totals % | 0.9% | 3.2% | 1.6% | 0% | | 5.6% | 2.6% | 38.2% | 4% | 0% | | 44.8% | 4.1% | 3.8% | 4.3% | 0% | | 12.2% | 5.5% | 31.3% | 0.7% | 0% | | 37.5% | - | - | |
| Heavy | 8 | 1 | 17 | 0 | | - | 36 | 104 | 30 | 0 | | - | 31 | 2 | 38 | 0 | | - | 24 | 82 | 3 | 0 | | - | - | - | |
| Heavy % | 22.9% | 0.8% | 27% | 0% | | - | 34.6% | 6.7% | 18.3% | 0% | | - | 18.8% | 1.3% | 21.8% | 0% | | - | 10.7% | 6.5% | 11.1% | 0% | | - | - | - | |
| Bicycles | 0 | 1 | 0 | 0 | | - | 0 | 2 | 0 | 0 | | - | 0 | 1 | 5 | 0 | | - | 0 | 0 | 0 | 0 | | - | - | - | |
| Bicycle % | 0% | 0.8% | 0% | 0% | | - | 0% | 0.1% | 0% | 0% | | - | 0% | 0.6% | 2.9% | 0% | | - | 0% | 0% | 0% | 0% | | - | - | - | |



Peak Hour: 07:15 AM - 08:15 AM Weather: Broken Clouds (5.22 °C)

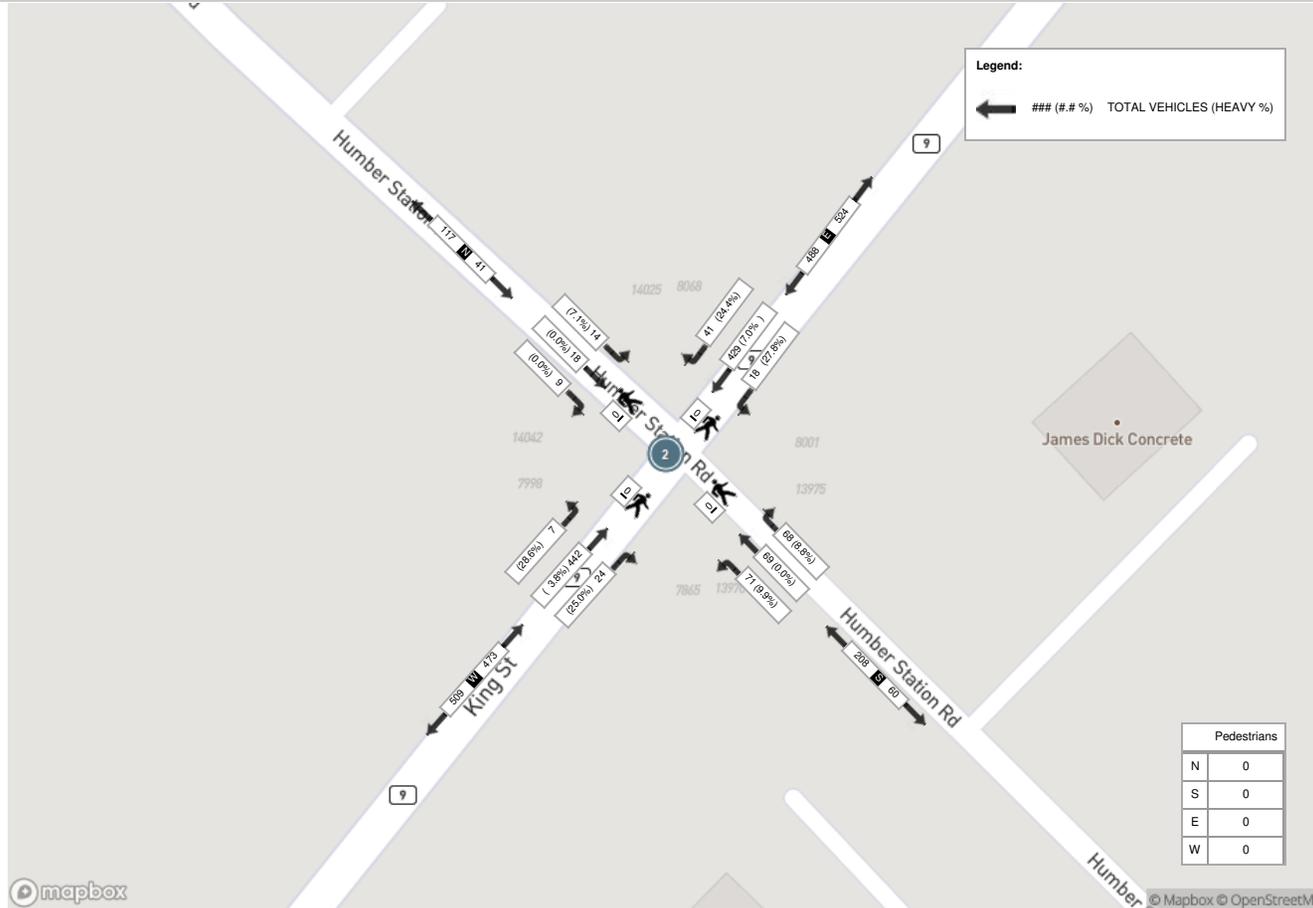
| Start Time | N Approach HUMBER STATION RD | | | | | | E Approach KING ST | | | | | | S Approach HUMBER STATION RD | | | | | | W Approach KING ST | | | | | | Int. Total (15 min) |
|-----------------------------|---------------------------------|-----------|-----------|----------|----------|----------------|-----------------------|------------|-----------|----------|----------|----------------|---------------------------------|-----------|-----------|----------|----------|----------------|-----------------------|------------|----------|----------|----------|----------------|------------------------|
| | 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 | |
| 07:15:00 | 2 | 6 | 5 | 0 | 0 | 13 | 2 | 91 | 23 | 0 | 0 | 116 | 1 | 1 | 3 | 0 | 0 | 5 | 34 | 69 | 0 | 0 | 0 | 103 | 237 |
| 07:30:00 | 1 | 12 | 4 | 0 | 0 | 17 | 1 | 115 | 17 | 0 | 0 | 133 | 3 | 3 | 3 | 0 | 0 | 9 | 21 | 81 | 2 | 0 | 0 | 104 | 263 |
| 07:45:00 | 0 | 21 | 7 | 0 | 0 | 28 | 5 | 95 | 18 | 0 | 0 | 118 | 7 | 5 | 7 | 0 | 0 | 19 | 30 | 110 | 3 | 0 | 0 | 143 | 308 |
| 08:00:00 | 2 | 15 | 1 | 0 | 0 | 18 | 4 | 116 | 15 | 0 | 0 | 135 | 7 | 2 | 4 | 0 | 0 | 13 | 18 | 58 | 0 | 0 | 0 | 76 | 242 |
| Grand Total | 5 | 54 | 17 | 0 | 0 | 76 | 12 | 417 | 73 | 0 | 0 | 502 | 18 | 11 | 17 | 0 | 0 | 46 | 103 | 318 | 5 | 0 | 0 | 426 | 1050 |
| Approach% | 6.6% | 71.1% | 22.4% | 0% | | - | 2.4% | 83.1% | 14.5% | 0% | | - | 39.1% | 23.9% | 37% | 0% | | - | 24.2% | 74.6% | 1.2% | 0% | | - | - |
| Totals % | 0.5% | 5.1% | 1.6% | 0% | | 7.2% | 1.1% | 39.7% | 7% | 0% | | 47.8% | 1.7% | 1% | 1.6% | 0% | | 4.4% | 9.8% | 30.3% | 0.5% | 0% | | 40.6% | - |
| PHF | 0.63 | 0.64 | 0.61 | 0 | | 0.68 | 0.6 | 0.9 | 0.79 | 0 | | 0.93 | 0.64 | 0.55 | 0.61 | 0 | | 0.61 | 0.76 | 0.72 | 0.42 | 0 | | 0.74 | - |
| Heavy | 1 | 1 | 6 | 0 | | 8 | 1 | 32 | 8 | 0 | | 41 | 13 | 0 | 10 | 0 | | 23 | 10 | 25 | 0 | 0 | | 35 | - |
| Heavy % | 20% | 1.9% | 35.3% | 0% | | 10.5% | 8.3% | 7.7% | 11% | 0% | | 8.2% | 72.2% | 0% | 58.8% | 0% | | 50% | 9.7% | 7.9% | 0% | 0% | | 8.2% | - |
| Lights | 4 | 53 | 11 | 0 | | 68 | 11 | 385 | 65 | 0 | | 461 | 5 | 11 | 7 | 0 | | 23 | 93 | 293 | 5 | 0 | | 391 | - |
| Lights % | 80% | 98.1% | 64.7% | 0% | | 89.5% | 91.7% | 92.3% | 89% | 0% | | 91.8% | 27.8% | 100% | 41.2% | 0% | | 50% | 90.3% | 92.1% | 100% | 0% | | 91.8% | - |
| Single-Unit Trucks | 1 | 1 | 5 | 0 | | 7 | 1 | 13 | 5 | 0 | | 19 | 4 | 0 | 6 | 0 | | 10 | 1 | 6 | 0 | 0 | | 7 | - |
| Single-Unit Trucks % | 20% | 1.9% | 29.4% | 0% | | 9.2% | 8.3% | 3.1% | 6.8% | 0% | | 3.8% | 22.2% | 0% | 35.3% | 0% | | 21.7% | 1% | 1.9% | 0% | 0% | | 1.6% | - |
| Buses | 0 | 0 | 1 | 0 | | 1 | 0 | 8 | 0 | 0 | | 8 | 2 | 0 | 0 | 0 | | 2 | 1 | 13 | 0 | 0 | | 14 | - |
| Buses % | 0% | 0% | 5.9% | 0% | | 1.3% | 0% | 1.9% | 0% | 0% | | 1.6% | 11.1% | 0% | 0% | 0% | | 4.3% | 1% | 4.1% | 0% | 0% | | 3.3% | - |
| Articulated Trucks | 0 | 0 | 0 | 0 | | 0 | 0 | 11 | 3 | 0 | | 14 | 7 | 0 | 4 | 0 | | 11 | 8 | 6 | 0 | 0 | | 14 | - |
| Articulated Trucks % | 0% | 0% | 0% | 0% | | 0% | 0% | 2.6% | 4.1% | 0% | | 2.8% | 38.9% | 0% | 23.5% | 0% | | 23.9% | 7.8% | 1.9% | 0% | 0% | | 3.3% | - |
| Pedestrians | - | - | - | - | 0 | | - | - | - | 0 | | - | - | - | - | 0 | | - | - | - | - | 0 | | - | - |
| Pedestrians% | - | - | - | - | 0% | | - | - | - | 0% | | - | - | - | - | 0% | | - | - | - | - | 0% | | - | - |
| Bicycles on Road | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | - | 0 | 0 | 0 | 0 | | - | 0 | 0 | 0 | 0 | | - | - |
| Bicycles on Road% | - | - | - | - | 0% | | - | - | - | 0% | | - | - | - | - | 0% | | - | - | - | - | 0% | | - | - |



Peak Hour: 04:15 PM - 05:15 PM Weather: Overcast Clouds (16.43 °C)

| Start Time | N Approach HUMBER STATION RD | | | | | | E Approach KING ST | | | | | | S Approach HUMBER STATION RD | | | | | | W Approach KING ST | | | | | | 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 | |
| 16:15:00 | 1 | 3 | 3 | 0 | 0 | 7 | 18 | 97 | 3 | 0 | 0 | 118 | 21 | 18 | 17 | 0 | 0 | 56 | 6 | 123 | 0 | 0 | 0 | 129 | 310 |
| 16:30:00 | 2 | 9 | 4 | 0 | 0 | 15 | 7 | 112 | 7 | 0 | 0 | 126 | 19 | 20 | 16 | 0 | 0 | 55 | 6 | 106 | 3 | 0 | 0 | 115 | 311 |
| 16:45:00 | 2 | 1 | 3 | 0 | 0 | 6 | 8 | 93 | 4 | 0 | 0 | 105 | 18 | 15 | 12 | 0 | 0 | 45 | 6 | 101 | 2 | 0 | 0 | 109 | 265 |
| 17:00:00 | 4 | 5 | 4 | 0 | 0 | 13 | 8 | 127 | 4 | 0 | 0 | 139 | 10 | 16 | 26 | 0 | 0 | 52 | 6 | 112 | 2 | 0 | 0 | 120 | 324 |
| Grand Total | 9 | 18 | 14 | 0 | 0 | 41 | 41 | 429 | 18 | 0 | 0 | 488 | 68 | 69 | 71 | 0 | 0 | 208 | 24 | 442 | 7 | 0 | 0 | 473 | 1210 |
| Approach% | 22% | 43.9% | 34.1% | 0% | | - | 8.4% | 87.9% | 3.7% | 0% | | - | 32.7% | 33.2% | 34.1% | 0% | | - | 5.1% | 93.4% | 1.5% | 0% | | - | - |
| Totals % | 0.7% | 1.5% | 1.2% | 0% | | 3.4% | 3.4% | 35.5% | 1.5% | 0% | | 40.3% | 5.6% | 5.7% | 5.9% | 0% | | 17.2% | 2% | 36.5% | 0.6% | 0% | | 39.1% | - |
| PHF | 0.56 | 0.5 | 0.88 | 0 | | 0.68 | 0.57 | 0.84 | 0.64 | 0 | | 0.88 | 0.81 | 0.86 | 0.68 | 0 | | 0.93 | 1 | 0.9 | 0.58 | 0 | | 0.92 | - |
| Heavy | 0 | 0 | 1 | 0 | | 1 | 10 | 30 | 5 | 0 | | 45 | 6 | 0 | 7 | 0 | | 13 | 6 | 17 | 2 | 0 | | 25 | - |
| Heavy % | 0% | 0% | 7.1% | 0% | | 2.4% | 24.4% | 7% | 27.8% | 0% | | 9.2% | 8.8% | 0% | 9.9% | 0% | | 6.3% | 25% | 3.8% | 28.6% | 0% | | 5.3% | - |
| Lights | 9 | 18 | 13 | 0 | | 40 | 31 | 399 | 13 | 0 | | 443 | 62 | 69 | 64 | 0 | | 195 | 18 | 425 | 5 | 0 | | 448 | - |
| Lights % | 100% | 100% | 92.9% | 0% | | 97.6% | 75.6% | 93% | 72.2% | 0% | | 90.8% | 91.2% | 100% | 90.1% | 0% | | 93.8% | 75% | 96.2% | 71.4% | 0% | | 94.7% | - |
| Single-Unit Trucks | 0 | 0 | 1 | 0 | | 1 | 9 | 16 | 0 | 0 | | 25 | 2 | 0 | 1 | 0 | | 3 | 1 | 5 | 0 | 0 | | 6 | - |
| Single-Unit Trucks % | 0% | 0% | 7.1% | 0% | | 2.4% | 22% | 3.7% | 0% | 0% | | 5.1% | 2.9% | 0% | 1.4% | 0% | | 1.4% | 4.2% | 1.1% | 0% | 0% | | 1.3% | - |
| Buses | 0 | 0 | 0 | 0 | | 0 | 0 | 5 | 0 | 0 | | 5 | 0 | 0 | 0 | 0 | | 0 | 0 | 1 | 0 | 0 | | 1 | - |
| Buses % | 0% | 0% | 0% | 0% | | 0% | 0% | 1.2% | 0% | 0% | | 1% | 0% | 0% | 0% | 0% | | 0% | 0% | 0.2% | 0% | 0% | | 0.2% | - |
| Articulated Trucks | 0 | 0 | 0 | 0 | | 0 | 1 | 9 | 5 | 0 | | 15 | 4 | 0 | 6 | 0 | | 10 | 5 | 11 | 2 | 0 | | 18 | - |
| Articulated Trucks % | 0% | 0% | 0% | 0% | | 0% | 2.4% | 2.1% | 27.8% | 0% | | 3.1% | 5.9% | 0% | 8.5% | 0% | | 4.8% | 20.8% | 2.5% | 28.6% | 0% | | 3.8% | - |
| Pedestrians | - | - | - | - | 0 | | - | - | - | 0 | | - | - | - | - | 0 | | - | - | - | - | 0 | | - | - |
| Pedestrians% | - | - | - | - | 0% | | - | - | - | 0% | | - | - | - | - | 0% | | - | - | - | - | 0% | | - | - |
| Bicycles on Road | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | - | 0 | 1 | 0 | 0 | | - | 0 | 0 | 0 | 0 | | - | - |
| Bicycles on Road% | - | - | - | - | 0% | | - | - | - | 0% | | - | - | - | - | 0% | | - | - | - | - | 0% | | - | - |

Peak Hour: 04:15 PM - 05:15 PM Weather: Overcast Clouds (16.43 °C)



REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

| | | | | |
|-------------------------|----------------|--|---------------|----------------|
| Database Date | April 13, 2022 | | Prepared Date | April 18, 2022 |
| Database Rev | iNET | | Completed By | TF |
| Timing Card / Field rev | - | | Checked By | RC |

Location **King Street & Humber Station Road**

| Phase # | Street Name - Direction | Vehicle Minimum (s) | Pedestrian Minimum (s) | | Amber (s) | All Red (s) | TIME PERIOD (s) | | |
|---------|--------------------------|---------------------|------------------------|------------|-----------|-------------|-----------------|------------|-----------|
| | | | WALK | FDWALK | | | AM SPLITS | OFF SPLITS | PM SPLITS |
| | | | 1 | Not In Use | | | - | - | - |
| 2 | King Street - EB | 12.0 | 8.0 | 7.0 | 5.4 | 2.0 | 85.0 | 45.0 | 41.0 |
| 3 | Not In Use | - | - | - | - | - | - | - | - |
| 4 | Humber Station Road - NB | 8.0 | 8.0 | 7.0 | 4.0 | 2.4 | 25.0 | 25.0 | 39.0 |
| 5 | Not In Use | - | - | - | - | - | - | - | - |
| 6 | Not In Use | - | - | - | - | - | - | - | - |
| 7 | Not In Use | - | - | - | - | - | - | - | - |
| 8 | Not In Use | - | - | - | - | - | - | - | - |

| | | | | | |
|------------------------------|--|-------------------|-------------|-------------------------|-------------------|
| System Control Yes | | TIME (M-F) | PEAK | CYCLE LENGTH (s) | OFFSET (s) |
| | | 06:00-09:00 | AM | 110 | 36 |
| Semi-Actuated Mode | | 09:00-15:00 | OFF | 70 | 36 |
| Yes | | 15:00-19:00 | PM | 80 | 57 |

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

| | | | | |
|-------------------------|----------------|--|---------------|----------------|
| Database Date | April 13, 2022 | | Prepared Date | April 13, 2022 |
| Database Rev | iNET | | Completed By | TF |
| Timing Card / Field rev | - | | Checked By | RC |

| Location | The Gore Road & King Street | | | | | | | | |
|----------|-----------------------------|---------------------|------------------------|--------|-----------|-------------|--|---------|--------|
| Phase # | Street Name - Direction | Vehicle Minimum (s) | Pedestrian Minimum (s) | | Amber (s) | All Red (s) | TIME PERIOD (s) (Green+Amber+All Red) | | |
| | | | WALK | FDWALK | | | AM MAX | OFF MAX | PM MAX |
| 1 | Not In Use | - | - | - | - | - | - | - | - |
| 2 | King Street - EB | 12.0 | 8.0 | 12.0 | 4.6 | 2.0 | 18.6 (min), 36.6 (max) | | |
| 3 | Not In Use | - | - | - | - | - | - | - | - |
| 4 | The Gore Road - NB | 12.0 | 8.0 | 12.0 | 4.6 | 2.0 | 48.6 | | |
| 5 | Not In Use | - | - | - | - | - | - | - | - |
| 6 | King Street - WB | 12.0 | 8.0 | 12.0 | 4.6 | 2.0 | 18.6 (min), 36.6 (max) | | |
| 7 | Not In Use | - | - | - | - | - | - | - | - |
| 8 | The Gore Road - SB | 12.0 | 8.0 | 12.0 | 4.6 | 2.0 | 48.6 | | |

| | | | | |
|---|-------------------|-------------|-------------------------|-------------------|
| <p>System Control Yes</p> <p>Semi-Actuated Mode Yes</p> | | | | |
| | TIME (M-F) | PEAK | CYCLE LENGTH (s) | OFFSET (s) |
| | FREE | AM/OFF/PM | 0 | 0 |

APPENDIX E:
Analysis Output Summary



SIGNALIZED INTERSECTIONS

| Movement | Existing Conditions | | | | | Future Background without improvements | | | | | Future Background with improvements | | | | |
|---|---------------------|--------------------|--------------|--------------|--------------|--|--------------------|--------------|--------------|---------------|-------------------------------------|--------------------|--------------|-------------|--------------|
| | V/C | Delay (Sec) | LOS | 50thQueue | 95thQueue | V/C | Delay (Sec) | LOS | 50thQueue | 95thQueue | V/C | Delay (Sec) | LOS | 50thQueue | 95thQueue |
| The Gore Rd & King St | | | | | | | | | | | | | | | |
| EBL | 0.12 (0.41) | 9.5 (13.1) | A (B) | 3.6 (11.0) | 10.9 (30.7) | 0.16 (0.49) | 20.7 (17.1) | C (B) | 7.8 (15.2) | 18.0 (26.4) | 0.11 (0.27) | 9.4 (6.1) | A (A) | 4.8 (9.1) | 12.4 (18.6) |
| EBT | 0.42 (0.40) | 12.3 (10.9) | B (B) | 29.4 (27.9) | 61.1 (57.5) | 0.63 (0.52) | 29.6 (21.2) | C (C) | 87.1 (76.9) | 132.9 (108.7) | 0.14 (0.21) | 9.3 (9.6) | A (A) | 14.9 (22.4) | 25.1 (36.0) |
| EBR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.13 (0.01) | 9.3 (8.2) | A (A) | 0.0 (0.0) | 9.7 (0.0) |
| NBL | 0.11 (0.24) | 20.6 (22.1) | C (C) | 1.3 (6.7) | 5.1 (16.1) | 0.17 (0.30) | 27.3 (33.1) | C (C) | 1.8 (10.5) | 6.5 (22.5) | 0.16 (0.40) | 42.3 (45.2) | D (D) | 2.3 (12.6) | 7.8 (25.3) |
| NBT | 0.13 (0.67) | 20.4 (28.1) | C (C) | 6.9 (45.6) | 16.9 (72.7) | 0.23 (0.89) | 26.8 (56.3) | C (E) | 19.8 (113.9) | 33.3 (#165.8) | 0.14 (0.71) | 41.2 (49.7) | D (D) | 10.2 (57.4) | 17.0 (71.6) |
| NBR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.05 (0.03) | 40.4 (40.6) | D (D) | 0.0 (0.0) | 10.1 (0.0) |
| SBL | 0.27 (0.21) | 21.6 (21.9) | C (C) | 11.9 (4.4) | 23.9 (12.1) | 0.27 (0.52) | 27.4 (41.3) | C (D) | 16.8 (7.6) | 28.6 (#23.1) | 0.48 (0.43) | 45.5 (43.6) | D (D) | 22.3 (8.4) | 38.3 (19.9) |
| SBT | 0.78 (0.30) | 32.2 (22.3) | C (C) | 59.2 (16.6) | 92.5 (32.1) | 0.88 (0.41) | 49.3 (33.9) | D (C) | 127.9 (40.9) | 165.2 (62.9) | 0.69 (0.26) | 48.8 (39.5) | D (D) | 56.3 (19.4) | 70.3 (28.4) |
| SBR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.08 (0.04) | 40.8 (202.3) | D (F) | 0.0 (0.2) | 15.7 (8.7) |
| WBL | 0.09 (0.03) | 9.3 (7.7) | A (A) | 3.0 (0.8) | 9.6 (3.7) | 0.16 (0.12) | 16.0 (14.6) | B (B) | 6.0 (4.9) | 13.8 (10.7) | 0.08 (0.09) | 5.5 (7.8) | A (A) | 3.1 (2.9) | 8.0 (7.5) |
| WBT | 0.40 (0.52) | 12.0 (12.6) | B (B) | 31.9 (40.0) | 62.6 (81.8) | 0.50 (0.73) | 20.0 (30.4) | C (C) | 71.1 (123.1) | 111.2 (171.1) | 0.18 (0.25) | 6.1 (11.5) | A (B) | 16.5 (28.4) | 26.7 (45.7) |
| WBR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.02 (0.07) | 5.3 (10.1) | A (B) | 0.0 (0.0) | 2.6 (7.8) |
| OVERALL | 0.55 (0.57) | 19.0 (17.0) | B (B) | | | 0.74 (0.77) | 32.4 (33.9) | C (C) | | | 0.30 (0.37) | 24.8 (28.5) | C (C) | | |
| Humber Station Rd & King St | | | | | | | | | | | | | | | |
| EBL | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.14 (0.04) | 15.4 (10.9) | B (B) | 4.4 (1.6) | 18.2 (6.0) |
| EBT | 0.33 (0.52) | 5.7 (12.1) | A (B) | 25.1 (31.9) | 38.6 (72.5) | 0.53 (0.54) | 8.5 (13.0) | A (B) | 41.4 (73.7) | 87.7 (135.0) | 0.24 (0.27) | 15.9 (12.7) | B (B) | 16.8 (30.0) | 43.4 (52.5) |
| EBR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.07 (0.02) | 14.4 (10.5) | B (B) | 0.0 (0.0) | 3.6 (0.0) |
| NBL | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.10 (0.33) | 29.6 (32.2) | C (C) | 3.0 (13.4) | 6.6 (22.1) |
| NBT | 0.21 (0.61) | 41.3 (24.7) | D (C) | 5.5 (18.7) | 16.9 (39.1) | 0.57 (0.94) | 39.5 (85.1) | D (F) | 31.8 (57.0) | 48.7 (82.5) | 0.18 (0.12) | 32.7 (35.3) | C (D) | 12.9 (10.6) | 18.6 (17.6) |
| NBR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.02 (0.08) | 31.5 (35.0) | C (C) | 0.0 (0.0) | 0.0 (0.0) |
| SBL | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.09 (0.09) | 31.7 (40.4) | C (D) | 2.9 (2.4) | 6.3 (6.3) |
| SBT | 0.35 (0.10) | 42.5 (18.1) | D (B) | 14.6 (3.0) | 29.5 (9.4) | 0.45 (0.51) | 37.4 (39.0) | D (D) | 23.5 (40.5) | 38.3 (56.7) | 0.16 (0.25) | 34.6 (44.2) | C (D) | 9.2 (16.5) | 15.0 (24.4) |
| SBR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.01 (0.05) | 33.6 (42.6) | C (D) | 0.0 (0.0) | 0.0 (0.0) |
| WBL | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.13 (0.04) | 9.1 (14.9) | A (B) | 3.3 (1.7) | 14.9 (8.0) |
| WBT | 0.43 (0.52) | 6.6 (12.1) | A (B) | 35.8 (32.8) | 53.5 (74.5) | 0.60 (0.54) | 9.6 (13.0) | A (B) | 54.6 (75.1) | 113.7 (136.9) | 0.25 (0.29) | 10.2 (17.2) | B (B) | 14.9 (28.8) | 42.8 (62.7) |
| WBR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.05 (0.04) | 8.8 (14.7) | A (B) | 0.0 (0.0) | 3.7 (0.0) |
| OVERALL | 0.41 (0.55) | 10.4 (14.5) | B (B) | | | 0.66 (0.71) | 15.1 (27.5) | B (C) | | | 0.25 (0.33) | 16.7 (21.5) | B (C) | | |
| King St & Street JJ | | | | | | | | | | | | | | | |
| EBL | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) |
| EBT | - (-) | - (-) | - (-) | - (-) | - (-) | 0.36 (0.36) | 5.4 (3.9) | A (A) | 16.6 (0.0) | 64.6 (70.4) | 0.19 (0.19) | 4.1 (2.9) | A (A) | 7.5 (0.0) | 27.3 (29.2) |
| SBLR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) |
| WBT | - (-) | - (-) | - (-) | - (-) | - (-) | 0.39 (0.47) | 6.5 (3.0) | A (A) | 41.8 (0.0) | 106.6 (40.5) | 0.20 (0.25) | 5.0 (2.3) | A (A) | 18.5 (0.0) | 43.8 (21.3) |
| WBR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) |
| OVERALL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.32 (0.44) | 6.0 (3.4) | A (A) | | | 0.17 (0.23) | 4.6 (2.5) | A (A) | | |
| King St & Street I | | | | | | | | | | | | | | | |
| EBL | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) |
| EBT | - (-) | - (-) | - (-) | - (-) | - (-) | 0.36 (0.36) | 11.4 (2.7) | B (A) | 16.7 (0.0) | 127.6 (32.4) | 0.19 (0.19) | 9.4 (2.2) | A (A) | 7.5 (0.0) | 56.7 (17.1) |
| SBLR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) |
| WBT | - (-) | - (-) | - (-) | - (-) | - (-) | 0.39 (0.47) | 5.6 (4.7) | A (A) | 18.6 (0.0) | 72.0 (102.9) | 0.20 (0.25) | 4.2 (3.1) | A (A) | 8.2 (0.0) | 29.7 (38.8) |
| WBR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) |
| OVERALL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.32 (0.44) | 8.4 (3.9) | A (A) | | | 0.17 (0.23) | 6.7 (2.7) | A (A) | | |
| The Gore Rd & Street Y | | | | | | | | | | | | | | | |
| NBT | - (-) | - (-) | - (-) | - (-) | - (-) | 0.14 (0.57) | 2.9 (5.9) | A (A) | 0.0 (0.0) | 23.6 (135.2) | 0.15 (0.53) | 2.9 (9.6) | A (A) | 0.0 (75.3) | 24.7 (221.8) |
| NBR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.00 (-) | 2.4 (-) | A (-) | 0.0 (-) | 1.2 (-) |
| SBL | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) |
| SBT | - (-) | - (-) | - (-) | - (-) | - (-) | 0.54 (0.21) | 7.8 (3.1) | A (A) | 0.0 (0.1) | 109.0 (33.7) | 0.54 (0.20) | 7.8 (2.4) | A (A) | 0.0 (0.0) | 109.0 (32.8) |
| WBLR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.01 (0.03) | 36.7 (36.8) | D (D) | 0.2 (0.9) | 1.4 (3.4) | 0.01 (0.04) | 36.7 (51.8) | D (D) | 0.2 (1.2) | 1.4 (4.7) |
| OVERALL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.48 (0.51) | 6.8 (5.3) | A (A) | | | 0.48 (0.49) | 6.8 (7.9) | A (A) | | |
| The Gore Rd & Street A | | | | | | | | | | | | | | | |
| NBTR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.14 (0.58) | 2.7 (7.5) | A (A) | 0.0 (37.3) | 23.3 (114.8) | 0.14 (0.58) | 2.7 (6.5) | A (A) | 0.0 (37.3) | 23.4 (134.8) |
| SBL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.03 (0.01) | 2.5 (2.8) | A (A) | 0.0 (0.1) | 4.7 (1.6) | 0.03 (0.01) | 2.5 (2.8) | A (A) | 0.0 (0.1) | 4.7 (1.6) |
| SBT | - (-) | - (-) | - (-) | - (-) | - (-) | 0.54 (0.21) | 5.6 (3.5) | A (A) | 0.0 (9.2) | 123.4 (35.1) | 0.54 (0.21) | 5.6 (3.5) | A (A) | 0.0 (9.2) | 123.4 (35.1) |
| WBLR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.00 (0.02) | 36.7 (35.8) | D (D) | 0.0 (0.0) | 0.0 (0.0) | 0.00 (0.02) | 36.7 (35.8) | D (D) | 0.0 (0.0) | 0.0 (0.0) |
| OVERALL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.48 (0.51) | 5.2 (7.1) | A (A) | | | 0.48 (0.51) | 5.2 (6.3) | A (A) | | |
| Humber Station Rd & Street E | | | | | | | | | | | | | | | |
| EBLTR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) |
| NBL | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) |
| NBT | - (-) | - (-) | - (-) | - (-) | - (-) | 0.04 (0.10) | 9.9 (5.7) | A (A) | 1.7 (6.4) | 5.5 (18.1) | 0.02 (0.10) | 1.0 (4.7) | A (A) | 0.9 (6.6) | 1.3 (16.0) |
| NBR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.18 (0.04) | 11.0 (8.3) | B (A) | 0.0 (0.0) | 11.6 (5.9) | 0.21 (0.05) | 2.7 (4.4) | A (A) | 0.0 (0.0) | 0.0 (4.6) |
| SBL | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) |
| SBTR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.12 (0.03) | 10.4 (4.1) | B (A) | 5.0 (2.1) | 11.9 (6.5) | 0.06 (0.03) | 1.9 (4.3) | A (A) | 2.8 (2.1) | 7.0 (6.8) |

| | | | | | | | | | | | | | | | |
|--|--------------|--------------|--------------|--------------|--------------|--------------------|--------------------|--------------|------------|-------------|--------------------|-------------------|--------------|------------|-------------|
| WBLTR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.07 (0.62) | 10.2 (40.3) | B (D) | 2.3 (24.6) | 6.9 (40.4) | 0.47 (0.64) | 44.7 (40.3) | D (D) | 6.9 (24.5) | 16.3 (40.2) |
| OVERALL | - (-) | 0.13 (0.20) | 10.7 (18.9) | B (B) | | | 0.23 (0.21) | 6.1 (18.0) | A (B) | | |
| <i>Humber Station Rd & Street Y</i> | | | | | | | | | | | | | | | |
| EBL | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.01 (-) | 32.7 (-) | C (-) | 0.3 (-) | 2.2 (-) |
| EBTR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.00 (-) | 32.3 (-) | C (-) | 0.0 (-) | 0.0 (-) | 0.00 (-) | 32.6 (-) | C (-) | 0.0 (-) | 0.0 (-) |
| NBL | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) |
| NBTR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.19 (0.21) | 4.6 (3.3) | A (A) | 11.5 (7.1) | 24.9 (23.1) | 0.10 (0.12) | 3.9 (5.8) | A (A) | 5.1 (4.6) | 10.8 (13.6) |
| SBL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.05 (0.18) | 4.0 (11.4) | A (B) | 1.8 (23.2) | 5.9 (41.7) | 0.05 (0.17) | 4.8 (2.6) | A (A) | 2.2 (3.8) | 6.3 (13.4) |
| SBTR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.07 (0.03) | 4.0 (9.2) | A (A) | 4.0 (6.5) | 10.3 (15.4) | 0.03 (0.02) | 4.6 (2.3) | A (A) | 2.6 (0.6) | 5.6 (2.8) |
| WBL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.61 (0.20) | 41.3 (37.9) | D (D) | 20.0 (4.5) | 35.1 (10.7) | 0.60 (0.22) | 40.6 (43.1) | D (D) | 20.0 (5.1) | 35.2 (11.8) |
| WBT | - (-) | - (-) | - (-) | - (-) | - (-) | 0.04 (0.01) | 32.5 (36.4) | C (D) | 0.0 (0.0) | 0.0 (0.0) | - (-) | - (-) | - (-) | - (-) | - (-) |
| WBR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | 0.08 (0.02) | 33.2 (41.4) | C (D) | 0.0 (0.0) | 0.0 (0.0) |
| OVERALL | - (-) | 0.26 (0.21) | 17.1 (9.2) | B (A) | | | 0.18 (0.18) | 17.0 (8.2) | B (A) | | |
| <i>Humber Station Rd & Street EE</i> | | | | | | | | | | | | | | | |
| EBLR | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) | - (-) |
| NBTL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.18 (0.12) | 2.7 (2.5) | A (A) | 0.0 (0.0) | 26.9 (19.0) | 0.09 (0.07) | 2.4 (2.3) | A (A) | 0.0 (0.0) | 12.6 (9.2) |
| SBTR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.09 (0.14) | 3.0 (2.5) | A (A) | 0.0 (0.0) | 19.2 (21.9) | 0.05 (0.08) | 3.2 (2.3) | A (A) | 0.0 (0.0) | 9.6 (10.3) |
| OVERALL | - (-) | 0.16 (0.13) | 2.8 (2.5) | A (A) | | | 0.08 (0.07) | 2.6 (2.3) | A (A) | | |

SIGNALIZED INTERSECTIONS

| Movement | Future Total without improvements | | | | | Future Total with improvements | | | | |
|--|-----------------------------------|----------------------|--------------|-----------------|------------------|--------------------------------|--------------------|--------------|--------------|---------------|
| | V/C | Delay (Sec) | LOS | 50thQueue | 95thQueue | V/C | Delay (Sec) | LOS | 50thQueue | 95thQueue |
| The Gore Rd & King St | | | | | | | | | | |
| EBL | 0.75 (1.44) | 73.1 (258.9) | E (F) | 21.0 (~78.8) | #51.0 (#134.8) | 0.32 (0.62) | 25.9 (15.9) | C (B) | 15.0 (30.9) | 36.4 (54.7) |
| EBT | 1.11 (0.98) | 118.8 (70.2) | F (E) | ~139.4 (144.2) | #207.8 (#221.4) | 0.24 (0.38) | 22.5 (22.0) | C (C) | 27.5 (48.2) | 47.6 (73.2) |
| EBR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.23 (0.01) | 22.8 (17.7) | C (B) | 14.9 (0.0) | 38.6 (0.0) |
| NBL | 0.25 (0.39) | 21.5 (24.2) | C (C) | 1.6 (9.2) | 7.6 (23.0) | 0.22 (0.35) | 34.0 (34.3) | C (C) | 2.0 (10.9) | 7.4 (22.1) |
| NBT | 0.44 (1.52) | 21.1 (276.2) | C (F) | 48.9 (~400.5) | 74.8 (#483.4) | 0.18 (0.79) | 31.6 (42.8) | C (D) | 18.5 (101.6) | 25.6 (114.9) |
| NBR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.12 (0.38) | 31.1 (34.0) | C (C) | 0.0 (14.6) | 14.6 (39.7) |
| SBL | 0.27 (0.64) | 19.2 (47.5) | B (D) | 14.3 (7.1) | 27.4 (#28.2) | 0.32 (0.58) | 33.6 (40.1) | C (D) | 19.0 (6.4) | 32.0 (m19.7) |
| SBT | 1.28 (0.69) | 165.8 (29.4) | F (C) | ~341.9 (104.7) | #424.8 (147.6) | 0.79 (0.38) | 42.8 (27.2) | D (C) | 100.0 (37.1) | 113.7 (41.8) |
| SBR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.27 (0.10) | 32.7 (15.5) | C (B) | 10.9 (3.1) | 30.6 (7.4) |
| WBL | 1.35 (1.31) | 216.3 (207.9) | F (F) | ~81.1 (~48.0) | #139.1 (#98.2) | 0.50 (0.46) | 12.9 (16.5) | B (B) | 33.2 (21.7) | 57.7 (39.8) |
| WBT | 0.81 (1.26) | 40.8 (173.4) | D (F) | 125.0 (~215.5) | #175.5 (#290.6) | 0.28 (0.42) | 12.2 (25.2) | B (C) | 33.4 (53.0) | 50.7 (85.4) |
| WBR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.02 (0.07) | 10.0 (20.9) | A (C) | 0.0 (0.0) | 3.8 (12.3) |
| OVERALL | 1.34 (1.52) | 114.1 (172.3) | F (F) | | | 0.62 (0.70) | 27.5 (28.4) | C (C) | | |
| Humber Station Rd & King St | | | | | | | | | | |
| EBL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.44 (0.77) | 27.8 (33.3) | C (C) | 20.9 (43.3) | 39.7 (#79.8) |
| EBT | 2.10 (4.19) | 528.3 (1481.9) | F (F) | ~386.6 (~441.7) | #467.5 (#524.0) | 0.47 (0.42) | 24.8 (22.9) | C (C) | 50.0 (55.3) | 66.3 (75.6) |
| EBR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.50 (0.20) | 27.1 (20.4) | C (C) | 22.5 (10.4) | 59.2 (28.2) |
| NBL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.55 (0.91) | 31.2 (58.2) | C (E) | 14.4 (46.2) | 26.5 (#91.8) |
| NBT | 1.04 (2.24) | 85.0 (598.0) | F (F) | ~89.1 (~416.1) | #148.5 (#497.4) | 0.42 (0.72) | 36.6 (42.0) | D (D) | 28.2 (83.0) | 36.6 (100.3) |
| NBR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.02 (0.08) | 33.6 (32.7) | C (C) | 0.0 (0.0) | 0.0 (0.0) |
| SBL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.74 (0.82) | 32.5 (55.2) | C (E) | 34.0 (26.9) | #53.7 (#52.5) |
| SBT | 1.98 (1.81) | 480.7 (404.7) | F (F) | ~280.3 (~298.5) | #355.6 (#376.2) | 0.66 (0.74) | 37.8 (52.4) | D (D) | 48.7 (53.8) | 63.7 (69.6) |
| SBR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.13 (0.16) | 31.7 (42.9) | C (D) | 0.0 (0.0) | 13.2 (20.8) |
| WBL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.23 (0.09) | 15.3 (33.9) | B (C) | 7.4 (3.5) | 15.6 (10.2) |
| WBT | 1.27 (1.35) | 160.2 (201.3) | F (F) | ~189.3 (~290.5) | #261.5 (#370.2) | 0.33 (0.68) | 16.8 (43.4) | B (D) | 35.1 (78.2) | 49.4 (100.4) |
| WBR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.08 (0.32) | 14.5 (37.2) | B (D) | 0.6 (16.1) | 10.3 (43.1) |
| OVERALL | 2.25 (3.39) | 375.3 (719.3) | F (F) | | | 0.65 (0.90) | 27.5 (39.8) | C (D) | | |
| King St & Street JJ | | | | | | | | | | |
| EBL | 0.15 (0.34) | 9.9 (12.7) | A (B) | 2.6 (4.9) | 8.5 (11.8) | 0.10 (0.23) | 9.4 (6.0) | A (A) | 2.5 (4.8) | 9.0 (11.9) |
| EBT | 0.54 (0.65) | 13.2 (10.9) | B (B) | 62.1 (80.9) | 102.3 (147.5) | 0.29 (0.34) | 10.3 (6.4) | B (A) | 27.1 (30.6) | 46.6 (50.2) |
| SBLR | 0.84 (0.70) | 42.9 (44.9) | D (D) | 65.1 (40.6) | 95.4 (62.4) | 0.78 (0.68) | 36.8 (44.2) | D (D) | 63.4 (40.4) | 84.6 (61.5) |
| WBT | 0.71 (0.76) | 15.4 (16.6) | B (B) | 125.9 (86.5) | m187.0 (m#108.2) | 0.38 (0.41) | 10.7 (7.7) | B (A) | 53.4 (28.3) | 82.7 (36.0) |
| WBR | 0.07 (0.18) | 3.6 (12.6) | A (B) | 1.4 (10.3) | m3.3 (m13.7) | 0.06 (0.16) | 6.4 (5.1) | A (A) | 4.8 (2.3) | m9.3 (7.1) |
| OVERALL | 0.75 (0.75) | 20.2 (16.9) | C (B) | | | 0.52 (0.47) | 16.1 (10.8) | B (B) | | |
| King St & Street I | | | | | | | | | | |
| EBL | 0.12 (0.46) | 11.4 (30.6) | B (C) | 3.6 (3.4) | m6.2 (m12.3) | 0.10 (0.26) | 12.3 (5.0) | B (A) | 3.4 (3.2) | m9.7 (7.8) |
| EBT | 0.76 (0.70) | 21.4 (7.7) | C (A) | 119.9 (53.3) | 171.7 (87.9) | 0.42 (0.37) | 15.1 (4.7) | B (A) | 53.7 (22.3) | 77.3 (33.7) |
| SBLR | 0.88 (0.70) | 50.0 (45.3) | D (D) | 65.8 (40.8) | #115.1 (62.6) | 0.79 (0.68) | 37.1 (44.0) | D (D) | 63.7 (40.6) | 85.1 (61.7) |
| WBT | 0.65 (0.85) | 14.7 (24.4) | B (C) | 84.5 (151.7) | 124.9 (#270.6) | 0.36 (0.45) | 10.8 (12.0) | B (B) | 34.7 (53.0) | 58.3 (84.7) |
| WBR | 0.07 (0.19) | 7.6 (9.5) | A (A) | 2.2 (9.8) | 7.7 (23.5) | 0.06 (0.17) | 8.6 (9.7) | A (A) | 1.2 (6.3) | 8.4 (19.8) |
| OVERALL | 0.80 (0.82) | 24.1 (19.2) | C (B) | | | 0.54 (0.50) | 17.7 (11.9) | B (B) | | |
| The Gore Rd & Street Y | | | | | | | | | | |
| NBT | 0.29 (1.08) | 7.0 (62.7) | A (E) | 22.7 (~274.0) | 39.6 (#381.0) | 0.26 (0.91) | 6.8 (41.2) | A (D) | 21.2 (256.2) | 37.1 (#389.1) |
| NBR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.04 (0.16) | 5.4 (13.3) | A (B) | 0.0 (11.2) | 4.1 (m36.4) |
| SBL | 0.03 (0.58) | 5.5 (31.0) | A (C) | 0.8 (2.2) | m2.1 (m#25.3) | 0.03 (0.59) | 5.5 (34.8) | A (C) | 0.8 (4.6) | m2.0 (#30.9) |
| SBT | 0.84 (0.36) | 14.5 (4.3) | B (A) | 71.9 (19.0) | #247.2 (33.7) | 0.84 (0.34) | 14.5 (5.9) | B (A) | 71.9 (34.8) | #247.2 (58.1) |
| WBLR | 0.78 (0.66) | 43.8 (39.9) | D (D) | 47.2 (33.2) | 72.7 (51.4) | 0.78 (0.75) | 43.8 (59.2) | D (E) | 47.2 (46.8) | 72.7 (70.3) |
| OVERALL | 0.83 (0.99) | 17.8 (46.5) | B (D) | | | 0.83 (0.88) | 17.7 (32.7) | B (C) | | |
| The Gore Rd & Street A | | | | | | | | | | |
| NBTR | 0.25 (0.85) | 8.5 (14.5) | A (B) | 32.2 (116.2) | 29.7 (m121.5) | 0.25 (0.85) | 8.3 (18.1) | A (B) | 32.4 (122.2) | 29.6 (#264.6) |
| SBL | 0.07 (0.33) | 5.8 (10.9) | A (B) | 2.6 (3.3) | 7.1 (14.2) | 0.07 (0.33) | 5.8 (10.9) | A (B) | 2.6 (3.3) | 7.1 (14.2) |
| SBT | 0.65 (0.27) | 12.1 (5.8) | B (A) | 79.9 (20.8) | 133.1 (41.1) | 0.65 (0.27) | 12.1 (5.8) | B (A) | 79.9 (20.8) | 133.1 (41.1) |
| WBLR | 0.77 (0.67) | 43.1 (40.5) | D (D) | 48.4 (33.8) | 73.7 (52.9) | 0.77 (0.67) | 43.1 (40.5) | D (D) | 48.4 (33.8) | 73.7 (52.9) |
| OVERALL | 0.68 (0.82) | 17.5 (15.9) | B (B) | | | 0.68 (0.82) | 17.4 (18.2) | B (B) | | |

Humber Station Rd & Street E

| | | | | | | | | | | |
|----------------|--------------------|--------------------|--------------|-------------|---------------|--------------------|--------------------|--------------|-------------|--------------|
| EBLTR | 0.09 (0.09) | 10.2 (10.2) | B (B) | 0.5 (1.3) | 8.3 (8.5) | 0.11 (0.10) | 28.7 (21.3) | C (C) | 1.3 (2.7) | 13.6 (12.9) |
| NBL | 0.14 (0.36) | 11.2 (13.4) | B (B) | 2.3 (9.6) | 7.5 (21.6) | 0.07 (0.28) | 6.0 (12.3) | A (B) | 2.5 (14.5) | 8.1 (29.3) |
| NBT | 0.32 (0.98) | 12.1 (45.5) | B (D) | 14.3 (61.7) | 27.4 (#123.1) | 0.19 (0.69) | 6.5 (18.9) | A (B) | 15.3 (91.2) | 30.2 (145.8) |
| NBR | 0.24 (0.24) | 11.5 (11.5) | B (B) | 0.0 (0.0) | 13.1 (13.1) | 0.28 (0.28) | 14.1 (12.0) | B (B) | 1.0 (0.0) | 12.7 (14.2) |
| SBL | 0.00 (0.03) | 9.6 (10.1) | A (B) | 0.1 (0.3) | 0.8 (1.9) | 0.00 (0.02) | 5.4 (9.7) | A (A) | 0.1 (0.4) | 0.8 (2.3) |
| SBTR | 0.62 (0.37) | 16.5 (12.7) | B (B) | 31.5 (16.9) | 55.9 (31.9) | 0.36 (0.26) | 7.8 (11.6) | A (B) | 31.6 (25.2) | 63.2 (43.5) |
| WBLTR | 0.40 (0.75) | 13.9 (23.8) | B (C) | 11.6 (26.6) | 25.2 (#63.9) | 0.76 (0.87) | 46.0 (46.0) | D (D) | 30.8 (56.2) | 48.6 (#95.9) |
| OVERALL | 0.50 (0.86) | 13.3 (26.1) | B (C) | | | 0.45 (0.76) | 16.1 (21.0) | B (C) | | |

Humber Station Rd & Street Y

| | | | | | | | | | | |
|----------------|--------------------|--------------------|--------------|--------------|---------------|--------------------|--------------------|--------------|-------------|--------------|
| EBL | - (-) | - (-) | - (-) | - (-) | - (-) | 0.11 (0.62) | 22.9 (46.4) | C (D) | 5.3 (10.7) | 11.1 (#27.9) |
| EBTR | 0.64 (0.76) | 32.9 (42.8) | C (D) | 38.4 (27.1) | 48.4 (41.2) | 0.78 (0.60) | 35.5 (36.4) | D (D) | 68.4 (44.3) | 88.0 (68.0) |
| NBL | 0.22 (0.24) | 8.1 (6.7) | A (A) | 5.0 (7.7) | 13.3 (m15.7) | 0.20 (0.31) | 10.6 (16.7) | B (B) | 6.0 (15.0) | 16.0 (31.6) |
| NBTR | 0.48 (0.98) | 9.3 (35.8) | A (D) | 41.9 (187.0) | 69.0 (#311.6) | 0.28 (0.70) | 10.1 (21.7) | B (C) | 23.4 (96.8) | 38.5 (133.7) |
| SBL | 0.21 (2.50) | 8.1 (723.3) | A (F) | 6.4 (~49.6) | 17.7 (#95.0) | 0.21 (0.67) | 12.3 (19.1) | B (B) | 10.0 (15.0) | 25.8 (38.3) |
| SBTR | 0.59 (0.40) | 11.9 (7.2) | B (A) | 66.2 (35.6) | 126.8 (57.3) | 0.35 (0.22) | 13.0 (7.5) | B (A) | 42.2 (20.8) | 69.6 (30.6) |
| WBL | 0.86 (0.55) | 67.7 (37.1) | E (D) | 22.5 (14.3) | #45.1 (29.4) | 0.95 (0.50) | 91.4 (35.4) | F (D) | 22.8 (15.2) | #50.3 (30.6) |
| WBT | 0.19 (0.72) | 27.7 (38.5) | C (D) | 8.1 (38.9) | 15.7 (54.5) | 0.19 (0.83) | 23.5 (49.2) | C (D) | 14.3 (69.5) | 22.7 (100.1) |
| WBR | - (-) | - (-) | - (-) | - (-) | - (-) | 0.09 (0.15) | 22.7 (30.6) | C (C) | 0.0 (5.2) | 10.7 (18.4) |
| OVERALL | 0.66 (2.13) | 20.3 (79.8) | C (E) | | | 0.56 (0.74) | 22.2 (24.8) | C (C) | | |

Humber Station Rd & Street EE

| | | | | | | | | | | |
|----------------|--------------------|------------------|--------------|------------|---------------|--------------------|------------------|--------------|------------------|------------------|
| EBLR | 0.09 (0.03) | 37.2 (37.9) | D (D) | 2.8 (0.9) | 7.7 (3.6) | 0.09 (0.03) | 37.2 (37.9) | D (D) | 2.8 (0.9) | 7.7 (3.6) |
| NBTL | 0.43 (0.83) | 4.5 (11.9) | A (B) | 24.6 (0.0) | 74.6 (#308.5) | 0.22 (0.44) | 3.1 (3.8) | A (A) | 10.5 (0.0) | 29.2 (69.1) |
| SBTR | 0.62 (0.56) | 5.2 (4.4) | A (A) | 28.9 (0.0) | 97.1 (91.9) | 0.32 (0.29) | 2.5 (3.0) | A (A) | 12.5 (0.0) | 29.5 (40.0) |
| OVERALL | 0.56 (0.76) | 5.2 (9.0) | A (A) | | | 0.30 (0.40) | 3.1 (3.5) | A (A) | 0.0 (0.0) | 0.0 (0.0) |

UNSIGNALIZED INTERSECTIONS

| Movement | Future Total without improvements | | | | Future Total with improvements | | | |
|-------------------------------------|-----------------------------------|-------------|-------|-------------|--------------------------------|-------------|-------|-------------|
| | LOS | 95thQueue | LOS | 95thQueue | V/C | Delay (Sec) | LOS | 95thQueue |
| <i>The Gore Rd & Street DDD</i> | | | | | | | | |
| WBR | 0.04 (0.09) | 1.50 (2.90) | A (A) | 1.00 (2.30) | 0.04 (0.09) | 1.50 (2.90) | A (A) | 1.00 (2.30) |

ROUNDAABOUT ANALYSIS- EMIL KOLB & KING STREET

| Movement | Scenario: Existing Conditions | | | | | Future Background 2041 | | | | | Future Total 2041 | | | | |
|---|-------------------------------|-----------|-------|-----------|-------------|------------------------|-----------|-------|------------|-------------|-------------------|------------|-------|------------|-------------|
| | V/C | Delay | LOS | 50thQueue | 95thQueue | V/C | Delay | LOS | 50thQueue | 95thQueue | V/C | Delay | LOS | 50thQueue | 95thQueue |
| <i>King St & Emil Kolb Parkway</i> | | | | | | | | | | | | | | | |
| EB | 0.25 (0.28) | 3.9 (3.7) | A (A) | 3.8 (3.0) | 12.8 (12.0) | 0.27 (0.33) | 3.6 (3.9) | A (A) | 4.5 (3.8) | 14.3 (13.5) | 0.44 (0.44) | 4.7 (4.4) | A (A) | 8.3 (8.3) | 20.3 (21.0) |
| NB | 0.26 (0.50) | 4.5 (5.5) | A (A) | 3.8 (8.3) | 12.0 (24.0) | 0.39 (0.57) | 4.3 (5.4) | A (A) | 4.5 (10.5) | 13.5 (30.0) | 0.49 (0.86) | 4.8 (10.6) | A (B) | 9.8 (36.8) | 27.8 (87.8) |
| SB | 0.24 (0.12) | 3.6 (3.9) | A (A) | 4.5 (1.5) | 12.8 (8.3) | 0.29 (0.22) | 3.5 (3.5) | A (A) | 3.8 (3.0) | 10.5 (12.0) | 0.41 (0.32) | 4.0 (4.2) | A (A) | 6.0 (6.0) | 22.5 (17.3) |
| Overall | 0.26 (0.50) | 4.0 (4.7) | A (A) | | | 0.39 (0.57) | 3.8 (4.5) | A (A) | | | 0.49 (0.86) | 4.5 (7.6) | A (A) | | |

ROUNDBABOUT ANALYSIS- EMIL KOLB & GO ACCESS

| Movement | Scenario: Existing Conditions | | | | | Future Background 2041 | | | | | Future Total 2041 | | | | |
|---|-------------------------------|-------|-----|-----------|-----------|------------------------|-----------|-------|-----------|-------------|-------------------|-----------|-------|-----------|-------------|
| | V/C | Delay | LOS | 50thQueue | 95thQueue | V/C | Delay | LOS | 50thQueue | 95thQueue | V/C | Delay | LOS | 50thQueue | 95thQueue |
| <i>Emil Kolb Parkway & GO Station Access</i> | | | | | | | | | | | | | | | |
| EB | - | - | - | - | - | 0.06 (0.19) | 3.6 (3.7) | A (A) | 0.0 (1.5) | 7.5 (6.0) | 0.36 (0.35) | 4.8 (4.5) | A (A) | 5.3 (4.5) | 15.0 (14.3) |
| NB | - | - | - | - | - | 0.23 (0.27) | 3.5 (3.5) | A (A) | 3.0 (4.5) | 12.0 (15.0) | 0.31 (0.53) | 4.0 (4.9) | A (A) | 4.5 (9.8) | 14.3 (30.0) |
| SB | - | - | - | - | - | 0.23 (0.08) | 3.1 (2.8) | A (A) | 3.8 (0.8) | 15.0 (4.5) | 0.25 (0.20) | 3.3 (3.4) | A (A) | 3.8 (2.3) | 12.8 (6.8) |
| Overall | - | - | - | - | - | 0.23 (0.27) | 3.3 (3.4) | A (A) | | | 0.36 (0.53) | 4.0 (4.5) | A (A) | | |

APPENDIX F:
Synchro and Arcady Worksheets



Lanes and Geometrics
1: The Gore Rd & King St

05-15-2023

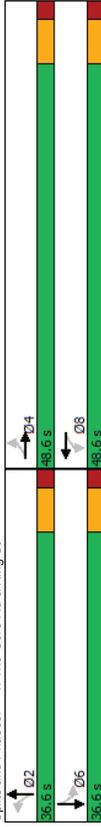
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|-------|------|------|-------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.5 | 3.7 | 3.7 | 3.5 | 3.7 | 3.7 | 3.5 | 3.7 | 3.7 | 3.5 | 3.7 | 3.7 |
| Lane Width (m) | 3.5 | 3.7 | 3.7 | 3.5 | 3.7 | 3.7 | 3.5 | 3.7 | 3.7 | 3.5 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 135.0 | 0 | 0 | 140.0 | 0 | 0 | 200.0 | 0 | 0 | 175.0 | 0 | 0 |
| Storage Lanes | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Taper Length (m) | 7.5 | 0 | 0 | 20.0 | 0 | 0 | 7.5 | 0 | 0 | 7.5 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.937 | | | 0.989 | | | 0.958 | | | 0.957 | | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1580 | 1681 | 0 | 1700 | 1788 | 0 | 1275 | 1770 | 0 | 1700 | 1839 | 0 |
| Flt Permitted | 0.493 | | | 0.472 | | | 0.289 | | | 0.702 | | |
| Satd. Flow (perm) | 820 | 1681 | 0 | 845 | 1788 | 0 | 348 | 1770 | 0 | 1256 | 1839 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | 60 | | | 6 | | | 24 | | | 26 | | |
| Link Speed (k/h) | 50 | | | 50 | | | 50 | | | 50 | | |
| Link Distance (m) | 363.2 | | | 560.5 | | | 628.5 | | | 762.7 | | |
| Travel Time (s) | 26.2 | | | 40.4 | | | 45.3 | | | 54.9 | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | | |

Timings
1: The Gore Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 51 | 237 | 43 | 357 | 11 | 61 | 100 | 316 | | | | |
| Traffic Volume (vph) | 51 | 237 | 43 | 357 | 11 | 61 | 100 | 316 | | | | |
| Future Volume (vph) | Perm | NA |
| Turn Type | 4 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | | | | |
| Protected Phases | 4 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | | | | |
| Permitted Phases | 4 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | | | | |
| Detector Phase | 4 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | | | | |
| Switch Phase | 4 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 |
| Minimum Split (s) | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 |
| Total Split (s) | 48.6 | 48.6 | 48.6 | 48.6 | 48.6 | 48.6 | 36.6 | 36.6 | 36.6 | 36.6 | 36.6 | 36.6 |
| Total Split (%) | 57.0% | 57.0% | 57.0% | 57.0% | 57.0% | 57.0% | 43.0% | 43.0% | 43.0% | 43.0% | 43.0% | 43.0% |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | Max | Max | Max | Max | Max | Max | Min | Min | Min | Min | Min | Min |
| Act Effct Green (s) | 42.1 | 42.1 | 42.1 | 42.1 | 42.1 | 42.1 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 |
| Actuated g/C Ratio | 0.54 | 0.54 | 0.54 | 0.54 | 0.54 | 0.54 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| v/C Ratio | 0.12 | 0.44 | 0.09 | 0.40 | 0.11 | 0.16 | 0.27 | 0.79 | | | | |
| Control Delay | 11.3 | 11.9 | 11.1 | 13.0 | 22.2 | 15.8 | 22.9 | 34.7 | | | | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 11.3 | 11.9 | 11.1 | 13.0 | 22.2 | 15.8 | 22.9 | 34.7 | | | | |
| LOS | B | B | B | B | C | B | C | B | C | B | C | C |
| Approach Delay | 11.8 | 12.9 | 12.9 | 16.5 | 16.5 | 16.5 | 32.5 | | | | | |
| Approach LOS | B | B | B | B | B | B | C | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: 85.2 | | | | | | | | | | | | |
| Actuated Cycle Length: 78.5 | | | | | | | | | | | | |
| Natural Cycle: 35 | | | | | | | | | | | | |
| Control Type: Semi Act-Uncoord | | | | | | | | | | | | |
| Maximum v/C Ratio: 0.79 | | | | | | | | | | | | |
| Intersection Signal Delay: 19.7 | | | | | | | | | | | | |
| Intersection Capacity Utilization 67.8% | | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |

Splits and Phases: 1: The Gore Rd & King St



| | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|------|
| Lane Group | 51 | 408 | 43 | 384 | 11 | 85 | 100 | 441 |
| Lane Group Flow (vph) | 0.12 | 0.44 | 0.09 | 0.40 | 0.11 | 0.16 | 0.27 | 0.79 |
| v/c Ratio | 11.3 | 11.9 | 11.1 | 13.0 | 22.2 | 15.8 | 22.9 | 34.7 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 11.3 | 11.9 | 11.1 | 13.0 | 22.2 | 15.8 | 22.9 | 34.7 |
| Total Delay | 3.6 | 29.4 | 3.0 | 31.9 | 1.3 | 6.9 | 11.9 | 59.2 |
| Queue Length 50th (m) | 10.9 | 61.1 | 9.6 | 62.6 | 5.1 | 16.9 | 23.9 | 92.5 |
| Queue Length 95th (m) | 339.2 | | 536.5 | | 604.5 | | 738.7 | |
| Internal Link Dist (m) | 135.0 | 140.0 | | 200.0 | | 175.0 | | |
| Turn Bay Length (m) | 439 | 929 | 453 | 951 | 133 | 692 | 481 | 720 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.12 | 0.44 | 0.09 | 0.40 | 0.08 | 0.12 | 0.21 | 0.61 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|----------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | EB | EB | EB | WB | WB | WB | NB | NB | NB | SB | SB | SB |
| Traffic Volume (vph) | 51 | 237 | 171 | 43 | 357 | 27 | 11 | 61 | 24 | 100 | 316 | 125 |
| Future Volume (vph) | 51 | 237 | 171 | 43 | 357 | 27 | 11 | 61 | 24 | 100 | 316 | 125 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.5 | 3.7 | 3.7 | 3.5 | 3.7 | 3.7 | 3.5 | 3.7 | 3.7 | 3.5 | 3.7 | 3.7 |
| Total Lost time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt | 1.00 | 0.94 | | 1.00 | 0.99 | | 1.00 | 0.96 | | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1580 | 1682 | | 1700 | 1769 | | 1275 | 1770 | | 1700 | 1839 | |
| Flt Permitted | 0.49 | 1.00 | | 0.47 | 1.00 | | 0.26 | 1.00 | | 0.70 | 1.00 | |
| Satd. Flow (perm) | 819 | 1682 | | 845 | 1769 | | 348 | 1770 | | 1256 | 1839 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 51 | 237 | 171 | 43 | 357 | 27 | 11 | 61 | 24 | 100 | 316 | 125 |
| RTOR Reduction (vph) | 0 | 28 | 0 | 0 | 3 | 0 | 0 | 17 | 0 | 0 | 18 | 0 |
| Lane Group Flow (vph) | 51 | 380 | 0 | 43 | 381 | 0 | 11 | 68 | 0 | 100 | 423 | 0 |
| Heavy Vehicles (%) | 13% | 10% | 3% | 5% | 8% | 0% | 40% | 0% | 14% | 5% | 0% | 0% |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm | NA |
| Protected Phases | 4 | | 8 | | 8 | | 2 | | 2 | | 6 | |
| Permitted Phases | 4 | | 8 | | 8 | | 2 | | 2 | | 6 | |
| Actuated Green, G (s) | 42.1 | 42.1 | 42.1 | 42.1 | 42.1 | 42.1 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 |
| Effective Green, g (s) | 42.1 | 42.1 | 42.1 | 42.1 | 42.1 | 42.1 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 |
| Actuated g/C Ratio | 0.54 | 0.54 | 0.54 | 0.54 | 0.54 | 0.54 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Clearance Time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 439 | 902 | 453 | 948 | 948 | 102 | 523 | 371 | 543 | 371 | 543 | 371 |
| v/s Ratio Prot | c0.23 | | 0.22 | | 0.22 | | 0.04 | | 0.04 | | 0.23 | |
| v/s Ratio Perm | 0.06 | | 0.05 | | 0.05 | | 0.03 | | 0.03 | | 0.08 | |
| v/c Ratio | 0.12 | 0.42 | 0.09 | 0.40 | 0.40 | 0.11 | 0.13 | 0.13 | 0.13 | 0.27 | 0.78 | 0.27 |
| Uniform Delay, d1 | 9.0 | 10.9 | 8.9 | 10.8 | 20.1 | 20.1 | 20.3 | 21.2 | 25.3 | 21.2 | 25.3 | 21.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.5 | 1.4 | 0.4 | 1.3 | 0.5 | 0.5 | 0.1 | 0.4 | 6.9 | 0.4 | 6.9 | 0.4 |
| Delay (s) | 9.5 | 12.3 | 9.3 | 12.0 | 20.6 | 20.4 | 20.4 | 21.6 | 32.2 | 21.6 | 32.2 | 21.6 |
| Level of Service | A | B | A | B | C | C | C | C | C | C | C | C |
| Approach Delay (s) | 12.0 | | 11.8 | | 11.8 | | 20.4 | | 30.3 | | 30.3 | |
| Approach LOS | B | | B | | B | | C | | C | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 19.0 HCM 2000 Level of Service B | | | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.55 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 78.5 | | | | | | | | | | | |
| Intersection Capacity Utilization | 67.8% ICU Level of Service C | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

Lanes and Geometrics

2: Humber Station Rd & King St

05-15-2023

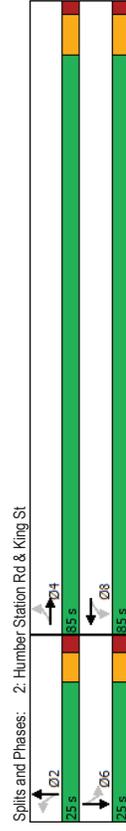
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Grade (%) | 10.0 | 0.0 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 15.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.967 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.947 | 0.947 | 0.991 | 0.991 | 0.991 |
| Flt Protected | 0.999 | 0.993 | 0.993 | 0.993 | 0.993 | 0.993 | 0.982 | 0.982 | 0.989 | 0.989 | 0.989 |
| Satd. Flow (prot) | 0 | 1720 | 0 | 0 | 1816 | 0 | 0 | 1211 | 0 | 0 | 1627 |
| Flt Permitted | 0.995 | 0.880 | 0.880 | 0.880 | 0.880 | 0.880 | 0.867 | 0.867 | 0.921 | 0.921 | 0.921 |
| Satd. Flow (perm) | 0 | 1713 | 0 | 0 | 1609 | 0 | 0 | 1069 | 0 | 0 | 1515 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 35 | 3 | 3 | 3 | 3 | 3 | 18 | 18 | 3 | 3 | 3 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 342.4 | 840.4 | 840.4 | 348.4 | 348.4 | 348.4 | 799.7 | 799.7 | 348.4 | 348.4 | 799.7 |
| Travel Time (s) | 24.7 | 60.5 | 60.5 | 25.1 | 25.1 | 25.1 | 53.3 | 53.3 | 25.1 | 25.1 | 53.3 |
| Intersection Summary | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | |

Timings

2: Humber Station Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 5 | 318 | 73 | 417 | 17 | 11 | 17 | 11 | 17 | 54 | 54 |
| Traffic Volume (vph) | 5 | 318 | 73 | 417 | 17 | 11 | 17 | 11 | 17 | 54 | 54 |
| Future Volume (vph) | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm | NA | NA |
| Turn Type | 4 | 8 | 8 | 8 | 2 | 2 | 8 | 2 | 2 | 6 | 6 |
| Permitted Phases | 4 | 4 | 4 | 4 | 8 | 8 | 2 | 2 | 2 | 6 | 6 |
| Detector Phases | 4 | 4 | 4 | 4 | 8 | 8 | 2 | 2 | 2 | 6 | 6 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 |
| Minimum Initial (s) | 22.4 | 22.4 | 22.4 | 22.4 | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 |
| Minimum Split (s) | 85.0 | 85.0 | 85.0 | 85.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 77.3% | 77.3% | 77.3% | 77.3% | 22.7% | 22.7% | 22.7% | 22.7% | 22.7% | 22.7% | 22.7% |
| Total Split (s) | 5.4 | 5.4 | 5.4 | 5.4 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Yellow Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| All-Red Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lost Time Adjust (s) | 7.4 | 7.4 | 7.4 | 7.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |
| Total Lost Time (s) | Lead/Lag | | | | | | | | | | |
| Lead/Lag | Recall Mode | | | | | | | | | | |
| Recall Mode | Max | Max | Max | Max | Min |
| Act Effct Green (s) | 77.6 | 77.6 | 77.6 | 77.6 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| Actuated g/C Ratio | 0.73 | 0.73 | 0.73 | 0.73 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| v/C Ratio | 0.34 | 0.34 | 0.34 | 0.34 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 |
| Control Delay | 5.4 | 5.4 | 5.4 | 5.4 | 33.3 | 33.3 | 33.3 | 33.3 | 33.3 | 33.3 | 33.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 5.4 | 5.4 | 5.4 | 5.4 | 33.3 | 33.3 | 33.3 | 33.3 | 33.3 | 33.3 | 33.3 |
| LOS | A | A | A | A | C | C | C | C | C | C | C |
| Approach Delay | 5.4 | 5.4 | 5.4 | 5.4 | 33.3 | 33.3 | 33.3 | 33.3 | 33.3 | 33.3 | 33.3 |
| Approach LOS | A | A | A | A | C | C | C | C | C | C | C |
| Intersection Summary | | | | | | | | | | | |
| Cycle Length: 110 | | | | | | | | | | | |
| Actuated Cycle Length: 105.9 | | | | | | | | | | | |
| Natural Cycle: 35 | | | | | | | | | | | |
| Control Type: Semi Act-Uncoordinated | | | | | | | | | | | |
| Maximum v/c Ratio: 0.43 | | | | | | | | | | | |
| Intersection Signal Delay: 10.2 | | | | | | | | | | | |
| Intersection Capacity Utilization: 79.7% | | | | | | | | | | | |
| Analysis Period (min): 15 | | | | | | | | | | | |



| | EBT | WBT | NBT | SBT |
|------------------------|-------|-------|-------|-------|
| Lane Group | 426 | 502 | 46 | 76 |
| Lane Group Flow (vph) | 0.34 | 0.43 | 0.29 | 0.36 |
| v/c Ratio | 5.4 | 6.8 | 33.3 | 45.4 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 5.4 | 6.8 | 33.3 | 45.4 |
| Total Delay | 25.1 | 35.8 | 5.5 | 14.6 |
| Queue Length 50th (m) | 38.6 | 53.5 | 16.9 | 29.5 |
| Queue Length 95th (m) | 318.4 | 816.4 | 324.4 | 715.7 |
| Internal Link Dist (m) | | | | |
| Turn Bay Length (m) | 1264 | 1179 | 202 | 268 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.43 | 0.23 | 0.28 |

Intersection Summary

| | | | | | |
|------------------------|------|-------|------|------|-------|
| Protected Phases | 4 | 8 | 8 | 2 | 6 |
| Permitted Phases | 4 | 8 | 8 | 2 | 6 |
| Actuated Green, G (s) | 77.6 | 77.6 | 77.6 | 14.5 | 14.5 |
| Effective Green, g (s) | 77.6 | 77.6 | 77.6 | 14.5 | 14.5 |
| Actuated g/C Ratio | 0.73 | 0.73 | 0.73 | 0.14 | 0.14 |
| Clearance Time (s) | 7.4 | 7.4 | 7.4 | 6.4 | 6.4 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1255 | 1179 | 146 | 207 | 207 |
| v/s Ratio Prot | 0.24 | c0.31 | 0.03 | 0.03 | c0.05 |
| v/c Ratio Perm | 0.33 | 0.43 | 0.21 | 0.21 | 0.35 |
| Uniform Delay, d1 | 5.0 | 5.5 | 40.6 | 41.5 | 41.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.7 | 1.1 | 0.7 | 1.0 | 1.0 |
| Delay (s) | 5.7 | 6.6 | 41.3 | 42.5 | 42.5 |
| Level of Service | A | A | D | D | D |
| Approach Delay (s) | 5.7 | 6.6 | 41.3 | 42.5 | 42.5 |
| Approach LOS | A | A | D | D | D |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 10.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.41 | | |
| Actuated Cycle Length (s) | 105.9 | Sum of lost time (s) | 13.8 |
| Intersection Capacity Utilization | 78.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

| | EBT | EBR | WBL | WBT | WBR | NBL | NBR | SBL | SBT | SBR | |
|------------------------|------|-------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBR | SBL | SBT | SBR |
| Lane Configurations | 5 | 318 | 103 | 73 | 417 | 12 | 17 | 11 | 18 | 17 | 54 |
| Traffic Volume (vph) | 5 | 318 | 103 | 73 | 417 | 12 | 17 | 11 | 18 | 17 | 54 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vph/b) | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.97 | 0.97 | 0.99 | 0.99 | 0.99 | 0.95 | 0.95 | 0.99 | 0.99 | 0.99 | 0.99 |
| Flt Protected | 1.00 | 1.00 | 0.99 | 0.99 | 0.99 | 0.98 | 0.98 | 0.99 | 0.99 | 0.99 | 0.99 |
| Satd. Flow (prot) | 1721 | 1721 | 1815 | 1815 | 1815 | 1211 | 1211 | 1627 | 1627 | 1627 | 1627 |
| Flt Permitted | 1.00 | 1.00 | 0.88 | 0.88 | 0.88 | 0.87 | 0.87 | 0.92 | 0.92 | 0.92 | 0.92 |
| Satd. Flow (perm) | 1714 | 1714 | 1609 | 1609 | 1609 | 1069 | 1069 | 1516 | 1516 | 1516 | 1516 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 5 | 318 | 103 | 73 | 417 | 12 | 17 | 11 | 18 | 17 | 54 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 1 | 0 | 0 | 16 | 0 | 0 | 3 |
| Lane Group Flow (vph) | 0 | 417 | 0 | 0 | 501 | 0 | 0 | 30 | 0 | 0 | 73 |
| Heavy Vehicles (%) | 0% | 9% | 5% | 4% | 5% | 0% | 62% | 0% | 63% | 44% | 6% |
| Heavy Vehicles (vph) | 0 | 37 | 0 | 0 | 25 | 0 | 0 | 19 | 0 | 0 | 4 |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm |
| Protected Phases | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 | 6 |
| Permitted Phases | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 | 6 |
| Actuated Green, G (s) | 77.6 | 77.6 | 77.6 | 77.6 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| Effective Green, g (s) | 77.6 | 77.6 | 77.6 | 77.6 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| Actuated g/C Ratio | 0.73 | 0.73 | 0.73 | 0.73 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| Clearance Time (s) | 7.4 | 7.4 | 7.4 | 7.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |
| 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) | 1255 | 1179 | 146 | 146 | 207 | 207 | 207 | 207 | 207 | 207 | 207 |
| v/s Ratio Prot | 0.24 | c0.31 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.05 | 0.05 | 0.05 | 0.05 |
| v/c Ratio Perm | 0.33 | 0.43 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.35 | 0.35 | 0.35 | 0.35 |
| Uniform Delay, d1 | 5.0 | 5.5 | 40.6 | 41.5 | 41.5 | 41.5 | 41.5 | 41.5 | 41.5 | 41.5 | 41.5 |
| 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 | 0.7 | 1.1 | 0.7 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Delay (s) | 5.7 | 6.6 | 41.3 | 42.5 | 42.5 | 42.5 | 42.5 | 42.5 | 42.5 | 42.5 | 42.5 |
| Level of Service | A | A | D | D | D | D | D | D | D | D | D |
| Approach Delay (s) | 5.7 | 6.6 | 41.3 | 42.5 | 42.5 | 42.5 | 42.5 | 42.5 | 42.5 | 42.5 | 42.5 |
| Approach LOS | A | A | D | D | D | D | D | D | D | D | D |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 10.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.41 | | |
| Actuated Cycle Length (s) | 105.9 | Sum of lost time (s) | 13.8 |
| Intersection Capacity Utilization | 78.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

Lanes and Geometrics
1: The Gore Rd & King St

05-15-2023

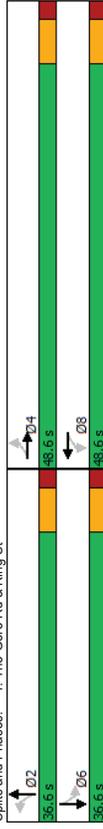
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|------|-------|------|------|-------|------|------|-------|------|------|
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vph) | 364 | 364 | 364 | 416 | 416 | 416 | 57 | 57 | 319 | 38 | 115 | 115 |
| Lane Width (m) | 3.5 | 3.7 | 3.7 | 3.5 | 3.7 | 3.5 | 3.7 | 3.7 | 3.7 | 3.5 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 135.0 | 0 | 0 | 140.0 | 0 | 0 | 200.0 | 0 | 0 | 175.0 | 0 | 0 |
| Storage Lanes | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Taper Length (m) | 7.5 | 0 | 0 | 20.0 | 0 | 0 | 7.5 | 0 | 0 | 7.5 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.992 | | | 0.971 | | | 0.988 | | | 0.950 | | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1580 | 1738 | 0 | 1700 | 1753 | 0 | 1275 | 1877 | 0 | 1700 | 1825 | 0 |
| Flt Permitted | 0.394 | | | 0.502 | | | 0.649 | | | 0.375 | | |
| Satd. Flow (perm) | 655 | 1738 | 0 | 898 | 1753 | 0 | 871 | 1877 | 0 | 671 | 1825 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 5 | | 20 | | | 6 | | | 32 | | |
| Link Speed (k/h) | | 50 | | | | | 50 | | | 50 | | |
| Link Distance (m) | | 363.2 | | 560.5 | | | 628.5 | | | 762.7 | | |
| Travel Time (s) | | 26.2 | | 40.4 | | | 45.3 | | | 54.9 | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | | |

Timings
1: The Gore Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 148 | 364 | 13 | 416 | 57 | 319 | 38 | 115 | 115 | 38 | 115 | 115 |
| Traffic Volume (vph) | 148 | 364 | 13 | 416 | 57 | 319 | 38 | 115 | 115 | 38 | 115 | 115 |
| Future Volume (vph) | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm | NA |
| Turn Type | Protected Phases | 4 | | 8 | | 8 | 2 | | 2 | | 6 | |
| Permitted Phases | Detector Phase | 4 | 4 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 | 6 |
| Switch Phase | Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 |
| Minimum (s) | Minimum Split (s) | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 |
| Minimum Split (s) | Total Split (s) | 48.6 | 48.6 | 48.6 | 48.6 | 36.6 | 36.6 | 36.6 | 36.6 | 36.6 | 36.6 | 36.6 |
| Total Split (%) | Total Split (%) | 57.0% | 57.0% | 57.0% | 57.0% | 43.0% | 43.0% | 43.0% | 43.0% | 43.0% | 43.0% | 43.0% |
| Yellow Time (s) | Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 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) | Total Lost Time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lead/Lag | Lead-Lag Optimize? | | | | | | | | | | | |
| Recall Mode | Recall Mode | Max | Max | Max | Max | Min |
| Act Effct Green (s) | Act Effct Green (s) | 42.1 | 42.1 | 42.1 | 42.1 | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 |
| Actuated g/C Ratio | Actuated g/C Ratio | 0.55 | 0.55 | 0.55 | 0.55 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 |
| v/c Ratio | v/c Ratio | 0.41 | 0.40 | 0.03 | 0.53 | 0.24 | 0.68 | 0.21 | 0.33 | 0.33 | 0.33 | 0.33 |
| Control Delay | Control Delay | 14.9 | 11.6 | 9.0 | 13.2 | 24.2 | 31.5 | 24.3 | 19.6 | 19.6 | 19.6 | 19.6 |
| Queue Delay | 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 | Total Delay | 14.9 | 11.6 | 9.0 | 13.2 | 24.2 | 31.5 | 24.3 | 19.6 | 19.6 | 19.6 | 19.6 |
| LOS | LOS | B | B | A | B | C | C | C | C | C | B | B |
| Approach Delay | Approach Delay | 12.5 | | | 13.1 | | 30.4 | | 20.4 | | | |
| Approach LOS | Approach LOS | B | | | B | | C | | C | | | |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: 85.2 | | | | | | | | | | | | |
| Actuated Cycle Length: 75.9 | | | | | | | | | | | | |
| Natural Cycle: 60 | | | | | | | | | | | | |
| Control Type: Semi Act-Uncoordinated | | | | | | | | | | | | |
| Maximum v/c Ratio: 0.68 | | | | | | | | | | | | |
| Intersection Signal Delay: 18.0 | | | | | | | | | | | | |
| Intersection Capacity Utilization 92.2% | | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |

Splits and Phases: 1: The Gore Rd & King St



| | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
| Lane Group Flow (vph) | 148 | 384 | 13 | 517 | 57 | 347 | 38 | 172 |
| v/c Ratio | 0.41 | 0.40 | 0.03 | 0.53 | 0.24 | 0.68 | 0.21 | 0.33 |
| Control Delay | 14.9 | 11.6 | 9.0 | 13.2 | 24.2 | 31.5 | 24.3 | 19.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 14.9 | 11.6 | 9.0 | 13.2 | 24.2 | 31.5 | 24.3 | 19.6 |
| Queue Length 50th (m) | 11.0 | 27.9 | 0.8 | 40.0 | 6.7 | 45.6 | 4.4 | 16.6 |
| Queue Length 95th (m) | 30.7 | 57.5 | 3.7 | 81.8 | 16.1 | 72.7 | 12.1 | 32.1 |
| Internal Link Dist (m) | 339.2 | | | 536.5 | | 604.5 | | 738.7 |
| Turn Bay Length (m) | 135.0 | | 140.0 | | 200.0 | | 175.0 | |
| Base Capacity (vph) | 362 | 965 | 497 | 980 | 345 | 746 | 265 | 741 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.41 | 0.40 | 0.03 | 0.53 | 0.17 | 0.47 | 0.14 | 0.23 |
| Intersection Summary | | | | | | | | |

| | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|---------------------------|------|------|------|------|
| Movement | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
| Traffic Volume (vph) | 148 | 364 | 20 | 13 | 416 | 101 | 57 | 319 | 28 |
| Future Volume (vph) | 148 | 364 | 20 | 13 | 416 | 101 | 57 | 319 | 28 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.5 | 3.7 | 3.7 | 3.5 | 3.7 | 3.5 | 3.7 | 3.5 | 3.7 |
| Total Lost time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt | 1.00 | 0.99 | 1.00 | 0.97 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 |
| Satd. Flow (prot) | 1580 | 1739 | 1700 | 1752 | 1275 | 1877 | 1700 | 1826 | 1700 |
| Flt Permitted | 0.39 | 1.00 | 0.50 | 1.00 | 0.65 | 1.00 | 0.38 | 1.00 | 0.38 |
| Satd. Flow (perm) | 655 | 1739 | 898 | 1752 | 870 | 1877 | 672 | 1826 | 870 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 148 | 364 | 20 | 13 | 416 | 101 | 57 | 319 | 28 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 9 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 148 | 382 | 0 | 13 | 508 | 0 | 57 | 343 | 0 |
| Heavy Vehicles (%) | 13% | 10% | 3% | 5% | 8% | 0% | 40% | 0% | 14% |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm |
| Protected Phases | 4 | 4 | 8 | 8 | 2 | 2 | 6 | 6 | 6 |
| Permitted Phases | 4 | 4 | 8 | 8 | 2 | 2 | 6 | 6 | 6 |
| Actuated Green, G (s) | 42.1 | 42.1 | 42.1 | 42.1 | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 |
| Effective Green, g (s) | 42.1 | 42.1 | 42.1 | 42.1 | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 |
| Actuated g/C Ratio | 0.55 | 0.55 | 0.55 | 0.55 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 |
| Clearance Time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 363 | 964 | 498 | 971 | 236 | 509 | 182 | 495 | 182 |
| v/s Ratio Prot | 0.23 | 0.22 | 0.01 | 0.29 | 0.18 | 0.18 | 0.06 | 0.08 | 0.08 |
| v/c Ratio Perm | 0.41 | 0.40 | 0.03 | 0.52 | 0.24 | 0.67 | 0.21 | 0.30 | 0.30 |
| Uniform Delay, d1 | 9.7 | 9.6 | 7.6 | 10.6 | 21.6 | 24.6 | 21.4 | 21.9 | 21.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.4 | 1.2 | 0.1 | 2.0 | 0.5 | 3.5 | 0.6 | 0.3 | 0.3 |
| Delay (s) | 13.1 | 10.9 | 7.7 | 12.6 | 22.1 | 28.1 | 21.9 | 22.3 | 22.3 |
| Level of Service | B | B | A | B | C | C | C | C | C |
| Approach Delay (s) | 11.5 | | 12.5 | | 27.3 | | 22.2 | | 22.2 |
| Approach LOS | B | | B | | C | | C | | C |
| Intersection Summary | | | | | | | | | |
| HCM 2000 Control Delay | 17.0 | | | | HCM 2000 Level of Service | | | | B |
| HCM 2000 Volume to Capacity ratio | 0.57 | | | | | | | | |
| Actuated Cycle Length (s) | 75.9 | | | | Sum of lost time (s) | | | | 13.2 |
| Intersection Capacity Utilization | 92.2% | | | | ICU Level of Service | | | | F |
| Analysis Period (min) | 15 | | | | | | | | |
| c Critical Lane Group | | | | | | | | | |

Lanes and Geometrics

2: Humber Station Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 10.0 | 0.0 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 15.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | |
| Frt | 0.993 | 0.989 | 0.989 | 0.989 | 0.989 | 0.989 | 0.989 | 0.989 | 0.989 | 0.989 | 0.989 |
| Flt Protected | 0.999 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 |
| Satd. Flow (prot) | 0 | 1754 | 0 | 0 | 1814 | 0 | 0 | 1274 | 0 | 1487 | 0 |
| Flt Permitted | 0.992 | 0.975 | 0.975 | 0.870 | 0.870 | 0.866 | 0.866 | 0.866 | 0.866 | 0.866 | 0.866 |
| Satd. Flow (perm) | 0 | 1742 | 0 | 0 | 1772 | 0 | 0 | 1127 | 0 | 1310 | 0 |
| Right Turn on Red | | Yes |
| Satd. Flow (RTOR) | 4 | 7 | 7 | 37 | 37 | 9 | 9 | 9 | 9 | 9 | 9 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 342.4 | 840.4 | 840.4 | 348.4 | 348.4 | 799.7 | 799.7 | 799.7 | 799.7 | 799.7 | 799.7 |
| Travel Time (s) | 24.7 | 60.5 | 60.5 | 25.1 | 25.1 | 53.3 | 53.3 | 53.3 | 53.3 | 53.3 | 53.3 |
| Intersection Summary | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | |

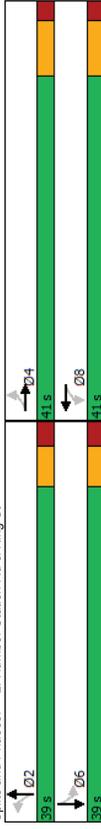
Timings

2: Humber Station Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 7 | 442 | 18 | 429 | 71 | 69 | 14 | 18 | 18 | 14 | 18 |
| Traffic Volume (vph) | 7 | 442 | 18 | 429 | 71 | 69 | 14 | 18 | 18 | 14 | 18 |
| Future Volume (vph) | Perm | NA | Perm |
| Turn Type | 4 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | 6 | 6 | 6 |
| Permitted Phases | 4 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | 6 | 6 | 6 |
| Detector Phases | 4 | 4 | 4 | 4 | 8 | 8 | 2 | 2 | 2 | 2 | 2 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 |
| Minimum Initial (s) | 22.4 | 22.4 | 22.4 | 22.4 | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 |
| Minimum Split (s) | 41.0 | 41.0 | 41.0 | 41.0 | 39.0 | 39.0 | 39.0 | 39.0 | 39.0 | 39.0 | 39.0 |
| Total Split (%) | 51.3% | 51.3% | 51.3% | 51.3% | 48.8% | 48.8% | 48.8% | 48.8% | 48.8% | 48.8% | 48.8% |
| Total Split (s) | 5.4 | 5.4 | 5.4 | 5.4 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Yellow Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| All-Red Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lost Time Adjust (s) | 7.4 | 7.4 | 7.4 | 7.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |
| Total Lost Time (s) | | | | | | | | | | | |
| Lead/Lag | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | |
| Recall Mode | Max | Max | Max | Max | Min |
| Act Effct Green (s) | 33.7 | 33.7 | 33.7 | 33.7 | 16.8 | 16.8 | 16.8 | 16.8 | 16.8 | 16.8 | 16.8 |
| Actuated g/C Ratio | 0.52 | 0.52 | 0.52 | 0.52 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 |
| v/C Ratio | 0.52 | 0.52 | 0.52 | 0.52 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 |
| Control Delay | 13.2 | 13.2 | 13.2 | 13.2 | 27.3 | 27.3 | 27.3 | 27.3 | 27.3 | 27.3 | 27.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 13.2 | 13.2 | 13.2 | 13.2 | 27.3 | 27.3 | 27.3 | 27.3 | 27.3 | 27.3 | 27.3 |
| LOS | B | B | B | B | C | C | C | C | C | C | C |
| Approach Delay | 13.2 | 13.2 | 13.2 | 13.2 | 27.3 | 27.3 | 27.3 | 27.3 | 27.3 | 27.3 | 27.3 |
| Approach LOS | B | B | B | B | C | C | C | C | C | C | C |
| Intersection Summary | | | | | | | | | | | |
| Cycle Length: 80 | | | | | | | | | | | |
| Actuated Cycle Length: 64.3 | | | | | | | | | | | |
| Natural Cycle: 35 | | | | | | | | | | | |
| Control Type: Semi Act-Uncoord | | | | | | | | | | | |
| Maximum v/C Ratio: 0.65 | | | | | | | | | | | |
| Intersection Signal Delay: 15.7 | | | | | | | | | | | |
| Intersection Capacity Utilization 62.3% | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | |

Splits and Phases: 2: Humber Station Rd & King St



| | EBT | WBT | NBT | SBT |
|-----------------------------|-------|-------|-------|-------|
| Lane Group | 473 | 488 | 208 | 41 |
| Lane Group Flow (vph) | 0.52 | 0.52 | 0.65 | 0.12 |
| v/c Ratio | 13.2 | 13.2 | 27.3 | 15.4 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 13.2 | 13.2 | 27.3 | 15.4 |
| Total Delay | 31.9 | 32.8 | 18.7 | 3.0 |
| Queue Length 50th (m) | 72.5 | 74.5 | 39.1 | 9.4 |
| Queue Length 95th (m) | 318.4 | 816.4 | 324.4 | 715.7 |
| Internal Link Dist (m) | | | | |
| Turn Bay Length (m) | 914 | 931 | 590 | 670 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.52 | 0.52 | 0.35 | 0.06 |
| Intersection Summary | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
|-----------------------------------|-------|------|-------|------|------|-------|------|------|------|------|------|---------------------------|------|
| Lane Configurations | | ↔ | | ↔ | | | ↔ | ↔ | | | ↔ | | |
| Traffic Volume (vph) | 7 | 442 | 24 | 18 | 429 | 41 | 71 | 69 | 68 | 14 | 18 | 9 | |
| Future Volume (vph) | 7 | 442 | 24 | 18 | 429 | 41 | 71 | 69 | 68 | 14 | 18 | 9 | |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 7.4 | | | 7.4 | | | 6.4 | | | | 6.4 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ft | 0.99 | | | 0.99 | | | 0.96 | | | | 0.97 | | |
| Flt Protected | 1.00 | | | 1.00 | | | 0.98 | | | | 0.98 | | |
| Satd. Flow (prot) | 1755 | | | 1813 | | | 1274 | | | | 1488 | | |
| Flt Permitted | 0.99 | | | 0.98 | | | 0.87 | | | | 0.87 | | |
| Satd. Flow (perm) | 1742 | | | 1772 | | | 1127 | | | | 1312 | | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Adj. Flow (vph) | 7 | 442 | 24 | 18 | 429 | 41 | 71 | 69 | 68 | 14 | 18 | 9 | |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 3 | 0 | 0 | 27 | 0 | 0 | 7 | 0 | |
| Lane Group Flow (vph) | 0 | 471 | 0 | 0 | 485 | 0 | 0 | 181 | 0 | 0 | 34 | 0 | |
| Heavy Vehicles (%) | 0% | 9% | 5% | 4% | 5% | 0% | 62% | 0% | 63% | 44% | 6% | 25% | |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm | NA | |
| Protected Phases | | 4 | | 8 | | | 2 | | | | 6 | | |
| Permitted Phases | 4 | | 8 | | | 2 | | | 6 | | | 6 | |
| Actuated Green, G (s) | 33.7 | | 33.7 | | | 16.8 | | | 16.8 | | | 16.8 | |
| Effective Green, g (s) | 33.7 | | 33.7 | | | 16.8 | | | 16.8 | | | 16.8 | |
| Actuated g/C Ratio | 0.52 | | 0.52 | | | 0.26 | | | 0.26 | | | 0.26 | |
| Clearance Time (s) | 7.4 | | 7.4 | | | 6.4 | | | 6.4 | | | 6.4 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | | | 3.0 | | | 3.0 | | | 3.0 | |
| Lane Grp Cap (vph) | 912 | | 928 | | | 294 | | | 342 | | | 342 | |
| v/s Ratio Prot | | | | | | | | | | | | | |
| v/s Ratio Perm | 0.27 | | c0.27 | | | c0.16 | | | 0.03 | | | 0.03 | |
| v/c Ratio | 0.52 | | 0.52 | | | 0.61 | | | 0.10 | | | 0.10 | |
| Uniform Delay, d1 | 10.0 | | 10.0 | | | 20.9 | | | 18.0 | | | 18.0 | |
| Progression Factor | 1.00 | | 1.00 | | | 1.00 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 2.1 | | 2.1 | | | 3.8 | | | 0.1 | | | 0.1 | |
| Delay (s) | 12.1 | | 12.1 | | | 24.7 | | | 18.1 | | | 18.1 | |
| Level of Service | B | | B | | | C | | | B | | | B | |
| Approach Delay (s) | 12.1 | | 12.1 | | | 24.7 | | | 18.1 | | | 18.1 | |
| Approach LOS | B | | B | | | C | | | B | | | B | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | 14.5 | | | | | | | | | | | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.55 | | | | | | | | | | | | |
| Actuated Cycle Length (s) | 64.3 | | | | | | | | | | | Sum of lost time (s) | 13.8 |
| Intersection Capacity Utilization | 62.3% | | | | | | | | | | | ICU Level of Service | B |
| Analysis Period (min) | 15 | | | | | | | | | | | | |
| c. Critical Lane Group | | | | | | | | | | | | | |

Lanes and Geometrics

1: The Gore Rd & King St

05-16-2023

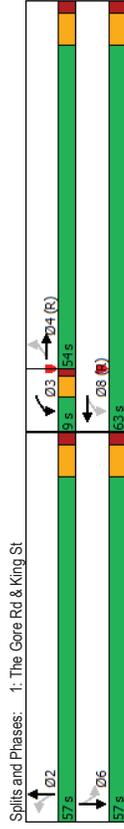
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 139.9 | 25.0 | 199.9 | 50.0 | 175.0 | 50.0 | 175.0 | 50.0 | 50.0 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 |
| Taper Length (m) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.94 | 0.96 | 0.97 | 0.99 | 0.94 | 0.94 | 0.94 | 0.90 | 0.97 | 0.90 | 0.97 | 0.97 |
| Pad Bike Factor | 0.946 | 0.946 | 0.991 | 0.991 | 0.940 | 0.940 | 0.968 | 0.968 | 0.968 | 0.968 | 0.968 | 0.968 |
| Flt Protected | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 |
| Satd. Flow (prot) | 1562 | 1604 | 0 | 1681 | 1756 | 0 | 1261 | 1613 | 0 | 1681 | 1803 | 0 |
| Flt Permitted | 0.465 | 0.316 | 0.316 | 0.134 | 0.134 | 0.134 | 0.134 | 0.134 | 0.134 | 0.134 | 0.134 | 0.134 |
| Satd. Flow (perm) | 721 | 1604 | 0 | 540 | 1756 | 0 | 178 | 1613 | 0 | 1033 | 1803 | 0 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 28 | 48 | 4 | 34 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Speed (k/h) | 363.2 | 207.4 | 207.4 | 628.6 | 628.6 | 628.6 | 578.8 | 578.8 | 578.8 | 578.8 | 578.8 | 578.8 |
| Link Distance (m) | 27.2 | 14.9 | 14.9 | 45.3 | 45.3 | 45.3 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

Timings

1: The Gore Rd & King St

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 52 | 300 | 53 | 43.4 | 11 | 93 | 100 | 461 | 93 | 100 | 461 | 93 |
| Traffic Volume (vph) | 52 | 300 | 53 | 43.4 | 11 | 93 | 100 | 461 | 93 | 100 | 461 | 93 |
| Future Volume (vph) | Perm | NA | pm-plt | NA | Perm | NA | Perm | NA | Perm | NA | Perm | NA |
| Turn Type | 4 | 3 | 8 | 2 | 2 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Protected Phases | 4 | 3 | 8 | 2 | 2 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Permitted Phases | 4 | 3 | 8 | 2 | 2 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Detector Phase | 4 | 3 | 8 | 2 | 2 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Switch Phase | 4 | 3 | 8 | 2 | 2 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 |
| Minimum Split (s) | 30.6 | 30.6 | 9.0 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 |
| Total Split (s) | 54.0 | 54.0 | 9.0 | 63.0 | 57.0 | 57.0 | 57.0 | 57.0 | 57.0 | 57.0 | 57.0 | 57.0 |
| Total Split (%) | 45.0% | 45.0% | 7.5% | 52.5% | 47.5% | 47.5% | 47.5% | 47.5% | 47.5% | 47.5% | 47.5% | 47.5% |
| Yellow Time (s) | 4.6 | 4.6 | 3.0 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 2.0 | 2.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lead/Lag | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | C-Min | C-Min | None | C-Min | C-Min | None | C-Min | C-Min | None | C-Min | C-Min | None |
| Act Effect Green (s) | 54.7 | 54.7 | 65.9 | 63.3 | 43.5 | 43.5 | 43.5 | 43.5 | 43.5 | 43.5 | 43.5 | 43.5 |
| Actuated g/C Ratio | 0.46 | 0.46 | 0.55 | 0.53 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 |
| v/C Ratio | 0.16 | 0.63 | 0.15 | 0.50 | 0.17 | 0.26 | 0.27 | 0.88 | 0.26 | 0.27 | 0.88 | 0.26 |
| Control Delay | 24.8 | 30.4 | 15.7 | 21.7 | 30.4 | 20.4 | 27.3 | 50.4 | 27.3 | 50.4 | 27.3 | 50.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.8 | 30.4 | 15.7 | 21.7 | 30.4 | 20.4 | 27.3 | 50.4 | 27.3 | 50.4 | 27.3 | 50.4 |
| LOS | C | C | B | C | C | C | C | C | C | C | C | D |
| Approach Delay | 29.9 | 21.1 | 21.1 | 21.1 | 21.1 | 21.1 | 21.1 | 21.1 | 21.1 | 21.1 | 21.1 | 21.1 |
| Approach LOS | C | C | C | C | C | C | C | C | C | C | C | D |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: 120 | | | | | | | | | | | | |
| Actuated Cycle Length: 120 | | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | | |
| Natural Cycle: 80 | | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | | |
| Maximum v/C Ratio: 0.88 | | | | | | | | | | | | |
| Intersection Signal Delay: 33.0 | | | | | | | | | | | | |
| Intersection Capacity Utilization 99.9% | | | | | | | | | | | | |
| ICU Level of Service F | | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |



Queues

1: The Gore Rd & King St

05-16-2023

| | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|------|-------|------|------|------|-------|
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
| Lane Group Flow (vph) | 52 | 471 | 53 | 461 | 11 | 155 | 100 | 586 |
| v/c Ratio | 0.16 | 0.63 | 0.15 | 0.50 | 0.17 | 0.26 | 0.27 | 0.88 |
| Control Delay | 24.8 | 30.4 | 15.7 | 21.7 | 30.4 | 20.4 | 27.3 | 50.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.8 | 30.4 | 15.7 | 21.7 | 30.4 | 20.4 | 27.3 | 50.4 |
| Queue Length 50th (m) | 7.8 | 87.1 | 6.0 | 71.1 | 1.8 | 19.8 | 16.8 | 127.9 |
| Queue Length 95th (m) | 18.0 | 132.9 | 13.8 | 111.2 | 6.5 | 33.3 | 28.6 | 165.2 |
| Internal Link Dist (m) | 339.2 | | | | | | | |
| Turn Bay Length (m) | 139.9 | | | | | | | |
| Base Capacity (vph) | 330 | 750 | 357 | 927 | 74 | 697 | 433 | 765 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.63 | 0.15 | 0.50 | 0.15 | 0.22 | 0.23 | 0.77 |
| Intersection Summary | | | | | | | | |

HCM Signalized Intersection Capacity Analysis

1: The Gore Rd & King St

05-16-2023

| | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
|----------------------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
| Traffic Volume (vph) | 52 | 300 | 171 | 53 | 434 | 27 | 11 | 93 | 62 |
| Future Volume (vph) | 52 | 300 | 171 | 53 | 434 | 27 | 11 | 93 | 62 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Total Lost time (s) | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.94 | 1.00 | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 0.90 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.94 | 1.00 | 0.97 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 0.99 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| | | | | | | | | | |

Lanes and Geometrics

2: Humber Station Rd & King St

05-16-2023

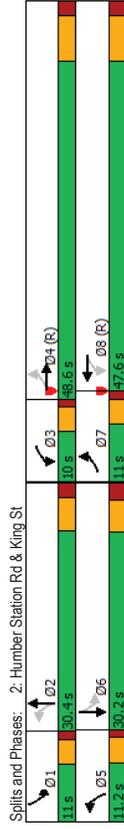
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 384 | 384 | 384 | 384 | 384 | 384 | 384 | 384 | 384 | 384 | 384 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Frt | 0.974 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 |
| Flt Protected | 0.995 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 |
| Satd. Flow (prot) | 0 | 1695 | 0 | 0 | 1779 | 0 | 0 | 1649 | 0 | 0 | 1626 |
| Flt Permitted | 0.885 | 0.884 | 0.884 | 0.884 | 0.884 | 0.884 | 0.884 | 0.884 | 0.884 | 0.884 | 0.884 |
| Satd. Flow (perm) | 0 | 1502 | 0 | 0 | 1573 | 0 | 0 | 1578 | 0 | 0 | 1536 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 15 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 329.7 | 840.4 | 840.4 | 840.4 | 840.4 | 840.4 | 840.4 | 840.4 | 840.4 | 840.4 | 840.4 |
| Travel Time (s) | 23.7 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 |
| Intersection Summary | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | |

Timings

2: Humber Station Rd & King St

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Traffic Volume (vph) | 56 | 384 | 73 | 503 | 17 | 136 | 17 | 136 | 17 | 136 | 17 |
| Future Volume (vph) | 56 | 384 | 73 | 503 | 17 | 136 | 17 | 136 | 17 | 136 | 17 |
| Turn Type | pm+pt | NA | pm+pt |
| Protected Phases | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 | | | |
| Permitted Phases | 4 | 8 | 8 | 2 | 6 | | | | | | |
| Detector Phase | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 | | | |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 11.0 | 31.4 | 10.0 | 31.4 | 11.2 | 30.0 | 11.0 | 30.2 | 11.0 | 30.2 | 11.0 |
| Minimum Split (s) | 11.0 | 48.6 | 10.0 | 47.6 | 11.2 | 30.4 | 11.0 | 30.2 | 11.0 | 30.2 | 11.0 |
| Total Split (%) | 11.0% | 48.6% | 10.0% | 47.6% | 11.2% | 30.4% | 11.0% | 30.2% | 11.0% | 30.2% | 11.0% |
| Yellow Time (s) | 3.0 | 5.4 | 3.0 | 5.4 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 |
| All-Red Time (s) | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 |
| Lead/Lag | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes |
| Recall Mode | None | C-Min | None |
| Act Effct Green (s) | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 |
| Actuated g/C Ratio | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 |
| v/C Ratio | 0.53 | 0.60 | 0.60 | 0.57 | 0.46 | | | | | | |
| Control Delay | 11.0 | 12.5 | 12.5 | 42.7 | 36.3 | | | | | | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | | | |
| Total Delay | 11.0 | 12.5 | 12.5 | 42.7 | 36.3 | | | | | | |
| LOS | B | B | B | D | D | | | | | | |
| Approach Delay | 11.0 | 12.5 | 12.5 | 42.7 | 36.3 | | | | | | |
| Approach LOS | B | B | B | D | D | | | | | | |
| Intersection Summary | | | | | | | | | | | |
| Cycle Length: 100 | | | | | | | | | | | |
| Actuated Cycle Length: 100 | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | |
| Natural Cycle: 95 | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | |
| Maximum v/C Ratio: 0.60 | | | | | | | | | | | |
| Intersection Signal Delay: 17.7 | | | | | | | | | | | |
| Intersection Capacity Utilization 77.5% | | | | | | | | | | | |
| ICU Level of Service D | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | |



Queues
2: Humber Station Rd & King St

05-16-2023

| | EBT | WBT | NBT | SBT |
|------------------------|-------|-------|-------|-------|
| Lane Group | 543 | 646 | 171 | 133 |
| Lane Group Flow (vph) | 0.53 | 0.60 | 0.57 | 0.46 |
| v/c Ratio | 11.0 | 12.5 | 42.7 | 38.3 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 11.0 | 12.5 | 42.7 | 38.3 |
| Total Delay | 41.4 | 54.6 | 31.8 | 23.5 |
| Queue Length 50th (m) | 87.7 | 113.7 | 48.7 | 38.3 |
| Queue Length 95th (m) | 305.7 | 816.4 | 324.5 | 323.2 |
| Internal Link Dist (m) | | | | |
| Turn Bay Length (m) | | | | |
| Base Capacity (vph) | 1025 | 1071 | 389 | 374 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.53 | 0.60 | 0.44 | 0.36 |
| Intersection Summary | | | | |

HCM Signalized Intersection Capacity Analysis
2: Humber Station Rd & King St

05-16-2023

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|---------------------------|------|
| Lane Configurations | | ↔ | | ↔ | | | ↔ | ↔ | | | ↔ | ↔ | |
| Traffic Volume (vph) | 56 | 384 | 103 | 73 | 503 | 70 | 17 | 136 | 18 | 17 | 98 | 18 | |
| Future Volume (vph) | 56 | 384 | 103 | 73 | 503 | 70 | 17 | 136 | 18 | 17 | 98 | 18 | |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | |
| Total Lost time (s) | 7.4 | | | 7.4 | | | 6.0 | | | | 6.2 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frbp. ped/bikes | 0.98 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.98 | 0.98 | 0.98 | |
| Frbp. ped/bikes | 1.00 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | |
| Frt | 0.97 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.98 | 0.98 | 0.98 | |
| Flt Protected | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | |
| Satd. Flow (prot) | 1689 | 1771 | 1771 | 1771 | 1771 | 1771 | 1636 | 1636 | 1636 | 1610 | 1610 | 1610 | |
| Flt Permitted | 0.89 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.96 | 0.96 | 0.96 | 0.95 | 0.95 | 0.95 | |
| Satd. Flow (perm) | 1503 | 1575 | 1575 | 1575 | 1575 | 1575 | 1578 | 1578 | 1578 | 1538 | 1538 | 1538 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Adj. Flow (vph) | 56 | 384 | 103 | 73 | 503 | 70 | 17 | 136 | 18 | 17 | 98 | 18 | |
| RTOR Reduction (vph) | 0 | 5 | 0 | 0 | 3 | 0 | 0 | 5 | 0 | 0 | 7 | 0 | |
| Lane Group Flow (vph) | 0 | 538 | 0 | 0 | 643 | 0 | 0 | 166 | 0 | 0 | 126 | 0 | |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | |
| Heavy Vehicles (%) | 0% | 9% | 5% | 4% | 5% | 0% | 62% | 0% | 63% | 44% | 6% | 25% | |
| Turn Type | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | pm-pt | NA | NA | |
| Protected Phases | 7 | 4 | 3 | 8 | 5 | 2 | 2 | 1 | 1 | 6 | 6 | 6 | |
| Permitted Phases | 4 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 6 | 6 | |
| Actuated Green, G (s) | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 18.6 | 18.6 | 18.6 | 18.4 | 18.4 | 18.4 | |
| Effective Green, g (s) | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 18.6 | 18.6 | 18.6 | 18.4 | 18.4 | 18.4 | |
| Actuated g/C Ratio | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.19 | 0.19 | 0.19 | 0.18 | 0.18 | 0.18 | |
| Clearance Time (s) | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 6.0 | 6.0 | 6.0 | 6.2 | 6.2 | 6.2 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 1022 | 1071 | 1071 | 1071 | 1071 | 1071 | 293 | 293 | 293 | 282 | 282 | 282 | |
| v/s Ratio Prot | | | | | | | | | | | | | |
| v/s Ratio Perm | 0.36 | c0.41 | c0.41 | c0.11 | c0.11 | c0.11 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | |
| v/c Ratio | 0.53 | 0.60 | 0.60 | 0.57 | 0.57 | 0.57 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | |
| Uniform Delay, d1 | 8.0 | 8.7 | 8.7 | 37.0 | 37.0 | 37.0 | 36.3 | 36.3 | 36.3 | 36.3 | 36.3 | 36.3 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.5 | 1.0 | 1.0 | 2.5 | 2.5 | 2.5 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | |
| Delay (s) | 8.5 | 9.6 | 9.6 | 39.5 | 39.5 | 39.5 | 37.4 | 37.4 | 37.4 | 37.4 | 37.4 | 37.4 | |
| Level of Service | A | A | A | D | D | D | D | D | D | D | D | D | |
| Approach Delay (s) | 8.5 | 9.6 | 9.6 | 39.5 | 39.5 | 39.5 | 37.4 | 37.4 | 37.4 | 37.4 | 37.4 | 37.4 | |
| Approach LOS | A | A | A | D | D | D | D | D | D | D | D | D | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | 15.1 | | | | | | | | | | | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.66 | | | | | | | | | | | | |
| Actuated Cycle Length (s) | 100.0 | | | | | | | | | | | Sum of lost time (s) | 21.6 |
| Intersection Capacity Utilization | 77.5% | | | | | | | | | | | ICU Level of Service | D |
| Analysis Period (min) | 15 | | | | | | | | | | | | |
| c. Critical Lane Group | | | | | | | | | | | | | |

Lanes and Geometrics
8: The Gore Rd & Street Y

05-16-2023

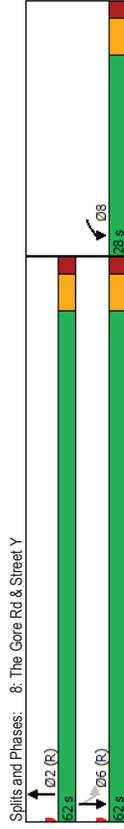
| | WBL | WBR | NBT | NBR | SBL | SBT |
|----------------------|-------|------|-------|------|------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 | |
| Lane Width (m) | 0% | 0% | 0% | 25.0 | 0% | |
| Grade (%) | 0.0 | 0.0 | 0.0 | 7.5 | 0.0 | |
| Storage Length (m) | 1 | 0 | 0 | 1 | | |
| Taper Length (m) | 0.0 | 0 | 0 | 0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.90 | | 1.00 | | | |
| Frt | 0.950 | | 0.997 | | | |
| Flt Protected | 1789 | 0 | 1871 | 0 | 1821 | 1883 |
| Satd. Flow (prot) | 0.950 | | | | | |
| Flt Permitted | 1606 | 0 | 1871 | 0 | 1821 | 1883 |
| Satd. Flow (perm) | Yes | Yes | Yes | Yes | Yes | |
| Right Turn on Red | | | | | | |
| Satd. Flow (RTOR) | 50 | | 3 | | | 48 |
| Link Speed (k/h) | 134.7 | | 576.8 | | | 211.4 |
| Link Distance (m) | 9.7 | | 41.7 | | | 15.9 |
| Travel Time (s) | | | | | | |
| Intersection Summary | Other | | | | | |

Area Type: Other

Timings
8: The Gore Rd & Street Y

05-16-2023

| | WBL | NBT | SBT |
|--|-------|-------|-------|
| Lane Group | W | | |
| Lane Configurations | 1 | 202 | 788 |
| Traffic Volume (vph) | 1 | 202 | 788 |
| Future Volume (vph) | 1 | 202 | 788 |
| Turn Type | Prot | NA | NA |
| Protected Phases | 8 | 2 | 6 |
| Permitted Phases | 8 | 2 | 6 |
| Detector Phases | 8 | 2 | 6 |
| Switch Phase | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 28.0 | 25.0 | 25.0 |
| Total Split (s) | 28.0 | 62.0 | 62.0 |
| Total Split (%) | 31.1% | 68.9% | 68.9% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | |
| Lead-Lag Optimize? | | | |
| Recall Mode | None | C-Min | C-Min |
| Act Effct Green (s) | 12.1 | 76.4 | 76.4 |
| Actuated g/C Ratio | 0.13 | 0.85 | 0.85 |
| v/C Ratio | 0.00 | 0.13 | 0.49 |
| Control Delay | 27.0 | 4.4 | 10.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 |
| Total Delay | 27.0 | 4.4 | 10.8 |
| LOS | C | A | B |
| Approach Delay | 27.0 | 4.4 | 10.8 |
| Approach LOS | C | A | B |
| Intersection Summary | | | |
| Cycle Length: 90 | | | |
| Actuated Cycle Length: 90 | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | |
| Natural Cycle: 60 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/C Ratio: 0.49 | | | |
| Intersection Signal Delay: 9.5 | | | |
| Intersection Capacity Utilization 67.1% | | | |
| ICU Level of Service C | | | |
| Analysis Period (min) 15 | | | |



8: The Gore Rd & Street Y

05-16-2023

| | WBL | NBT | SBT |
|-----------------------------|-------|-------|-------|
| Lane Group | 1 | 207 | 788 |
| Lane Group Flow (vph) | 0.00 | 0.13 | 0.49 |
| v/c Ratio | 27.0 | 4.4 | 10.8 |
| Control Delay | 0.0 | 0.0 | 0.0 |
| Queue Delay | 27.0 | 4.4 | 10.8 |
| Total Delay | 0.2 | 0.0 | 0.0 |
| Queue Length 50th (m) | 1.4 | 23.6 | 109.0 |
| Queue Length 95th (m) | 110.7 | 554.8 | 187.4 |
| Internal Link Dist (m) | | | |
| Turn Bay Length (m) | 437 | 1589 | 1598 |
| Base Capacity (vph) | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.00 | 0.13 | 0.49 |
| Intersection Summary | | | |

HCM Signalized Intersection Capacity Analysis

05-16-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|------|------|-------|------|------|-----------------------------|
| Movement | W | | | | | |
| Lane Configurations | 1 | 0 | 202 | 5 | 0 | 788 |
| Traffic Volume (vph) | 1 | 0 | 202 | 5 | 0 | 788 |
| Future Volume (vph) | 1 | 0 | 202 | 5 | 0 | 788 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1789 | 1871 | 1871 | 1883 | 1883 | 1883 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1789 | 1871 | 1871 | 1883 | 1883 | 1883 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 1 | 0 | 202 | 5 | 0 | 788 |
| RTOR Reduction (vph) | 0 | 0 | 1 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 1 | 0 | 206 | 0 | 0 | 788 |
| Confl. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 |
| Turn Type | Prot | NA | NA | Perm | NA | NA |
| Protected Phases | 8 | | 2 | | 6 | |
| Permitted Phases | | | | | 6 | |
| Actuated Green, G (s) | 8.8 | | 69.2 | | 69.2 | |
| Effective Green, g (s) | 8.8 | | 69.2 | | 69.2 | |
| Actuated g/C Ratio | 0.10 | | 0.77 | | 0.77 | |
| Clearance Time (s) | 6.0 | | 6.0 | | 6.0 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | 174 | | 1438 | | 1447 | |
| v/s Ratio Prot | 0.00 | | 0.11 | | 0.42 | |
| v/c Ratio Perm | 0.01 | | 0.14 | | 0.54 | |
| v/c Ratio | 36.7 | | 2.7 | | 4.1 | |
| Uniform Delay, d1 | 1.00 | | 1.00 | | 1.56 | |
| Progression Factor | 0.0 | | 0.2 | | 1.3 | |
| Incremental Delay, d2 | 36.7 | | 2.9 | | 7.8 | |
| Delay (s) | D | | A | | A | |
| Level of Service | D | | A | | A | |
| Approach Delay (s) | 36.7 | | 2.9 | | 7.8 | |
| Approach LOS | D | | A | | A | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | | 6.8 | | | HCM 2000 Level of Service A |
| HCM 2000 Volume to Capacity ratio | | | 0.48 | | | |
| Actuated Cycle Length (s) | | | 90.0 | | | Sum of lost time (s) 12.0 |
| Intersection Capacity Utilization | | | 67.1% | | | ICU Level of Service C |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics

10: The Gore Rd & Street A

05-16-2023

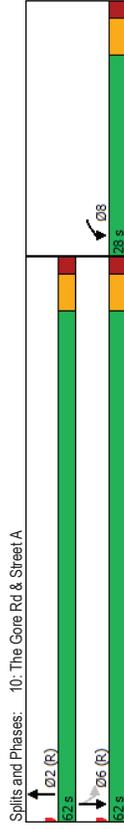
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|----------------------|-------|------|-------|-------|------|-------|
| Lane Configurations | W | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 | |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 50.0 | | |
| Taper Length (m) | 1 | 0 | 0 | 1 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.88 | | | 0.90 | | |
| Friction | 0.865 | | | | | |
| Flt Protected | | | | 0.950 | | |
| Satd. Flow (prot) | 1433 | 0 | 1883 | 0 | 1730 | 1883 |
| Flt Permitted | | | | 0.631 | | |
| Satd. Flow (perm) | 1433 | 0 | 1883 | 0 | 1034 | 1883 |
| Right Turn on Red | | Yes | | Yes | | |
| Satd. Flow (RTOR) | 586 | | | | | |
| Link Speed (k/h) | 50 | | 50 | | | 50 |
| Link Distance (m) | 319.0 | | 265.4 | | | 374.2 |
| Travel Time (s) | 23.0 | | 19.1 | | | 26.9 |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings

10: The Gore Rd & Street A

05-16-2023

| Lane Group | WBL | NBT | SBL | SBT |
|--|-------|-------|-------|-------|
| Lane Configurations | W | | | |
| Traffic Volume (vph) | 0 | 202 | 26 | 788 |
| Future Volume (vph) | 0 | 202 | 26 | 788 |
| Turn Type | Prot | NA | Perm | NA |
| Protected Phases | 8 | 2 | | 6 |
| Permitted Phases | | | 6 | |
| Detector Phases | 8 | 2 | 6 | 6 |
| Switch Phase | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 28.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 28.0 | 62.0 | 62.0 | 62.0 |
| Total Split (%) | 31.1% | 68.9% | 68.9% | 68.9% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | | | | |
| Recall Mode | None | C-Min | C-Min | C-Min |
| Act Effct Green (s) | 12.1 | 76.4 | 76.4 | 76.4 |
| Actuated g/C Ratio | 0.13 | 0.85 | 0.85 | 0.85 |
| v/C Ratio | 0.01 | 0.13 | 0.03 | 0.49 |
| Control Delay | 0.0 | 4.1 | 5.2 | 7.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 0.0 | 4.1 | 5.2 | 7.4 |
| LOS | A | A | A | A |
| Approach Delay | | 4.1 | 7.3 | |
| Approach LOS | | A | A | A |
| Intersection Summary | | | | |
| Cycle Length: 90 | | | | |
| Actuated Cycle Length: 90 | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | |
| Natural Cycle: 60 | | | | |
| Control Type: Actuated-Coordinated | | | | |
| Maximum v/C Ratio: 0.49 | | | | |
| Intersection Signal Delay: 6.6 | | | | |
| Intersection Capacity Utilization 67.2% | | | | |
| ICU Level of Service C | | | | |
| Analysis Period (min) 15 | | | | |



Splits and Phases: 10: The Gore Rd & Street A

Queues
10: The Gore Rd & Street A

05-16-2023

| | WBL | NBT | SBL | SBT |
|-----------------------------|-------|-------|------|-------|
| Lane Group | 7 | 202 | 26 | 788 |
| Lane Group Flow (vph) | 0.01 | 0.13 | 0.03 | 0.49 |
| v/c Ratio | 0.0 | 4.1 | 5.2 | 7.4 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 0.0 | 4.1 | 5.2 | 7.4 |
| Total Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Length 50th (m) | 0.0 | 23.3 | 4.7 | 123.4 |
| Queue Length 95th (m) | 0.0 | 23.3 | 4.7 | 123.4 |
| Internal Link Dist (m) | 295.0 | 241.4 | | 350.2 |
| Turn Bay Length (m) | | | 50.0 | |
| Base Capacity (vph) | 793 | 1598 | 878 | 1598 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.01 | 0.13 | 0.03 | 0.49 |
| Intersection Summary | | | | |

HCM Signalized Intersection Capacity Analysis
10: The Gore Rd & Street A

05-16-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|-------|------|-------|------|---------------------------|------|
| Movement | W | | | | | |
| Lane Configurations | 0 | 7 | 202 | 0 | 26 | 788 |
| Traffic Volume (vph) | 0 | 7 | 202 | 0 | 26 | 788 |
| Future Volume (vph) | 0 | 7 | 202 | 0 | 26 | 788 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 0.88 | 1.00 | 1.00 | 0.90 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 0.90 | 1.00 | 1.00 |
| Flt Protected | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1433 | 1883 | 1883 | 1557 | 1883 | 1883 |
| Flt Permitted | 1.00 | 1.00 | 1.00 | 0.63 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1433 | 1883 | 1883 | 1034 | 1883 | 1883 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 0 | 7 | 202 | 0 | 26 | 788 |
| RTOR Reduction (vph) | 6 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 1 | 0 | 202 | 0 | 26 | 788 |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 |
| Turn Type | Prot | NA | NA | Perm | NA | NA |
| Protected Phases | 8 | | 2 | | 6 | |
| Permitted Phases | | | | | 6 | |
| Actuated Green, G (s) | 8.8 | 69.2 | 69.2 | 69.2 | 69.2 | 69.2 |
| Effective Green, g (s) | 8.8 | 69.2 | 69.2 | 69.2 | 69.2 | 69.2 |
| Actuated g/C Ratio | 0.10 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 140 | 1447 | 1447 | 795 | 1447 | 1447 |
| v/s Ratio Prot | c0.00 | | 0.11 | | c0.42 | |
| v/s Ratio Perm | | | | | 0.03 | |
| v/c Ratio | 0.00 | 0.14 | 0.14 | 0.03 | 0.54 | |
| Uniform Delay, d1 | 36.6 | 2.7 | 2.7 | 2.5 | 4.1 | |
| Progression Factor | 1.00 | 0.94 | 0.94 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.0 | 0.2 | 0.2 | 0.1 | 1.5 | |
| Delay (s) | 36.7 | 2.7 | 2.7 | 2.5 | 5.6 | |
| Level of Service | D | A | A | A | A | |
| Approach Delay (s) | 36.7 | 2.7 | 2.7 | 2.5 | 5.5 | |
| Approach LOS | D | A | A | A | A | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | | 5.2 | | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | | | 0.48 | | | |
| Actuated Cycle Length (s) | | | 90.0 | | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | | | 67.2% | | ICU Level of Service | C |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics
12: Street VV & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 319.0 | 319.0 | 314.6 | 314.6 | 187.1 | 187.1 | 204.6 | 204.6 | 14.7 | 14.7 | 14.7 | 14.7 |
| Travel Time (s) | 23.0 | 23.0 | 22.7 | 22.7 | 13.5 | 13.5 | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
12: Street VV & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 26 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Traffic Volume (vph) | 0 | 26 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 26 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 26 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 26 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Departure Headway (s) | 3.9 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Degree Utilization, x | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Capacity (veh/h) | 966 | 903 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 |
| Control Delay (s) | 7.1 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Approach Delay (s) | 7.1 | 7.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Approach LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
14: Street JJ & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|------|-------|------|-------|------|------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 314.6 | 275.2 | 19.8 | 590.8 | 42.5 | 204.6 | 14.7 | | | | | |
| Travel Time (s) | 22.7 | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

14: Street JJ & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 0 | 26 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 26 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 26 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 26 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Departure Headway (s) | 3.9 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Degree Utilization, x | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Capacity (veh/h) | 906 | 903 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 |
| Control Delay (s) | 7.1 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Approach Delay (s) | 7.1 | 7.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Approach LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
15: Street 1 & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|------|-------|------|------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 7.5 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Fr | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 275.2 | 405.9 | 405.9 | 598.1 | 43.1 | 178.2 | 12.8 | | | | | |
| Travel Time (s) | 19.8 | 29.2 | 43.1 | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
15: Street 1 & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 26 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Traffic Volume (vph) | 0 | 26 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak Hour Factor | 0 | 26 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hourly flow rate (vph) | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Direction, Lane # | 26 | 7 | 0 | 0 | | | | | | | | |
| Volume Total (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Volume Right (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | | | | | | | | |
| Departure Headway (s) | 3.9 | 4.0 | 4.0 | 4.0 | | | | | | | | |
| Degree Utilization, x | 0.03 | 0.01 | 0.00 | 0.00 | | | | | | | | |
| Capacity (veh/h) | 906 | 903 | 900 | 900 | | | | | | | | |
| Control Delay (s) | 7.1 | 7.0 | 7.0 | 7.0 | | | | | | | | |
| Approach Delay (s) | 7.1 | 7.0 | 0.0 | 0.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

18: Humber Station Rd & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | 0.959 | | | | | |
| Frt | | | | | | | | | | | | 0.994 |
| Flt Protected | | | | | | | | | | | | 1872 |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1806 | 0 | 0 | 1883 | 0 | 0 | 1872 | 0 |
| Flt Permitted | | | | | | | | | | | | 0.994 |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1806 | 0 | 0 | 1883 | 0 | 0 | 1872 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 405.9 | 405.9 | 405.9 | 132.6 | 132.6 | 132.6 | 360.1 | 360.1 | 360.1 | 173.8 | 173.8 | 173.8 |
| Travel Time (s) | 29.2 | 29.2 | 29.2 | 9.5 | 9.5 | 9.5 | 25.9 | 25.9 | 25.9 | 12.5 | 12.5 | 12.5 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis

18: Humber Station Rd & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 0 | 26 | 0 | 0 | 0 | 7 | 3 | 0 | 30 | 0 | 11 | 87 |
| Future Volume (vph) | 0 | 26 | 0 | 0 | 0 | 7 | 3 | 0 | 30 | 0 | 11 | 87 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 26 | 0 | 0 | 0 | 7 | 3 | 0 | 30 | 0 | 11 | 87 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 26 | 10 | 30 | 98 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 0 | 11 | | | | | | | | |
| Volume Right (vph) | 0 | 3 | 0 | 0 | | | | | | | | |
| Head (s) | 0.03 | -0.15 | 0.03 | 0.06 | | | | | | | | |
| Departure Headway (s) | 4.2 | 4.1 | 4.1 | 4.1 | | | | | | | | |
| Degree Utilization, x | 0.03 | 0.01 | 0.03 | 0.11 | | | | | | | | |
| Capacity (veh/h) | 824 | 855 | 853 | 873 | | | | | | | | |
| Control Delay (s) | 7.4 | 7.1 | 7.3 | 7.6 | | | | | | | | |
| Approach Delay (s) | 7.4 | 7.1 | 7.3 | 7.6 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.4 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 31.2% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

48: Humber Station Rd & Street E

05-16-2023

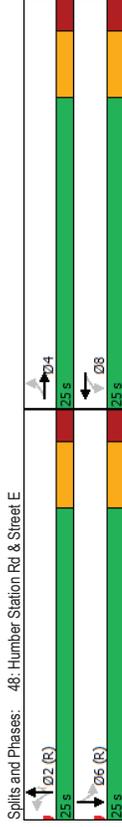
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|------|-------|------|------|------|-------|------|------|-------|
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Ft | | | | | | | | | 0.850 | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1789 | 0 | 1883 | 1883 | 1601 | 1883 | 1883 | 1883 |
| Flt Permitted | | | | | 0.757 | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1426 | 0 | 1883 | 1883 | 1601 | 1883 | 1883 | 0 |
| Right Turn on Red | | Yes | | | Yes | | | Yes | Yes | Yes | Yes | Yes |
| Satd. Flow (RTOR) | 50 | | | | 50 | | | | 236 | | | 50 |
| Link Speed (k/h) | | | | | | | | | | | | |
| Link Distance (m) | 129.8 | | | | 209.7 | | | | 154.4 | | | 360.1 |
| Travel Time (s) | 9.3 | | | | 15.1 | | | | 11.1 | | | 25.9 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | | |

Timings

48: Humber Station Rd & Street E

05-16-2023

| | WBL | WBT | NBT | NBR | SBT | Ø4 |
|--|-------|-------|-------|-------|-------|-------|
| Lane Group | WBL | WBT | NBT | NBR | SBT | Ø4 |
| Lane Configurations | 40 | 0 | 30 | 296 | 87 | |
| Traffic Volume (vph) | 40 | 0 | 30 | 296 | 87 | |
| Future Volume (vph) | Perm | NA | NA | Perm | NA | |
| Turn Type | 8 | 2 | 2 | 6 | 4 | |
| Protected Phases | 8 | 2 | 2 | 6 | 4 | |
| Permitted Phases | 8 | 2 | 2 | 6 | 4 | |
| Detector Phase | 8 | 2 | 2 | 6 | 4 | |
| Switch Phase | 8 | 2 | 2 | 6 | 4 | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Max | Max | Max | Max | Max | Max |
| Act Effct Green (s) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | |
| Actuated g/C Ratio | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | |
| v/C Ratio | 0.07 | 0.04 | 0.37 | 0.12 | | |
| Control Delay | 10.4 | 10.1 | 3.3 | 10.7 | | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Delay | 10.4 | 10.1 | 3.3 | 10.7 | | |
| LOS | B | B | A | B | | |
| Approach Delay | 10.4 | 3.9 | 10.7 | | | |
| Approach LOS | B | A | B | | | |
| Intersection Summary | | | | | | |
| Cycle Length: 50 | | | | | | |
| Actuated Cycle Length: 50 | | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | | | |
| Natural Cycle: 50 | | | | | | |
| Control Type: Prelimed | | | | | | |
| Maximum v/C Ratio: 0.37 | | | | | | |
| Intersection Signal Delay: 5.8 | | | | | | |
| Intersection Capacity Utilization 23.3% | | | | | | |
| ICU Level of Service A | | | | | | |
| Analysis Period (min) 15 | | | | | | |



Queues
48: Humber Station Rd & Street E

05-16-2023

| | ← | ↑ | ↘ | ↓ |
|------------------------|-------|-------|------|-------|
| Lane Group | WBT | NBT | NBR | SBT |
| Lane Group Flow (vph) | 40 | 30 | 296 | 87 |
| v/c Ratio | 0.07 | 0.04 | 0.37 | 0.12 |
| Control Delay | 10.4 | 10.1 | 3.3 | 10.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 10.4 | 10.1 | 3.3 | 10.7 |
| Queue Length 50th (m) | 2.3 | 1.7 | 0.0 | 5.0 |
| Queue Length 95th (m) | 6.9 | 5.5 | 11.6 | 11.9 |
| Internal Link Dist (m) | 185.7 | 130.4 | | 336.1 |
| Turn Bay Length (m) | | | | |
| Base Capacity (vph) | 541 | 715 | 791 | 715 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.07 | 0.04 | 0.37 | 0.12 |
| Intersection Summary | | | | |

HCM Signalized Intersection Capacity Analysis
48: Humber Station Rd & Street E

05-16-2023

| | ↘ | → | ↗ | ← | ↖ | ↑ | ↘ | ↓ | ↗ | | | |
|-----------------------------------|------|------|-------|------|---------------------------|------|-------|------|------|-------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | ↕ | ↕ | ↕ | ↕ | ↕ | ↕ | ↕ | ↕ | ↕ | ↕ |
| Traffic Volume (vph) | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 30 | 296 | 0 | 87 |
| Future Volume (vph) | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 30 | 296 | 0 | 87 |
| Ideal Flow (vph/p) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.0 | | | | | 6.0 | | | 6.0 |
| Lane Util. Factor | | | | 1.00 | | | | | 1.00 | | | 1.00 |
| Flt Protected | | | | 0.95 | | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | | | 1789 | | | | | 1883 | | | 1883 |
| Flt Permitted | | | | 0.76 | | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | | | 1426 | | | | | 1883 | | | 1883 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 30 | 296 | 0 | 87 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 184 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 30 | 112 | 0 | 87 |
| Turn Type | | Perm | NA | NA | Perm | NA | Perm | NA | Perm | Perm | NA | NA |
| Protected Phases | | 4 | | 8 | | 2 | | 2 | | 6 | | 6 |
| Permitted Phases | 4 | | 8 | | 8 | | 2 | | 2 | 6 | | 6 |
| Actuated Green, G (s) | | | 19.0 | | 19.0 | | 19.0 | | 19.0 | 19.0 | | 19.0 |
| Effective Green, g (s) | | | 19.0 | | 19.0 | | 19.0 | | 19.0 | 19.0 | | 19.0 |
| Actuated g/C Ratio | | | 0.38 | | 0.38 | | 0.38 | | 0.38 | 0.38 | | 0.38 |
| Clearance Time (s) | | | 6.0 | | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 |
| Lane Grp Cap (vph) | | | 541 | | 541 | | 715 | | 608 | 715 | | 715 |
| v/s Ratio Prot | | | | | | | 0.02 | | | | | 0.05 |
| v/s Ratio Perm | | | | | | | c0.03 | | | c0.07 | | |
| v/c Ratio | | | | | | | 0.04 | | 0.18 | 0.12 | | |
| Uniform Delay, d1 | | | 9.9 | | 9.8 | | 10.3 | | 10.1 | 10.1 | | |
| Progression Factor | | | 1.00 | | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Incremental Delay, d2 | | | 0.3 | | 0.3 | | 0.1 | | 0.7 | 0.3 | | |
| Delay (s) | | | 10.2 | | 10.2 | | 9.9 | | 11.0 | 10.4 | | |
| Level of Service | | | B | | B | | A | | B | B | | B |
| Approach Delay (s) | | 0.0 | | 10.2 | | 10.9 | | 10.4 | | | | |
| Approach LOS | | A | | B | | B | | B | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 10.7 | | HCM 2000 Level of Service | | | | | B | | |
| HCM 2000 Volume to Capacity ratio | | | 0.13 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 50.0 | | Sum of lost time (s) | | | | | 12.0 | | |
| Intersection Capacity Utilization | | | 23.3% | | IOU Level of Service | | | | | A | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

Lanes and Geometrics

58: Humber Station Rd & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 45.0 | 0.0 | 25.0 | 25.0 | 50.0 | 50.0 | 0.0 | 0.0 | 50.0 | 0.0 | 0.0 |
| Storage Lanes | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.93 | 0.86 | 0.88 | 0.92 | 0.92 | 0.99 | 0.99 | 0.99 | 0.95 | 1.00 | 1.00 |
| Frt | 0.950 | 0.850 | 0.850 | 0.850 | 0.850 | 0.976 | 0.976 | 0.976 | 0.998 | 0.998 | 0.998 |
| Flt Protected | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 |
| Satd. Flow (prot) | 1789 | 1383 | 0 | 1789 | 1883 | 1601 | 1883 | 1814 | 0 | 1789 | 1877 |
| Flt Permitted | 0.757 | 0.757 | 0.757 | 0.757 | 0.757 | 0.757 | 0.757 | 0.757 | 0.757 | 0.757 | 0.757 |
| Satd. Flow (perm) | 1324 | 1383 | 0 | 1257 | 1883 | 1470 | 1883 | 1814 | 0 | 1088 | 1877 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 645 | 50 | 50 | 50 | 50 | 460 | 14 | 14 | 14 | 14 | 14 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 81.8 | 81.8 | 813.2 | 813.2 | 194.3 | 194.3 | 194.3 | 194.3 | 194.3 | 194.3 | 194.3 |
| Travel Time (s) | 5.9 | 5.9 | 58.6 | 58.6 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| Intersection Summary | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | |

Timings

58: Humber Station Rd & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 2 | 0 | 118 | 118 | 205 | 39 | 87 | 87 | 87 | 87 | 87 |
| Traffic Volume (vph) | 2 | 0 | 118 | 118 | 205 | 39 | 87 | 87 | 87 | 87 | 87 |
| Future Volume (vph) | 2 | 0 | 118 | 118 | 205 | 39 | 87 | 87 | 87 | 87 | 87 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | NA | Perm | NA | Perm | NA |
| Protected Phases | 4 | 4 | 8 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 |
| Permitted Phases | 4 | 4 | 8 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Minimum Split (s) | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 |
| Total Split (%) | 47.8% | 47.8% | 47.8% | 47.8% | 47.8% | 47.8% | 52.2% | 52.2% | 52.2% | 52.2% | 52.2% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | | | | | | |
| Lead-Lag Optimize? | None | None | None | None | None | None | C-Max | C-Max | C-Max | C-Max | C-Max |
| Recall Mode | None | None | None | None | None | None | C-Max | C-Max | C-Max | C-Max | C-Max |
| Act Effct Green (s) | 13.8 | 13.8 | 13.8 | 13.8 | 13.8 | 13.8 | 64.2 | 64.2 | 64.2 | 64.2 | 64.2 |
| Actuated g/C Ratio | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 |
| v/C Ratio | 0.01 | 0.00 | 0.61 | 0.19 | 0.19 | 0.19 | 0.05 | 0.07 | 0.05 | 0.07 | 0.07 |
| Control Delay | 29.0 | 0.0 | 48.2 | 0.7 | 5.1 | 5.2 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.0 | 0.0 | 48.2 | 0.7 | 5.1 | 5.2 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| LOS | C | A | D | A | A | A | A | A | A | A | A |
| Approach Delay | 14.5 | B | 5.1 | A | A | A | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Approach LOS | B | A | A | A | A | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | |
| Cycle Length: 90 | | | | | | | | | | | |
| Actuated Cycle Length: 90 | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | | | | | | | | | |
| Natural Cycle: 50 | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | |
| Maximum v/C Ratio: 0.61 | | | | | | | | | | | |
| Intersection Signal Delay: 12.6 | | | | | | | | | | | |
| Intersection Capacity Utilization 50.3% | | | | | | | | | | | |
| ICU Level of Service A | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | |



Queues
58: Humber Station Rd & Street Y

05-16-2023

| | EBL | EBT | WBL | WBR | NBT | SBL | SBT |
|-----------------------------|------|------|-------|------|-------|-------|-------|
| Lane Group | 2 | 2 | 118 | 118 | 244 | 39 | 88 |
| Lane Group Flow (vph) | 0.01 | 0.00 | 0.61 | 0.19 | 0.19 | 0.05 | 0.07 |
| v/c Ratio | 29.0 | 0.0 | 48.2 | 0.7 | 5.1 | 5.2 | 4.9 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 29.0 | 0.0 | 48.2 | 0.7 | 5.1 | 5.2 | 4.9 |
| Total Delay | 0.3 | 0.0 | 20.0 | 0.0 | 11.5 | 1.8 | 4.0 |
| Queue Length 50th (m) | 2.1 | 0.0 | 35.0 | 0.0 | 24.9 | 5.9 | 10.3 |
| Queue Length 95th (m) | 57.8 | 0.0 | 170.3 | 0.0 | 170.3 | 130.4 | 130.4 |
| Internal Link Dist (m) | 45.0 | | 25.0 | 25.0 | 1298 | 50.0 | 50.0 |
| Turn Bay Length (m) | 544 | 948 | 516 | 875 | 1298 | 775 | 1338 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.00 | 0.00 | 0.23 | 0.13 | 0.19 | 0.05 | 0.07 |
| Intersection Summary | | | | | | | |

HCM Signalized Intersection Capacity Analysis
58: Humber Station Rd & Street Y

05-16-2023

| | EBL | EBT | WBL | WBR | NBL | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|---------------------------|------|------|------|------|------|------|
| Lane Configurations | 2 | 0 | 2 | 118 | 0 | 118 | 0 | 205 | 39 |
| Traffic Volume (vph) | 2 | 0 | 2 | 118 | 0 | 118 | 0 | 205 | 39 |
| Future Volume (vph) | 2 | 0 | 2 | 118 | 0 | 118 | 0 | 205 | 39 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frb. ped/bikes | 1.00 | 0.86 | 1.00 | 1.00 | 0.92 | 0.99 | 1.00 | 1.00 | 1.00 |
| Frb. ped/bikes | 0.93 | 1.00 | 0.88 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Flt | 1.00 | 0.85 | 1.00 | 0.85 | 0.98 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1662 | 1383 | 1578 | 1470 | 1814 | 1814 | 1699 | 1877 | 1877 |
| Flt Permitted | 0.76 | 1.00 | 0.76 | 1.00 | 1.00 | 1.00 | 0.61 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1325 | 1383 | 1257 | 1470 | 1814 | 1814 | 1086 | 1877 | 1877 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 2 | 0 | 2 | 118 | 0 | 118 | 0 | 205 | 39 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |
| Lane Group Flow (vph) | 2 | 0 | 2 | 118 | 0 | 118 | 0 | 240 | 39 |
| Confl. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Turn Type | Perm | NA | Perm | Perm | Perm | NA | Perm | NA | NA |
| Protected Phases | 4 | 4 | 8 | 8 | 8 | 2 | 6 | 6 | 6 |
| Permitted Phases | 4 | 4 | 8 | 8 | 8 | 2 | 6 | 6 | 6 |
| Actuated Green, G (s) | 13.8 | 13.8 | 13.8 | 13.8 | 13.8 | 64.2 | 64.2 | 64.2 | 64.2 |
| Effective Green, g (s) | 13.8 | 13.8 | 13.8 | 13.8 | 13.8 | 64.2 | 64.2 | 64.2 | 64.2 |
| Actuated g/C Ratio | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.71 | 0.71 | 0.71 | 0.71 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 203 | 212 | 192 | 225 | 1293 | 774 | 1338 | 1338 | 1338 |
| v/s Ratio Prot | 0.00 | 0.00 | c0.09 | 0.01 | 0.01 | 0.04 | 0.05 | 0.07 | 0.05 |
| v/c Ratio | 0.01 | 0.00 | 0.61 | 0.08 | 0.08 | 0.19 | 0.05 | 0.07 | 0.05 |
| Uniform Delay, d1 | 32.3 | 32.3 | 35.6 | 32.7 | 4.3 | 3.8 | 3.9 | 3.9 | 3.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.0 | 0.0 | 5.7 | 0.2 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 |
| Delay (s) | 32.3 | 32.3 | 41.3 | 32.8 | 4.6 | 4.0 | 4.0 | 4.0 | 4.0 |
| Level of Service | C | C | D | C | A | A | A | A | A |
| Approach Delay (s) | 32.3 | 32.3 | 37.1 | 32.8 | 4.6 | 4.0 | 4.0 | 4.0 | 4.0 |
| Approach LOS | C | C | D | C | A | A | A | A | A |
| Intersection Summary | | | | | | | | | |
| HCM 2000 Control Delay | 17.2 | | HCM 2000 Level of Service | | B | | | | |
| HCM 2000 Volume to Capacity ratio | 0.26 | | | | | | | | |
| Actuated Cycle Length (s) | 90.0 | | Sum of lost time (s) | | 12.0 | | | | |
| Intersection Capacity Utilization | 50.3% | | ICU Level of Service | | A | | | | |
| Analysis Period (min) | 15 | | | | | | | | |
| c Critical Lane Group | | | | | | | | | |

Lanes and Geometrics
62: Street Y & Street VV

05-16-2023

| | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Lane Group | | | | | | |
| Lane Configurations | | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | |
| Frt | | | | | | |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 1883 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 1883 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 82.2 | 318.6 | 162.9 | 162.9 | 162.9 | 111.7 |
| Travel Time (s) | 5.9 | 22.9 | | | | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |

HCM Unsignalized Intersection Capacity Analysis
62: Street Y & Street VV

05-16-2023

| | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|-------|------|------|------|------|------|
| Movement | | | | | | |
| Lane Configurations | | | | | | |
| Sign Control | | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 0 | 5 | 1 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 5 | 1 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 1 | 0 | 0 | 0 |
| Direction, Lane # | EB 1 | WB 1 | SB 1 | | | |
| Volume Total (vph) | 5 | 1 | 0 | | | |
| Volume Left (vph) | 0 | 0 | 0 | | | |
| Volume Right (vph) | 0 | 0 | 0 | | | |
| Head (s) | 0.03 | 0.03 | 0.00 | | | |
| Departure Headway (s) | 3.9 | 3.9 | 3.9 | | | |
| Degree Utilization, x | 0.01 | 0.00 | 0.00 | | | |
| Capacity (veh/h) | 908 | 908 | 914 | | | |
| Control Delay (s) | 7.0 | 6.9 | 6.9 | | | |
| Approach Delay (s) | 7.0 | 6.9 | 0.0 | | | |
| Approach LOS | A | A | A | | | |
| Intersection Summary | | | | | | |
| Delay | 7.0 | | | | | |
| Level of Service | A | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | |
| ICU Level of Service | A | | | | | |
| Analysis Period (min) | 15 | | | | | |

Lanes and Geometrics
64: Street JJ & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|------|------|------|-------|-------|------|------|------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 318.6 | 318.6 | 318.6 | 90.0 | 90.0 | 90.0 | 229.7 | 229.7 | 90.0 | 90.0 | 90.0 | 590.8 |
| Travel Time (s) | 22.9 | 22.9 | 22.9 | 6.5 | 6.5 | 6.5 | 16.5 | 16.5 | 6.5 | 6.5 | 6.5 | 42.5 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
64: Street JJ & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop |
| Traffic Volume (vph) | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 5 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 5 | 1 | 0 | 0 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Volume Right (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | | | | | | | | |
| Departure Headway (s) | 3.9 | 3.9 | 3.9 | 3.9 | | | | | | | | |
| Degree Utilization, x | 0.01 | 0.00 | 0.00 | 0.00 | | | | | | | | |
| Capacity (veh/h) | 908 | 908 | 914 | 914 | | | | | | | | |
| Control Delay (s) | 7.0 | 6.9 | 6.9 | 6.9 | | | | | | | | |
| Approach Delay (s) | 7.0 | 6.9 | 0.0 | 0.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 6.7% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
65: Street 1 & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 7.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 189.0 | 137.6 | 137.6 | 229.8 | 137.6 | 229.8 | 137.6 | 229.8 | 137.6 | 229.8 | 137.6 | 229.8 |
| Travel Time (s) | 13.6 | 13.6 | 13.6 | 9.9 | 9.9 | 9.9 | 17.2 | 17.2 | 9.9 | 9.9 | 9.9 | 17.2 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

05-16-2023
HCM Unsignalized Intersection Capacity Analysis
65: Street 1 & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Traffic Volume (vph) | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak Hour Factor | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Departure Headway (s) | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| Degree Utilization, x | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Capacity (veh/h) | 908 | 908 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 |
| Control Delay (s) | 7.0 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 |
| Approach Delay (s) | 7.0 | 6.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Approach LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
88: Humber Station Rd & Street EE

05-16-2023

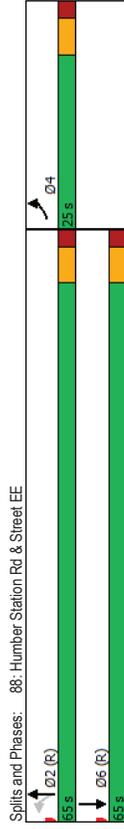
| Area Type | EBL | EBR | NBL | NBT | SBT | SBR |
|----------------------|-------|------|------|-------|-------|------|
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 1 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | |
| Fr | | | | | | |
| Fr Protected | | | | | | |
| Satd. Flow (prot) | 1883 | 0 | 0 | 1883 | 1883 | 0 |
| Fr Permitted | | | | | | |
| Satd. Flow (perm) | 1883 | 0 | 0 | 1883 | 1883 | 0 |
| Right Turn on Red | Yes | | | | | Yes |
| Satd. Flow (RTOR) | 50 | | | 50 | 50 | |
| Link Speed (k/h) | 332.9 | | | 347.2 | 128.1 | |
| Link Distance (m) | 24.0 | | | 25.0 | 9.2 | |
| Travel Time (s) | | | | | | |
| Intersection Summary | | | | | | |

Other

Timings
88: Humber Station Rd & Street EE

05-16-2023

| Lane Group | NBT | SBT | Ø4 |
|--|-------|-------|------------------------|
| Lane Configurations | 4 | 4 | Ø4 |
| Traffic Volume (vph) | 263 | 133 | |
| Future Volume (vph) | 263 | 133 | |
| Turn Type | NA | NA | |
| Protected Phases | 2 | 6 | 4 |
| Permitted Phases | | | |
| Detector Phases | 2 | 6 | |
| Switch Phase | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 65.0 | 65.0 | 25.0 |
| Total Split (%) | 72.2% | 72.2% | 28% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | |
| Lead-Lag Optimize? | | | |
| Recall Mode | C-Max | C-Max | None |
| Act Effect Green (s) | 77.6 | 77.6 | |
| Actuated g/C Ratio | 0.86 | 0.86 | |
| v/C Ratio | 0.16 | 0.08 | |
| Control Delay | 3.8 | 4.5 | |
| Queue Delay | 0.0 | 0.0 | |
| Total Delay | 3.8 | 4.5 | |
| LOS | A | A | |
| Approach Delay | 3.8 | 4.5 | |
| Approach LOS | A | A | |
| Intersection Summary | | | |
| Cycle Length: 90 | | | |
| Actuated Cycle Length: 90 | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green | | | |
| Natural Cycle: 50 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/C Ratio: 0.16 | | | |
| Intersection Signal Delay: 4.0 | | | Intersection LOS: A |
| Intersection Capacity Utilization 20.8% | | | ICU Level of Service A |
| Analysis Period (min) 15 | | | |



Splits and Phases: 88: Humber Station Rd & Street EE

Queues
88: Humber Station Rd & Street EE

05-16-2023

| | NBT | SBT |
|-----------------------------|-------|-------|
| Lane Group | 263 | 133 |
| Lane Group Flow (vph) | 0.16 | 0.08 |
| v/c Ratio | 3.8 | 4.5 |
| Control Delay | 0.0 | 0.0 |
| Queue Delay | 3.8 | 4.5 |
| Total Delay | 0.0 | 0.0 |
| Queue Length 50th (m) | 26.9 | 19.2 |
| Queue Length 95th (m) | 323.2 | 104.1 |
| Internal Link Dist (m) | | |
| Turn Bay Length (m) | | |
| Base Capacity (vph) | 1623 | 1623 |
| Starvation Cap Reductn | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 |
| Storage Cap Reductn | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.08 |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis
88: Humber Station Rd & Street EE

05-16-2023

| | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|------|------|-------|---------------------------|------|------|
| Movement | W | | | | | |
| Lane Configurations | 0 | 0 | 0 | 263 | 133 | 0 |
| Traffic Volume (vph) | 0 | 0 | 0 | 263 | 133 | 0 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | | | | 6.0 | 6.0 | |
| Total Lost time (s) | | | | 1.00 | 1.00 | |
| Lane Util. Factor | | | | 1.00 | 1.00 | |
| Frb. ped/bikes | | | | 1.00 | 1.00 | |
| Fibb. ped/bikes | | | | 1.00 | 1.00 | |
| Frt | | | | 1.00 | 1.00 | |
| Flt Protected | | | | 1883 | 1883 | |
| Satd. Flow (prot) | | | | 1.00 | 1.00 | |
| Flt Permitted | | | | 1883 | 1883 | |
| Satd. Flow (perm) | | | | 1.00 | 1.00 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 0 | 0 | 0 | 263 | 133 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 263 | 133 | 0 |
| Confl. Peds. (#/hr) | | | 50 | | | 50 |
| Turn Type | Prot | | NA | NA | NA | |
| Protected Phases | 4 | | 2 | 2 | 6 | |
| Permitted Phases | | | 2 | | | |
| Actuated Green, G (s) | | | 70.4 | 70.4 | 70.4 | |
| Effective Green, g (s) | | | 70.4 | 70.4 | 70.4 | |
| Actuated g/C Ratio | | | 0.78 | 0.78 | 0.78 | |
| Clearance Time (s) | | | 6.0 | 6.0 | 6.0 | |
| Vehicle Extension (s) | | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | | 1472 | 1472 | | |
| v/s Ratio Prot | | | c0.14 | 0.07 | | |
| v/s Ratio Perm | | | 0.18 | 0.09 | | |
| v/c Ratio | | | 2.5 | 2.3 | | |
| Uniform Delay, d1 | | | 1.00 | 1.25 | | |
| Progression Factor | | | 0.3 | 0.1 | | |
| Incremental Delay, d2 | | | 2.7 | 3.0 | | |
| Delay (s) | | | A | A | | |
| Level of Service | | | A | A | | |
| Approach Delay (s) | 0.0 | | 2.7 | 3.0 | | |
| Approach LOS | A | | A | A | | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | | 2.8 | HCM 2000 Level of Service | | A |
| HCM 2000 Volume to Capacity ratio | | | 0.16 | | | |
| Actuated Cycle Length (s) | | | 90.0 | Sum of lost time (s) | | 12.0 |
| Intersection Capacity Utilization | | | 20.8% | ICU Level of Service | | A |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics

1: The Gore Rd & King St

05-16-2023

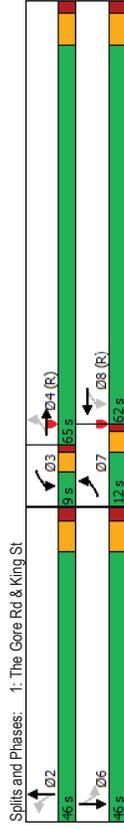
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0.0 | 0.0 | 139.9 | 0.0 | 25.0 | 199.9 | 0.0 | 50.0 | 175.0 | 0.0 | 50.0 |
| Storage Lanes | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| Taper Length (m) | 0.0 | 7.6 | 7.6 | 0.0 | 7.6 | 7.6 | 0.0 | 7.6 | 7.6 | 0.0 | 7.6 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.99 | 0.99 | 0.98 | 0.92 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.96 | 0.96 |
| Frt | 0.950 | 0.950 | 0.975 | 0.950 | 0.975 | 0.950 | 0.989 | 0.950 | 0.950 | 0.962 | 0.962 |
| Flt Protected | 1562 | 1730 | 0 | 1681 | 1715 | 0 | 1261 | 1862 | 0 | 1681 | 1781 |
| Satd. Flow (prot) | 0.227 | 0.415 | 0.520 | 0.520 | 0.520 | 0.520 | 0.520 | 0.520 | 0.137 | 0.137 | 0.137 |
| Satd. Flow (perm) | 373 | 1730 | 0 | 698 | 1715 | 0 | 634 | 1862 | 0 | 242 | 1781 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 3 | 11 | 3 | 11 | 3 | 11 | 3 | 11 | 3 | 11 | 15 |
| Link Speed (k/h) | 48 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 363.2 | 207.4 | 628.6 | 207.4 | 628.6 | 207.4 | 628.6 | 207.4 | 628.6 | 207.4 | 578.8 |
| Travel Time (s) | 27.2 | 14.9 | 45.3 | 14.9 | 45.3 | 14.9 | 45.3 | 14.9 | 45.3 | 14.9 | 41.7 |
| Intersection Summary | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | |

Timings

1: The Gore Rd & King St

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|---|--------|-------|--------|-------|--------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 148 | 442 | 51 | 515 | 57 | 465 | 38 | 171 | 171 | 38 | 171 |
| Traffic Volume (vph) | 148 | 442 | 51 | 515 | 57 | 465 | 38 | 171 | 171 | 38 | 171 |
| Future Volume (vph) | 148 | 442 | 51 | 515 | 57 | 465 | 38 | 171 | 171 | 38 | 171 |
| Turn Type | pm-plt | NA | pm-plt | NA | pm-plt | NA | Perm | NA | Perm | NA | Perm |
| Protected Phases | 7 | 4 | 3 | 8 | 2 | 6 | 2 | 6 | 2 | 6 | 6 |
| Permitted Phases | 4 | 8 | 2 | 8 | 2 | 6 | 2 | 6 | 2 | 6 | 6 |
| Detector Phases | 7 | 4 | 3 | 8 | 2 | 6 | 2 | 6 | 2 | 6 | 6 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 |
| Minimum Initial (s) | 11.0 | 30.6 | 9.0 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 |
| Minimum Split (s) | 12.0 | 65.0 | 9.0 | 62.0 | 46.0 | 46.0 | 46.0 | 46.0 | 46.0 | 46.0 | 46.0 |
| Total Split (s) | 10.0% | 54.2% | 7.5% | 51.7% | 38.3% | 38.3% | 38.3% | 38.3% | 38.3% | 38.3% | 38.3% |
| Yellow Time (s) | 3.0 | 4.6 | 3.0 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 1.0 | 2.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.0 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lag | Lag | Lead | Lag | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | C-Min | None | C-Min | None | C-Min | None | C-Min | None |
| Act Effect Green (s) | 72.5 | 62.8 | 66.5 | 58.2 | 36.1 | 36.1 | 36.1 | 36.1 | 36.1 | 36.1 | 36.1 |
| Actuated g/C Ratio | 0.60 | 0.52 | 0.55 | 0.48 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| v/C Ratio | 0.48 | 0.51 | 0.12 | 0.74 | 0.30 | 0.89 | 0.53 | 0.42 | 0.42 | 0.42 | 0.42 |
| Control Delay | 16.4 | 22.5 | 11.5 | 31.9 | 35.5 | 58.6 | 61.3 | 33.0 | 33.0 | 33.0 | 33.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 16.4 | 22.5 | 11.5 | 31.9 | 35.5 | 58.6 | 61.3 | 33.0 | 33.0 | 33.0 | 33.0 |
| LOS | B | C | B | C | D | E | E | C | C | E | C |
| Approach Delay | 21.0 | 30.3 | 56.2 | 37.0 | 37.0 | 37.0 | 37.0 | 37.0 | 37.0 | 37.0 | 37.0 |
| Approach LOS | C | C | E | E | D | D | D | D | D | E | D |
| Intersection Summary | | | | | | | | | | | |
| Cycle Length: 120 | | | | | | | | | | | |
| Actuated Cycle Length: 120 | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | |
| Natural Cycle: 90 | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | |
| Maximum v/C Ratio: 0.89 | | | | | | | | | | | |
| Intersection Signal Delay: 35.3 | | | | | | | | | | | |
| Intersection Capacity Utilization 103.8% | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | |



1: The Gore Rd & King St

05-16-2023

| | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|--------|-------|------|
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
| Lane Group Flow (vph) | 148 | 462 | 51 | 616 | 57 | 501 | 38 | 229 |
| v/c Ratio | 0.48 | 0.51 | 0.12 | 0.74 | 0.30 | 0.89 | 0.53 | 0.42 |
| Control Delay | 16.4 | 22.5 | 11.5 | 31.9 | 35.5 | 58.6 | 61.3 | 33.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 16.4 | 22.5 | 11.5 | 31.9 | 35.5 | 58.6 | 61.3 | 33.0 |
| Queue Length 50th (m) | 15.2 | 76.9 | 4.9 | 123.1 | 10.5 | 113.9 | 7.6 | 40.9 |
| Queue Length 95th (m) | 26.4 | 108.7 | 10.7 | 171.1 | 22.5 | #165.8 | #23.1 | 62.9 |
| Internal Link Dist (m) | 339.2 | | 183.4 | | 604.6 | | 554.8 | |
| Turn Bay Length (m) | 139.9 | | 199.9 | | | | 175.0 | |
| Base Capacity (vph) | 311 | 913 | 434 | 844 | 210 | 618 | 80 | 599 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.48 | 0.51 | 0.12 | 0.73 | 0.27 | 0.81 | 0.47 | 0.38 |

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: The Gore Rd & King St

05-16-2023

| Movement | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
|-----------------------------------|-------|--------|-------|-------|---------------------------|-------|------|------|------|
| Lane Configurations | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
| Traffic Volume (vph) | 148 | 442 | 20 | 51 | 515 | 101 | 57 | 465 | 36 |
| Future Volume (vph) | 148 | 442 | 20 | 51 | 515 | 101 | 57 | 465 | 36 |
| Ideal Flow (vph/b) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Total Lost time (s) | 4.0 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.99 | 1.00 | 0.98 | 1.00 | 0.99 | 1.00 | 0.96 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 0.92 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.99 | 1.00 | 0.98 | 1.00 | 0.99 | 1.00 | 0.96 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 |
| Satd. Flow (prot) | 1562 | 1729 | 1647 | 1715 | 1159 | 1862 | 1681 | 1781 | 1781 |
| Flt Permitted | 0.23 | 1.00 | 0.42 | 1.00 | 0.52 | 1.00 | 0.14 | 1.00 | 1.00 |
| Satd. Flow (perm) | 373 | 1729 | 719 | 1715 | 634 | 1862 | 243 | 1781 | 1781 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 148 | 442 | 20 | 51 | 515 | 101 | 57 | 465 | 36 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 6 | 0 | 2 | 0 | 0 |
| Lane Group Flow (vph) | 148 | 461 | 0 | 51 | 610 | 0 | 57 | 499 | 0 |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Heavy Vehicles (%) | 13% | 10% | 3% | 5% | 8% | 40% | 0% | 14% | 5% |
| Turn Type | pm-pt | NA | pm-pt | NA | Perm | NA | Perm | NA | NA |
| Protected Phases | 7 | 4 | 3 | 8 | 2 | 2 | 2 | 6 | 6 |
| Permitted Phases | 4 | | 8 | | 2 | | 6 | | |
| Actuated Green, G (s) | 70.5 | 62.0 | 62.9 | 58.2 | 36.1 | 36.1 | 36.1 | 36.1 | 36.1 |
| Effective Green, g (s) | 70.5 | 62.0 | 62.9 | 58.2 | 36.1 | 36.1 | 36.1 | 36.1 | 36.1 |
| Actuated g/C Ratio | 0.59 | 0.52 | 0.52 | 0.49 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Clearance Time (s) | 4.0 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 303 | 893 | 413 | 831 | 190 | 560 | 73 | 535 | 535 |
| v/s Ratio Prot | c0.03 | 0.27 | 0.00 | c0.36 | | c0.27 | | 0.12 | |
| v/s Ratio Perm | 0.25 | | 0.06 | | 0.09 | | 0.16 | | |
| v/c Ratio | 0.49 | 0.52 | 0.12 | 0.73 | 0.30 | 0.89 | 0.52 | 0.41 | 0.41 |
| Uniform Delay, d1 | 15.8 | 19.1 | 14.4 | 24.7 | 32.2 | 40.1 | 34.8 | 33.4 | 33.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.2 | 2.1 | 0.1 | 5.7 | 0.9 | 16.2 | 6.5 | 0.5 | 0.5 |
| Delay (s) | 17.1 | 21.2 | 14.6 | 30.4 | 33.1 | 56.3 | 41.3 | 33.9 | 33.9 |
| Level of Service | B | C | B | C | C | E | D | C | C |
| Approach Delay (s) | 20.2 | | 29.2 | | 53.9 | | 35.0 | | |
| Approach LOS | C | | C | | D | | C | | |
| Intersection Summary | | | | | | | | | |
| HCM 2000 Control Delay | | 33.9 | | | HCM 2000 Level of Service | | C | | |
| HCM 2000 Volume to Capacity ratio | | 0.77 | | | | | | | |
| Actuated Cycle Length (s) | | 120.0 | | | Sum of lost time (s) | | 17.2 | | |
| Intersection Capacity Utilization | | 103.8% | | | ICU Level of Service | | G | | |
| Analysis Period (min) | | 15 | | | | | | | |
| c. Critical Lane Group | | | | | | | | | |

Lanes and Geometrics

2: Humber Station Rd & King St

05-16-2023

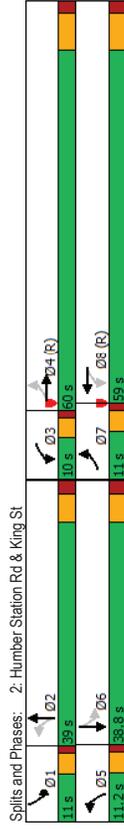
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width (m) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Grade (%) | 50.0 | 0 | 25.0 | 50.0 | 0.0 | 25.0 | 0.0 | 0.0 | 0.0 | 50.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 7.6 | 0 | 0 | 7.6 | 0.0 | 0 | 0.0 | 0 | 0 | 7.6 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Frt | 0.994 | 0.988 | 0.988 | 0.988 | 0.988 | 0.988 | 0.988 | 0.988 | 0.988 | 0.988 | 0.988 |
| Flt Protected | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 | 0.998 |
| Satd. Flow (prot) | 0 | 1745 | 0 | 0 | 1789 | 0 | 0 | 1301 | 0 | 0 | 1557 |
| Flt Permitted | 0.975 | 0.975 | 0.975 | 0.975 | 0.975 | 0.975 | 0.975 | 0.975 | 0.975 | 0.975 | 0.969 |
| Satd. Flow (perm) | 0 | 1702 | 0 | 0 | 1747 | 0 | 0 | 970 | 0 | 0 | 1505 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 2 | 6 | 6 | 6 | 6 | 6 | 6 | 16 | 6 | 6 | 17 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 329.7 | 840.4 | 840.4 | 840.4 | 840.4 | 840.4 | 840.4 | 348.5 | 348.5 | 347.2 | 347.2 |
| Travel Time (s) | 23.7 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 | 25.1 | 25.1 | 25.1 | 25.0 | 25.0 |
| Intersection Summary | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | |

Timings

2: Humber Station Rd & King St

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|---|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 18 | 533 | 18 | 518 | 71 | 111 | 14 | 138 | 14 | 138 | 138 |
| Traffic Volume (vph) | 18 | 533 | 18 | 518 | 71 | 111 | 14 | 138 | 14 | 138 | 138 |
| Future Volume (vph) | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | NA | NA |
| Turn Type | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 | 6 | 6 | 6 |
| Permitted Phases | 4 | 8 | 2 | 8 | 5 | 2 | 1 | 6 | 6 | 6 | 6 |
| Detector Phases | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 | 6 | 6 | 6 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 11.0 | 31.4 | 10.0 | 31.4 | 11.2 | 30.2 | 11.0 | 30.2 | 11.0 | 30.2 | 30.2 |
| Minimum Split (s) | 11.0 | 60.0 | 10.0 | 59.0 | 11.2 | 39.0 | 11.0 | 38.8 | 11.0 | 38.8 | 38.8 |
| Total Split (%) | 9.2% | 50.0% | 8.3% | 49.2% | 9.3% | 32.5% | 9.2% | 32.3% | 9.2% | 32.3% | 32.3% |
| Total Split (s) | 3.0 | 5.4 | 3.0 | 5.4 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 4.0 | 4.0 |
| Yellow Time (s) | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.2 | 1.0 | 2.2 | 1.0 | 2.2 | 2.2 |
| All-Red Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lost Time Adjust (s) | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 |
| Total Lost Time (s) | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lag |
| Lead/Lag | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Lead-Lag Optimize? | None | C-Min | None | C-Min | None |
| Recall Mode | 75.4 | 75.4 | 75.4 | 75.4 | 75.4 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 |
| Act Effct Green (s) | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 |
| Actuated g/C Ratio | 0.54 | 0.54 | 0.54 | 0.54 | 0.54 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| v/C Ratio | 16.6 | 16.4 | 16.4 | 16.4 | 16.4 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 16.6 | 16.4 | 16.4 | 16.4 | 16.4 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 |
| Total Delay | B | B | B | B | B | F | F | F | F | F | F |
| LOS | 16.6 | 16.4 | 16.4 | 16.4 | 16.4 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 |
| Approach Delay | B | B | B | B | B | F | F | F | F | F | F |
| Approach LOS | Intersection Summary | | | | | | | | | | |
| Cycle Length: 120 | Cycle Length: 120 | | | | | | | | | | |
| Actuated Cycle Length: 120 | Actuated Cycle Length: 120 | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | |
| Natural Cycle: 85 | Natural Cycle: 85 | | | | | | | | | | |
| Control Type: Actuated-Coordinated | Control Type: Actuated-Coordinated | | | | | | | | | | |
| Maximum v/C Ratio: 0.95 | Maximum v/C Ratio: 0.95 | | | | | | | | | | |
| Intersection Signal Delay: 29.8 | Intersection Signal Delay: 29.8 | | | | | | | | | | |
| Intersection Capacity Utilization 86.4% | Intersection Capacity Utilization 86.4% | | | | | | | | | | |
| ICU Level of Service E | ICU Level of Service E | | | | | | | | | | |
| Analysis Period (min) 15 | Analysis Period (min) 15 | | | | | | | | | | |



Queues
2: Humber Station Rd & King St

05-16-2023

| | EBT | WBT | NBT | SBT |
|------------------------|-------|-------|-------|-------|
| Lane Group | 575 | 590 | 250 | 210 |
| Lane Group Flow (vph) | 0.54 | 0.54 | 0.95 | 0.52 |
| v/c Ratio | 16.6 | 16.4 | 84.5 | 38.1 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 16.6 | 16.4 | 84.5 | 38.1 |
| Total Delay | 73.7 | 75.1 | 57.0 | 40.5 |
| Queue Length 50th (m) | 135.0 | 136.9 | 82.5 | 56.7 |
| Queue Length 95th (m) | 305.7 | 816.4 | 324.5 | 323.2 |
| Internal Link Dist (m) | | | | |
| Turn Bay Length (m) | | | | |
| Base Capacity (vph) | 1069 | 1099 | 297 | 454 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.54 | 0.54 | 0.84 | 0.46 |

Intersection Summary

HCM Signalized Intersection Capacity Analysis
2: Humber Station Rd & King St

05-16-2023

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
|-----------------------------------|-------|-------|-------|------|-------|------|-------|------|-------|-------|------|---------------------------|------|
| Lane Configurations | | + | | | + | | | + | | | | | |
| Traffic Volume (vph) | 18 | 533 | 24 | 18 | 518 | 54 | 71 | 111 | 68 | 14 | 138 | 58 | |
| Future Volume (vph) | 18 | 533 | 24 | 18 | 518 | 54 | 71 | 111 | 68 | 14 | 138 | 58 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | |
| Total Lost time (s) | 7.4 | | | 7.4 | | | 6.2 | | | | 6.2 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frbp. ped/bikes | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.98 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | |
| Flt Protected | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1744 | | | 1787 | | | 1274 | | | | 1549 | | |
| Flt Permitted | 0.97 | 0.97 | 0.97 | 0.98 | 0.98 | 0.98 | 0.76 | 0.76 | 0.76 | 0.76 | 0.97 | 0.97 | |
| Satd. Flow (perm) | 1703 | | | 1746 | | | 976 | | | | 1907 | | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Adj. Flow (vph) | 18 | 533 | 24 | 18 | 518 | 54 | 71 | 111 | 68 | 14 | 138 | 58 | |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 12 | 0 | 0 | 13 | 0 | |
| Lane Group Flow (vph) | 0 | 574 | 0 | 0 | 588 | 0 | 0 | 238 | 0 | 0 | 197 | 0 | |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | |
| Heavy Vehicles (%) | 0% | 9% | 5% | 4% | 5% | 0% | 62% | 0% | 63% | 44% | 6% | 25% | |
| Turn Type | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | pm-pt | NA | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | | 6 | | | |
| Actuated Green, G (s) | 75.4 | | | 75.4 | | | 31.0 | | | 31.0 | | 31.0 | |
| Effective Green, g (s) | 75.4 | | | 75.4 | | | 31.0 | | | 31.0 | | 31.0 | |
| Actuated g/C Ratio | 0.63 | | | 0.63 | | | 0.26 | | | 0.26 | | 0.26 | |
| Clearance Time (s) | 7.4 | | | 7.4 | | | 6.2 | | | 6.2 | | 6.2 | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | | | 3.0 | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | 1070 | | | 1087 | | | 252 | | | 389 | | 389 | |
| v/s Ratio Prot | | c0.34 | | 0.34 | | | c0.24 | | | 0.13 | | 0.13 | |
| v/s Ratio Perm | | 0.54 | | 0.54 | | | 0.94 | | | 0.51 | | 0.51 | |
| Uniform Delay, d1 | 12.5 | | | 12.5 | | | 43.7 | | | 38.0 | | 38.0 | |
| Progression Factor | 1.00 | | | 1.00 | | | 1.00 | | | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 0.5 | | | 0.5 | | | 41.5 | | | 1.0 | | 1.0 | |
| Delay (s) | 13.0 | | | 13.0 | | | 85.1 | | | 39.0 | | 39.0 | |
| Level of Service | B | | | B | | | F | | | D | | D | |
| Approach Delay (s) | 13.0 | | | 13.0 | | | 85.1 | | | 39.0 | | 39.0 | |
| Approach LOS | B | | | B | | | F | | | D | | D | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | 27.5 | | | | | | | | | | | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.71 | | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 | | | | | | | | | | | Sum of lost time (s) | 21.6 |
| Intersection Capacity Utilization | 86.4% | | | | | | | | | | | ICU Level of Service | E |
| Analysis Period (min) | 15 | | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | |

Lanes and Geometrics
8: The Gore Rd & Street Y

05-16-2023

| WBL | WBR | NBT | NBR | SBL | SBT |
|-------|-------|-------|------|------|------|
| 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| 0% | 0% | 0% | 0% | 25.0 | 0% |
| 0.0 | 0.0 | 0.0 | 0.0 | 7.5 | 1 |
| 1 | 0 | 0 | 0 | 1 | 1 |
| 0.0 | 0.0 | 1.00 | 1.00 | 1.00 | 1.00 |
| 0.90 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 0.950 | 1789 | 0 | 1883 | 0 | 1821 |
| 0.950 | 1606 | 0 | 1883 | 0 | 1883 |
| 50 | 50 | 50 | 50 | 48 | 48 |
| 134.7 | 576.8 | 211.4 | 41.7 | 15.9 | 15.9 |
| 9.7 | | | | | |

Area Type: Other

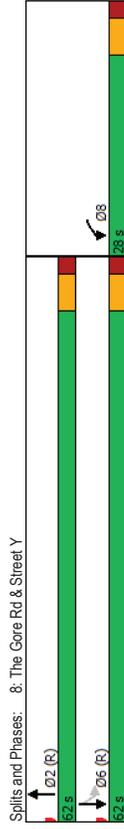
Timings
8: The Gore Rd & Street Y

05-16-2023

| WBL | NBT | SBT |
|-------|-------|-------|
| 5 | 827 | 305 |
| 5 | 827 | 305 |
| 8 | 2 | 6 |
| 8 | 2 | 6 |
| 5.0 | 5.0 | 5.0 |
| 28.0 | 25.0 | 25.0 |
| 28.0 | 62.0 | 62.0 |
| 31.1% | 68.9% | 68.9% |
| 4.0 | 4.0 | 4.0 |
| 2.0 | 2.0 | 2.0 |
| 0.0 | 0.0 | 0.0 |
| 6.0 | 6.0 | 6.0 |
| None | C-Min | C-Min |
| 12.1 | 76.4 | 76.4 |
| 0.13 | 0.85 | 0.85 |
| 0.02 | 0.52 | 0.19 |
| 27.8 | 7.8 | 4.5 |
| 0.0 | 0.0 | 0.0 |
| 27.8 | 7.8 | 4.5 |
| C | A | A |
| 27.8 | 7.8 | 4.5 |
| C | A | A |

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.52
 Intersection Signal Delay: 7.0
 Intersection Capacity Utilization: 69.2%
 ICU Level of Service: C
 Analysis Period (min): 15



Queues
8: The Gore Rd & Street Y

05-16-2023

| | WBL | NBT | SBT |
|------------------------|-------|-------|-------|
| Lane Group | 5 | 828 | 305 |
| Lane Group Flow (vph) | 0.02 | 0.52 | 0.19 |
| v/c Ratio | 27.8 | 7.8 | 4.5 |
| Control Delay | 0.0 | 0.0 | 0.0 |
| Queue Delay | 27.8 | 7.8 | 4.5 |
| Total Delay | 0.9 | 0.0 | 0.1 |
| Queue Length 50th (m) | 3.4 | 135.2 | 33.7 |
| Queue Length 95th (m) | 110.7 | 554.8 | 187.4 |
| Internal Link Dist (m) | 437 | 1598 | 1598 |
| Turn Bay Length (m) | 0 | 0 | 0 |
| Base Capacity (vph) | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 |
| Storage Cap Reductn | 0.01 | 0.52 | 0.19 |
| Reduced v/c Ratio | | | |
| Intersection Summary | | | |

HCM Signalized Intersection Capacity Analysis
8: The Gore Rd & Street Y

05-16-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|------------------------|-----------------------------------|-------|---------------------------|------|------|------|
| Movement | W | | | | | |
| Lane Configurations | 5 | 0 | 827 | 1 | 0 | 305 |
| Traffic Volume (vph) | 5 | 0 | 827 | 1 | 0 | 305 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Protected | 1789 | 1883 | 1883 | 1883 | 1883 | 1883 |
| Satd. Flow (prot) | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Permitted | 1789 | 1883 | 1883 | 1883 | 1883 | 1883 |
| Satd. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 5 | 0 | 827 | 1 | 0 | 305 |
| Adj. Flow (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 5 | 0 | 828 | 0 | 0 | 305 |
| Lane Group Flow (vph) | 50 | 50 | 50 | 50 | 50 | 50 |
| Confl. Peds. (#/hr) | Prot | NA | NA | Perm | NA | NA |
| Turn Type | 8 | 2 | 6 | 6 | 6 | 6 |
| Protected Phases | 8.8 | 69.2 | 69.2 | 69.2 | 69.2 | 69.2 |
| Permitted Phases | 8.8 | 69.2 | 69.2 | 69.2 | 69.2 | 69.2 |
| Actuated Green, G (s) | 0.10 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 |
| Effective Green, g (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Actuated g/C Ratio | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Clearance Time (s) | 174 | 1447 | 1447 | 1447 | 1447 | 1447 |
| Vehicle Extension (s) | 0.00 | 0.44 | 0.16 | 0.16 | 0.16 | 0.16 |
| Lane Grp Cap (vph) | 0.03 | 0.57 | 0.21 | 0.21 | 0.21 | 0.21 |
| v/s Ratio Prot | 36.7 | 4.3 | 2.9 | 2.9 | 2.9 | 2.9 |
| v/c Ratio Perm | 1.00 | 1.00 | 0.96 | 0.96 | 0.96 | 0.96 |
| Uniform Delay, d1 | 0.1 | 1.6 | 0.3 | 0.3 | 0.3 | 0.3 |
| Progression Factor | 36.8 | 5.9 | 3.1 | 3.1 | 3.1 | 3.1 |
| Incremental Delay, d2 | D | A | A | A | A | A |
| Delay (s) | 36.8 | 5.9 | 3.1 | 3.1 | 3.1 | 3.1 |
| Level of Service | 36.8 | 5.9 | 3.1 | 3.1 | 3.1 | 3.1 |
| Approach Delay (s) | D | A | A | A | A | A |
| Approach LOS | Intersection Summary | | | | | |
| | HCM 2000 Control Delay | 5.3 | HCM 2000 Level of Service | A | | |
| | HCM 2000 Volume to Capacity ratio | 0.51 | | | | |
| | Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 12.0 | | |
| | Intersection Capacity Utilization | 69.2% | ICU Level of Service | C | | |
| | Analysis Period (min) | 15 | | | | |
| | c Critical Lane Group | | | | | |

Lanes and Geometrics

10: The Gore Rd & Street A

05-16-2023

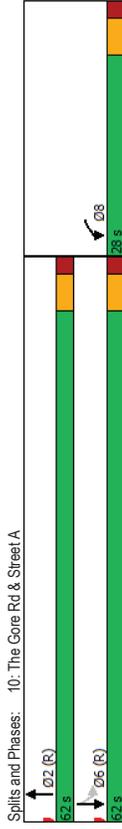
| | WBL | WBR | NBT | NBR | SBL | SBT |
|----------------------|-------|------|-------|-------|------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 | |
| Lane Width (m) | 0% | 0% | 0% | 0% | 0% | |
| Grade (%) | 0.0 | 0.0 | 0.0 | 50.0 | | |
| Storage Length (m) | 1 | 0 | 0 | 7.6 | | |
| Taper Length (m) | 0.0 | | | | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.88 | | | | | |
| Flt Protected | | | | 0.950 | | |
| Satd. Flow (prot) | 1433 | 0 | 1883 | 0 | 1730 | 1883 |
| Flt Permitted | | | | 0.289 | | |
| Satd. Flow (perm) | 1433 | 0 | 1883 | 0 | 526 | 1883 |
| Right Turn on Red | | Yes | | Yes | | |
| Satd. Flow (RTOR) | 154 | | | | | |
| Link Speed (k/h) | 50 | | 50 | | | 50 |
| Link Distance (m) | 319.0 | | 265.4 | | | 374.2 |
| Travel Time (s) | 23.0 | | 19.1 | | | 26.9 |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings

10: The Gore Rd & Street A

05-16-2023

| | WBL | NBT | SBL | SBT |
|--|-------|-------|-------|-------|
| Lane Group | W | | | |
| Lane Configurations | 0 | 827 | 5 | 305 |
| Traffic Volume (vph) | 0 | 827 | 5 | 305 |
| Future Volume (vph) | 0 | 827 | 5 | 305 |
| Turn Type | Prot | NA | Perm | NA |
| Protected Phases | 8 | 2 | | 6 |
| Permitted Phases | 8 | 2 | 6 | 6 |
| Detector Phase | | | | |
| Switch Phase | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 28.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 28.0 | 62.0 | 62.0 | 62.0 |
| Total Split (%) | 31.1% | 68.9% | 68.9% | 68.9% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | | | | |
| Recall Mode | None | C-Min | C-Min | C-Min |
| Act Effct Green (s) | 12.1 | 72.9 | 72.9 | 72.9 |
| Actuated g/C Ratio | 0.13 | 0.81 | 0.81 | 0.81 |
| v/C Ratio | 0.08 | 0.54 | 0.01 | 0.20 |
| Control Delay | 0.0 | 10.3 | 6.2 | 5.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 0.4 | 10.3 | 6.2 | 5.1 |
| LOS | A | B | A | A |
| Approach Delay | 0.4 | 10.3 | 5.1 | 5.1 |
| Approach LOS | A | B | A | A |
| Intersection Summary | | | | |
| Cycle Length: 90 | | | | |
| Actuated Cycle Length: 90 | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | |
| Natural Cycle: 65 | | | | |
| Control Type: Actuated-Coordinated | | | | |
| Maximum v/C Ratio: 0.54 | | | | |
| Intersection Signal Delay: 8.7 | | | | |
| Intersection Capacity Utilization 69.4% | | | | |
| Analysis Period (min) 15 | | | | |



| | WBL | NBT | SBL | SBT |
|-----------------------------|-------|-------|------|-------|
| Lane Group | 25 | 827 | 5 | 305 |
| Lane Group Flow (vph) | 0.08 | 0.54 | 0.01 | 0.20 |
| v/c Ratio | 0.4 | 10.3 | 6.2 | 5.1 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 0.4 | 10.3 | 6.2 | 5.1 |
| Total Delay | 0.0 | 37.3 | 0.1 | 9.2 |
| Queue Length 50th (m) | 0.0 | 114.8 | 1.6 | 35.1 |
| Queue Length 95th (m) | 295.0 | 241.4 | | 350.2 |
| Internal Link Dist (m) | | | 50.0 | |
| Turn Bay Length (m) | | | | |
| Base Capacity (vph) | 466 | 1525 | 426 | 1525 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.54 | 0.01 | 0.20 |
| Intersection Summary | | | | |

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|-------|------|------|------|---------------------------|------|
| Movement | W | | | | | |
| Lane Configurations | 0 | 25 | 827 | 0 | 5 | 305 |
| Traffic Volume (vph) | 0 | 25 | 827 | 0 | 5 | 305 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.88 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.86 | 1.00 | 0.95 | 1.00 | 1.00 |
| Flt Protected | 1433 | 1883 | 1883 | 1685 | 1883 | 1883 |
| Satd. Flow (prot) | 1.00 | 1.00 | 1.00 | 0.29 | 1.00 | 1.00 |
| Flt Permitted | 1433 | 1883 | 1883 | 512 | 1883 | 1883 |
| Satd. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 0 | 25 | 827 | 0 | 5 | 305 |
| Adj. Flow (vph) | 22 | 0 | 0 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 3 | 0 | 827 | 0 | 5 | 305 |
| Lane Group Flow (vph) | 50 | 50 | 50 | 50 | 50 | 50 |
| Conf. Peds. (#/hr) | Prot | NA | NA | Perm | NA | NA |
| Turn Type | 8 | 2 | 6 | | | |
| Protected Phases | | | | | | |
| Permitted Phases | 9.9 | 68.1 | 68.1 | 68.1 | 68.1 | 68.1 |
| Actuated Green, G (s) | 0.11 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Effective Green, g (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Actuated g/C Ratio | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Clearance Time (s) | 157 | 1424 | 387 | 1424 | | |
| Vehicle Extension (s) | 0.00 | 0.44 | 0.01 | 0.16 | | |
| Lane Grp Cap (vph) | 0.02 | 0.58 | 0.01 | 0.21 | | |
| v/s Ratio Prot | 35.7 | 4.8 | 2.7 | 3.2 | | |
| v/c Ratio | 1.00 | 1.27 | 1.00 | 1.00 | | |
| Uniform Delay, d1 | 0.0 | 1.5 | 0.1 | 0.3 | | |
| Progression Factor | 35.8 | 7.5 | 2.8 | 3.5 | | |
| Incremental Delay, d2 | D | A | A | A | | |
| Delay (s) | 35.8 | 7.5 | 2.8 | 3.5 | | |
| Level of Service | D | A | A | A | | |
| Approach Delay (s) | 35.8 | 7.5 | 2.8 | 3.5 | | |
| Approach LOS | D | A | A | A | | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | 7.1 | | | | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.51 | | | | | |
| Actuated Cycle Length (s) | 90.0 | | | | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 69.4% | | | | ICU Level of Service | C |
| Analysis Period (min) | 15 | | | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics
12: Street VV & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 319.0 | 319.0 | 314.6 | 314.6 | 187.1 | 187.1 | 204.6 | 204.6 | 14.7 | 14.7 | 14.7 | 14.7 |
| Travel Time (s) | 23.0 | 23.0 | 22.7 | 22.7 | 13.5 | 13.5 | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
12: Street VV & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Traffic Volume (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 5 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Departure Headway (s) | 4.0 | 3.9 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Degree Utilization, x | 0.01 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Capacity (veh/h) | 902 | 909 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 |
| Control Delay (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Approach Delay (s) | 7.0 | 7.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Approach LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
14: Street JJ & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|------|-------|-------|-------|------|------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 314.6 | 275.2 | 19.8 | 275.2 | 590.8 | 204.6 | 14.7 | 42.5 | | | | |
| Travel Time (s) | 22.7 | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
14: Street JJ & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Traffic Volume (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 5 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Departure Headway (s) | 4.0 | 3.9 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Degree Utilization, x | 0.01 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Capacity (veh/h) | 902 | 909 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 |
| Control Delay (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Approach Delay (s) | 7.0 | 7.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Approach LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
15: Street I & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|------|-------|-------|-------|------|------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 7.5 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 275.2 | 405.9 | 29.2 | 405.9 | 598.1 | 178.2 | 43.1 | 12.8 | | | | |
| Travel Time (s) | 19.8 | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
15: Street I & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Traffic Volume (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 5 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Departure Headway (s) | 4.0 | 3.9 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Degree Utilization, x | 0.01 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Capacity (veh/h) | 902 | 909 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 |
| Control Delay (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Approach Delay (s) | 7.0 | 7.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Approach LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

18: Humber Station Rd & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|-------|-------|------|-------|-------|------|------|------|------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | 0.961 | | | | | |
| Frt | | | | | | | | | | | | 0.998 |
| Flt Protected | | | | | | | | | | | | 0.998 |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1810 | 0 | 0 | 1883 | 0 | 0 | 1880 | 0 |
| Flt Permitted | | | | | | | | | | | | 0.998 |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1810 | 0 | 0 | 1883 | 0 | 0 | 1880 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 405.9 | 29.2 | 132.6 | 360.1 | 25.9 | 173.8 | 12.5 | | | | | |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis

18: Humber Station Rd & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 0 | 5 | 0 | 0 | 25 | 10 | 0 | 131 | 0 | 2 | 44 | 0 |
| Future Volume (vph) | 0 | 5 | 0 | 0 | 25 | 10 | 0 | 131 | 0 | 2 | 44 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 0 | 25 | 10 | 0 | 131 | 0 | 2 | 44 | 0 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 5 | 35 | 131 | 46 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 0 | 2 | | | | | | | | |
| Volume Right (vph) | 0 | 10 | 0 | 0 | | | | | | | | |
| Head (s) | 0.03 | -0.14 | 0.03 | 0.04 | | | | | | | | |
| Departure Headway (s) | 4.4 | 4.1 | 4.1 | 4.2 | | | | | | | | |
| Degree Utilization, x | 0.01 | 0.04 | 0.15 | 0.05 | | | | | | | | |
| Capacity (veh/h) | 788 | 828 | 865 | 849 | | | | | | | | |
| Control Delay (s) | 7.4 | 7.3 | 7.8 | 7.4 | | | | | | | | |
| Approach Delay (s) | 7.4 | 7.3 | 7.8 | 7.4 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.6 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.7% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
48: Humber Station Rd & Street E

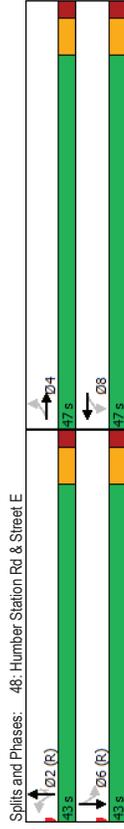
05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|------|-------|------|------|-------|------|------|------|-------|------|------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | 0.850 | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1789 | 0 | 1883 | 1883 | 1601 | 1883 | 1883 | 0 |
| Flt Permitted | | | | | 0.757 | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1426 | 0 | 1883 | 1883 | 1601 | 1883 | 1883 | 0 |
| Right Turn on Red | | Yes | | | Yes | | | | Yes | | | Yes |
| Satd. Flow (RTOR) | 50 | | | | 50 | | | | 66 | | | 50 |
| Link Speed (k/h) | | | | | 50 | | | | | | | 360.1 |
| Link Distance (m) | | 129.8 | | | 209.7 | | | | 154.4 | | | 360.1 |
| Travel Time (s) | | 9.3 | | | 15.1 | | | | 11.1 | | | 25.9 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | | |

Timings
48: Humber Station Rd & Street E

05-16-2023

| | WBL | WBT | NBT | NBR | SBT | Ø4 |
|---|-------|-------|-------|-------|-------|------|
| Lane Group | WBL | WBT | NBT | NBR | SBT | Ø4 |
| Lane Configurations | 145 | 0 | 131 | 66 | 44 | |
| Traffic Volume (vph) | 145 | 0 | 131 | 66 | 44 | |
| Future Volume (vph) | 145 | 0 | 131 | 66 | 44 | |
| Turn Type | Perm | NA | NA | Perm | NA | |
| Protected Phases | 8 | 2 | 2 | 2 | 6 | |
| Permitted Phases | 8 | 2 | 2 | 2 | 6 | |
| Detector Phase | 8 | 8 | 2 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 47.0 | 47.0 | 43.0 | 43.0 | 43.0 | 47.0 |
| Total Split (%) | 52.2% | 52.2% | 47.8% | 47.8% | 47.8% | 52% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | C-Max | C-Max | C-Max | None |
| Act Effct Green (s) | 14.7 | 63.3 | 63.3 | 63.3 | 63.3 | |
| Actuated g/C Ratio | 0.16 | 0.70 | 0.70 | 0.70 | 0.70 | |
| v/C Ratio | 0.62 | 0.10 | 0.06 | 0.03 | 0.03 | |
| Control Delay | 46.0 | 6.9 | 3.5 | 5.3 | 5.3 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 46.0 | 6.9 | 3.5 | 5.3 | 5.3 | |
| LOS | D | A | A | A | A | |
| Approach Delay | 46.0 | 5.7 | 5.3 | 5.3 | 5.3 | |
| Approach LOS | D | A | A | A | A | |
| Intersection Summary | | | | | | |
| Cycle Length: 90 | | | | | | |
| Actuated Cycle Length: 90 | | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | | | | |
| Natural Cycle: 50 | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | |
| Maximum v/C Ratio: 0.62 | | | | | | |
| Intersection Signal Delay: 20.8 | | | | | | |
| Intersection Capacity Utilization 24.9% | | | | | | |
| Analysis Period (min) 15 | | | | | | |



| | ← | ↑ | ↖ | ↓ |
|-----------------------------|-------|-------|------|-------|
| Lane Group | WBT | NBT | NBR | SBT |
| Lane Group Flow (vph) | 145 | 131 | 66 | 44 |
| v/c Ratio | 0.62 | 0.10 | 0.06 | 0.03 |
| Control Delay | 46.0 | 6.9 | 3.5 | 5.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 46.0 | 6.9 | 3.5 | 5.3 |
| Queue Length 50th (m) | 24.6 | 6.4 | 0.0 | 2.1 |
| Queue Length 95th (m) | 40.4 | 18.1 | 5.9 | 6.5 |
| Internal Link Dist (m) | 185.7 | 130.4 | | 336.1 |
| Turn Bay Length (m) | | | | |
| Base Capacity (vph) | 649 | 1324 | 1145 | 1324 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.22 | 0.10 | 0.06 | 0.03 |
| Intersection Summary | | | | |

| | ↖ | → | ↗ | ← | ↖ | ← | ↗ | ↖ | ↗ | ↖ | ↗ |
|-----------------------------------|------|------|-------|-------|------|------|---------------------------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
| Lane Configurations | | ↕ | | ↕ | | | ↕ | ↕ | ↕ | ↕ | ↕ |
| Traffic Volume (vph) | 0 | 0 | 0 | 145 | 0 | 0 | 0 | 131 | 66 | 0 | 44 |
| Future Volume (vph) | 0 | 0 | 0 | 145 | 0 | 0 | 0 | 131 | 66 | 0 | 44 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.0 | | | | 6.0 | 6.0 | | 6.0 |
| Lane Util. Factor | | | | 1.00 | | | | 1.00 | 1.00 | | 1.00 |
| Flt Protected | | | | 0.95 | | | | 1.00 | 0.85 | | 1.00 |
| Satd. Flow (prot) | | | | 1789 | | | | 1883 | 1601 | | 1883 |
| Satd. Flow (perm) | | | | 1426 | | | | 1883 | 1601 | | 1883 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 0 | 0 | 0 | 145 | 0 | 0 | 0 | 131 | 66 | 0 | 44 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 145 | 0 | 0 | 0 | 131 | 46 | 0 | 44 |
| Turn Type | | Perm | NA | NA | Perm | NA | Perm | NA | Perm | Perm | NA |
| Protected Phases | | 4 | | 8 | | | 2 | | 2 | | 6 |
| Permitted Phases | 4 | | 8 | | | | 2 | | 2 | | 6 |
| Actuated Green, G (s) | | | 14.7 | | | | 63.3 | | 63.3 | | 63.3 |
| Effective Green, g (s) | | | 14.7 | | | | 63.3 | | 63.3 | | 63.3 |
| Actuated g/C Ratio | | | 0.16 | | | | 0.70 | | 0.70 | | 0.70 |
| Clearance Time (s) | | | 6.0 | | | | 6.0 | | 6.0 | | 6.0 |
| Vehicle Extension (s) | | | 3.0 | | | | 3.0 | | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | | | 232 | | | | 1324 | | 1126 | | 1324 |
| v/s Ratio Prot | | | c0.10 | | | | c0.07 | | 0.03 | | 0.02 |
| v/c Ratio | | | 0.62 | | | | 0.10 | | 0.04 | | 0.03 |
| Uniform Delay, d1 | | | 35.1 | | | | 4.3 | | 4.1 | | 4.1 |
| Progression Factor | | | 1.00 | | | | 1.30 | | 2.02 | | 1.00 |
| Incremental Delay, d2 | | | 5.2 | | | | 0.1 | | 0.1 | | 0.0 |
| Delay (s) | | | 40.3 | | | | 5.7 | | 8.3 | | 4.1 |
| Level of Service | | | D | | | | A | | A | | A |
| Approach Delay (s) | | 0.0 | 40.3 | | | | 6.6 | | 4.1 | | 4.1 |
| Approach LOS | | A | D | | | | A | | A | | A |
| Intersection Summary | | | | | | | | | | | |
| HCM 2000 Control Delay | | | | 18.9 | | | HCM 2000 Level of Service | | | B | |
| HCM 2000 Volume to Capacity ratio | | | | 0.20 | | | | | | | |
| Actuated Cycle Length (s) | | | | 90.0 | | | Sum of lost time (s) | | | 12.0 | |
| Intersection Capacity Utilization | | | | 24.9% | | | ICU Level of Service | | | A | |
| Analysis Period (min) | | | | 15 | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | |

Lanes and Geometrics
58: Humber Station Rd & Street Y

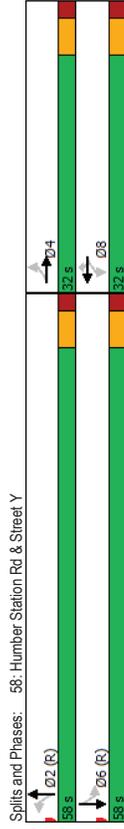
05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 45.0 | 0 | 0 | 25.0 | 50.0 | 25.0 | 50.0 | 0 | 0 | 50.0 | 0 | 0 |
| Storage Lanes | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 0 | 0 | 7.5 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | 0.88 | | 0.92 | | 0.92 | | 0.96 | | 0.95 | | 0.99 |
| Frt | | 0.950 | | 0.850 | | 0.929 | | 0.950 | | 0.984 | | 0.984 |
| Flt Protected | 1883 | 1883 | 0 | 1789 | 1883 | 1601 | 1883 | 1682 | 0 | 1789 | 1826 | 0 |
| Satd. Flow (prot) | 0.757 | | | | | | | | | 0.579 | | |
| Flt Permitted | 1883 | 1883 | 0 | 1257 | 1883 | 1470 | 1883 | 1682 | 0 | 1041 | 1826 | 0 |
| Satd. Flow (perm) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Right Turn on Red | | | | | | | | | | | | |
| Satd. Flow (RTOR) | 50 | 50 | 50 | 50 | 50 | 618 | 85 | 85 | 50 | 50 | 50 | 50 |
| Link Speed (k/h) | 81.8 | 81.8 | 81.8 | 813.2 | 194.3 | 194.3 | 194.3 | 194.3 | 194.3 | 194.3 | 194.3 | 194.3 |
| Link Distance (m) | 5.9 | 5.9 | 5.9 | 58.6 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

Timings
58: Humber Station Rd & Street Y

05-16-2023

| | WBL | WBR | NBT | SBL | SBT | Ø4 |
|---|-------|-------|-------|-------|-------|------|
| Lane Group | WBL | WBR | NBT | SBL | SBT | Ø4 |
| Lane Configurations | 26 | 26 | 156 | 140 | 41 | |
| Traffic Volume (vph) | 26 | 26 | 156 | 140 | 41 | |
| Future Volume (vph) | 26 | 26 | 156 | 140 | 41 | |
| Turn Type | Perm | Perm | NA | Perm | NA | |
| Protected Phases | 2 | 2 | 6 | 6 | 4 | |
| Permitted Phases | 8 | 8 | 2 | 6 | 6 | |
| Detector Phase | 8 | 8 | 2 | 6 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 32.0 | 32.0 | 58.0 | 58.0 | 32.0 | 32.0 |
| Total Split (%) | 35.6% | 35.6% | 64.4% | 64.4% | 64.4% | 36% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | C-Max | C-Max | C-Max | None |
| Act Effct Green (s) | 11.4 | 11.4 | 73.7 | 73.7 | 73.7 | |
| Actuated g/C Ratio | 0.13 | 0.13 | 0.82 | 0.82 | 0.82 | 0.82 |
| v/C Ratio | 0.16 | 0.04 | 0.21 | 0.16 | 0.03 | |
| Control Delay | 33.8 | 0.1 | 3.4 | 17.4 | 14.9 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 33.8 | 0.1 | 3.4 | 17.4 | 14.9 | |
| LOS | C | A | A | B | B | |
| Approach Delay | | | 3.4 | 16.8 | | |
| Approach LOS | | | A | B | | |
| Intersection Summary | | | | | | |
| Cycle Length: 90 | | | | | | |
| Actuated Cycle Length: 90 | | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | | | | |
| Natural Cycle: 50 | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | |
| Maximum v/C Ratio: 0.21 | | | | | | |
| Intersection Signal Delay: 9.4 | | | | | | |
| Intersection Capacity Utilization 55.8% | | | | | | |
| ICU Level of Service B | | | | | | |
| Analysis Period (min) 15 | | | | | | |



Queues
58: Humber Station Rd & Street Y

05-16-2023

| | WBL | WBR | NBT | SBL | SBT |
|-----------------------------|------|------|-------|------|-------|
| Lane Group | 26 | 26 | 296 | 140 | 46 |
| Lane Group Flow (vph) | 0.16 | 0.04 | 0.21 | 0.16 | 0.03 |
| v/c Ratio | 33.8 | 0.1 | 3.4 | 17.4 | 14.9 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 33.8 | 0.1 | 3.4 | 17.4 | 14.9 |
| Total Delay | 4.5 | 0.0 | 7.1 | 23.2 | 6.5 |
| Queue Length 50th (m) | 10.7 | 0.0 | 23.1 | 41.7 | 15.4 |
| Queue Length 95th (m) | | | 170.3 | | 130.4 |
| Internal Link Dist (m) | 25.0 | 25.0 | | 50.0 | |
| Turn Bay Length (m) | 363 | 864 | 1383 | 853 | 1497 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.07 | 0.03 | 0.21 | 0.16 | 0.03 |
| Intersection Summary | | | | | |



HCM Signalized Intersection Capacity Analysis
58: Humber Station Rd & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|---------------------------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 0 | 0 | 0 | 26 | 0 | 26 | 0 | 26 | 0 | 140 | 140 | 41 |
| Traffic Volume (vph) | 0 | 0 | 0 | 26 | 0 | 26 | 0 | 156 | 140 | 140 | 41 | 5 |
| Future Volume (vph) | 0 | 0 | 0 | 26 | 0 | 26 | 0 | 156 | 140 | 140 | 41 | 5 |
| Ideal Flow (vph/p) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frb. ped/bikes | 1.00 | 1.00 | 1.00 | 0.92 | 1.00 | 0.92 | 1.00 | 0.96 | 1.00 | 0.99 | 1.00 | 0.99 |
| Frb. ped/bikes | 1.00 | 1.00 | 1.00 | 0.88 | 1.00 | 0.88 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.98 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | 1.00 | 0.93 | 1.00 | 0.95 | 1.00 | 0.98 |
| Flt Protected | 1577 | 1470 | 1470 | 1682 | 1705 | 1682 | 1705 | 1825 | 1705 | 1825 | 1825 | 1825 |
| Satd. Flow (prot) | 0.76 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.58 | 1.00 | 1.00 |
| Flt Permitted | 1257 | 1470 | 1470 | 1682 | 1705 | 1682 | 1705 | 1825 | 1705 | 1825 | 1825 | 1825 |
| Satd. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 0 | 0 | 0 | 26 | 0 | 26 | 0 | 156 | 140 | 140 | 41 | 5 |
| Adj. Flow (vph) | 0 | 0 | 0 | 26 | 0 | 26 | 0 | 20 | 0 | 0 | 1 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 26 | 0 | 26 | 0 | 276 | 0 | 140 | 45 | 0 |
| Lane Group Flow (vph) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Turn Type | Perm | Perm | Perm | Perm | Perm | Perm | Perm | Perm | Perm | Perm | Perm | Perm |
| Protected Phases | 4 | 8 | 8 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | 6 | 6 |
| Permitted Phases | 4 | 8 | 8 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | 6 | 6 |
| Actuated Green, G (s) | 9.1 | 9.1 | 9.1 | 68.9 | 68.9 | 68.9 | 68.9 | 68.9 | 68.9 | 68.9 | 68.9 | 68.9 |
| Effective Green, g (s) | 9.1 | 9.1 | 9.1 | 68.9 | 68.9 | 68.9 | 68.9 | 68.9 | 68.9 | 68.9 | 68.9 | 68.9 |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.10 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 127 | 148 | 148 | 1287 | 1287 | 1287 | 795 | 1397 | 795 | 1397 | 1397 | 1397 |
| v/s Ratio Prot | c0.02 | 0.00 | 0.00 | 0.02 | 0.02 | 0.02 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| v/c Ratio | 0.20 | 0.02 | 0.02 | 0.21 | 0.21 | 0.21 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Uniform Delay, d1 | 37.1 | 36.4 | 36.4 | 3.0 | 3.0 | 3.0 | 2.9 | 2.5 | 2.9 | 2.5 | 2.5 | 2.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.98 | 0.98 | 0.98 | 3.82 | 3.62 | 3.82 | 3.62 | 3.62 | 3.62 |
| Incremental Delay, d2 | 0.8 | 0.0 | 0.0 | 0.4 | 0.4 | 0.4 | 0.5 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| Delay (s) | 37.9 | 36.5 | 36.5 | 3.3 | 3.3 | 3.3 | 11.4 | 9.2 | 11.4 | 9.2 | 9.2 | 9.2 |
| Level of Service | D | D | D | D | D | D | A | A | A | B | A | A |
| Approach Delay (s) | 0.0 | 37.2 | 37.2 | 3.3 | 3.3 | 3.3 | 10.9 | 10.9 | 10.9 | 10.9 | 10.9 | 10.9 |
| Approach LOS | A | D | D | A | A | A | B | B | B | B | B | B |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 9.2 | | | HCM 2000 Level of Service | | | A | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.21 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 90.0 | | | Sum of lost time (s) | | | | | | | | |
| Intersection Capacity Utilization | 55.8% | | | ICU Level of Service | | | | | | | | |
| Analysis Period (min) | 15 | | | B | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



Lanes and Geometrics
62: Street Y & Street VV

05-16-2023

| | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Lane Group | | | | | | |
| Lane Configurations | | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | |
| Frt | | | | | | |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 1883 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 1883 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 82.2 | 318.6 | 162.9 | 162.9 | 162.9 | 111.7 |
| Travel Time (s) | 5.9 | 22.9 | | | | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |

HCM Unsignalized Intersection Capacity Analysis
62: Street Y & Street VV

05-16-2023

| | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|-------|------|------|------|------|------|
| Movement | | | | | | |
| Lane Configurations | | | | | | |
| Sign Control | | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 0 | 1 | 5 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 1 | 5 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 1 | 5 | 0 | 0 | 0 |
| Direction, Lane # | EB 1 | WB 1 | SB 1 | | | |
| Volume Total (vph) | 1 | 5 | 0 | | | |
| Volume Left (vph) | 0 | 0 | 0 | | | |
| Volume Right (vph) | 0 | 0 | 0 | | | |
| Head (s) | 0.03 | 0.03 | 0.00 | | | |
| Departure Headway (s) | 3.9 | 3.9 | 3.9 | | | |
| Degree Utilization, x | 0.00 | 0.01 | 0.00 | | | |
| Capacity (veh/h) | 907 | 909 | 914 | | | |
| Control Delay (s) | 6.9 | 7.0 | 6.9 | | | |
| Approach Delay (s) | 6.9 | 7.0 | 0.0 | | | |
| Approach LOS | A | A | A | | | |
| Intersection Summary | | | | | | |
| Delay | 7.0 | | | | | |
| Level of Service | A | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | |
| ICU Level of Service | A | | | | | |
| Analysis Period (min) | 15 | | | | | |

Lanes and Geometrics
64: Street JJ & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|------|------|-------|-------|-------|------|------|-------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 318.6 | 318.6 | 318.6 | 90.0 | 90.0 | 229.7 | 229.7 | 229.7 | 16.5 | 16.5 | 590.8 | 42.5 |
| Travel Time (s) | 22.9 | 22.9 | 22.9 | 6.5 | 6.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 42.5 | 42.5 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
64: Street JJ & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop |
| Sign Control | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Traffic Volume (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Departure Headway (s) | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| Degree Utilization, x | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Capacity (veh/h) | 907 | 909 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 |
| Control Delay (s) | 6.9 | 7.0 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 |
| Approach Delay (s) | 6.9 | 7.0 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 |
| Approach LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 6.7% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
65: Street 1 & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 7.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 189.0 | 137.6 | 137.6 | 229.8 | 137.6 | 229.8 | 137.6 | 229.8 | 137.6 | 229.8 | 137.6 | 229.8 |
| Travel Time (s) | 13.6 | 9.9 | 9.9 | 17.2 | 9.9 | 17.2 | 9.9 | 17.2 | 9.9 | 17.2 | 9.9 | 17.2 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
65: Street 1 & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Traffic Volume (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 1 | 5 | 0 | 0 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Volume Right (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | | | | | | | | |
| Departure Headway (s) | 3.9 | 3.9 | 3.9 | 3.9 | | | | | | | | |
| Degree Utilization, x | 0.00 | 0.01 | 0.00 | 0.00 | | | | | | | | |
| Capacity (veh/h) | 907 | 909 | 914 | 914 | | | | | | | | |
| Control Delay (s) | 6.9 | 7.0 | 6.9 | 6.9 | | | | | | | | |
| Approach Delay (s) | 6.9 | 7.0 | 0.0 | 0.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
88: Humber Station Rd & Street EE

05-16-2023

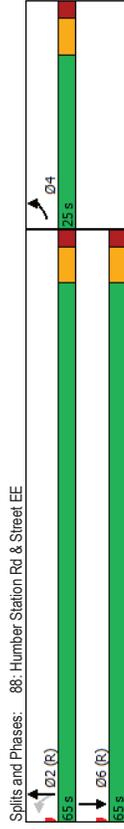
| Area Type | EBL | EBR | NBL | NBT | SBT | SBR |
|----------------------|-------|------|------|-------|-------|------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 183 | 183 | 183 | 183 | 183 | 183 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 1 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | |
| Fr | | | | | | |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 1883 | 0 | 0 | 1883 | 1883 | 0 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 1883 | 0 | 0 | 1883 | 1883 | 0 |
| Right Turn on Red | Yes | | | | | Yes |
| Satd. Flow (RTOR) | 50 | | | 50 | 50 | |
| Link Speed (k/h) | 332.9 | | | 347.2 | 128.1 | |
| Link Distance (m) | 24.0 | | | 25.0 | 9.2 | |
| Travel Time (s) | | | | | | |
| Intersection Summary | | | | | | |

Other

Timings
88: Humber Station Rd & Street EE

05-16-2023

| Lane Group | NBT | SBT | Ø4 |
|--|-------|-------|------|
| Lane Configurations | 4 | | |
| Traffic Volume (vph) | 183 | 211 | |
| Future Volume (vph) | 183 | 211 | |
| Turn Type | NA | NA | |
| Protected Phases | 2 | 6 | 4 |
| Permitted Phases | | | |
| Detector Phases | 2 | 6 | |
| Switch Phase | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 65.0 | 65.0 | 25.0 |
| Total Split (%) | 72.2% | 72.2% | 28% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | |
| Lead-Lag Optimize? | | | |
| Recall Mode | C-Max | C-Max | None |
| Act Effect Green (s) | 77.6 | 77.6 | |
| Actuated g/C Ratio | 0.86 | 0.86 | |
| v/C Ratio | 0.11 | 0.13 | |
| Control Delay | 3.7 | 3.5 | |
| Queue Delay | 0.0 | 0.0 | |
| Total Delay | 3.7 | 3.5 | |
| LOS | A | A | |
| Approach Delay | 3.7 | 3.5 | |
| Approach LOS | A | A | |
| Intersection Summary | | | |
| Cycle Length: 90 | | | |
| Actuated Cycle Length: 90 | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green | | | |
| Natural Cycle: 50 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/C Ratio: 0.13 | | | |
| Intersection Signal Delay: 3.6 | | | |
| Intersection Capacity Utilization 20.8% | | | |
| ICU Level of Service A | | | |
| Analysis Period (min) 15 | | | |



Splits and Phases: 88: Humber Station Rd & Street EE

Queues
88: Humber Station Rd & Street EE

05-16-2023

| | NBT | SBT |
|-----------------------------|-------|-------|
| Lane Group | 183 | 211 |
| Lane Group Flow (vph) | 0.11 | 0.13 |
| v/c Ratio | 3.7 | 3.5 |
| Control Delay | 0.0 | 0.0 |
| Queue Delay | 3.7 | 3.5 |
| Total Delay | 0.0 | 0.0 |
| Queue Length 50th (m) | 19.0 | 21.9 |
| Queue Length 95th (m) | 323.2 | 104.1 |
| Internal Link Dist (m) | | |
| Turn Bay Length (m) | | |
| Base Capacity (vph) | 1623 | 1623 |
| Starvation Cap Reductn | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 |
| Storage Cap Reductn | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.13 |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis
88: Humber Station Rd & Street EE

05-16-2023

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|------|------|-------|---------------------------|------|------|
| Lane Configurations | W | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 183 | 211 | 0 |
| Future Volume (vph) | 0 | 0 | 0 | 183 | 211 | 0 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | 6.0 | 6.0 | | |
| Lane Util. Factor | | | 1.00 | 1.00 | | |
| Frb. ped/bikes | | | 1.00 | 1.00 | | |
| Frb. ped/bikes | | | 1.00 | 1.00 | | |
| Frt | | | 1.00 | 1.00 | | |
| Flt Protected | | | 1.00 | 1.00 | | |
| Satd. Flow (prot) | | | 1883 | 1883 | | |
| Flt Permitted | | | 1.00 | 1.00 | | |
| Satd. Flow (perm) | | | 1883 | 1883 | | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 0 | 0 | 0 | 183 | 211 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 183 | 211 | 0 |
| Confl. Peds. (#/hr) | | | 50 | | | 50 |
| Turn Type | Prot | | NA | NA | | |
| Protected Phases | 4 | | 2 | 6 | | |
| Permitted Phases | | | 2 | | | |
| Actuated Green, G (s) | | | 70.4 | 70.4 | | |
| Effective Green, g (s) | | | 70.4 | 70.4 | | |
| Actuated g/C Ratio | | | 0.78 | 0.78 | | |
| Clearance Time (s) | | | 6.0 | 6.0 | | |
| Vehicle Extension (s) | | | 3.0 | 3.0 | | |
| Lane Grp Cap (vph) | | | 1472 | 1472 | | |
| v/s Ratio Prot | | | 0.10 | 0.11 | | |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | | 0.12 | 0.14 | | |
| Uniform Delay, d1 | | | 2.4 | 2.4 | | |
| Progression Factor | | | 1.00 | 0.96 | | |
| Incremental Delay, d2 | | | 0.2 | 0.2 | | |
| Delay (s) | | | 2.5 | 2.5 | | |
| Level of Service | | | A | A | | |
| Approach Delay (s) | 0.0 | | 2.5 | 2.5 | | |
| Approach LOS | A | | A | A | | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | | 2.5 | HCM 2000 Level of Service | | A |
| HCM 2000 Volume to Capacity ratio | | | 0.13 | | | |
| Actuated Cycle Length (s) | | | 90.0 | Sum of lost time (s) | | 12.0 |
| Intersection Capacity Utilization | | | 20.8% | ICU Level of Service | | A |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics

05-16-2023

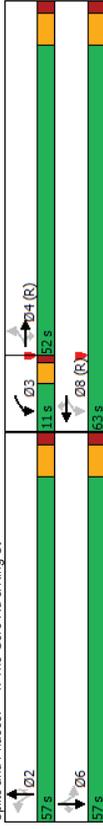
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 139.9 | 0.0 | 25.0 | 199.9 | 50.0 | 175.0 | 50.0 | 0.0 | 0.0 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Storage Lanes | 0.0 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 |
| Taper Length (m) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.93 | 0.86 | 0.93 | 0.86 | 0.94 | 0.86 | 0.89 | 0.86 | 0.89 | 0.86 | 0.89 | 0.86 |
| Pad Bike Factor | 0.950 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 |
| Flt Protected | 1562 | 1746 | 1585 | 1681 | 1779 | 1633 | 1261 | 1921 | 1432 | 1681 | 1921 | 1633 |
| Satd. Flow (prot) | 0.531 | 0.546 | 0.546 | 0.546 | 0.546 | 0.546 | 0.546 | 0.546 | 0.546 | 0.546 | 0.546 | 0.546 |
| Satd. Flow (perm) | 810 | 1746 | 1359 | 899 | 1779 | 1400 | 284 | 1921 | 1228 | 1114 | 1921 | 1400 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 48 | 171 | 171 | 50 | 33 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Link Speed (k/h) | 363.2 | 207.4 | 207.4 | 628.6 | 45.3 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 |
| Link Distance (m) | 27.2 | 27.2 | 27.2 | 27.2 | 27.2 | 27.2 | 27.2 | 27.2 | 27.2 | 27.2 | 27.2 | 27.2 |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

Timings

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|---|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 51 | 259 | 171 | 43 | 390 | 27 | 11 | 72 | 24 | 100 | 377 | 125 |
| Traffic Volume (vph) | 51 | 259 | 171 | 43 | 390 | 27 | 11 | 72 | 24 | 100 | 377 | 125 |
| Future Volume (vph) | Perm | NA | Perm | pmt-pt | NA | Perm | Perm | Perm | NA | Perm | Perm | NA |
| Turn Type | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Protected Phases | 4 | 4 | 4 | 3 | 3 | 3 | 8 | 8 | 8 | 2 | 2 | 2 |
| Permitted Phases | 4 | 4 | 4 | 3 | 3 | 3 | 8 | 8 | 8 | 2 | 2 | 2 |
| Detector Phase | 4 | 4 | 4 | 3 | 3 | 3 | 8 | 8 | 8 | 2 | 2 | 2 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 |
| Minimum Split (s) | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 |
| Total Split (s) | 43.3% | 43.3% | 43.3% | 43.3% | 43.3% | 43.3% | 43.3% | 43.3% | 43.3% | 43.3% | 43.3% | 43.3% |
| Total Split (%) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| Yellow Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| All-Red Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lost Time Adjust (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Total Lost Time (s) | Lag | Lag | Lag | Lag | Lag | Lag | Lag | Lag | Lag | Lag | Lag | Lag |
| Lead/Lag | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Lead/Lag Optimize? | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min |
| Recall Mode | 68.1 | 68.1 | 68.1 | 68.1 | 68.1 | 68.1 | 68.1 | 68.1 | 68.1 | 68.1 | 68.1 | 68.1 |
| Act Effct Green (s) | 0.57 | 0.57 | 0.57 | 0.57 | 0.57 | 0.57 | 0.57 | 0.57 | 0.57 | 0.57 | 0.57 | 0.57 |
| Actuated g/C Ratio | 0.11 | 0.26 | 0.20 | 0.07 | 0.34 | 0.03 | 0.16 | 0.15 | 0.07 | 0.36 | 0.79 | 0.28 |
| v/C Ratio | 16.6 | 16.3 | 3.2 | 9.1 | 12.1 | 3.1 | 37.2 | 33.5 | 0.4 | 39.1 | 53.7 | 6.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay | 16.6 | 16.3 | 3.2 | 9.1 | 12.1 | 3.1 | 37.2 | 33.5 | 0.4 | 39.1 | 53.7 | 6.9 |
| Queue Delay | B | B | A | A | B | A | D | C | A | D | D | A |
| Total Delay | 11.7 | 11.7 | 11.3 | 26.4 | 41.5 | 41.5 | 41.5 | 41.5 | 41.5 | 41.5 | 41.5 | 41.5 |
| LOS | Intersection Summary | | | | | | | | | | | |
| Approach Delay | Cycle Length: 120 | | | | | | | | | | | |
| Approach LOS | Actuated Cycle Length: 120 | | | | | | | | | | | |
| | Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | |
| | Natural Cycle: 75 | | | | | | | | | | | |
| | Control Type: Actuated-Coordinated | | | | | | | | | | | |
| | Maximum v/C Ratio: 0.79 | | | | | | | | | | | |
| | Intersection Signal Delay: 23.4 | | | | | | | | | | | |
| | Intersection Capacity Utilization 71.7% | | | | | | | | | | | |
| | ICU Level of Service C | | | | | | | | | | | |
| | Analysis Period (min) 15 | | | | | | | | | | | |

Splits and Phases: 1: The Core Rd & King St.



Queues
05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|------|-------|------|-------|------|------|-------|------|------|-------|-------|------|
| Lane Group | 51 | 259 | 171 | 43 | 390 | 27 | 11 | 72 | 24 | 100 | 377 | 125 |
| Lane Group Flow (vph) | 0.11 | 0.26 | 0.20 | 0.07 | 0.34 | 0.03 | 0.16 | 0.15 | 0.07 | 0.36 | 0.79 | 0.28 |
| v/c Ratio | 16.6 | 16.3 | 3.2 | 9.1 | 12.1 | 3.1 | 37.2 | 33.5 | 0.4 | 39.1 | 53.7 | 6.9 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 16.6 | 16.3 | 3.2 | 9.1 | 12.1 | 3.1 | 37.2 | 33.5 | 0.4 | 39.1 | 53.7 | 6.9 |
| Total Delay | 5.7 | 31.7 | 0.0 | 3.3 | 40.4 | 0.0 | 2.1 | 13.9 | 0.0 | 20.3 | 86.8 | 0.0 |
| Queue Length 50th (m) | 15.4 | 59.2 | 12.3 | 9.4 | 73.1 | 3.6 | 7.0 | 23.5 | 0.0 | 33.2 | 110.1 | 13.6 |
| Queue Length 95th (m) | | | | | | | | | | | | |
| Internal Link Dist (m) | | 339.2 | | 183.4 | | | 604.6 | | | | 554.8 | |
| Turn Bay Length (m) | | | | 139.9 | | 25.0 | 199.9 | | 50.0 | 175.0 | | 50.0 |
| Base Capacity (vph) | 459 | 991 | 845 | 643 | 1140 | 909 | 119 | 806 | 555 | 467 | 806 | 660 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.26 | 0.20 | 0.07 | 0.34 | 0.03 | 0.09 | 0.09 | 0.04 | 0.21 | 0.47 | 0.19 |
| Intersection Summary | | | | | | | | | | | | |

HCM Signalized Intersection Capacity Analysis
05-16-2023

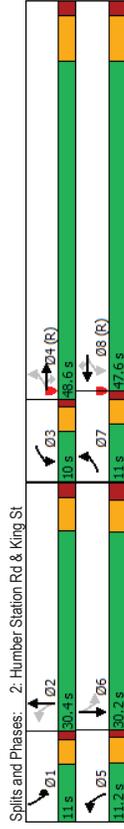
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|----------------------------------|------|------|-------|------|------|------|------|------|------|------|------|
| Lane Configurations | 51 | 259 | 171 | 43 | 390 | 27 | 11 | 72 | 24 | 100 | 377 | 125 |
| Traffic Volume (vph) | 51 | 259 | 171 | 43 | 390 | 27 | 11 | 72 | 24 | 100 | 377 | 125 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vph/b) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.7 |
| Lane Width | 6.6 | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.93 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.89 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.86 |
| Frbp. ped/bikes | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.86 |
| Flt | 0.95 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | 1.00 | 0.95 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 1448 | 1746 | 1359 | 1614 | 1779 | 1400 | 1201 | 1921 | 1228 | 1481 | 1921 | 1400 |
| Satd. Flow (prot) | 810 | 1746 | 1359 | 929 | 1779 | 1400 | 287 | 1921 | 1228 | 1114 | 1921 | 1400 |
| Flt Permitted | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 51 | 259 | 171 | 43 | 390 | 27 | 11 | 72 | 24 | 100 | 377 | 125 |
| Adj. Flow (vph) | 0 | 0 | 75 | 0 | 0 | 10 | 0 | 0 | 18 | 0 | 0 | 94 |
| RTOR Reduction (vph) | 51 | 259 | 96 | 43 | 390 | 17 | 11 | 72 | 6 | 100 | 377 | 31 |
| Lane Group Flow (vph) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Conf. Peds. (#/hr) | 13% | 10% | 3% | 5% | 8% | 0% | 40% | 0% | 14% | 5% | 0% | 0% |
| Heavy Vehicles (%) | Perm | NA | Perm | pm-pt | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Turn Type | 4 | 4 | 3 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 | 6 |
| Protected Phases | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 | 6 |
| Permitted Phases | 67.3 | 67.3 | 67.3 | 76.9 | 76.9 | 76.9 | 29.9 | 29.9 | 29.9 | 29.9 | 29.9 | 29.9 |
| Actuated Green, G (s) | 67.3 | 67.3 | 67.3 | 76.9 | 76.9 | 76.9 | 29.9 | 29.9 | 29.9 | 29.9 | 29.9 | 29.9 |
| Effective Green, g (s) | 0.56 | 0.56 | 0.56 | 0.64 | 0.64 | 0.64 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Actuated g/C Ratio | 6.6 | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Clearance Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Vehicle Extension (s) | 454 | 979 | 762 | 627 | 1140 | 897 | 71 | 478 | 305 | 277 | 478 | 348 |
| Lane Grp Cap (vph) | 0.15 | 0.07 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.02 |
| v/s Ratio Prot | 0.11 | 0.26 | 0.13 | 0.07 | 0.34 | 0.02 | 0.15 | 0.15 | 0.02 | 0.36 | 0.79 | 0.09 |
| v/s Ratio Perm | 12.4 | 13.6 | 12.5 | 8.1 | 9.9 | 7.8 | 35.2 | 35.1 | 34.0 | 37.2 | 42.1 | 34.6 |
| Uniform Delay, d1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Progression Factor | 0.5 | 0.7 | 0.3 | 0.0 | 0.8 | 0.0 | 1.0 | 0.1 | 0.0 | 0.8 | 8.4 | 0.1 |
| Incremental Delay, d2 | 12.9 | 14.2 | 12.8 | 8.2 | 10.7 | 7.9 | 36.2 | 35.3 | 34.0 | 38.0 | 50.5 | 34.7 |
| Delay (s) | B | B | B | A | B | A | D | D | C | D | D | C |
| Level of Service | B | B | B | A | B | A | D | D | C | D | D | C |
| Approach Delay (s) | 13.6 | | | 10.3 | | | 35.1 | | | 45.2 | | |
| Approach LOS | B | | | B | | | D | | | D | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 25.6 HCM 2000 Level of Service C | | | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.48 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 Sum of lost time (s) 17.2 | | | | | | | | | | | |
| Intersection Capacity Utilization | 71.7% ICU Level of Service C | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c. Critical Lane Group | | | | | | | | | | | | |

Lanes and Geometrics
05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR | |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR | |
| Lane Configurations | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Ideal Flow (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | |
| Storage Length (m) | 50.0 | 25.0 | 50.0 | 50.0 | 50.0 | 25.0 | 0.0 | 0.0 | 0.0 | 50.0 | 0.0 | |
| Storage Lanes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | |
| Taper Length (m) | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 0.0 | 0.0 | 0.0 | 7.6 | 0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Pad Bike Factor | 0.96 | 0.88 | 0.94 | 0.88 | 0.91 | 0.88 | 0.91 | 0.93 | 0.93 | 0.90 | 0.99 | |
| Frt | 0.950 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.910 | 0.910 | 0.910 | 0.868 | 0.988 | |
| Flt Protected | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | |
| Satd. Flow (prot) | 1765 | 1762 | 1555 | 1697 | 1830 | 1633 | 1089 | 1176 | 0 | 1226 | 1749 | 0 |
| Flt Permitted | 0.470 | 0.470 | 0.470 | 0.470 | 0.470 | 0.470 | 0.711 | 0.711 | 0 | 0.738 | 0.738 | 0 |
| Satd. Flow (perm) | 839 | 1762 | 1365 | 792 | 1830 | 1434 | 738 | 1176 | 0 | 857 | 1749 | 0 |
| Right Turn on Red | Yes | Yes |
| Satd. Flow (RTOR) | 50 | 122 | 122 | 50 | 122 | 122 | 18 | 18 | 18 | 4 | 4 | 4 |
| Link Speed (k/h) | 329.7 | 329.7 | 329.7 | 329.7 | 329.7 | 329.7 | 348.5 | 348.5 | 348.5 | 347.2 | 347.2 | 50 |
| Link Distance (m) | 23.7 | 23.7 | 23.7 | 60.5 | 60.5 | 60.5 | 25.1 | 25.1 | 25.1 | 25.0 | 25.0 | 25.0 |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

Timings
05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBR | |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBR | |
| Lane Configurations | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| Traffic Volume (vph) | 347 | 103 | 73 | 456 | 12 | 17 | 12 | 17 | 12 | 17 | 59 |
| Future Volume (vph) | 5 | 347 | 103 | 73 | 456 | 12 | 17 | 12 | 17 | 59 | 59 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | pm+pt | NA | NA |
| Protected Phases | 7 | 4 | 4 | 3 | 8 | 8 | 2 | 5 | 2 | 1 | 6 |
| Permitted Phases | 4 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | 1 | 6 | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | 1 | 6 | 6 |
| Switch Phase | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Minimum Initial (s) | 11.0 | 31.4 | 31.4 | 10.0 | 31.4 | 31.4 | 11.2 | 30.0 | 11.0 | 30.2 | 30.2 |
| Minimum Split (s) | 11.0 | 48.6 | 48.6 | 10.0 | 47.6 | 47.6 | 11.2 | 30.4 | 11.0 | 30.2 | 30.2 |
| Total Split (%) | 11.0% | 48.6% | 48.6% | 10.0% | 47.6% | 47.6% | 11.2% | 30.4% | 11.0% | 30.2% | 30.2% |
| Yellow Time (s) | 3.0 | 5.4 | 5.4 | 3.0 | 5.4 | 5.4 | 3.0 | 4.0 | 3.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 2.0 | 2.0 | 1.0 | 2.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.2 | 2.2 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.0 | 7.4 | 7.4 | 4.0 | 7.4 | 7.4 | 4.0 | 6.0 | 4.0 | 6.2 | 6.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes |
| Recall Mode | None | C-Min | None | C-Min | C-Min | None | None | Min | None | Min | Min |
| Act Effct Green (s) | 62.5 | 54.5 | 54.5 | 66.4 | 61.4 | 61.4 | 23.7 | 18.6 | 23.4 | 18.2 | 18.2 |
| Actuated g/C Ratio | 0.62 | 0.54 | 0.54 | 0.66 | 0.61 | 0.61 | 0.24 | 0.19 | 0.23 | 0.18 | 0.18 |
| v/C Ratio | 0.01 | 0.36 | 0.13 | 0.12 | 0.41 | 0.01 | 0.09 | 0.13 | 0.08 | 0.20 | 0.20 |
| Control Delay | 10.0 | 18.0 | 3.1 | 9.0 | 14.8 | 0.0 | 24.0 | 19.0 | 23.8 | 32.5 | 32.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 10.0 | 18.0 | 3.1 | 9.0 | 14.8 | 0.0 | 24.0 | 19.0 | 23.8 | 32.5 | 32.5 |
| LOS | A | B | A | A | B | A | C | B | C | C | C |
| Approach Delay | 14.5 | 13.7 | 13.7 | 13.7 | 13.7 | 13.7 | 13.7 | 13.7 | 13.7 | 13.7 | 13.7 |
| Approach LOS | B | B | B | B | B | B | C | C | C | C | C |
| Intersection Summary | | | | | | | | | | | |
| Cycle Length: 100 | | | | | | | | | | | |
| Actuated Cycle Length: 100 | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | |
| Natural Cycle: 85 | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | |
| Maximum v/C Ratio: 0.41 | | | | | | | | | | | |
| Intersection Signal Delay: 15.5 | | | | | | | | | | | |
| Intersection Capacity Utilization 61.3% | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | |



| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|------------------------|------|-------|------|-------|-------|------|-------|------|------|-------|
| Lane Group | 5 | 347 | 103 | 73 | 456 | 12 | 17 | 30 | 17 | 64 |
| Lane Group Flow (vph) | 0.01 | 0.36 | 0.13 | 0.12 | 0.41 | 0.01 | 0.09 | 0.13 | 0.08 | 0.20 |
| v/c Ratio | 10.0 | 18.0 | 3.1 | 9.0 | 14.8 | 0.0 | 24.0 | 19.0 | 23.8 | 32.5 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 10.0 | 18.0 | 3.1 | 9.0 | 14.8 | 0.0 | 24.0 | 19.0 | 23.8 | 32.5 |
| Total Delay | 0.3 | 31.0 | 0.0 | 3.1 | 29.3 | 0.0 | 2.9 | 2.1 | 2.9 | 10.9 |
| Queue Length 50th (m) | 2.2 | 80.1 | 7.8 | 13.7 | 105.8 | 0.0 | 6.6 | 9.3 | 6.6 | 20.7 |
| Queue Length 95th (m) | | 305.7 | | 816.4 | | | 324.5 | | | 323.2 |
| Internal Link Dist (m) | | | | | | 25.0 | | | | 50.0 |
| Turn Bay Length (m) | | | | | | | | | | |
| Base Capacity (vph) | 597 | 978 | 812 | 588 | 1124 | 928 | 200 | 301 | 227 | 422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.01 | 0.35 | 0.13 | 0.12 | 0.41 | 0.01 | 0.09 | 0.10 | 0.07 | 0.15 |
| Intersection Summary | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR | |
|-----------------------------------|-------|------|------|-------|-------|-------|-------|------|-------|-------|---------------------------|------|
| Lane Configurations | 5 | 347 | 103 | 73 | 456 | 12 | 17 | 12 | 18 | 17 | 59 | |
| Traffic Volume (vph) | 5 | 347 | 103 | 73 | 456 | 12 | 17 | 12 | 18 | 17 | 59 | |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Ideal Flow (vphpl) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | |
| Lane Width | 4.0 | 7.4 | 7.4 | 4.0 | 7.4 | 4.0 | 6.0 | 4.0 | 6.0 | 4.0 | 6.2 | |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | |
| Lane Util. Factor | 0.98 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.93 | 1.00 | 0.93 | 1.00 | 0.99 | |
| Frbp. ped/bikes | 1.00 | 1.00 | 0.88 | 1.00 | 1.00 | 0.88 | 1.00 | 0.93 | 1.00 | 0.93 | 1.00 | |
| Frbp. ped/bikes | 0.98 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.93 | 1.00 | 0.93 | 1.00 | 0.99 | |
| Frbp. ped/bikes | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.91 | 1.00 | 0.91 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | |
| Flt Protected | 1725 | 1762 | 1365 | 1657 | 1830 | 1434 | 1017 | 1176 | 1137 | 1750 | 1750 | |
| Flt Permitted | 0.47 | 1.00 | 1.00 | 0.47 | 1.00 | 1.00 | 0.71 | 1.00 | 0.71 | 1.00 | 0.71 | |
| Satd. Flow (perm) | 853 | 1762 | 1365 | 821 | 1830 | 1434 | 762 | 1176 | 883 | 1750 | 1750 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Adj. Flow (vph) | 5 | 347 | 103 | 73 | 456 | 12 | 17 | 12 | 18 | 17 | 59 | |
| RTOR Reduction (vph) | 0 | 0 | 50 | 0 | 0 | 5 | 0 | 15 | 0 | 0 | 3 | |
| Lane Group Flow (vph) | 5 | 347 | 53 | 73 | 456 | 7 | 17 | 15 | 0 | 17 | 61 | |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | |
| Heavy Vehicles (%) | 0% | 9% | 5% | 4% | 5% | 0% | 62% | 0% | 63% | 44% | 25% | |
| Turn Type | pm-pt | NA | Perm | pm-pt | NA | Perm | pm-pt | NA | pm-pt | NA | NA | |
| Protected Phases | 7 | 4 | 3 | 8 | 8 | 5 | 2 | 1 | 6 | 6 | 6 | |
| Permitted Phases | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 | |
| Actuated Green, G (s) | 52.5 | 51.3 | 51.3 | 61.0 | 55.8 | 55.8 | 21.7 | 18.6 | 21.3 | 18.3 | 18.3 | |
| Effective Green, g (s) | 52.5 | 51.3 | 51.3 | 61.0 | 55.8 | 55.8 | 21.7 | 18.6 | 21.3 | 18.3 | 18.3 | |
| Actuated g/C Ratio | 0.52 | 0.51 | 0.51 | 0.61 | 0.56 | 0.56 | 0.22 | 0.19 | 0.21 | 0.18 | 0.18 | |
| Clearance Time (s) | 4.0 | 7.4 | 7.4 | 4.0 | 7.4 | 4.0 | 6.0 | 4.0 | 6.0 | 4.0 | 6.2 | |
| 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) | 458 | 903 | 700 | 548 | 1021 | 800 | 173 | 218 | 195 | 320 | 320 | |
| v/s Ratio Prot | 0.00 | 0.20 | 0.04 | 0.07 | c0.25 | c0.00 | 0.01 | 0.00 | 0.00 | c0.03 | c0.03 | |
| v/s Ratio Perm | 0.01 | 0.04 | 0.07 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | |
| v/c Ratio | 0.01 | 0.38 | 0.08 | 0.13 | 0.45 | 0.01 | 0.10 | 0.07 | 0.09 | 0.19 | 0.19 | |
| Uniform Delay, d1 | 11.4 | 14.8 | 12.3 | 8.3 | 13.0 | 9.8 | 31.2 | 33.6 | 31.4 | 34.6 | 34.6 | |
| 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 | 0.0 | 1.2 | 0.2 | 0.1 | 1.4 | 0.0 | 0.2 | 0.1 | 0.2 | 0.3 | 0.3 | |
| Delay (s) | 11.4 | 16.0 | 12.5 | 8.4 | 14.4 | 9.8 | 31.4 | 33.7 | 31.6 | 34.9 | 34.9 | |
| Level of Service | B | B | B | A | B | A | C | C | C | C | C | |
| Approach Delay (s) | B | B | B | B | B | B | B | B | B | B | B | |
| Approach LOS | B | B | B | B | B | B | B | B | B | B | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 16.5 | | | | | | | | | | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.37 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 100.0 | | | | | | | | | | Sum of lost time (s) | 21.6 |
| Intersection Capacity Utilization | 61.3% | | | | | | | | | | ICU Level of Service | B |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c. Critical Lane Group | | | | | | | | | | | | |

Lanes and Geometrics
1: The Gore Rd & King St

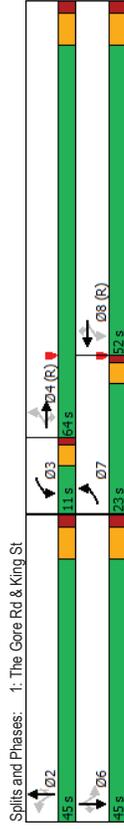
05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Ideal Flow (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0.0 | 0.0 | 139.9 | 0.0 | 25.0 | 199.9 | 0.0 | 50.0 | 175.0 | 0.0 | 50.0 | 0.0 |
| Storage Lanes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Taper Length (m) | 0.0 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | 0.95 | 0.86 | 0.93 | 0.86 | 0.94 | 0.86 | 0.91 | 0.91 | 0.97 | 0.85 | 0.91 | 0.91 |
| Frt | 0.950 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 |
| Flt Protected | 1562 | 3318 | 1585 | 1681 | 3380 | 1633 | 1261 | 3650 | 1432 | 1681 | 3650 | 1633 |
| Satd. Flow (prot) | 0.428 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 |
| Satd. Flow (perm) | 670 | 3318 | 1359 | 818 | 3380 | 1400 | 804 | 3650 | 1310 | 487 | 3650 | 1493 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 48 | 69 | 69 | 50 | 105 | 105 | 50 | 105 | 105 | 50 | 105 | 105 |
| Link Speed (k/h) | 363.2 | 27.2 | 207.4 | 628.6 | 45.3 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 |
| Travel Time (s) | 27.2 | 27.2 | 207.4 | 628.6 | 45.3 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 |
| Other | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |

Timings
1: The Gore Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Lane Configurations | 148 | 442 | 20 | 51 | 515 | 101 | 57 | 465 | 36 | 38 | 171 | 58 |
| Traffic Volume (vph) | 148 | 442 | 20 | 51 | 515 | 101 | 57 | 465 | 36 | 38 | 171 | 58 |
| Future Volume (vph) | 148 | 442 | 20 | 51 | 515 | 101 | 57 | 465 | 36 | 38 | 171 | 58 |
| Turn Type | pm-pt | NA | Perm | pm-pt | NA | Perm | Perm | Perm | NA | Perm | NA | Perm |
| Protected Phases | 7 | 4 | 4 | 3 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Permitted Phases | 4 | 4 | 4 | 4 | 3 | 8 | 8 | 2 | 2 | 6 | 6 | 6 |
| Detector Phases | 7 | 4 | 4 | 4 | 3 | 8 | 8 | 2 | 2 | 6 | 6 | 6 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 |
| Minimum Initial (s) | 11.0 | 30.6 | 30.6 | 9.0 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 |
| Minimum Split (s) | 23.0 | 64.0 | 64.0 | 11.0 | 52.0 | 52.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 |
| Total Split (s) | 19.2% | 53.3% | 53.3% | 9.2% | 43.3% | 43.3% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% |
| Total Split (%) | 3.0 | 4.6 | 4.6 | 3.0 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| Yellow Time (s) | 1.0 | 2.0 | 2.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| All-Red Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.0 | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lead/Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes |
| Recall Mode | None | C-Min | None | C-Min | None | C-Min | None | None | None | None | None | None |
| Act Effct Green (s) | 86.8 | 76.5 | 76.5 | 81.3 | 72.2 | 72.2 | 21.6 | 21.6 | 21.6 | 21.6 | 21.6 | 21.6 |
| Actuated g/C Ratio | 0.72 | 0.64 | 0.64 | 0.68 | 0.60 | 0.60 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| v/c Ratio | 0.27 | 0.21 | 0.21 | 0.25 | 0.11 | 0.11 | 0.40 | 0.71 | 0.11 | 0.44 | 0.26 | 0.16 |
| Control Delay | 6.5 | 10.3 | 10.3 | 5.7 | 12.3 | 12.3 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 6.5 | 10.3 | 10.3 | 5.7 | 12.3 | 12.3 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 |
| LOS | A | B | A | A | B | A | D | D | D | A | E | D |
| Approach Delay | 9.0 | 9.0 | 10.4 | 10.4 | 9.0 | 9.0 | 48.8 | 48.8 | 48.8 | 9.0 | 34.1 | 34.1 |
| Approach LOS | A | A | B | B | B | B | D | D | D | C | C | C |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: 120 | | | | | | | | | | | | |
| Actuated Cycle Length: 120 | | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | | |
| Natural Cycle: 75 | | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | | |
| Maximum v/c Ratio: 0.71 | | | | | | | | | | | | |
| Intersection Signal Delay: 23.2 | | | | | | | | | | | | |
| Intersection Capacity Utilization 82.7% | | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |



Queues

1: The Gore Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Group Flow (vph) | 148 | 442 | 20 | 51 | 515 | 101 | 57 | 465 | 36 | 38 | 171 | 58 |
| v/c Ratio | 0.27 | 0.21 | 0.02 | 0.08 | 0.25 | 0.11 | 0.40 | 0.71 | 0.11 | 0.44 | 0.26 | 0.16 |
| Control Delay | 6.5 | 10.3 | 0.1 | 5.7 | 12.3 | 2.6 | 51.0 | 52.2 | 0.7 | 55.2 | 39.6 | 4.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 6.5 | 10.3 | 0.1 | 5.7 | 12.3 | 2.6 | 51.0 | 52.2 | 0.7 | 55.2 | 39.6 | 4.0 |
| Queue Length 50th (m) | 9.1 | 22.4 | 0.0 | 2.9 | 28.4 | 0.0 | 12.6 | 57.4 | 0.0 | 8.4 | 19.4 | 0.2 |
| Queue Length 95th (m) | 18.6 | 36.0 | 0.0 | 7.5 | 45.7 | 7.8 | 25.3 | 71.6 | 0.0 | 19.9 | 28.4 | 8.6 |
| Internal Link Dist (m) | 339.2 | | | | | | | | | | | |
| Turn Bay Length (m) | 139.9 | | | | | | | | | | | |
| Base Capacity (vph) | 631 | 2115 | 891 | 609 | 2032 | 883 | 257 | 1168 | 490 | 155 | 1168 | 549 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.21 | 0.02 | 0.08 | 0.25 | 0.11 | 0.22 | 0.40 | 0.07 | 0.25 | 0.15 | 0.11 |

Intersection Summary

HCM Signalized Intersection Capacity Analysis

1: The Gore Rd & King St

05-15-2023

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|-------|------|------|------|-------|------|------|------|-------|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (vph) | 148 | 442 | 20 | 51 | 515 | 101 | 57 | 465 | 36 | 38 | 171 | 58 |
| Future Volume (vph) | 148 | 442 | 20 | 51 | 515 | 101 | 57 | 465 | 36 | 38 | 171 | 58 |
| Ideal Flow (vph/b) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.7 |
| Total Lost time (s) | 4.0 | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 |
| Frbp. ped/bikes | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.94 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 |
| Flt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Satd. Flow (prot) | 1528 | 3318 | 1359 | 1627 | 3380 | 1400 | 1186 | 3650 | 1310 | 1627 | 3650 | 1483 |
| Flt Permitted | 0.43 | 1.00 | 1.00 | 0.50 | 1.00 | 1.00 | 0.64 | 1.00 | 1.00 | 0.29 | 1.00 | 1.00 |
| Satd. Flow (perm) | 689 | 3318 | 1359 | 849 | 3380 | 1400 | 804 | 3650 | 1310 | 489 | 3650 | 1483 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 148 | 442 | 20 | 51 | 515 | 101 | 57 | 465 | 36 | 38 | 171 | 58 |
| RTOR Reduction (vph) | 0 | 0 | 7 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 48 |
| Lane Group Flow (vph) | 148 | 442 | 13 | 51 | 515 | 61 | 57 | 465 | 6 | 38 | 171 | 10 |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Heavy Vehicles (%) | 13% | 10% | 3% | 5% | 8% | 0% | 40% | 0% | 14% | 5% | 0% | 0% |
| Turn Type | pm-pt | NA | Perm | pm-pt | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 7 | 4 | 4 | 3 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 |
| Permitted Phases | 4 | 8 | 8 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 |
| Actuated Green, G (s) | 84.8 | 75.8 | 75.8 | 77.6 | 72.2 | 72.2 | 72.2 | 21.6 | 21.6 | 21.6 | 21.6 | 21.6 |
| Effective Green, g (s) | 84.8 | 75.8 | 75.8 | 77.6 | 72.2 | 72.2 | 21.6 | 21.6 | 21.6 | 21.6 | 21.6 | 21.6 |
| Actuated g/C Ratio | 0.71 | 0.63 | 0.63 | 0.65 | 0.60 | 0.60 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 549 | 2095 | 868 | 584 | 2033 | 842 | 144 | 657 | 235 | 88 | 657 | 268 |
| v/s Ratio Prot | c0.02 | 0.13 | 0.01 | 0.00 | 0.15 | 0.04 | 0.07 | c0.13 | 0.00 | 0.08 | 0.05 | 0.01 |
| v/s Ratio Perm | c0.17 | 0.01 | 0.01 | 0.05 | 0.04 | 0.04 | 0.07 | 0.04 | 0.03 | 0.43 | 0.26 | 0.04 |
| v/c Ratio | 0.27 | 0.21 | 0.01 | 0.09 | 0.25 | 0.07 | 0.40 | 0.71 | 0.03 | 0.43 | 0.26 | 0.04 |
| Uniform Delay, d1 | 5.9 | 9.4 | 8.2 | 7.7 | 11.2 | 10.0 | 43.4 | 46.2 | 40.5 | 43.7 | 42.3 | 40.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.92 | 0.93 | 0.97 |
| Incremental Delay, d2 | 0.3 | 0.2 | 0.0 | 0.1 | 0.3 | 0.2 | 1.8 | 3.5 | 0.0 | 3.3 | 0.2 | 0.1 |
| Delay (s) | 6.1 | 9.6 | 8.2 | 7.8 | 11.5 | 10.1 | 45.2 | 49.7 | 40.6 | 43.5 | 39.5 | 161.5 |
| Level of Service | A | A | A | A | B | B | D | D | D | D | D | F |
| Approach Delay (s) | 8.7 | | | 11.0 | | | 48.7 | | | 66.6 | | |
| Approach LOS | A | | | B | | | D | | | E | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 27.4 | | | | | | | | | | | C |
| HCM 2000 Volume to Capacity ratio | 0.37 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 | | | | | | | | | | | 17.2 |
| Intersection Capacity Utilization | 82.7% | | | | | | | | | | | E |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c. Critical Lane Group | | | | | | | | | | | | |

Future Background 2041 With Improvements - PM Peak 1:31 pm 05-10-2023

Lanes and Geometrics
2: Humber Station Rd & King St

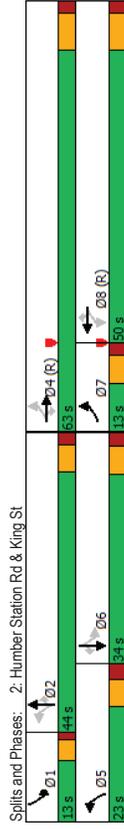
05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Grade (%) | 50.0 | 0% | 25.0 | 50.0 | 0% | 25.0 | 50.0 | 0% | 50.0 | 50.0 | 0% | 50.0 |
| Storage Length (m) | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 |
| Taper Length (m) | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Lane Util. Factor | 0.97 | 0.91 | 0.96 | 0.91 | 0.95 | 0.86 | 0.89 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Friction | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 |
| Satd. Flow (prot) | 1765 | 3349 | 1555 | 1697 | 3476 | 1633 | 1089 | 3650 | 1002 | 1266 | 3444 | 1306 |
| FI Permitted | 0.399 | 0.454 | 0.454 | 0.454 | 0.454 | 0.454 | 0.454 | 0.454 | 0.454 | 0.454 | 0.454 | 0.454 |
| Satd. Flow (perm) | 721 | 3349 | 1422 | 782 | 3476 | 1493 | 548 | 3650 | 859 | 786 | 3444 | 1195 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 50 | 122 | 176 | 50 | 176 | 131 | 50 | 131 | 50 | 131 | 50 | 187 |
| Link Speed (k/h) | 329.7 | 840.4 | 348.5 | 347.2 | 347.2 | 347.2 | 347.2 | 347.2 | 347.2 | 347.2 | 347.2 | 347.2 |
| Link Distance (m) | 23.7 | 60.5 | 25.1 | 25.1 | 25.1 | 25.1 | 25.1 | 25.1 | 25.1 | 25.1 | 25.0 | 25.0 |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

Timings
2: Humber Station Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Lane Configurations | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Traffic Volume (vph) | 18 | 533 | 24 | 18 | 518 | 54 | 71 | 111 | 68 | 14 | 138 | 58 |
| Future Volume (vph) | 18 | 533 | 24 | 18 | 518 | 54 | 71 | 111 | 68 | 14 | 138 | 58 |
| Turn Type | pm-pt | NA | Perm | Perm | NA | Perm | pm-pt | NA | Perm | pm-pt | NA | Perm |
| Protected Phases | 7 | 4 | | 8 | | 8 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 |
| Detector Phases | 7 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | 2 | 2 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.0 | 31.4 | 31.4 | 31.4 | 31.4 | 31.4 | 11.2 | 30.0 | 30.0 | 11.0 | 30.2 | 30.2 |
| Total Split (s) | 13.0 | 63.0 | 63.0 | 50.0 | 50.0 | 50.0 | 23.0 | 44.0 | 44.0 | 13.0 | 34.0 | 34.0 |
| Total Split (%) | 10.8% | 52.5% | 52.5% | 41.7% | 41.7% | 41.7% | 19.2% | 36.7% | 36.7% | 10.8% | 28.3% | 28.3% |
| Yellow Time (s) | 4.0 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 4.0 | 4.0 | 4.0 | 3.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.0 | 2.2 | 2.2 |
| 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 | 0.0 |
| Total Lost Time (s) | 6.0 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 6.2 | 6.0 | 6.0 | 4.0 | 6.2 | 6.2 |
| Lead/Lag | Lead | Lag | Lag | Lag | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes |
| Recall Mode | None | C-Min | C-Min | C-Min | C-Min | C-Min | None | None | None | None | None | None |
| Act Effct Green (s) | 73.9 | 72.5 | 72.5 | 67.4 | 67.4 | 67.4 | 33.9 | 29.5 | 29.5 | 25.8 | 18.2 | 18.2 |
| Actuated g/C Ratio | 0.62 | 0.60 | 0.60 | 0.56 | 0.56 | 0.56 | 0.28 | 0.25 | 0.25 | 0.22 | 0.15 | 0.15 |
| v/c Ratio | 0.04 | 0.26 | 0.03 | 0.04 | 0.27 | 0.06 | 0.34 | 0.12 | 0.22 | 0.07 | 0.26 | 0.17 |
| Control Delay | 13.1 | 13.5 | 0.0 | 19.9 | 17.5 | 0.1 | 33.5 | 33.5 | 1.6 | 25.4 | 45.1 | 1.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 13.1 | 13.5 | 0.0 | 19.9 | 17.5 | 0.1 | 33.5 | 33.5 | 1.6 | 25.4 | 45.1 | 1.1 |
| LOS | B | B | A | B | B | A | C | C | A | C | D | A |
| Approach Delay | 12.9 | 12.9 | 16.0 | 24.9 | 24.9 | 24.9 | 31.6 | 31.6 | 31.6 | 31.6 | 31.6 | 31.6 |
| Approach LOS | B | B | B | B | B | B | C | C | C | C | C | C |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: 120 | | | | | | | | | | | | |
| Actuated Cycle Length: 120 | | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | | |
| Natural Cycle: 85 | | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | | |
| Maximum v/c Ratio: 0.34 | | | | | | | | | | | | |
| Intersection Signal Delay: 18.3 | | | | | | | | | | | | |
| Intersection Capacity Utilization 60.2% | | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |



Queues
2: Humber Station Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Group Flow (vph) | 18 | 533 | 24 | 18 | 518 | 54 | 71 | 111 | 68 | 14 | 138 | 58 |
| v/c Ratio | 0.04 | 0.26 | 0.03 | 0.04 | 0.27 | 0.06 | 0.34 | 0.12 | 0.22 | 0.07 | 0.26 | 0.17 |
| Control Delay | 13.1 | 13.5 | 0.0 | 19.9 | 17.5 | 0.1 | 33.5 | 33.5 | 1.6 | 25.4 | 45.1 | 1.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 13.1 | 13.5 | 0.0 | 19.9 | 17.5 | 0.1 | 33.5 | 33.5 | 1.6 | 25.4 | 45.1 | 1.1 |
| Queue Length 50th (m) | 1.6 | 30.0 | 0.0 | 1.7 | 28.8 | 0.0 | 13.4 | 10.6 | 0.0 | 2.4 | 16.5 | 0.0 |
| Queue Length 95th (m) | 6.0 | 52.5 | 0.0 | 8.0 | 62.7 | 0.0 | 22.1 | 17.6 | 0.0 | 6.3 | 24.4 | 0.0 |
| Internal Link Dist (m) | 305.7 | | | | | | | | | | | |
| Turn Bay Length (m) | 50.0 | 25.0 | | | | | | | | | | |
| Base Capacity (vph) | 505 | 2023 | 907 | 439 | 1952 | 915 | 232 | 1155 | 361 | 213 | 797 | 420 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.26 | 0.03 | 0.04 | 0.27 | 0.06 | 0.31 | 0.10 | 0.19 | 0.07 | 0.17 | 0.14 |

Intersection Summary

HCM Signalized Intersection Capacity Analysis
2: Humber Station Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|------------------------|-------|------|-------|-------|-------|-------|------|------|-------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Traffic Volume (vph) | 18 | 533 | 24 | 18 | 518 | 54 | 71 | 111 | 68 | 14 | 138 | 58 |
| Future Volume (vph) | 18 | 533 | 24 | 18 | 518 | 54 | 71 | 111 | 68 | 14 | 138 | 58 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Total Lost time (s) | 6.0 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 6.2 | 6.0 | 6.0 | 4.0 | 6.2 | 6.2 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.91 |
| Frbp. ped/bikes | 0.99 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.93 | 1.00 | 1.00 |
| Flt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Satd. Flow (prot) | 1746 | 3349 | 1422 | 1636 | 3476 | 1493 | 1061 | 3650 | 859 | 1138 | 3444 | 1195 |
| Flt Permitted | 0.40 | 1.00 | 1.00 | 0.45 | 1.00 | 1.00 | 0.50 | 1.00 | 1.00 | 0.68 | 1.00 | 1.00 |
| Satd. Flow (perm) | 732 | 3349 | 1422 | 782 | 3476 | 1493 | 564 | 3650 | 859 | 817 | 3444 | 1195 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 18 | 533 | 24 | 18 | 518 | 54 | 71 | 111 | 68 | 14 | 138 | 58 |
| RTOR Reduction (vph) | 0 | 0 | 10 | 0 | 0 | 26 | 0 | 0 | 51 | 0 | 0 | 49 |
| Lane Group Flow (vph) | 18 | 533 | 14 | 18 | 518 | 28 | 71 | 111 | 17 | 14 | 138 | 9 |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Heavy Vehicles (%) | 0% | 9% | 5% | 4% | 5% | 0% | 62% | 0% | 63% | 44% | 6% | 25% |
| Turn Type | pm-pt | NA | Perm | Perm | NA | Perm | pm-pt | NA | Perm | pm-pt | NA | Perm |
| Protected Phases | 7 | 4 | | 8 | 8 | 5 | 2 | 2 | 1 | 1 | 6 | 6 |
| Permitted Phases | 4 | | 4 | 8 | 8 | 2 | 2 | 2 | 2 | 2 | 6 | 6 |
| Actuated Green, G (s) | 70.1 | 70.1 | 70.1 | 61.4 | 61.4 | 61.4 | 36.5 | 29.5 | 29.5 | 22.4 | 19.4 | 19.4 |
| Effective Green, g (s) | 70.1 | 70.1 | 70.1 | 61.4 | 61.4 | 61.4 | 36.5 | 29.5 | 29.5 | 22.4 | 19.4 | 19.4 |
| Actuated g/C Ratio | 0.58 | 0.58 | 0.58 | 0.51 | 0.51 | 0.51 | 0.30 | 0.25 | 0.25 | 0.19 | 0.16 | 0.16 |
| Clearance Time (s) | 6.0 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 6.2 | 6.0 | 6.0 | 4.0 | 6.2 | 6.2 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 450 | 1956 | 830 | 400 | 1778 | 763 | 215 | 897 | 211 | 160 | 556 | 193 |
| v/s Ratio Prot | 0.00 | c0.16 | | c0.15 | c0.15 | c0.03 | 0.03 | 0.00 | 0.00 | 0.04 | 0.01 | 0.01 |
| v/s Ratio Perm | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | c0.07 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 |
| v/c Ratio | 0.04 | 0.27 | 0.02 | 0.04 | 0.29 | 0.04 | 0.33 | 0.12 | 0.08 | 0.09 | 0.25 | 0.05 |
| Uniform Delay, d1 | 10.8 | 12.3 | 10.5 | 14.6 | 16.8 | 14.6 | 31.3 | 35.2 | 34.8 | 40.2 | 43.9 | 42.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.0 | 0.3 | 0.0 | 0.2 | 0.4 | 0.1 | 0.9 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 |
| Delay (s) | 10.9 | 12.7 | 10.5 | 14.9 | 17.2 | 14.7 | 32.2 | 35.3 | 35.0 | 40.4 | 44.2 | 42.6 |
| Level of Service | B | B | B | B | B | B | C | D | C | D | D | D |
| Approach Delay (s) | 12.5 | | | | | | | | | | | |
| Approach LOS | B | | | | | | | | | | | |
| Intersection Summary | Intersection Summary | | | | | | | | | | | |
| HCM 2000 Control Delay | 21.5 | | | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.33 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 | | | | | | | | | | | |
| Intersection Capacity Utilization | 60.2% | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c. Critical Lane Group | c. Critical Lane Group | | | | | | | | | | | |

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Intersection Summary | Intersection Summary | | | | | | | | | | | |
| HCM 2000 Control Delay | 21.5 | | | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.33 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 | | | | | | | | | | | |
| Intersection Capacity Utilization | 60.2% | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c. Critical Lane Group | c. Critical Lane Group | | | | | | | | | | | |

Lanes and Geometrics
8: The Gore Rd & Street Y

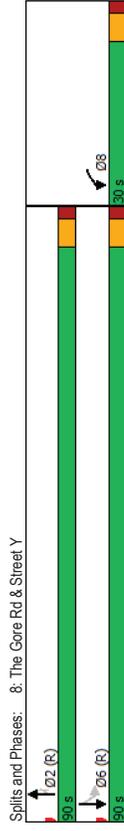
05-15-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|----------------------|-------|------|-------|-------|------|------|
| Lane Configurations | W | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 1 | 0 | 1 | 1 | 1 | 1 |
| Taper Length (m) | 0.0 | 0.0 | | | | |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 |
| Ped Bike Factor | 0.92 | | | 0.81 | | |
| Frt | 0.950 | | 0.850 | | | |
| Flt Protected | 1789 | 0 | 1789 | 1821 | 1883 | 1883 |
| Satd. Flow (prot) | 0.950 | | | | | |
| Satd. Flow (perm) | 1643 | 0 | 1789 | 1227 | 1821 | 1883 |
| Right Turn on Red | Yes | | Yes | Yes | | |
| Satd. Flow (RTOR) | 50 | | 50 | 1 | 48 | 48 |
| Link Speed (k/h) | 134.7 | | 576.8 | 211.4 | | |
| Travel Time (s) | 9.7 | | 41.7 | 15.9 | | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |

Timings
8: The Gore Rd & Street Y

05-15-2023

| | WBL | NBT | NBR | SBT |
|--|-------|-------|-------|-------|
| Lane Group | W | | | |
| Lane Configurations | W | | | |
| Traffic Volume (vph) | 5 | 827 | 1 | 305 |
| Future Volume (vph) | 5 | 827 | 1 | 305 |
| Turn Type | NA | Perm | NA | NA |
| Protected Phases | 8 | 2 | 2 | 6 |
| Permitted Phases | 8 | 2 | 2 | 6 |
| Detector Phase | | | | |
| Switch Phase | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 28.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 30.0 | 90.0 | 90.0 | 90.0 |
| Total Split (%) | 25.0% | 75.0% | 75.0% | 75.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | | | | |
| Recall Mode | None | C-Min | C-Min | C-Min |
| Act Effct Green (s) | 12.2 | 106.4 | 106.4 | 106.4 |
| Actuated g/C Ratio | 0.10 | 0.89 | 0.89 | 0.89 |
| v/C Ratio | 0.03 | 0.52 | 0.00 | 0.18 |
| Control Delay | 42.6 | 15.4 | 6.0 | 3.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 42.6 | 15.4 | 6.0 | 3.4 |
| LOS | D | B | A | A |
| Approach Delay | 42.6 | 15.4 | 3.4 | |
| Approach LOS | D | B | A | |
| Intersection Summary | | | | |
| Cycle Length: 120 | | | | |
| Actuated Cycle Length: 120 | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | |
| Natural Cycle: 70 | | | | |
| Control Type: Actuated-Coordinated | | | | |
| Maximum v/C Ratio: 0.52 | | | | |
| Intersection Signal Delay: 12.3 | | | | |
| Intersection Capacity Utilization 69.2% | | | | |
| Analysis Period (min) 15 | | | | |



Splits and Phases: 8: The Gore Rd & Street Y

Queues
8: The Gore Rd & Street Y

05-15-2023

| | WBL | NBT | NBR | SBT |
|---|-------|-------|------|-------|
| Lane Group | 5 | 827 | 1 | 305 |
| Lane Group Flow (vph) | 0.03 | 0.52 | 0.00 | 0.18 |
| v/c Ratio | 42.6 | 15.4 | 6.0 | 3.4 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 42.6 | 15.4 | 6.0 | 3.4 |
| Total Delay | 1.2 | 97.1 | 0.0 | 0.0 |
| Queue Length 50th (m) | 4.7 | 237.1 | m0.4 | 32.8 |
| Queue Length 95th (m) | 110.7 | 554.8 | | 187.4 |
| Internal Link Dist (m) | | | 25.0 | |
| Turn Bay Length (m) | 357 | 1586 | 1088 | 1669 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.01 | 0.52 | 0.00 | 0.18 |
| Intersection Summary | | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | | |

HCM Signalized Intersection Capacity Analysis
8: The Gore Rd & Street Y

05-15-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|------------------------|-----------------------------------|-------|---------------------------|------|------|------|
| Movement | W | | | | | |
| Lane Configurations | 5 | 0 | 827 | 1 | 0 | 305 |
| Traffic Volume (vph) | 5 | 0 | 827 | 1 | 0 | 305 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost time (s) | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.81 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frb. ped/bikes | 0.95 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 |
| Flt Protected | 1789 | 1789 | 1227 | 1883 | 1883 | 1883 |
| Satd. Flow (prot) | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Permitted | 1789 | 1789 | 1227 | 1883 | 1883 | 1883 |
| Satd. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 5 | 0 | 827 | 1 | 0 | 305 |
| Adj. Flow (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 5 | 0 | 827 | 1 | 0 | 305 |
| Lane Group Flow (vph) | 50 | 50 | 50 | 50 | 50 | 50 |
| Confl. Peds. (#/hr) | Prot | NA | Perm | Perm | NA | NA |
| Turn Type | 8 | 2 | 2 | 6 | 6 | 6 |
| Protected Phases | 8.8 | 99.2 | 99.2 | 99.2 | 99.2 | 99.2 |
| Permitted Phases | 8.8 | 99.2 | 99.2 | 99.2 | 99.2 | 99.2 |
| Actuated Green, G (s) | 0.07 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Effective Green, g (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Actuated g/C Ratio | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Clearance Time (s) | 131 | 1478 | 1014 | 1556 | 1556 | 1556 |
| Vehicle Extension (s) | v/s Ratio Prot | c0.00 | c0.46 | 0.00 | 0.16 | 0.16 |
| Lane Grp Cap (vph) | v/c Ratio | 0.04 | 0.56 | 0.00 | 0.20 | 0.20 |
| v/s Ratio Prot | Uniform Delay, d1 | 51.7 | 3.4 | 1.8 | 2.2 | 2.2 |
| v/c Ratio | Progression Factor | 1.00 | 2.86 | 1.53 | 1.00 | 1.00 |
| Uniform Delay, d1 | Incremental Delay, d2 | 0.1 | 1.5 | 0.0 | 0.3 | 0.3 |
| Progression Factor | Delay (s) | 51.8 | 11.1 | 2.8 | 2.4 | 2.4 |
| Incremental Delay, d2 | Level of Service | D | B | A | A | A |
| Delay (s) | Approach Delay (s) | 51.8 | 11.1 | 2.4 | 2.4 | 2.4 |
| Level of Service | Approach LOS | D | B | A | A | A |
| Approach Delay (s) | Intersection Summary | | | | | |
| Approach LOS | HCM 2000 Control Delay | 8.9 | HCM 2000 Level of Service | A | | |
| | HCM 2000 Volume to Capacity ratio | 0.52 | | | | |
| | Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 12.0 | | |
| | Intersection Capacity Utilization | 69.2% | ICU Level of Service | C | | |
| | Analysis Period (min) | 15 | | | | |
| | c Critical Lane Group | | | | | |

Lanes and Geometrics
10: The Gore Rd & Street A

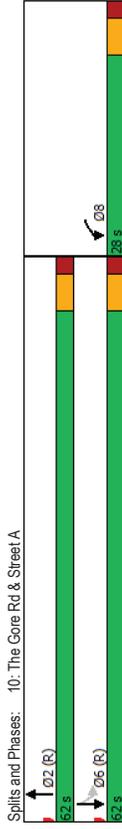
05-15-2023

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|----------------------|-------|------|-------|------|------|-------|
| Lane Configurations | W | W | P | P | R | R |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 50.0 | 0% | 0% |
| Taper Length (m) | 1 | 0 | 0 | 0 | 1 | 1 |
| Storage Lanes | 0.0 | 0 | 0 | 7.6 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.88 | | | | | |
| Fr | 0.865 | | | | | |
| Flt Protected | | | 0.950 | | | |
| Satd. Flow (prot) | 1433 | 0 | 1883 | 0 | 1730 | 1883 |
| Flt Permitted | | | 0.289 | | | |
| Satd. Flow (perm) | 1433 | 0 | 1883 | 0 | 526 | 1883 |
| Right Turn on Red | | Yes | Yes | Yes | | |
| Satd. Flow (RTOR) | 154 | | | | | |
| Link Speed (k/h) | 50 | | 50 | | | 50 |
| Link Distance (m) | 319.0 | | 265.4 | | | 374.2 |
| Travel Time (s) | 23.0 | | 19.1 | | | 26.9 |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings
10: The Gore Rd & Street A

05-15-2023

| Lane Group | WBL | NBT | SBL | SBT |
|--|-------|-------|-------|-------|
| Lane Configurations | W | P | R | R |
| Traffic Volume (vph) | 0 | 827 | 5 | 305 |
| Future Volume (vph) | 0 | 827 | 5 | 305 |
| Turn Type | Prot | NA | Perm | NA |
| Protected Phases | 8 | 2 | 6 | 6 |
| Permitted Phases | 8 | 2 | 6 | 6 |
| Detector Phase | | | | |
| Switch Phase | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 28.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 28.0 | 62.0 | 62.0 | 62.0 |
| Total Split (%) | 31.1% | 68.9% | 68.9% | 68.9% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | | | | |
| Recall Mode | None | C-Min | C-Min | C-Min |
| Act Effect Green (s) | 12.1 | 72.9 | 72.9 | 72.9 |
| Actuated g/C Ratio | 0.13 | 0.81 | 0.81 | 0.81 |
| v/C Ratio | 0.08 | 0.54 | 0.01 | 0.20 |
| Control Delay | 0.4 | 8.6 | 6.2 | 5.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 0.4 | 8.6 | 6.2 | 5.1 |
| LOS | A | A | A | A |
| Approach Delay | 0.4 | 8.6 | 5.1 | 5.1 |
| Approach LOS | A | A | A | A |
| Intersection Summary | | | | |
| Cycle Length: 90 | | | | |
| Actuated Cycle Length: 90 | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | |
| Natural Cycle: 65 | | | | |
| Control Type: Actuated-Coordinated | | | | |
| Maximum v/C Ratio: 0.54 | | | | |
| Intersection Signal Delay: 7.5 | | | | |
| Intersection Capacity Utilization 69.4% | | | | |
| Analysis Period (min) 15 | | | | |



| | WBL | NBT | SBL | SBT |
|-----------------------------|-------|-------|------|-------|
| Lane Group | 25 | 827 | 5 | 305 |
| Lane Group Flow (vph) | 0.08 | 0.54 | 0.01 | 0.20 |
| v/c Ratio | 0.4 | 8.6 | 6.2 | 5.1 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 0.4 | 8.6 | 6.2 | 5.1 |
| Total Delay | 0.0 | 37.3 | 0.1 | 9.2 |
| Queue Length 50th (m) | 0.0 | 134.8 | 1.6 | 35.1 |
| Queue Length 95th (m) | 295.0 | 241.4 | | 350.2 |
| Internal Link Dist (m) | | | 50.0 | |
| Turn Bay Length (m) | | | | |
| Base Capacity (vph) | 466 | 1525 | 426 | 1525 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.54 | 0.01 | 0.20 |
| Intersection Summary | | | | |

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|-------|------|---------------------------|------|------|------|
| Movement | W | | | | | |
| Lane Configurations | 0 | 25 | 827 | 0 | 5 | 305 |
| Traffic Volume (vph) | 0 | 25 | 827 | 0 | 5 | 305 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.88 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 0.86 | 1.00 | 1.00 | 0.95 | 1.00 |
| Flt Protected | 1433 | 1883 | 1883 | 1685 | 1883 | 1883 |
| Satd. Flow (prot) | 1.00 | 1.00 | 1.00 | 0.29 | 1.00 | 1.00 |
| Flt Permitted | 1433 | 1883 | 1883 | 512 | 1883 | 1883 |
| Satd. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 0 | 25 | 827 | 0 | 5 | 305 |
| Adj. Flow (vph) | 22 | 0 | 0 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 3 | 0 | 827 | 0 | 5 | 305 |
| Lane Group Flow (vph) | 50 | 50 | 50 | 50 | 50 | 50 |
| Confl. Peds. (#/hr) | Prot | NA | NA | Perm | NA | NA |
| Turn Type | 8 | 2 | 6 | | | |
| Protected Phases | | | | | | |
| Permitted Phases | 9.9 | 68.1 | 68.1 | 68.1 | 68.1 | 68.1 |
| Actuated Green, G (s) | 0.11 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Effective Green, g (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Actuated g/C Ratio | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Clearance Time (s) | 157 | 1424 | 387 | 1424 | | |
| Vehicle Extension (s) | 0.00 | 0.44 | 0.01 | 0.16 | | |
| Lane Grp Cap (vph) | 0.02 | 0.58 | 0.01 | 0.21 | | |
| v/s Ratio Prot | 35.7 | 4.8 | 2.7 | 3.2 | | |
| v/c Ratio | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Uniform Delay, d1 | 0.0 | 1.7 | 0.1 | 0.3 | | |
| Progression Factor | 35.8 | 6.5 | 2.8 | 3.5 | | |
| Incremental Delay, d2 | D | A | A | A | | |
| Delay (s) | 35.8 | 6.5 | 2.8 | 3.5 | | |
| Level of Service | D | A | A | A | | |
| Approach Delay (s) | 35.8 | 6.5 | 3.5 | 3.5 | | |
| Approach LOS | D | A | A | A | | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | 6.3 | | HCM 2000 Level of Service | | A | |
| HCM 2000 Volume to Capacity ratio | 0.51 | | | | | |
| Actuated Cycle Length (s) | 90.0 | | | | | |
| Sum of lost time (s) | 12.0 | | | | | |
| Intersection Capacity Utilization | 69.4% | | ICU Level of Service | | C | |
| Analysis Period (min) | 15 | | | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics
12: Street VV & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 319.0 | 319.0 | 314.6 | 314.6 | 187.1 | 187.1 | 204.6 | 204.6 | 14.7 | 14.7 | 14.7 | 14.7 |
| Travel Time (s) | 23.0 | 23.0 | 22.7 | 22.7 | 13.5 | 13.5 | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
12: Street VV & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 5 | 25 | 0 | 0 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Volume Right (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | | | | | | | | |
| Departure Headway (s) | 4.0 | 3.9 | 4.0 | 4.0 | | | | | | | | |
| Degree Utilization, x | 0.01 | 0.03 | 0.00 | 0.00 | | | | | | | | |
| Capacity (veh/h) | 902 | 909 | 900 | 900 | | | | | | | | |
| Control Delay (s) | 7.0 | 7.0 | 7.0 | 7.0 | | | | | | | | |
| Approach Delay (s) | 7.0 | 7.0 | 0.0 | 0.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
14: Street JJ & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|------|-------|-------|------|------|------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 314.6 | 275.2 | 19.8 | 590.8 | 204.6 | 14.7 | | | | | | |
| Travel Time (s) | 22.7 | | | 42.5 | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
14: Street JJ & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Traffic Volume (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 5 | 25 | 0 | 0 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Volume Right (vph) | 0 | 0 | 0 | 0 | | | | | | | | |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | | | | | | | | |
| Departure Headway (s) | 4.0 | 3.9 | 4.0 | 4.0 | | | | | | | | |
| Degree Utilization, x | 0.01 | 0.03 | 0.00 | 0.00 | | | | | | | | |
| Capacity (veh/h) | 902 | 909 | 900 | 900 | | | | | | | | |
| Control Delay (s) | 7.0 | 7.0 | 7.0 | 7.0 | | | | | | | | |
| Approach Delay (s) | 7.0 | 7.0 | 0.0 | 0.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
15: Street 1 & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|------|-------|------|------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 7.5 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 275.2 | 405.9 | 405.9 | 598.1 | 43.1 | 178.2 | 12.8 | | | | | |
| Travel Time (s) | 19.8 | 29.2 | 43.1 | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
15: Street 1 & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Traffic Volume (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak Hour Factor | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 5 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Departure Headway (s) | 4.0 | 3.9 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Degree Utilization, x | 0.01 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Capacity (veh/h) | 902 | 909 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 | 900 |
| Control Delay (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Approach Delay (s) | 7.0 | 7.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Approach LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

18: Humber Station Rd & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|-------|-------|-------|------|------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 7.5 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | | | | 0.961 | | | | | | | | |
| Flt Protected | | | | | | | | | | | | 0.998 |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1810 | 0 | 0 | 1883 | 0 | 0 | 1880 | 0 |
| Flt Permitted | | | | | | | | | | | | 0.998 |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1810 | 0 | 0 | 1883 | 0 | 0 | 1880 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 405.9 | 29.2 | 29.2 | 132.6 | 132.6 | 132.6 | 361.3 | 26.0 | 26.0 | 173.8 | 173.8 | 12.5 |
| Travel Time (s) | | | | 9.5 | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

18: Humber Station Rd & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 5 | 0 | 0 | 25 | 10 | 0 | 131 | 0 | 2 | 44 | 0 |
| Traffic Volume (vph) | 0 | 5 | 0 | 0 | 25 | 10 | 0 | 131 | 0 | 2 | 44 | 0 |
| Future Volume (vph) | 0 | 5 | 0 | 0 | 25 | 10 | 0 | 131 | 0 | 2 | 44 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 0 | 25 | 10 | 0 | 131 | 0 | 2 | 44 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 5 | 35 | 131 | 46 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 0 | 2 | | | | | | | | |
| Volume Right (vph) | 0 | 10 | 0 | 0 | | | | | | | | |
| Head (s) | 0.03 | -0.14 | 0.03 | 0.04 | | | | | | | | |
| Departure Headway (s) | 4.4 | 4.1 | 4.1 | 4.2 | | | | | | | | |
| Degree Utilization, x | 0.01 | 0.04 | 0.15 | 0.05 | | | | | | | | |
| Capacity (veh/h) | 788 | 628 | 865 | 849 | | | | | | | | |
| Control Delay (s) | 7.4 | 7.3 | 7.8 | 7.4 | | | | | | | | |
| Approach Delay (s) | 7.4 | 7.3 | 7.8 | 7.4 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.6 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.7% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
48: Humber Station Rd & Street E

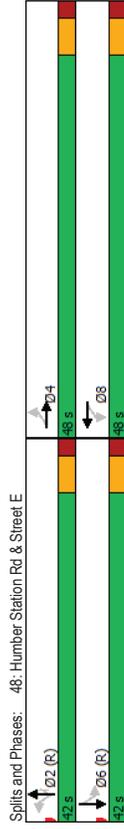
05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|-------|------|-------|------|-------|------|
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| Storage Lanes | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | 0.93 | | | | | 0.86 | | | |
| Frt | | | | 0.950 | | | | | 0.850 | | | |
| Flt Protected | | | | 0.950 | | | | | 0.850 | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1789 | 0 | 1883 | 1883 | 1601 | 1883 | 1883 | 1883 |
| Flt Permitted | | | | 0.757 | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1324 | 0 | 1883 | 1883 | 1383 | 1883 | 1883 | 0 |
| Right Turn on Red | | Yes | | Yes | | | Yes | | Yes | | Yes | |
| Satd. Flow (RTOR) | 50 | | | 50 | | | 50 | | 66 | | 50 | |
| Link Speed (k/h) | 140.6 | | | 116.4 | | | 153.1 | | 361.3 | | 361.3 | |
| Link Distance (m) | 10.1 | | | 8.4 | | | 11.0 | | 26.0 | | 26.0 | |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

Timings
48: Humber Station Rd & Street E

05-15-2023

| | WBL | WBT | NBT | NBR | SBT | Ø4 |
|---|-------|-------|-------|-------|-------|------|
| Lane Group | WBL | WBT | NBT | NBR | SBT | Ø4 |
| Lane Configurations | 145 | 0 | 131 | 66 | 44 | |
| Traffic Volume (vph) | 145 | 0 | 131 | 66 | 44 | |
| Future Volume (vph) | Perm | NA | NA | Perm | NA | |
| Turn Type | 8 | 2 | 2 | 6 | 4 | |
| Protected Phases | 8 | 2 | 2 | 6 | 4 | |
| Permitted Phases | 8 | 2 | 2 | 6 | 4 | |
| Detector Phase | 8 | 2 | 2 | 6 | 4 | |
| Switch Phase | 8 | 2 | 2 | 6 | 4 | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 48.0 | 48.0 | 42.0 | 42.0 | 42.0 | 48.0 |
| Total Split (%) | 53.3% | 53.3% | 46.7% | 46.7% | 46.7% | 53% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | C-Max | C-Max | C-Max | None |
| Act Effct Green (s) | 15.5 | 62.5 | 62.5 | 62.5 | 62.5 | |
| Actuated g/C Ratio | 0.17 | 0.69 | 0.69 | 0.69 | 0.69 | |
| v/C Ratio | 0.64 | 0.10 | 0.07 | 0.03 | | |
| Control Delay | 46.5 | 5.7 | 2.0 | 5.7 | | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Delay | 46.5 | 5.7 | 2.0 | 5.7 | | |
| LOS | D | A | A | A | A | |
| Approach Delay | 46.5 | 4.4 | 5.7 | | | |
| Approach LOS | D | A | A | A | A | |
| Intersection Summary | | | | | | |
| Cycle Length: 90 | | | | | | |
| Actuated Cycle Length: 90 | | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | | | | |
| Natural Cycle: 50 | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | |
| Maximum v/C Ratio: 0.64 | | | | | | |
| Intersection Signal Delay: 20.4 | | | | | | |
| Intersection Capacity Utilization 41.4% | | | | | | |
| ICU Level of Service A | | | | | | |
| Analysis Period (min) 15 | | | | | | |



Queues
48: Humber Station Rd & Street E

05-15-2023

| | ← | ↑ | ↘ | ↓ |
|-----------------------------|------|-------|------|-------|
| Lane Group | WBT | NBT | NBR | SBT |
| Lane Group Flow (vph) | 145 | 131 | 66 | 44 |
| v/c Ratio | 0.64 | 0.10 | 0.07 | 0.03 |
| Control Delay | 46.5 | 5.7 | 2.0 | 5.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 46.5 | 5.7 | 2.0 | 5.7 |
| Queue Length 50th (m) | 24.5 | 6.6 | 0.0 | 2.1 |
| Queue Length 95th (m) | 40.2 | 16.0 | 4.6 | 6.8 |
| Internal Link Dist (m) | 92.4 | 129.1 | | 337.3 |
| Turn Bay Length (m) | | | | |
| Base Capacity (vph) | 617 | 1308 | 981 | 1308 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.10 | 0.07 | 0.03 |
| Intersection Summary | | | | |

HCM Signalized Intersection Capacity Analysis
48: Humber Station Rd & Street E

05-15-2023

| | ↙ | → | ↘ | ↖ | ← | ↗ | ↙ | ↘ | ↖ | ↗ | ↙ | ↘ | ↖ | ↗ | |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|---------------------------|---|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | | |
| Lane Configurations | | + | | + | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 145 | 0 | 0 | 0 | 131 | 66 | 0 | 44 | 0 | | | |
| Future Volume (vph) | 0 | 0 | 0 | 145 | 0 | 0 | 0 | 131 | 66 | 0 | 44 | 0 | | | |
| Ideal Flow (vph/p) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | | | |
| Total Lost time (s) | | | | 6.0 | | | | 6.0 | 6.0 | | 6.0 | | | | |
| Lane Util. Factor | | | | 1.00 | | | | 1.00 | 1.00 | | 1.00 | | | | |
| Frb. ped/bikes | | | | 1.00 | | | | 1.00 | 0.86 | | 1.00 | | | | |
| Frb. ped/bikes | | | | 0.93 | | | | 1.00 | 1.00 | | 1.00 | | | | |
| Frt | | | | 1.00 | | | | 1.00 | 0.85 | | 1.00 | | | | |
| Flt Protected | | | | 0.95 | | | | 1.00 | 1.00 | | 1.00 | | | | |
| Satd. Flow (prot) | | | | 1662 | | | | 1883 | 1383 | | 1883 | | | | |
| Flt Permitted | | | | 0.76 | | | | 1.00 | 1.00 | | 1.00 | | | | |
| Satd. Flow (perm) | | | | 1325 | | | | 1883 | 1383 | | 1883 | | | | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Adj. Flow (vph) | 0 | 0 | 0 | 145 | 0 | 0 | 0 | 131 | 66 | 0 | 44 | 0 | | | |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 145 | 0 | 0 | 0 | 131 | 46 | 0 | 44 | 0 | | | |
| Confl. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | | | |
| Turn Type | Perm | NA | NA | Perm | | | |
| Protected Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 | | | |
| Permitted Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 | | | |
| Actuated Green, G (s) | | | | 15.5 | | | | 62.5 | 62.5 | | 62.5 | | | | |
| Effective Green, g (s) | | | | 15.5 | | | | 62.5 | 62.5 | | 62.5 | | | | |
| Actuated g/C Ratio | | | | 0.17 | | | | 0.69 | 0.69 | | 0.69 | | | | |
| Clearance Time (s) | | | | 6.0 | | | | 6.0 | 6.0 | | 6.0 | | | | |
| Vehicle Extension (s) | | | | 3.0 | | | | 3.0 | 3.0 | | 3.0 | | | | |
| Lane Grp Cap (vph) | | | | 228 | | | | 1307 | 960 | | 1307 | | | | |
| v/s Ratio Prot | | | | | | | | 0.07 | 0.03 | | 0.02 | | | | |
| v/s Ratio Perm | | | | | | | | 0.10 | 0.05 | | 0.03 | | | | |
| Uniform Delay, d1 | | | | 34.6 | | | | 4.5 | 4.3 | | 4.3 | | | | |
| Progression Factor | | | | 1.00 | | | | 1.00 | 1.00 | | 1.00 | | | | |
| Incremental Delay, d2 | | | | 5.7 | | | | 0.2 | 0.1 | | 0.0 | | | | |
| Delay (s) | | | | 40.3 | | | | 4.7 | 4.4 | | 4.3 | | | | |
| Level of Service | | | | D | | | | A | A | | A | | | | |
| Approach Delay (s) | | | | 40.3 | | | | 4.6 | 4.3 | | 4.3 | | | | |
| Approach LOS | | | | D | | | | A | A | | A | | | | |
| Intersection Summary | | | | | | | | | | | | | | | |
| HCM 2000 Control Delay | 18.0 | | | | | | | | | | | | HCM 2000 Level of Service | | B |
| HCM 2000 Volume to Capacity ratio | 0.21 | | | | | | | | | | | | | | |
| Actuated Cycle Length (s) | 90.0 | | | | | | | | | | | | Sum of lost time (s) | | 12.0 |
| Intersection Capacity Utilization | 41.4% | | | | | | | | | | | | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | | | |

Lanes and Geometrics
58: Humber Station Rd & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 45.0 | 0 | 0 | 25.0 | 50.0 | 25.0 | 50.0 | 0.0 | 0.0 | 50.0 | 0 | 0 |
| Storage Lanes | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 0 | 0 | 7.5 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Pad Bike Factor | | 0.92 | | 0.91 | | 0.91 | 0.96 | | 0.96 | 0.95 | | 0.98 |
| Frt | | 0.950 | | 0.850 | | 0.850 | 0.929 | | 0.929 | 0.950 | | 0.984 |
| Flt Protected | 1883 | 1883 | 0 | 1789 | 1883 | 1601 | 1883 | 3184 | 0 | 1789 | 3464 | 0 |
| Satd. Flow (prot) | 0 | 0 | 0 | 0.757 | 0 | 0 | 0 | 0.539 | 0 | 0.539 | 0 | 0 |
| Flt Permitted | 1883 | 1883 | 0 | 1313 | 1883 | 1458 | 1883 | 3184 | 0 | 968 | 3464 | 0 |
| Satd. Flow (perm) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Right Turn on Red | | | | | | | | | | | | |
| Satd. Flow (RTOR) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Speed (k/h) | 81.8 | 81.8 | 81.8 | 813.2 | 194.3 | 194.3 | 153.1 | 153.1 | 153.1 | 153.1 | 153.1 | 153.1 |
| Link Distance (m) | 5.9 | 5.9 | 5.9 | 58.6 | 14.0 | 14.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

Timings
58: Humber Station Rd & Street Y

05-15-2023

| | WBL | WBR | NBT | SBL | SBT | Ø4 |
|---|-------|-------|-------|--------|-------|-------|
| Lane Group | WBL | WBR | NBT | SBL | SBT | Ø4 |
| Lane Configurations | 26 | 26 | 156 | 140 | 41 | |
| Traffic Volume (vph) | 26 | 26 | 156 | 140 | 41 | |
| Future Volume (vph) | 26 | 26 | 156 | 140 | 41 | |
| Turn Type | Perm | Perm | NA | pmm-pt | NA | |
| Protected Phases | 2 | 1 | 6 | 6 | 4 | |
| Permitted Phases | 8 | 8 | 2 | 1 | 6 | |
| Detector Phase | 8 | 8 | 2 | 1 | 6 | |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 25.0 | 25.0 | 25.0 | 11.0 | 25.0 | 25.0 |
| Minimum Split (s) | 33.0 | 33.0 | 42.0 | 25.0 | 67.0 | 33.0 |
| Total Split (s) | 33.0% | 33.0% | 42.0% | 25.0% | 67.0% | 33.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 1.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 4.0 | 6.0 | 6.0 |
| Lead/Lag | Lag | Lead | Lead | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None |
| Act Effct Green (s) | 11.4 | 11.4 | 70.0 | 83.3 | 83.7 | |
| Actuated g/C Ratio | 0.11 | 0.11 | 0.70 | 0.83 | 0.84 | |
| v/C Ratio | 0.17 | 0.03 | 0.13 | 0.16 | 0.02 | |
| Control Delay | 39.2 | 0.1 | 4.3 | 3.5 | 3.6 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 39.2 | 0.1 | 4.3 | 3.5 | 3.6 | |
| LOS | D | A | A | A | A | A |
| Approach Delay | 4.3 | 4.3 | 4.3 | 3.5 | 3.5 | |
| Approach LOS | A | A | A | A | A | |
| Intersection Summary | | | | | | |
| Cycle Length: 100 | | | | | | |
| Actuated Cycle Length: 100 | | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | | | | |
| Natural Cycle: 65 | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | |
| Maximum v/C Ratio: 0.17 | | | | | | |
| Intersection Signal Delay: 5.5 | | | | | | |
| Intersection Capacity Utilization 51.3% | | | | | | |
| Analysis Period (min) 15 | | | | | | |



Queues
58: Humber Station Rd & Street Y

05-15-2023

| | WBL | WBR | NBT | SBL | SBT |
|------------------------|------|------|------|------|-------|
| Lane Group | 26 | 26 | 296 | 140 | 46 |
| Lane Group Flow (vph) | 0.17 | 0.03 | 0.13 | 0.16 | 0.02 |
| v/c Ratio | 39.2 | 0.1 | 4.3 | 3.5 | 3.6 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 39.2 | 0.1 | 4.3 | 3.5 | 3.6 |
| Total Delay | 11.8 | 0.0 | 13.6 | 13.4 | 2.8 |
| Queue Length 50th (m) | 25.0 | 25.0 | 50.0 | 50.0 | 129.1 |
| Queue Length 95th (m) | 354 | 888 | 2271 | 978 | 2900 |
| Internal Link Dist (m) | 0 | 0 | 0 | 0 | 0 |
| Turn Bay Length (m) | 0 | 0 | 0 | 0 | 0 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0.07 | 0.03 | 0.13 | 0.14 | 0.02 |
| Reduced v/c Ratio | | | | | |
| Intersection Summary | | | | | |

HCM Signalized Intersection Capacity Analysis
58: Humber Station Rd & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|------|------|------|-------|------|------|------|------|------|-------|------|------|
| Movement | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Configurations | 0 | 0 | 0 | 26 | 0 | 26 | 0 | 26 | 0 | 26 | 140 | 41 |
| Traffic Volume (vph) | 0 | 0 | 0 | 26 | 0 | 26 | 0 | 26 | 0 | 156 | 140 | 41 |
| Future Volume (vph) | 0 | 0 | 0 | 26 | 0 | 26 | 0 | 26 | 0 | 156 | 140 | 41 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.0 | | 6.0 | | 6.0 | | 6.0 | 4.0 | 6.0 |
| Lane Util. Factor | | | | 1.00 | | 1.00 | | 0.95 | | 1.00 | 0.95 | 0.95 |
| Frb. ped/bikes | | | | 1.00 | | 0.91 | | 0.96 | | 1.00 | 0.98 | 0.98 |
| Frb. ped/bikes | | | | 0.92 | | 1.00 | | 1.00 | | 0.98 | 1.00 | 0.98 |
| Frt | | | | 1.00 | | 0.85 | | 0.93 | | 1.00 | 0.95 | 0.98 |
| Flt Protected | | | | 1648 | | 1458 | | 3184 | | 1746 | 3463 | 3463 |
| Satd. Flow (prot) | | | | 0.76 | | 1.00 | | 1.00 | | 0.54 | 1.00 | 1.00 |
| Flt Permitted | | | | 1314 | | 1458 | | 3184 | | 991 | 3463 | 3463 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 0 | 0 | 0 | 26 | 0 | 26 | 0 | 26 | 0 | 156 | 140 | 41 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 45 | 0 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 26 | 0 | 2 | 0 | 251 | 0 | 140 | 45 | 0 |
| Confl. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Turn Type | Perm | Perm | Perm | Perm | Perm | Perm | Perm | Perm | Perm | pm+pt | NA | NA |
| Protected Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Permitted Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Actuated Green, G (s) | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 | 67.6 | 67.6 | 67.6 | 78.9 | 78.9 | 78.9 |
| Effective Green, g (s) | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 | 67.6 | 67.6 | 67.6 | 78.9 | 78.9 | 78.9 |
| Actuated g/C Ratio | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.68 | 0.68 | 0.68 | 0.79 | 0.79 | 0.79 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 4.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 119 | 119 | 119 | 132 | 132 | 132 | 2152 | 2152 | 2152 | 837 | 2732 | 2732 |
| v/s Ratio Prot | | | | c0.02 | | 0.00 | | 0.08 | | c0.01 | 0.01 | 0.01 |
| v/s Ratio Perm | | | | 0.22 | | 0.02 | | 0.12 | | 0.17 | 0.02 | 0.02 |
| Uniform Delay, d1 | 42.2 | 42.2 | 42.2 | 41.4 | 41.4 | 41.4 | 5.7 | 5.7 | 5.7 | 2.5 | 2.3 | 2.3 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.9 | 0.9 | 0.9 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Delay (s) | 43.1 | 43.1 | 43.1 | 41.4 | 41.4 | 41.4 | 5.8 | 5.8 | 5.8 | 2.6 | 2.3 | 2.3 |
| Level of Service | D | D | D | D | D | D | A | A | A | A | A | A |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | 42.3 | 42.3 | 42.3 | 5.8 | 5.8 | 5.8 | 2.5 | 2.5 | 2.5 |
| Approach LOS | A | A | A | D | D | D | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | | 8.2 | | | | | | | | A |
| HCM 2000 Volume to Capacity ratio | | | | 0.18 | | | | | | | | |
| Actuated Cycle Length (s) | | | | 100.0 | | | | | | 16.0 | | |
| Intersection Capacity Utilization | | | | 51.3% | | | | | | | | A |
| Analysis Period (min) | | | | 15 | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

Lanes and Geometrics
62: Street Y & Street VV

05-15-2023

| | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Lane Group | | | | | | |
| Lane Configurations | | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | |
| Frt | | | | | | |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 1883 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 1883 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 82.2 | 318.6 | 162.9 | 162.9 | 162.9 | 111.7 |
| Travel Time (s) | 5.9 | 22.9 | | | | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |

HCM Unsignalized Intersection Capacity Analysis
62: Street Y & Street VV

05-15-2023

| | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|-------|------|------|------|------|------|
| Movement | | | | | | |
| Lane Configurations | | | | | | |
| Sign Control | | Stop | Stop | | Stop | Stop |
| Traffic Volume (vph) | 0 | 1 | 5 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 1 | 5 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 1 | 5 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | SB 1 | | | |
| Volume Total (vph) | 1 | 5 | 0 | | | |
| Volume Left (vph) | 0 | 0 | 0 | | | |
| Volume Right (vph) | 0 | 0 | 0 | | | |
| Head (s) | 0.03 | 0.03 | 0.00 | | | |
| Departure Headway (s) | 3.9 | 3.9 | 3.9 | | | |
| Degree Utilization, x | 0.00 | 0.01 | 0.00 | | | |
| Capacity (veh/h) | 907 | 909 | 914 | | | |
| Control Delay (s) | 6.9 | 7.0 | 6.9 | | | |
| Approach Delay (s) | 6.9 | 7.0 | 0.0 | | | |
| Approach LOS | A | A | A | | | |
| Intersection Summary | | | | | | |
| Delay | 7.0 | | | | | |
| Level of Service | A | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | |
| ICU Level of Service | A | | | | | |
| Analysis Period (min) | 15 | | | | | |

Lanes and Geometrics
64: Street JJ & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 |
| Travel Time (s) | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
64: Street JJ & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop |
| Sign Control | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Traffic Volume (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Departure Headway (s) | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| Degree Utilization, x | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Capacity (veh/h) | 907 | 909 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 |
| Control Delay (s) | 6.9 | 7.0 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 |
| Approach Delay (s) | 6.9 | 7.0 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 |
| Approach LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 6.7% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
65: Street 1 & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 7.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | | | | | | | | | | |
| Flt Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | | | | | | | | | |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 48 | 48 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 189.0 | 137.6 | 137.6 | 229.8 | 137.6 | 229.8 | 17.2 | 17.2 | 137.6 | 137.6 | 137.6 | 137.6 |
| Travel Time (s) | 13.6 | 13.6 | 13.6 | 9.9 | 9.9 | 9.9 | 17.2 | 17.2 | 13.6 | 13.6 | 13.6 | 13.6 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
65: Street 1 & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Traffic Volume (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Left (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Head (s) | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Departure Headway (s) | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| Degree Utilization, x | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Capacity (veh/h) | 907 | 909 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 |
| Control Delay (s) | 6.9 | 7.0 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 |
| Approach Delay (s) | 6.9 | 7.0 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 |
| Approach LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 7.0 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 28.6% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
88: Humber Station Rd & Street EE

05-15-2023

| EBL | EBR | NBL | NBT | SBT | SBR |
|----------------------|-------|------|------|------|------|
| 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| 0% | 0% | 0% | 0% | 0% | 0% |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1 | 0 | 0 | 0 | 0 | 0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 0.95 |
| Ped Bike Factor | | | | | |
| Frt | | | | | |
| 1883 | 0 | 0 | 3579 | 3579 | 0 |
| FRT Protected | | | | | |
| Satd. Flow (prot) | | | | | |
| 1883 | 0 | 0 | 3579 | 3579 | 0 |
| Right Turn on Red | | | | | |
| Yes | | | | | |
| Satd. Flow (RTOR) | | | | | |
| 50 | 50 | | | | |
| Link Speed (k/h) | | | | | |
| 332.9 | 347.2 | | | | |
| Link Distance (m) | | | | | |
| 24.0 | 25.0 | | | | |
| Travel Time (s) | | | | | |
| 25.0 | | | | | |
| 9.2 | | | | | |
| Intersection Summary | | | | | |
| Area Type: Other | | | | | |

Timings
88: Humber Station Rd & Street EE

05-15-2023

| NBT | SBT | Ø4 |
|--|-------|------|
| 183 | 211 | 211 |
| 183 | 211 | 211 |
| NA | NA | NA |
| 2 | 6 | 4 |
| Permitted Phases | | |
| 2 6 | | |
| Detector Phases | | |
| 2 6 | | |
| Switch Phase | | |
| 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | | |
| 25.0 | 25.0 | 25.0 |
| Minimum Split (s) | | |
| 65.0 | 65.0 | 25.0 |
| Total Split (s) | | |
| 72.2% | 72.2% | 28% |
| Total Split (%) | | |
| 4.0 | 4.0 | 4.0 |
| Yellow Time (s) | | |
| 2.0 | 2.0 | 2.0 |
| All-Red Time (s) | | |
| 0.0 | 0.0 | 0.0 |
| Lost Time Adjust (s) | | |
| 6.0 | 6.0 | 6.0 |
| Total Lost Time (s) | | |
| Lead/Lag | | |
| Lead-Lag Optimize? | | |
| Recall Mode | | |
| C-Max | C-Max | None |
| 77.6 | 77.6 | |
| Act Effect Green (s) | | |
| 0.86 | 0.86 | 0.86 |
| Actuated g/C Ratio | | |
| 0.06 | 0.07 | 0.07 |
| v/C Ratio | | |
| 3.3 | 3.3 | 3.3 |
| Control Delay | | |
| 0.0 | 0.0 | 0.0 |
| Queue Delay | | |
| 3.3 | 3.3 | 3.3 |
| Total Delay | | |
| A | A | A |
| LOS | | |
| 3.3 | 3.3 | 3.3 |
| Approach Delay | | |
| A | A | A |
| Approach LOS | | |
| Intersection Summary | | |
| Cycle Length: 90 | | |
| Actuated Cycle Length: 90 | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green | | |
| Natural Cycle: 50 | | |
| Control Type: Actuated-Coordinated | | |
| Maximum v/C Ratio: 0.07 | | |
| Intersection Signal Delay: 3.3 | | |
| Intersection LOS: A | | |
| Intersection Capacity Utilization 20.8% | | |
| ICU Level of Service A | | |
| Analysis Period (min) 15 | | |



Queues
88: Humber Station Rd & Street EE

05-15-2023

| | NBT | SBT |
|-----------------------------|-------|-------|
| Lane Group | 183 | 211 |
| Lane Group Flow (vph) | 0.06 | 0.07 |
| v/c Ratio | 3.3 | 3.3 |
| Control Delay | 0.0 | 0.0 |
| Queue Delay | 3.3 | 3.3 |
| Total Delay | 3.3 | 3.3 |
| Queue Length 50th (m) | 0.0 | 0.0 |
| Queue Length 95th (m) | 9.2 | 10.3 |
| Internal Link Dist (m) | 323.2 | 104.1 |
| Turn Bay Length (m) | | |
| Base Capacity (vph) | 3086 | 3086 |
| Starvation Cap Reductn | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 |
| Storage Cap Reductn | 0 | 0 |
| Reduced v/c Ratio | 0.06 | 0.07 |
| Intersection Summary | | |

HCM Signalized Intersection Capacity Analysis
88: Humber Station Rd & Street EE

05-15-2023

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|------|------|-------|------|------|--------------------------------|
| Lane Configurations | W | | | ↑↑ | ↑↑ | |
| Traffic Volume (vph) | 0 | 0 | 0 | 183 | 211 | 0 |
| Future Volume (vph) | 0 | 0 | 0 | 183 | 211 | 0 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.0 | 6.0 | |
| Lane Util. Factor | | | | 0.95 | 0.95 | |
| Frb. ped/bikes | | | | 1.00 | 1.00 | |
| Fibb. ped/bikes | | | | 1.00 | 1.00 | |
| Frt | | | | 1.00 | 1.00 | |
| Flt Protected | | | | 1.00 | 1.00 | |
| Satd. Flow (prot) | | | | 3579 | 3579 | |
| Flt Permitted | | | | 1.00 | 1.00 | |
| Satd. Flow (perm) | | | | 3579 | 3579 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 0 | 0 | 0 | 183 | 211 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 183 | 211 | 0 |
| Confl. Peds. (#/hr) | | | 50 | | | 50 |
| Turn Type | Prot | | | NA | NA | |
| Protected Phases | 4 | | | 2 | 6 | |
| Permitted Phases | | | 2 | | | |
| Actuated Green, G (s) | | | | 70.4 | 70.4 | |
| Effective Green, g (s) | | | | 70.4 | 70.4 | |
| Actuated g/C Ratio | | | | 0.78 | 0.78 | |
| Clearance Time (s) | | | | 6.0 | 6.0 | |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | | | 2799 | 2799 | |
| v/s Ratio Prot | | | | 0.05 | 0.06 | |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | | | 0.07 | 0.08 | |
| Uniform Delay, d1 | | | | 2.2 | 2.3 | |
| Progression Factor | | | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | | 0.0 | 0.1 | |
| Delay (s) | | | | 2.3 | 2.3 | |
| Level of Service | | | | A | A | |
| Approach Delay (s) | 0.0 | | | 2.3 | 2.3 | |
| Approach LOS | A | | | A | A | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | | 2.3 | | | HCM 2000 Level of Service A |
| HCM 2000 Volume to Capacity ratio | | | 0.07 | | | |
| Actuated Cycle Length (s) | | | 90.0 | | | Sum of lost time (s) 12.0 |
| Intersection Capacity Utilization | | | 20.8% | | | ICU Level of Service A |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics

1: The Gore Rd & King St

05-16-2023

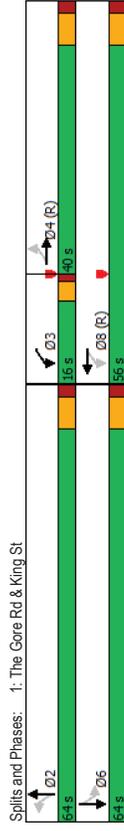
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 342 | 306 | 562 | 11 | 194 | 100 | 849 | | | | |
| Lane Width (m) | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 139.9 | 0 | 25.0 | 199.9 | 50.0 | 175.0 | 50.0 | 0 | 0 |
| Storage Lanes | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| Taper Length (m) | 0.0 | 7.6 | 0 | 0 | 7.6 | 0 | 0 | 0 | 7.6 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.96 | 0.95 | 0.99 | 0.99 | 0.99 | 0.93 | 0.94 | 0.97 | 0.965 | | |
| Frt | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | | |
| Satd. Flow (prot) | 1562 | 1615 | 0 | 1681 | 1761 | 0 | 1261 | 1573 | 0 | 1681 | 1793 |
| Flt Permitted | 0.287 | 0.107 | 0.107 | 0.070 | 0.070 | 0.070 | 0.070 | 0.463 | | | |
| Satd. Flow (perm) | 452 | 1615 | 0 | 189 | 1761 | 0 | 93 | 1573 | 0 | 768 | 1793 |
| Right Turn on Red | Yes | Yes | Yes |
| Satd. Flow (RTOR) | 21 | 48 | 2 | 50 | 48 | 50 | 48 | 17 | | | |
| Link Speed (k/h) | 363.2 | 207.4 | 628.6 | 578.8 | | | | | | | |
| Travel Time (s) | 27.2 | 14.9 | 45.3 | 41.7 | | | | | | | |
| Intersection Summary | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | |

Timings

1: The Gore Rd & King St

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|---|---|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 94 | 342 | 306 | 562 | 11 | 194 | 100 | 849 | | | |
| Traffic Volume (vph) | 94 | 342 | 306 | 562 | 11 | 194 | 100 | 849 | | | |
| Future Volume (vph) | 94 | 342 | 306 | 562 | 11 | 194 | 100 | 849 | | | |
| Turn Type | Perm | NA | pm-rlt | NA | Perm | NA | Perm | NA | Perm | NA | NA |
| Protected Phases | 4 | 3 | 8 | 2 | 2 | 6 | 6 | 6 | 6 | 6 | 6 |
| Permitted Phases | 4 | 4 | 3 | 8 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Detector Phase | 4 | 4 | 3 | 8 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 |
| Minimum Initial (s) | 30.6 | 30.6 | 9.0 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 |
| Minimum Split (s) | 40.0 | 40.0 | 16.0 | 56.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 |
| Total Split (s) | 33.3% | 33.3% | 13.3% | 46.7% | 53.3% | 53.3% | 53.3% | 53.3% | 53.3% | 53.3% | 53.3% |
| Total Split (%) | 4.6 | 4.6 | 3.0 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| Yellow Time (s) | 2.0 | 2.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| All-Red Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lost Time Adjust (s) | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Total Lost Time (s) | Lag | Lag | Lead | Yes |
| Lead/Lag | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Lead-Lag Optimize? | C-Min | C-Min | None | C-Min | Min |
| Recall Mode | 33.4 | 33.4 | 52.0 | 49.4 | 57.4 | 57.4 | 57.4 | 57.4 | 57.4 | 57.4 | 57.4 |
| Act Effct Green (s) | 0.28 | 0.28 | 0.43 | 0.41 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 |
| Actuated g/C Ratio | 0.75 | 1.11 | 1.32 | 0.81 | 0.25 | 0.46 | 0.27 | 1.28 | | | |
| v/C Ratio | 75.7 | 112.9 | 200.3 | 41.5 | 36.1 | 20.2 | 21.3 | 162.2 | | | |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 75.7 | 112.9 | 200.3 | 41.5 | 36.1 | 20.2 | 21.3 | 162.2 | | | |
| Total Delay | E | F | F | D | D | D | C | C | F | F | F |
| LOS | 107.1 | 95.8 | 20.6 | 150.5 | | | | | | | |
| Approach Delay | F | F | F | C | C | C | F | F | F | F | F |
| Approach LOS | Intersection Summary | | | | | | | | | | |
| Cycle Length: 120 | Cycle Length: 120 | | | | | | | | | | |
| Actuated Cycle Length: 120 | Actuated Cycle Length: 120 | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | |
| Natural Cycle: 120 | Natural Cycle: 120 | | | | | | | | | | |
| Control Type: Actuated-Coordinated | Control Type: Actuated-Coordinated | | | | | | | | | | |
| Maximum v/C Ratio: 1.32 | Maximum v/C Ratio: 1.32 | | | | | | | | | | |
| Intersection Signal Delay: 110.5 | Intersection Signal Delay: 110.5 | | | | | | | | | | |
| Intersection Capacity Utilization 143.2% | Intersection Capacity Utilization 143.2% | | | | | | | | | | |
| Analysis Period (min) 15 | Analysis Period (min) 15 | | | | | | | | | | |



| | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|-------|--------|--------|--------|-------|------|------|--------|
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
| Lane Group Flow (vph) | 94 | 513 | 306 | 589 | 11 | 357 | 100 | 1105 |
| v/c Ratio | 0.75 | 1.11 | 1.32 | 0.81 | 0.25 | 0.46 | 0.27 | 1.28 |
| Control Delay | 75.7 | 112.9 | 200.3 | 41.5 | 36.1 | 20.2 | 21.3 | 162.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 75.7 | 112.9 | 200.3 | 41.5 | 36.1 | 20.2 | 21.3 | 162.2 |
| Queue Length 50th (m) | 21.0 | ~139.4 | ~81.1 | 125.0 | 1.6 | 48.9 | 14.3 | ~341.9 |
| Queue Length 95th (m) | #51.0 | #207.8 | #139.1 | #175.5 | 7.6 | 74.8 | 27.4 | #424.8 |
| Internal Link Dist (m) | 339.2 | | 183.4 | | 604.6 | | | 554.8 |
| Turn Bay Length (m) | | 139.9 | | 199.9 | | | | 175.0 |
| Base Capacity (vph) | 125 | 464 | 231 | 726 | 44 | 777 | 367 | 866 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.75 | 1.11 | 1.32 | 0.81 | 0.25 | 0.46 | 0.27 | 1.28 |
| Intersection Summary | | | | | | | | |
| ~ 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. | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
|-----------------------------------|--------|-------|-------|------|------|------|------|------|-------|-------|-------|---------------------------|------|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Traffic Volume (vph) | 94 | 342 | 171 | 306 | 562 | 27 | 11 | 194 | 163 | 100 | 849 | 256 | |
| Future Volume (vph) | 94 | 342 | 171 | 306 | 562 | 27 | 11 | 194 | 163 | 100 | 849 | 256 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | |
| Total Lost time (s) | 6.6 | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frbp. ped/bikes | 1.00 | 0.95 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.93 | 1.00 | 0.97 | 1.00 | 0.97 | |
| Frbp. ped/bikes | 0.96 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.94 | 1.00 | 0.97 | |
| Frt | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.99 | 1.00 | 0.93 | 1.00 | 0.95 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1497 | 1615 | 1681 | 1761 | 1681 | 1761 | 1681 | 1761 | 1681 | 1761 | 1681 | 1761 | |
| Flt Permitted | 0.29 | 1.00 | 0.11 | 1.00 | 0.07 | 1.00 | 0.07 | 1.00 | 0.46 | 1.00 | 0.46 | 1.00 | |
| Satd. Flow (perm) | 452 | 1615 | 189 | 1761 | 92 | 1573 | 92 | 1573 | 788 | 1793 | 788 | 1793 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Adj. Flow (vph) | 94 | 342 | 171 | 306 | 562 | 27 | 11 | 194 | 163 | 100 | 849 | 256 | |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 1 | 0 | 0 | 25 | 0 | 0 | 9 | 0 | |
| Lane Group Flow (vph) | 94 | 498 | 0 | 306 | 588 | 0 | 11 | 332 | 0 | 100 | 1096 | 0 | |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | |
| Heavy Vehicles (%) | 13% | 10% | 3% | 5% | 8% | 0% | 40% | 0% | 14% | 5% | 0% | 0% | |
| Turn Type | Perm | NA | pm-pt | NA | Perm | NA | Perm | NA | Perm | NA | Perm | NA | |
| Protected Phases | 4 | 3 | 8 | 8 | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | |
| Permitted Phases | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | |
| Actuated Green, G (s) | 33.4 | 49.4 | 49.4 | 49.4 | 57.4 | 57.4 | 57.4 | 57.4 | 57.4 | 57.4 | 57.4 | 57.4 | |
| Effective Green, g (s) | 33.4 | 49.4 | 49.4 | 49.4 | 57.4 | 57.4 | 57.4 | 57.4 | 57.4 | 57.4 | 57.4 | 57.4 | |
| Actuated g/C Ratio | 0.28 | 0.28 | 0.41 | 0.41 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | |
| Clearance Time (s) | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 125 | 449 | 227 | 724 | 44 | 752 | 44 | 752 | 367 | 857 | 857 | 857 | |
| v/s Ratio Prot | 0.31 | c0.13 | 0.33 | 0.12 | 0.21 | 0.21 | 0.12 | 0.21 | 0.13 | c0.61 | 0.13 | c0.61 | |
| v/s Ratio Perm | 0.21 | c0.42 | 0.21 | 0.12 | 0.21 | 0.21 | 0.12 | 0.21 | 0.13 | c0.61 | 0.13 | c0.61 | |
| v/c Ratio | 0.75 | 1.11 | 1.35 | 0.81 | 0.25 | 0.44 | 0.25 | 0.44 | 0.27 | 1.28 | 0.27 | 1.28 | |
| Uniform Delay, d1 | 39.5 | 43.3 | 33.4 | 31.2 | 18.5 | 20.7 | 18.5 | 20.7 | 18.8 | 31.3 | 18.8 | 31.3 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 33.6 | 75.5 | 182.9 | 9.6 | 3.0 | 0.4 | 3.0 | 0.4 | 0.4 | 134.5 | 0.4 | 134.5 | |
| Delay (s) | 73.1 | 118.8 | 216.3 | 40.8 | 21.5 | 21.1 | 21.5 | 21.1 | 19.2 | 165.8 | 19.2 | 165.8 | |
| Level of Service | E | F | F | D | C | C | C | C | B | F | B | F | |
| Approach Delay (s) | 111.7 | F | 100.8 | F | 21.1 | C | 21.1 | C | 153.7 | F | 153.7 | F | |
| Approach LOS | F | F | F | F | C | C | C | C | F | F | F | F | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | 114.1 | | | | | | | | | | | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 1.34 | | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 | | | | | | | | | | | Sum of lost time (s) | 17.2 |
| Intersection Capacity Utilization | 143.2% | | | | | | | | | | | ICU Level of Service | H |
| Analysis Period (min) | 15 | | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | |

Lanes and Geometrics

2: Humber Station Rd & King St

05-16-2023

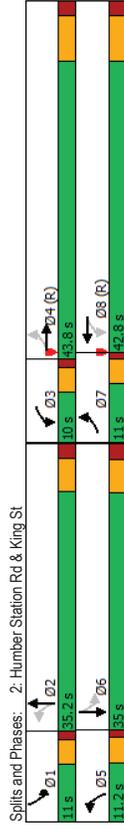
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.95 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Frt | 0.947 | 0.978 | 0.978 | 0.978 | 0.978 | 0.978 | 0.978 | 0.978 | 0.978 | 0.978 | 0.978 |
| Flt Protected | 0.994 | 0.995 | 0.995 | 0.995 | 0.995 | 0.995 | 0.995 | 0.995 | 0.995 | 0.995 | 0.995 |
| Satd. Flow (prot) | 0 | 1618 | 0 | 0 | 1761 | 0 | 0 | 1575 | 0 | 0 | 1516 |
| Flt Permitted | 0.750 | 0.750 | 0.750 | 0.708 | 0.708 | 0.708 | 0.612 | 0.612 | 0 | 0 | 0.729 |
| Satd. Flow (perm) | 0 | 1217 | 0 | 0 | 1251 | 0 | 0 | 972 | 0 | 0 | 1103 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 39 | 11 | 11 | 3 | 3 | 3 | 12 | 12 | 12 | 12 | 12 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 329.7 | 840.4 | 840.4 | 348.5 | 348.5 | 348.5 | 347.2 | 347.2 | 347.2 | 347.2 | 347.2 |
| Travel Time (s) | 23.7 | 60.5 | 60.5 | 25.1 | 25.1 | 25.1 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Intersection Summary | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | |

Timings

2: Humber Station Rd & King St

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 134 | 600 | 73 | 550 | 107 | 283 | 236 | 493 | 236 | 493 | 493 |
| Traffic Volume (vph) | 134 | 600 | 73 | 550 | 107 | 283 | 236 | 493 | 236 | 493 | 493 |
| Future Volume (vph) | 134 | 600 | 73 | 550 | 107 | 283 | 236 | 493 | 236 | 493 | 493 |
| Turn Type | pm-pt | NA | pm-pt |
| Protected Phases | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 | 6 | 6 | 6 |
| Permitted Phases | 4 | 8 | 8 | 2 | 2 | 6 | 6 | 6 | 6 | 6 | 6 |
| Detector Phase | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 | 6 | 6 | 6 |
| Switch Phase | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 | 6 | 6 | 6 |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.0 | 31.4 | 10.0 | 31.4 | 11.2 | 30.0 | 11.0 | 30.0 | 11.0 | 30.0 | 30.0 |
| Total Split (s) | 11.0 | 43.8 | 10.0 | 42.8 | 11.2 | 35.2 | 11.0 | 35.0 | 11.0 | 35.0 | 35.0 |
| Total Split (%) | 11.0% | 43.8% | 10.0% | 42.8% | 11.2% | 35.2% | 11.0% | 35.0% | 11.0% | 35.0% | 35.0% |
| Yellow Time (s) | 3.0 | 5.4 | 3.0 | 5.4 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.0 | 2.2 |
| 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) | 7.4 | 7.4 | 7.4 | 7.4 | 6.0 | 6.0 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 |
| Lead/Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes |
| Recall Mode | None | C-Min | None | C-Min | None | None | None | None | None | None | Min |
| Act Effct Green (s) | 46.4 | 46.4 | 46.4 | 46.4 | 40.2 | 40.2 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| Actuated g/C Ratio | 0.46 | 0.46 | 0.46 | 0.46 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 |
| v/C Ratio | 2.06 | 1.27 | 1.27 | 1.04 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 |
| Control Delay | 506.0 | 159.5 | 159.5 | 87.7 | 468.4 | 468.4 | 468.4 | 468.4 | 468.4 | 468.4 | 468.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 506.0 | 159.5 | 159.5 | 87.7 | 468.4 | 468.4 | 468.4 | 468.4 | 468.4 | 468.4 | 468.4 |
| LOS | F | F | F | F | F | F | F | F | F | F | F |
| Approach Delay | 506.0 | 159.5 | 159.5 | 87.7 | 468.4 | 468.4 | 468.4 | 468.4 | 468.4 | 468.4 | 468.4 |
| Approach LOS | F | F | F | F | F | F | F | F | F | F | F |
| Intersection Summary | | | | | | | | | | | |
| Cycle Length: 100 | | | | | | | | | | | |
| Actuated Cycle Length: 100 | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | |
| Natural Cycle: 145 | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | |
| Maximum v/C Ratio: 2.06 | | | | | | | | | | | |
| Intersection Signal Delay: 363.8 | | | | | | | | | | | |
| Intersection Capacity Utilization 171.4% | | | | | | | | | | | |
| ICU Level of Service H | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | |



| | EBT | WBT | NBT | SBT |
|---|--------|--------|--------|--------|
| Lane Group | | | | |
| Lane Group Flow (vph) | 1208 | 742 | 408 | 884 |
| v/c Ratio | 2.06 | 1.27 | 1.04 | 1.97 |
| Control Delay | 506.0 | 159.5 | 87.7 | 468.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 506.0 | 159.5 | 87.7 | 468.4 |
| Queue Length 50th (m) | ~386.6 | ~189.3 | ~89.0 | ~280.3 |
| Queue Length 95th (m) | #467.5 | #261.5 | #148.4 | #355.6 |
| Internal Link Dist (m) | 305.7 | 816.4 | 324.5 | 323.2 |
| Turn Bay Length (m) | | | | |
| Base Capacity (vph) | 585 | 586 | 392 | 448 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 2.06 | 1.27 | 1.04 | 1.97 |
| Intersection Summary | | | | |
| ~ 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. | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|-------|-------|-------|------|-------|------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 134 | 600 | 474 | 73 | 550 | 119 | 107 | 283 | 18 | 236 | 493 | 155 |
| Future Volume (vph) | 134 | 600 | 474 | 73 | 550 | 119 | 107 | 283 | 18 | 236 | 493 | 155 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.4 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Total Lost time (s) | 7.4 | | | 7.4 | | | | | | | | 6.2 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 0.95 | | | 0.98 | | | | 0.99 | | | | 0.98 |
| Frbp. ped/bikes | 1.00 | | | 1.00 | | | | 1.00 | | | | 0.99 |
| Frt | 0.95 | | | 0.98 | | | | 0.99 | | | | 0.98 |
| Flt Protected | 0.99 | | | 1.00 | | | | 0.99 | | | | 0.99 |
| Satd. Flow (prot) | 1614 | | | 1761 | | | | 1575 | | | | 1498 |
| Flt Permitted | 0.75 | | | 0.71 | | | | 0.61 | | | | 0.73 |
| Satd. Flow (perm) | 1218 | | | 1254 | | | | 976 | | | | 1107 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 134 | 600 | 474 | 73 | 550 | 119 | 107 | 283 | 18 | 236 | 493 | 155 |
| RTOR Reduction (vph) | 0 | 21 | 0 | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 0 | 7 |
| Lane Group Flow (vph) | 0 | 1187 | 0 | 0 | 736 | 0 | 0 | 406 | 0 | 0 | 877 | 0 |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Heavy Vehicles (%) | 0% | 9% | 5% | 4% | 5% | 0% | 62% | 0% | 63% | 44% | 6% | 25% |
| Turn Type | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | NA |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | | 6 |
| Permitted Phases | 4 | | | 8 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | 46.4 | | | 46.4 | | | 40.2 | | | 40.0 | | 40.0 |
| Effective Green, g (s) | 46.4 | | | 46.4 | | | 40.2 | | | 40.0 | | 40.0 |
| Actuated g/C Ratio | 0.46 | | | 0.46 | | | 0.40 | | | 0.40 | | 0.40 |
| Clearance Time (s) | 7.4 | | | 7.4 | | | 6.0 | | | 6.2 | | 6.2 |
| Vehicle Extension (s) | 3.0 | | | 3.0 | | | 3.0 | | | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 565 | | | 581 | | | 392 | | | 442 | | 442 |
| v/s Ratio Prot | | | | | | | | | | | | |
| v/s Ratio Perm | c0.97 | | | 0.59 | | | 0.42 | | | c0.79 | | c0.79 |
| v/c Ratio | 2.10 | | | 1.27 | | | 1.04 | | | 1.98 | | 1.98 |
| Uniform Delay, d1 | 26.8 | | | 26.8 | | | 29.9 | | | 30.0 | | 30.0 |
| Progression Factor | 1.00 | | | 1.00 | | | 1.00 | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | 501.5 | | | 133.4 | | | 55.1 | | | 460.7 | | 460.7 |
| Delay (s) | 528.3 | | | 160.2 | | | 85.0 | | | 480.7 | | 480.7 |
| Level of Service | F | | | F | | | F | | | F | | F |
| Approach Delay (s) | 528.3 | | | 160.2 | | | 85.0 | | | 480.7 | | 480.7 |
| Approach LOS | F | | | F | | | F | | | F | | F |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | | | | | | | | | | F |
| HCM 2000 Volume to Capacity ratio | | | | | | | | | | | | 2.16 |
| Actuated Cycle Length (s) | | | | | | | | | | | | 21.6 |
| Intersection Capacity Utilization | | | | | | | | | | | | H |
| Analysis Period (min) | | | | | | | | | | | | 15 |
| c Critical Lane Group | | | | | | | | | | | | |

Lanes and Geometrics
6: King St & Street JJ

05-16-2023

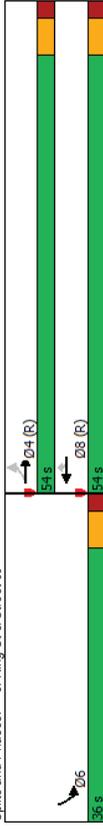
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|------|------|
| Lane Configurations | W | W | W | W | W | W |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 50.0 | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 1 | 1 | 1 | 1 | 1 | 1 |
| Taper Length (m) | 7.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | 0.85 | 0.85 | 0.90 | | |
| Friction | 0.950 | | | 0.960 | | |
| Satd. Flow (prot) | 1730 | 1883 | 1883 | 1601 | 1689 | 0 |
| Flt Permitted | 0.208 | | | 0.966 | | |
| Satd. Flow (perm) | 379 | 1883 | 1883 | 1361 | 1577 | 0 |
| Right Turn on Red | | | | Yes | Yes | Yes |
| Satd. Flow (RTOR) | | 50 | 50 | 31 | 25 | |
| Link Speed (k/h) | | 110.9 | 300.5 | 262.0 | | |
| Link Distance (m) | | 8.0 | 21.6 | 18.9 | | |
| Travel Time (s) | | | | | | |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings
6: King St & Street JJ

05-16-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|--|-------|-------|-------|-------|-------|-------|
| Lane Configurations | W | W | W | W | W | W |
| Traffic Volume (vph) | 33 | 598 | 788 | 68 | 293 | 293 |
| Future Volume (vph) | 33 | 598 | 788 | 68 | 293 | 293 |
| Turn Type | Perm | NA | NA | Perm | Prot | Prot |
| Protected Phases | | 4 | 8 | | 6 | |
| Permitted Phases | 4 | 4 | 8 | 8 | 6 | 6 |
| Detector Phases | | | | | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 23.0 | 23.0 | 23.0 | 23.0 | 30.0 | 30.0 |
| Total Split (s) | 54.0 | 54.0 | 54.0 | 54.0 | 36.0 | 36.0 |
| Total Split (%) | 60.0% | 60.0% | 60.0% | 60.0% | 40.0% | 40.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | | | | | |
| C-Max | 52.8 | 52.8 | 52.8 | 25.2 | 25.2 | 25.2 |
| Act Effct Green (s) | 0.59 | 0.59 | 0.59 | 0.59 | 0.28 | 0.28 |
| Actuated g/C Ratio | 0.15 | 0.54 | 0.71 | 0.08 | 0.85 | 0.85 |
| v/C Ratio | 12.4 | 14.6 | 17.2 | 2.8 | 44.5 | 44.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay | 12.4 | 14.6 | 17.2 | 2.8 | 44.5 | 44.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 12.4 | 14.6 | 17.2 | 2.8 | 44.5 | 44.5 |
| LOS | B | B | B | A | D | D |
| Approach Delay | 14.5 | 16.1 | 16.1 | 44.5 | | |
| Approach LOS | B | B | B | D | | |
| Intersection Summary | | | | | | |
| Cycle Length: 90 | | | | | | |
| Actuated Cycle Length: 90 | | | | | | |
| Offset: 36 (40%), Referenced to phase 4:EBTL and 8:WBT, Start of Green | | | | | | |
| Natural Cycle: 65 | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | |
| Maximum v/C Ratio: 0.85 | | | | | | |
| Intersection Signal Delay: 21.8 | | | | | | |
| Intersection Capacity Utilization 76.3% | | | | | | |
| ICU Level of Service D | | | | | | |
| Analysis Period (min) 15 | | | | | | |

Splits and Phases: 6: King St & Street JJ





| | EBL | EBT | WBT | WBR | SBL | SBR |
|---|------|-------|--------|-------|------|-----|
| Lane Group | 33 | 598 | 788 | 68 | 415 | |
| Lane Group Flow (vph) | 0.15 | 0.54 | 0.71 | 0.08 | 0.85 | |
| v/c Ratio | 12.4 | 14.6 | 17.2 | 2.8 | 44.5 | |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Queue Delay | 12.4 | 14.6 | 17.2 | 2.8 | 44.5 | |
| Total Delay | 8.5 | 102.3 | m187.0 | m3.3 | 95.4 | |
| Queue Length 50th (m) | 2.6 | 62.1 | 125.9 | 1.4 | 65.1 | |
| Queue Length 95th (m) | 8.5 | 102.3 | m187.0 | m3.3 | 95.4 | |
| Internal Link Dist (m) | 86.9 | 276.5 | | 238.0 | | |
| Turn Bay Length (m) | 50.0 | | 25.0 | | | |
| Base Capacity (vph) | 222 | 1104 | 1104 | 811 | 579 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.15 | 0.54 | 0.71 | 0.08 | 0.72 | |
| Intersection Summary | | | | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | | | | |



| | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|-------|-------|---------------------------|-------|------|------|
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | 33 | 598 | 788 | 68 | 293 | 122 |
| Traffic Volume (vph) | 33 | 598 | 788 | 68 | 293 | 122 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 0.85 | 0.97 | |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 0.95 | 1.00 | 1.00 | 1.00 | 0.85 | 0.96 |
| Flt Protected | 1730 | 1883 | 1883 | 1361 | 1690 | |
| Satd. Flow (prot) | 0.21 | 1.00 | 1.00 | 1.00 | 0.97 | |
| Flt Permitted | 378 | 1883 | 1883 | 1361 | 1690 | |
| Satd. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 33 | 598 | 788 | 68 | 293 | 122 |
| Adj. Flow (vph) | 0 | 0 | 0 | 13 | 18 | 0 |
| RTOR Reduction (vph) | 33 | 598 | 788 | 55 | 397 | 0 |
| Lane Group Flow (vph) | 50 | NA | NA | 50 | 50 | 50 |
| Confl. Peds. (#/hr) | Perm | NA | NA | Perm | Prot | |
| Turn Type | 4 | 8 | | 6 | | |
| Protected Phases | | | | | | |
| Permitted Phases | 4 | | | 8 | | |
| Actuated Green, G (s) | 52.8 | 52.8 | 52.8 | 52.8 | 25.2 | 25.2 |
| Effective Green, g (s) | 52.8 | 52.8 | 52.8 | 52.8 | 25.2 | 25.2 |
| Actuated g/C Ratio | 0.59 | 0.59 | 0.59 | 0.59 | 0.28 | 0.28 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 221 | 1104 | 1104 | 798 | 473 | |
| v/s Ratio Prot | 0.32 | c0.42 | | c0.23 | | |
| v/s Ratio Perm | 0.09 | | | 0.04 | | |
| v/c Ratio | 0.15 | 0.54 | 0.71 | 0.07 | 0.84 | |
| Uniform Delay, d1 | 8.4 | 11.3 | 13.2 | 8.0 | 30.5 | |
| Progression Factor | 1.00 | 1.00 | 0.94 | 0.43 | 1.00 | |
| Incremental Delay, d2 | 1.4 | 1.9 | 2.9 | 0.1 | 12.4 | |
| Delay (s) | 9.9 | 13.2 | 15.4 | 3.6 | 42.9 | |
| Level of Service | A | B | B | A | D | |
| Approach Delay (s) | 13.0 | 14.4 | | 42.9 | | |
| Approach LOS | B | B | | D | | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | 20.2 | | HCM 2000 Level of Service | | C | |
| HCM 2000 Volume to Capacity ratio | 0.75 | | | | | |
| Actuated Cycle Length (s) | 90.0 | | Sum of lost time (s) | | 12.0 | |
| Intersection Capacity Utilization | 76.3% | | ICU Level of Service | | D | |
| Analysis Period (min) | 15 | | | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics
7: King St & Street I

05-16-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---------------------|-------|-------|-------|------|-------|------|
| Lane Configurations | W | ← | ← | ← | ← | ← |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 50.0 | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 1 | 1 | 1 | 1 | 1 | 1 |
| Taper Length (m) | 7.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | 0.85 | 0.85 | 0.90 | | |
| Flt Protected | 0.950 | | | | 0.966 | |
| Satd. Flow (prot) | 1730 | 1883 | 1883 | 1601 | 1689 | 0 |
| Flt Permitted | 0.252 | | | | 0.966 | |
| Satd. Flow (perm) | 459 | 1883 | 1883 | 1361 | 1577 | 0 |
| Right Turn on Red | | | | Yes | Yes | Yes |
| Satd. Flow (RTOR) | | 50 | 50 | 37 | 23 | |
| Link Speed (k/h) | | | | | | 50 |
| Link Distance (m) | | 300.5 | 329.7 | | 125.2 | |
| Travel Time (s) | | 21.6 | 23.7 | | 9.0 | |

Intersection Summary

Area Type: Other

Timings
7: King St & Street I

05-16-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | W | ← | ← | ← | ← | ← |
| Traffic Volume (vph) | 33 | 859 | 734 | 68 | 293 | 293 |
| Future Volume (vph) | 33 | 859 | 734 | 68 | 293 | 293 |
| Turn Type | Perm | NA | NA | Perm | Prot | Prot |
| Protected Phases | | 4 | 8 | | 6 | |
| Permitted Phases | 4 | 4 | 8 | 8 | 6 | 6 |
| Detector Phase | | | | | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 23.0 | 23.0 | 23.0 | 23.0 | 30.0 | 30.0 |
| Total Split (s) | 58.0 | 58.0 | 58.0 | 58.0 | 32.0 | 32.0 |
| Total Split (%) | 64.4% | 64.4% | 64.4% | 64.4% | 35.6% | 35.6% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | | | | | |
| C-Max | 54.0 | 54.0 | 54.0 | 54.0 | 24.0 | 24.0 |
| Act Effct Green (s) | 0.60 | 0.60 | 0.60 | 0.60 | 0.27 | 0.27 |
| Actuated g/C Ratio | 0.12 | 0.76 | 0.65 | 0.08 | 0.89 | 0.89 |
| v/C Ratio | 13.3 | 23.3 | 15.8 | 5.0 | 52.0 | 52.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 13.3 | 23.3 | 15.8 | 5.0 | 52.0 | 52.0 |
| LOS | B | C | B | A | D | D |
| Approach Delay | | 22.9 | 14.9 | | 52.0 | |
| Approach LOS | | C | B | | D | |

Intersection Summary

| |
|--|
| Cycle Length: 90 |
| Actuated Cycle Length: 90 |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |
| Maximum v/C Ratio: 0.89 |
| Intersection Signal Delay: 25.6 |
| Intersection Capacity Utilization 80.1% |
| Analysis Period (min) 15 |

Splits and Phases: 7: King St & Street I





| Movement | EBL | EBT | WBT | WBR | SBL |
|------------------------|------|-------|-------|------|--------|
| Lane Group Flow (vph) | 33 | 859 | 734 | 68 | 415 |
| v/c Ratio | 0.12 | 0.76 | 0.65 | 0.08 | 0.89 |
| Control Delay | 13.3 | 23.3 | 15.8 | 5.0 | 52.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 13.3 | 23.3 | 15.8 | 5.0 | 52.0 |
| Queue Length 50th (m) | 3.6 | 119.9 | 84.5 | 2.2 | 65.8 |
| Queue Length 95th (m) | m6.2 | 171.7 | 124.9 | 7.7 | #115.1 |
| Internal Link Dist (m) | | 276.5 | 305.7 | | 101.2 |
| Turn Bay Length (m) | 50.0 | | | 25.0 | |
| Base Capacity (vph) | 275 | 1129 | 1129 | 830 | 504 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.12 | 0.76 | 0.65 | 0.08 | 0.82 |

Intersection Summary
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is met/relieved by upstream signal.



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------|------|------|------|------|------|------|
| Lane Configurations | W | W | W | W | W | W |
| Traffic Volume (vph) | 33 | 859 | 734 | 68 | 293 | 122 |
| Future Volume (vph) | 33 | 859 | 734 | 68 | 293 | 122 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 0.85 | 0.97 | |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 0.95 | 1.00 | 1.00 | 0.85 | 0.96 | |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 1730 | 1883 | 1883 | 1361 | 1690 | |
| Flt Permitted | 0.25 | 1.00 | 1.00 | 1.00 | 0.97 | |
| Satd. Flow (perm) | 459 | 1883 | 1883 | 1361 | 1690 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 33 | 859 | 734 | 68 | 293 | 122 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 15 | 17 | 0 |
| Lane Group Flow (vph) | 33 | 859 | 734 | 53 | 398 | 0 |
| Conf. Peds. (#/hr) | 50 | | | 50 | 50 | 50 |

| Turn Type | Perm | NA | NA | Perm | Prot |
|------------------------|------|-------|------|------|-------|
| Protected Phases | | 4 | | 8 | 6 |
| Permitted Phases | 4 | | | 8 | |
| Actuated Green, G (s) | 54.0 | 54.0 | 54.0 | 54.0 | 24.0 |
| Effective Green, g (s) | 54.0 | 54.0 | 54.0 | 54.0 | 24.0 |
| Actuated g/C Ratio | 0.60 | 0.60 | 0.60 | 0.60 | 0.27 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 275 | 1129 | 1129 | 816 | 450 |
| v/s Ratio Prot | | c0.46 | | 0.39 | c0.24 |
| v/s Ratio Perm | 0.07 | | | 0.04 | |
| v/c Ratio | 0.12 | 0.76 | 0.65 | 0.07 | 0.88 |
| Uniform Delay, d1 | 7.8 | 13.2 | 11.8 | 7.5 | 31.7 |
| Progression Factor | 1.38 | 1.32 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.7 | 3.9 | 2.9 | 0.2 | 18.3 |
| Delay (s) | 11.4 | 21.4 | 14.7 | 7.6 | 50.0 |
| Level of Service | B | C | B | A | D |
| Approach Delay (s) | | 21.0 | 14.1 | | 50.0 |
| Approach LOS | | C | B | | D |

| Intersection Summary | | |
|-----------------------------------|-------|-----------------------------|
| HCM 2000 Control Delay | 24.1 | HCM 2000 Level of Service C |
| HCM 2000 Volume to Capacity ratio | 0.80 | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) 12.0 |
| Intersection Capacity Utilization | 80.1% | ICU Level of Service D |
| Analysis Period (min) | 15 | |
| c Critical Lane Group | | |

Lanes and Geometrics

8: The Gore Rd & Street Y

05-16-2023

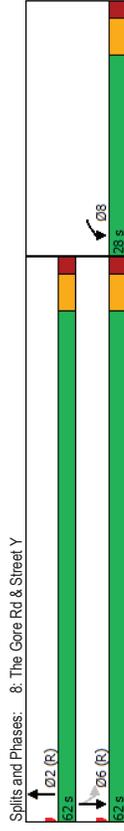
| | WBL | WBR | NBT | NBR | SBL | SBT |
|----------------------|-------|-------|-------|------|------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 | |
| Lane Width (m) | 0% | 0% | 0% | 0% | 0% | |
| Grade (%) | 0.0 | 0.0 | 0.0 | 25.0 | | |
| Storage Length (m) | 1 | 0 | 0 | 7.5 | | |
| Taper Length (m) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.90 | 0.98 | 0.98 | 0.92 | | |
| Pad Bike Factor | 0.987 | 0.980 | | | | |
| Flt Protected | 0.957 | | 0.950 | | | |
| Satd. Flow (prot) | 1769 | 0 | 1804 | 0 | 1730 | 1883 |
| Flt Permitted | 0.957 | | 0.538 | | | |
| Satd. Flow (perm) | 1596 | 0 | 1804 | 0 | 905 | 1883 |
| Right Turn on Red | Yes | Yes | Yes | Yes | | |
| Satd. Flow (RTOR) | 6 | 19 | | | | |
| Link Speed (k/h) | 50 | 50 | | | | 48 |
| Link Distance (m) | 134.7 | 576.8 | | | | 211.4 |
| Travel Time (s) | 9.7 | 41.7 | | | | 15.9 |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |

Timings

8: The Gore Rd & Street Y

05-16-2023

| | WBL | NBT | SBL | SBT |
|--|-------|-------|-------|-------|
| Lane Group | W | | | |
| Lane Configurations | 258 | 298 | 17 | 1050 |
| Traffic Volume (vph) | 258 | 298 | 17 | 1050 |
| Future Volume (vph) | Prot | INA | Perm | INA |
| Turn Type | 8 | 2 | 6 | |
| Protected Phases | | | | |
| Permitted Phases | 8 | 2 | 6 | 6 |
| Detector Phases | 8 | 2 | 6 | 6 |
| Switch Phase | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 28.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 28.0 | 62.0 | 62.0 | 62.0 |
| Total Split (%) | 31.1% | 68.9% | 68.9% | 68.9% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | | | | |
| Recall Mode | None | C-Min | C-Min | C-Min |
| Act Effct Green (s) | 18.5 | 59.5 | 59.5 | 59.5 |
| Actuated g/C Ratio | 0.21 | 0.66 | 0.66 | 0.66 |
| v/C Ratio | 0.78 | 0.29 | 0.03 | 0.84 |
| Control Delay | 47.7 | 7.4 | 6.8 | 16.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 47.7 | 7.4 | 6.8 | 16.7 |
| LOS | D | A | A | B |
| Approach Delay | 47.7 | 7.4 | 16.5 | |
| Approach LOS | D | A | B | |
| Intersection Summary | | | | |
| Cycle Length: 90 | | | | |
| Actuated Cycle Length: 90 | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | |
| Natural Cycle: 80 | | | | |
| Control Type: Actuated-Coordinated | | | | |
| Maximum v/C Ratio: 0.84 | | | | |
| Intersection Signal Delay: 19.8 | | | | |
| Intersection Capacity Utilization 83.2% | | | | |
| ICU Level of Service E | | | | |
| Analysis Period (min) 15 | | | | |



8: The Gore Rd & Street Y

05-16-2023

| | WBL | NBT | SBL | SBT |
|------------------------|-------|-------|------|--------|
| Lane Group | 285 | 351 | 17 | 1050 |
| v/c Ratio | 0.78 | 0.29 | 0.03 | 0.84 |
| Control Delay | 47.7 | 7.4 | 6.8 | 16.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 47.7 | 7.4 | 6.8 | 16.7 |
| Queue Length 50th (m) | 47.2 | 22.7 | 0.8 | 71.9 |
| Queue Length 95th (m) | 72.7 | 39.6 | m2.1 | #247.2 |
| Internal Link Dist (m) | 110.7 | 554.8 | | 187.4 |
| Turn Bay Length (m) | | | 25.0 | |
| Base Capacity (vph) | 434 | 1198 | 598 | 1244 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.29 | 0.03 | 0.84 |

Intersection Summary
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

8: The Gore Rd & Street Y

05-16-2023

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|------|------|-------|------|---------------------------|------|
| Lane Configurations | W | | T | | T | T |
| Traffic Volume (vph) | 258 | 27 | 298 | 53 | 17 | 1050 |
| Future Volume (vph) | 258 | 27 | 298 | 53 | 17 | 1050 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 0.99 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 0.92 | 1.00 | 1.00 |
| Flt Protected | 0.96 | 1.00 | 0.98 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1759 | 1803 | 1803 | 1595 | 1883 | 1883 |
| Flt Permitted | 0.96 | 1.00 | 1.00 | 0.54 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1759 | 1803 | 1803 | 903 | 1883 | 1883 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 258 | 27 | 298 | 53 | 17 | 1050 |
| RTOR Reduction (vph) | 5 | 0 | 6 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 280 | 0 | 345 | 0 | 17 | 1050 |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 |
| Turn Type | Prot | | NA | Perm | NA | NA |
| Protected Phases | 8 | | 2 | | 6 | |
| Permitted Phases | | | | | 6 | |
| Actuated Green, G (s) | 18.5 | | 59.5 | | 59.5 | 59.5 |
| Effective Green, g (s) | 18.5 | | 59.5 | | 59.5 | 59.5 |
| Actuated g/C Ratio | 0.21 | | 0.66 | | 0.66 | 0.66 |
| Clearance Time (s) | 6.0 | | 6.0 | | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 361 | | 1191 | | 596 | 1244 |
| v/s Ratio Prot | 0.16 | | 0.19 | | 0.02 | 0.56 |
| v/s Ratio Perm | | | | | 0.03 | 0.84 |
| v/c Ratio | 0.78 | | 0.29 | | 0.03 | 0.84 |
| Uniform Delay, d1 | 33.8 | | 6.4 | | 5.3 | 11.7 |
| Progression Factor | 1.00 | | 1.00 | | 1.04 | 0.77 |
| Incremental Delay, d2 | 10.0 | | 0.6 | | 0.1 | 5.5 |
| Delay (s) | 43.8 | | 7.0 | | 5.5 | 14.5 |
| Level of Service | D | | A | | A | B |
| Approach Delay (s) | 43.8 | | 7.0 | | 14.3 | |
| Approach LOS | D | | A | | B | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | | 17.8 | | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | | | 0.83 | | | |
| Actuated Cycle Length (s) | | | 90.0 | | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | | | 83.2% | | ICU Level of Service | E |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics

9: The Gore Rd & Street DDD

05-16-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------|-------|------|-------|------|-------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width (m) | 0% | 0% | 0% | 0% | 50.0 | 0% |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 7.6 | 0.0 |
| Storage Length (m) | 1 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.865 | | 0.982 | | | |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 1629 | 0 | 1850 | 0 | 0 | 1883 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 1629 | 0 | 1850 | 0 | 0 | 1883 |
| Link Speed (k/h) | 50 | | 50 | | 50 | 50 |
| Link Distance (m) | 209.0 | | 211.4 | | 265.4 | 265.4 |
| Travel Time (s) | 15.0 | | 15.2 | | 19.1 | 19.1 |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |

HCM Unsignalized Intersection Capacity Analysis

9: The Gore Rd & Street DDD

05-16-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|------|-------|------|----------------------|------|------|
| Movement | W | | | | | |
| Lane Configurations | 0 | 20 | 283 | 43 | 0 | 1067 |
| Traffic Volume (veh/h) | 0 | 20 | 283 | 43 | 0 | 1067 |
| Future Volume (Veh/h) | 0 | 20 | 283 | 43 | 0 | 1067 |
| Sign Control | Stop | Free | Free | Free | Free | Free |
| Grade | 0% | 0% | 0% | 0% | 0% | 0% |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 20 | 283 | 43 | 0 | 1067 |
| Pedestrians | 50 | | 50 | | 50 | 50 |
| Lane Width (m) | 3.7 | | 3.7 | | 3.7 | 3.7 |
| Walking Speed (m/s) | 1.2 | | 1.2 | | 1.2 | 1.2 |
| Percent Blockage | 4 | | 4 | | 4 | 4 |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage (veh) | | | | | | |
| Upstream signal (m) | | | 212 | | | 265 |
| pk_platoon unblocked | 0.70 | 0.96 | | | 0.96 | |
| vC_conflicting volume | 1472 | 404 | | | 376 | |
| vC1_stage 1 conf vol | | | | | | |
| vC2_stage 2 conf vol | | | | | | |
| vCu_unblocked vol | 1336 | 361 | | | 331 | |
| IC_single (s) | 6.4 | 6.2 | | | 4.1 | |
| IC_2 stage (s) | | | | | | |
| p0_queue free % | 3.5 | 3.3 | | | 2.2 | |
| IF (s) | 100 | 97 | | | 100 | |
| qM_capacity (veh/h) | 109 | 602 | | | 1131 | |
| Direction_Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 20 | 326 | 1067 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 20 | 43 | 0 | | | |
| eSH | 602 | 1700 | 1700 | | | |
| Volume to Capacity | 0.03 | 0.19 | 0.63 | | | |
| Queue Length 95th (m) | 0.8 | 0.0 | 0.0 | | | |
| Control Delay (s) | 11.2 | 0.0 | 0.0 | | | |
| Lane LOS | B | | | | | |
| Approach Delay (s) | 11.2 | 0.0 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.2 | | | |
| Intersection Capacity Utilization | | 74.6% | | ICU Level of Service | | D |
| Analysis Period (min) | | 15 | | | | |

Lanes and Geometrics

10: The Gore Rd & Street A

05-16-2023

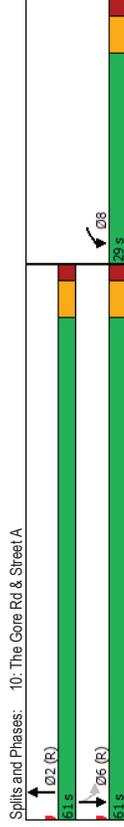
| | WBL | WBR | NBT | NBR | SBL | SBT |
|----------------------|-------|-------|-------|------|------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 262 | 250 | 43 | 805 | 262 | 250 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 50.0 | 0% | 0% |
| Storage Lanes | 1 | 0 | 0 | 1 | | |
| Taper Length (m) | 0.0 | | | 7.6 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.90 | 0.97 | 0.97 | 0.92 | | |
| Frt | 0.986 | 0.977 | | | | |
| Flt Protected | 0.957 | | 0.950 | | | |
| Satd. Flow (prot) | 1765 | 0 | 1793 | 0 | 1730 | 1883 |
| Flt Permitted | 0.957 | | 0.573 | | | |
| Satd. Flow (perm) | 1594 | 0 | 1793 | 0 | 956 | 1883 |
| Right Turn on Red | Yes | Yes | Yes | Yes | | |
| Satd. Flow (RTOR) | 6 | 21 | | | | |
| Link Speed (k/h) | 50 | 50 | | | | 50 |
| Link Distance (m) | 319.0 | 265.4 | | | | 374.2 |
| Travel Time (s) | 23.0 | 19.1 | | | | 26.9 |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings

10: The Gore Rd & Street A

05-16-2023

| | WBL | NBT | SBL | SBT |
|--|-------|-------|-------|-------|
| Lane Group | W | | | |
| Lane Configurations | 262 | 250 | 43 | 805 |
| Traffic Volume (vph) | 262 | 250 | 43 | 805 |
| Future Volume (vph) | 262 | 250 | 43 | 805 |
| Turn Type | Prot | NA | Perm | NA |
| Protected Phases | 8 | 2 | 6 | 6 |
| Permitted Phases | 8 | 2 | 6 | 6 |
| Detector Phases | 8 | 2 | 6 | 6 |
| Switch Phase | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 28.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 29.0 | 61.0 | 61.0 | 61.0 |
| Total Split (%) | 32.2% | 67.8% | 67.8% | 67.8% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | | | | |
| Recall Mode | None | C-Min | C-Min | C-Min |
| Act Effct Green (s) | 19.1 | 58.9 | 58.9 | 58.9 |
| Actuated g/C Ratio | 0.21 | 0.65 | 0.65 | 0.65 |
| v/C Ratio | 0.78 | 0.26 | 0.07 | 0.65 |
| Control Delay | 47.0 | 8.9 | 7.1 | 13.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 47.0 | 8.9 | 7.1 | 13.4 |
| LOS | D | A | A | B |
| Approach Delay | 47.0 | 8.9 | 13.1 | |
| Approach LOS | D | A | B | |
| Intersection Summary | | | | |
| Cycle Length: 90 | | | | |
| Actuated Cycle Length: 90 | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | |
| Natural Cycle: 65 | | | | |
| Control Type: Actuated-Coordinated | | | | |
| Maximum v/C Ratio: 0.78 | | | | |
| Intersection Signal Delay: 19.1 | | | | |
| Intersection Capacity Utilization 70.4% | | | | |
| Analysis Period (min) 15 | | | | |



| | WBL | NBT | SBL | SBT |
|------------------------|-------|-------|------|-------|
| Lane Group | 293 | 302 | 43 | 805 |
| Lane Group Flow (vph) | 0.78 | 0.26 | 0.07 | 0.65 |
| v/c Ratio | 47.0 | 8.9 | 7.1 | 13.4 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 47.0 | 8.9 | 7.1 | 13.4 |
| Total Delay | 48.4 | 32.2 | 2.6 | 79.9 |
| Queue Length 50th (m) | 73.7 | 29.7 | 7.1 | 133.1 |
| Queue Length 95th (m) | 295.0 | 241.4 | | 350.2 |
| Internal Link Dist (m) | | | 50.0 | |
| Turn Bay Length (m) | | | | |
| Base Capacity (vph) | 452 | 1180 | 625 | 1232 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.65 | 0.26 | 0.07 | 0.65 |

Intersection Summary

HCM Signalized Intersection Capacity Analysis
10: The Gore Rd & Street A

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|------|------|-------|------|------|-----------------------------|
| Movement | W | | | | | |
| Lane Configurations | W | | | | | |
| Traffic Volume (vph) | 262 | 31 | 250 | 52 | 43 | 805 |
| Future Volume (vph) | 262 | 31 | 250 | 52 | 43 | 805 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 0.99 | 0.97 | 1.00 | 0.91 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 |
| Flt Protected | 0.96 | 1.00 | 0.98 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1754 | 1792 | 1581 | 1581 | 1883 | 1883 |
| Flt Permitted | 0.96 | 1.00 | 1.00 | 0.57 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1754 | 1792 | 1581 | 954 | 1883 | 1883 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 262 | 31 | 250 | 52 | 43 | 805 |
| RTOR Reduction (vph) | 5 | 0 | 7 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 288 | 0 | 295 | 0 | 43 | 805 |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 |
| Turn Type | Prot | NA | NA | Perm | NA | NA |
| Protected Phases | 8 | | 2 | | 6 | |
| Permitted Phases | | | | | 6 | |
| Actuated Green, G (s) | 19.1 | | 58.9 | | 58.9 | 58.9 |
| Effective Green, g (s) | 19.1 | | 58.9 | | 58.9 | 58.9 |
| Actuated g/C Ratio | 0.21 | | 0.65 | | 0.65 | 0.65 |
| Clearance Time (s) | 6.0 | | 6.0 | | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 372 | | 1172 | | 624 | 1232 |
| v/s Ratio Prot | 0.16 | | 0.16 | | 0.05 | 0.43 |
| v/s Ratio Perm | | | | | 0.07 | 0.65 |
| v/c Ratio | 0.77 | | 0.25 | | 0.07 | 0.65 |
| Uniform Delay, d1 | 33.4 | | 6.4 | | 5.6 | 9.4 |
| Progression Factor | 1.00 | | 1.25 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.7 | | 0.5 | | 0.2 | 2.7 |
| Delay (s) | 43.1 | | 8.5 | | 5.8 | 12.1 |
| Level of Service | D | | A | | A | B |
| Approach Delay (s) | 43.1 | | 8.5 | | 11.8 | |
| Approach LOS | D | | A | | B | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | | 17.5 | | | HCM 2000 Level of Service B |
| HCM 2000 Volume to Capacity ratio | | | 0.68 | | | |
| Actuated Cycle Length (s) | | | 90.0 | | | Sum of lost time (s) 12.0 |
| Intersection Capacity Utilization | | | 70.4% | | | ICU Level of Service C |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics
12: Street VV & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|-------|------|------|------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.999 | | | 0.987 | | | | | | | | 0.972 |
| Flt Protected | | | | | | | 0.950 | | | | | 0.962 |
| Satd. Flow (prot) | 0 | 1882 | 0 | 0 | 1859 | 0 | 0 | 1789 | 0 | 0 | 1761 | 0 |
| Flt Permitted | | | | | | | 0.950 | | | | | 0.962 |
| Satd. Flow (perm) | 0 | 1882 | 0 | 0 | 1859 | 0 | 0 | 1789 | 0 | 0 | 1761 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 319.0 | | | 314.6 | | | 187.1 | | | | 204.6 | |
| Travel Time (s) | 23.0 | | | 22.7 | | | 13.5 | | | | 14.7 | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
12: Street VV & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 0 | 120 | 1 | 0 | 270 | 29 | 8 | 0 | 0 | 19 | 0 | 5 |
| Future Volume (vph) | 0 | 120 | 1 | 0 | 270 | 29 | 8 | 0 | 0 | 19 | 0 | 5 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 120 | 1 | 0 | 270 | 29 | 8 | 0 | 0 | 19 | 0 | 5 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 121 | 299 | 8 | 24 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 8 | 19 | | | | | | | | |
| Volume Right (vph) | 1 | 29 | 0 | 5 | | | | | | | | |
| Head (s) | 0.03 | -0.02 | 0.23 | 0.07 | | | | | | | | |
| Departure Headway (s) | 4.3 | 4.1 | 5.1 | 4.9 | | | | | | | | |
| Degree Utilization, x | 0.14 | 0.34 | 0.01 | 0.03 | | | | | | | | |
| Capacity (veh/h) | 818 | 871 | 648 | 670 | | | | | | | | |
| Control Delay (s) | 8.0 | 9.2 | 8.1 | 8.0 | | | | | | | | |
| Approach Delay (s) | 8.0 | 9.2 | 8.1 | 8.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 8.8 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 34.5% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
14: Street JJ & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.977 | | | | | | 0.985 | | | 0.963 | | |
| Ft Protected | | | | 0.996 | | | 0.964 | | | | | |
| Satd. Flow (prot) | 0 | 1840 | 0 | 0 | 1876 | 0 | 0 | 1788 | 0 | 0 | 1814 | 0 |
| Flt Permitted | | | | 0.986 | | | 0.964 | | | | | |
| Satd. Flow (perm) | 0 | 1840 | 0 | 0 | 1876 | 0 | 0 | 1788 | 0 | 0 | 1814 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 314.6 | 314.6 | 314.6 | 275.2 | 275.2 | 275.2 | 590.8 | 590.8 | 204.6 | 204.6 | 204.6 | 204.6 |
| Travel Time (s) | 22.7 | 22.7 | 22.7 | 19.8 | 19.8 | 19.8 | 42.5 | 42.5 | 14.7 | 14.7 | 14.7 | 14.7 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
14: Street JJ & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|-------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1 | 125 | 26 | 19 | 242 | 0 | 27 | 5 | 4 | 0 | 24 | 9 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | | Stop | Stop | | Stop | Stop | Stop |
| Traffic Volume (vph) | 1 | 125 | 26 | 19 | 242 | 0 | 27 | 5 | 4 | 0 | 24 | 9 |
| Future Volume (vph) | 1 | 125 | 26 | 19 | 242 | 0 | 27 | 5 | 4 | 0 | 24 | 9 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 1 | 125 | 26 | 19 | 242 | 0 | 27 | 5 | 4 | 0 | 24 | 9 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 152 | 261 | 36 | 33 | | | | | | | | |
| Volume Left (vph) | 1 | 19 | 27 | 0 | | | | | | | | |
| Volume Right (vph) | 26 | 0 | 4 | 9 | | | | | | | | |
| Head (s) | -0.07 | 0.05 | 0.12 | -0.13 | | | | | | | | |
| Departure Headway (s) | 4.3 | 4.3 | 5.0 | 4.7 | | | | | | | | |
| Degree Utilization, x | 0.18 | 0.31 | 0.05 | 0.04 | | | | | | | | |
| Capacity (veh/h) | 816 | 815 | 662 | 688 | | | | | | | | |
| Control Delay (s) | 8.2 | 9.2 | 8.2 | 8.0 | | | | | | | | |
| Approach Delay (s) | 8.2 | 9.2 | 8.2 | 8.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 8.7 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 45.2% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
15: Street I & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|-------|------|------|------|------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 7.5 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.993 | | | | | | 0.975 | | | | | 0.958 |
| Ft | | | | 0.994 | | | 0.966 | | | | | 0.966 |
| Flt Protected | 0 | 1870 | 0 | 0 | 1872 | 0 | 0 | 1774 | 0 | 0 | 1804 | 0 |
| Satd. Flow (prot) | | | | 0.994 | | | 0.966 | | | | | 0.966 |
| Flt Permitted | 0 | 1870 | 0 | 0 | 1872 | 0 | 0 | 1774 | 0 | 0 | 1804 | 0 |
| Satd. Flow (perm) | | | | 50 | | | 50 | | | | | 50 |
| Link Speed (k/h) | 275.2 | | | 405.9 | | | 598.1 | | | | | 178.2 |
| Link Distance (m) | 19.8 | | | 29.2 | | | 43.1 | | | | | 12.8 |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

15: Street I & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|-------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1 | 116 | 6 | 29 | 210 | 0 | 27 | 4 | 7 | 0 | 20 | 9 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 1 | 116 | 6 | 29 | 210 | 0 | 27 | 4 | 7 | 0 | 20 | 9 |
| Future Volume (vph) | 1 | 116 | 6 | 29 | 210 | 0 | 27 | 4 | 7 | 0 | 20 | 9 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 1 | 116 | 6 | 29 | 210 | 0 | 27 | 4 | 7 | 0 | 20 | 9 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 123 | 239 | 38 | 29 | | | | | | | | |
| Volume Left (vph) | 1 | 29 | 27 | 0 | | | | | | | | |
| Volume Right (vph) | 6 | 0 | 7 | 9 | | | | | | | | |
| Head (s) | 0.01 | 0.06 | 0.07 | -0.15 | | | | | | | | |
| Departure Headway (s) | 4.3 | 4.3 | 4.8 | 4.6 | | | | | | | | |
| Degree Utilization, x | 0.15 | 0.28 | 0.05 | 0.04 | | | | | | | | |
| Capacity (veh/h) | 809 | 630 | 690 | 713 | | | | | | | | |
| Control Delay (s) | 8.1 | 8.9 | 8.1 | 7.8 | | | | | | | | |
| Approach Delay (s) | 8.1 | 8.9 | 8.1 | 7.8 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 8.5 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 41.2% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

18: Humber Station Rd & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.923 | 0.989 | 0.989 | 0.980 | 0.980 | 0.980 | 0.983 | 0.973 | 0.995 | 0.995 | 0.994 | 0.995 |
| Flt Protected | 0 | 1737 | 0 | 0 | 1825 | 0 | 0 | 1801 | 0 | 0 | 1863 | 0 |
| Satd. Flow (prot) | 0.999 | 0.980 | 0.980 | 0.973 | 0.973 | 0.973 | 0.973 | 0.973 | 0.995 | 0.995 | 0.995 | 0.995 |
| Flt Permitted | 0 | 1737 | 0 | 0 | 1825 | 0 | 0 | 1801 | 0 | 0 | 1863 | 0 |
| Satd. Flow (perm) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Speed (k/h) | 405.9 | 132.6 | 132.6 | 360.1 | 25.9 | 25.9 | 25.9 | 25.9 | 173.8 | 173.8 | 173.8 | 173.8 |
| Link Distance (m) | 29.2 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

18: Humber Station Rd & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|-------|------|------|------|-------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 3 | 75 | 102 | 60 | 75 | 12 | 100 | 57 | 22 | 19 | 166 | 9 |
| Traffic Volume (vph) | 3 | 75 | 102 | 60 | 75 | 12 | 100 | 57 | 22 | 19 | 166 | 9 |
| Future Volume (vph) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak Hour Factor | 3 | 75 | 102 | 60 | 75 | 12 | 100 | 57 | 22 | 19 | 166 | 9 |
| Hourly flow rate (vph) | EB 1 | WB 1 | NB 1 | SB 1 | EB 1 | WB 1 | NB 1 | SB 1 | EB 1 | WB 1 | NB 1 | SB 1 |
| Direction, Lane # | 180 | 147 | 179 | 194 | 180 | 147 | 179 | 194 | 180 | 147 | 179 | 194 |
| Volume Total (vph) | 3 | 60 | 100 | 19 | 3 | 60 | 100 | 19 | 3 | 60 | 100 | 19 |
| Volume Left (vph) | 102 | 12 | 22 | 9 | 102 | 12 | 22 | 9 | 102 | 12 | 22 | 9 |
| Volume Right (vph) | -0.30 | 0.07 | 0.07 | 0.03 | -0.30 | 0.07 | 0.07 | 0.03 | -0.30 | 0.07 | 0.07 | 0.03 |
| Head (s) | 4.8 | 5.2 | 5.1 | 5.0 | 4.8 | 5.2 | 5.1 | 5.0 | 4.8 | 5.2 | 5.1 | 5.0 |
| Departure Headway (s) | 0.24 | 0.21 | 0.25 | 0.27 | 0.24 | 0.21 | 0.25 | 0.27 | 0.24 | 0.21 | 0.25 | 0.27 |
| Degree Utilization, x | 687 | 634 | 666 | 663 | 687 | 634 | 666 | 663 | 687 | 634 | 666 | 663 |
| Capacity (veh/h) | 9.3 | 9.6 | 9.8 | 9.9 | 9.3 | 9.6 | 9.8 | 9.9 | 9.3 | 9.6 | 9.8 | 9.9 |
| Control Delay (s) | A | A | A | A | A | A | A | A | A | A | A | A |
| Approach Delay (s) | 9.3 | 9.6 | 9.8 | 9.9 | 9.3 | 9.6 | 9.8 | 9.9 | 9.3 | 9.6 | 9.8 | 9.9 |
| Approach LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 9.6 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 58.8% | | | | | | | | | | | |
| ICU Level of Service | B | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

48: Humber Station Rd & Street E

05-16-2023

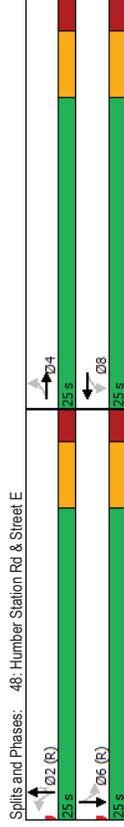
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|------|------|------|------|-------|------|-------|------|------|-------|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.875 | 0.996 | | | | | | | 0.850 | | | |
| Flt Protected | 0.998 | 0.954 | | | | | 0.950 | | 0.950 | | | |
| Satd. Flow (prot) | 0 | 1645 | 0 | 0 | 1790 | 0 | 1789 | 1883 | 1601 | 1789 | 1883 | 0 |
| Flt Permitted | 0.985 | 0.643 | | | | | 0.400 | | 0.616 | | | |
| Satd. Flow (perm) | 0 | 1623 | 0 | 0 | 1206 | 0 | 753 | 1883 | 1601 | 1160 | 1883 | 0 |
| Right Turn on Red | | Yes | | | Yes | | Yes | | Yes | | | Yes |
| Satd. Flow (RTOR) | 118 | | 3 | | | | 50 | | 385 | | | |
| Link Speed (k/h) | 50 | | | | | | 50 | | | | | 50 |
| Link Distance (m) | 129.8 | | | | | | 209.7 | | 154.4 | | | 360.1 |
| Travel Time (s) | 9.3 | | | | | | 15.1 | | 11.1 | | | 25.9 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | | |

Timings

48: Humber Station Rd & Street E

05-16-2023

| | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
| Traffic Volume (vph) | 6 | 3 | 177 | 1 | 40 | 228 | 385 | 1 | 439 |
| Future Volume (vph) | 6 | 3 | 177 | 1 | 40 | 228 | 385 | 1 | 439 |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | Perm | NA |
| Protected Phases | 4 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 |
| Permitted Phases | 4 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 |
| Detector Phase | | | | | | | | | |
| Switch Phase | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | |
| Recall Mode | Max |
| Act Effct Green (s) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 |
| Actuated g/C Ratio | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 |
| v/C Ratio | 0.18 | 0.18 | 0.40 | 0.14 | 0.32 | 0.45 | 0.00 | 0.62 | 0.62 |
| Control Delay | 3.8 | 14.4 | 11.8 | 12.5 | 3.5 | 10.0 | 17.1 | | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 3.8 | 14.4 | 11.8 | 12.5 | 3.5 | 10.0 | 17.1 | | |
| LOS | A | B | B | B | A | A | A | B | B |
| Approach Delay | 3.8 | 14.4 | 11.8 | 12.5 | 3.5 | 10.0 | 17.1 | | |
| Approach LOS | A | B | B | A | A | A | A | B | B |
| Intersection Summary | | | | | | | | | |
| Cycle Length: 50 | | | | | | | | | |
| Actuated Cycle Length: 50 | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 2(NBTL and 6(SBTL), Start of Green | | | | | | | | | |
| Natural Cycle: 50 | | | | | | | | | |
| Control Type: Pretimed | | | | | | | | | |
| Maximum v/C Ratio: 0.62 | | | | | | | | | |
| Intersection Signal Delay: 10.9 | | | | | | | | | |
| Intersection Capacity Utilization 65.3% | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | |



Queues
48: Humber Station Rd & Street E

05-16-2023

| | EBT | WBT | NBL | NBT | NBR | SBL | SBT |
|------------------------|-------|-------|------|-------|------|------|-------|
| Lane Group | 127 | 183 | 40 | 228 | 385 | 1 | 440 |
| Lane Group Flow (vph) | 0.18 | 0.40 | 0.14 | 0.32 | 0.45 | 0.00 | 0.62 |
| v/c Ratio | 0.18 | 0.40 | 0.14 | 0.32 | 0.45 | 0.00 | 0.62 |
| Control Delay | 3.8 | 14.4 | 11.8 | 12.5 | 3.5 | 10.0 | 17.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 3.8 | 14.4 | 11.8 | 12.5 | 3.5 | 10.0 | 17.1 |
| Queue Length 50th (m) | 0.5 | 11.6 | 2.3 | 14.3 | 0.0 | 0.1 | 31.5 |
| Queue Length 95th (m) | 8.3 | 25.2 | 7.5 | 27.4 | 13.1 | 0.8 | 55.9 |
| Internal Link Dist (m) | 105.8 | 185.7 | | 130.4 | | | 336.1 |
| Turn Bay Length (m) | | | 25.0 | | | 25.0 | |
| Base Capacity (vph) | 689 | 460 | 286 | 715 | 847 | 440 | 715 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.18 | 0.40 | 0.14 | 0.32 | 0.45 | 0.00 | 0.62 |
| Intersection Summary | | | | | | | |

HCM Signalized Intersection Capacity Analysis
48: Humber Station Rd & Street E

05-16-2023

| | EBT | EBR | WBL | WBR | NBL | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|-------|------|---------------------------|------|------|------|------|
| Lane Configurations | 3 | 118 | 177 | 1 | 5 | 40 | 228 | 385 | 1 |
| Traffic Volume (vph) | 6 | 3 | 118 | 177 | 1 | 5 | 40 | 228 | 385 |
| Future Volume (vph) | 6 | 3 | 118 | 177 | 1 | 5 | 40 | 228 | 385 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Protected | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1643 | 1790 | 1790 | 1790 | 1789 | 1883 | 1601 | 1789 | 1883 |
| Flt Permitted | 0.99 | 0.64 | 0.64 | 0.40 | 1.00 | 1.00 | 0.62 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1623 | 1207 | 1207 | 753 | 1883 | 1601 | 1161 | 1883 | 1883 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 6 | 3 | 118 | 177 | 1 | 5 | 40 | 228 | 385 |
| RTOR Reduction (vph) | 0 | 73 | 0 | 0 | 2 | 0 | 0 | 239 | 0 |
| Lane Group Flow (vph) | 0 | 54 | 0 | 0 | 181 | 0 | 40 | 228 | 146 |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | Perm | NA |
| Protected Phases | 4 | | 8 | | 2 | | | | 6 |
| Permitted Phases | 4 | | 8 | | 2 | | 2 | | 6 |
| Actuated Green, G (s) | 19.0 | | 19.0 | | 19.0 | | 19.0 | | 19.0 |
| Effective Green, g (s) | 19.0 | | 19.0 | | 19.0 | | 19.0 | | 19.0 |
| Actuated g/C Ratio | 0.38 | | 0.38 | | 0.38 | | 0.38 | | 0.38 |
| Clearance Time (s) | 6.0 | | 6.0 | | 6.0 | | 6.0 | | 6.0 |
| Lane Grp Cap (vph) | 616 | | 458 | | 286 | | 715 | | 608 |
| v/s Ratio Prot | | | | | 0.12 | | | | |
| v/s Ratio Perm | 0.03 | | c0.15 | | 0.05 | | 0.09 | | 0.00 |
| v/c Ratio | 0.09 | | 0.40 | | 0.14 | | 0.32 | | 0.00 |
| Uniform Delay, d1 | 9.9 | | 11.3 | | 10.1 | | 10.6 | | 9.6 |
| Progression Factor | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.3 | | 2.5 | | 1.0 | | 1.2 | | 0.0 |
| Delay (s) | 10.2 | | 13.9 | | 11.2 | | 11.5 | | 9.6 |
| Level of Service | B | | B | | B | | B | | A |
| Approach Delay (s) | 10.2 | | 13.9 | | 11.7 | | 16.5 | | 16.5 |
| Approach LOS | B | | B | | B | | B | | B |
| Intersection Summary | | | | | | | | | |
| HCM 2000 Control Delay | 13.3 | | | | HCM 2000 Level of Service | | | | B |
| HCM 2000 Volume to Capacity ratio | 0.50 | | | | | | | | |
| Actuated Cycle Length (s) | 50.0 | | | | Sum of lost time (s) | | | | 12.0 |
| Intersection Capacity Utilization | 65.3% | | | | IOU Level of Service | | | | C |
| Analysis Period (min) | 15 | | | | | | | | |
| c Critical Lane Group | | | | | | | | | |

Lanes and Geometrics
58: Humber Station Rd & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 45.0 | 0 | 25.0 | 25.0 | 50.0 | 0.0 | 0.0 | 50.0 | 0.0 | 50.0 | 0.0 | 0.0 |
| Storage Lanes | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pod Bike Factor | 0.95 | 0.98 | 0.96 | 0.92 | 0.92 | 0.99 | 0.99 | 0.99 | 0.96 | 1.00 | 0.96 | 1.00 |
| Frt | 0.950 | 0.975 | 0.950 | 0.850 | 0.850 | 0.975 | 0.975 | 0.975 | 0.950 | 0.950 | 0.950 | 0.950 |
| Flt Protected | 1789 | 1795 | 0 | 1789 | 1883 | 1601 | 1789 | 1811 | 0 | 1789 | 1869 | 0 |
| Flt Permitted | 0.687 | 0.234 | 0.234 | 0.234 | 0.234 | 0.289 | 0.289 | 0.289 | 0 | 0.359 | 0.359 | 0 |
| Satd. Flow (perm) | 1234 | 1795 | 0 | 422 | 1883 | 1470 | 488 | 1811 | 0 | 661 | 1869 | 0 |
| Right Turn on Red | | Yes |
| Satd. Flow (RTOR) | 12 | 50 | 50 | 50 | 133 | 18 | 18 | 18 | 2 | 2 | 2 | 2 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 81.8 | 81.8 | 813.2 | 813.2 | 194.3 | 194.3 | 194.3 | 194.3 | 154.4 | 154.4 | 154.4 | 154.4 |
| Travel Time (s) | 5.9 | 5.9 | 58.6 | 58.6 | 14.0 | 14.0 | 14.0 | 14.0 | 11.1 | 11.1 | 11.1 | 11.1 |

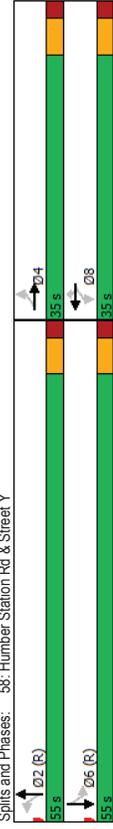
Intersection Summary
Area Type: Other

Timings
58: Humber Station Rd & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Traffic Volume (vph) | 41 | 361 | 130 | 108 | 108 | 133 | 74 | 461 | 93 | 681 | 93 | 681 |
| Future Volume (vph) | 41 | 361 | 130 | 108 | 108 | 133 | 74 | 461 | 93 | 681 | 93 | 681 |
| Turn Type | Perm | NA |
| Protected Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Permitted Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Minimum Split (s) | 35.0 | 35.0 | 35.0 | 35.0 | 35.0 | 35.0 | 35.0 | 35.0 | 35.0 | 35.0 | 35.0 | 35.0 |
| Total Split (s) | 38.9% | 38.9% | 38.9% | 38.9% | 38.9% | 38.9% | 61.1% | 61.1% | 61.1% | 61.1% | 61.1% | 61.1% |
| Total Split (%) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Yellow Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| All-Red Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lost Time Adjust (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | None |
| Lead-Lag Optimize? | None |
| Recall Mode | 26.2 | 26.2 | 26.2 | 26.2 | 26.2 | 26.2 | 51.8 | 51.8 | 51.8 | 51.8 | 51.8 | 51.8 |
| Act Effct Green (s) | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 |
| Actuated g/C Ratio | 0.11 | 0.82 | 1.07 | 0.20 | 0.25 | 0.26 | 0.53 | 0.26 | 0.53 | 0.26 | 0.65 | 0.65 |
| v/C Ratio | 22.7 | 41.6 | 133.0 | 23.8 | 5.5 | 13.3 | 13.1 | 12.8 | 17.4 | 17.4 | 17.4 | 17.4 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 22.7 | 41.6 | 133.0 | 23.8 | 5.5 | 13.3 | 13.1 | 12.8 | 17.4 | 17.4 | 17.4 | 17.4 |
| Total Delay | 22.7 | 41.6 | 133.0 | 23.8 | 5.5 | 13.3 | 13.1 | 12.8 | 17.4 | 17.4 | 17.4 | 17.4 |
| LOS | C | D | F | C | A | B | B | B | B | B | B | B |
| Approach Delay | 40.0 | 40.0 | 40.0 | 55.5 | 55.5 | 55.5 | 13.1 | 13.1 | 18.5 | 18.5 | 18.5 | 18.5 |
| Approach LOS | D | D | D | E | E | E | B | B | B | B | B | B |

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/C Ratio: 1.07
Intersection Signal Delay: 27.6
Intersection Capacity Utilization 92.4%
Analysis Period (min) 15



Queues
58: Humber Station Rd & Street Y

05-16-2023

| | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|-----------------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | 41 | 433 | 130 | 108 | 133 | 74 | 555 | 93 | 699 |
| Lane Group Flow (vph) | 0.11 | 0.82 | 1.07 | 0.20 | 0.25 | 0.26 | 0.53 | 0.25 | 0.65 |
| v/c Ratio | 22.7 | 41.6 | 133.0 | 23.8 | 5.5 | 13.3 | 13.1 | 12.8 | 17.4 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 |
| Queue Delay | 22.7 | 41.6 | 133.0 | 23.8 | 5.5 | 13.3 | 13.1 | 12.8 | 19.2 |
| Total Delay | 5.1 | 66.8 | 22.7 | 13.8 | 0.0 | 6.2 | 49.7 | 8.3 | 85.5 |
| Queue Length 50th (m) | 12.7 | 102.2 | #59.9 | 26.1 | 12.3 | 13.6 | 69.0 | 18.2 | 126.8 |
| Queue Length 95th (m) | 57.8 | 789.2 | 789.2 | 170.3 | 170.3 | 170.3 | 170.3 | 130.4 | 130.4 |
| Internal Link Dist (m) | 45.0 | 25.0 | 25.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 |
| Turn Bay Length (m) | 397 | 586 | 135 | 606 | 563 | 280 | 1049 | 379 | 1075 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 221 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.10 | 0.74 | 0.96 | 0.18 | 0.24 | 0.26 | 0.53 | 0.25 | 0.82 |
| Intersection Summary | | | | | | | | | |
| # | 95th percentile volume exceeds capacity, queue may be longer. | | | | | | | | |
| | Queue shown is maximum after two cycles. | | | | | | | | |

HCM Signalized Intersection Capacity Analysis
58: Humber Station Rd & Street Y

05-16-2023

| | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|-----------------------------------|-------|------|-------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
| Lane Configurations | 41 | 361 | 72 | 130 | 108 | 133 | 74 | 461 | 94 | 93 |
| Traffic Volume (vph) | 41 | 361 | 72 | 130 | 108 | 133 | 74 | 461 | 94 | 93 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Frb. ped/bikes | 0.94 | 1.00 | 0.96 | 1.00 | 1.00 | 0.98 | 1.00 | 0.98 | 1.00 | 0.98 |
| Frb. ped/bikes | 1.00 | 0.98 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 |
| Satd. Flow (prot) | 1680 | 1795 | 1717 | 1883 | 1470 | 1748 | 1810 | 1748 | 1870 | 1748 |
| Flt Permitted | 0.69 | 1.00 | 0.23 | 1.00 | 1.00 | 0.26 | 1.00 | 0.36 | 1.00 | 0.36 |
| Satd. Flow (perm) | 1215 | 1795 | 422 | 1883 | 1470 | 476 | 1810 | 661 | 1870 | 661 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 41 | 361 | 72 | 130 | 108 | 133 | 74 | 461 | 94 | 93 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 0 | 94 | 0 | 8 | 0 | 1 |
| Lane Group Flow (vph) | 41 | 424 | 0 | 130 | 108 | 39 | 74 | 547 | 0 | 93 |
| Confl. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Turn Type | Perm | NA | Perm | NA | Perm | Perm | NA | Perm | NA | NA |
| Protected Phases | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | 6 |
| Permitted Phases | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | 6 |
| Actuated Green, G (s) | 26.2 | 26.2 | 26.2 | 26.2 | 26.2 | 51.8 | 51.8 | 51.8 | 51.8 | 51.8 |
| Effective Green, g (s) | 26.2 | 26.2 | 26.2 | 26.2 | 26.2 | 51.8 | 51.8 | 51.8 | 51.8 | 51.8 |
| Actuated g/C Ratio | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 353 | 522 | 122 | 548 | 427 | 273 | 1041 | 380 | 1076 | 380 |
| v/s Ratio Prot | 0.24 | 0.24 | 0.06 | 0.06 | 0.03 | 0.16 | 0.16 | 0.14 | 0.14 | 0.14 |
| v/s Ratio Perm | 0.03 | 0.12 | 0.81 | 1.07 | 0.20 | 0.09 | 0.27 | 0.53 | 0.24 | 0.65 |
| v/c Ratio | 23.4 | 29.6 | 31.9 | 24.0 | 23.2 | 9.6 | 11.6 | 9.4 | 12.9 | 9.4 |
| Uniform Delay, d1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.94 | 0.90 | 1.00 | 1.00 | 1.00 |
| Progression Factor | 0.1 | 9.4 | 100.1 | 0.2 | 0.1 | 2.4 | 1.9 | 1.5 | 3.0 | 3.0 |
| Incremental Delay, d2 | 23.6 | 39.0 | 132.0 | 24.2 | 23.3 | 11.4 | 12.4 | 11.0 | 16.0 | 16.0 |
| Delay (s) | C | D | F | C | C | B | B | B | B | B |
| Level of Service | D | D | E | E | E | B | B | B | B | B |
| Approach Delay (s) | 37.7 | 61.7 | 12.3 | 12.3 | 12.3 | 15.4 | 15.4 | 15.4 | 15.4 | 15.4 |
| Approach LOS | D | D | E | E | E | B | B | B | B | B |
| Intersection Summary | | | | | | | | | | |
| HCM 2000 Control Delay | 26.8 | | | | | | | | | |
| HCM 2000 Level of Service | C | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.79 | | | | | | | | | |
| Actuated Cycle Length (s) | 90.0 | | | | | | | | | |
| Sum of lost time (s) | 12.0 | | | | | | | | | |
| Intersection Capacity Utilization | 92.4% | | | | | | | | | |
| ICU Level of Service | F | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | |

Lanes and Geometrics
62: Street Y & Street VV

05-16-2023

| | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------|-------|-------|-------|------|-------|------|
| Lane Group | | | | | | |
| Lane Configurations | | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | |
| Frt | | 0.984 | | | 0.987 | |
| Frt Protected | | | | | 0.957 | |
| Satd. Flow (prot) | 0 | 1883 | 1853 | 0 | 1779 | 0 |
| Flt Permitted | | | | | 0.957 | |
| Satd. Flow (perm) | 0 | 1883 | 1853 | 0 | 1779 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 82.2 | 318.6 | 162.9 | | | 11.7 |
| Travel Time (s) | 5.9 | 22.9 | | | | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |

HCM Unsignalized Intersection Capacity Analysis
62: Street Y & Street VV

05-16-2023

| | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|-------|-------|------|------|------|------|
| Movement | | | | | | |
| Lane Configurations | | | | | | |
| Sign Control | | Stop | Stop | | Stop | Stop |
| Traffic Volume (vph) | 0 | 117 | 284 | 38 | 47 | 5 |
| Future Volume (vph) | 0 | 117 | 284 | 38 | 47 | 5 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 117 | 284 | 38 | 47 | 5 |
| Direction, Lane # | EB 1 | WB 1 | SB 1 | | | |
| Volume Total (vph) | 117 | 322 | 52 | | | |
| Volume Left (vph) | 0 | 0 | 47 | | | |
| Volume Right (vph) | 0 | 38 | 5 | | | |
| Head (s) | 0.03 | -0.04 | 0.16 | | | |
| Departure Headway (s) | 4.4 | 4.1 | 5.0 | | | |
| Degree Utilization, x | 0.14 | 0.37 | 0.07 | | | |
| Capacity (veh/h) | 796 | 649 | 660 | | | |
| Control Delay (s) | 8.1 | 9.5 | 8.4 | | | |
| Approach Delay (s) | 8.1 | 9.5 | 8.4 | | | |
| Approach LOS | A | A | A | | | |
| Intersection Summary | | | | | | |
| Delay | 9.1 | | | | | |
| Level of Service | A | | | | | |
| Intersection Capacity Utilization | 35.8% | | | | | |
| ICU Level of Service | A | | | | | |
| Analysis Period (min) | 15 | | | | | |

Lanes and Geometrics
64: Street JJ & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|------|-------|------|------|------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.991 | | | 0.994 | | | | 0.945 | | | | 0.991 |
| Frt Protected | | | | 0.994 | | | | 0.988 | | | | 0.994 |
| Satd. Flow (prot) | 0 | 1866 | 0 | 0 | 1861 | 0 | 0 | 1768 | 0 | 0 | 1855 | 0 |
| Flt Permitted | | | | 0.994 | | | | 0.988 | | | | 0.994 |
| Satd. Flow (perm) | 0 | 1866 | 0 | 0 | 1861 | 0 | 0 | 1758 | 0 | 0 | 1855 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 318.6 | | | 90.0 | | | | 229.7 | | | | 590.8 |
| Travel Time (s) | 22.9 | | | 6.5 | | | | 16.5 | | | | 42.5 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
64: Street JJ & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|-------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 2 | 221 | 15 | 43 | 284 | 16 | 36 | 53 | 62 | 32 | 217 | 17 |
| Future Volume (vph) | 2 | 221 | 15 | 43 | 284 | 16 | 36 | 53 | 62 | 32 | 217 | 17 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 2 | 221 | 15 | 43 | 284 | 16 | 36 | 53 | 62 | 32 | 217 | 17 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 238 | 343 | 151 | 266 | | | | | | | | |
| Volume Left (vph) | 2 | 43 | 36 | 32 | | | | | | | | |
| Volume Right (vph) | 15 | 16 | 62 | 17 | | | | | | | | |
| Head (s) | 0.00 | 0.03 | -0.16 | 0.02 | | | | | | | | |
| Departure Headway (s) | 5.8 | 5.6 | 6.0 | 5.9 | | | | | | | | |
| Degree Utilization, x | 0.38 | 0.54 | 0.25 | 0.44 | | | | | | | | |
| Capacity (veh/h) | 565 | 599 | 517 | 556 | | | | | | | | |
| Control Delay (s) | 12.4 | 15.0 | 11.0 | 13.4 | | | | | | | | |
| Approach Delay (s) | 12.4 | 15.0 | 11.0 | 13.4 | | | | | | | | |
| Approach LOS | B | C | B | B | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 13.3 | | | | | | | | | | | |
| Level of Service | B | | | | | | | | | | | |
| Intersection Capacity Utilization | 57.1% | | | | | | | | | | | |
| ICU Level of Service | B | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
65: Street 1 & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|-------|------|------|------|-------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.985 | | | 0.990 | | | 0.995 | | | | 0.993 | |
| Flt Protected | | | | 0.997 | | | 0.987 | | | | 0.992 | |
| Satd. Flow (prot) | 0 | 1855 | 0 | 0 | 1859 | 0 | 0 | 1850 | 0 | 0 | 1855 | 0 |
| Flt Permitted | | | | 0.987 | | | 0.987 | | | | 0.992 | |
| Satd. Flow (perm) | 0 | 1855 | 0 | 0 | 1859 | 0 | 0 | 1850 | 0 | 0 | 1855 | 0 |
| Link Speed (k/h) | 50 | | | 50 | | | 48 | | | | 50 | |
| Link Distance (m) | 189.0 | | | 137.6 | | | 229.8 | | | | 599.1 | |
| Travel Time (s) | 13.6 | | | 9.9 | | | 17.2 | | | | 43.1 | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
65: Street 1 & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 2 | 296 | 37 | 20 | 265 | 23 | 22 | 61 | 3 | 54 | 250 | 17 |
| Future Volume (vph) | 2 | 296 | 37 | 20 | 265 | 23 | 22 | 61 | 3 | 54 | 250 | 17 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 2 | 296 | 37 | 20 | 265 | 23 | 22 | 61 | 3 | 54 | 250 | 17 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 335 | 308 | 86 | 321 | | | | | | | | |
| Volume Left (vph) | 2 | 20 | 22 | 54 | | | | | | | | |
| Volume Right (vph) | 37 | 23 | 3 | 17 | | | | | | | | |
| Head (s) | -0.03 | 0.00 | 0.06 | 0.04 | | | | | | | | |
| Departure Headway (s) | 5.8 | 5.8 | 6.6 | 6.0 | | | | | | | | |
| Degree Utilization, x | 0.54 | 0.50 | 0.16 | 0.54 | | | | | | | | |
| Capacity (veh/h) | 588 | 577 | 446 | 558 | | | | | | | | |
| Control Delay (s) | 15.2 | 14.5 | 10.8 | 15.7 | | | | | | | | |
| Approach Delay (s) | C | B | B | C | | | | | | | | |
| Approach LOS | C | B | B | C | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 14.8 | | | | | | | | | | | |
| Level of Service | B | | | | | | | | | | | |
| Intersection Capacity Utilization | 56.9% | | | | | | | | | | | |
| ICU Level of Service | B | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
84: Street JJ & Street EE

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.939 | | | | | | 0.988 | | | | | |
| Flt Protected | 0 | 1769 | 0 | 0 | 1799 | 0 | 0 | 1857 | 0 | 0 | 1883 | 0 |
| Satd. Flow (prot) | 0 | 1769 | 0 | 0 | 1799 | 0 | 0 | 1857 | 0 | 0 | 1883 | 0 |
| Flt Permitted | 0 | 1769 | 0 | 0 | 1799 | 0 | 0 | 1857 | 0 | 0 | 1883 | 0 |
| Satd. Flow (perm) | 0 | 1769 | 0 | 0 | 1799 | 0 | 0 | 1857 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 174.8 | 174.8 | 174.8 | 275.5 | 275.5 | 275.5 | 262.0 | 262.0 | 262.0 | 229.7 | 229.7 | 16.5 |
| Travel Time (s) | 12.6 | 12.6 | 12.6 | 19.8 | 19.8 | 19.8 | 18.9 | 18.9 | 18.9 | 16.5 | 16.5 | 16.5 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
84: Street JJ & Street EE

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (veh/h) | 0 | 16 | 13 | 36 | 2 | 0 | 3 | 77 | 8 | 0 | 316 | 0 |
| Future Volume (Veh/h) | 0 | 16 | 13 | 36 | 2 | 0 | 3 | 77 | 8 | 0 | 316 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| Grade | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 16 | 13 | 36 | 2 | 0 | 3 | 77 | 8 | 0 | 316 | 0 |
| Pedestrians | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Walking Speed (m/s) | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| Percent Blockage | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Right turn flare (veh) | None | None | None | None | None | None | None | None | None | None | None | None |
| Median type | None | None | None | None | None | None | None | None | None | None | None | None |
| Median storage (veh) | None | None | None | None | None | None | None | None | None | None | None | None |
| Upstream signal (m) | 262 | 262 | 262 | 262 | 262 | 262 | 262 | 262 | 262 | 262 | 262 | 262 |
| pk_platoon unblocked | 454 | 507 | 416 | 524 | 503 | 131 | 366 | | | | | 135 |
| vC, conflicting volume | 454 | 507 | 416 | 524 | 503 | 131 | 366 | | | | | 135 |
| vC1, stage 1 conf vol | 454 | 507 | 416 | 524 | 503 | 131 | 366 | | | | | 135 |
| vC2, stage 2 conf vol | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | | | 4.1 |
| IC, single (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | | | 2.2 |
| IC, 2 stage (s) | 100 | 96 | 98 | 90 | 100 | 100 | 100 | | | | | 100 |
| p0 queue free % | 460 | 428 | 583 | 377 | 430 | 879 | 1141 | | | | | 1387 |
| qM capacity (veh/h) | 460 | 428 | 583 | 377 | 430 | 879 | 1141 | | | | | 1387 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total | 29 | 38 | 88 | 316 | | | | | | | | |
| Volume Left | 0 | 36 | 3 | 0 | | | | | | | | |
| Volume Right | 13 | 0 | 8 | 0 | | | | | | | | |
| cSH | 486 | 380 | 1141 | 1387 | | | | | | | | |
| Volume to Capacity | 0.06 | 0.10 | 0.00 | 0.00 | | | | | | | | |
| Queue Length 95th (m) | 1.5 | 2.6 | 0.1 | 0.0 | | | | | | | | |
| Control Delay (s) | 12.9 | 15.5 | 0.3 | 0.0 | | | | | | | | |
| Lane LOS | B | C | A | A | | | | | | | | |
| Approach Delay (s) | 12.9 | 15.5 | 0.3 | 0.0 | | | | | | | | |
| Approach LOS | B | C | C | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | 2.1 | | | | | | | | | | | |
| Intersection Capacity Utilization | 34.8% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
85: Street I & Street EE

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.911 | | | | | | | | | | | |
| Flt Protected | 0 | | | | | | | | | | | |
| Satd. Flow (prot) | 1716 | | | | | | | | | | | |
| Flt Permitted | 0 | | | | | | | | | | | |
| Satd. Flow (perm) | 1716 | | | | | | | | | | | |
| Link Speed (k/h) | 50 | | | | | | | | | | | |
| Link Distance (m) | 275.5 | | | | | | | | | | | |
| Travel Time (s) | 19.8 | | | | | | | | | | | |
| Intersection Summary | Other | | | | | | | | | | | |

Area Type: Other

HCM Unsignalized Intersection Capacity Analysis
85: Street I & Street EE

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|-----|-----|------|-----|-----|-----|-----|-----|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (veh/h) | 0 | 16 | 31 | 0 | 2 | 0 | 7 | 83 | 0 | 0 | 340 | 0 |
| Future Volume (Veh/h) | 0 | 16 | 31 | 0 | 2 | 0 | 7 | 83 | 0 | 0 | 340 | 0 |
| Sign Control | Stop | | | | | | | | | | | |
| Grade | 0% | | | | | | | | | | | |
| Peak Hour Factor | 1.00 | | | | | | | | | | | |
| Hourly flow rate (vph) | 0 | 16 | 31 | 0 | 2 | 0 | 7 | 83 | 0 | 0 | 340 | 0 |
| Pedestrians | 50 | | | | | | | | | | | |
| Lane Width (m) | 3.7 | | | | | | | | | | | |
| Walking Speed (m/s) | 1.2 | | | | | | | | | | | |
| Percent Blockage | 4 | | | | | | | | | | | |
| Right turn flare (veh) | 4 | | | | | | | | | | | |
| Median type | None | | | | | | | | | | | |
| Median storage (veh) | None | | | | | | | | | | | |
| Upstream signal (m) | 342 | | | | | | | | | | | |
| pk_platoon unblocked | 342 | | | | | | | | | | | |
| vC, conflicting volume | 538 | 537 | 440 | 576 | 537 | 183 | 390 | | | | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 538 | 537 | 440 | 576 | 537 | 183 | 390 | | | | | |
| IC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | | | |
| IC, 2 stage (s) | | | | | | | | | | | | |
| p0 queue free % | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | | | |
| IF (s) | 100 | 96 | 95 | 100 | 100 | 99 | 99 | | | | | |
| qM capacity (veh/h) | 386 | 410 | 565 | 335 | 410 | 787 | 1118 | | | | | |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total | 47 | 2 | 90 | 340 | | | | | | | | |
| Volume Left | 0 | 0 | 7 | 0 | | | | | | | | |
| Volume Right | 31 | 0 | 0 | 0 | | | | | | | | |
| cSH | 501 | 410 | 1118 | 1390 | | | | | | | | |
| Volume to Capacity | 0.09 | 0.00 | 0.00 | 0.01 | | | | | | | | |
| Queue Length 95th (m) | 2.4 | 0.1 | 0.1 | 0.0 | | | | | | | | |
| Control Delay (s) | 12.9 | 13.8 | 0.7 | 0.0 | | | | | | | | |
| Lane LOS | B | B | A | A | | | | | | | | |
| Approach Delay (s) | 12.9 | 13.8 | 0.7 | 0.0 | | | | | | | | |
| Approach LOS | B | B | A | A | | | | | | | | |
| Intersection Summary | Other | | | | | | | | | | | |
| Average Delay | 1.5 | | | | | | | | | | | |
| Intersection Capacity Utilization | 36.4% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

88: Humber Station Rd & Street EE

05-16-2023

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|----------------------|-------|------|------|-------|-------|------|
| Lane Configurations | W | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 1 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | 1.00 | | |
| Fr | 0.950 | | | | | |
| Satd. Flow (prot) | 1789 | 0 | 0 | 1883 | 1883 | 0 |
| Flt Permitted | 0.950 | | | | | |
| Satd. Flow (perm) | 1789 | 0 | 0 | 1883 | 1883 | 0 |
| Right Turn on Red | Yes | | | | | Yes |
| Satd. Flow (RTOR) | 50 | | | 50 | 50 | |
| Link Speed (k/h) | 332.9 | | | 347.2 | 128.1 | |
| Link Distance (m) | 24.0 | | | 25.0 | 9.2 | |
| Travel Time (s) | | | | | | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |



Timings

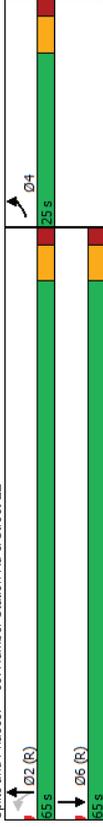
88: Humber Station Rd & Street EE

05-16-2023

| Lane Group | EBL | NBT | SBT |
|--|-------|-------|-------|
| Lane Configurations | W | | |
| Traffic Volume (vph) | 16 | 618 | 888 |
| Future Volume (vph) | 16 | 618 | 888 |
| Turn Type | Prot | NA | NA |
| Protected Phases | 4 | 2 | 6 |
| Permitted Phases | 4 | 2 | 6 |
| Detector Phases | | | |
| Switch Phase | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 25.0 | 65.0 | 65.0 |
| Total Split (%) | 27.8% | 72.2% | 72.2% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | |
| Lead-Lag Optimize? | | | |
| Recall Mode | None | C-Max | C-Max |
| Act Effect Green (s) | 11.1 | 74.0 | 74.0 |
| Actuated g/C Ratio | 0.12 | 0.82 | 0.82 |
| v/C Ratio | 0.07 | 0.40 | 0.58 |
| Control Delay | 31.4 | 5.8 | 6.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 |
| Total Delay | 31.4 | 5.8 | 6.1 |
| LOS | C | A | A |
| Approach Delay | 31.4 | 5.8 | 6.1 |
| Approach LOS | C | A | A |
| Intersection Summary | | | |
| Cycle Length: 90 | | | |
| Actuated Cycle Length: 90 | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/C Ratio: 0.58 | | | |
| Intersection Signal Delay: 6.2 | | | |
| Intersection Capacity Utilization 61.0% | | | |
| ICU Level of Service B | | | |
| Analysis Period (min) 15 | | | |

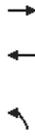


Splits and Phases: 88: Humber Station Rd & Street EE



Queues
88: Humber Station Rd & Street EE

05-16-2023



| | EBL | NBT | SBT |
|------------------------|-------|-------|-------|
| Lane Group Flow (vph) | 16 | 618 | 890 |
| v/c Ratio | 0.07 | 0.40 | 0.68 |
| Control Delay | 31.4 | 5.8 | 6.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 |
| Total Delay | 31.4 | 5.8 | 6.1 |
| Queue Length 50th (m) | 2.8 | 24.6 | 28.7 |
| Queue Length 95th (m) | 7.7 | 74.6 | m95.6 |
| Internal Link Dist (m) | 308.9 | 323.2 | 104.1 |
| Turn Bay Length (m) | | | |
| Base Capacity (vph) | 377 | 1547 | 1547 |
| Starvation Cap Reductn | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.40 | 0.68 |

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

HCM Signalized Intersection Capacity Analysis
88: Humber Station Rd & Street EE

05-16-2023



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|------|------|------|-------|------|
| Lane Configurations | W | | | | | |
| Traffic Volume (vph) | 16 | 0 | 0 | 618 | 888 | 2 |
| Future Volume (vph) | 16 | 0 | 0 | 618 | 888 | 2 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | | | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | | | 1.00 | 1.00 | |
| Frb. ped/bikes | 1.00 | | | 1.00 | 1.00 | |
| Frb. ped/bikes | 1.00 | | | 1.00 | 1.00 | |
| Frt | 1.00 | | | 1.00 | 1.00 | |
| Flt Protected | 0.95 | | | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1789 | | | 1883 | 1882 | |
| Flt Permitted | 0.95 | | | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1789 | | | 1883 | 1882 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 16 | 0 | 0 | 618 | 888 | 2 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 16 | 0 | 0 | 618 | 890 | 0 |
| Confl. Peds. (#/hr) | | | 50 | | | 50 |
| Turn Type | Prot | | NA | NA | NA | |
| Protected Phases | 4 | | 2 | 2 | 6 | |
| Permitted Phases | | | 2 | | | |
| Actuated Green, G (s) | 8.8 | | | 69.2 | 69.2 | |
| Effective Green, g (s) | 8.8 | | | 69.2 | 69.2 | |
| Actuated g/C Ratio | 0.10 | | | 0.77 | 0.77 | |
| Clearance Time (s) | 6.0 | | | 6.0 | 6.0 | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 174 | | | 1447 | 1447 | |
| v/s Ratio Prot | c0.01 | | | 0.33 | c0.47 | |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.09 | | | 0.43 | 0.62 | |
| Uniform Delay, d1 | 37.0 | | | 3.6 | 4.6 | |
| Progression Factor | 1.00 | | | 1.00 | 0.69 | |
| Incremental Delay, d2 | 0.2 | | | 0.9 | 1.9 | |
| Delay (s) | 37.2 | | | 4.5 | 5.0 | |
| Level of Service | D | | | A | A | |
| Approach Delay (s) | 37.2 | | | 4.5 | 5.0 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | |
|-----------------------------------|-------|
| HCM 2000 Control Delay | 5.2 |
| HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.56 |
| Actuated Cycle Length (s) | 90.0 |
| Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 61.0% |
| ICU Level of Service | B |
| Analysis Period (min) | 15 |
| c Critical Lane Group | |

Lanes and Geometrics
1: The Gore Rd & King St

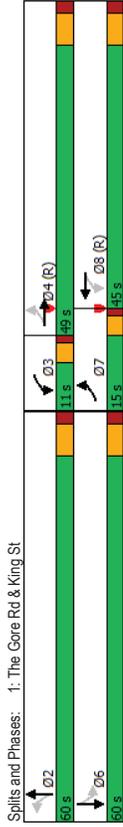
05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|--------|-------|--------|-------|--------|-------|-------|--------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vph) | 284 | 581 | 213 | 600 | 57 | 861 | 38 | 416 | | | | |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 139.9 | 0.0 | 25.0 | 199.9 | 50.0 | 175.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0.0 | 0.0 | 139.9 | 0.0 | 25.0 | 199.9 | 50.0 | 175.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| Taper Length (m) | 0.0 | 7.6 | 7.6 | 0.0 | 7.6 | 7.6 | 0.0 | 7.6 | 0.0 | 7.6 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 1.00 | 0.98 | 0.98 | 0.97 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Frt | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 |
| Flt Protected | 1562 | 1733 | 0 | 1681 | 1722 | 0 | 1261 | 1711 | 0 | 1681 | 1779 | 0 |
| Satd. Flow (prot) | 0.094 | 0.115 | 0.203 | 0.1722 | 0.328 | 0.1711 | 0.133 | 0.1779 | 0.075 | 0.133 | 0.1779 | 0.075 |
| Satd. Flow (perm) | 155 | 1733 | 0 | 203 | 1722 | 0 | 328 | 1711 | 0 | 133 | 1779 | 0 |
| Right Turn on Red | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Satd. Flow (RTOR) | 2 | 7 | 7 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Link Speed (k/h) | 48 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 363.2 | 207.4 | 207.4 | 628.6 | 628.6 | 628.6 | 578.8 | 578.8 | 578.8 | 578.8 | 578.8 | 578.8 |
| Travel Time (s) | 27.2 | 14.9 | 14.9 | 45.3 | 45.3 | 45.3 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

Timings
1: The Gore Rd & King St

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------------|---|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Traffic Volume (vph) | 284 | 581 | 213 | 600 | 57 | 861 | 38 | 416 | | | | |
| Future Volume (vph) | 284 | 581 | 213 | 600 | 57 | 861 | 38 | 416 | | | | |
| Turn Type | pm-plt | NA | pm-plt | NA | pm-plt | NA | pm-plt | NA | pm-plt | NA | pm-plt | NA |
| Protected Phases | 7 | 4 | 3 | 8 | 2 | 6 | | | | | | |
| Permitted Phases | 4 | 8 | 8 | 2 | 2 | 6 | | | | | | |
| Detector Phases | 7 | 4 | 3 | 8 | 2 | 6 | | | | | | |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 11.0 | 30.6 | 9.0 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 |
| Minimum Split (s) | 15.0 | 49.0 | 11.0 | 45.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 |
| Total Split (%) | 12.5% | 40.8% | 9.2% | 37.5% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% |
| Yellow Time (s) | 3.0 | 4.6 | 3.0 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 1.0 | 2.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.0 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | C-Min | None | C-Min | None | C-Min | None | C-Min | None | C-Min |
| Act Effct Green (s) | 56.0 | 42.4 | 48.0 | 38.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 |
| Actuated g/C Ratio | 0.47 | 0.35 | 0.40 | 0.32 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| v/C Ratio | 1.41 | 0.98 | 1.28 | 1.26 | 0.39 | 1.52 | 0.64 | 0.70 | | | | |
| Control Delay | 239.0 | 70.7 | 186.4 | 167.5 | 32.6 | 267.7 | 76.7 | 31.5 | | | | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | |
| Total Delay | 239.0 | 70.7 | 186.4 | 167.5 | 32.6 | 267.7 | 76.7 | 31.5 | | | | |
| LOS | F | E | F | F | C | F | E | C | | | | |
| Approach Delay | 124.7 | 171.9 | 171.9 | 256.7 | 34.4 | 34.4 | 34.4 | 34.4 | | | | |
| Approach LOS | F | F | F | F | F | F | F | F | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: | 120 | | | | | | | | | | | |
| Actuated Cycle Length: | 120 | | | | | | | | | | | |
| Offset: | 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | |
| Natural Cycle: | 140 | | | | | | | | | | | |
| Control Type: | Actuated-Coordinated | | | | | | | | | | | |
| Maximum v/C Ratio: | 1.52 | | | | | | | | | | | |
| Intersection Signal Delay: | 166.4 | | | | | | | | | | | |
| Intersection Capacity Utilization: | 133.6% | | | | | | | | | | | |
| ICU Level of Service: | H | | | | | | | | | | | |
| Analysis Period (min): | 15 | | | | | | | | | | | |



Queues
1: The Gore Rd & King St

05-16-2023

| | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|--------|--------|-------|--------|-------|--------|-------|-------|
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
| Lane Group Flow (vph) | 284 | 601 | 213 | 701 | 57 | 1171 | 38 | 560 |
| v/c Ratio | 1.41 | 0.98 | 1.28 | 1.26 | 0.39 | 1.52 | 0.64 | 0.70 |
| Control Delay | 239.0 | 70.7 | 186.4 | 167.5 | 32.6 | 267.7 | 76.7 | 31.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 239.0 | 70.7 | 186.4 | 167.5 | 32.6 | 267.7 | 76.7 | 31.5 |
| Queue Length 50th (m) | ~78.8 | 144.2 | ~48.0 | ~215.5 | 9.2 | ~400.5 | 7.1 | 104.7 |
| Queue Length 95th (m) | #134.8 | #221.4 | #98.2 | #290.6 | 23.0 | #483.4 | #28.2 | 147.6 |
| Internal Link Dist (m) | 339.2 | | 183.4 | | 604.6 | | 175.0 | |
| Turn Bay Length (m) | 139.9 | | 199.9 | | | | | |
| Base Capacity (vph) | 201 | 613 | 167 | 555 | 145 | 771 | 59 | 802 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.41 | 0.98 | 1.28 | 1.26 | 0.39 | 1.52 | 0.64 | 0.70 |
| Intersection Summary | | | | | | | | |
| ~ 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. | | | | | | | | |

HCM Signalized Intersection Capacity Analysis
1: The Gore Rd & King St

05-16-2023

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
|-----------------------------------|--------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|---------------------------|------|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Traffic Volume (vph) | 284 | 581 | 20 | 213 | 600 | 101 | 57 | 861 | 310 | 38 | 416 | 144 | |
| Future Volume (vph) | 284 | 581 | 20 | 213 | 600 | 101 | 57 | 861 | 310 | 38 | 416 | 144 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | |
| Total Lost time (s) | 4.0 | 6.6 | 4.0 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 0.98 | 1.00 | 0.96 | 1.00 | 0.96 | 1.00 | |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 0.95 | 1.00 | 1.00 | 0.98 | 1.00 | 0.98 | 1.00 | 0.96 | 1.00 | 0.95 | 1.00 | 0.96 | |
| Flt Protected | 1562 | 1733 | 1681 | 1723 | 1224 | 1712 | 1681 | 1779 | | | | | |
| Satd. Flow (prot) | 0.09 | 1.00 | 0.12 | 1.00 | 0.25 | 1.00 | 0.25 | 1.00 | 0.07 | 1.00 | | | |
| Flt Permitted | 155 | 1733 | 204 | 1723 | 328 | 1712 | 133 | 1779 | | | | | |
| Satd. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Peak-hour factor, PHF | 284 | 581 | 20 | 213 | 600 | 101 | 57 | 861 | 310 | 38 | 416 | 144 | |
| Adj. Flow (vph) | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 11 | 0 | 0 | 11 | 0 | |
| RTOR Reduction (vph) | 284 | 600 | 0 | 213 | 696 | 0 | 57 | 1160 | 0 | 38 | 549 | 0 | |
| Lane Group Flow (vph) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | |
| Conf. Peds. (#/hr) | 13% | 10% | 3% | 5% | 8% | 0% | 40% | 0% | 14% | 5% | 0% | 0% | |
| Heavy Vehicles (%) | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | NA | |
| Turn Type | 7 | 4 | | 3 | 8 | | 2 | | 2 | | 6 | | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 6 | | | | |
| Actuated Green, G (s) | 53.4 | 42.4 | 45.4 | 38.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | |
| Effective Green, g (s) | 53.4 | 42.4 | 45.4 | 38.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | |
| Actuated g/C Ratio | 0.44 | 0.35 | 0.38 | 0.32 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | |
| Clearance Time (s) | 4.0 | 6.6 | 4.0 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 197 | 612 | 163 | 551 | 145 | 761 | 59 | 791 | | | | | |
| v/s Ratio Prot | c0.13 | 0.35 | 0.08 | 0.40 | | | c0.68 | | | | | | |
| v/s Ratio Perm | c0.51 | | 0.42 | | 0.17 | | 0.29 | | | | | | |
| v/c Ratio | 1.44 | 0.98 | 1.31 | 1.26 | 0.39 | 1.52 | 0.64 | 0.69 | | | | | |
| Uniform Delay, d1 | 33.9 | 38.4 | 32.8 | 40.8 | 22.4 | 33.3 | 25.9 | 26.8 | | | | | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| Incremental Delay, d2 | 225.1 | 31.8 | 175.1 | 132.6 | 1.8 | 242.9 | 21.6 | 2.7 | | | | | |
| Delay (s) | 258.9 | 70.2 | 207.9 | 173.4 | 24.2 | 276.2 | 47.5 | 29.4 | | | | | |
| Level of Service | F | E | F | F | F | C | F | D | | | | | |
| Approach Delay (s) | F | 130.7 | F | 181.5 | F | 264.5 | F | 30.6 | | | | | |
| Approach LOS | F | | F | | F | | F | | | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | 172.3 | | | | | | | | | | | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 1.52 | | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 | | | | | | | | | | | Sum of lost time (s) | 17.2 |
| Intersection Capacity Utilization | 133.6% | | | | | | | | | | | ICU Level of Service | H |
| Analysis Period (min) | 15 | | | | | | | | | | | | |
| c. Critical Lane Group | | | | | | | | | | | | | |

Lanes and Geometrics

2: Humber Station Rd & King St

05-16-2023

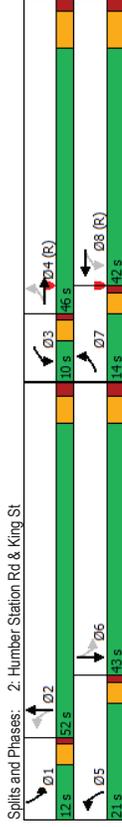
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 50.0 | 0 | 25.0 | 50.0 | 0 | 25.0 | 0.0 | 0.0 | 0.0 | 50.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 7.6 | 0 | 0 | 7.6 | 0 | 0 | 0 | 0 | 0 | 7.6 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.97 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Frt | 0.976 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 |
| Flt Protected | 0.988 | 0.999 | 0.999 | 0.999 | 0.999 | 0.999 | 0.988 | 0.988 | 0.988 | 0.988 | 0.988 |
| Satd. Flow (prot) | 0 | 1702 | 0 | 0 | 1711 | 0 | 0 | 1557 | 0 | 0 | 1493 |
| Flt Permitted | 0.380 | 0.967 | 0.967 | 0.967 | 0.967 | 0.967 | 0.610 | 0.610 | 0.609 | 0.609 | 0.609 |
| Satd. Flow (perm) | 0 | 655 | 0 | 0 | 1656 | 0 | 0 | 954 | 0 | 0 | 914 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 11 | 17 | 17 | 17 | 17 | 17 | 4 | 4 | 15 | 15 | 15 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 329.7 | 840.4 | 840.4 | 840.4 | 840.4 | 840.4 | 348.5 | 348.5 | 347.2 | 347.2 | 347.2 |
| Travel Time (s) | 23.7 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 | 25.1 | 25.1 | 25.0 | 25.0 | 25.0 |
| Intersection Summary | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | |

Timings

2: Humber Station Rd & King St

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
|---|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBR |
| Traffic Volume (vph) | 279 | 637 | 18 | 638 | 261 | 710 | 179 | 435 | 435 | 179 | 435 |
| Future Volume (vph) | 279 | 637 | 18 | 638 | 261 | 710 | 179 | 435 | 435 | 179 | 435 |
| Turn Type | pm-pt | NA | pm-pt |
| Protected Phases | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 | 6 | 6 | 6 |
| Permitted Phases | 4 | 8 | 8 | 2 | 2 | 6 | 6 | 6 | 6 | 6 | 6 |
| Detector Phase | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 | 6 | 6 | 6 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 11.0 | 31.4 | 10.0 | 31.4 | 11.2 | 30.2 | 11.0 | 30.2 | 11.0 | 30.2 | 30.2 |
| Minimum Split (s) | 14.0 | 46.0 | 10.0 | 42.0 | 21.0 | 52.0 | 12.0 | 43.0 | 12.0 | 43.0 | 43.0 |
| Total Split (%) | 11.7% | 38.3% | 8.3% | 35.0% | 17.5% | 43.3% | 10.0% | 35.8% | 10.0% | 35.8% | 35.8% |
| Yellow Time (s) | 3.0 | 5.4 | 3.0 | 5.4 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.2 | 1.0 | 2.2 | 1.0 | 2.2 | 2.2 |
| 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) | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 |
| Lead/Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | C-Min | None | None | None | None | None | None | None |
| Act Effct Green (s) | 0.40 | 48.6 | 0.40 | 48.6 | 0.40 | 48.6 | 0.40 | 48.6 | 0.40 | 48.6 | 48.6 |
| Actuated g/C Ratio | 0.40 | 1.34 | 0.40 | 1.34 | 0.40 | 1.34 | 0.40 | 1.34 | 0.40 | 1.34 | 1.80 |
| v/C Ratio | 1428.2 | 194.0 | 1428.2 | 194.0 | 1428.2 | 194.0 | 1428.2 | 194.0 | 1428.2 | 194.0 | 394.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 1428.2 | 194.0 | 1428.2 | 194.0 | 1428.2 | 194.0 | 1428.2 | 194.0 | 1428.2 | 194.0 | 394.5 |
| LOS | F | F | F | F | F | F | F | F | F | F | F |
| Approach Delay | 1428.2 | 194.0 | 1428.2 | 194.0 | 1428.2 | 194.0 | 1428.2 | 194.0 | 1428.2 | 194.0 | 394.5 |
| Approach LOS | F | F | F | F | F | F | F | F | F | F | F |
| Intersection Summary | | | | | | | | | | | |
| Cycle Length: 120 | | | | | | | | | | | |
| Actuated Cycle Length: 120 | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | |
| Natural Cycle: 145 | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | |
| Maximum v/C Ratio: 4.13 | | | | | | | | | | | |
| Intersection Signal Delay: 698.4 | | | | | | | | | | | |
| Intersection Capacity Utilization 209.3% | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | |



| | EBT | WBT | NBT | SBT |
|------------------------|--------|--------|--------|--------|
| Lane Group | 1118 | 912 | 1039 | 808 |
| Lane Group Flow (vph) | 4.13 | 1.34 | 2.25 | 1.80 |
| v/c Ratio | 1428.2 | 194.0 | 592.0 | 394.5 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 1428.2 | 194.0 | 592.0 | 394.5 |
| Total Delay | ~441.7 | ~290.5 | ~416.1 | ~298.5 |
| Queue Length 50th (m) | #524.0 | #370.2 | #497.4 | #376.2 |
| Queue Length 95th (m) | 305.7 | 816.4 | 324.5 | 323.2 |
| Internal Link Dist (m) | | | | |
| Turn Bay Length (m) | | | | |
| Base Capacity (vph) | 271 | 680 | 461 | 448 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 4.13 | 1.34 | 2.25 | 1.80 |

Intersection Summary
 ~ 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.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|--------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|------|
| Lane Configurations | | + | | | + | | | + | | | + | |
| Traffic Volume (vph) | 279 | 637 | 202 | 18 | 638 | 256 | 261 | 710 | 68 | 179 | 435 | 194 |
| Future Volume (vph) | 279 | 637 | 202 | 18 | 638 | 256 | 261 | 710 | 68 | 179 | 435 | 194 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Total Lost time (s) | 7.4 | | | 7.4 | | | 6.2 | | | | 6.2 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 0.97 | 0.96 | 0.96 | 0.96 | 0.96 | 0.99 | 0.99 | 0.99 | 0.97 | 0.97 | 0.97 | 0.97 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.98 | 0.98 | 0.96 | 0.96 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Flt Protected | 0.99 | 1.00 | 1.00 | 1.00 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Satd. Flow (prot) | 1701 | 1711 | 1711 | 1711 | 1566 | 1566 | 1566 | 1566 | 1492 | 1492 | 1492 | 1492 |
| Flt Permitted | 0.38 | 0.97 | 0.97 | 0.97 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 |
| Satd. Flow (perm) | 655 | 1656 | 1656 | 1656 | 961 | 961 | 961 | 961 | 918 | 918 | 918 | 918 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 279 | 637 | 202 | 18 | 638 | 256 | 261 | 710 | 68 | 179 | 435 | 194 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 10 | 0 | 0 | 2 | 0 | 0 | 8 | 0 |
| Lane Group Flow (vph) | 0 | 1111 | 0 | 0 | 902 | 0 | 0 | 1037 | 0 | 0 | 800 | 0 |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Heavy Vehicles (%) | 0% | 9% | 5% | 4% | 5% | 0% | 62% | 0% | 63% | 44% | 6% | 25% |
| Turn Type | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | NA | pm-pt | pm-pt | NA | NA |
| Protected Phases | 7 | 4 | 3 | 8 | 5 | 2 | 2 | 1 | 2 | 1 | 6 | 6 |
| Permitted Phases | 4 | | 8 | | 2 | | | 6 | | | | |
| Actuated Green, G (s) | 48.6 | 48.6 | 48.6 | 48.6 | 57.8 | 57.8 | 57.8 | 57.8 | 57.8 | 57.8 | 57.8 | 57.8 |
| Effective Green, g (s) | 48.6 | 48.6 | 48.6 | 48.6 | 57.8 | 57.8 | 57.8 | 57.8 | 57.8 | 57.8 | 57.8 | 57.8 |
| Actuated g/C Ratio | 0.41 | 0.41 | 0.41 | 0.41 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 | 0.48 |
| Clearance Time (s) | 7.4 | 7.4 | 7.4 | 7.4 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 265 | | | 670 | 462 | | | 442 | | | | |
| v/s Ratio Prot | c1.70 | 0.54 | | c1.08 | | | | 0.87 | | | | |
| v/s Ratio Perm | 4.19 | 1.35 | | 2.24 | | | | 1.81 | | | | |
| Uniform Delay, d1 | 35.7 | 35.7 | | 31.1 | | | | 31.1 | | | | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | | | | 1.00 | | | | |
| Incremental Delay, d2 | 1446.2 | 165.6 | | 566.9 | | | | 373.6 | | | | |
| Delay (s) | 1481.9 | 201.3 | | 598.0 | | | | 404.7 | | | | |
| Level of Service | F | F | | F | | | | F | | | | |
| Approach Delay (s) | 1481.9 | 201.3 | | 598.0 | | | | 404.7 | | | | |
| Approach LOS | F | F | | F | | | | F | | | | |

Intersection Summary
 HCM 2000 Control Delay: 719.3
 HCM 2000 Level of Service: F
 HCM 2000 Volume to Capacity ratio: 3.39
 Actuated Cycle Length (s): 120.0
 Sum of lost time (s): 21.6
 Intersection Capacity Utilization: 208.3%
 ICU Level of Service: H
 Analysis Period (min): 15
 Critical Lane Group: c

Lanes and Geometrics
6: King St & Street JJ

05-16-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---------------------|-------|-------|-------|-------|------|------|
| Lane Configurations | W | W | W | W | W | W |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 50.0 | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 1 | 1 | 1 | 1 | 1 | 1 |
| Taper Length (m) | 7.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | 0.84 | 0.89 | | | |
| Friction | 0.950 | | 0.850 | 0.958 | | |
| Satd. Flow (prot) | 1730 | 1883 | 1883 | 1601 | 1678 | 0 |
| Flt Permitted | 0.157 | | | 0.967 | | |
| Satd. Flow (perm) | 286 | 1883 | 1883 | 1338 | 1558 | 0 |
| Right Turn on Red | | | Yes | Yes | Yes | |
| Satd. Flow (RTOR) | | 50 | 50 | 64 | 22 | |
| Link Speed (k/h) | | 110.9 | 300.5 | 262.0 | 50 | |
| Link Distance (m) | | 8.0 | 21.6 | 18.9 | | |
| Travel Time (s) | | | | | | |

Intersection Summary
Area Type: Other

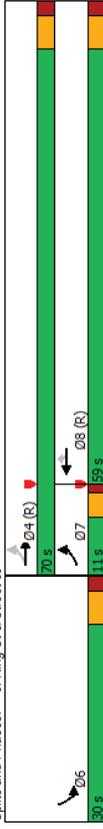
Timings
6: King St & Street JJ

05-16-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | W | W | W | W | W | W |
| Traffic Volume (vph) | 95 | 848 | 862 | 174 | 160 | 160 |
| Future Volume (vph) | 95 | 848 | 862 | 174 | 160 | 160 |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Prot |
| Protected Phases | 7 | 4 | 8 | | 6 | |
| Permitted Phases | 4 | | 8 | 8 | 6 | |
| Detector Phases | 7 | 4 | 8 | 8 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Minimum Split (s) | 11.0 | 23.0 | 23.0 | 23.0 | 30.0 | |
| Total Split (s) | 11.0 | 70.0 | 59.0 | 59.0 | 30.0 | |
| Total Split (%) | 11.0% | 70.0% | 59.0% | 59.0% | 30.0% | |
| Yellow Time (s) | 3.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| All-Red Time (s) | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lag | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | C-Min | None | |
| Act Effct Green (s) | 71.6 | 69.6 | 60.9 | 60.9 | 18.4 | |
| Actuated g/C Ratio | 0.72 | 0.70 | 0.61 | 0.61 | 0.18 | |
| v/c Ratio | 0.32 | 0.65 | 0.75 | 0.21 | 0.71 | |
| Control Delay | 8.1 | 12.4 | 19.1 | 10.1 | 46.2 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 8.1 | 12.4 | 19.1 | 10.1 | 46.2 | |
| LOS | A | B | B | B | D | |
| Approach Delay | | 12.0 | 17.6 | 46.2 | | |
| Approach LOS | | B | B | D | | |

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 18.2
Intersection Capacity Utilization 82.9%
Analysis Period (min) 15

Splits and Phases: 6: King St & Street JJ





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------|------|-------|--------|-------|------|-----|
| Lane Group Flow (vph) | 95 | 848 | 862 | 174 | 233 | |
| v/c Ratio | 0.32 | 0.65 | 0.75 | 0.21 | 0.71 | |
| Control Delay | 8.1 | 12.4 | 19.1 | 10.1 | 46.2 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 8.1 | 12.4 | 19.1 | 10.1 | 46.2 | |
| Queue Length 50th (m) | 4.9 | 80.9 | 86.5 | 10.3 | 40.6 | |
| Queue Length 95th (m) | 11.8 | 147.5 | m108.2 | m13.7 | 62.4 | |
| Internal Link Dist (m) | 86.9 | 276.5 | | 238.0 | | |
| Turn Bay Length (m) | 50.0 | | | 25.0 | | |
| Base Capacity (vph) | 306 | 1310 | 1146 | 839 | 419 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.31 | 0.65 | 0.75 | 0.21 | 0.56 | |

Intersection Summary
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------|------|------|------|------|------|------|
| Lane Configurations | W | W | W | W | W | W |
| Traffic Volume (vph) | 95 | 848 | 862 | 174 | 160 | 73 |
| Future Volume (vph) | 95 | 848 | 862 | 174 | 160 | 73 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Total Lost time (s) | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 0.84 | 0.96 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.85 | 0.96 |
| Flt Permitted | 0.16 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 |
| Satd. Flow (perm) | 287 | 1883 | 1883 | 1338 | 1677 | 1677 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 95 | 848 | 862 | 174 | 160 | 73 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 26 | 18 | 0 |
| Lane Group Flow (vph) | 95 | 848 | 862 | 148 | 215 | 0 |
| Conf. Peds. (#/hr) | 50 | | | 50 | 50 | 50 |

| Turn Type | pm-peak | NA | NA | Perm | Prot |
|------------------------|---------|-------|-------|------|-------|
| Protected Phases | 7 | 4 | 8 | | 6 |
| Permitted Phases | 4 | | 8 | | |
| Actuated Green, G (s) | 69.6 | 69.6 | 60.1 | 60.1 | 18.4 |
| Effective Green, g (s) | 69.6 | 69.6 | 60.1 | 60.1 | 18.4 |
| Actuated g/C Ratio | 0.70 | 0.70 | 0.60 | 0.60 | 0.18 |
| Clearance Time (s) | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 279 | 1310 | 1131 | 804 | 308 |
| v/s Ratio Prot | 0.02 | c0.45 | c0.46 | | c0.13 |
| v/s Ratio Perm | 0.22 | | | 0.11 | |
| v/c Ratio | 0.34 | 0.65 | 0.76 | 0.18 | 0.70 |
| Uniform Delay, d1 | 12.0 | 8.4 | 14.7 | 9.0 | 38.2 |
| Progression Factor | 1.00 | 1.00 | 0.94 | 1.37 | 1.00 |
| Incremental Delay, d2 | 0.7 | 2.5 | 2.7 | 0.3 | 6.7 |
| Delay (s) | 12.7 | 10.9 | 16.6 | 12.6 | 44.9 |
| Level of Service | B | B | B | B | D |
| Approach Delay (s) | 11.1 | 15.9 | 44.9 | | |
| Approach LOS | B | B | D | | |

| Intersection Summary | |
|-----------------------------------|-------|
| HCM 2000 Control Delay | 16.9 |
| HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.75 |
| Actuated Cycle Length (s) | 100.0 |
| Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 82.9% |
| ICU Level of Service | E |
| Analysis Period (min) | 15 |
| c Critical Lane Group | |

Lanes and Geometrics

7: King St & Street I

05-16-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---------------------|-------|-------|-------|-------|------|------|
| Lane Configurations | W | ← | ← | ← | ← | ← |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 50.0 | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 1 | 25.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Taper Length (m) | 7.6 | 1 | 1 | 1 | 1 | 1 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | 0.84 | 0.89 | | | |
| Friction | 0.950 | 0.850 | 0.957 | | | |
| Satd. Flow (prot) | 1730 | 1883 | 1883 | 1601 | 1676 | 0 |
| Right Turn on Red | 0.099 | 180 | 1883 | 1338 | 1556 | 0 |
| Satd. Flow (RTOR) | | 50 | 50 | 58 | 22 | |
| Link Speed (k/h) | | 300.5 | 329.7 | 125.2 | | |
| Travel Time (s) | | 21.6 | 23.7 | 9.0 | | |

Intersection Summary

Area Type: Other

Timings

7: King St & Street I

05-16-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | W | ← | ← | ← | ← | ← |
| Traffic Volume (vph) | 96 | 912 | 962 | 174 | 160 | 160 |
| Future Volume (vph) | 96 | 912 | 962 | 174 | 160 | 160 |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Prot |
| Permitted Phases | 7 | 4 | 8 | | 6 | |
| Detector Phases | 4 | | 8 | | 6 | |
| Switch Phase | 7 | 4 | 8 | | 6 | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.0 | 23.0 | 23.0 | 30.0 | 30.0 | 30.0 |
| Total Split (s) | 11.0% | 70.0% | 59.0% | 59.0% | 30.0% | 30.0% |
| Yellow Time (s) | 3.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | C-Min | C-Min | C-Min | None |
| Act Effct Green (s) | 71.6 | 69.6 | 60.9 | 60.9 | 18.4 | 18.4 |
| Actuated g/C Ratio | 0.72 | 0.70 | 0.61 | 0.61 | 0.61 | 0.18 |
| v/C Ratio | 0.42 | 0.70 | 0.84 | 0.21 | 0.72 | 0.18 |
| Queue Delay | 13.7 | 8.8 | 27.0 | 8.1 | 46.5 | 46.5 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 13.7 | 8.8 | 27.0 | 8.1 | 46.5 | 46.5 |
| LOS | B | A | C | A | D | D |
| Approach Delay | | 9.2 | 24.1 | 46.5 | | |
| Approach LOS | | A | C | D | | |

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT. Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/C Ratio: 0.84

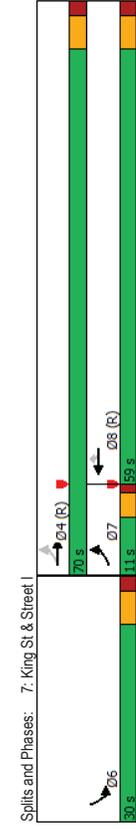
Intersection Signal Delay: 20.0

Intersection Capacity Utilization 88.3%

Analysis Period (min) 15

ICU Level of Service E

Intersection LOS: B





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------|-------|-------|--------|------|-------|-----|
| Lane Group Flow (vph) | 96 | 912 | 962 | 174 | 234 | |
| v/c Ratio | 0.42 | 0.70 | 0.84 | 0.21 | 0.72 | |
| Control Delay | 13.7 | 8.8 | 27.0 | 8.1 | 46.5 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 13.7 | 8.8 | 27.0 | 8.1 | 46.5 | |
| Queue Length 50th (m) | 3.4 | 53.3 | 151.7 | 9.8 | 40.8 | |
| Queue Length 95th (m) | m12.3 | 87.9 | #270.6 | 23.5 | 62.6 | |
| Internal Link Dist (m) | | 276.5 | 305.7 | | 101.2 | |
| Turn Bay Length (m) | 50.0 | | | 25.0 | | |
| Base Capacity (vph) | 237 | 1309 | 1145 | 836 | 418 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.41 | 0.70 | 0.84 | 0.21 | 0.56 | |

Intersection Summary
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is met by upstream signal.



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|-------|-------|-------|------|-------|------|
| Lane Configurations | W | W | W | W | W | W |
| Traffic Volume (vph) | 96 | 912 | 962 | 174 | 160 | 74 |
| Future Volume (vph) | 96 | 912 | 962 | 174 | 160 | 74 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Total Lost time (s) | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 0.84 | 0.96 | |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.97 | |
| Satd. Flow (prot) | 1730 | 1883 | 1883 | 1338 | 1676 | |
| Flt Permitted | 0.10 | 1.00 | 1.00 | 1.00 | 0.97 | |
| Satd. Flow (perm) | 180 | 1883 | 1883 | 1338 | 1676 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 96 | 912 | 962 | 174 | 160 | 74 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 23 | 18 | 0 |
| Lane Group Flow (vph) | 96 | 912 | 962 | 151 | 216 | 0 |
| Conf. Peds. (#/hr) | 50 | | | 50 | 50 | 50 |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Prot |
| Protected Phases | 7 | 4 | 8 | | 6 | |
| Permitted Phases | 4 | | 8 | | | |
| Actuated Green, G (s) | 69.6 | 69.6 | 60.1 | 60.1 | 18.4 | |
| Effective Green, g (s) | 69.6 | 69.6 | 60.1 | 60.1 | 18.4 | |
| Actuated g/C Ratio | 0.70 | 0.70 | 0.60 | 0.60 | 0.18 | |
| Clearance Time (s) | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 210 | 1310 | 1131 | 804 | 308 | |
| v/s Ratio Prot | 0.03 | c0.48 | c0.51 | | c0.13 | |
| v/s Ratio Perm | 0.29 | | | 0.11 | | |
| v/c Ratio | 0.46 | 0.70 | 0.85 | 0.19 | 0.70 | |
| Uniform Delay, d1 | 16.4 | 9.0 | 16.3 | 9.0 | 38.2 | |
| Progression Factor | 1.79 | 0.59 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.2 | 2.4 | 8.1 | 0.5 | 7.0 | |
| Delay (s) | 30.6 | 7.7 | 24.4 | 9.5 | 45.3 | |
| Level of Service | C | A | C | A | D | |
| Approach Delay (s) | 9.9 | 22.1 | 45.3 | | | |
| Approach LOS | A | C | D | | | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | 19.2 | | | | B |
| HCM 2000 Volume to Capacity ratio | | 0.82 | | | | |
| Actuated Cycle Length (s) | | 100.0 | | | | 16.0 |
| Intersection Capacity Utilization | | 88.3% | | | | E |
| Analysis Period (min) | | 15 | | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics

05-16-2023

8: The Gore Rd & Street Y

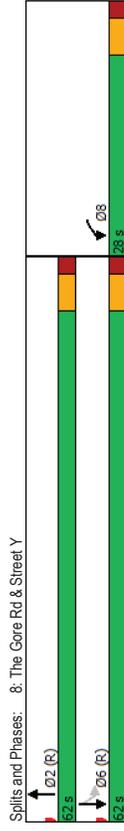
| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------|-------|------|-------|------|------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 25.0 | | |
| Taper Length (m) | 1 | 0 | 0 | 7.5 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.90 | | 0.983 | | | |
| Flt Protected | 0.976 | | 0.983 | | | |
| Satd. Flow (prot) | 1728 | 0 | 1816 | 0 | 1730 | 1883 |
| Flt Permitted | 0.960 | | 0.064 | | | |
| Satd. Flow (perm) | 1582 | 0 | 1816 | 0 | 117 | 1883 |
| Right Turn on Red | Yes | Yes | Yes | Yes | | |
| Satd. Flow (RTOR) | 11 | | 16 | | | |
| Link Speed (k/h) | 50 | | 50 | | | 48 |
| Link Distance (m) | 134.7 | | 576.8 | | | 211.4 |
| Travel Time (s) | 9.7 | | 41.7 | | | 15.9 |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |

Timings

8: The Gore Rd & Street Y

05-16-2023

| | WBL | NBT | SBL | SBT |
|--|-------|-------|-------|-------|
| Lane Group | W | | | |
| Lane Configurations | 170 | 1184 | 47 | 472 |
| Traffic Volume (vph) | 170 | 1184 | 47 | 472 |
| Future Volume (vph) | 170 | 1184 | 47 | 472 |
| Turn Type | Prot | NA | Perm | NA |
| Protected Phases | 8 | 2 | 6 | 6 |
| Permitted Phases | 8 | 2 | 6 | 6 |
| Detector Phase | 8 | 2 | 6 | 6 |
| Switch Phase | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 28.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 28.0 | 62.0 | 62.0 | 62.0 |
| Total Split (%) | 31.1% | 68.9% | 68.9% | 68.9% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | | | | |
| Recall Mode | None | C-Min | C-Min | C-Min |
| Act Effct Green (s) | 15.6 | 62.4 | 62.4 | 62.4 |
| Actuated g/C Ratio | 0.17 | 0.69 | 0.69 | 0.69 |
| v/C Ratio | 0.67 | 1.08 | 0.58 | 0.36 |
| Control Delay | 43.1 | 65.5 | 41.2 | 4.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 43.1 | 65.5 | 41.2 | 4.8 |
| LOS | D | E | D | A |
| Approach Delay | 43.1 | 65.5 | 8.1 | |
| Approach LOS | D | E | A | |
| Intersection Summary | | | | |
| Cycle Length: 90 | | | | |
| Actuated Cycle Length: 90 | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | |
| Natural Cycle: 130 | | | | |
| Control Type: Actuated-Coordinated | | | | |
| Maximum v/C Ratio: 1.08 | | | | |
| Intersection Signal Delay: 49.0 | | | | |
| Intersection Capacity Utilization: 100.7% | | | | |
| Analysis Period (min): 15 | | | | |



Splits and Phases: 8: The Gore Rd & Street Y

Queues
8: The Gore Rd & Street Y

05-16-2023

| | WBL | NBT | SBL | SBT |
|---|-------|--------|--------|-------|
| Lane Group | 206 | 1360 | 47 | 472 |
| Lane Group Flow (vph) | 0.67 | 1.08 | 0.68 | 0.36 |
| v/c Ratio | 43.1 | 65.5 | 41.2 | 4.8 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 43.1 | 65.5 | 41.2 | 4.8 |
| Total Delay | 33.2 | ~274.0 | 2.2 | 19.0 |
| Queue Length 50th (m) | 51.4 | #381.0 | m#25.3 | 33.7 |
| Queue Length 95th (m) | 110.7 | 554.8 | | 187.4 |
| Internal Link Dist (m) | | | 25.0 | |
| Turn Bay Length (m) | 430 | 1265 | 81 | 1306 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.48 | 1.08 | 0.68 | 0.36 |
| Intersection Summary | | | | |
| ~ 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. | | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | | |

HCM Signalized Intersection Capacity Analysis
8: The Gore Rd & Street Y

05-16-2023

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|-------|------|--------|------|---------------------------|------|
| Lane Configurations | W | | P | | P | A |
| Traffic Volume (vph) | 170 | 36 | 1184 | 176 | 47 | 472 |
| Future Volume (vph) | 170 | 36 | 1184 | 176 | 47 | 472 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt | 0.98 | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 |
| Flt Protected | 0.96 | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1729 | 1815 | 1815 | 1730 | 1883 | 1883 |
| Flt Permitted | 0.96 | 0.96 | 1.00 | 0.06 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1729 | 1815 | 1815 | 117 | 1883 | 1883 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 170 | 36 | 1184 | 176 | 47 | 472 |
| RTOR Reduction (vph) | 9 | 0 | 5 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 197 | 0 | 1355 | 0 | 47 | 472 |
| Conf. Peds. (#/hr) | 50 | 50 | NA | 50 | 50 | 50 |
| Turn Type | Prot | | NA | Perm | NA | NA |
| Protected Phases | 8 | | 2 | | 6 | |
| Permitted Phases | | | | | 6 | |
| Actuated Green, G (s) | 15.6 | | 62.4 | | 62.4 | |
| Effective Green, g (s) | 15.6 | | 62.4 | | 62.4 | |
| Actuated g/C Ratio | 0.17 | | 0.69 | | 0.69 | |
| Clearance Time (s) | 6.0 | | 6.0 | | 6.0 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | 299 | | 1258 | | 81 | 1305 |
| v/s Ratio Prot | c0.11 | | c0.75 | | 0.25 | |
| v/s Ratio Perm | 0.66 | | 1.03 | | 0.58 | 0.36 |
| Uniform Delay, d1 | 34.7 | | 13.8 | | 7.1 | 5.6 |
| Progression Factor | 1.00 | | 1.00 | | 0.73 | 0.63 |
| Incremental Delay, d2 | 5.2 | | 48.9 | | 25.8 | 0.7 |
| Delay (s) | 39.9 | | 62.7 | | 31.0 | 4.3 |
| Level of Service | D | | E | | C | A |
| Approach Delay (s) | 39.9 | | 62.7 | | 6.7 | |
| Approach LOS | D | | E | | A | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | | 46.5 | | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | | | 0.99 | | | |
| Actuated Cycle Length (s) | | | 90.0 | | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | | | 100.7% | | ICU Level of Service | G |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics

9: The Gore Rd & Street DDD

05-16-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------|-------|-------|-------|------|------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width (m) | 0% | 0% | 0% | 0% | 50.0 | 0% |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 7.6 | 0.0 |
| Storage Length (m) | 1 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.865 | 0.982 | | | | |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 1629 | 0 | 1850 | 0 | 0 | 1883 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 1629 | 0 | 1850 | 0 | 0 | 1883 |
| Link Speed (k/h) | 50 | | 50 | | | 50 |
| Link Distance (m) | 209.0 | | 211.4 | | | 265.4 |
| Travel Time (s) | 15.0 | | 15.2 | | | 19.1 |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |

HCM Unsignalized Intersection Capacity Analysis

9: The Gore Rd & Street DDD

05-16-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|------|------|-------|------|------|------------------------|
| Movement | W | | | | | |
| Lane Configurations | 1 | 1 | 1 | 1 | 1 | 1 |
| Traffic Volume (veh/h) | 0 | 12 | 1052 | 167 | 0 | 520 |
| Future Volume (Veh/h) | 0 | 12 | 1052 | 167 | 0 | 520 |
| Sign Control | Stop | Free | Free | Free | Free | Free |
| Grade | 0% | 0% | 0% | 0% | 0% | 0% |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 12 | 1052 | 167 | 0 | 520 |
| Pedestrians | 50 | | 50 | | | 50 |
| Lane Width (m) | 3.7 | | 3.7 | | | 3.7 |
| Walking Speed (m/s) | 1.2 | | 1.2 | | | 1.2 |
| Percent Blockage | 4 | | 4 | | | 4 |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage (veh) | | | | | | |
| Upstream signal (m) | | | 212 | | | 265 |
| pX, platoon unblocked | 0.35 | 0.33 | | | 0.33 | |
| vC, conflicting volume | 1756 | 1236 | | | 1289 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1963 | 687 | | | 790 | |
| iC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| iC, 2 stage (s) | | | | | | |
| p0 queue free % | 3.5 | 3.3 | | | 2.2 | |
| IF (s) | 100 | 91 | | | 100 | |
| cM capacity (veh/h) | 22 | 133 | | | 258 | |
| Direction_Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 12 | 1219 | 520 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 12 | 167 | 0 | | | |
| cSH | 133 | 1700 | 1700 | | | |
| Volume to Capacity | 0.09 | 0.72 | 0.31 | | | |
| Queue Length 95th (m) | 2.3 | 0.0 | 0.0 | | | |
| Control Delay (s) | 34.7 | 0.0 | 0.0 | | | |
| Lane LOS | D | | | | | |
| Approach Delay (s) | 34.7 | 0.0 | 0.0 | | | |
| Approach LOS | D | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.2 | | | |
| Intersection Capacity Utilization | | | 84.4% | | | ICU Level of Service E |
| Analysis Period (min) | | | 15 | | | |

Lanes and Geometrics

10: The Gore Rd & Street A

05-16-2023

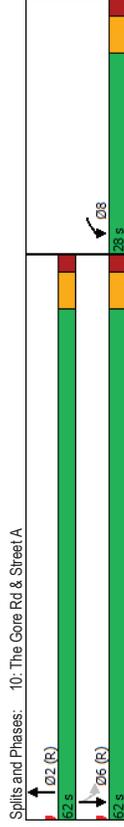
| | WBL | WBR | NBT | NBR | SBL | SBT |
|----------------------|-------|------|-------|-------|------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 | |
| Lane Width (m) | 0% | 0% | 0% | 0% | 0% | |
| Grade (%) | 0.0 | 0.0 | 0.0 | 50.0 | | |
| Storage Length (m) | 1 | 0 | 0 | 1 | | |
| Taper Length (m) | 0.0 | | | 7.6 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.90 | | 0.976 | | | |
| Frt | 0.969 | | 0.976 | | | |
| Flt Protected | 0.963 | | | 0.950 | | |
| Satd. Flow (prot) | 1709 | 0 | 1790 | 0 | 1730 | 1883 |
| Flt Permitted | 0.963 | | | 0.128 | | |
| Satd. Flow (perm) | 1574 | 0 | 1790 | 0 | 233 | 1883 |
| Right Turn on Red | | Yes | | Yes | | |
| Satd. Flow (RTOR) | 16 | | 23 | | | |
| Link Speed (k/h) | 50 | | 50 | | | 50 |
| Link Distance (m) | 319.0 | | 265.4 | | | 374.2 |
| Travel Time (s) | 23.0 | | 19.1 | | | 26.9 |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings

10: The Gore Rd & Street A

05-16-2023

| | WBL | NBT | SBL | SBT |
|--|--|-------|-------|-------|
| Lane Group | W | | | |
| Lane Configurations | 166 | 876 | 53 | 353 |
| Traffic Volume (vph) | 166 | 876 | 53 | 353 |
| Future Volume (vph) | Prot | NA | Perm | NA |
| Turn Type | 8 | 2 | 6 | 6 |
| Permitted Phases | 8 | 2 | 6 | 6 |
| Detector Phases | 8 | 2 | 6 | 6 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 28.0 | 25.0 | 25.0 | 25.0 |
| Minimum Split (s) | 28.0 | 62.0 | 62.0 | 62.0 |
| Total Split (%) | 31.1% | 68.9% | 68.9% | 68.9% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | None | C-Min | C-Min | C-Min |
| Recall Mode | 15.8 | 62.2 | 62.2 | 62.2 |
| Act Effct Green (s) | 0.18 | 0.69 | 0.69 | 0.69 |
| Actuated g/C Ratio | 0.69 | 0.86 | 0.33 | 0.27 |
| v/C Ratio | 43.0 | 17.1 | 14.2 | 6.6 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 43.0 | 17.1 | 14.2 | 6.6 |
| Total Delay | D | B | B | A |
| LOS | 43.0 | 17.1 | 7.6 | A |
| Approach Delay | D | B | A | A |
| Approach LOS | Intersection Summary | | | |
| Cycle Length: 90 | Cycle Length: 90 | | | |
| Actuated Cycle Length: 90 | Actuated Cycle Length: 90 | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | |
| Natural Cycle: 90 | Natural Cycle: 90 | | | |
| Control Type: Actuated-Coordinated | Control Type: Actuated-Coordinated | | | |
| Maximum v/C Ratio: 0.86 | Maximum v/C Ratio: 0.86 | | | |
| Intersection Signal Delay: 18.1 | Intersection Signal Delay: 18.1 | | | |
| Intersection Capacity Utilization 85.6% | Intersection Capacity Utilization 85.6% | | | |
| Analysis Period (min) 15 | Analysis Period (min) 15 | | | |



10: The Gore Rd & Street A

05-16-2023

| | WBL | NBT | SBL | SBT |
|---|-------|--------|------|-------|
| Lane Group | 215 | 1064 | 53 | 353 |
| Lane Group Flow (vph) | 0.69 | 0.86 | 0.33 | 0.27 |
| v/c Ratio | 43.0 | 17.1 | 14.2 | 6.6 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 43.0 | 17.1 | 14.2 | 6.6 |
| Total Delay | 33.8 | 116.2 | 3.3 | 20.8 |
| Queue Length 50th (m) | 52.9 | m121.5 | 14.2 | 41.1 |
| Queue Length 95th (m) | 295.0 | 241.4 | | 350.2 |
| Internal Link Dist (m) | | | 50.0 | |
| Turn Bay Length (m) | 429 | 1244 | 161 | 1301 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.50 | 0.86 | 0.33 | 0.27 |
| Intersection Summary | | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | | |

HCM Signalized Intersection Capacity Analysis
10: The Gore Rd & Street A

05-16-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|-----------------------------|-------|-------|------|------|------|
| Movement | W | | | | | |
| Lane Configurations | 166 | 49 | 876 | 188 | 53 | 353 |
| Traffic Volume (vph) | 166 | 49 | 876 | 188 | 53 | 353 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.97 | 0.97 | 0.98 | 0.95 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 0.97 | 0.97 | 0.98 | 0.95 | 1.00 | 1.00 |
| Flt Protected | 1709 | 1790 | 1730 | 1883 | | |
| Satd. Flow (prot) | 0.96 | 1.00 | 1.00 | 0.13 | 1.00 | 1.00 |
| Flt Permitted | 1709 | 1790 | 1730 | 1883 | | |
| Satd. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 166 | 49 | 876 | 188 | 53 | 353 |
| Adj. Flow (vph) | 13 | 0 | 7 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 202 | 0 | 1057 | 0 | 53 | 353 |
| Lane Group Flow (vph) | 50 | 50 | 50 | 50 | 50 | 50 |
| Confl. Peds. (#/hr) | Prot | NA | NA | Perm | NA | NA |
| Turn Type | 8 | 2 | 6 | | | |
| Protected Phases | | | | | | |
| Permitted Phases | 15.8 | 62.2 | 62.2 | 62.2 | 62.2 | 62.2 |
| Actuated Green, G (s) | 15.8 | 62.2 | 62.2 | 62.2 | 62.2 | 62.2 |
| Effective Green, g (s) | 0.18 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 |
| Actuated g/C Ratio | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Clearance Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Vehicle Extension (s) | 300 | 1237 | 161 | 1301 | | |
| Lane Grp Cap (vph) | v/s Ratio Prot | c0.12 | c0.59 | 0.23 | | |
| v/s Ratio Perm | 0.67 | 0.85 | 0.33 | 0.27 | | |
| v/c Ratio | 34.7 | 10.5 | 5.6 | 5.3 | | |
| Uniform Delay, d1 | 1.00 | 1.31 | 1.00 | 1.00 | | |
| Progression Factor | 5.8 | 0.8 | 5.4 | 0.5 | | |
| Incremental Delay, d2 | 40.5 | 14.5 | 10.9 | 5.8 | | |
| Delay (s) | D | B | B | A | | |
| Level of Service | 40.5 | 14.5 | 6.5 | 6.5 | | |
| Approach Delay (s) | D | B | B | A | | |
| Approach LOS | Intersection Summary | | | | | |
| HCM 2000 Control Delay | | | | | | |
| HCM 2000 Volume to Capacity ratio | | | | | | |
| Actuated Cycle Length (s) | | | | | | |
| Intersection Capacity Utilization | | | | | | |
| Analysis Period (min) | | | | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics
12: Street VV & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|-------|------|------|-------|------|-------|
| Lane Group | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.997 | | | 0.997 | | | | | | | | 0.973 |
| Frt | 0 | 1878 | 0 | 0 | 1878 | 0 | 0 | 1789 | 0 | 0 | 1763 | 0 |
| Flt Protected | 0 | 1878 | 0 | 0 | 1878 | 0 | 0 | 1789 | 0 | 0 | 1763 | 0 |
| Satd. Flow (prot) | 0 | 1878 | 0 | 0 | 1878 | 0 | 0 | 1789 | 0 | 0 | 1763 | 0 |
| Flt Permitted | 0 | 1878 | 0 | 0 | 1878 | 0 | 0 | 1789 | 0 | 0 | 1763 | 0 |
| Satd. Flow (perm) | 0 | 1878 | 0 | 0 | 1878 | 0 | 0 | 1789 | 0 | 0 | 1763 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 319.0 | | | 314.6 | | | 187.1 | | | 204.6 | | 14.7 |
| Travel Time (s) | 23.0 | | | 22.7 | | | 13.5 | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
12: Street VV & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 240 | 6 | 0 | 233 | 5 | 5 | 0 | 0 | 4 | 4 | 0 |
| Traffic Volume (vph) | 0 | 240 | 6 | 0 | 233 | 5 | 5 | 0 | 0 | 4 | 4 | 0 |
| Future Volume (vph) | 0 | 240 | 6 | 0 | 233 | 5 | 5 | 0 | 0 | 4 | 4 | 0 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 240 | 6 | 0 | 233 | 5 | 5 | 0 | 0 | 4 | 4 | 0 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 246 | 238 | 5 | 5 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 5 | 4 | | | | | | | | |
| Volume Right (vph) | 6 | 5 | 0 | 1 | | | | | | | | |
| Head (s) | 0.02 | 0.02 | 0.23 | 0.07 | | | | | | | | |
| Departure Headway (s) | 4.2 | 4.2 | 5.2 | 5.0 | | | | | | | | |
| Degree Utilization, x | 0.29 | 0.28 | 0.01 | 0.01 | | | | | | | | |
| Capacity (veh/h) | 849 | 839 | 629 | 643 | | | | | | | | |
| Control Delay (s) | 8.8 | 8.8 | 8.2 | 8.1 | | | | | | | | |
| Approach Delay (s) | 8.8 | 8.8 | 8.2 | 8.1 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 8.8 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 31.4% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
14: Street JJ & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|------|------|------|------|------|------|------|------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.987 | | | | | | | | | | | 0.962 |
| Ft | 0.999 | | | | | | | | | | | 0.978 |
| Ft Protected | 0 | 1857 | 0 | 0 | 1880 | 0 | 0 | 1783 | 0 | 0 | 1812 | 0 |
| Satd. Flow (prot) | 0.999 | | | | | | | | | | | 0.978 |
| Ft Permitted | 0 | 1857 | 0 | 0 | 1880 | 0 | 0 | 1783 | 0 | 0 | 1812 | 0 |
| Satd. Flow (perm) | 50 | | | | | | | | | | | 50 |
| Link Speed (k/h) | 314.6 | | | | | | | | | | | 204.6 |
| Link Distance (m) | 22.7 | | | | | | | | | | | 42.5 |
| Travel Time (s) | | | | | | | | | | | | 14.7 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

14: Street JJ & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|-------|-------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 7 | 206 | 23 | 10 | 207 | 0 | 23 | 15 | 12 | 0 | 13 | 5 |
| Traffic Volume (vph) | 7 | 206 | 23 | 10 | 207 | 0 | 23 | 15 | 12 | 0 | 13 | 5 |
| Future Volume (vph) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak Hour Factor | 7 | 206 | 23 | 10 | 207 | 0 | 23 | 15 | 12 | 0 | 13 | 5 |
| Hourly flow rate (vph) | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Direction, Lane # | 236 | 217 | 50 | 18 | | | | | | | | |
| Volume Total (vph) | 7 | 10 | 23 | 0 | | | | | | | | |
| Volume Left (vph) | 23 | 0 | 12 | 5 | | | | | | | | |
| Volume Right (vph) | -0.02 | 0.04 | -0.02 | -0.13 | | | | | | | | |
| Head (s) | 4.3 | 4.4 | 4.9 | 4.8 | | | | | | | | |
| Departure Headway (s) | 0.28 | 0.26 | 0.07 | 0.02 | | | | | | | | |
| Degree Utilization, x | 819 | 796 | 667 | 664 | | | | | | | | |
| Capacity (veh/h) | 9.0 | 8.9 | 8.3 | 8.0 | | | | | | | | |
| Control Delay (s) | A | A | A | A | | | | | | | | |
| Approach Delay (s) | 9.0 | 8.9 | 8.3 | 8.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 8.8 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 34.8% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
15: Street I & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------|-------|------|------|------|-------|------|------|-------|------|------|------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 7.5 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.992 | | | | | | | 0.951 | | | | 0.958 |
| Flt Protected | 0.998 | | | | 0.996 | | | 0.980 | | | | |
| Satd. Flow (prot) | 0 | 1865 | 0 | 0 | 1876 | 0 | 0 | 1755 | 0 | 0 | 1804 | 0 |
| Flt Permitted | 0.998 | | | | 0.996 | | | 0.980 | | | | |
| Satd. Flow (perm) | 0 | 1865 | 0 | 0 | 1876 | 0 | 0 | 1755 | 0 | 0 | 1804 | 0 |
| Link Speed (k/h) | 50 | | | | 50 | | | 50 | | | | 50 |
| Link Distance (m) | 275.2 | | | | 405.9 | | | 598.1 | | | | 178.2 |
| Travel Time (s) | 19.8 | | | | 29.2 | | | 43.1 | | | | 12.8 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
15: Street I & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|-------|-------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Sign Control | Stop | Stop | Stop | Stop | | | | | | | | |
| Traffic Volume (vph) | 7 | 186 | 12 | 16 | 190 | 0 | 21 | 12 | 19 | 0 | 11 | 5 |
| Future Volume (vph) | 7 | 186 | 12 | 16 | 190 | 0 | 21 | 12 | 19 | 0 | 11 | 5 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 7 | 186 | 12 | 16 | 190 | 0 | 21 | 12 | 19 | 0 | 11 | 5 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 205 | 206 | 52 | 16 | | | | | | | | |
| Volume Left (vph) | 7 | 16 | 21 | 0 | | | | | | | | |
| Volume Right (vph) | 12 | 0 | 19 | 5 | | | | | | | | |
| Head (s) | 0.01 | 0.05 | -0.10 | -0.15 | | | | | | | | |
| Departure Headway (s) | 4.3 | 4.3 | 4.7 | 4.7 | | | | | | | | |
| Degree Utilization, x | 0.24 | 0.25 | 0.07 | 0.02 | | | | | | | | |
| Capacity (veh/h) | 818 | 803 | 697 | 684 | | | | | | | | |
| Control Delay (s) | 8.7 | 8.8 | 8.1 | 7.8 | | | | | | | | |
| Approach Delay (s) | 8.7 | 8.8 | 8.1 | 7.8 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 8.6 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 34.9% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

18: Humber Station Rd & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.939 | 0.978 | 0.978 | 0.978 | 0.978 | 0.978 | 0.976 | 0.976 | 0.976 | 0.992 | 0.992 | 0.992 |
| Frt | 0.998 | 0.989 | 0.989 | 0.989 | 0.989 | 0.989 | 0.985 | 0.985 | 0.985 | 0.992 | 0.992 | 0.992 |
| Flt Protected | 0 | 1765 | 0 | 0 | 1822 | 0 | 0 | 1811 | 0 | 0 | 1853 | 0 |
| Satd. Flow (prot) | 0.998 | 0.989 | 0.989 | 0.989 | 0.989 | 0.989 | 0.985 | 0.985 | 0.985 | 0.992 | 0.992 | 0.992 |
| Flt Permitted | 0 | 1765 | 0 | 0 | 1822 | 0 | 0 | 1811 | 0 | 0 | 1853 | 0 |
| Satd. Flow (perm) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Speed (k/h) | 405.9 | 132.6 | 132.6 | 132.6 | 132.6 | 132.6 | 360.1 | 360.1 | 360.1 | 173.8 | 173.8 | 173.8 |
| Link Distance (m) | 29.2 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 25.9 | 25.9 | 25.9 | 12.5 | 12.5 | 12.5 |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

18: Humber Station Rd & Street A

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 7 | 87 | 77 | 38 | 109 | 28 | 135 | 233 | 79 | 21 | 95 | 7 |
| Future Volume (vph) | 7 | 87 | 77 | 38 | 109 | 28 | 135 | 233 | 79 | 21 | 95 | 7 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 7 | 87 | 77 | 38 | 109 | 28 | 135 | 233 | 79 | 21 | 95 | 7 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 171 | 175 | 447 | 123 | | | | | | | | |
| Volume Left (vph) | 7 | 38 | 135 | 21 | | | | | | | | |
| Volume Right (vph) | 77 | 28 | 79 | 7 | | | | | | | | |
| Head (s) | -0.23 | -0.02 | -0.01 | 0.03 | | | | | | | | |
| Departure Headway (s) | 5.5 | 5.7 | 5.1 | 5.6 | | | | | | | | |
| Degree Utilization, x | 0.26 | 0.28 | 0.63 | 0.19 | | | | | | | | |
| Capacity (veh/h) | 579 | 563 | 677 | 572 | | | | | | | | |
| Control Delay (s) | 10.5 | 10.9 | 16.5 | 10.0 | | | | | | | | |
| Approach Delay (s) | 10.5 | 10.9 | 16.5 | 10.0 | | | | | | | | |
| Approach LOS | B | B | C | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 13.4 | | | | | | | | | | | |
| Level of Service | B | | | | | | | | | | | |
| Intersection Capacity Utilization | 62.7% | | | | | | | | | | | |
| ICU Level of Service | B | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

48: Humber Station Rd & Street E

05-16-2023

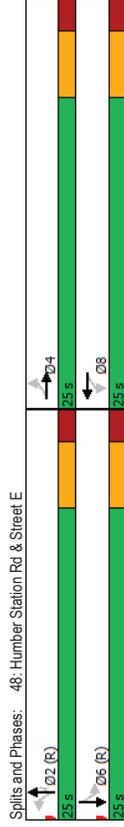
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|------|-------|------|------|-------|------|-------|------|-------|------|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.895 | 0.999 | | 0.999 | | | 0.850 | | 0.850 | | 0.997 | |
| Flt Protected | 0.996 | 0.953 | | 0.953 | | | 0.950 | | 0.950 | | 0.950 | |
| Satd. Flow (prot) | 0 | 1679 | 0 | 1793 | 0 | 1789 | 1883 | 1601 | 1789 | 1878 | 1878 | 0 |
| Flt Permitted | 0.960 | 0.653 | | 0.653 | | | 0.595 | | 0.211 | | 0.211 | |
| Satd. Flow (perm) | 0 | 1618 | 0 | 1229 | 0 | 1121 | 1883 | 1601 | 397 | 1878 | 1878 | 0 |
| Right Turn on Red | | Yes | | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Satd. Flow (RTOR) | 82 | 50 | | 50 | | | 50 | | 386 | | 2 | |
| Link Speed (k/h) | 50 | 50 | | 50 | | | 50 | | 50 | | 50 | |
| Link Distance (m) | 129.8 | 209.7 | | 209.7 | | | 154.4 | | 360.1 | | 360.1 | |
| Travel Time (s) | 9.3 | 15.1 | | 15.1 | | | 11.1 | | 25.9 | | 25.9 | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | | |

Timings

48: Humber Station Rd & Street E

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (vph) | 9 | 14 | 344 | 1 | 151 | 704 | 386 | 5 | 262 | | | |
| Future Volume (vph) | 9 | 14 | 344 | 1 | 151 | 704 | 386 | 5 | 262 | | | |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm | Perm | NA | NA |
| Protected Phases | 4 | 8 | 8 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 |
| Permitted Phases | 4 | 8 | 8 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 |
| Detector Phase | 4 | 8 | 8 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 |
| Switch Phase | 4 | 8 | 8 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | Max |
| Act Effct Green (s) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 |
| Actuated g/C Ratio | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 |
| v/C Ratio | 0.16 | 0.75 | 0.36 | 0.98 | 0.46 | 0.03 | 0.37 | | | | | |
| Control Delay | 4.9 | 26.5 | 14.2 | 49.8 | 3.5 | 10.6 | 13.0 | | | | | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | | |
| Total Delay | 4.9 | 26.5 | 14.2 | 49.8 | 3.5 | 10.6 | 13.0 | | | | | |
| LOS | A | C | B | D | A | B | B | | | | | |
| Approach Delay | 4.9 | 26.5 | 14.2 | 49.8 | 3.5 | 10.6 | 13.0 | | | | | |
| Approach LOS | A | C | C | C | A | B | B | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: 50 | | | | | | | | | | | | |
| Actuated Cycle Length: 50 | | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | | | | | | | | | |
| Natural Cycle: 60 | | | | | | | | | | | | |
| Control Type: Pretimed | | | | | | | | | | | | |
| Maximum v/C Ratio: 0.98 | | | | | | | | | | | | |
| Intersection Signal Delay: 26.4 | | | | | | | | | | | | |
| Intersection Capacity Utilization 82.2% | | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |



Queues
48: Humber Station Rd & Street E

05-16-2023

| | EBT | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|------|--------|------|-------|
| Lane Group | 105 | 348 | 151 | 704 | 386 | 5 |
| Lane Group Flow (vph) | 0.16 | 0.75 | 0.36 | 0.98 | 0.46 | 0.03 |
| v/c Ratio | 4.9 | 26.5 | 14.2 | 49.8 | 3.5 | 10.6 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 4.9 | 26.5 | 14.2 | 49.8 | 3.5 | 10.6 |
| Total Delay | 1.3 | 26.6 | 9.6 | 61.7 | 0.0 | 0.3 |
| Queue Length 50th (m) | 8.5 | #63.9 | 21.6 | #123.1 | 13.1 | 1.9 |
| Queue Length 95th (m) | 105.8 | 185.7 | | 130.4 | | 336.1 |
| Internal Link Dist (m) | | | 25.0 | | | 25.0 |
| Turn Bay Length (m) | | | | | | |
| Base Capacity (vph) | 665 | 467 | 425 | 715 | 847 | 150 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.75 | 0.36 | 0.98 | 0.46 | 0.03 |
| 0.37 | | | | | | |

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
48: Humber Station Rd & Street E

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|---------------------------|------|------|------|------|------|------|------|------|------|------|
| Movement | | | | | | | | | | | | |
| Lane Configurations | 9 | 14 | 82 | 344 | 1 | 3 | 151 | 704 | 386 | 5 | 262 | 5 |
| Traffic Volume (vph) | 9 | 14 | 82 | 344 | 1 | 3 | 151 | 704 | 386 | 5 | 262 | 5 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.89 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Protected | 1678 | 1793 | 1789 | 1883 | 1601 | 1789 | 1883 | 1601 | 1789 | 1878 | | |
| Said. Flow (prot) | 0.96 | 0.65 | 0.59 | 1.00 | 0.21 | 1.00 | | | | | | |
| Flt Permitted | 1617 | 1228 | 1120 | 1883 | 1601 | 397 | 1878 | | | | | |
| Said. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 9 | 14 | 82 | 344 | 1 | 3 | 151 | 704 | 386 | 5 | 262 | 5 |
| Adj. Flow (vph) | 0 | 51 | 0 | 0 | 1 | 0 | 0 | 0 | 239 | 0 | 1 | 0 |
| RTOR Reduction (vph) | 0 | 54 | 0 | 0 | 347 | 0 | 151 | 704 | 147 | 5 | 266 | 0 |
| Lane Group Flow (vph) | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm | Perm | NA | NA |
| Turn Type | 4 | 8 | 8 | 2 | 2 | 6 | | | | | | |
| Protected Phases | | | | | | | | | | | | |
| Permitted Phases | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 |
| Actuated Green, G (s) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 |
| Effective Green, g (s) | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 |
| Actuated g/C Ratio | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Clearance Time (s) | 614 | 466 | 425 | 715 | 608 | 150 | 713 | | | | | |
| Lane Grp Cap (vph) | 0.03 | 0.09 | 0.75 | 0.36 | 0.24 | 0.03 | 0.37 | | | | | |
| v/s Ratio Prot | 9.9 | 13.4 | 11.1 | 15.4 | 10.6 | 9.7 | 11.2 | | | | | |
| v/s Ratio Perm | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| Uniform Delay, d1 | 0.3 | 10.4 | 2.3 | 30.1 | 0.9 | 0.4 | 1.5 | | | | | |
| Progression Factor | 10.2 | 23.8 | 13.4 | 45.5 | 11.5 | 10.1 | 12.7 | | | | | |
| Incremental Delay, d2 | B | C | B | D | B | B | B | | | | | |
| Delay (s) | 10.2 | 23.8 | 13.4 | 45.5 | 11.5 | 10.1 | 12.7 | | | | | |
| Level of Service | B | C | B | D | B | B | B | | | | | |
| Approach Delay (s) | 10.2 | 23.8 | 13.4 | 45.5 | 11.5 | 10.1 | 12.7 | | | | | |
| Approach LOS | B | C | B | D | B | B | B | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 26.1 | HCM 2000 Level of Service | | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.86 | C | | | | | | | | | | |
| Actuated Cycle Length (s) | 50.0 | Sum of lost time (s) | | | | | | | | | | |
| Intersection Capacity Utilization | 82.2% | IOU Level of Service | | | | | | | | | | |
| Analysis Period (min) | 15 | E | | | | | | | | | | |
| c Critical Lane Group | | 15 | | | | | | | | | | |

Lanes and Geometrics
58: Humber Station Rd & Street Y

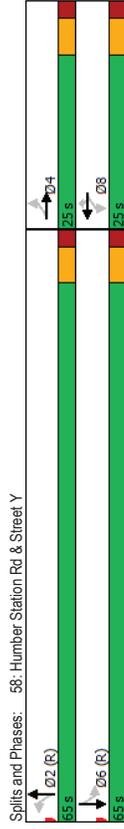
05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|------|-------|------|-------|-------|-------|-------|-------|------|-------|
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vph) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 45.0 | 0 | 0 | 25.0 | 25.0 | 25.0 | 50.0 | 50.0 | 0.0 | 50.0 | 0.0 | 0.0 |
| Storage Lanes | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| Taper Length (m) | 7.5 | | 7.5 | | 7.5 | | 7.5 | | 7.5 | | 7.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pod Bike Factor | 0.98 | 0.98 | 0.93 | 0.92 | 0.95 | 0.98 | | | 0.98 | | 0.99 | |
| Frt | 0.950 | 0.975 | | 0.850 | | 0.850 | | 0.969 | | 0.950 | | 0.994 |
| Flt Protected | 1789 | 1794 | 0 | 1789 | 1883 | 1601 | 1789 | 1794 | 0 | 1789 | 1862 | 0 |
| Satd. Flow (prot) | 0.212 | | | 0.408 | | 0.424 | | | 0.068 | | | |
| Satd. Flow (perm) | 392 | 1794 | Yes | 715 | 1883 | 1470 | 760 | 1794 | 0 | 128 | 1862 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | Yes | Yes | | | Yes |
| Satd. Flow (RTOR) | 10 | | | 63 | | | 30 | | | 5 | | 5 |
| Link Speed (k/h) | 50 | | | 50 | | | 50 | | | 50 | | 50 |
| Link Distance (m) | 81.8 | | | 813.2 | | | 194.3 | | | 154.4 | | 154.4 |
| Travel Time (s) | 5.9 | | | 58.6 | | | 14.0 | | | 11.1 | | 11.1 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | | |

Timings
58: Humber Station Rd & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 60 | 216 | 88 | 367 | 109 | 126 | 967 | 210 | 492 | | | |
| Traffic Volume (vph) | 60 | 216 | 88 | 367 | 109 | 126 | 967 | 210 | 492 | | | |
| Future Volume (vph) | 60 | 216 | 88 | 367 | 109 | 126 | 967 | 210 | 492 | | | |
| Turn Type | Perm | NA |
| Protected Phases | 4 | 4 | 8 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | 6 | 6 |
| Permitted Phases | 4 | 4 | 8 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | 6 | 6 |
| Detector Phase | | | | | | | | | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 |
| Total Split (%) | 27.8% | 27.8% | 27.8% | 27.8% | 27.8% | 27.8% | 72.2% | 72.2% | 72.2% | 72.2% | 72.2% | 72.2% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | None |
| Recall Mode | None |
| Act Effct Green (s) | 18.9 | 18.9 | 18.9 | 18.9 | 18.9 | 18.9 | 59.1 | 59.1 | 59.1 | 59.1 | 59.1 | 59.1 |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 |
| v/C Ratio | 0.73 | 0.68 | 0.59 | 0.93 | 0.30 | 0.25 | 1.02 | 2.53 | 0.42 | | | |
| Control Delay | 82.6 | 41.4 | 50.1 | 67.5 | 17.0 | 8.2 | 49.3 | 736.7 | 8.5 | | | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 82.6 | 41.4 | 50.1 | 67.5 | 17.0 | 8.2 | 49.3 | 736.7 | 9.3 | | | |
| LOS | F | D | D | E | B | A | D | F | A | | | |
| Approach Delay | | | | | | | | | | | | |
| Approach LOS | D | D | E | E | D | D | D | D | F | | | |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: 90 | | | | | | | | | | | | |
| Actuated Cycle Length: 90 | | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | | | | | | | | | | |
| Natural Cycle: 140 | | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | | |
| Maximum v/C Ratio: 2.53 | | | | | | | | | | | | |
| Intersection Signal Delay: 90.6 | | | | | | | | | | | | |
| Intersection Capacity Utilization 122.0% | | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |



Queues
58: Humber Station Rd & Street Y

05-16-2023

| | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|-----------------------------|---|-------|-------|--------|------|--------|--------|-------|------|
| Lane Group | 60 | 216 | 88 | 367 | 109 | 126 | 1217 | 210 | 512 |
| Lane Group Flow (vph) | 0.73 | 0.68 | 0.59 | 0.93 | 0.30 | 0.25 | 1.02 | 2.53 | 0.42 |
| v/c Ratio | 82.6 | 41.4 | 50.1 | 67.5 | 17.0 | 8.2 | 49.3 | 736.7 | 8.5 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 |
| Queue Delay | 82.6 | 41.4 | 50.1 | 67.5 | 17.0 | 8.2 | 49.3 | 736.7 | 9.3 |
| Total Delay | 10.1 | 41.6 | 14.3 | 65.0 | 6.8 | 8.3 | -233.8 | -49.1 | 38.4 |
| Queue Length 50th (m) | #32.4 | 67.9 | #34.6 | #117.2 | 21.0 | m#15.8 | #311.6 | #93.5 | 57.3 |
| Queue Length 95th (m) | 57.8 | 789.2 | | | | 170.3 | | 130.4 | |
| Internal Link Dist (m) | 45.0 | 25.0 | 25.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 |
| Turn Bay Length (m) | 82 | 386 | 150 | 397 | 360 | 499 | 1188 | 83 | 1224 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 403 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.73 | 0.67 | 0.69 | 0.92 | 0.30 | 0.25 | 1.02 | 2.53 | 0.62 |
| Intersection Summary | | | | | | | | | |
| ~ | 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. | | | | | | | | |
| m | Volume for 95th percentile queue is metered by upstream signal. | | | | | | | | |

HCM Signalized Intersection Capacity Analysis
58: Humber Station Rd & Street Y

05-16-2023

| Movement | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|-----------------------------------|--------|------|------|------|------|------|------|-------|------|------|
| Lane Configurations | EB | EB | WB | WB | WB | NB | NB | SB | SB | SB |
| Traffic Volume (vph) | 60 | 216 | 44 | 88 | 367 | 109 | 126 | 967 | 250 | 210 |
| Future Volume (vph) | 60 | 216 | 44 | 88 | 367 | 109 | 126 | 967 | 250 | 210 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frb. ped/bikes | 1.00 | 0.98 | 1.00 | 1.00 | 0.92 | 1.00 | 0.98 | 1.00 | 0.99 | 1.00 |
| Fibb. ped/bikes | 0.97 | 1.00 | 0.93 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt | 1.00 | 0.97 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | 1.00 | 0.99 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 |
| Satd. Flow (prot) | 1737 | 1793 | 1665 | 1883 | 1470 | 1702 | 1795 | 1789 | 1862 | 1862 |
| Flt Permitted | 0.21 | 1.00 | 0.41 | 1.00 | 1.00 | 0.42 | 1.00 | 0.07 | 1.00 | 1.00 |
| Satd. Flow (perm) | 387 | 1793 | 716 | 1883 | 1470 | 761 | 1795 | 127 | 1862 | 1862 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 60 | 216 | 44 | 88 | 367 | 109 | 126 | 967 | 250 | 210 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 60 | 252 | 0 | 88 | 367 | 59 | 126 | 1207 | 0 | 210 |
| Confl. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Turn Type | Perm | NA | Perm | NA | Perm | Perm | NA | Perm | NA | NA |
| Protected Phases | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | 6 |
| Permitted Phases | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 6 | 6 | 6 |
| Actuated Green, G (s) | 18.9 | 18.9 | 18.9 | 18.9 | 18.9 | 59.1 | 59.1 | 59.1 | 59.1 | 59.1 |
| Effective Green, g (s) | 18.9 | 18.9 | 18.9 | 18.9 | 18.9 | 59.1 | 59.1 | 59.1 | 59.1 | 59.1 |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 81 | 376 | 150 | 395 | 308 | 499 | 1178 | 83 | 1222 | 1222 |
| v/s Ratio Prot | 0.14 | 0.14 | 0.12 | 0.12 | 0.04 | 0.17 | 0.67 | 0.27 | 0.27 | 0.27 |
| v/s Ratio Perm | 0.74 | 0.67 | 0.59 | 0.93 | 0.19 | 0.25 | 1.02 | 2.53 | 0.42 | 0.42 |
| Uniform Delay, d1 | 33.3 | 32.7 | 32.0 | 34.9 | 29.3 | 6.4 | 15.4 | 15.4 | 7.3 | 7.3 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.04 | 0.98 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 30.1 | 4.6 | 5.7 | 27.8 | 0.3 | 1.2 | 32.5 | 722.7 | 1.1 | 1.1 |
| Delay (s) | 63.3 | 37.3 | 37.8 | 62.7 | 29.6 | 7.8 | 47.7 | 735.2 | 8.4 | 8.4 |
| Level of Service | E | D | D | E | C | A | D | F | A | A |
| Approach Delay (s) | 42.2 | D | 52.4 | D | 43.9 | D | D | 220.6 | F | F |
| Approach LOS | D | D | D | D | D | D | D | F | F | F |
| Intersection Summary | | | | | | | | | | |
| HCM 2000 Control Delay | 88.6 | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 2.13 | | | | | | | | | |
| Actuated Cycle Length (s) | 90.0 | | | | | | | | | |
| Intersection Capacity Utilization | 122.0% | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | |
| c Critical Lane Group | 15 | | | | | | | | | |

Lanes and Geometrics
62: Street Y & Street VV

05-16-2023

| | EBL | EBT | WBT | WBR | SBL | SBR |
|---------------------|------|-------|-------|------|-------|------|
| Lane Group | | | | | | |
| Lane Configurations | | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | |
| Frt | | 0.984 | | | 0.994 | |
| Frt Protected | | 0.954 | | | 0.954 | |
| Satd. Flow (prot) | 0 | 1883 | 1853 | 0 | 1786 | 0 |
| Flt Permitted | | | | | 0.954 | |
| Satd. Flow (perm) | 0 | 1883 | 1853 | 0 | 1786 | 0 |
| Link Speed (k/h) | | 50 | 50 | | 50 | |
| Link Distance (m) | | 82.2 | 318.6 | | 162.9 | |
| Travel Time (s) | | 5.9 | 22.9 | | 11.7 | |

Intersection Summary

Area Type: Other

HCM Unsignalized Intersection Capacity Analysis
62: Street Y & Street VV

05-16-2023

| | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------|------|-------|------|------|------|------|
| Movement | | | | | | |
| Lane Configurations | | | | | | |
| Sign Control | | Stop | Stop | | Stop | Stop |
| Traffic Volume (vph) | 0 | 251 | 257 | 34 | 21 | 1 |
| Future Volume (vph) | 0 | 251 | 257 | 34 | 21 | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 251 | 257 | 34 | 21 | 1 |
| Direction_Lane # | EB 1 | WB 1 | SB 1 | | | |
| Volume Total (vph) | 251 | 291 | 22 | | | |
| Volume Left (vph) | 0 | 0 | 21 | | | |
| Volume Right (vph) | 0 | 34 | 1 | | | |
| Head (s) | 0.03 | -0.04 | 0.20 | | | |
| Departure Headway (s) | 4.3 | 4.2 | 5.3 | | | |
| Degree Utilization, x | 0.30 | 0.34 | 0.03 | | | |
| Capacity (veh/h) | 826 | 640 | 618 | | | |
| Control Delay (s) | 9.1 | 9.3 | 8.4 | | | |
| Approach Delay (s) | 9.1 | 9.3 | 8.4 | | | |
| Approach LOS | A | A | A | | | |

Intersection Summary

| | |
|-----------------------------------|-------|
| Delay | 9.2 |
| Level of Service | A |
| Intersection Capacity Utilization | 34.2% |
| ICU Level of Service | A |
| Analysis Period (min) | 15 |

Lanes and Geometrics
64: Street JJ & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.993 | 0.993 | 0.990 | 0.990 | 0.995 | 0.995 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 |
| Flt Protected | 0 | 1867 | 0 | 0 | 1855 | 0 | 0 | 1810 | 0 | 0 | 1855 | 0 |
| Satd. Flow (prot) | 0.998 | 0.998 | 0.995 | 0.995 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 |
| Flt Permitted | 0 | 1867 | 0 | 0 | 1855 | 0 | 0 | 1810 | 0 | 0 | 1855 | 0 |
| Satd. Flow (perm) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Speed (k/h) | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 |
| Link Distance (m) | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
64: Street JJ & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|-------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 10 | 270 | 16 | 44 | 326 | 30 | 28 | 141 | 55 | 18 | 122 | 10 |
| Traffic Volume (vph) | 10 | 270 | 16 | 44 | 326 | 30 | 28 | 141 | 55 | 18 | 122 | 10 |
| Future Volume (vph) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak Hour Factor | 10 | 270 | 16 | 44 | 326 | 30 | 28 | 141 | 55 | 18 | 122 | 10 |
| Hourly flow rate (vph) | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Direction, Lane # | 286 | 400 | 224 | 150 | | | | | | | | |
| Volume Total (vph) | 10 | 44 | 28 | 18 | | | | | | | | |
| Volume Left (vph) | 16 | 30 | 55 | 10 | | | | | | | | |
| Volume Right (vph) | 0.01 | 0.01 | -0.09 | 0.02 | | | | | | | | |
| Head (s) | 5.9 | 5.7 | 6.2 | 6.5 | | | | | | | | |
| Departure Headway (s) | 0.48 | 0.63 | 0.39 | 0.27 | | | | | | | | |
| Degree Utilization, x | 569 | 604 | 515 | 471 | | | | | | | | |
| Capacity (veh/h) | 14.2 | 18.0 | 13.0 | 11.9 | | | | | | | | |
| Control Delay (s) | B | C | B | B | | | | | | | | |
| Approach Delay (s) | B | C | B | B | | | | | | | | |
| Approach LOS | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 15.0 | | | | | | | | | | | |
| Level of Service | C | | | | | | | | | | | |
| Intersection Capacity Utilization | 61.8% | | | | | | | | | | | |
| ICU Level of Service | B | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
65: Street 1 & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.983 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 | 0.985 |
| Flt Protected | 0.999 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 |
| Satd. Flow (prot) | 0 | 1850 | 0 | 0 | 1850 | 0 | 0 | 1861 | 0 | 0 | 1855 | 0 |
| Flt Permitted | 0.999 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 | 0.997 |
| Satd. Flow (perm) | 0 | 1850 | 0 | 0 | 1850 | 0 | 0 | 1861 | 0 | 0 | 1855 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 48 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 189.0 | 137.6 | 137.6 | 137.6 | 137.6 | 137.6 | 229.8 | 17.2 | 229.8 | 137.6 | 599.1 | 43.1 |
| Travel Time (s) | 13.6 | 9.9 | 9.9 | 9.9 | 9.9 | 9.9 | 17.2 | 17.2 | 17.2 | 9.9 | 43.1 | 43.1 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
65: Street 1 & Street Y

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EB 1 | WB 1 | NB 1 | SB 1 | Stop |
| Sign Control | 10 | 282 | 42 | 32 | 381 | 53 | 29 | 162 | 8 | 31 | 141 | 10 |
| Traffic Volume (vph) | 10 | 282 | 42 | 32 | 381 | 53 | 29 | 162 | 8 | 31 | 141 | 10 |
| Future Volume (vph) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak Hour Factor | 10 | 282 | 42 | 32 | 381 | 53 | 29 | 162 | 8 | 31 | 141 | 10 |
| Hourly flow rate (vph) | 10 | 282 | 42 | 32 | 381 | 53 | 29 | 162 | 8 | 31 | 141 | 10 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 334 | 466 | 199 | 182 | | | | | | | | |
| Volume Left (vph) | 10 | 32 | 29 | 31 | | | | | | | | |
| Volume Right (vph) | 42 | 53 | 8 | 10 | | | | | | | | |
| Head (s) | -0.04 | -0.02 | 0.04 | 0.04 | | | | | | | | |
| Departure Headway (s) | 6.1 | 5.9 | 6.9 | 6.9 | | | | | | | | |
| Degree Utilization, x | 0.57 | 0.77 | 0.38 | 0.35 | | | | | | | | |
| Capacity (veh/h) | 546 | 581 | 460 | 454 | | | | | | | | |
| Control Delay (s) | 17.0 | 25.6 | 14.0 | 13.6 | | | | | | | | |
| Approach Delay (s) | C | D | B | B | | | | | | | | |
| Approach LOS | C | D | B | B | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 19.4 | | | | | | | | | | | |
| Level of Service | C | | | | | | | | | | | |
| Intersection Capacity Utilization | 58.4% | | | | | | | | | | | |
| ICU Level of Service | B | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
84: Street JJ & Street EE

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|-------|------|------|------|-------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (veh/pl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.5 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.921 | | | | | | 0.987 | | | | | |
| Flt Protected | | | | 0.974 | | | 0.998 | | | | | |
| Satd. Flow (prot) | 0 | 1735 | 0 | 0 | 1834 | 0 | 0 | 1855 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | 0.974 | | | 0.998 | | | | | |
| Satd. Flow (perm) | 0 | 1735 | 0 | 0 | 1834 | 0 | 0 | 1855 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 174.8 | | | 275.5 | | | 262.0 | | | | 229.7 | |
| Travel Time (s) | 12.6 | | | 19.8 | | | 18.9 | | | | 16.5 | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
84: Street JJ & Street EE

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 0 | 5 | 7 | 20 | 17 | 0 | 8 | 205 | 23 | 0 | 178 | 0 |
| Traffic Volume (veh/h) | 0 | 5 | 7 | 20 | 17 | 0 | 8 | 205 | 23 | 0 | 178 | 0 |
| Future Volume (Veh/h) | 0 | 5 | 7 | 20 | 17 | 0 | 8 | 205 | 23 | 0 | 178 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | 0% | 0% | Free | 0% | Free |
| Grade | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 7 | 20 | 17 | 0 | 8 | 205 | 23 | 0 | 178 | 0 |
| Pedestrians | 50 | | | 50 | | | 50 | | | | | |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Walking Speed (m/s) | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| Percent Blockage | 4 | | | 4 | | | 4 | | | | | |
| Right turn flare (veh) | | | | | | | None | | | | | None |
| Median type | | | | | | | None | | | | | None |
| Median storage (veh) | | | | | | | 262 | | | | | |
| Upstream signal (m) | | | | | | | 262 | | | | | |
| pX_platon unblocked | | | | | | | 262 | | | | | |
| vC_conflicting volume | 469 | 522 | 278 | 520 | 510 | 266 | 228 | | | | | 278 |
| vC1_stage 1 conf vol | | | | | | | | | | | | |
| vC2_stage 2 conf vol | | | | | | | | | | | | |
| vCu_unblocked vol | 469 | 522 | 278 | 520 | 510 | 266 | 228 | | | | | 278 |
| iC_single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | | | 4.1 |
| iC_2 stage (s) | | | | | | | | | | | | |
| p0_queue free % | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | | | 2.2 |
| IF (s) | 100 | 99 | 99 | 95 | 96 | 100 | 99 | | | | | 100 |
| CM capacity (veh/h) | 436 | 418 | 687 | 391 | 425 | 739 | 1283 | | | | | 1230 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total | 12 | 37 | 236 | 178 | | | | | | | | |
| Volume Left | 0 | 20 | 8 | 0 | | | | | | | | |
| Volume Right | 7 | 0 | 23 | 0 | | | | | | | | |
| cSH | 545 | 406 | 1283 | 1230 | | | | | | | | |
| Volume to Capacity | 0.02 | 0.09 | 0.01 | 0.00 | | | | | | | | |
| Queue Length 95th (m) | 0.5 | 2.4 | 0.1 | 0.0 | | | | | | | | |
| Control Delay (s) | 11.7 | 14.8 | 0.3 | 0.0 | | | | | | | | |
| Lane LOS | B | B | A | A | | | | | | | | |
| Approach Delay (s) | 11.7 | 14.8 | 0.3 | 0.0 | | | | | | | | |
| Approach LOS | B | B | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | 1.6 | | | | | | | | | | | |
| Intersection Capacity Utilization | 37.2% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
85: Street I & Street EE

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|-------|------|------|------|-------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.896 | | | | | | | | | | | |
| Flt Protected | 0 | 1688 | 0 | 0 | 1883 | 0 | 0 | 1876 | 0 | 0 | 1883 | 0 |
| Satd. Flow (prot) | 0 | 1688 | 0 | 0 | 1883 | 0 | 0 | 1876 | 0 | 0 | 1883 | 0 |
| Flt Permitted | 0 | 50 | 0 | 0 | 50 | 0 | 0 | 50 | 0 | 0 | 50 | 0 |
| Satd. Flow (perm) | 0 | 50 | 0 | 0 | 50 | 0 | 0 | 50 | 0 | 0 | 50 | 0 |
| Link Speed (k/h) | 275.5 | | | 332.9 | | | 217.2 | | | | 229.8 | |
| Link Distance (m) | 19.8 | | | 24.0 | | | 15.6 | | | | 16.5 | |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
85: Street I & Street EE

05-16-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (veh/h) | 0 | 5 | 17 | 0 | 17 | 0 | 20 | 221 | 0 | 0 | 191 | 0 |
| Future Volume (Veh/h) | 0 | 5 | 17 | 0 | 17 | 0 | 20 | 221 | 0 | 0 | 191 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| Grade | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 17 | 0 | 17 | 0 | 20 | 221 | 0 | 0 | 191 | 0 |
| Pedestrians | 50 | | | 50 | | | 50 | | | 50 | | |
| Lane Width (m) | 3.7 | | | 3.7 | | | 3.7 | | | 3.7 | | |
| Walking Speed (m/s) | 1.2 | | | 1.2 | | | 1.2 | | | 1.2 | | |
| Percent Blockage | 4 | | | 4 | | | 4 | | | 4 | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | None | | | | | | | | | | | |
| Median storage (veh) | None | | | | | | | | | | | |
| Upstream signal (m) | 342 | | | | | | | | | | | |
| pk_platoon unblocked | | | | | | | | | | | | |
| vC_conflicting volume | 560 | 552 | 291 | 572 | 552 | 321 | 241 | | | 271 | | |
| vC1_stage 1 conf vol | | | | | | | | | | | | |
| vC2_stage 2 conf vol | | | | | | | | | | | | |
| vCu_unblocked vol | 560 | 552 | 291 | 572 | 552 | 321 | 241 | | | 271 | | |
| IC_single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| IC_2 stage (s) | | | | | | | | | | | | |
| IF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 99 | 98 | 100 | 96 | 100 | 98 | | | 100 | | |
| CM capacity (veh/h) | 360 | 398 | 685 | 353 | 398 | 659 | 1269 | | | 1237 | | |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total | 22 | 17 | 241 | 191 | | | | | | | | |
| Volume Left | 0 | 0 | 20 | 0 | | | | | | | | |
| Volume Right | 17 | 0 | 0 | 0 | | | | | | | | |
| cSH | 589 | 398 | 1269 | 1237 | | | | | | | | |
| Volume to Capacity | 0.04 | 0.04 | 0.02 | 0.00 | | | | | | | | |
| Queue Length 95th (m) | 0.9 | 1.1 | 0.4 | 0.0 | | | | | | | | |
| Control Delay (s) | 11.3 | 14.4 | 0.8 | 0.0 | | | | | | | | |
| Lane LOS | B | B | A | A | | | | | | | | |
| Approach Delay (s) | 11.3 | 14.4 | 0.8 | 0.0 | | | | | | | | |
| Approach LOS | B | B | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | 1.5 | | | | | | | | | | | |
| Intersection Capacity Utilization | 46.5% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

88: Humber Station Rd & Street EE

05-16-2023

| EBL | EBR | NBL | NBT | SBT | SBR |
|----------------------|------|------|-------|-------|-------|
| W | | | | | |
| 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| 0% | 0% | 0% | 0% | 0% | 0% |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1 | 0 | 0 | 0 | 0 | 0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | | | | | 1.00 |
| | | | | | 0.997 |
| 0.950 | | | | | |
| 1789 | 0 | 0 | 1883 | 1872 | 0 |
| 0.950 | | | | | |
| 1789 | 0 | 0 | 1883 | 1872 | 0 |
| Yes | | | | | Yes |
| | | | | | 2 |
| 50 | | | 50 | 50 | |
| 332.9 | | | 347.2 | 128.1 | |
| 24.0 | | | 25.0 | 9.2 | |
| Intersection Summary | | | | | |
| Area Type: Other | | | | | |

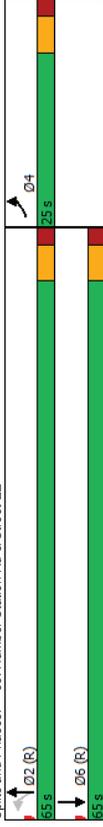
Timings

88: Humber Station Rd & Street EE

05-16-2023

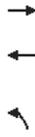
| EBL | NBT | SBT |
|--|-------|-------|
| W | | |
| 5 | 1228 | 799 |
| 5 | 1228 | 799 |
| Prot | NA | NA |
| 4 | 2 | 6 |
| 4 | 2 | 6 |
| 5.0 | 5.0 | 5.0 |
| 25.0 | 25.0 | 25.0 |
| 25.0 | 65.0 | 65.0 |
| 27.8% | 72.2% | 72.2% |
| 4.0 | 4.0 | 4.0 |
| 2.0 | 2.0 | 2.0 |
| 0.0 | 0.0 | 0.0 |
| 6.0 | 6.0 | 6.0 |
| Lead-Lag Optimize? | | |
| Recall Mode | | |
| None | C-Max | C-Max |
| 10.9 | 77.6 | 77.6 |
| 0.12 | 0.86 | 0.86 |
| 0.02 | 0.76 | 0.51 |
| 29.8 | 13.4 | 5.2 |
| 0.0 | 0.0 | 0.0 |
| 29.8 | 13.4 | 5.2 |
| C | B | A |
| 29.8 | 13.4 | 5.2 |
| C | B | A |
| Intersection Summary | | |
| Cycle Length: 90 | | |
| Actuated Cycle Length: 90 | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green | | |
| Natural Cycle: 90 | | |
| Control Type: Actuated-Coordinated | | |
| Maximum v/c Ratio: 0.76 | | |
| Intersection Signal Delay: 10.2 | | |
| Intersection Capacity Utilization 78.8% | | |
| Analysis Period (min) 15 | | |

Splits and Phases: 88: Humber Station Rd & Street EE



Queues
88: Humber Station Rd & Street EE

05-16-2023



| | EBL | NBT | SBT |
|------------------------|-------|--------|-------|
| Lane Group Flow (vph) | 5 | 1228 | 816 |
| v/c Ratio | 0.02 | 0.76 | 0.51 |
| Control Delay | 29.8 | 13.4 | 5.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.8 | 13.4 | 5.2 |
| Queue Length 50th (m) | 0.9 | 0.0 | 0.0 |
| Queue Length 95th (m) | 3.6 | #308.5 | 90.4 |
| Internal Link Dist (m) | 308.9 | 323.2 | 104.1 |
| Turn Bay Length (m) | | | |
| Base Capacity (vph) | 377 | 1623 | 1614 |
| Starvation Cap Reductn | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.01 | 0.76 | 0.51 |

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
88: Humber Station Rd & Street EE

05-16-2023



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------|------|-------|---------------------------|------|------|
| Lane Configurations | W | | | | | |
| Traffic Volume (vph) | 5 | 0 | 0 | 1228 | 799 | 17 |
| Future Volume (vph) | 5 | 0 | 0 | 1228 | 799 | 17 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | | | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frb. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frb. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Protected | 0.95 | | | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1789 | | | 1883 | 1873 | |
| Flt Permitted | 0.95 | | | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1789 | | | 1883 | 1873 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 5 | 0 | 0 | 1228 | 799 | 17 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 5 | 0 | 0 | 1228 | 816 | 0 |
| Confl. Peds. (#/hr) | | | 50 | | | 50 |
| Turn Type | Prot | | NA | NA | NA | |
| Protected Phases | 4 | | 2 | 2 | 6 | |
| Permitted Phases | | | 2 | | | |
| Actuated Green, G (s) | 7.6 | | 70.4 | 70.4 | 70.4 | |
| Effective Green, g (s) | 7.6 | | 70.4 | 70.4 | 70.4 | |
| Actuated g/C Ratio | 0.08 | | 0.78 | 0.78 | 0.78 | |
| Clearance Time (s) | 6.0 | | 6.0 | 6.0 | 6.0 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 151 | | 1472 | 1465 | | |
| v/s Ratio Prot | c0.00 | | c0.65 | 0.44 | | |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.03 | | 0.83 | 0.56 | | |
| Uniform Delay, d1 | 37.8 | | 6.1 | 3.8 | | |
| Progression Factor | 1.00 | | 1.00 | 0.76 | | |
| Incremental Delay, d2 | 0.1 | | 5.7 | 1.5 | | |
| Delay (s) | 37.9 | | 11.9 | 4.4 | | |
| Level of Service | D | | B | A | | |
| Approach Delay (s) | 37.9 | | 11.9 | 4.4 | | |
| Approach LOS | D | | B | A | | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | | 8.9 | HCM 2000 Level of Service | | A |
| HCM 2000 Volume to Capacity ratio | | | 0.76 | | | |
| Actuated Cycle Length (s) | | | 90.0 | Sum of lost time (s) | | 12.0 |
| Intersection Capacity Utilization | | | 78.8% | ICU Level of Service | | D |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics

1: The Gore Rd & King St

05-15-2023

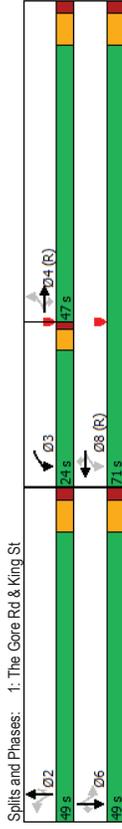
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vph) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 139.9 | 25.0 | 199.9 | 50.0 | 175.0 | 50.0 | 175.0 | 50.0 | 50.0 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Storage Lanes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.94 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Frt | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 | 0.950 |
| Satd. Flow (prot) | 1562 | 3318 | 1585 | 1681 | 3380 | 1633 | 1261 | 3650 | 1432 | 1681 | 3650 | 1633 |
| Fit Permitted | 0.441 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 | 0.496 |
| Satd. Flow (perm) | 684 | 3318 | 1359 | 818 | 3380 | 1400 | 173 | 3650 | 1310 | 1051 | 3650 | 1493 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 48 | 71 | 71 | 50 | 33 | 50 | 50 | 163 | 50 | 50 | 163 | 195 |
| Link Speed (k/h) | 363.2 | 207.4 | 207.4 | 628.6 | 45.3 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 |
| Link Distance (m) | 27.2 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 |
| Travel Time (s) | 27.2 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

Timings

1: The Gore Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|----------------------------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 94 | 342 | 171 | 306 | 562 | 27 | 11 | 194 | 163 | 100 | 849 | 256 |
| Traffic Volume (vph) | 94 | 342 | 171 | 306 | 562 | 27 | 11 | 194 | 163 | 100 | 849 | 256 |
| Future Volume (vph) | 94 | 342 | 171 | 306 | 562 | 27 | 11 | 194 | 163 | 100 | 849 | 256 |
| Turn Type | Perm | NA | Perm | pmt-pt | NA | Perm | Perm | Perm | Perm | Perm | NA | Perm |
| Protected Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 |
| Permitted Phases | 4 | 4 | 4 | 3 | 3 | 3 | 8 | 8 | 8 | 8 | 2 | 2 |
| Detector Phases | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 |
| Minimum Split (s) | 47.0 | 47.0 | 47.0 | 24.0 | 24.0 | 24.0 | 71.0 | 71.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (s) | 39.2% | 39.2% | 39.2% | 20.0% | 20.0% | 20.0% | 59.2% | 59.2% | 40.8% | 40.8% | 40.8% | 40.8% |
| Total Split (%) | 4.6 | 4.6 | 4.6 | 3.0 | 3.0 | 3.0 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| Yellow Time (s) | 2.0 | 2.0 | 2.0 | 1.0 | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| All-Red Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lost Time Adjust (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Total Lost Time (s) | Lag | Lag | Lag | Lag | Lag | Lag | Lag | Lag | Lag | Lag | Lag | Lag |
| Lead/Lag | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Lead-Lag Optimize? | Recall Mode | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min |
| Recall Mode | 51.1 | 51.1 | 51.1 | 74.0 | 71.4 | 71.4 | 35.4 | 35.4 | 35.4 | 35.4 | 35.4 | 35.4 |
| Act Effect Green (s) | 0.43 | 0.43 | 0.43 | 0.62 | 0.60 | 0.60 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Actuated g/C Ratio | 0.32 | 0.24 | 0.28 | 0.49 | 0.28 | 0.28 | 0.03 | 0.22 | 0.18 | 0.33 | 0.32 | 0.79 |
| v/C Ratio | 31.2 | 24.9 | 16.8 | 14.7 | 13.0 | 3.6 | 40.9 | 30.8 | 6.0 | 34.5 | 44.2 | 10.7 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 31.2 | 24.9 | 16.8 | 14.7 | 13.0 | 3.6 | 40.9 | 30.8 | 6.0 | 34.5 | 44.2 | 10.7 |
| Total Delay | C | C | B | B | B | A | D | C | A | C | D | B |
| LOS | 23.6 | 13.3 | 20.1 | 36.3 | 20.1 | 36.3 | 20.1 | 36.3 | 20.1 | 36.3 | 20.1 | 36.3 |
| Approach Delay | C | C | B | B | B | A | D | C | A | C | D | B |
| Approach LOS | Intersection Summary | | | | | | | | | | | |
| Cycle Length: 120 | Actuated Cycle Length: 120 | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | Natural Cycle: 75 | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | Maximum v/C Ratio: 0.79 | | | | | | | | | | | |
| Intersection Signal Delay: 25.2 | Intersection LOS: C | | | | | | | | | | | |
| Intersection Capacity Utilization 95.8% | ICU Level of Service F | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |



1: The Gore Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|-------|------|------|-------|------|------|-------|------|------|------|-------|------|
| Lane Group | 94 | 342 | 171 | 306 | 562 | 27 | 11 | 194 | 163 | 100 | 849 | 256 |
| Lane Group Flow (vph) | 0.32 | 0.24 | 0.28 | 0.49 | 0.28 | 0.03 | 0.22 | 0.18 | 0.33 | 0.32 | 0.79 | 0.44 |
| v/c Ratio | 31.2 | 24.9 | 16.8 | 14.7 | 13.0 | 3.6 | 40.9 | 30.8 | 6.0 | 34.5 | 44.2 | 10.7 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 31.2 | 24.9 | 16.8 | 14.7 | 13.0 | 3.6 | 40.9 | 30.8 | 6.0 | 34.5 | 44.2 | 10.7 |
| Total Delay | 15.0 | 27.5 | 14.9 | 33.2 | 33.4 | 0.0 | 2.0 | 18.5 | 0.0 | 19.0 | 100.0 | 10.9 |
| Queue Length 50th (m) | 36.4 | 47.6 | 36.6 | 57.7 | 50.7 | 3.8 | 7.4 | 25.6 | 14.6 | 32.0 | 113.7 | 30.6 |
| Queue Length 95th (m) | 339.2 | | | 183.4 | | | 604.6 | | | | 554.8 | |
| Internal Link Dist (m) | | | | | | | | | | | | |
| Turn Bay Length (m) | 295 | 1434 | 627 | 653 | 2012 | 846 | 61 | 1291 | 569 | 371 | 1291 | 654 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.32 | 0.24 | 0.27 | 0.47 | 0.28 | 0.03 | 0.18 | 0.15 | 0.29 | 0.27 | 0.66 | 0.39 |

Intersection Summary

HCM Signalized Intersection Capacity Analysis

1: The Gore Rd & King St

05-15-2023

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|------|------|-------|-------|------|------|------|------|------|------|-------|------|
| Lane Configurations | 94 | 342 | 171 | 306 | 562 | 27 | 11 | 194 | 163 | 100 | 849 | 256 |
| Traffic Volume (vph) | 94 | 342 | 171 | 306 | 562 | 27 | 11 | 194 | 163 | 100 | 849 | 256 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vph/b) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.7 |
| Lane Width | 6.6 | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Total Lost time (s) | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Lane Util. Factor | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 |
| Frbp. ped/bikes | 0.94 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.94 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Flt Protected | 1472 | 3318 | 1359 | 1626 | 3380 | 1400 | 1244 | 3650 | 1310 | 1585 | 3650 | 1483 |
| Satd. Flow (prot) | 0.44 | 1.00 | 1.00 | 0.50 | 1.00 | 1.00 | 0.13 | 1.00 | 1.00 | 0.63 | 1.00 | 1.00 |
| Flt Permitted | 684 | 3318 | 1359 | 849 | 3380 | 1400 | 173 | 3650 | 1310 | 1050 | 3650 | 1483 |
| Satd. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 94 | 342 | 171 | 306 | 562 | 27 | 11 | 194 | 163 | 100 | 849 | 256 |
| Adj. Flow (vph) | 0 | 0 | 41 | 0 | 0 | 11 | 0 | 0 | 115 | 0 | 0 | 137 |
| RTOR Reduction (vph) | 94 | 342 | 130 | 306 | 562 | 16 | 11 | 194 | 48 | 100 | 849 | 119 |
| Lane Group Flow (vph) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Conf. Peds. (#/hr) | 13% | 10% | 3% | 5% | 8% | 0% | 40% | 0% | 14% | 5% | 0% | 0% |
| Heavy Vehicles (%) | Perm | NA | Perm | pm-pt | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Turn Type | 4 | 4 | 3 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 | 6 |
| Protected Phases | 4 | 4 | 3 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 | 6 |
| Permitted Phases | 51.1 | 51.1 | 51.1 | 71.4 | 71.4 | 71.4 | 35.4 | 35.4 | 35.4 | 35.4 | 35.4 | 35.4 |
| Actuated Green, G (s) | 51.1 | 51.1 | 51.1 | 71.4 | 71.4 | 71.4 | 35.4 | 35.4 | 35.4 | 35.4 | 35.4 | 35.4 |
| Effective Green, g (s) | 0.43 | 0.43 | 0.43 | 0.60 | 0.60 | 0.60 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 |
| Actuated g/C Ratio | 6.6 | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Clearance Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Vehicle Extension (s) | 291 | 1412 | 578 | 610 | 2011 | 833 | 51 | 1076 | 386 | 309 | 1076 | 440 |
| Lane Grp Cap (vph) | 0.10 | 0.10 | c0.07 | 0.17 | 0.17 | 0.01 | 0.06 | 0.04 | 0.10 | 0.10 | c0.23 | 0.08 |
| v/s Ratio Prot | 0.32 | 0.24 | 0.23 | 0.50 | 0.28 | 0.02 | 0.22 | 0.18 | 0.12 | 0.32 | 0.79 | 0.27 |
| v/s Ratio Perm | 22.9 | 22.1 | 21.9 | 12.3 | 11.8 | 10.0 | 31.8 | 31.5 | 31.0 | 33.0 | 38.9 | 32.4 |
| Uniform Delay, d1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Progression Factor | 2.9 | 0.4 | 0.9 | 0.7 | 0.3 | 0.0 | 2.1 | 0.1 | 0.1 | 0.6 | 3.9 | 0.3 |
| Incremental Delay, d2 | 25.9 | 22.5 | 22.8 | 12.9 | 12.2 | 10.0 | 34.0 | 31.6 | 31.1 | 33.6 | 42.8 | 32.7 |
| Delay (s) | C | C | C | B | B | A | C | C | C | C | D | C |
| Level of Service | C | C | C | B | B | A | C | C | C | C | D | C |
| Approach Delay (s) | 23.1 | | | 12.4 | | | 31.4 | | | 39.9 | | |
| Approach LOS | C | | | B | | | C | | | D | | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 27.5 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.62 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 17.2 |
| Intersection Capacity Utilization | 93.8% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c. Critical Lane Group | | | |

Lanes and Geometrics
2: Humber Station Rd & King St

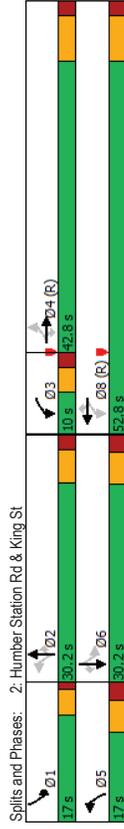
05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Lane Configurations | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Grade (%) | 50.0 | 0% | 25.0 | 50.0 | 0% | 25.0 | 50.0 | 0% | 50.0 | 50.0 | 0% | 50.0 |
| Storage Lanes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Taper Length (m) | 7.6 | | 7.6 | | 7.6 | | 7.5 | | 7.6 | | 7.6 | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | 0.97 | | 0.93 | 0.98 | | 0.93 | 0.97 | | 0.88 | 0.93 | | 0.93 |
| Frt | 0.950 | | 0.850 | | 0.850 | | 0.850 | | 0.850 | | 0.850 | |
| Flt Protected | 1765 | 3349 | 1555 | 1697 | 3476 | 1633 | 1089 | 3650 | 1002 | 1226 | 3444 | 1306 |
| Satd. Flow (prot) | 0.446 | | 0.318 | | 0.387 | | 0.387 | | 0.444 | | 0.444 | |
| Satd. Flow (perm) | 804 | 3349 | 1441 | 556 | 3476 | 1513 | 432 | 3650 | 880 | 533 | 3444 | 1211 |
| Right Turn on Red | | Yes | | Yes |
| Satd. Flow (RTOR) | | 50 | | 50 | | 113 | | 170 | | 170 | | 170 |
| Link Speed (k/h) | | | | | | | | | | | | 50 |
| Link Distance (m) | | 329.7 | | 840.4 | | 348.5 | | 347.2 | | 347.2 | | 25.0 |
| Travel Time (s) | | 23.7 | | 60.5 | | 25.1 | | 25.1 | | 25.1 | | 25.0 |
| Other | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |

Timings
2: Humber Station Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|-------|-------|--------|-------|-------|--------|-------|-------|--------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 134 | 600 | 474 | 73 | 550 | 119 | 107 | 283 | 18 | 236 | 493 | 155 |
| Traffic Volume (vph) | 134 | 600 | 474 | 73 | 550 | 119 | 107 | 283 | 18 | 236 | 493 | 155 |
| Future Volume (vph) | 134 | 600 | 474 | 73 | 550 | 119 | 107 | 283 | 18 | 236 | 493 | 155 |
| Turn Type | Perm | NA | Perm | pmt+pt | NA | Perm | pmt+pt | NA | Perm | pmt+pt | NA | Perm |
| Protected Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 |
| Permitted Phases | 4 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | 2 | 2 | 1 | 6 |
| Detector Phases | 4 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | 2 | 2 | 1 | 6 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 14.4 | 14.4 | 5.0 | 14.4 | 14.4 |
| Minimum Initial (s) | 31.4 | 31.4 | 31.4 | 10.0 | 31.4 | 31.4 | 11.2 | 30.0 | 30.0 | 11.0 | 30.2 | 30.2 |
| Minimum Split (s) | 42.8 | 42.8 | 42.8 | 10.0 | 52.8 | 52.8 | 17.0 | 30.2 | 30.2 | 17.0 | 30.2 | 30.2 |
| Total Split (s) | 42.8% | 42.8% | 42.8% | 10.0% | 52.8% | 52.8% | 17.0% | 30.2% | 30.2% | 17.0% | 30.2% | 30.2% |
| Total Split (%) | 5.4 | 5.4 | 5.4 | 3.0 | 5.4 | 5.4 | 4.0 | 4.0 | 4.0 | 3.0 | 4.0 | 4.0 |
| Yellow Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.2 | 2.0 | 2.0 | 1.0 | 2.2 | 2.2 |
| All-Red Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lost Time Adjust (s) | 7.4 | 7.4 | 7.4 | 5.0 | 7.4 | 7.4 | 6.2 | 6.0 | 6.0 | 4.0 | 6.2 | 6.2 |
| Total Lost Time (s) | Lag | Lag | Lag | Lead | Lead | Lead | Lag | Lag | Lag | Lead | Lag | Lag |
| Lead/Lag | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Lead/Lag Optimize? | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min | None | None | None | None | Min | Min |
| Recall Mode | 38.7 | 38.7 | 38.7 | 50.1 | 47.7 | 47.7 | 28.8 | 18.3 | 18.3 | 39.9 | 21.8 | 21.8 |
| Act Effct Green (s) | 0.39 | 0.39 | 0.39 | 0.50 | 0.48 | 0.48 | 0.29 | 0.18 | 0.18 | 0.40 | 0.22 | 0.22 |
| Actuated g/C Ratio | 0.43 | 0.46 | 0.63 | 0.21 | 0.33 | 0.15 | 0.55 | 0.42 | 0.06 | 0.72 | 0.66 | 0.39 |
| v/C Ratio | 30.8 | 26.0 | 12.8 | 16.1 | 17.8 | 4.2 | 31.8 | 37.4 | 0.4 | 36.3 | 39.9 | 7.0 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 30.8 | 26.0 | 12.8 | 16.1 | 17.8 | 4.2 | 31.8 | 37.4 | 0.4 | 36.3 | 39.9 | 7.0 |
| Total Delay | C | C | B | B | B | A | C | D | A | D | D | A |
| LOS | 21.4 | 15.4 | 15.4 | 34.3 | 33.1 | 33.1 | C | C | C | C | C | C |
| Approach Delay | Intersection Summary | | | | | | | | | | | |
| Approach LOS | Cycle Length: 100 | | | | | | | | | | | |
| Actuated Cycle Length: 100 | Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | Natural Cycle: 85 | | | | | | | | | | | |
| Natural Cycle: 85 | Control Type: Actuated-Coordinated | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | Maximum v/C Ratio: 0.72 | | | | | | | | | | | |
| Maximum v/C Ratio: 0.72 | Intersection Signal Delay: 24.8 | | | | | | | | | | | |
| Intersection Signal Delay: 24.8 | Intersection Capacity Utilization 79.7% | | | | | | | | | | | |
| Intersection Capacity Utilization 79.7% | Analysis Period (min) 15 | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |



Queues
2: Humber Station Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Group Flow (vph) | 134 | 600 | 474 | 73 | 550 | 119 | 107 | 283 | 18 | 236 | 493 | 155 |
| v/c Ratio | 0.43 | 0.46 | 0.63 | 0.21 | 0.33 | 0.15 | 0.55 | 0.42 | 0.06 | 0.72 | 0.66 | 0.39 |
| Control Delay | 30.8 | 26.0 | 12.8 | 16.1 | 17.8 | 4.2 | 31.8 | 37.4 | 0.4 | 36.3 | 39.9 | 7.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 30.8 | 26.0 | 12.8 | 16.1 | 17.8 | 4.2 | 31.8 | 37.4 | 0.4 | 36.3 | 39.9 | 7.0 |
| Queue Length 50th (m) | 20.9 | 50.0 | 22.5 | 7.4 | 35.1 | 0.6 | 14.4 | 28.2 | 0.0 | 34.0 | 48.7 | 0.0 |
| Queue Length 95th (m) | 39.7 | 66.3 | 59.2 | 15.6 | 49.4 | 10.3 | 26.5 | 36.6 | 0.0 | 53.7 | 63.7 | 13.2 |
| Internal Link Dist (m) | 305.7 | | | | | | | | | | | |
| Turn Bay Length (m) | 50.0 | 25.0 | | | | | | | | | | |
| Base Capacity (vph) | 321 | 1340 | 771 | 347 | 1696 | 796 | 203 | 883 | 341 | 327 | 847 | 426 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.42 | 0.45 | 0.61 | 0.21 | 0.32 | 0.15 | 0.53 | 0.32 | 0.05 | 0.72 | 0.58 | 0.36 |

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
2: Humber Station Rd & King St

05-15-2023

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|-------|------|------|-------|------|------|-------|------|------|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (vph) | 134 | 600 | 474 | 73 | 550 | 119 | 107 | 283 | 18 | 236 | 493 | 155 |
| Future Volume (vph) | 134 | 600 | 474 | 73 | 550 | 119 | 107 | 283 | 18 | 236 | 493 | 155 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Total Lost time (s) | 7.4 | 7.4 | 7.4 | 5.0 | 7.4 | 7.4 | 6.2 | 6.0 | 6.0 | 4.0 | 6.2 | 6.2 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 0.93 | 1.00 | 1.00 | 0.93 | 1.00 | 1.00 | 0.88 | 1.00 | 1.00 | 0.93 |
| Frbp. ped/bikes | 0.97 | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | 1.00 | 0.99 | 1.00 | 1.00 | 0.97 | 1.00 |
| Flt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Satd. Flow (prot) | 1714 | 3349 | 1441 | 1687 | 3476 | 1513 | 1078 | 3650 | 880 | 1194 | 3444 | 1211 |
| Flt Permitted | 0.45 | 1.00 | 1.00 | 0.32 | 1.00 | 0.32 | 1.00 | 0.39 | 1.00 | 0.44 | 1.00 | 1.00 |
| Satd. Flow (perm) | 805 | 3349 | 1441 | 564 | 3476 | 1513 | 440 | 3650 | 880 | 557 | 3444 | 1211 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 134 | 600 | 474 | 73 | 550 | 119 | 107 | 283 | 18 | 236 | 493 | 155 |
| RTOR Reduction (vph) | 0 | 0 | 202 | 0 | 0 | 59 | 0 | 0 | 0 | 15 | 0 | 0 |
| Lane Group Flow (vph) | 134 | 600 | 272 | 73 | 550 | 60 | 107 | 283 | 3 | 236 | 493 | 34 |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Heavy Vehicles (%) | 0% | 9% | 5% | 4% | 5% | 0% | 62% | 0% | 63% | 44% | 6% | 25% |
| Turn Type | Perm | NA | Perm | pm-pt | NA | Perm | pm-pt | NA | Perm | pm-pt | NA | Perm |
| Protected Phases | 4 | 4 | 4 | 3 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Permitted Phases | 4 | 8 | 8 | 8 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 |
| Actuated Green, G (s) | 37.8 | 37.8 | 37.8 | 47.7 | 47.7 | 47.7 | 29.0 | 18.3 | 18.3 | 38.4 | 21.8 | 21.8 |
| Effective Green, g (s) | 37.8 | 37.8 | 37.8 | 47.7 | 47.7 | 47.7 | 29.0 | 18.3 | 18.3 | 38.4 | 21.8 | 21.8 |
| Actuated g/C Ratio | 0.38 | 0.38 | 0.38 | 0.48 | 0.48 | 0.48 | 0.29 | 0.18 | 0.18 | 0.38 | 0.22 | 0.22 |
| Clearance Time (s) | 7.4 | 7.4 | 7.4 | 5.0 | 7.4 | 7.4 | 6.2 | 6.0 | 6.0 | 4.0 | 6.2 | 6.2 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 304 | 1265 | 544 | 324 | 1658 | 721 | 195 | 667 | 161 | 319 | 750 | 263 |
| v/s Ratio Prot | 0.17 | 0.18 | 0.19 | 0.10 | 0.10 | 0.04 | 0.06 | 0.08 | 0.00 | 0.12 | 0.14 | 0.03 |
| v/s Ratio Perm | 0.44 | 0.47 | 0.50 | 0.23 | 0.33 | 0.08 | 0.55 | 0.42 | 0.02 | 0.74 | 0.66 | 0.13 |
| Uniform Delay, d1 | 23.2 | 23.6 | 23.8 | 14.9 | 16.2 | 14.2 | 28.0 | 36.2 | 33.5 | 23.8 | 35.7 | 31.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.6 | 1.3 | 3.3 | 0.4 | 0.5 | 0.2 | 3.1 | 0.4 | 0.1 | 8.7 | 2.1 | 0.2 |
| Delay (s) | 27.8 | 24.8 | 27.1 | 15.3 | 16.8 | 14.5 | 31.2 | 36.6 | 33.6 | 32.5 | 37.8 | 31.7 |
| Level of Service | C | C | C | B | B | B | C | D | C | C | D | C |
| Approach Delay (s) | 26.1 | | | 16.3 | | | 35.1 | | | 35.3 | | |
| Approach LOS | C | | | B | | | D | | | D | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 27.5 | | | | | | | | | | | C |
| HCM 2000 Volume to Capacity ratio | 0.65 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 100.0 | | | | | | | | | | | 24.8 |
| Intersection Capacity Utilization | 79.7% | | | | | | | | | | | D |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c. Critical Lane Group | | | | | | | | | | | | |

Lanes and Geometrics
6: King St & Street JJ

05-15-2023



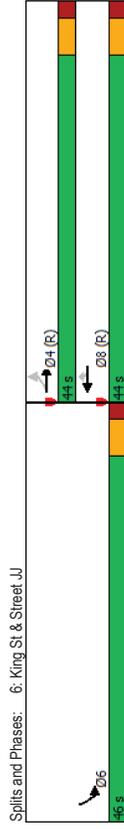
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|------|------|------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 50.0 | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 50.0 | | | 25.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 1 | | | 1 | 1 | 0 | 0 | 0 |
| Taper Length (m) | 7.6 | | | | | | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.97 | | | 0.85 | 0.94 | | | |
| Frt | 0.950 | | | 0.850 | 0.960 | | | |
| Flt Protected | | | | | 0.966 | | | |
| Satd. Flow (prot) | 1730 | 3579 | 3579 | 1601 | 1712 | 0 | | |
| Flt Permitted | 0.316 | | | | 0.966 | | | |
| Satd. Flow (perm) | 557 | 3579 | 3579 | 1361 | 1644 | 0 | | |
| Right Turn on Red | | | | Yes | Yes | Yes | | |
| Satd. Flow (RTOR) | | | | 47 | 30 | | | |
| Link Speed (k/h) | | 50 | 50 | | 50 | | | |
| Link Distance (m) | | 110.9 | 300.5 | | 262.0 | | | |
| Travel Time (s) | | 8.0 | 21.6 | | 18.9 | | | |
| Intersection Summary | | | | | | | | |
| Area Type: Other | | | | | | | | |

Timings
6: King St & Street JJ

05-15-2023



| Lane Group | EBL | EBT | WBT | WBR | SBL |
|--|-------|-------|-------|-------|-------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ |
| Traffic Volume (vph) | 33 | 598 | 788 | 68 | 293 |
| Future Volume (vph) | 33 | 598 | 788 | 68 | 293 |
| Turn Type | Perm | NA | NA | Perm | Prot |
| Protected Phases | | 4 | | 8 | 6 |
| Permitted Phases | 4 | | 8 | | 6 |
| Detector Phases | 4 | 4 | 8 | 8 | 6 |
| Switch Phase | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 23.0 | 23.0 | 23.0 | 23.0 | 30.0 |
| Total Split (s) | 44.0 | 44.0 | 44.0 | 44.0 | 46.0 |
| Total Split (%) | 48.9% | 48.9% | 48.9% | 48.9% | 51.1% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | |
| Lead-Lag Optimize? | | | | | |
| Recall Mode | | | | | |
| C-Max | 51.5 | 51.5 | 51.5 | 51.5 | 26.5 |
| Act Effct Green (s) | 0.57 | 0.57 | 0.57 | 0.57 | 0.29 |
| Actuated g/C Ratio | 0.10 | 0.29 | 0.38 | 0.09 | 0.79 |
| v/C Ratio | 12.5 | 11.5 | 12.0 | 4.1 | 37.6 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 12.5 | 11.5 | 12.0 | 4.1 | 37.6 |
| LOS | B | B | B | A | D |
| Approach Delay | | 11.5 | 11.3 | | 37.6 |
| Approach LOS | | B | B | | D |
| Intersection Summary | | | | | |
| Cycle Length: 90 | | | | | |
| Actuated Cycle Length: 90 | | | | | |
| Offset: 36 (40%), Referenced to phase 4:EBT, and 8:WBT, Start of Green | | | | | |
| Natural Cycle: 55 | | | | | |
| Control Type: Actuated-Coordinated | | | | | |
| Maximum v/C Ratio: 0.79 | | | | | |
| Intersection Signal Delay: 17.1 | | | | | |
| Intersection Capacity Utilization 62.3% | | | | | |
| ICU Level of Service B | | | | | |
| Analysis Period (min) 15 | | | | | |





| | EBL | EBT | WBT | WBR | SBL |
|---|------|-------|------|------|-------|
| Lane Group | 33 | 598 | 788 | 68 | 415 |
| Lane Group Flow (vph) | 0.10 | 0.29 | 0.38 | 0.09 | 0.79 |
| v/c Ratio | 12.5 | 11.5 | 12.0 | 4.1 | 37.6 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 12.5 | 11.5 | 12.0 | 4.1 | 37.6 |
| Total Delay | 2.5 | 27.1 | 53.4 | 4.8 | 63.4 |
| Queue Length 50th (m) | 9.0 | 46.6 | 82.7 | m9.3 | 84.6 |
| Queue Length 95th (m) | 86.9 | 276.5 | | | 238.0 |
| Internal Link Dist (m) | 50.0 | | | 25.0 | |
| Turn Bay Length (m) | 318 | 2047 | 2047 | 798 | 777 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.10 | 0.29 | 0.38 | 0.09 | 0.53 |
| Intersection Summary | | | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | | | |



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|-------|------|------|---------------------------|------|------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Traffic Volume (vph) | 33 | 598 | 788 | 68 | 293 | 122 |
| Future Volume (vph) | 33 | 598 | 788 | 68 | 293 | 122 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 0.85 | 0.98 | 0.98 |
| Frbp. ped/bikes | 0.96 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt | 1.00 | 1.00 | 1.00 | 0.85 | 0.96 | 0.96 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 |
| Satd. Flow (prot) | 1666 | 3579 | 3579 | 1361 | 1713 | 1713 |
| Flt Permitted | 0.32 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 |
| Satd. Flow (perm) | 553 | 3579 | 3579 | 1361 | 1713 | 1713 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 33 | 598 | 788 | 68 | 293 | 122 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 20 | 21 | 0 |
| Lane Group Flow (vph) | 33 | 598 | 788 | 48 | 394 | 0 |
| Confl. Peds. (#/hr) | 50 | | | 50 | 50 | 50 |
| Turn Type | Perm | NA | NA | Perm | Prot | Prot |
| Protected Phases | 4 | | 8 | | 6 | |
| Permitted Phases | 4 | | 8 | | 6 | |
| Actuated Green, G (s) | 51.5 | 51.5 | 51.5 | 51.5 | 26.5 | 26.5 |
| Effective Green, g (s) | 51.5 | 51.5 | 51.5 | 51.5 | 26.5 | 26.5 |
| Actuated g/C Ratio | 0.57 | 0.57 | 0.57 | 0.57 | 0.29 | 0.29 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 316 | 2047 | 2047 | 778 | 504 | 504 |
| v/s Ratio Prot | 0.17 | | 0.22 | | 0.23 | |
| v/s Ratio Perm | 0.06 | | 0.04 | | 0.06 | |
| v/c Ratio | 0.10 | 0.29 | 0.38 | 0.06 | 0.78 | |
| Uniform Delay, d1 | 8.8 | 9.9 | 10.6 | 8.5 | 29.1 | |
| Progression Factor | 1.00 | 1.00 | 0.97 | 0.73 | 1.00 | |
| Incremental Delay, d2 | 0.7 | 0.4 | 0.5 | 0.1 | 7.7 | |
| Delay (s) | 9.4 | 10.3 | 10.7 | 6.4 | 36.8 | |
| Level of Service | A | B | B | A | D | |
| Approach Delay (s) | 10.2 | 10.4 | | 36.8 | | |
| Approach LOS | B | B | | D | | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | 16.1 | | | HCM 2000 Level of Service | | |
| HCM 2000 Volume to Capacity ratio | 0.52 | | | B | | |
| Actuated Cycle Length (s) | 90.0 | | | Sum of lost time (s) | | |
| Intersection Capacity Utilization | 62.3% | | | ICU Level of Service | | |
| Analysis Period (min) | 15 | | | B | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics
7: King St & Street I

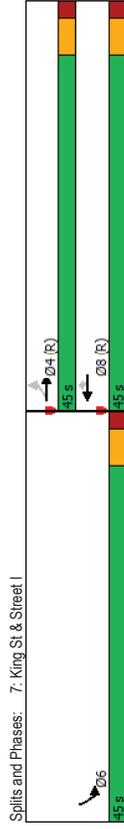
05-15-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 50.0 | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 50.0 | | | 25.0 | 0.0 | 0.0 |
| Storage Lanes | 1 | | | 1 | 1 | 0 |
| Taper Length (m) | 7.6 | | | 0.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.96 | | | 0.85 | 0.94 | |
| Friction | 0.950 | | | 0.850 | 0.960 | |
| Satd. Flow (prot) | 1730 | 3579 | 3579 | 1601 | 1712 | 0 |
| Friction Permitted | 0.340 | | | | 0.966 | |
| Satd. Flow (perm) | 597 | 3579 | 3579 | 1361 | 1644 | 0 |
| Right Turn on Red | | | | Yes | Yes | Yes |
| Satd. Flow (RTOR) | | | | 52 | 29 | |
| Link Speed (k/h) | | 50 | 50 | | 50 | |
| Link Distance (m) | | 300.5 | 329.7 | | 125.2 | |
| Travel Time (s) | | 21.6 | 23.7 | | 9.0 | |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings
7: King St & Street I

05-15-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|--|-------|-------|-------|-------|-------|-------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Traffic Volume (vph) | 33 | 859 | 734 | 68 | 293 | 293 |
| Future Volume (vph) | 33 | 859 | 734 | 68 | 293 | 293 |
| Turn Type | Perm | NA | NA | Perm | Prot | Prot |
| Protected Phases | | 4 | | 8 | | 6 |
| Permitted Phases | 4 | | | 8 | | 6 |
| Detector Phase | 4 | 4 | 8 | 8 | 6 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 23.0 | 23.0 | 23.0 | 23.0 | 30.0 | 30.0 |
| Total Split (s) | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 |
| Total Split (%) | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | | | | | |
| C-Max | 51.6 | 51.6 | 51.6 | 51.6 | 26.4 | 26.4 |
| Act Effct Green (s) | 0.57 | 0.57 | 0.57 | 0.57 | 0.29 | 0.29 |
| Actuated g/C Ratio | 0.10 | 0.42 | 0.36 | 0.08 | 0.79 | 0.79 |
| v/C Ratio | 16.3 | 16.9 | 12.1 | 5.1 | 38.0 | 38.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay | 16.3 | 16.9 | 12.1 | 5.1 | 38.0 | 38.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay | 16.3 | 16.9 | 12.1 | 5.1 | 38.0 | 38.0 |
| LOS | B | B | B | A | D | D |
| Approach Delay | | 16.9 | 11.5 | | 38.0 | |
| Approach LOS | | B | B | | D | |
| Intersection Summary | | | | | | |
| Cycle Length: 90 | | | | | | |
| Actuated Cycle Length: 90 | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT. Start of Green | | | | | | |
| Natural Cycle: 55 | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | |
| Maximum v/C Ratio: 0.79 | | | | | | |
| Intersection Signal Delay: 19.0 | | | | | | |
| Intersection Capacity Utilization 62.3% | | | | | | |
| Analysis Period (min) 15 | | | | | | |





| | EBL | EBT | WBT | WBR | SBL | SBR |
|---|------|-------|-------|------|-------|-----|
| Lane Group | 33 | 859 | 734 | 68 | 415 | |
| Lane Group Flow (vph) | 0.10 | 0.42 | 0.36 | 0.08 | 0.79 | |
| v/c Ratio | 16.3 | 16.9 | 12.1 | 5.1 | 38.0 | |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Queue Delay | 16.3 | 16.9 | 12.1 | 5.1 | 38.0 | |
| Total Delay | 3.4 | 53.7 | 34.7 | 1.2 | 63.7 | |
| Queue Length 50th (m) | m9.7 | 77.3 | 58.3 | 8.4 | 85.1 | |
| Queue Length 95th (m) | | 276.5 | 305.7 | | 101.2 | |
| Internal Link Dist (m) | 50.0 | | | 25.0 | | |
| Turn Bay Length (m) | 341 | 2050 | 2050 | 801 | 758 | |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.10 | 0.42 | 0.36 | 0.08 | 0.55 | |
| Intersection Summary | | | | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | | | | |



| | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|-------|------|---------------------------|------|-------|------|
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | 33 | 859 | 734 | 68 | 293 | 122 |
| Traffic Volume (vph) | 33 | 859 | 734 | 68 | 293 | 122 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost time (s) | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.85 | 0.98 | 0.98 |
| Frbp. ped/bikes | 0.96 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 0.85 | 0.96 | 0.96 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 |
| Satd. Flow (prot) | 1659 | 3579 | 3579 | 1361 | 1713 | 1713 |
| Flt Permitted | 0.34 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 |
| Satd. Flow (perm) | 584 | 3579 | 3579 | 1361 | 1713 | 1713 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 33 | 859 | 734 | 68 | 293 | 122 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 22 | 20 | 0 |
| Lane Group Flow (vph) | 33 | 859 | 734 | 46 | 395 | 0 |
| Confl. Peds. (#/hr) | 50 | | | 50 | 50 | 50 |
| Turn Type | Perm | NA | NA | Perm | Prot | Prot |
| Protected Phases | 4 | | 8 | | 6 | |
| Permitted Phases | 4 | | 8 | | 6 | |
| Actuated Green, G (s) | 51.6 | 51.6 | 51.6 | 51.6 | 26.4 | 26.4 |
| Effective Green, g (s) | 51.6 | 51.6 | 51.6 | 51.6 | 26.4 | 26.4 |
| Actuated g/C Ratio | 0.57 | 0.57 | 0.57 | 0.57 | 0.29 | 0.29 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 340 | 2051 | 2051 | 780 | 502 | 502 |
| v/s Ratio Prot | c0.24 | | 0.21 | | c0.23 | |
| v/s Ratio Perm | 0.06 | | 0.03 | | 0.03 | |
| v/c Ratio | 0.10 | 0.42 | 0.36 | 0.06 | 0.79 | |
| Uniform Delay, d1 | 8.7 | 10.8 | 10.3 | 8.5 | 29.2 | |
| Progression Factor | 1.35 | 1.35 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.5 | 0.6 | 0.5 | 0.1 | 7.9 | |
| Delay (s) | 12.3 | 15.1 | 10.8 | 8.6 | 37.1 | |
| Level of Service | B | B | B | A | D | |
| Approach Delay (s) | 15.0 | 10.6 | | 37.1 | | |
| Approach LOS | B | B | | D | | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | 17.7 | | HCM 2000 Level of Service | | B | |
| HCM 2000 Volume to Capacity ratio | 0.54 | | | | | |
| Actuated Cycle Length (s) | 90.0 | | | | | |
| Sum of lost time (s) | 12.0 | | | | | |
| Intersection Capacity Utilization | 62.3% | | ICU Level of Service | | B | |
| Analysis Period (min) | 15 | | | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics
8: The Gore Rd & Street Y

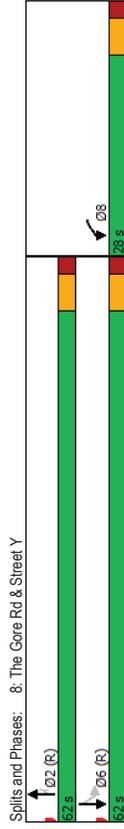
05-15-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width (m) | 0% | 0% | 0% | 0% | 0% | 0% |
| Grade (%) | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 1 | 0 | 1 | 1 | 1 | 1 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 |
| Pad Bike Factor | 0.93 | 1.00 | 0.85 | 0.85 | 0.92 | 0.92 |
| Frt | 0.987 | 0.988 | 0.850 | 0.850 | 0.950 | 0.950 |
| Flt Protected | 1769 | 0 | 1781 | 1521 | 1730 | 1883 |
| Satd. Flow (prot) | 0.957 | | | | 0.562 | |
| Satd. Flow (perm) | 1661 | 0 | 1781 | 1293 | 938 | 1883 |
| Right Turn on Red | Yes | Yes | Yes | Yes | Yes | Yes |
| Satd. Flow (RTOR) | 6 | 2 | 48 | | | 48 |
| Link Speed (k/h) | 50 | | | | | 211.4 |
| Link Distance (m) | 134.7 | 576.8 | | | | 15.9 |
| Travel Time (s) | 9.7 | 41.7 | | | | |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings
8: The Gore Rd & Street Y

05-15-2023

| | WBL | NBT | NBR | SBL | SBT |
|--|-------|-------|-------|-------|-------|
| Lane Group | W | | | | |
| Lane Configurations | 258 | 298 | 53 | 17 | 1050 |
| Traffic Volume (vph) | 258 | 298 | 53 | 17 | 1050 |
| Future Volume (vph) | Prot | NA | Perm | Perm | NA |
| Turn Type | 8 | 2 | | 6 | 6 |
| Protected Phases | 8 | 2 | 2 | 6 | 6 |
| Permitted Phases | 8 | 2 | 2 | 6 | 6 |
| Detector Phases | | | | | |
| Switch Phase | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 28.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 28.0 | 62.0 | 62.0 | 62.0 | 62.0 |
| Total Split (%) | 31.1% | 68.9% | 68.9% | 68.9% | 68.9% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | |
| Lead-Lag Optimize? | | | | | |
| Recall Mode | None | C-Min | C-Min | C-Min | C-Min |
| Act Effect Green (s) | 18.5 | 59.5 | 59.5 | 59.5 | 59.5 |
| Actuated g/C Ratio | 0.21 | 0.66 | 0.66 | 0.66 | 0.66 |
| v/C Ratio | 0.78 | 0.26 | 0.06 | 0.03 | 0.84 |
| Control Delay | 47.7 | 7.5 | 2.2 | 6.8 | 16.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 47.7 | 7.5 | 2.2 | 6.8 | 16.7 |
| LOS | D | A | A | A | B |
| Approach Delay | 47.7 | 6.7 | | | 16.5 |
| Approach LOS | D | A | | | B |
| Intersection Summary | | | | | |
| Cycle Length: 90 | | | | | |
| Actuated Cycle Length: 90 | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | | |
| Natural Cycle: 80 | | | | | |
| Control Type: Actuated-Coordinated | | | | | |
| Maximum v/C Ratio: 0.84 | | | | | |
| Intersection Signal Delay: 19.7 | | | | | |
| Intersection Capacity Utilization 83.2% | | | | | |
| ICU Level of Service E | | | | | |
| Analysis Period (min) 15 | | | | | |



8: The Gore Rd & Street Y

05-15-2023

| | WBL | NBT | NBR | SBL | SBT |
|------------------------|-------|-------|------|------|--------|
| Lane Group | 285 | 303 | 48 | 17 | 1050 |
| Lane Group Flow (vph) | 0.78 | 0.26 | 0.06 | 0.03 | 0.84 |
| v/c Ratio | 47.7 | 7.5 | 2.2 | 6.8 | 16.7 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 47.7 | 7.5 | 2.2 | 6.8 | 16.7 |
| Total Delay | 47.2 | 21.2 | 0.0 | 0.8 | 71.9 |
| Queue Length 50th (m) | 72.7 | 37.1 | 4.1 | m2.0 | #247.2 |
| Queue Length 95th (m) | 110.7 | 554.8 | | | 187.4 |
| Internal Link Dist (m) | | | 25.0 | | |
| Turn Bay Length (m) | 434 | 1177 | 870 | 619 | 1244 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.26 | 0.06 | 0.03 | 0.84 |

Intersection Summary
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is met/relayed by upstream signal.

HCM Signalized Intersection Capacity Analysis
 8: The Gore Rd & Street Y

05-15-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|------|-------|------|------|---------------------------|------|
| Movement | W | | | | | |
| Lane Configurations | W | | | | | |
| Traffic Volume (vph) | 258 | 27 | 298 | 53 | 17 | 1050 |
| Future Volume (vph) | 258 | 27 | 298 | 53 | 17 | 1050 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 0.99 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 |
| Flt Protected | 0.96 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1759 | 1780 | 1293 | 1582 | 1883 | 1883 |
| Flt Permitted | 0.96 | 1.00 | 1.00 | 0.56 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1759 | 1780 | 1293 | 936 | 1883 | 1883 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 258 | 27 | 298 | 53 | 17 | 1050 |
| RTOR Reduction (vph) | 5 | 0 | 1 | 16 | 0 | 0 |
| Lane Group Flow (vph) | 280 | 0 | 302 | 32 | 17 | 1050 |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 |
| Turn Type | Prot | NA | Perm | Perm | NA | NA |
| Protected Phases | 8 | 2 | | | 6 | |
| Permitted Phases | | | 2 | 6 | | |
| Actuated Green, G (s) | 18.5 | 59.5 | 59.5 | 59.5 | 59.5 | 59.5 |
| Effective Green, g (s) | 18.5 | 59.5 | 59.5 | 59.5 | 59.5 | 59.5 |
| Actuated g/C Ratio | 0.21 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 361 | 1176 | 854 | 618 | 1244 | |
| v/s Ratio Prot | 0.16 | 0.17 | | | 0.56 | |
| v/s Ratio Perm | | | 0.02 | 0.02 | | |
| v/c Ratio | 0.78 | 0.26 | 0.04 | 0.03 | 0.84 | |
| Uniform Delay, d1 | 33.8 | 6.2 | 5.3 | 5.3 | 11.7 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.04 | 0.77 | |
| Incremental Delay, d2 | 10.0 | 0.5 | 0.1 | 0.1 | 5.5 | |
| Delay (s) | 43.8 | 6.8 | 5.4 | 5.5 | 14.5 | |
| Level of Service | D | A | A | A | B | |
| Approach Delay (s) | 43.8 | 6.6 | | | 14.3 | |
| Approach LOS | D | A | | | B | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | 17.7 | | | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | | 0.83 | | | | |
| Actuated Cycle Length (s) | | 90.0 | | | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | | 83.2% | | | ICU Level of Service | E |
| Analysis Period (min) | | 15 | | | | |
| c Critical Lane Group | | | | | | |

9: The Gore Rd & Street DDD

05-15-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------|-------|------|-------|------|-------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width (m) | 0% | 0% | 0% | 0% | 50.0 | 0% |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 7.6 | 0.0 |
| Storage Length (m) | 1 | 0 | 0 | 0 | 1 | 1 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.865 | | 0.982 | | | |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 1629 | 0 | 1850 | 0 | 1821 | 1883 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 1629 | 0 | 1850 | 0 | 1821 | 1883 |
| Link Speed (k/h) | 50 | | 50 | | 50 | 50 |
| Link Distance (m) | 209.0 | | 211.4 | | 265.4 | 265.4 |
| Travel Time (s) | 15.0 | | 15.2 | | 19.1 | 19.1 |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |

9: The Gore Rd & Street DDD

05-15-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|------|-------|------|----------------------|------|------|
| Movement | W | | | | | |
| Lane Configurations | 0 | 20 | 283 | 43 | 0 | 1067 |
| Traffic Volume (veh/h) | 0 | 20 | 283 | 43 | 0 | 1067 |
| Future Volume (Veh/h) | 0 | 20 | 283 | 43 | 0 | 1067 |
| Sign Control | Stop | Free | Free | Free | Free | Free |
| Grade | 0% | 0% | 0% | 0% | 0% | 0% |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 20 | 283 | 43 | 0 | 1067 |
| Pedestrians | 50 | | 50 | | 50 | |
| Lane Width (m) | 3.7 | | 3.7 | | 3.5 | |
| Walking Speed (m/s) | 1.2 | | 1.2 | | 1.2 | |
| Percent Blockage | 4 | | 4 | | 4 | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage (veh) | | | | | | |
| Upstream signal (m) | | | 212 | | | 265 |
| pk_platoon unblocked | 0.70 | 0.96 | | | 0.96 | |
| vC_conflicting volume | 1472 | 404 | | | 376 | |
| vC1_stage 1 conf vol | | | | | | |
| vC2_stage 2 conf vol | | | | | | |
| vCu_unblocked vol | 1326 | 357 | | | 327 | |
| IC_single (s) | 6.4 | 6.2 | | | 4.1 | |
| IC_2 stage (s) | | | | | | |
| p0_queue free % | 3.5 | 3.3 | | | 2.2 | |
| IF (s) | 100 | 97 | | | 100 | |
| qM_capacity (veh/h) | 110 | 605 | | | 1131 | |
| Direction_Lane # | WB 1 | NB 1 | SB 1 | SB 2 | | |
| Volume Total | 20 | 326 | 0 | 1067 | | |
| Volume Left | 0 | 0 | 0 | 0 | | |
| Volume Right | 20 | 43 | 0 | 0 | | |
| cSH | 605 | 1700 | 1700 | 1700 | | |
| Volume to Capacity | 0.03 | 0.19 | 0.00 | 0.63 | | |
| Queue Length 95th (m) | 0.8 | 0.0 | 0.0 | 0.0 | | |
| Control Delay (s) | 11.2 | 0.0 | 0.0 | 0.0 | | |
| Lane LOS | B | | | | | |
| Approach Delay (s) | 11.2 | 0.0 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.2 | | | |
| Intersection Capacity Utilization | | 74.6% | | ICU Level of Service | | D |
| Analysis Period (min) | | | 15 | | | |

Lanes and Geometrics

10: The Gore Rd & Street A

05-15-2023

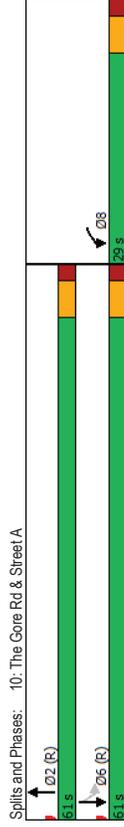
| | WBL | WBR | NBT | NBR | SBL | SBT |
|----------------------|-------|-------|-------|-------|------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 262 | 250 | 43 | 805 | | |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 | |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 50.0 | | |
| Storage Lanes | 1 | 0 | 0 | 1 | | |
| Taper Length (m) | 0.0 | | | 7.6 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.90 | 0.97 | 0.97 | 0.92 | | |
| Frt | 0.986 | 0.977 | | | | |
| Flt Protected | | | 0.950 | | | |
| Satd. Flow (prot) | 1765 | 0 | 1793 | 0 | 1730 | 1883 |
| Flt Permitted | 0.957 | | | 0.573 | | |
| Satd. Flow (perm) | 1594 | 0 | 1793 | 0 | 956 | 1883 |
| Right Turn on Red | | Yes | Yes | Yes | | |
| Satd. Flow (RTOR) | 6 | 21 | | | | |
| Link Speed (k/h) | 50 | 50 | | | | 50 |
| Link Distance (m) | 319.0 | 265.4 | | | | 374.2 |
| Travel Time (s) | 23.0 | 19.1 | | | | 26.9 |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings

10: The Gore Rd & Street A

05-15-2023

| | WBL | NBT | SBL | SBT |
|--|-------|-------|-------|-------|
| Lane Group | W | | | |
| Lane Configurations | 262 | 250 | 43 | 805 |
| Traffic Volume (vph) | 262 | 250 | 43 | 805 |
| Future Volume (vph) | 262 | 250 | 43 | 805 |
| Turn Type | NA | Perm | NA | |
| Protected Phases | 8 | 2 | 6 | |
| Permitted Phases | 8 | 2 | 6 | 6 |
| Detector Phases | 8 | 2 | 6 | 6 |
| Switch Phase | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 28.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 29.0 | 61.0 | 61.0 | 61.0 |
| Total Split (%) | 32.2% | 67.8% | 67.8% | 67.8% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | | | | |
| Recall Mode | None | C-Min | C-Min | C-Min |
| Act Effct Green (s) | 19.1 | 58.9 | 58.9 | 58.9 |
| Actuated g/C Ratio | 0.21 | 0.65 | 0.65 | 0.65 |
| v/C Ratio | 0.78 | 0.26 | 0.07 | 0.65 |
| Control Delay | 47.0 | 8.6 | 7.1 | 13.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 47.0 | 8.6 | 7.1 | 13.4 |
| LOS | D | A | A | B |
| Approach Delay | 47.0 | 8.6 | 13.1 | |
| Approach LOS | D | A | B | |
| Intersection Summary | | | | |
| Cycle Length: 90 | | | | |
| Actuated Cycle Length: 90 | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | |
| Natural Cycle: 65 | | | | |
| Control Type: Actuated-Coordinated | | | | |
| Maximum v/C Ratio: 0.78 | | | | |
| Intersection Signal Delay: 19.1 | | | | |
| Intersection Capacity Utilization 70.4% | | | | |
| Analysis Period (min) 15 | | | | |



10: The Gore Rd & Street A

05-15-2023

| | WBL | NBT | SBL | SBT |
|------------------------|-------|-------|------|-------|
| Lane Group | 293 | 302 | 43 | 805 |
| Lane Group Flow (vph) | 0.78 | 0.26 | 0.07 | 0.65 |
| v/c Ratio | 47.0 | 8.6 | 7.1 | 13.4 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 47.0 | 8.6 | 7.1 | 13.4 |
| Total Delay | 48.4 | 32.4 | 2.6 | 79.9 |
| Queue Length 50th (m) | 73.7 | 29.6 | 7.1 | 133.1 |
| Queue Length 95th (m) | 295.0 | 241.4 | | 350.2 |
| Internal Link Dist (m) | | | 50.0 | |
| Turn Bay Length (m) | | | | |
| Base Capacity (vph) | 452 | 1180 | 625 | 1232 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.65 | 0.26 | 0.07 | 0.65 |

Intersection Summary

HCM Signalized Intersection Capacity Analysis

10: The Gore Rd & Street A

05-15-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|------------------------|------|------|------|------|------|------|
| Movement | W | | | | | |
| Lane Configurations | 262 | 31 | 250 | 52 | 43 | 805 |
| Traffic Volume (vph) | 262 | 31 | 250 | 52 | 43 | 805 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost time (s) | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.99 | 1.00 | 0.98 | 1.00 | 0.95 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 0.95 | 1.00 |
| Flt Protected | 1754 | 1754 | 1792 | 1581 | 1883 | 1883 |
| Satd. Flow (prot) | 0.96 | 1.00 | 1.00 | 0.57 | 1.00 | 1.00 |
| Flt Permitted | 1754 | 1754 | 1792 | 954 | 1883 | 1883 |
| Satd. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 262 | 31 | 250 | 52 | 43 | 805 |
| Adj. Flow (vph) | 5 | 0 | 7 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 288 | 0 | 295 | 0 | 43 | 805 |
| Lane Group Flow (vph) | 50 | 50 | 50 | 50 | 50 | 50 |
| Confl. Peds. (#/hr) | | | | | | |
| Turn Type | Prot | NA | NA | Perm | NA | NA |
| Protected Phases | 8 | | 2 | | | 6 |
| Permitted Phases | | | | | 6 | |
| Actuated Green, G (s) | 19.1 | | 58.9 | | 58.9 | 58.9 |
| Effective Green, g (s) | 19.1 | | 58.9 | | 58.9 | 58.9 |
| Actuated g/C Ratio | 0.21 | | 0.65 | | 0.65 | 0.65 |
| Clearance Time (s) | 6.0 | | 6.0 | | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 372 | | 1172 | | 624 | 1232 |
| v/s Ratio Prot | 0.16 | | 0.16 | | 0.05 | 0.43 |
| v/s Ratio Perm | 0.77 | | 0.25 | | 0.07 | 0.65 |
| v/c Ratio | 33.4 | | 6.4 | | 5.6 | 9.4 |
| Uniform Delay, d1 | 1.00 | | 1.21 | | 1.00 | 1.00 |
| Progression Factor | 9.7 | | 0.5 | | 0.2 | 2.7 |
| Incremental Delay, d2 | 43.1 | | 8.3 | | 5.8 | 12.1 |
| Delay (s) | D | | A | | A | B |
| Level of Service | 43.1 | | 8.3 | | 11.8 | 11.8 |
| Approach Delay (s) | D | | A | | B | B |
| Approach LOS | | | | | | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 17.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 70.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

Lanes and Geometrics
12: Street VV & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|------|-------|------|------|------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.999 | | | 0.987 | | | | | | | | 0.972 |
| Frt | | | | | | | | 0.950 | | | | 0.962 |
| Flt Protected | 0 | 1882 | 0 | 0 | 1859 | 0 | 0 | 1789 | 0 | 0 | 1761 | 0 |
| Satd. Flow (prot) | | | | | | | | 0.960 | | | | 0.962 |
| Flt Permitted | 0 | 1882 | 0 | 0 | 1859 | 0 | 0 | 1789 | 0 | 0 | 1761 | 0 |
| Satd. Flow (perm) | | | | | | | | 50 | | | | 50 |
| Link Speed (k/h) | 319.0 | | | 314.6 | | | | 187.1 | | | | 204.6 |
| Link Distance (m) | 23.0 | | | 22.7 | | | | 13.5 | | | | 14.7 |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
12: Street VV & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 0 | 120 | 1 | 0 | 270 | 29 | 8 | 0 | 0 | 19 | 0 | 5 |
| Traffic Volume (vph) | 0 | 120 | 1 | 0 | 270 | 29 | 8 | 0 | 0 | 19 | 0 | 5 |
| Future Volume (vph) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak Hour Factor | 0 | 120 | 1 | 0 | 270 | 29 | 8 | 0 | 0 | 19 | 0 | 5 |
| Hourly flow rate (vph) | 0 | 120 | 1 | 0 | 270 | 29 | 8 | 0 | 0 | 19 | 0 | 5 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 121 | 299 | 8 | 24 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 8 | 19 | | | | | | | | |
| Volume Right (vph) | 1 | 29 | 0 | 5 | | | | | | | | |
| Head (s) | 0.03 | -0.02 | 0.23 | 0.07 | | | | | | | | |
| Departure Headway (s) | 4.3 | 4.1 | 5.1 | 4.9 | | | | | | | | |
| Degree Utilization, x | 0.14 | 0.34 | 0.01 | 0.03 | | | | | | | | |
| Capacity (veh/h) | 818 | 871 | 648 | 670 | | | | | | | | |
| Control Delay (s) | 8.0 | 9.2 | 8.1 | 8.0 | | | | | | | | |
| Approach Delay (s) | 8.0 | 9.2 | 8.1 | 8.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 8.8 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 34.5% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
14: Street JJ & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.977 | | | | | | 0.985 | | | | | 0.963 |
| Flt Protected | | | | 0.996 | | | 0.964 | | | | | |
| Satd. Flow (prot) | 0 | 1840 | 0 | 0 | 1876 | 0 | 0 | 1788 | 0 | 0 | 1814 | 0 |
| Flt Permitted | | | | 0.986 | | | 0.964 | | | | | |
| Satd. Flow (perm) | 0 | 1840 | 0 | 0 | 1876 | 0 | 0 | 1788 | 0 | 0 | 1814 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 314.6 | 314.6 | 314.6 | 275.2 | 275.2 | 275.2 | 590.8 | 590.8 | 204.6 | 204.6 | 204.6 | 204.6 |
| Travel Time (s) | 22.7 | 22.7 | 22.7 | 19.8 | 19.8 | 19.8 | 42.5 | 42.5 | 14.7 | 14.7 | 14.7 | 14.7 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
14: Street JJ & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|-------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1 | 125 | 26 | 19 | 242 | 0 | 27 | 5 | 4 | 0 | 24 | 9 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 1 | 125 | 26 | 19 | 242 | 0 | 27 | 5 | 4 | 0 | 24 | 9 |
| Future Volume (vph) | 1 | 125 | 26 | 19 | 242 | 0 | 27 | 5 | 4 | 0 | 24 | 9 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 1 | 125 | 26 | 19 | 242 | 0 | 27 | 5 | 4 | 0 | 24 | 9 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 152 | 261 | 36 | 33 | | | | | | | | |
| Volume Left (vph) | 1 | 19 | 27 | 0 | | | | | | | | |
| Volume Right (vph) | 26 | 0 | 4 | 9 | | | | | | | | |
| Head (s) | -0.07 | 0.05 | 0.12 | -0.13 | | | | | | | | |
| Departure Headway (s) | 4.3 | 4.3 | 5.0 | 4.7 | | | | | | | | |
| Degree Utilization, x | 0.18 | 0.31 | 0.05 | 0.04 | | | | | | | | |
| Capacity (veh/h) | 816 | 815 | 662 | 688 | | | | | | | | |
| Control Delay (s) | 8.2 | 9.2 | 8.2 | 8.0 | | | | | | | | |
| Approach Delay (s) | 8.2 | 9.2 | 8.2 | 8.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 8.7 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 45.2% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
15: Street 1 & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|-------|------|-------|-------|-------|------|-------|------|------|-------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 7.5 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.993 | | | | | | 0.975 | | | 0.958 | | |
| Flt Protected | | | | 0.994 | | | 0.966 | | | | | |
| Satd. Flow (prot) | 0 | 1870 | 0 | 0 | 1872 | 0 | 0 | 1774 | 0 | 0 | 1804 | 0 |
| Flt Permitted | | | | 0.994 | | | 0.966 | | | | | |
| Satd. Flow (perm) | 0 | 1870 | 0 | 0 | 1872 | 0 | 0 | 1774 | 0 | 0 | 1804 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 275.2 | 19.8 | 405.9 | 29.2 | 598.1 | 43.1 | 178.2 | | | | | |
| Travel Time (s) | | | | | | | 12.8 | | | | | |

Intersection Summary
Area Type: Other

15: Street 1 & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|------|------|------|-------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1 | 116 | 6 | 29 | 210 | 0 | 27 | 4 | 7 | 0 | 20 | 9 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 1 | 116 | 6 | 29 | 210 | 0 | 27 | 4 | 7 | 0 | 20 | 9 |
| Future Volume (vph) | 1 | 116 | 6 | 29 | 210 | 0 | 27 | 4 | 7 | 0 | 20 | 9 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 1 | 116 | 6 | 29 | 210 | 0 | 27 | 4 | 7 | 0 | 20 | 9 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 123 | 239 | 38 | 29 | | | | | | | | |
| Volume Left (vph) | 1 | 29 | 27 | 0 | | | | | | | | |
| Volume Right (vph) | 6 | 0 | 7 | 9 | | | | | | | | |
| Head (s) | 0.01 | 0.06 | 0.07 | -0.15 | | | | | | | | |
| Departure Headway (s) | 4.3 | 4.3 | 4.8 | 4.6 | | | | | | | | |
| Degree Utilization, x | 0.15 | 0.28 | 0.05 | 0.04 | | | | | | | | |
| Capacity (veh/h) | 809 | 630 | 690 | 713 | | | | | | | | |
| Control Delay (s) | 8.1 | 8.9 | 8.1 | 7.8 | | | | | | | | |
| Approach Delay (s) | 8.1 | 8.9 | 8.1 | 7.8 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |

Intersection Summary

| | |
|-----------------------------------|-------|
| Delay | 8.5 |
| Level of Service | A |
| Intersection Capacity Utilization | 41.2% |
| ICU Level of Service | A |
| Analysis Period (min) | 15 |

Lanes and Geometrics

18: Humber Station Rd & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|-------|------|------|-------|------|------|------|-------|------|------|------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 7.5 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.923 | | | 0.989 | | | | 0.983 | | | | 0.994 |
| Frt Protected | 0.999 | | | 0.980 | | | | 0.973 | | | | 0.995 |
| Satd. Flow (prot) | 0 | 1737 | 0 | 0 | 1825 | 0 | 0 | 1801 | 0 | 0 | 1863 | 0 |
| Frt Permitted | 0.999 | | | 0.980 | | | | 0.973 | | | | 0.995 |
| Satd. Flow (perm) | 0 | 1737 | 0 | 0 | 1825 | 0 | 0 | 1801 | 0 | 0 | 1863 | 0 |
| Link Speed (k/h) | 50 | | | 50 | | | | 50 | | | | 50 |
| Link Distance (m) | 405.9 | | | 132.6 | | | | 361.3 | | | | 173.8 |
| Travel Time (s) | 29.2 | | | 9.5 | | | | 26.0 | | | | 12.5 |

Intersection Summary

Area Type: Other

18: Humber Station Rd & Street A

18: Humber Station Rd & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 3 | 75 | 102 | 60 | 75 | 12 | 100 | 57 | 22 | 19 | 166 | 9 |
| Future Volume (vph) | 3 | 75 | 102 | 60 | 75 | 12 | 100 | 57 | 22 | 19 | 166 | 9 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 3 | 75 | 102 | 60 | 75 | 12 | 100 | 57 | 22 | 19 | 166 | 9 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 180 | 147 | 179 | 194 | | | | | | | | |
| Volume Left (vph) | 3 | 60 | 100 | 19 | | | | | | | | |
| Volume Right (vph) | 102 | 12 | 22 | 9 | | | | | | | | |
| Head (s) | -0.30 | 0.07 | 0.07 | 0.03 | | | | | | | | |
| Departure Headway (s) | 4.8 | 5.2 | 5.1 | 5.0 | | | | | | | | |
| Degree Utilization, x | 0.24 | 0.21 | 0.25 | 0.27 | | | | | | | | |
| Capacity (veh/h) | 687 | 634 | 666 | 663 | | | | | | | | |
| Control Delay (s) | 9.3 | 9.6 | 9.8 | 9.9 | | | | | | | | |
| Approach Delay (s) | 9.3 | 9.6 | 9.8 | 9.9 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |

Intersection Summary

Delay: 9.6

Level of Service: A

Intersection Capacity Utilization: 58.8%

ICU Level of Service: B

Analysis Period (min): 15

Lanes and Geometrics

48: Humber Station Rd & Street E

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.92 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.95 | 0.86 | 0.86 | 0.91 | 1.00 | 1.00 |
| Frt | 0.875 | 0.996 | 0.996 | 0.996 | 0.996 | 0.996 | 0.950 | 0.850 | 0.850 | 0.950 | 0.950 | 0.950 |
| Flt Protected | 0 | 1520 | 0 | 0 | 1783 | 0 | 1783 | 1883 | 1601 | 1789 | 1883 | 1883 |
| Satd. Flow (prot) | 0.983 | 0.641 | 0.641 | 0.641 | 0.641 | 0.641 | 0.472 | 0.844 | 1383 | 1061 | 1883 | 0 |
| Flt Permitted | 0 | 1491 | 0 | 0 | 1132 | 0 | 844 | 1883 | 1383 | 1061 | 1883 | 0 |
| Satd. Flow (perm) | Yes |
| Right Turn on Red | 118 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Satd. Flow (RTOR) | 140.6 | 116.4 | 116.4 | 116.4 | 116.4 | 116.4 | 153.1 | 153.1 | 361.3 | 361.3 | 361.3 | 361.3 |
| Link Speed (k/h) | 10.1 | 8.4 | 8.4 | 8.4 | 8.4 | 8.4 | 11.0 | 11.0 | 26.0 | 26.0 | 26.0 | 26.0 |
| Link Distance (m) | | | | | | | | | | | | |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

Timings

48: Humber Station Rd & Street E

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 6 | 3 | 177 | 1 | 40 | 228 | 385 | 1 | 439 | 1 | 439 | 1 |
| Traffic Volume (vph) | 6 | 3 | 177 | 1 | 40 | 228 | 385 | 1 | 439 | 1 | 439 | 1 |
| Future Volume (vph) | Perm | NA |
| Turn Type | 4 | 8 | 8 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Protected Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 2 | 2 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 2 | 2 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Minimum Split (s) | 38.0 | 38.0 | 38.0 | 38.0 | 38.0 | 38.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 |
| Total Split (s) | 42.2% | 42.2% | 42.2% | 42.2% | 42.2% | 42.2% | 57.8% | 57.8% | 57.8% | 57.8% | 57.8% | 57.8% |
| Total Split (%) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Yellow Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| All-Red Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lost Time Adjust (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost Time (s) | | | | | | | | | | | | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | None | None | None | None | None | None | C-Min | C-Min | C-Min | C-Min | C-Min | C-Min |
| Act Effct Green (s) | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 58.9 | 58.9 | 58.9 | 58.9 | 58.9 | 58.9 |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 |
| v/C Ratio | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Control Delay | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 |
| LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| Approach Delay | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 |
| Approach LOS | A | A | A | A | A | A | D | D | D | D | D | D |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: 90 | | | | | | | | | | | | |
| Actuated Cycle Length: 90 | | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | | | | | | | | | | |
| Natural Cycle: 50 | | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | | |
| Maximum v/C Ratio: 0.76 | | | | | | | | | | | | |
| Intersection Signal Delay: 12.7 | | | | | | | | | | | | |
| Intersection Capacity Utilization 77.1% | | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |



Queues
48: Humber Station Rd & Street E

05-15-2023

| | EBT | WBT | NBL | NBT | NBR | SBL | SBT |
|------------------------|-------|------|------|-------|------|------|-------|
| Lane Group | 127 | 183 | 40 | 228 | 385 | 1 | 440 |
| Lane Group Flow (vph) | 0.31 | 0.76 | 0.07 | 0.18 | 0.37 | 0.00 | 0.36 |
| v/c Ratio | 8.0 | 51.8 | 8.1 | 7.7 | 3.2 | 8.0 | 9.1 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 8.0 | 51.8 | 8.1 | 7.7 | 3.2 | 8.0 | 9.1 |
| Total Delay | 1.3 | 30.8 | 2.5 | 15.3 | 1.0 | 0.1 | 31.6 |
| Queue Length 50th (m) | 13.6 | 48.6 | 8.1 | 30.2 | 12.7 | 0.8 | 63.2 |
| Queue Length 95th (m) | 118.6 | 92.4 | | 129.1 | | | 337.3 |
| Internal Link Dist (m) | | | 25.0 | | | 25.0 | |
| Turn Bay Length (m) | 606 | 403 | 552 | 1233 | 1038 | 694 | 1233 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.45 | 0.07 | 0.18 | 0.37 | 0.00 | 0.36 |
| Intersection Summary | | | | | | | |

HCM Signalized Intersection Capacity Analysis
48: Humber Station Rd & Street E

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|------|------|------|-------|------|------|---------------------------|------|------|------|------|------|
| Movement | | | | | | | | | | | | |
| Lane Configurations | 6 | 3 | 118 | 177 | 1 | 5 | 40 | 228 | 385 | 1 | 439 | 1 |
| Traffic Volume (vph) | 6 | 3 | 118 | 177 | 1 | 5 | 40 | 228 | 385 | 1 | 439 | 1 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Frb. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Fibb. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Flt Protected | 1513 | 1513 | 1513 | 1513 | 1513 | 1513 | 1513 | 1513 | 1513 | 1513 | 1513 | 1513 |
| Satd. Flow (prot) | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Flt Permitted | 1689 | 1689 | 1689 | 1689 | 1689 | 1689 | 1689 | 1689 | 1689 | 1689 | 1689 | 1689 |
| Satd. Flow (perm) | 1491 | 1491 | 1491 | 1491 | 1491 | 1491 | 1491 | 1491 | 1491 | 1491 | 1491 | 1491 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 6 | 3 | 118 | 177 | 1 | 5 | 40 | 228 | 385 | 1 | 439 | 1 |
| RTOR Reduction (vph) | 0 | 93 | 0 | 0 | 2 | 0 | 0 | 0 | 133 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 34 | 0 | 0 | 181 | 0 | 40 | 228 | 252 | 1 | 440 | 0 |
| Confl. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm | Perm | Perm | NA |
| Protected Phases | 4 | | | 8 | | | 2 | | 2 | | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 2 | | 6 | |
| Actuated Green, G (s) | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 58.9 | 58.9 | 58.9 | 58.9 | 58.9 | 58.9 |
| Effective Green, g (s) | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 58.9 | 58.9 | 58.9 | 58.9 | 58.9 | 58.9 |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 316 | | | 240 | | | 549 | 1232 | 905 | 694 | 1231 | |
| v/s Ratio Prot | 0.02 | | | 0.16 | | | 0.05 | | 0.18 | 0.00 | 0.23 | |
| v/s Ratio Perm | 0.11 | | | 0.76 | | | 0.07 | 0.19 | 0.28 | 0.00 | 0.36 | |
| Uniform Delay, d1 | 28.6 | | | 33.3 | | | 5.6 | 6.1 | 6.6 | 5.4 | 7.0 | |
| Progression Factor | 1.00 | | | 1.00 | | | 1.02 | 1.00 | 2.03 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.2 | | | 12.7 | | | 0.3 | 0.3 | 0.8 | 0.0 | 0.8 | |
| Delay (s) | 28.7 | | | 46.0 | | | 6.0 | 6.5 | 14.1 | 5.4 | 7.8 | |
| Level of Service | C | | | D | | | A | A | B | A | A | |
| Approach Delay (s) | 28.7 | | | 46.0 | | | 10.9 | | 7.8 | | 7.8 | |
| Approach LOS | C | | | D | | | B | | A | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | | 16.1 | | | HCM 2000 Level of Service | | B | | | |
| HCM 2000 Volume to Capacity ratio | | | | 0.45 | | | | | | | | |
| Actuated Cycle Length (s) | | | | 90.0 | | | Sum of lost time (s) | | 12.0 | | | |
| Intersection Capacity Utilization | | | | 77.1% | | | ICU Level of Service | | D | | | |
| Analysis Period (min) | | | | 15 | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

Lanes and Geometrics

58: Humber Station Rd & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 45.0 | 0 | 0 | 25.0 | 25.0 | 25.0 | 50.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 |
| Storage Lanes | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| Taper Length (m) | 7.5 | | 7.5 | | 7.5 | | 7.5 | | 7.5 | | 7.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Pod Bike Factor | 0.94 | 0.99 | 0.97 | 0.92 | 0.96 | 0.99 | 0.99 | 0.97 | 1.00 | 0.97 | 1.00 | 0.99 |
| Frt | 0.950 | 0.975 | 0.950 | 0.850 | 0.850 | 0.975 | 0.975 | 0.975 | 0.950 | 0.950 | 0.950 | 0.950 |
| Flt Protected | 1789 | 1811 | 0 | 1789 | 1883 | 1601 | 1789 | 3441 | 0 | 1789 | 3552 | 0 |
| Satd. Flow (prot) | 0.687 | 0.248 | 0.453 | 1883 | 1470 | 645 | 3441 | 0 | 786 | 3552 | 0 | 0 |
| Satd. Flow (perm) | 1215 | 1811 | Yes | 1883 | 1470 | 645 | 3441 | Yes | 786 | 3552 | Yes | 0 |
| Right Turn on Red | | | | | | | | | | | | |
| Satd. Flow (RTOR) | 15 | 50 | 50 | 133 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 81.8 | 81.8 | 813.2 | 194.3 | 194.3 | 194.3 | 194.3 | 194.3 | 194.3 | 194.3 | 194.3 | 194.3 |
| Travel Time (s) | 5.9 | 5.9 | 58.6 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

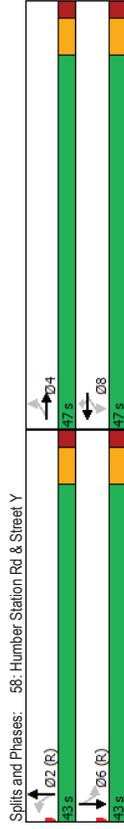
Future Total 2041 With Improvements - AM Peak 2:57 pm 04-20-2023

Timings

58: Humber Station Rd & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 41 | 361 | 130 | 108 | 133 | 74 | 461 | 93 | 681 | 47 | 47 | 47 |
| Traffic Volume (vph) | 41 | 361 | 130 | 108 | 133 | 74 | 461 | 93 | 681 | 47 | 47 | 47 |
| Future Volume (vph) | 41 | 361 | 130 | 108 | 133 | 74 | 461 | 93 | 681 | 47 | 47 | 47 |
| Turn Type | Perm | NA | Perm | NA | Perm | Perm | NA | Perm | NA | Perm | NA | Perm |
| Protected Phases | 4 | 4 | 8 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Permitted Phases | 4 | 4 | 8 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | 6 |
| Detector Phase | | | | | | | | | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 |
| Total Split (%) | 52.2% | 52.2% | 52.2% | 52.2% | 52.2% | 52.2% | 47.8% | 47.8% | 47.8% | 47.8% | 47.8% | 47.8% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | None |
| Recall Mode | 27.1 | 27.1 | 27.1 | 27.1 | 27.1 | 27.1 | 50.9 | 50.9 | 50.9 | 50.9 | 50.9 | 50.9 |
| Act Effect Green (s) | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.57 | 0.57 | 0.57 | 0.57 | 0.57 | 0.57 |
| Actuated g/C Ratio | 0.11 | 0.78 | 0.96 | 0.19 | 0.25 | 0.20 | 0.28 | 0.21 | 0.35 | 0.21 | 0.35 | 0.35 |
| v/C Ratio | 20.7 | 37.2 | 98.5 | 22.1 | 4.7 | 13.6 | 10.7 | 15.5 | 14.5 | 10.7 | 15.5 | 14.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 20.7 | 37.2 | 98.5 | 22.1 | 4.7 | 13.6 | 10.7 | 15.5 | 14.5 | 10.7 | 15.5 | 14.5 |
| Total Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| LOS | C | D | F | C | A | B | B | B | B | B | B | B |
| Approach Delay | 35.8 | 42.6 | 42.6 | 42.6 | 42.6 | 42.6 | 11.1 | 11.1 | 11.1 | 14.6 | 14.6 | 14.6 |
| Approach LOS | D | D | D | D | D | D | B | B | B | B | B | B |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: 90 | | | | | | | | | | | | |
| Actuated Cycle Length: 90 | | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | | | | | | | | | | |
| Natural Cycle: 50 | | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | | |
| Maximum v/C Ratio: 0.96 | | | | | | | | | | | | |
| Intersection Signal Delay: 22.6 | | | | | | | | | | | | |
| Intersection Capacity Utilization 74.9% | | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |



Future Total 2041 With Improvements - AM Peak 2:57 pm 04-20-2023

Queues
58: Humber Station Rd & Street Y

05-15-2023

| | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|------|-------|-------|-------|------|-------|------|-------|
| Lane Group | 41 | 433 | 130 | 108 | 74 | 555 | 93 | 699 |
| Lane Group Flow (vph) | 0.11 | 0.78 | 0.96 | 0.19 | 0.25 | 0.20 | 0.28 | 0.21 |
| v/c Ratio | 20.7 | 37.2 | 96.5 | 22.1 | 4.7 | 13.6 | 10.7 | 15.5 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 20.7 | 37.2 | 96.5 | 22.1 | 4.7 | 13.6 | 10.7 | 15.5 |
| Total Delay | 5.3 | 68.4 | 22.8 | 14.3 | 0.0 | 6.0 | 23.4 | 10.0 |
| Queue Length 50th (m) | 11.1 | 88.0 | #50.3 | 22.7 | 10.7 | 16.0 | 38.5 | 25.8 |
| Queue Length 95th (m) | 57.8 | 789.2 | | 789.2 | | 170.3 | | 129.1 |
| Internal Link Dist (m) | 45.0 | 25.0 | 25.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 |
| Turn Bay Length (m) | 553 | 833 | 206 | 857 | 742 | 364 | 1960 | 444 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.07 | 0.52 | 0.63 | 0.13 | 0.18 | 0.20 | 0.28 | 0.21 |

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
58: Humber Station Rd & Street Y

05-15-2023

| | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|---------------------------|------|------|------|------|
| Movement | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
| Lane Configurations | 41 | 361 | 72 | 130 | 108 | 133 | 74 | 461 | 94 |
| Traffic Volume (vph) | 41 | 361 | 72 | 130 | 108 | 133 | 74 | 461 | 94 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.94 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 0.97 | 1.00 |
| Frb. ped/bikes | 1.00 | 0.98 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | 1.00 | 1.00 |
| Frb. ped/bikes | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Flt Protected | 1680 | 1812 | 1745 | 1883 | 1470 | 1718 | 3439 | 1733 | 3552 |
| Satd. Flow (prot) | 0.69 | 1.00 | 0.25 | 1.00 | 1.00 | 0.36 | 1.00 | 0.43 | 1.00 |
| Flt Permitted | 1215 | 1812 | 456 | 1883 | 1470 | 642 | 3439 | 785 | 3552 |
| Satd. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 41 | 361 | 72 | 130 | 108 | 133 | 74 | 461 | 94 |
| Adj. Flow (vph) | 0 | 10 | 0 | 0 | 0 | 93 | 0 | 14 | 0 |
| RTOR Reduction (vph) | 41 | 423 | 0 | 130 | 108 | 40 | 74 | 541 | 0 |
| Lane Group Flow (vph) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Confl. Peds. (#/hr) | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm |
| Turn Type | 4 | 4 | 8 | 8 | 2 | 2 | 6 | 6 | 6 |
| Protected Phases | 4 | 4 | 8 | 8 | 2 | 2 | 6 | 6 | 6 |
| Permitted Phases | 27.1 | 27.1 | 27.1 | 27.1 | 27.1 | 27.1 | 50.9 | 50.9 | 50.9 |
| Actuated Green, G (s) | 27.1 | 27.1 | 27.1 | 27.1 | 27.1 | 27.1 | 50.9 | 50.9 | 50.9 |
| Effective Green, g (s) | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.57 | 0.57 | 0.57 |
| Actuated g/C Ratio | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Clearance Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Vehicle Extension (s) | 365 | 545 | 137 | 566 | 442 | 363 | 1944 | 443 | 2008 |
| Lane Grp Cap (vph) | 0.23 | 0.23 | 0.06 | 0.06 | 0.16 | 0.16 | 0.12 | 0.12 | 0.20 |
| v/s Ratio Prot | 0.03 | 0.03 | 0.28 | 0.28 | 0.03 | 0.12 | 0.12 | 0.12 | 0.20 |
| v/s Ratio Perm | 0.11 | 0.78 | 0.95 | 0.19 | 0.09 | 0.20 | 0.28 | 0.21 | 0.35 |
| Uniform Delay, d1 | 22.7 | 28.7 | 30.8 | 23.3 | 22.6 | 9.6 | 10.1 | 9.6 | 10.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 1.17 | 1.19 |
| Incremental Delay, d2 | 0.1 | 6.8 | 60.6 | 0.2 | 0.1 | 1.3 | 0.4 | 1.0 | 0.5 |
| Delay (s) | 22.9 | 35.5 | 91.4 | 23.5 | 22.7 | 10.6 | 10.1 | 12.3 | 13.0 |
| Level of Service | C | D | F | C | C | B | B | B | B |
| Approach Delay (s) | 34.4 | 34.4 | 47.0 | 47.0 | 10.2 | 10.2 | 13.0 | 13.0 | 13.0 |
| Approach LOS | C | C | D | D | B | B | B | B | B |
| Intersection Summary | | | | | | | | | |
| HCM 2000 Control Delay | 22.2 | | | | HCM 2000 Level of Service | | | | C |
| HCM 2000 Volume to Capacity ratio | 0.56 | | | | | | | | |
| Actuated Cycle Length (s) | 90.0 | | | | | | | | |
| Sum of lost time (s) | 12.0 | | | | | | | | |
| Intersection Capacity Utilization | 74.9% | | | | | | | | |
| ICU Level of Service | D | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | |
| Critical Lane Group | c | | | | | | | | |

Lanes and Geometrics
62: Street Y & Street VV

05-15-2023

| | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------|-------|-------|-------|------|-------|------|
| Lane Group | | | | | | |
| Lane Configurations | | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | |
| Frt | | 0.984 | | | 0.987 | |
| Frt Protected | | | | | 0.957 | |
| Satd. Flow (prot) | 0 | 1883 | 1853 | 0 | 1779 | 0 |
| Flt Permitted | | | | | 0.957 | |
| Satd. Flow (perm) | 0 | 1883 | 1853 | 0 | 1779 | 0 |
| Link Speed (k/h) | | 50 | 50 | | 50 | |
| Link Distance (m) | | 82.2 | 318.6 | | 162.9 | |
| Travel Time (s) | | 5.9 | 22.9 | | 11.7 | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |

HCM Unsignalized Intersection Capacity Analysis
62: Street Y & Street VV

05-15-2023

| | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|-------|-------|------|------|------|------|
| Movement | | | | | | |
| Lane Configurations | | | | | | |
| Sign Control | | Stop | Stop | | Stop | Stop |
| Traffic Volume (vph) | 0 | 117 | 284 | 38 | 47 | 5 |
| Future Volume (vph) | 0 | 117 | 284 | 38 | 47 | 5 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 117 | 284 | 38 | 47 | 5 |
| Direction, Lane # | EB 1 | WB 1 | SB 1 | | | |
| Volume Total (vph) | 117 | 322 | 52 | | | |
| Volume Left (vph) | 0 | 0 | 47 | | | |
| Volume Right (vph) | 0 | 38 | 5 | | | |
| Head (s) | 0.03 | -0.04 | 0.16 | | | |
| Departure Headway (s) | 4.4 | 4.1 | 5.0 | | | |
| Degree Utilization, x | 0.14 | 0.37 | 0.07 | | | |
| Capacity (veh/h) | 796 | 649 | 660 | | | |
| Control Delay (s) | 8.1 | 9.5 | 8.4 | | | |
| Approach Delay (s) | 8.1 | 9.5 | 8.4 | | | |
| Approach LOS | A | A | A | | | |
| Intersection Summary | | | | | | |
| Delay | 9.1 | | | | | |
| Level of Service | A | | | | | |
| Intersection Capacity Utilization | 35.8% | | | | | |
| ICU Level of Service | A | | | | | |
| Analysis Period (min) | 15 | | | | | |

Lanes and Geometrics
64: Street JJ & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.991 | | | 0.994 | | | | 0.945 | | | | 0.991 |
| Frt Protected | | | | 0.994 | | | | 0.988 | | | | 0.994 |
| Satd. Flow (prot) | 0 | 1866 | 0 | 0 | 1861 | 0 | 0 | 1768 | 0 | 0 | 1855 | 0 |
| Flt Permitted | | | | 0.994 | | | | 0.988 | | | | 0.994 |
| Satd. Flow (perm) | 0 | 1866 | 0 | 0 | 1861 | 0 | 0 | 1758 | 0 | 0 | 1855 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 | 318.6 |
| Travel Time (s) | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
64: Street JJ & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|-------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 2 | 221 | 15 | 43 | 284 | 16 | 36 | 53 | 62 | 32 | 217 | 17 |
| Future Volume (vph) | 2 | 221 | 15 | 43 | 284 | 16 | 36 | 53 | 62 | 32 | 217 | 17 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 2 | 221 | 15 | 43 | 284 | 16 | 36 | 53 | 62 | 32 | 217 | 17 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 238 | 343 | 151 | 266 | | | | | | | | |
| Volume Left (vph) | 2 | 43 | 36 | 32 | | | | | | | | |
| Volume Right (vph) | 15 | 16 | 62 | 17 | | | | | | | | |
| Head (s) | 0.00 | 0.03 | -0.16 | 0.02 | | | | | | | | |
| Departure Headway (s) | 5.8 | 5.6 | 6.0 | 5.9 | | | | | | | | |
| Degree Utilization, x | 0.38 | 0.54 | 0.25 | 0.44 | | | | | | | | |
| Capacity (veh/h) | 565 | 599 | 517 | 556 | | | | | | | | |
| Control Delay (s) | 12.4 | 15.0 | 11.0 | 13.4 | | | | | | | | |
| Approach Delay (s) | 12.4 | 15.0 | 11.0 | 13.4 | | | | | | | | |
| Approach LOS | B | C | B | B | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 13.3 | | | | | | | | | | | |
| Level of Service | B | | | | | | | | | | | |
| Intersection Capacity Utilization | 57.1% | | | | | | | | | | | |
| ICU Level of Service | B | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
65: Street 1 & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.985 | 0.990 | 0.997 | 0.987 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 |
| Flt Protected | 0 | 1855 | 0 | 0 | 1859 | 0 | 0 | 1850 | 0 | 0 | 1855 | 0 |
| Satd. Flow (prot) | 0 | 1855 | 0 | 0 | 1859 | 0 | 0 | 1850 | 0 | 0 | 1855 | 0 |
| Flt Permitted | 0 | 1855 | 0 | 0 | 1859 | 0 | 0 | 1850 | 0 | 0 | 1855 | 0 |
| Satd. Flow (perm) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Speed (k/h) | 189.0 | 137.6 | 229.8 | 17.2 | 43.1 | 17.2 | 43.1 | 17.2 | 43.1 | 17.2 | 43.1 | 17.2 |
| Link Distance (m) | 13.6 | 9.9 | 17.2 | 17.2 | 43.1 | 17.2 | 43.1 | 17.2 | 43.1 | 17.2 | 43.1 | 17.2 |
| Travel Time (s) | 13.6 | 9.9 | 17.2 | 17.2 | 43.1 | 17.2 | 43.1 | 17.2 | 43.1 | 17.2 | 43.1 | 17.2 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

05-15-2023
HCM Unsignalized Intersection Capacity Analysis
65: Street 1 & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 2 | 296 | 37 | 20 | 265 | 23 | 22 | 61 | 3 | 54 | 250 | 17 |
| Future Volume (vph) | 2 | 296 | 37 | 20 | 265 | 23 | 22 | 61 | 3 | 54 | 250 | 17 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 2 | 296 | 37 | 20 | 265 | 23 | 22 | 61 | 3 | 54 | 250 | 17 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 335 | 308 | 86 | 321 | | | | | | | | |
| Volume Left (vph) | 2 | 20 | 22 | 54 | | | | | | | | |
| Volume Right (vph) | 37 | 23 | 3 | 17 | | | | | | | | |
| Head (s) | -0.03 | 0.00 | 0.06 | 0.04 | | | | | | | | |
| Departure Headway (s) | 5.8 | 5.8 | 6.6 | 6.0 | | | | | | | | |
| Degree Utilization, x | 0.54 | 0.50 | 0.16 | 0.54 | | | | | | | | |
| Capacity (veh/h) | 588 | 577 | 446 | 558 | | | | | | | | |
| Control Delay (s) | 15.2 | 14.5 | 10.8 | 15.7 | | | | | | | | |
| Approach Delay (s) | 15.2 | 14.5 | 10.8 | 15.7 | | | | | | | | |
| Approach LOS | C | B | B | C | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 14.8 | | | | | | | | | | | |
| Level of Service | B | | | | | | | | | | | |
| Intersection Capacity Utilization | 56.9% | | | | | | | | | | | |
| ICU Level of Service | B | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
84: Street JJ & Street EE

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|-------|------|------|------|-------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (veh/h) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.939 | | | | | | 0.988 | | | | | |
| Flt Protected | | | | 0.955 | | | 0.998 | | | | | |
| Satd. Flow (prot) | 0 | 1769 | 0 | 0 | 1799 | 0 | 0 | 1857 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | 0.955 | | | 0.998 | | | | | |
| Satd. Flow (perm) | 0 | 1769 | 0 | 0 | 1799 | 0 | 0 | 1857 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | | | 50 | | | 50 | | | | 50 | |
| Link Distance (m) | 174.8 | | | 275.5 | | | 262.0 | | | | 229.7 | |
| Travel Time (s) | 12.6 | | | 19.8 | | | 18.9 | | | | 16.5 | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
84: Street JJ & Street EE

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 0 | 16 | 13 | 36 | 2 | 0 | 3 | 77 | 8 | 0 | 316 | 0 |
| Traffic Volume (veh/h) | 0 | 16 | 13 | 36 | 2 | 0 | 3 | 77 | 8 | 0 | 316 | 0 |
| Future Volume (Veh/h) | 0 | 16 | 13 | 36 | 2 | 0 | 3 | 77 | 8 | 0 | 316 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| Grade | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 16 | 13 | 36 | 2 | 0 | 3 | 77 | 8 | 0 | 316 | 0 |
| Pedestrians | 50 | | | 50 | | | 50 | | | | 50 | |
| Lane Width (m) | 3.7 | | | 3.7 | | | 3.7 | | | | 3.7 | |
| Walking Speed (m/s) | 1.2 | | | 1.2 | | | 1.2 | | | | 1.2 | |
| Percent Blockage | 4 | | | 4 | | | 4 | | | | 4 | |
| Right turn flare (veh) | | | | | | | None | | | | None | |
| Median type | | | | | | | None | | | | None | |
| Median storage (veh) | | | | | | | 262 | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| px_platoon unblocked | | | | | | | | | | | | |
| vc_conflicting volume | 454 | 507 | 416 | 524 | 503 | 131 | 366 | | | | 135 | |
| vc1_stage 1 conf vol | | | | | | | | | | | | |
| vc2_stage 2 conf vol | | | | | | | | | | | | |
| vcU_unblocked vol | 454 | 507 | 416 | 524 | 503 | 131 | 366 | | | | 135 | |
| ic_single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | | 4.1 | |
| ic_2 stage (s) | | | | | | | | | | | | |
| pf (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | | 2.2 | |
| p0 queue free % | 100 | 96 | 98 | 90 | 100 | 100 | 100 | | | | 100 | |
| cm capacity (veh/h) | 460 | 428 | 583 | 377 | 430 | 879 | 1141 | | | | 1387 | |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total | 29 | 38 | 88 | 316 | | | | | | | | |
| Volume Left | 0 | 36 | 3 | 0 | | | | | | | | |
| Volume Right | 13 | 0 | 8 | 0 | | | | | | | | |
| cSH | 486 | 380 | 1141 | 1387 | | | | | | | | |
| Volume to Capacity | 0.06 | 0.10 | 0.00 | 0.00 | | | | | | | | |
| Queue Length 95th (m) | 1.5 | 2.6 | 0.1 | 0.0 | | | | | | | | |
| Control Delay (s) | 12.9 | 15.5 | 0.3 | 0.0 | | | | | | | | |
| Lane LOS | B | C | A | | | | | | | | | |
| Approach Delay (s) | 12.9 | 15.5 | 0.3 | 0.0 | | | | | | | | |
| Approach LOS | B | C | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | 2.1 | | | | | | | | | | | |
| Intersection Capacity Utilization | 34.8% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
85: Street I & Street EE

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.911 | | | | | | | | | | | |
| Flt Protected | 0 | | | | | | | | | | | |
| Satd. Flow (prot) | 1716 | | | | | | | | | | | |
| Flt Permitted | 0 | | | | | | | | | | | |
| Satd. Flow (perm) | 1716 | | | | | | | | | | | |
| Link Speed (k/h) | 50 | | | | | | | | | | | |
| Link Distance (m) | 275.5 | | | | | | | | | | | |
| Travel Time (s) | 19.8 | | | | | | | | | | | |
| Intersection Summary | Other | | | | | | | | | | | |

Area Type: Other

HCM Unsignalized Intersection Capacity Analysis
85: Street I & Street EE

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|----------------------|------|------|------|-----|-----|------|-----|-----|------|-----|-----|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (veh/h) | 0 | 16 | 31 | 0 | 2 | 0 | 7 | 83 | 0 | 0 | 340 | 0 |
| Future Volume (Veh/h) | 0 | 16 | 31 | 0 | 2 | 0 | 7 | 83 | 0 | 0 | 340 | 0 |
| Sign Control | Stop | | | | | | | | | | | |
| Grade | 0% | | | | | | | | | | | |
| Peak Hour Factor | 1.00 | | | | | | | | | | | |
| Hourly flow rate (vph) | 0 | 16 | 31 | 0 | 2 | 0 | 7 | 83 | 0 | 0 | 340 | 0 |
| Pedestrians | 50 | | | | | | | | | | | |
| Lane Width (m) | 3.7 | | | | | | | | | | | |
| Walking Speed (m/s) | 1.2 | | | | | | | | | | | |
| Percent Blockage | 4 | | | | | | | | | | | |
| Right turn flare (veh) | 4 | | | | | | | | | | | |
| Median type | None | | | | | | | | | | | |
| Median storage (veh) | None | | | | | | | | | | | |
| Upstream signal (m) | 342 | | | | | | | | | | | |
| pk_platoon unblocked | 342 | | | | | | | | | | | |
| vC_conflicting volume | 538 | 537 | 440 | 576 | 537 | 183 | 390 | | | 133 | | |
| vC1_stage 1 conf vol | | | | | | | | | | | | |
| vC2_stage 2 conf vol | | | | | | | | | | | | |
| vCu_unblocked vol | 538 | 537 | 440 | 576 | 537 | 183 | 390 | | | 133 | | |
| IC_single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| IC_2 stage (s) | | | | | | | | | | | | |
| p0_queue free % | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| ICM capacity (veh/h) | 100 | 96 | 95 | 100 | 100 | 99 | 99 | | | 100 | | |
| ICM capacity (veh/h) | 386 | 410 | 565 | 335 | 410 | 787 | 1118 | | | 1390 | | |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total | 47 | 2 | 90 | 340 | | | | | | | | |
| Volume Left | 0 | 0 | 7 | 0 | | | | | | | | |
| Volume Right | 31 | 0 | 0 | 0 | | | | | | | | |
| cSH | 501 | 410 | 1118 | 1390 | | | | | | | | |
| Volume to Capacity | 0.09 | 0.00 | 0.01 | 0.00 | | | | | | | | |
| Queue Length 95th (m) | 2.4 | 0.1 | 0.1 | 0.0 | | | | | | | | |
| Control Delay (s) | 12.9 | 13.8 | 0.7 | 0.0 | | | | | | | | |
| Lane LOS | B | B | A | | | | | | | | | |
| Approach Delay (s) | 12.9 | 13.8 | 0.7 | 0.0 | | | | | | | | |
| Approach LOS | B | B | | | | | | | | | | |
| Intersection Summary | Intersection Summary | | | | | | | | | | | |
| Average Delay | 1.5 | | | | | | | | | | | |
| Intersection Capacity Utilization | 36.4% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
88: Humber Station Rd & Street EE

05-15-2023

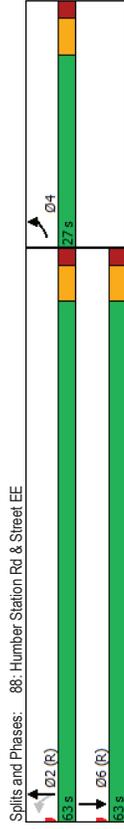
| Area Type: | EBL | EBR | NBL | NBT | SBT | SBR |
|----------------------|-------|------|------|-------|-------|------|
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | W | | | 4A | 4A | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 |
| Taper Length (m) | 1 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 0.95 |
| Pad Bike Factor | | | | 1.00 | | |
| Fr | 0.950 | | | | | |
| Satd. Flow (prot) | 1789 | 0 | 0 | 3579 | 3577 | 0 |
| Flt Permitted | 0.950 | | | | | |
| Satd. Flow (perm) | 1789 | 0 | 0 | 3579 | 3577 | 0 |
| Right Turn on Red | Yes | | | | | Yes |
| Satd. Flow (RTOR) | 50 | | | 50 | 50 | |
| Link Speed (k/h) | 332.9 | | | 347.2 | 128.1 | |
| Link Distance (m) | 24.0 | | | 25.0 | 9.2 | |
| Travel Time (s) | | | | | | |
| Intersection Summary | | | | | | |

Other

Timings
88: Humber Station Rd & Street EE

05-15-2023

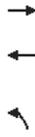
| | EBL | NBT | SBT |
|--|-------|-------|-------|
| Lane Group | EBL | NBT | SBT |
| Lane Configurations | W | 4A | 4A |
| Traffic Volume (vph) | 16 | 618 | 888 |
| Future Volume (vph) | 16 | 618 | 888 |
| Turn Type | Prot | NA | NA |
| Protected Phases | 4 | 2 | 6 |
| Permitted Phases | 4 | 2 | 6 |
| Detector Phases | 4 | 2 | 6 |
| Switch Phase | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 27.0 | 63.0 | 63.0 |
| Total Split (%) | 30.0% | 70.0% | 70.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | |
| Lead-Lag Optimize? | | | |
| Recall Mode | None | C-Max | C-Max |
| Act Effect Green (s) | 11.1 | 74.0 | 74.0 |
| Actuated g/C Ratio | 0.12 | 0.82 | 0.82 |
| v/C Ratio | 0.07 | 0.21 | 0.30 |
| Control Delay | 31.4 | 3.9 | 3.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 |
| Total Delay | 31.4 | 3.9 | 3.1 |
| LOS | C | A | A |
| Approach Delay | 31.4 | 3.9 | 3.1 |
| Approach LOS | C | A | A |
| Intersection Summary | | | |
| Cycle Length: 90 | | | |
| Actuated Cycle Length: 90 | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green | | | |
| Natural Cycle: 50 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/C Ratio: 0.30 | | | |
| Intersection Signal Delay: 3.7 | | | |
| Intersection Capacity Utilization 38.8% | | | |
| Analysis Period (min) 15 | | | |



Splits and Phases: 88: Humber Station Rd & Street EE

Queues
88: Humber Station Rd & Street EE

05-15-2023



| | EBL | NBT | SBT |
|-----------------------------|-------|-------|-------|
| Lane Group Flow (vph) | 16 | 618 | 890 |
| v/c Ratio | 0.07 | 0.21 | 0.30 |
| Control Delay | 31.4 | 3.9 | 3.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 |
| Total Delay | 31.4 | 3.9 | 3.1 |
| Queue Length 50th (m) | 2.8 | 10.5 | 12.5 |
| Queue Length 95th (m) | 7.7 | 29.2 | 29.5 |
| Internal Link Dist (m) | 308.9 | 323.2 | 104.1 |
| Turn Bay Length (m) | | | |
| Base Capacity (vph) | 417 | 2941 | 2939 |
| Starvation Cap Reductn | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.21 | 0.30 |
| Intersection Summary | | | |

HCM Signalized Intersection Capacity Analysis
88: Humber Station Rd & Street EE

05-15-2023



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|-----------------------------------|-------|------|-------|------|---------------------------|------|
| Lane Configurations | W | | | 4A | 4A | |
| Traffic Volume (vph) | 16 | 0 | 0 | 618 | 888 | 2 |
| Future Volume (vph) | 16 | 0 | 0 | 618 | 888 | 2 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | | | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | | | 0.95 | 0.95 | |
| Frb. ped/bikes | 1.00 | | | 1.00 | 1.00 | |
| Frb. ped/bikes | 1.00 | | | 1.00 | 1.00 | |
| Frt | 1.00 | | | 1.00 | 1.00 | |
| Flt Protected | | | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | 1789 | 3579 | |
| Flt Permitted | | | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | | | 1789 | 3579 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 16 | 0 | 0 | 618 | 888 | 2 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 16 | 0 | 0 | 618 | 890 | 0 |
| Confl. Peds. (#/hr) | | | 50 | | | 50 |
| Turn Type | Prot | | NA | NA | NA | |
| Protected Phases | 4 | | 2 | 2 | 6 | |
| Permitted Phases | | | 2 | | | |
| Actuated Green, G (s) | 8.8 | | | 69.2 | 69.2 | |
| Effective Green, g (s) | 8.8 | | | 69.2 | 69.2 | |
| Actuated g/C Ratio | 0.10 | | | 0.77 | 0.77 | |
| Clearance Time (s) | 6.0 | | | 6.0 | 6.0 | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 174 | | | 2751 | 2749 | |
| v/s Ratio Prot | c0.01 | | | 0.17 | c0.25 | |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.09 | | | 0.22 | 0.32 | |
| Uniform Delay, d1 | 37.0 | | | 2.9 | 3.2 | |
| Progression Factor | 1.00 | | | 1.00 | 0.69 | |
| Incremental Delay, d2 | 0.2 | | | 0.2 | 0.3 | |
| Delay (s) | 37.2 | | | 3.1 | 2.5 | |
| Level of Service | D | | | A | A | |
| Approach Delay (s) | 37.2 | | | 3.1 | 2.5 | |
| Approach LOS | D | | | A | A | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | | 3.1 | | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | | | 0.30 | | | |
| Actuated Cycle Length (s) | | | 90.0 | | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | | | 38.8% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics
1: The Gore Rd & King St

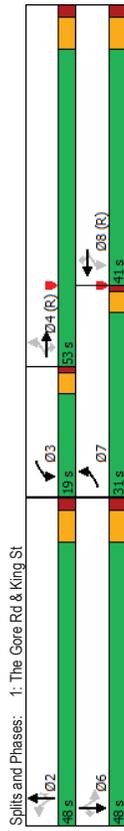
05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vph) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 139.9 | 0.0 | 25.0 | 199.9 | 0.0 | 50.0 | 175.0 | 0.0 | 50.0 |
| Storage Length (m) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Taper Length (m) | 0.0 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | 0.96 | 0.86 | 0.94 | 0.86 | 0.96 | 0.86 | 0.96 | 0.91 | 0.99 | 0.85 | 0.91 | 0.85 |
| Frt | 0.950 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 |
| Flt Protected | 1562 | 3318 | 1585 | 1681 | 3380 | 1633 | 1261 | 3650 | 1432 | 1681 | 3650 | 1633 |
| Satd. Flow (prot) | 0.331 | 0.414 | 0.414 | 0.414 | 0.436 | 0.436 | 0.436 | 0.436 | 0.436 | 0.436 | 0.436 | 0.436 |
| Satd. Flow (perm) | 524 | 3318 | 1359 | 692 | 3380 | 1400 | 556 | 3650 | 1310 | 223 | 3650 | 1493 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 48 | 69 | 69 | 50 | 105 | 105 | 50 | 230 | 50 | 230 | 50 | 144 |
| Link Speed (k/h) | 363.2 | 207.4 | 207.4 | 628.6 | 45.3 | 45.3 | 45.3 | 45.3 | 45.3 | 45.3 | 45.3 | 45.3 |
| Link Distance (m) | 27.2 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

Timings
1: The Gore Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 284 | 581 | 20 | 213 | 600 | 101 | 57 | 861 | 310 | 38 | 416 | 144 |
| Traffic Volume (vph) | 284 | 581 | 20 | 213 | 600 | 101 | 57 | 861 | 310 | 38 | 416 | 144 |
| Future Volume (vph) | 284 | 581 | 20 | 213 | 600 | 101 | 57 | 861 | 310 | 38 | 416 | 144 |
| Turn Type | pm-pt | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 2 | | | | | 6 |
| Permitted Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 |
| Detector Phases | 7 | 4 | 4 | 3 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 |
| Minimum Split (s) | 11.0 | 30.6 | 30.6 | 9.0 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 |
| Total Split (s) | 31.0 | 53.0 | 53.0 | 19.0 | 41.0 | 41.0 | 48.0 | 48.0 | 48.0 | 48.0 | 48.0 | 48.0 |
| Total Split (%) | 25.8% | 44.2% | 44.2% | 15.8% | 34.2% | 34.2% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% |
| 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 | 4.6 |
| All-Red Time (s) | 1.0 | 2.0 | 2.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.0 | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lead/Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | C-Min | None | None | None | None | None | None |
| Act Effct Green (s) | 73.0 | 55.1 | 55.1 | 65.4 | 50.8 | 50.8 | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 |
| Actuated v/c Ratio | 0.61 | 0.46 | 0.46 | 0.54 | 0.42 | 0.42 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| v/c Ratio | 0.62 | 0.38 | 0.03 | 0.45 | 0.42 | 0.15 | 0.35 | 0.79 | 0.56 | 0.58 | 0.38 | 0.28 |
| Control Delay | 18.2 | 23.7 | 0.1 | 15.0 | 27.6 | 5.8 | 37.6 | 44.3 | 13.0 | 60.8 | 27.3 | 3.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.2 | 23.7 | 0.1 | 15.0 | 27.6 | 5.8 | 37.6 | 44.3 | 13.0 | 60.8 | 27.3 | 3.3 |
| LOS | B | C | A | B | C | A | D | D | B | E | C | A |
| Approach Delay | 21.4 | C | 22.3 | C | C | C | D | D | C | C | C | C |
| Approach LOS | C | C | C | C | C | C | D | D | C | C | C | C |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: 120 | | | | | | | | | | | | |
| Actuated Cycle Length: 120 | | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | | |
| Natural Cycle: 75 | | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | | |
| Maximum v/c Ratio: 0.79 | | | | | | | | | | | | |
| Intersection Signal Delay: 27.0 | | | | | | | | | | | | |
| Intersection Capacity Utilization 94.9% | | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |



Queues
1: The Gore Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|---|------|------|------|------|------|------|-------|------|-------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Group Flow (vph) | 284 | 581 | 20 | 213 | 600 | 101 | 57 | 861 | 310 | 38 | 416 | 144 |
| v/c Ratio | 0.62 | 0.38 | 0.03 | 0.45 | 0.42 | 0.15 | 0.35 | 0.79 | 0.56 | 0.58 | 0.38 | 0.26 |
| Control Delay | 18.2 | 23.7 | 0.1 | 15.0 | 27.6 | 5.8 | 37.6 | 44.3 | 13.0 | 60.8 | 27.3 | 3.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.2 | 23.7 | 0.1 | 15.0 | 27.6 | 5.8 | 37.6 | 44.3 | 13.0 | 60.8 | 27.3 | 3.3 |
| Queue Length 50th (m) | 30.9 | 48.2 | 0.0 | 21.7 | 53.0 | 0.0 | 10.9 | 101.6 | 14.6 | 6.4 | 37.1 | 3.1 |
| Queue Length 95th (m) | 54.7 | 73.2 | 0.0 | 39.8 | 85.4 | 12.3 | 22.1 | 114.9 | 39.7 | m19.7 | 41.8 | 7.4 |
| Internal Link Dist (m) | 339.2 | | | | | | | | | | | |
| Turn Bay Length (m) | 139.9 | | | | | | | | | | | |
| Base Capacity (vph) | 555 | 1532 | 665 | 516 | 1429 | 652 | 193 | 1269 | 605 | 77 | 1269 | 613 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 0.38 | 0.03 | 0.41 | 0.42 | 0.15 | 0.30 | 0.68 | 0.51 | 0.49 | 0.33 | 0.23 |
| Intersection Summary | | | | | | | | | | | | |
| m | Volume for 95th percentile queue is metered by upstream signal. | | | | | | | | | | | |

HCM Signalized Intersection Capacity Analysis
1: The Gore Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|-------|------|------|------|-------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (vph) | 284 | 581 | 20 | 213 | 600 | 101 | 57 | 861 | 310 | 38 | 416 | 144 |
| Future Volume (vph) | 284 | 581 | 20 | 213 | 600 | 101 | 57 | 861 | 310 | 38 | 416 | 144 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.4 | 3.7 | 3.7 |
| Total Lost time (s) | 4.0 | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.86 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 |
| Frbp. ped/bikes | 0.99 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Satd. Flow (prot) | 1543 | 3318 | 1359 | 1647 | 3380 | 1400 | 1213 | 3650 | 1310 | 1660 | 3650 | 1493 |
| Flt Permitted | 0.33 | 1.00 | 1.00 | 0.41 | 1.00 | 1.00 | 0.44 | 1.00 | 1.00 | 0.13 | 1.00 | 1.00 |
| Satd. Flow (perm) | 537 | 3318 | 1359 | 717 | 3380 | 1400 | 557 | 3650 | 1310 | 224 | 3650 | 1493 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 284 | 581 | 20 | 213 | 600 | 101 | 57 | 861 | 310 | 38 | 416 | 144 |
| RTOR Reduction (vph) | 0 | 0 | 11 | 0 | 0 | 58 | 0 | 0 | 162 | 0 | 0 | 101 |
| Lane Group Flow (vph) | 284 | 581 | 9 | 213 | 600 | 43 | 57 | 861 | 148 | 38 | 416 | 43 |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Heavy Vehicles (%) | 13% | 10% | 3% | 5% | 8% | 0% | 40% | 0% | 14% | 5% | 0% | 0% |
| Turn Type | pm-pt | NA | Perm | pm-pt | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 7 | 4 | 4 | 3 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 |
| Permitted Phases | 4 | 8 | 8 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 |
| Actuated Green, G (s) | 71.1 | 55.1 | 55.1 | 62.7 | 50.7 | 50.7 | 50.7 | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 |
| Effective Green, g (s) | 71.1 | 55.1 | 55.1 | 62.7 | 50.7 | 50.7 | 50.7 | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 |
| Actuated g/C Ratio | 0.59 | 0.46 | 0.46 | 0.52 | 0.42 | 0.42 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Clearance Time (s) | 4.0 | 6.6 | 6.6 | 4.0 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 455 | 1523 | 624 | 467 | 1428 | 591 | 165 | 1085 | 389 | 66 | 1085 | 444 |
| v/s Ratio Prot | c0.09 | 0.18 | 0.01 | 0.05 | 0.18 | 0.03 | 0.10 | c0.24 | 0.11 | 0.17 | 0.11 | 0.11 |
| v/s Ratio Perm | 0.62 | 0.38 | 0.01 | 0.46 | 0.42 | 0.07 | 0.35 | 0.79 | 0.38 | 0.58 | 0.38 | 0.10 |
| Uniform Delay, d1 | 13.3 | 21.3 | 17.7 | 15.7 | 24.3 | 20.6 | 33.0 | 38.8 | 33.4 | 35.7 | 33.4 | 30.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.82 | 0.81 | 0.50 |
| Incremental Delay, d2 | 2.7 | 0.7 | 0.0 | 0.7 | 0.9 | 0.2 | 1.3 | 4.1 | 0.6 | 10.8 | 0.2 | 0.1 |
| Delay (s) | 15.9 | 22.0 | 17.7 | 16.5 | 25.2 | 20.9 | 34.3 | 42.8 | 34.0 | 40.1 | 27.2 | 15.5 |
| Level of Service | B | C | B | B | C | C | C | D | C | D | C | B |
| Approach Delay (s) | 20.0 | | | 22.7 | | | 40.2 | | | 25.2 | | |
| Approach LOS | B | | | C | | | D | | | C | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 28.4 | | | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.70 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 | | | | | | | | | | | |
| Sum of lost time (s) | 17.2 | | | | | | | | | | | |
| Intersection Capacity Utilization | 94.9% | | | | | | | | | | | |
| ICU Level of Service | F | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c. Critical Lane Group | | | | | | | | | | | | |

Lanes and Geometrics

05-15-2023

2: Humber Station Rd & King St

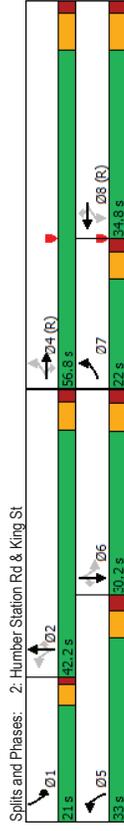
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|-------|------|-------|------|-------|------|-------|-------|------|-------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Grade (%) | 0% | | | 0% | | | 0% | | | 0% | | 0% |
| Storage Length (m) | 50.0 | | 25.0 | 50.0 | | 25.0 | 50.0 | | 50.0 | 50.0 | | 50.0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 7.6 | | 7.6 | | 7.6 | | 7.5 | | 7.6 | 7.6 | | 7.6 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | 0.98 | | 0.91 | 0.97 | | 0.91 | 0.97 | | 0.86 | 0.96 | | 0.91 |
| Frt | 0.950 | | 0.850 | | 0.850 | | 0.850 | | 0.850 | 0.850 | | 0.850 |
| Flt Protected | | | 0.950 | | 0.950 | | 0.950 | | 0.950 | 0.950 | | 0.950 |
| Satd. Flow (prot) | 1765 | 3349 | 1555 | 1697 | 3476 | 1633 | 1089 | 3650 | 1002 | 1226 | 3444 | 1306 |
| Flt Permitted | 0.209 | | 0.410 | | 0.410 | | 0.229 | | 0.290 | 0.290 | | 0.290 |
| Satd. Flow (perm) | 381 | 3349 | 1422 | 710 | 3476 | 1493 | 255 | 3650 | 859 | 358 | 3444 | 1195 |
| Right Turn on Red | | | Yes | | Yes | | Yes | | Yes | Yes | | Yes |
| Satd. Flow (RTOR) | | | 128 | | 176 | | 131 | | 131 | | | 194 |
| Link Speed (k/h) | | | 50 | | 50 | | 50 | | 50 | | | 50 |
| Link Distance (m) | | | 329.7 | | 840.4 | | 348.5 | | 347.2 | | | 25.0 |
| Travel Time (s) | | | 23.7 | | 60.5 | | 25.1 | | 25.1 | | | 25.0 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

Timings

05-15-2023

2: Humber Station Rd & King St

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Traffic Volume (vph) | 279 | 637 | 202 | 18 | 638 | 256 | 261 | 710 | 68 | 179 | 435 | 194 |
| Future Volume (vph) | 279 | 637 | 202 | 18 | 638 | 256 | 261 | 710 | 68 | 179 | 435 | 194 |
| Turn Type | pm-pt | NA | Perm | NA | Perm | NA | pm-pt | NA | Perm | pm-pt | NA | Perm |
| Protected Phases | 7 | 4 | | 8 | | 8 | 5 | 2 | | 1 | | 6 |
| Permitted Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 2 | 6 |
| Detector Phases | 7 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | 2 | 2 | 2 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 14.4 | 14.4 | 5.0 | 14.4 | 14.4 |
| Minimum Split (s) | 11.0 | 31.4 | 31.4 | 31.4 | 31.4 | 31.4 | 33.0 | 42.2 | 42.2 | 11.0 | 30.2 | 30.2 |
| Total Split (s) | 22.0 | 56.8 | 56.8 | 34.8 | 34.8 | 34.8 | 33.0 | 42.2 | 42.2 | 21.0 | 30.2 | 30.2 |
| Total Split (%) | 18.3% | 47.3% | 47.3% | 29.0% | 29.0% | 29.0% | 27.5% | 35.2% | 35.2% | 17.5% | 25.2% | 25.2% |
| Yellow Time (s) | 4.0 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 4.0 | 4.0 | 4.0 | 3.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.2 | 2.0 | 2.0 | 1.0 | 2.2 | 2.2 |
| 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 | 0.0 |
| Total Lost Time (s) | 6.0 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 6.2 | 6.0 | 6.0 | 4.0 | 6.2 | 6.2 |
| Lead/Lag | Lead | Lag | Lag | Lag | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes |
| Recall Mode | None | C-Min | C-Min | C-Min | C-Min | C-Min | None | None | None | None | None | None |
| Act Effct Green (s) | 55.9 | 54.5 | 54.5 | 32.2 | 32.2 | 32.2 | 51.9 | 32.6 | 32.6 | 38.1 | 20.4 | 20.4 |
| Actuated g/C Ratio | 0.47 | 0.45 | 0.45 | 0.27 | 0.27 | 0.27 | 0.43 | 0.27 | 0.27 | 0.32 | 0.17 | 0.17 |
| v/C Ratio | 0.76 | 0.42 | 0.28 | 0.09 | 0.88 | 0.48 | 0.91 | 0.72 | 0.21 | 0.80 | 0.74 | 0.53 |
| Control Delay | 37.3 | 24.1 | 9.7 | 38.3 | 45.2 | 16.5 | 63.3 | 43.7 | 1.4 | 49.2 | 55.3 | 11.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 37.3 | 24.1 | 9.7 | 38.3 | 45.2 | 16.5 | 63.3 | 43.7 | 1.4 | 49.2 | 55.3 | 11.5 |
| LOS | D | C | A | D | D | B | E | D | A | D | E | B |
| Approach Delay | | | | | | | | | | | | |
| Approach LOS | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: 120 | | | | | | | | | | | | |
| Actuated Cycle Length: 120 | | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green | | | | | | | | | | | | |
| Natural Cycle: 95 | | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | | |
| Maximum v/C Ratio: 0.91 | | | | | | | | | | | | |
| Intersection Signal Delay: 37.2 | | | | | | | | | | | | |
| Intersection Capacity Utilization 89.9% | | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |



Queues
2: Humber Station Rd & King St

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------|-------|------|------|------|-------|------|-------|-------|------|-------|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Group Flow (vph) | 279 | 637 | 202 | 18 | 638 | 256 | 261 | 710 | 68 | 179 | 435 | 194 |
| v/c Ratio | 0.76 | 0.42 | 0.28 | 0.09 | 0.68 | 0.48 | 0.91 | 0.72 | 0.21 | 0.80 | 0.74 | 0.53 |
| Control Delay | 37.3 | 24.1 | 9.7 | 38.3 | 45.2 | 16.5 | 63.3 | 43.7 | 1.4 | 49.2 | 55.3 | 11.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 37.3 | 24.1 | 9.7 | 38.3 | 45.2 | 16.5 | 63.3 | 43.7 | 1.4 | 49.2 | 55.3 | 11.5 |
| Queue Length 50th (m) | 43.8 | 55.3 | 10.4 | 3.5 | 78.2 | 16.1 | 46.2 | 83.0 | 0.0 | 26.9 | 53.8 | 0.0 |
| Queue Length 95th (m) | #79.8 | 75.6 | 28.2 | 10.2 | 100.4 | 43.1 | #91.8 | 100.3 | 0.0 | #52.5 | 69.6 | 20.8 |
| Internal Link Dist (m) | 305.7 | | | | | | | | | | | |
| Turn Bay Length (m) | 50.0 | 0 | 0 | 25.0 | 50.0 | 25.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 |
| Base Capacity (vph) | 372 | 1520 | 715 | 190 | 932 | 529 | 296 | 1101 | 350 | 240 | 688 | 394 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.75 | 0.42 | 0.28 | 0.09 | 0.68 | 0.48 | 0.88 | 0.64 | 0.19 | 0.75 | 0.63 | 0.49 |

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
2: Humber Station Rd & King St

05-15-2023

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|-------|------|------|-------|------|------|
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Traffic Volume (vph) | 279 | 637 | 202 | 18 | 638 | 256 | 261 | 710 | 68 | 179 | 435 | 194 |
| Future Volume (vph) | 279 | 637 | 202 | 18 | 638 | 256 | 261 | 710 | 68 | 179 | 435 | 194 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 | 3.4 | 3.7 | 3.7 |
| Total Lost time (s) | 6.0 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 6.2 | 6.0 | 6.0 | 4.0 | 6.2 | 6.2 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Satd. Flow (prot) | 1769 | 3349 | 1422 | 1644 | 3476 | 1493 | 1084 | 3650 | 859 | 1213 | 3444 | 1195 |
| Flt Permitted | 0.21 | 1.00 | 1.00 | 0.41 | 1.00 | 1.00 | 0.23 | 1.00 | 1.00 | 0.29 | 1.00 | 1.00 |
| Satd. Flow (perm) | 387 | 3349 | 1422 | 710 | 3476 | 1493 | 261 | 3650 | 859 | 370 | 3444 | 1195 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 279 | 637 | 202 | 18 | 638 | 256 | 261 | 710 | 68 | 179 | 435 | 194 |
| RTOR Reduction (vph) | 0 | 0 | 70 | 0 | 0 | 129 | 0 | 0 | 50 | 0 | 0 | 161 |
| Lane Group Flow (vph) | 279 | 637 | 132 | 18 | 638 | 127 | 261 | 710 | 18 | 179 | 435 | 33 |
| Conf. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Heavy Vehicles (%) | 0% | 9% | 5% | 4% | 5% | 0% | 62% | 0% | 63% | 44% | 6% | 25% |
| Turn Type | pm-pt | NA | Perm | Perm | NA | Perm | pm-pt | NA | Perm | pm-pt | NA | Perm |
| Protected Phases | 7 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Permitted Phases | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 6 | 6 |
| Actuated Green, G (s) | 54.5 | 54.5 | 54.5 | 32.2 | 32.2 | 32.2 | 52.1 | 32.6 | 32.6 | 35.9 | 20.4 | 20.4 |
| Effective Green, g (s) | 54.5 | 54.5 | 54.5 | 32.2 | 32.2 | 32.2 | 52.1 | 32.6 | 32.6 | 35.9 | 20.4 | 20.4 |
| Actuated g/C Ratio | 0.45 | 0.45 | 0.45 | 0.27 | 0.27 | 0.27 | 0.43 | 0.27 | 0.27 | 0.30 | 0.17 | 0.17 |
| Clearance Time (s) | 6.0 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 6.2 | 6.0 | 6.0 | 4.0 | 6.2 | 6.2 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 362 | 1521 | 645 | 190 | 932 | 400 | 286 | 991 | 233 | 219 | 565 | 203 |
| v/s Ratio Prot | c0.10 | 0.19 | 0.09 | 0.18 | 0.18 | 0.09 | c0.19 | 0.19 | 0.11 | 0.11 | 0.13 | 0.03 |
| v/s Ratio Perm | c0.25 | 0.09 | 0.03 | 0.03 | 0.03 | 0.09 | c0.20 | 0.02 | 0.02 | 0.14 | 0.03 | 0.03 |
| v/c Ratio | 0.77 | 0.42 | 0.20 | 0.09 | 0.68 | 0.32 | 0.91 | 0.72 | 0.08 | 0.82 | 0.74 | 0.46 |
| Uniform Delay, d1 | 23.6 | 22.1 | 19.7 | 33.0 | 39.3 | 35.1 | 26.9 | 39.5 | 32.5 | 34.7 | 47.3 | 42.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.7 | 0.9 | 0.7 | 1.0 | 4.1 | 2.1 | 31.3 | 2.5 | 0.1 | 20.5 | 5.1 | 0.4 |
| Delay (s) | 33.3 | 22.9 | 20.4 | 33.9 | 43.4 | 37.2 | 58.2 | 42.0 | 32.7 | 55.2 | 52.4 | 42.9 |
| Level of Service | C | C | C | C | D | D | E | D | C | E | D | D |
| Approach Delay (s) | 25.1 | | | | | | | | | | | |
| Approach LOS | C | | | | | | | | | | | |
| Intersection Summary | C | | | | | | | | | | | |
| HCM 2000 Control Delay | 39.8 | | | | | | | | | | | |
| HCM 2000 Level of Service | D | | | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.90 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 | | | | | | | | | | | |
| Sum of lost time (s) | 25.8 | | | | | | | | | | | |
| Intersection Capacity Utilization | 89.9% | | | | | | | | | | | |
| ICU Level of Service | E | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| Critical Lane Group | c | | | | | | | | | | | |

Lanes and Geometrics
6: King St & Street JJ

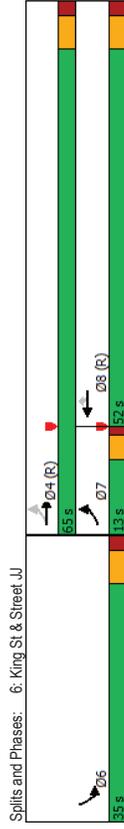
05-15-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 50.0 | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 50.0 | | | 25.0 | 0.0 | 0.0 |
| Taper Length (m) | 7.6 | | | 1 | 1 | 0 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.98 | | | 0.84 | 0.94 | |
| Friction | 0.950 | | | 0.850 | 0.958 | |
| Satd. Flow (prot) | 1730 | 3579 | 3579 | 1601 | 1705 | 0 |
| Friction Permitted | 0.268 | | | | 0.967 | |
| Satd. Flow (perm) | 477 | 3579 | 3579 | 1338 | 1632 | 0 |
| Right Turn on Red | | | | Yes | Yes | Yes |
| Satd. Flow (RTOR) | | 50 | 50 | 106 | 23 | |
| Link Speed (k/h) | | | | | | 50 |
| Link Distance (m) | | 110.9 | 300.5 | | 262.0 | |
| Travel Time (s) | | 8.0 | 21.6 | | 18.9 | |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings
6: King St & Street JJ

05-15-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|--|-------|-------|-------|-------|-------|------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Traffic Volume (vph) | 95 | 848 | 862 | 174 | 160 | 160 |
| Future Volume (vph) | 95 | 848 | 862 | 174 | 160 | 160 |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Prot |
| Protected Phases | 7 | 4 | 8 | | 6 | |
| Permitted Phases | 4 | | 8 | 8 | 6 | |
| Detector Phase | 7 | 4 | 8 | 8 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Minimum Split (s) | 11.0 | 23.0 | 23.0 | 30.0 | 30.0 | |
| Total Split (s) | 13.0% | 65.0% | 52.0% | 52.0% | 35.0% | |
| Total Split (%) | 13.0% | 65.0% | 52.0% | 52.0% | 35.0% | |
| Yellow Time (s) | 3.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| All-Red Time (s) | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lag | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | C-Min | None | |
| Act Effct Green (s) | 71.6 | 69.6 | 60.2 | 60.2 | 18.4 | |
| Actuated g/C Ratio | 0.72 | 0.70 | 0.60 | 0.60 | 0.18 | |
| v/C Ratio | 0.22 | 0.34 | 0.40 | 0.21 | 0.70 | |
| Control Delay | 6.5 | 7.2 | 8.6 | 3.2 | 45.0 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 6.5 | 7.2 | 8.6 | 3.2 | 45.0 | |
| LOS | A | A | A | A | D | |
| Approach Delay | 7.1 | 7.7 | 45.0 | | | |
| Approach LOS | A | A | D | | | |
| Intersection Summary | | | | | | |
| Cycle Length: 100 | | | | | | |
| Actuated Cycle Length: 100 | | | | | | |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green | | | | | | |
| Natural Cycle: 65 | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | |
| Maximum v/C Ratio: 0.70 | | | | | | |
| Intersection Signal Delay: 11.4 | | | | | | |
| Intersection Capacity Utilization 61.4% | | | | | | |
| Analysis Period (min) 15 | | | | | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------|------|------|-------|------|-------|-----|
| Lane Group | 95 | 848 | 862 | 174 | 233 | |
| Lane Group Flow (vph) | 0.22 | 0.34 | 0.40 | 0.21 | 0.70 | |
| v/c Ratio | 0.22 | 0.34 | 0.40 | 0.21 | 0.70 | |
| Control Delay | 6.5 | 7.2 | 8.6 | 3.2 | 45.0 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 6.5 | 7.2 | 8.6 | 3.2 | 45.0 | |
| Queue Length 50th (m) | 4.8 | 30.6 | 28.3 | 2.3 | 40.4 | |
| Queue Length 95th (m) | 11.9 | 50.2 | 36.0 | 7.1 | 61.5 | |
| Internal Link Dist (m) | | 86.9 | 276.5 | | 238.0 | |
| Turn Bay Length (m) | 50.0 | | | 25.0 | | |
| Base Capacity (vph) | 454 | 2490 | 2155 | 847 | 510 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.21 | 0.34 | 0.40 | 0.21 | 0.46 | |
| Intersection Summary | | | | | | |



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|-------|-------|-------|---------------------------|-------|------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Traffic Volume (vph) | 95 | 848 | 862 | 174 | 160 | 73 |
| Future Volume (vph) | 95 | 848 | 862 | 174 | 160 | 73 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Total Lost time (s) | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 0.84 | 0.98 |
| Frbp. ped/bikes | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.97 | |
| Satd. Flow (prot) | 1719 | 3579 | 3579 | 1338 | 1704 | |
| Flt Permitted | 0.27 | 1.00 | 1.00 | 1.00 | 0.97 | |
| Satd. Flow (perm) | 485 | 3579 | 3579 | 1338 | 1704 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 95 | 848 | 862 | 174 | 160 | 73 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 43 | 19 | 0 |
| Lane Group Flow (vph) | 95 | 848 | 862 | 131 | 214 | 0 |
| Confl. Peds. (#/hr) | 50 | | | 50 | 50 | 50 |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Prot |
| Protected Phases | 7 | 4 | 8 | | 6 | |
| Permitted Phases | 4 | | | 8 | | |
| Actuated Green, G (s) | 69.6 | 69.6 | 59.4 | 59.4 | 18.4 | 18.4 |
| Effective Green, g (s) | 69.6 | 69.6 | 59.4 | 59.4 | 18.4 | 18.4 |
| Actuated g/C Ratio | 0.70 | 0.70 | 0.59 | 0.59 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 414 | 2490 | 2125 | 794 | 313 | |
| v/s Ratio Prot | 0.01 | c0.24 | c0.24 | | c0.13 | |
| v/s Ratio Perm | 0.15 | | | 0.10 | | |
| v/c Ratio | 0.23 | 0.34 | 0.41 | 0.16 | 0.68 | |
| Uniform Delay, d1 | 5.7 | 6.1 | 10.9 | 9.1 | 38.1 | |
| Progression Factor | 1.00 | 1.00 | 0.66 | 0.51 | 1.00 | |
| Incremental Delay, d2 | 0.3 | 0.4 | 0.5 | 0.4 | 6.1 | |
| Delay (s) | 6.0 | 6.4 | 7.7 | 5.1 | 44.2 | |
| Level of Service | A | A | A | A | D | |
| Approach Delay (s) | 6.4 | 7.3 | 44.2 | | | |
| Approach LOS | A | A | D | | | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | 10.8 | | | HCM 2000 Level of Service | | |
| HCM 2000 Volume to Capacity ratio | 0.47 | | | B | | |
| Actuated Cycle Length (s) | 100.0 | | | Sum of lost time (s) | | |
| Intersection Capacity Utilization | 61.4% | | | ICU Level of Service | | |
| Analysis Period (min) | 15 | | | B | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics
7: King St & Street I

05-15-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 50.0 | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 50.0 | | | 25.0 | 0.0 | 0.0 |
| Taper Length (m) | 7.6 | | | 1 | 1 | 0 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | 0.84 | 0.94 | |
| Friction | 0.950 | | | 0.850 | 0.957 | |
| Satd. Flow (prot) | 1730 | 3579 | 3579 | 1601 | 1703 | 0 |
| RT Permitted | 0.232 | | | | 0.967 | |
| Satd. Flow (perm) | 423 | 3579 | 3579 | 1338 | 1630 | 0 |
| Right Turn on Red | | | | Yes | Yes | Yes |
| Satd. Flow (RTOR) | | 50 | 50 | 97 | 23 | |
| Link Speed (k/h) | | | | | | 50 |
| Link Distance (m) | | 300.5 | 329.7 | | 125.2 | |
| Travel Time (s) | | 21.6 | 23.7 | | 9.0 | |

Intersection Summary
Area Type: Other

Timings
7: King St & Street I

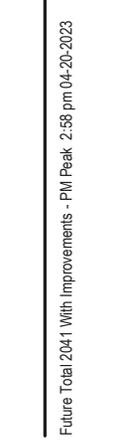
05-15-2023

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|----------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Traffic Volume (vph) | 96 | 912 | 962 | 174 | 160 | 160 |
| Future Volume (vph) | 96 | 912 | 962 | 174 | 160 | 160 |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Prot |
| Protected Phases | 7 | 4 | 8 | | 6 | |
| Permitted Phases | 4 | | | 8 | 6 | |
| Detector Phases | 7 | 4 | 8 | 8 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Minimum Split (s) | 11.0 | 23.0 | 23.0 | 23.0 | 30.0 | |
| Total Split (s) | 13.0 | 66.0 | 53.0 | 53.0 | 34.0 | |
| Total Split (%) | 13.0% | 66.0% | 53.0% | 53.0% | 34.0% | |
| Yellow Time (s) | 3.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| All-Red Time (s) | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lag | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | C-Min | None | |
| Act Effct Green (s) | 71.5 | 69.5 | 60.2 | 60.2 | 18.5 | |
| Actuated g/C Ratio | 0.72 | 0.70 | 0.60 | 0.60 | 0.18 | |
| v/c Ratio | 0.24 | 0.37 | 0.45 | 0.21 | 0.70 | |
| Queue Delay | 5.4 | 5.2 | 13.4 | 6.3 | 45.1 | |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Queue Delay | 5.4 | 5.2 | 13.4 | 6.3 | 45.1 | |
| Total Delay | A | A | B | A | D | |
| LOS | A | A | B | A | D | |
| Approach Delay | | 5.2 | 12.3 | | 45.1 | |
| Approach LOS | | A | B | | D | |

Intersection Summary

| |
|--|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green |
| Natural Cycle: 65 |
| Control Type: Actuated-Coordinated |
| Maximum v/c Ratio: 0.70 |
| Intersection Signal Delay: 12.5 |
| Intersection Capacity Utilization 64.2% |
| Analysis Period (min) 15 |

Splits and Phases: 7: King St & Street I





| | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------|------|-------|-------|------|-------|-----|
| Lane Group | 96 | 912 | 962 | 174 | 234 | |
| Lane Group Flow (vph) | 0.24 | 0.37 | 0.45 | 0.21 | 0.70 | |
| v/c Ratio | 5.4 | 5.2 | 13.4 | 6.3 | 45.1 | |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Queue Delay | 5.4 | 5.2 | 13.4 | 6.3 | 45.1 | |
| Total Delay | 3.2 | 22.3 | 53.0 | 6.3 | 40.6 | |
| Queue Length 50th (m) | 7.8 | 33.7 | 84.7 | 19.8 | 61.7 | |
| Queue Length 95th (m) | | 276.5 | 305.7 | | 101.2 | |
| Internal Link Dist (m) | 50.0 | | | 25.0 | | |
| Turn Bay Length (m) | 420 | 2488 | 2163 | 843 | 493 | |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.23 | 0.37 | 0.45 | 0.21 | 0.47 | |
| Intersection Summary | | | | | | |



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|-------|-------|-------|------|-------|------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Traffic Volume (vph) | 96 | 912 | 962 | 174 | 160 | 74 |
| Future Volume (vph) | 96 | 912 | 962 | 174 | 160 | 74 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.4 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Total Lost time (s) | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 0.84 | 0.98 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.95 | 1.00 | 1.00 | 1.00 | 0.85 | 0.96 |
| Flt Protected | 1723 | 3579 | 3579 | 1338 | 1703 | |
| Satd. Flow (prot) | 0.23 | 1.00 | 1.00 | 1.00 | 0.97 | |
| Flt Permitted | 421 | 3579 | 3579 | 1338 | 1703 | |
| Satd. Flow (perm) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak-hour factor, PHF | 96 | 912 | 962 | 174 | 160 | 74 |
| Adj. Flow (vph) | 0 | 0 | 0 | 39 | 19 | 0 |
| RTOR Reduction (vph) | 96 | 912 | 962 | 135 | 215 | 0 |
| Lane Group Flow (vph) | 50 | | | 50 | 50 | 50 |
| Confl. Peds. (#/hr) | pm+pt | NA | NA | Perm | Prot | |
| Turn Type | 7 | 4 | 8 | | 6 | |
| Protected Phases | | | | | | |
| Permitted Phases | 4 | | | 8 | | |
| Actuated Green, G (s) | 69.5 | 69.5 | 59.3 | 59.3 | 18.5 | |
| Effective Green, g (s) | 69.5 | 69.5 | 59.3 | 59.3 | 18.5 | |
| Actuated g/C Ratio | 0.70 | 0.70 | 0.59 | 0.59 | 0.18 | |
| Clearance Time (s) | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 373 | 2487 | 2122 | 793 | 315 | |
| v/s Ratio Prot | 0.02 | c0.25 | c0.27 | | c0.13 | |
| v/s Ratio Perm | 0.16 | | | 0.10 | | |
| v/c Ratio | 0.26 | 0.37 | 0.45 | 0.17 | 0.68 | |
| Uniform Delay, d1 | 6.1 | 6.2 | 11.3 | 9.2 | 38.0 | |
| Progression Factor | 0.76 | 0.69 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.3 | 0.4 | 0.7 | 0.5 | 6.0 | |
| Delay (s) | 5.0 | 4.7 | 12.0 | 9.7 | 44.0 | |
| Level of Service | A | A | B | A | D | |
| Approach Delay (s) | 4.7 | 11.7 | | 44.0 | | |
| Approach LOS | A | B | | D | | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | 11.9 | | | | B |
| HCM 2000 Volume to Capacity ratio | | 0.50 | | | | |
| Actuated Cycle Length (s) | | 100.0 | | | | 16.0 |
| Intersection Capacity Utilization | | 64.2% | | | | C |
| Analysis Period (min) | | 15 | | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics
8: The Gore Rd & Street Y

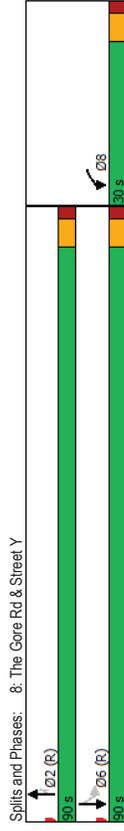
05-15-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width (m) | 0% | 0% | 0% | 0% | 0% | 0% |
| Grade (%) | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 1 | 0 | 1 | 1 | 1 | 1 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 |
| Ped Bike Factor | 0.91 | 0.976 | 1.00 | 0.81 | 1.00 | 1.00 |
| Frt | 0.960 | 0.976 | 0.988 | 0.850 | 0.950 | 0.950 |
| Flt Protected | 1717 | 0 | 1781 | 1521 | 1730 | 1883 |
| Satd. Flow (prot) | 0.960 | | | | 0.089 | |
| Satd. Flow (perm) | 1601 | 0 | 1781 | 1227 | 107 | 1883 |
| Right Turn on Red | Yes | Yes | Yes | Yes | Yes | Yes |
| Satd. Flow (RTOR) | 8 | 2 | 56 | 56 | 48 | 48 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 134.7 | 576.8 | 576.8 | 576.8 | 211.4 | 211.4 |
| Travel Time (s) | 9.7 | 41.7 | 41.7 | 41.7 | 15.9 | 15.9 |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings
8: The Gore Rd & Street Y

05-15-2023

| | WBL | NBT | NBR | SBL | SBT |
|--|-------|-------|-------|-------|-------|
| Lane Group | W | | | | |
| Lane Configurations | 170 | 1184 | 176 | 47 | 472 |
| Traffic Volume (vph) | 170 | 1184 | 176 | 47 | 472 |
| Future Volume (vph) | 170 | 1184 | 176 | 47 | 472 |
| Turn Type | Prot | NA | Perm | Perm | NA |
| Protected Phases | 8 | 2 | 2 | 6 | 6 |
| Permitted Phases | 8 | 2 | 2 | 6 | 6 |
| Detector Phases | 8 | 2 | 2 | 6 | 6 |
| Switch Phase | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 28.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 30.0 | 90.0 | 90.0 | 90.0 | 90.0 |
| Total Split (%) | 25.0% | 75.0% | 75.0% | 75.0% | 75.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | |
| Lead-Lag Optimize? | | | | | |
| Recall Mode | None | C-Min | C-Min | C-Min | C-Min |
| Act Effct Green (s) | 18.7 | 89.3 | 89.3 | 89.3 | 89.3 |
| Actuated g/C Ratio | 0.16 | 0.74 | 0.74 | 0.74 | 0.74 |
| v/C Ratio | 0.75 | 0.91 | 0.17 | 0.59 | 0.34 |
| Control Delay | 63.1 | 43.8 | 10.3 | 45.3 | 6.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 63.1 | 43.8 | 10.3 | 45.3 | 6.5 |
| LOS | E | D | B | D | A |
| Approach Delay | 63.1 | 39.9 | | 10.0 | |
| Approach LOS | E | D | | B | |
| Intersection Summary | | | | | |
| Cycle Length: 120 | | | | | |
| Actuated Cycle Length: 120 | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | | |
| Natural Cycle: 100 | | | | | |
| Control Type: Actuated-Coordinated | | | | | |
| Maximum v/C Ratio: 0.91 | | | | | |
| Intersection Signal Delay: 34.7 | | | | | |
| Intersection Capacity Utilization 93.3% | | | | | |
| ICU Level of Service F | | | | | |
| Analysis Period (min) 15 | | | | | |



| | WBL | NBT | NBR | SBL | SBT |
|------------------------|-------|--------|-------|-------|------|
| Lane Group Flow (vph) | 206 | 1202 | 158 | 47 | 472 |
| v/c Ratio | 0.75 | 0.91 | 0.17 | 0.59 | 0.34 |
| Control Delay | 63.1 | 43.8 | 10.3 | 45.3 | 6.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 63.1 | 43.8 | 10.3 | 45.3 | 6.5 |
| Queue Length 50th (m) | 46.8 | 256.2 | 11.2 | 4.6 | 34.8 |
| Queue Length 95th (m) | 70.3 | #389.1 | m36.4 | #30.9 | 58.1 |
| Internal Link Dist (m) | 110.7 | 554.8 | | 187.4 | |
| Turn Bay Length (m) | | 25.0 | | | |
| Base Capacity (vph) | 349 | 1325 | 927 | 79 | 1401 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.59 | 0.91 | 0.17 | 0.59 | 0.34 |

Intersection Summary
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is met/relayed by upstream signal.

HCM Signalized Intersection Capacity Analysis
 8: The Gore Rd & Street Y

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------|------|------|------|------|------|------|
| Lane Configurations | W | W | T | T | T | T |
| Traffic Volume (vph) | 170 | 36 | 1184 | 176 | 47 | 472 |
| Future Volume (vph) | 170 | 36 | 1184 | 176 | 47 | 472 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 0.97 | 1.00 | 0.81 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Protected | 0.96 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 1780 | 1227 | 1730 | 1883 | 1883 |
| Flt Permitted | 0.96 | 1.00 | 1.00 | 0.06 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1719 | 1780 | 1227 | 108 | 1883 | 1883 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 170 | 36 | 1184 | 176 | 47 | 472 |
| RTOR Reduction (vph) | 7 | 0 | 1 | 14 | 0 | 0 |
| Lane Group Flow (vph) | 199 | 0 | 1201 | 144 | 47 | 472 |
| Conf. Peds. (#/hr) | 50 | 50 | NA | 50 | 50 | 50 |

| Turn Type | Prot | NA | Perm | Perm | NA |
|------------------------|-------|------|-------|------|------|
| Protected Phases | 8 | 2 | | | 6 |
| Permitted Phases | | | 2 | 6 | |
| Actuated Green, G (s) | 18.7 | 89.3 | 89.3 | 89.3 | 89.3 |
| Effective Green, g (s) | 18.7 | 89.3 | 89.3 | 89.3 | 89.3 |
| Actuated g/C Ratio | 0.16 | 0.74 | 0.74 | 0.74 | 0.74 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 267 | 1324 | 913 | 80 | 1401 |
| v/s Ratio Prot | c0.12 | | c0.67 | | 0.25 |
| v/s Ratio Perm | | 0.75 | 0.91 | 0.16 | 0.43 |
| v/c Ratio | 0.75 | 0.91 | 0.16 | 0.59 | 0.34 |
| Uniform Delay, d1 | 48.4 | 12.1 | 4.4 | 7.0 | 5.2 |
| Progression Factor | 1.00 | 2.65 | 2.93 | 1.00 | 1.00 |
| Incremental Delay, d2 | 10.8 | 9.2 | 0.3 | 27.9 | 0.7 |
| Delay (s) | 59.2 | 41.2 | 13.3 | 34.8 | 5.9 |
| Level of Service | E | D | B | C | A |
| Approach Delay (s) | 59.2 | 38.0 | | | 8.5 |
| Approach LOS | E | D | | | A |

| Intersection Summary | |
|-----------------------------------|-------|
| HCM 2000 Control Delay | 32.7 |
| HCM 2000 Volume to Capacity ratio | 0.88 |
| Actuated Cycle Length (s) | 120.0 |
| Intersection Capacity Utilization | 93.3% |
| Analysis Period (min) | 15 |
| c Critical Lane Group | |

Lanes and Geometrics

9: The Gore Rd & Street DDD

05-15-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------|-------|------|-------|------|-------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Lane Width (m) | 0% | 0% | 0% | 0% | 50.0 | 0% |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 7.6 | 0.0 |
| Storage Length (m) | 1 | 0 | 0 | 0 | 1 | 1 |
| Storage Lanes | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.865 | | 0.982 | | | |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 1629 | 0 | 1850 | 0 | 1821 | 1883 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 1629 | 0 | 1850 | 0 | 1821 | 1883 |
| Link Speed (k/h) | 50 | | 50 | | 50 | 50 |
| Link Distance (m) | 209.0 | | 211.4 | | 265.4 | 265.4 |
| Travel Time (s) | 15.0 | | 15.2 | | 19.1 | 19.1 |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |

HCM Unsignalized Intersection Capacity Analysis

9: The Gore Rd & Street DDD

05-15-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|------|------|-------|------|------|------------------------|
| Movement | W | | | | | |
| Lane Configurations | 1052 | 1052 | 1052 | 1052 | 1052 | 1052 |
| Traffic Volume (veh/h) | 0 | 12 | 1052 | 167 | 0 | 520 |
| Future Volume (Veh/h) | 0 | 12 | 1052 | 167 | 0 | 520 |
| Sign Control | Stop | Free | Free | Free | Free | Free |
| Grade | 0% | 0% | 0% | 0% | 0% | 0% |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 12 | 1052 | 167 | 0 | 520 |
| Pedestrians | 50 | | 50 | | | 50 |
| Lane Width (m) | 3.7 | | 3.7 | | | 3.5 |
| Walking Speed (m/s) | 1.2 | | 1.2 | | | 1.2 |
| Percent Blockage | 4 | | 4 | | | 4 |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage (veh) | | | | | | |
| Upstream signal (m) | | | 212 | | | 265 |
| pk_platoon unblocked | 0.30 | 0.28 | | | | 0.28 |
| vC_conflicting volume | 1756 | 1236 | | | | 1269 |
| vC1_stage 1 conf vol | | | | | | |
| vC2_stage 2 conf vol | | | | | | |
| vCu_unblocked vol | 2027 | 565 | | | | 684 |
| IC_single (s) | 6.4 | 6.2 | | | | 4.1 |
| IC_2 stage (s) | | | | | | |
| p0_queue free % | 3.5 | 3.3 | | | | 2.2 |
| IF (s) | 100 | 91 | | | | 100 |
| qM capacity (veh/h) | 18 | 136 | | | | 246 |
| Direction_Lane # | WB 1 | NB 1 | SB 1 | SB 2 | | |
| Volume Total | 12 | 1219 | 0 | 520 | | |
| Volume Left | 0 | 0 | 0 | 0 | | |
| Volume Right | 12 | 167 | 0 | 0 | | |
| vSH | 136 | 1700 | 1700 | 1700 | | |
| Volume to Capacity | 0.09 | 0.72 | 0.00 | 0.31 | | |
| Queue Length 95th (m) | 2.2 | 0.0 | 0.0 | 0.0 | | |
| Control Delay (s) | 34.0 | 0.0 | 0.0 | 0.0 | | |
| Lane LOS | D | | | | | |
| Approach Delay (s) | 34.0 | 0.0 | 0.0 | | | |
| Approach LOS | D | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.2 | | | |
| Intersection Capacity Utilization | | | 84.4% | | | ICU Level of Service E |
| Analysis Period (min) | | | 15 | | | |

Lanes and Geometrics

10: The Gore Rd & Street A

05-15-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|----------------------|-------|------|-------|-------|------|-------|
| Lane Group | W | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 | |
| Lane Width (m) | 0% | 0% | 0% | 0% | 0% | |
| Grade (%) | 0.0 | 0.0 | 0.0 | 50.0 | | |
| Storage Length (m) | 1 | 0 | 0 | 1 | | |
| Taper Length (m) | 0.0 | | | 7.6 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.90 | | 0.976 | | | |
| Frt | 0.969 | | 0.976 | | | |
| Flt Protected | 0.963 | | | 0.950 | | |
| Satd. Flow (prot) | 1709 | 0 | 1790 | 0 | 1730 | 1883 |
| Flt Permitted | 0.963 | | | 0.128 | | |
| Satd. Flow (perm) | 1574 | 0 | 1790 | 0 | 233 | 1883 |
| Right Turn on Red | | Yes | Yes | Yes | | |
| Satd. Flow (RTOR) | 16 | 23 | | | | |
| Link Speed (k/h) | 50 | | 50 | | | 50 |
| Link Distance (m) | 319.0 | | 265.4 | | | 374.2 |
| Travel Time (s) | 23.0 | | 19.1 | | | 26.9 |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings

10: The Gore Rd & Street A

05-15-2023

| | WBL | NBT | SBL | SBT |
|--|--|-------|-------|-------|
| Lane Group | W | | | |
| Lane Configurations | 166 | 876 | 53 | 353 |
| Traffic Volume (vph) | 166 | 876 | 53 | 353 |
| Future Volume (vph) | Prot | NA | Perm | NA |
| Turn Type | 8 | 2 | 6 | 6 |
| Permitted Phases | 8 | 2 | 6 | 6 |
| Detector Phases | 8 | 2 | 6 | 6 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 28.0 | 25.0 | 25.0 | 25.0 |
| Minimum Split (s) | 28.0 | 62.0 | 62.0 | 62.0 |
| Total Split (s) | 31.1% | 68.9% | 68.9% | 68.9% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | None | C-Min | C-Min | C-Min |
| Recall Mode | 15.8 | 62.2 | 62.2 | 62.2 |
| Act Effct Green (s) | 0.18 | 0.69 | 0.69 | 0.69 |
| Actuated g/C Ratio | 0.69 | 0.86 | 0.33 | 0.27 |
| v/C Ratio | 43.0 | 20.7 | 14.2 | 6.6 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 43.0 | 20.7 | 14.2 | 6.6 |
| Total Delay | D | C | B | A |
| LOS | 43.0 | 20.7 | 7.6 | A |
| Approach Delay | D | C | A | A |
| Approach LOS | Intersection Summary | | | |
| Cycle Length: 90 | Cycle Length: 90 | | | |
| Actuated Cycle Length: 90 | Actuated Cycle Length: 90 | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | |
| Natural Cycle: 90 | Natural Cycle: 90 | | | |
| Control Type: Actuated-Coordinated | Control Type: Actuated-Coordinated | | | |
| Maximum v/C Ratio: 0.86 | Maximum v/C Ratio: 0.86 | | | |
| Intersection Signal Delay: 20.4 | Intersection Signal Delay: 20.4 | | | |
| Intersection Capacity Utilization 85.6% | Intersection Capacity Utilization 85.6% | | | |
| Analysis Period (min) 15 | Analysis Period (min) 15 | | | |



Queues
10: The Gore Rd & Street A

05-15-2023

| | WBL | NBT | SBL | SBT |
|------------------------|-------|--------|------|-------|
| Lane Group | 215 | 1064 | 53 | 353 |
| Lane Group Flow (vph) | 0.69 | 0.86 | 0.33 | 0.27 |
| v/c Ratio | 43.0 | 20.7 | 14.2 | 6.6 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 43.0 | 20.7 | 14.2 | 6.6 |
| Total Delay | 33.8 | 122.2 | 3.3 | 20.8 |
| Queue Length 50th (m) | 52.9 | #264.6 | 14.2 | 41.1 |
| Queue Length 95th (m) | 295.0 | 241.4 | | 350.2 |
| Internal Link Dist (m) | | | 50.0 | |
| Turn Bay Length (m) | 429 | 1244 | 161 | 1301 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.50 | 0.86 | 0.33 | 0.27 |

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
10: The Gore Rd & Street A

05-15-2023

| | WBL | WBR | NBT | NBR | SBL | SBT |
|-----------------------------------|------|------|-------|------|---------------------------|------|
| Movement | W | | | | | |
| Lane Configurations | W | | | | | |
| Traffic Volume (vph) | 166 | 49 | 876 | 188 | 53 | 353 |
| Future Volume (vph) | 166 | 49 | 876 | 188 | 53 | 353 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | 3.7 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 0.97 | 0.97 | 0.97 | 1.00 | 1.00 | 1.00 |
| Frbp. ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flt Protected | 0.96 | 1.00 | 0.98 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1709 | 1790 | 1730 | 1730 | 1883 | 1883 |
| Flt Permitted | 0.96 | 1.00 | 1.00 | 0.13 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1709 | 1790 | 1790 | 233 | 1883 | 1883 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 166 | 49 | 876 | 188 | 53 | 353 |
| RTOR Reduction (vph) | 13 | 0 | 7 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 202 | 0 | 1057 | 0 | 53 | 353 |
| Confl. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 |
| Turn Type | Prot | NA | NA | Perm | NA | NA |
| Protected Phases | 8 | | 2 | | 6 | |
| Permitted Phases | | | | | 6 | |
| Actuated Green, G (s) | 15.8 | | 62.2 | | 62.2 | |
| Effective Green, g (s) | 15.8 | | 62.2 | | 62.2 | |
| Actuated g/C Ratio | 0.18 | | 0.69 | | 0.69 | |
| Clearance Time (s) | 6.0 | | 6.0 | | 6.0 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | 300 | | 1237 | | 161 | |
| v/s Ratio Prot | 0.12 | | 0.59 | | 0.19 | |
| v/s Ratio Perm | | | | | 0.23 | |
| v/c Ratio | 0.67 | | 0.85 | | 0.33 | |
| Uniform Delay, d1 | 34.7 | | 10.5 | | 5.6 | |
| Progression Factor | 1.00 | | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 5.8 | | 7.6 | | 5.4 | |
| Delay (s) | 40.5 | | 18.1 | | 10.9 | |
| Level of Service | D | | B | | B | |
| Approach Delay (s) | 40.5 | | 18.1 | | 6.5 | |
| Approach LOS | D | | B | | A | |
| Intersection Summary | | | | | | |
| HCM 2000 Control Delay | | | 18.2 | | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | | | 0.82 | | | |
| Actuated Cycle Length (s) | | | 90.0 | | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | | | 85.6% | | ICU Level of Service | E |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

Lanes and Geometrics
12: Street VV & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|-------|------|------|-------|------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.997 | | | 0.997 | | | | | | | | 0.973 |
| Ft Protected | 0 | 1878 | 0 | 0 | 1878 | 0 | 0 | 1789 | 0 | 0 | 1763 | 0 |
| Satd. Flow (prot) | 0 | 1878 | 0 | 0 | 1878 | 0 | 0 | 1789 | 0 | 0 | 1763 | 0 |
| FT Permitted | 0 | 1878 | 0 | 0 | 1878 | 0 | 0 | 1789 | 0 | 0 | 1763 | 0 |
| Satd. Flow (perm) | 0 | 1878 | 0 | 0 | 1878 | 0 | 0 | 1789 | 0 | 0 | 1763 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 319.0 | | | 314.6 | | | 187.1 | | | 204.6 | | 14.7 |
| Travel Time (s) | 23.0 | | | 22.7 | | | 13.5 | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
12: Street VV & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 0 | 240 | 6 | 0 | 233 | 5 | 5 | 0 | 0 | 4 | 0 | 1 |
| Future Volume (vph) | 0 | 240 | 6 | 0 | 233 | 5 | 5 | 0 | 0 | 4 | 0 | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 240 | 6 | 0 | 233 | 5 | 5 | 0 | 0 | 4 | 0 | 1 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 246 | 238 | 5 | 5 | | | | | | | | |
| Volume Left (vph) | 0 | 0 | 5 | 4 | | | | | | | | |
| Volume Right (vph) | 6 | 5 | 0 | 1 | | | | | | | | |
| Head (s) | 0.02 | 0.02 | 0.23 | 0.07 | | | | | | | | |
| Departure Headway (s) | 4.2 | 4.2 | 5.2 | 5.0 | | | | | | | | |
| Degree Utilization, x | 0.29 | 0.28 | 0.01 | 0.01 | | | | | | | | |
| Capacity (veh/h) | 849 | 839 | 629 | 643 | | | | | | | | |
| Control Delay (s) | 8.8 | 8.8 | 8.2 | 8.1 | | | | | | | | |
| Approach Delay (s) | 8.8 | 8.8 | 8.2 | 8.1 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 8.8 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 31.4% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
14: Street JJ & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|------|-------|------|------|-------|------|------|------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.987 | | | | | | | 0.988 | | | | 0.962 |
| Frt Protected | 0.999 | | | | 0.998 | | | 0.978 | | | | |
| Satd. Flow (prot) | 0 | 1857 | 0 | 0 | 1880 | 0 | 0 | 1783 | 0 | 0 | 0 | 1812 |
| Flt Permitted | 0.999 | | | | 0.998 | | | 0.978 | | | | |
| Satd. Flow (perm) | 0 | 1857 | 0 | 0 | 1880 | 0 | 0 | 1783 | 0 | 0 | 0 | 1812 |
| Link Speed (k/h) | 50 | | | | 50 | | | 50 | | | | 50 |
| Link Distance (m) | 314.6 | | | | 275.2 | | | 590.8 | | | | 204.6 |
| Travel Time (s) | 22.7 | | | | 19.8 | | | 42.5 | | | | 14.7 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
14: Street JJ & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|-------|-------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 7 | 206 | 23 | 10 | 207 | 0 | 23 | 15 | 12 | 0 | 13 | 5 |
| Future Volume (vph) | 7 | 206 | 23 | 10 | 207 | 0 | 23 | 15 | 12 | 0 | 13 | 5 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 7 | 206 | 23 | 10 | 207 | 0 | 23 | 15 | 12 | 0 | 13 | 5 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 236 | 217 | 50 | 18 | | | | | | | | |
| Volume Left (vph) | 7 | 10 | 23 | 0 | | | | | | | | |
| Volume Right (vph) | 23 | 0 | 12 | 5 | | | | | | | | |
| Head (s) | -0.02 | 0.04 | -0.02 | -0.13 | | | | | | | | |
| Departure Headway (s) | 4.3 | 4.4 | 4.9 | 4.8 | | | | | | | | |
| Degree Utilization, x | 0.28 | 0.26 | 0.07 | 0.02 | | | | | | | | |
| Capacity (veh/h) | 819 | 796 | 667 | 664 | | | | | | | | |
| Control Delay (s) | 9.0 | 8.9 | 8.3 | 8.0 | | | | | | | | |
| Approach Delay (s) | 9.0 | 8.9 | 8.3 | 8.0 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 8.8 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 34.8% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
15: Street 1 & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|------|-------|------|-------|------|------|------|------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 7.5 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.992 | | | | | | 0.951 | | | | | 0.958 |
| Frt Protected | 0.998 | | | | | | 0.980 | | | | | 0.980 |
| Satd. Flow (prot) | 0 | 1865 | 0 | 0 | 1876 | 0 | 0 | 1755 | 0 | 0 | 1804 | 0 |
| Flt Permitted | 0.998 | | | | 0.996 | | 0.980 | | | | | 0.980 |
| Satd. Flow (perm) | 0 | 1865 | 0 | 0 | 1876 | 0 | 0 | 1755 | 0 | 0 | 1804 | 0 |
| Link Speed (k/h) | 50 | | | | 50 | | 50 | | | | | 50 |
| Link Distance (m) | 275.2 | | | | 405.9 | | 598.1 | | | | | 178.2 |
| Travel Time (s) | 19.8 | | | | 29.2 | | 43.1 | | | | | 12.8 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
15: Street 1 & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|-------|-------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 7 | 186 | 12 | 16 | 190 | 0 | 21 | 12 | 19 | 0 | 11 | 5 |
| Future Volume (vph) | 7 | 186 | 12 | 16 | 190 | 0 | 21 | 12 | 19 | 0 | 11 | 5 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 7 | 186 | 12 | 16 | 190 | 0 | 21 | 12 | 19 | 0 | 11 | 5 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 205 | 206 | 52 | 16 | | | | | | | | |
| Volume Left (vph) | 7 | 16 | 21 | 0 | | | | | | | | |
| Volume Right (vph) | 12 | 0 | 19 | 5 | | | | | | | | |
| Head (s) | 0.01 | 0.05 | -0.10 | -0.15 | | | | | | | | |
| Departure Headway (s) | 4.3 | 4.3 | 4.7 | 4.7 | | | | | | | | |
| Degree Utilization, x | 0.24 | 0.25 | 0.07 | 0.02 | | | | | | | | |
| Capacity (veh/h) | 818 | 803 | 697 | 684 | | | | | | | | |
| Control Delay (s) | 8.7 | 8.8 | 8.1 | 7.8 | | | | | | | | |
| Approach Delay (s) | 8.7 | 8.8 | 8.1 | 7.8 | | | | | | | | |
| Approach LOS | A | A | A | A | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 8.6 | | | | | | | | | | | |
| Level of Service | A | | | | | | | | | | | |
| Intersection Capacity Utilization | 34.9% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

18: Humber Station Rd & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------|-------|------|------|-------|------|------|------|-------|------|------|------|-------|
| Lane Group | | | | | | | | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 7.5 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.939 | | | 0.978 | | | | 0.976 | | | | 0.992 |
| Frt Protected | 0.998 | | | 0.989 | | | | 0.985 | | | | 0.992 |
| Satd. Flow (prot) | 0 | 1765 | 0 | 0 | 1822 | 0 | 0 | 1811 | 0 | 0 | 0 | 1853 |
| Frt Permitted | 0.998 | | | 0.989 | | | | 0.985 | | | | 0.992 |
| Satd. Flow (perm) | 0 | 1765 | 0 | 0 | 1822 | 0 | 0 | 1811 | 0 | 0 | 0 | 1853 |
| Link Speed (k/h) | 50 | | | 50 | | | | 50 | | | | 50 |
| Link Distance (m) | 405.9 | | | 132.6 | | | | 361.3 | | | | 173.8 |
| Travel Time (s) | 29.2 | | | 9.5 | | | | 26.0 | | | | 12.5 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

18: Humber Station Rd & Street A

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|
| Movement | | | | | | | | | | | | |
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | Stop | | | Stop | | | | Stop | | | Stop | |
| Traffic Volume (vph) | 7 | 87 | 77 | 38 | 109 | 28 | 135 | 233 | 79 | 21 | 95 | 7 |
| Future Volume (vph) | 7 | 87 | 77 | 38 | 109 | 28 | 135 | 233 | 79 | 21 | 95 | 7 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 7 | 87 | 77 | 38 | 109 | 28 | 135 | 233 | 79 | 21 | 95 | 7 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 171 | 175 | 447 | 123 | | | | | | | | |
| Volume Left (vph) | 7 | 38 | 135 | 21 | | | | | | | | |
| Volume Right (vph) | 77 | 28 | 79 | 7 | | | | | | | | |
| Head (s) | | -0.23 | -0.02 | -0.01 | 0.03 | | | | | | | |
| Departure Headway (s) | | 5.5 | 5.7 | 5.1 | 5.6 | | | | | | | |
| Degree Utilization, x | | 0.26 | 0.28 | 0.63 | 0.19 | | | | | | | |
| Capacity (veh/h) | | 579 | 563 | 677 | 572 | | | | | | | |
| Control Delay (s) | | 10.5 | 10.9 | 16.5 | 10.0 | | | | | | | |
| Approach Delay (s) | | 10.5 | 10.9 | 16.5 | 10.0 | | | | | | | |
| Approach LOS | | B | B | C | A | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 13.4 | | | | | | | | | | | |
| Level of Service | B | | | | | | | | | | | |
| Intersection Capacity Utilization | 62.7% | | | | | | | | | | | |
| ICU Level of Service | B | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

48: Humber Station Rd & Street E

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | | | | | | | | | | | | |
| Lane Configurations | | | | | | | | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.93 | 0.93 | 0.93 | 0.94 | 0.94 | 0.92 | 0.86 | 0.86 | 0.86 | 0.86 | 1.00 | 1.00 |
| Frt | 0.895 | 0.999 | 0.999 | 0.999 | 0.999 | 0.950 | 0.850 | 0.850 | 0.850 | 0.950 | 0.997 | 0.997 |
| Flt Protected | 0 | 1572 | 0 | 0 | 1791 | 0 | 1789 | 1883 | 1601 | 1789 | 1873 | 0 |
| Satd. Flow (prot) | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 | 0.962 |
| Flt Permitted | 0 | 1511 | 0 | 0 | 1238 | 0 | 1008 | 1883 | 1383 | 435 | 1873 | 0 |
| Satd. Flow (perm) | 0 | 1511 | 0 | 0 | 1238 | 0 | 1008 | 1883 | 1383 | 435 | 1873 | 0 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 140.6 | 140.6 | 140.6 | 140.6 | 140.6 | 140.6 | 153.1 | 153.1 | 153.1 | 153.1 | 361.3 | 361.3 |
| Travel Time (s) | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 11.0 | 11.0 | 11.0 | 11.0 | 26.0 | 26.0 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | | |

Timings

48: Humber Station Rd & Street E

05-15-2023

| | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | | | | | | | | | |
| Lane Configurations | | | | | | | | | |
| Traffic Volume (vph) | 9 | 14 | 344 | 1 | 151 | 704 | 386 | 5 | 262 |
| Future Volume (vph) | 9 | 14 | 344 | 1 | 151 | 704 | 386 | 5 | 262 |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | Perm | NA |
| Protected Phases | 4 | 4 | 8 | 8 | 2 | 2 | 2 | 6 | 6 |
| Permitted Phases | 4 | 4 | 8 | 8 | 2 | 2 | 2 | 6 | 6 |
| Detector Phase | 4 | 4 | 8 | 8 | 2 | 2 | 2 | 6 | 6 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Minimum Split (s) | 40.0 | 40.0 | 40.0 | 40.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 |
| Total Split (%) | 44.4% | 44.4% | 44.4% | 44.4% | 55.6% | 55.6% | 55.6% | 55.6% | 55.6% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | | | | | | | |
| Lead-Lag Optimize? | None |
| Recall Mode | None |
| Act Effct Green (s) | 29.2 | 29.2 | 48.8 | 48.8 | 48.8 | 48.8 | 48.8 | 48.8 | 48.8 |
| Actuated g/C Ratio | 0.32 | 0.32 | 0.54 | 0.54 | 0.54 | 0.54 | 0.54 | 0.54 | 0.54 |
| v/C Ratio | 0.19 | 0.19 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 |
| Control Delay | 7.4 | 7.4 | 49.6 | 49.6 | 14.3 | 14.3 | 14.3 | 12.2 | 13.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | 2.3 | 2.3 | 0.0 | 0.0 |
| Total Delay | 7.4 | 7.4 | 49.6 | 49.6 | 14.3 | 14.3 | 14.3 | 12.2 | 13.0 |
| LOS | A | A | D | D | B | B | C | A | B |
| Approach Delay | 7.4 | 7.4 | 49.6 | 49.6 | 15.8 | 15.8 | 13.0 | 13.0 | 13.0 |
| Approach LOS | A | A | D | D | B | B | B | B | B |
| Intersection Summary | | | | | | | | | |
| Cycle Length: 90 | | | | | | | | | |
| Actuated Cycle Length: 90 | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green | | | | | | | | | |
| Natural Cycle: 60 | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | |
| Maximum v/C Ratio: 0.87 | | | | | | | | | |
| Intersection Signal Delay: 21.0 | | | | | | | | | |
| Intersection Capacity Utilization 82.2% | | | | | | | | | |
| ICU Level of Service E | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | |



Queues
48: Humber Station Rd & Street E

05-15-2023

| | EBT | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|------|-------|
| Lane Group | 105 | 348 | 151 | 704 | 386 | 5 |
| Lane Group Flow (vph) | 0.19 | 0.87 | 0.28 | 0.69 | 0.42 | 0.26 |
| v/c Ratio | 7.4 | 49.6 | 14.3 | 20.9 | 3.0 | 12.2 |
| Control Delay | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 |
| Queue Delay | 7.4 | 49.6 | 14.3 | 23.2 | 3.0 | 12.2 |
| Total Delay | 2.7 | 56.2 | 14.5 | 91.2 | 0.4 | 25.2 |
| Queue Length 50th (m) | 12.9 | #95.9 | 29.3 | 145.8 | 14.2 | 2.3 |
| Queue Length 95th (m) | 116.6 | 92.4 | 129.1 | | | 337.3 |
| Internal Link Dist (m) | | | 25.0 | | | 25.0 |
| Turn Bay Length (m) | | | | | | |
| Base Capacity (vph) | 621 | 468 | 546 | 1020 | 926 | 235 |
| Starvation Cap Reductn | 0 | 0 | 0 | 191 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.17 | 0.74 | 0.28 | 0.85 | 0.42 | 0.02 |

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
48: Humber Station Rd & Street E

05-15-2023

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
|-----------------------------------|-------|------|------|-------|------|------|-------|------|------|------|------|---------------------------|------|
| Lane Configurations | | + | | + | | | | | | | | | |
| Traffic Volume (vph) | 9 | 14 | 82 | 344 | 1 | 3 | 151 | 704 | 386 | 5 | 262 | 5 | |
| Future Volume (vph) | 9 | 14 | 82 | 344 | 1 | 3 | 151 | 704 | 386 | 5 | 262 | 5 | |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 6.0 | | | 6.0 | | | 6.0 | | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frb. ped/bikes | 0.94 | | | 1.00 | | | 1.00 | | 0.86 | | 1.00 | 1.00 | |
| Frb. ped/bikes | 1.00 | | | 0.94 | | | 0.92 | | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | 0.89 | | | 1.00 | | | 1.00 | | 1.00 | | 0.85 | 1.00 | |
| Satd. Flow (prot) | 1564 | | | 1684 | | | 1648 | | 1883 | | 1789 | 1873 | |
| Flt Permitted | 0.96 | | | 0.70 | | | 0.68 | | 1.00 | | 0.23 | 1.00 | |
| Satd. Flow (perm) | 1511 | | | 1238 | | | 1007 | | 1383 | | 435 | 1873 | |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Adj. Flow (vph) | 9 | 14 | 82 | 344 | 1 | 3 | 151 | 704 | 386 | 5 | 262 | 5 | |
| RTOR Reduction (vph) | 0 | 55 | 0 | 0 | 1 | 0 | 0 | 0 | 177 | 0 | 0 | 0 | |
| Lane Group Flow (vph) | 0 | 50 | 0 | 0 | 347 | 0 | 151 | 704 | 209 | 5 | 267 | 0 | |
| Confl. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA | Perm | Perm | NA | NA | |
| Protected Phases | 4 | | | 8 | | | 2 | | 2 | | 6 | | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 2 | | 6 | | |
| Actuated Green, G (s) | 29.2 | | | 29.2 | | | 48.8 | | 48.8 | | 48.8 | | |
| Effective Green, g (s) | 29.2 | | | 29.2 | | | 48.8 | | 48.8 | | 48.8 | | |
| Actuated g/C Ratio | 0.32 | | | 0.32 | | | 0.54 | | 0.54 | | 0.54 | | |
| Clearance Time (s) | 6.0 | | | 6.0 | | | 6.0 | | 6.0 | | 6.0 | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | | | 3.0 | | 3.0 | | 3.0 | | |
| Lane Grp Cap (vph) | 490 | | | 401 | | | 546 | | 1021 | | 749 | | |
| v/s Ratio Prot | | | | | | | c0.37 | | | | | | |
| v/s Ratio Perm | 0.03 | | | c0.28 | | | 0.15 | | 0.15 | | 0.01 | | |
| v/c Ratio | 0.10 | | | 0.87 | | | 0.28 | | 0.69 | | 0.02 | | |
| Uniform Delay, d1 | 21.2 | | | 28.6 | | | 11.1 | | 15.1 | | 9.5 | | |
| Progression Factor | 1.00 | | | 1.00 | | | 1.00 | | 1.00 | | 1.00 | | |
| Incremental Delay, d2 | 0.1 | | | 17.5 | | | 1.3 | | 3.8 | | 0.9 | | |
| Delay (s) | 21.3 | | | 46.0 | | | 12.3 | | 18.9 | | 12.0 | | |
| Level of Service | C | | | D | | | B | | B | | A | | |
| Approach Delay (s) | 21.3 | | | 46.0 | | | 16.0 | | 16.0 | | 11.6 | | |
| Approach LOS | C | | | D | | | B | | B | | B | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | 21.0 | | | | | | | | | | | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.76 | | | | | | | | | | | | |
| Actuated Cycle Length (s) | 90.0 | | | | | | | | | | | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 82.2% | | | | | | | | | | | ICU Level of Service | E |
| Analysis Period (min) | 15 | | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | |

Lanes and Geometrics
58: Humber Station Rd & Street Y

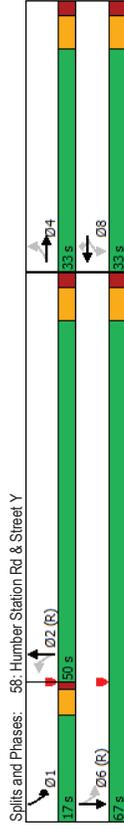
05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 45.0 | 0 | 0 | 25.0 | 25.0 | 25.0 | 50.0 | 0.0 | 0.0 | 50.0 | 0.0 | 0.0 |
| Storage Lanes | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 0 | 0 | 7.5 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Ped Bike Factor | 0.97 | 0.98 | 0.95 | 0.91 | 0.94 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.99 | 0.99 |
| Frt | 0.950 | 0.975 | 0.950 | 0.850 | 0.850 | 0.850 | 0.969 | 0.969 | 0.969 | 0.950 | 0.950 | 0.950 |
| Flt Protected | 1789 | 1809 | 0 | 1789 | 1883 | 1601 | 1789 | 3404 | 0 | 1789 | 3536 | 0 |
| Satd. Flow (prot) | 0.227 | 0.421 | 0.421 | 0.421 | 0.421 | 0.421 | 0.421 | 0.421 | 0.421 | 0.421 | 0.421 | 0.421 |
| Satd. Flow (perm) | 414 | 1809 | 0 | 757 | 1883 | 1458 | 816 | 3404 | 0 | 228 | 3536 | 0 |
| Right Turn on Red | Yes |
| Satd. Flow (RTOR) | 10 | 50 | 50 | 50 | 50 | 50 | 50 | 41 | 41 | 7 | 7 | 7 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 81.8 | 81.8 | 813.2 | 813.2 | 813.2 | 813.2 | 194.3 | 194.3 | 194.3 | 153.1 | 153.1 | 153.1 |
| Travel Time (s) | 5.9 | 5.9 | 58.6 | 58.6 | 58.6 | 58.6 | 14.0 | 14.0 | 14.0 | 11.0 | 11.0 | 11.0 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: Other | | | | | | | | | | | | |

Timings
58: Humber Station Rd & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|-------|-------|-------|-------|-------|-------|-------|---------|-------|---------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 60 | 216 | 88 | 367 | 109 | 126 | 967 | 210 | 492 | 492 | 210 | 492 |
| Traffic Volume (vph) | 60 | 216 | 88 | 367 | 109 | 126 | 967 | 210 | 492 | 492 | 210 | 492 |
| Future Volume (vph) | Perm | NA | Perm | NA | Perm | Perm | NA | perm-pl | NA | perm-pl | NA | NA |
| Turn Type | 4 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 | 1 | 6 |
| Permitted Phases | 4 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 | 1 | 6 |
| Detector Phase | 4 | 4 | 8 | 8 | 2 | 2 | 2 | 1 | 6 | 6 | 1 | 6 |
| Switch Phase | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| Minimum Split (s) | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 |
| Total Split (%) | 33.0% | 33.0% | 33.0% | 33.0% | 33.0% | 33.0% | 33.0% | 33.0% | 33.0% | 33.0% | 33.0% | 33.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | Lag | Lag | Lag | Lag | Lag |
| Lead/Lag Optimize? | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None |
| Act Effect Green (s) | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 |
| Act Effect Green (s) | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 |
| Actuated v/c Ratio | 0.62 | 0.60 | 0.50 | 0.83 | 0.27 | 0.31 | 0.71 | 0.66 | 0.22 | 0.66 | 0.22 | 0.66 |
| v/c Ratio | 61.9 | 38.4 | 42.5 | 52.8 | 12.8 | 19.6 | 22.8 | 21.5 | 8.0 | 21.5 | 8.0 | 21.5 |
| Queue Delay | 61.9 | 38.4 | 42.5 | 52.8 | 12.8 | 19.6 | 22.8 | 21.5 | 8.0 | 21.5 | 8.0 | 21.5 |
| Total Delay | 61.9 | 38.4 | 42.5 | 52.8 | 12.8 | 19.6 | 22.8 | 21.5 | 8.0 | 21.5 | 8.0 | 21.5 |
| LOS | E | D | D | D | B | B | C | C | C | C | C | A |
| Approach Delay | 42.8 | 43.4 | 43.4 | 43.4 | 22.5 | 22.5 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 |
| Approach LOS | D | D | D | D | C | C | B | B | B | B | B | B |
| Intersection Summary | | | | | | | | | | | | |
| Cycle Length: 100 | | | | | | | | | | | | |
| Actuated Cycle Length: 100 | | | | | | | | | | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | | | | | | | | | | |
| Natural Cycle: 65 | | | | | | | | | | | | |
| Control Type: Actuated-Coordinated | | | | | | | | | | | | |
| Maximum v/c Ratio: 0.83 | | | | | | | | | | | | |
| Intersection Signal Delay: 26.1 | | | | | | | | | | | | |
| Intersection Capacity Utilization 89.0% | | | | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |



Queues
58: Humber Station Rd & Street Y

05-15-2023

| | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|------|-------|------|------|-------|-------|
| Lane Group | 60 | 260 | 88 | 367 | 109 | 126 | 210 | 512 |
| Lane Group Flow (vph) | 0.62 | 0.60 | 0.50 | 0.83 | 0.27 | 0.31 | 0.71 | 0.66 |
| v/c Ratio | 61.9 | 38.4 | 42.5 | 52.8 | 12.8 | 19.6 | 22.8 | 21.5 |
| Control Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Delay | 61.9 | 38.4 | 42.5 | 52.8 | 12.8 | 19.6 | 22.8 | 21.5 |
| Total Delay | 10.7 | 44.3 | 15.2 | 69.5 | 5.2 | 15.0 | 96.8 | 15.0 |
| Queue Length 50th (m) | #27.9 | 68.0 | 30.6 | 100.1 | 18.4 | 31.6 | 133.7 | 38.3 |
| Queue Length 95th (m) | 57.8 | 789.2 | | | | | 170.3 | 129.1 |
| Internal Link Dist (m) | 45.0 | 25.0 | 25.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 |
| Turn Bay Length (m) | 111 | 495 | 204 | 508 | 449 | 407 | 1719 | 354 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.54 | 0.53 | 0.43 | 0.72 | 0.24 | 0.31 | 0.71 | 0.59 |
| 0.22 | | | | | | | | |

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
58: Humber Station Rd & Street Y

05-15-2023

| | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
|-----------------------------------|-------|------|---------------------------|------|------|------|------|------|------|
| Lane Configurations | 60 | 216 | 44 | 88 | 367 | 109 | 126 | 967 | 250 |
| Traffic Volume (vph) | 60 | 216 | 44 | 88 | 367 | 109 | 126 | 967 | 250 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpb) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Lane Util. Factor | 1.00 | 0.98 | 1.00 | 1.00 | 0.91 | 1.00 | 0.98 | 1.00 | 0.99 |
| Frb. ped/bikes | 0.97 | 1.00 | 0.96 | 1.00 | 1.00 | 0.94 | 1.00 | 1.00 | 1.00 |
| Frb. ped/bikes | 1.00 | 0.97 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | 1.00 | 0.99 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1735 | 1808 | 1709 | 1883 | 1458 | 1674 | 3405 | 1789 | 3537 |
| Flt Permitted | 0.23 | 1.00 | 0.42 | 1.00 | 1.00 | 0.46 | 1.00 | 0.12 | 1.00 |
| Satd. Flow (perm) | 414 | 1808 | 758 | 1883 | 1458 | 816 | 3405 | 228 | 3537 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 60 | 216 | 44 | 88 | 367 | 109 | 126 | 967 | 250 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 58 | 0 | 21 | 0 |
| Lane Group Flow (vph) | 60 | 252 | 0 | 88 | 367 | 51 | 126 | 1197 | 0 |
| Confl. Peds. (#/hr) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA | NA |
| Protected Phases | 4 | | 8 | | 8 | | 2 | | 6 |
| Permitted Phases | 4 | | 8 | | 8 | | 2 | | 6 |
| Actuated Green, G (s) | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 50.0 | 50.0 | 64.6 |
| Effective Green, g (s) | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 50.0 | 50.0 | 64.6 |
| Actuated g/C Ratio | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.50 | 0.50 | 0.65 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 96 | 423 | 177 | 440 | 341 | 408 | 1702 | 312 | 2284 |
| v/s Ratio Prot | 0.14 | | 0.12 | | 0.03 | | 0.15 | | 0.14 |
| v/s Ratio Perm | 0.62 | 0.60 | 0.50 | 0.83 | 0.15 | 0.31 | 0.70 | 0.67 | 0.22 |
| v/c Ratio | 34.4 | 34.1 | 33.2 | 36.5 | 30.4 | 14.8 | 19.3 | 13.5 | 7.3 |
| Uniform Delay, d1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Progression Factor | 12.0 | 2.3 | 2.2 | 12.8 | 0.2 | 2.0 | 2.5 | 5.6 | 0.2 |
| Incremental Delay, d2 | 46.4 | 36.4 | 35.4 | 49.2 | 30.6 | 16.7 | 21.7 | 19.1 | 7.5 |
| Delay (s) | D | D | D | D | C | B | C | B | A |
| Level of Service | D | D | D | D | C | B | C | B | A |
| Approach Delay (s) | 38.2 | | 43.5 | | 21.3 | | 10.9 | | B |
| Approach LOS | D | | D | | C | | B | | B |
| Intersection Summary | | | | | | | | | |
| HCM 2000 Control Delay | 24.8 | | HCM 2000 Level of Service | C | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.74 | | | | | | | | |
| Actuated Cycle Length (s) | 100.0 | | Sum of lost time (s) | 16.0 | | | | | |
| Intersection Capacity Utilization | 89.0% | | ICU Level of Service | E | | | | | |
| Analysis Period (min) | 15 | | | | | | | | |
| c Critical Lane Group | | | | | | | | | |

Lanes and Geometrics
62: Street Y & Street VV

05-15-2023



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---------------------|------|-------|-------|------|-------|------|
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | |
| Frt | | 0.984 | | | 0.994 | |
| Frt Protected | | | | | 0.954 | |
| Satd. Flow (prot) | 0 | 1883 | 1853 | 0 | 1786 | 0 |
| Flt Permitted | | | | | 0.954 | |
| Satd. Flow (perm) | 0 | 1883 | 1853 | 0 | 1786 | 0 |
| Link Speed (k/h) | | 50 | 50 | | 50 | |
| Link Distance (m) | | 82.2 | 318.6 | | 162.9 | |
| Travel Time (s) | | 5.9 | 22.9 | | 11.7 | |

Intersection Summary

Area Type: Other

HCM Unsignalized Intersection Capacity Analysis
62: Street Y & Street VV

05-15-2023



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------|------|-------|------|------|------|------|
| Lane Configurations | | | | | | |
| Sign Control | | Stop | Stop | | Stop | Stop |
| Traffic Volume (vph) | 0 | 251 | 257 | 34 | 21 | 1 |
| Future Volume (vph) | 0 | 251 | 257 | 34 | 21 | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 251 | 257 | 34 | 21 | 1 |
| Direction_Lane # | EB 1 | WB 1 | SB 1 | | | |
| Volume Total (vph) | 251 | 291 | 22 | | | |
| Volume Left (vph) | 0 | 0 | 21 | | | |
| Volume Right (vph) | 0 | 34 | 1 | | | |
| Head (s) | 0.03 | -0.04 | 0.20 | | | |
| Departure Headway (s) | 4.3 | 4.2 | 5.3 | | | |
| Degree Utilization, x | 0.30 | 0.34 | 0.03 | | | |
| Capacity (veh/h) | 826 | 640 | 618 | | | |
| Control Delay (s) | 9.1 | 9.3 | 8.4 | | | |
| Approach Delay (s) | 9.1 | 9.3 | 8.4 | | | |
| Approach LOS | A | A | A | | | |

Intersection Summary

Delay 9.2

Level of Service A

Intersection Capacity Utilization 34.2% ICU Level of Service A

Analysis Period (min) 15

Lanes and Geometrics
64: Street JJ & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | | | | | | | | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | | | | | | | | | | | | |
| Frt | 0.993 | 0.993 | 0.990 | 0.990 | 0.990 | 0.990 | 0.967 | 0.967 | 0.994 | 0.994 | 0.994 | 0.994 |
| Frt Protected | 0.998 | 0.998 | 0.995 | 0.995 | 0.995 | 0.995 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 |
| Satd. Flow (prot) | 0 | 1867 | 0 | 0 | 1855 | 0 | 0 | 1810 | 0 | 0 | 1855 | 0 |
| Flt Permitted | 0.998 | 0.998 | 0.995 | 0.995 | 0.995 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 | 0.994 |
| Satd. Flow (perm) | 0 | 1867 | 0 | 0 | 1855 | 0 | 0 | 1810 | 0 | 0 | 1855 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 318.6 | 318.6 | 90.0 | 90.0 | 90.0 | 229.7 | 229.7 | 229.7 | 16.5 | 16.5 | 590.8 | 42.5 |
| Travel Time (s) | 22.9 | 22.9 | 6.5 | 6.5 | 6.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 42.5 | 42.5 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
64: Street JJ & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|-------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Volume (vph) | 10 | 270 | 16 | 44 | 326 | 30 | 28 | 141 | 55 | 18 | 122 | 10 |
| Future Volume (vph) | 10 | 270 | 16 | 44 | 326 | 30 | 28 | 141 | 55 | 18 | 122 | 10 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 10 | 270 | 16 | 44 | 326 | 30 | 28 | 141 | 55 | 18 | 122 | 10 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total (vph) | 286 | 400 | 224 | 150 | | | | | | | | |
| Volume Left (vph) | 10 | 44 | 28 | 18 | | | | | | | | |
| Volume Right (vph) | 16 | 30 | 55 | 10 | | | | | | | | |
| Head (s) | 0.01 | 0.01 | -0.09 | 0.02 | | | | | | | | |
| Departure Headway (s) | 5.9 | 5.7 | 6.2 | 6.5 | | | | | | | | |
| Degree Utilization, x | 0.48 | 0.63 | 0.39 | 0.27 | | | | | | | | |
| Capacity (veh/h) | 569 | 604 | 515 | 471 | | | | | | | | |
| Control Delay (s) | 14.2 | 18.0 | 13.0 | 11.9 | | | | | | | | |
| Approach Delay (s) | 14.2 | 18.0 | 13.0 | 11.9 | | | | | | | | |
| Approach LOS | B | C | B | B | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 15.0 | | | | | | | | | | | |
| Level of Service | C | | | | | | | | | | | |
| Intersection Capacity Utilization | 61.8% | | | | | | | | | | | |
| ICU Level of Service | B | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
65: Street 1 & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.983 | 0.999 | 0.997 | 0.985 | 0.997 | 0.993 | 0.993 | 0.993 | 0.993 | 0.992 | 0.992 | 0.992 |
| Flt Protected | 0 | 1850 | 0 | 0 | 1850 | 0 | 0 | 1861 | 0 | 0 | 1855 | 0 |
| Satd. Flow (prot) | 0.999 | 0.999 | 0.997 | 0.997 | 0.997 | 0.993 | 0.993 | 0.993 | 0.993 | 0.992 | 0.992 | 0.992 |
| Flt Permitted | 0 | 1850 | 0 | 0 | 1850 | 0 | 0 | 1861 | 0 | 0 | 1855 | 0 |
| Satd. Flow (perm) | 50 | 50 | 50 | 50 | 50 | 50 | 48 | 48 | 50 | 50 | 50 | 50 |
| Link Speed (k/h) | 189.0 | 137.6 | 137.6 | 229.8 | 17.2 | 17.2 | 17.2 | 17.2 | 17.2 | 17.2 | 17.2 | 17.2 |
| Link Distance (m) | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 |
| Travel Time (s) | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
65: Street 1 & Street Y

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Sign Control | 10 | 282 | 42 | 32 | 381 | 53 | 29 | 162 | 8 | 31 | 141 | 10 |
| Traffic Volume (vph) | 10 | 282 | 42 | 32 | 381 | 53 | 29 | 162 | 8 | 31 | 141 | 10 |
| Future Volume (vph) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Peak Hour Factor | 10 | 282 | 42 | 32 | 381 | 53 | 29 | 162 | 8 | 31 | 141 | 10 |
| Hourly flow rate (vph) | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Direction, Lane # | 334 | 466 | 199 | 182 | | | | | | | | |
| Volume Total (vph) | 10 | 32 | 29 | 31 | | | | | | | | |
| Volume Left (vph) | 42 | 53 | 8 | 10 | | | | | | | | |
| Volume Right (vph) | -0.04 | -0.02 | 0.04 | 0.04 | | | | | | | | |
| Head (s) | 6.1 | 5.9 | 6.9 | 6.9 | | | | | | | | |
| Departure Headway (s) | 0.57 | 0.77 | 0.38 | 0.35 | | | | | | | | |
| Degree Utilization, x | 546 | 581 | 460 | 454 | | | | | | | | |
| Capacity (veh/h) | 17.0 | 25.6 | 14.0 | 13.6 | | | | | | | | |
| Control Delay (s) | C | D | B | B | | | | | | | | |
| Approach Delay (s) | 17.0 | 25.6 | 14.0 | 13.6 | | | | | | | | |
| Approach LOS | C | D | B | B | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | 19.4 | | | | | | | | | | | |
| Level of Service | C | | | | | | | | | | | |
| Intersection Capacity Utilization | 58.4% | | | | | | | | | | | |
| ICU Level of Service | B | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
84: Street JJ & Street EE

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|-------|------|------|------|-------|------|
| Lane Group | | | | | | | | | | | | |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (veh/pl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.5 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Pad Bike Factor | 0.921 | | | | | | 0.987 | | | | | |
| Flt Protected | | | | 0.974 | | | 0.998 | | | | | |
| Satd. Flow (prot) | 0 | 1735 | 0 | 0 | 1834 | 0 | 0 | 1855 | 0 | 0 | 1883 | 0 |
| Flt Permitted | | | | 0.974 | | | 0.998 | | | | | |
| Satd. Flow (perm) | 0 | 1735 | 0 | 0 | 1834 | 0 | 0 | 1855 | 0 | 0 | 1883 | 0 |
| Link Speed (k/h) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Link Distance (m) | 174.8 | | | 275.5 | | | 262.0 | | | | 229.7 | |
| Travel Time (s) | 12.6 | | | 19.8 | | | 18.9 | | | | 16.5 | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
84: Street JJ & Street EE

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | | | | | | | | | | | | |
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 7 | 20 | 17 | 0 | 8 | 205 | 23 | 0 | 178 | 0 |
| Future Volume (Veh/h) | 0 | 5 | 7 | 20 | 17 | 0 | 8 | 205 | 23 | 0 | 178 | 0 |
| Sign Control | | Stop | | Stop | | | Free | | Free | | Free | |
| Grade | | 0% | | 0% | | | 0% | | 0% | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 7 | 20 | 17 | 0 | 8 | 205 | 23 | 0 | 178 | 0 |
| Pedestrians | | 50 | | 50 | | | 50 | | | | 50 | |
| Lane Width (m) | | 3.7 | | 3.7 | | | 3.7 | | | | 3.7 | |
| Walking Speed (m/s) | | 1.2 | | 1.2 | | | 1.2 | | | | 1.2 | |
| Percent Blockage | | 4 | | 4 | | | 4 | | | | 4 | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | None | | | | None | |
| Median storage (veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | 262 | | | | | |
| pk_platoon unblocked | | | | | | | | | | | | |
| vC_conflicting volume | 469 | 522 | 278 | 520 | 510 | 266 | 228 | | | | 278 | |
| vC1_stage 1 conf vol | | | | | | | | | | | | |
| vC2_stage 2 conf vol | | | | | | | | | | | | |
| vCu_unblocked vol | 469 | 522 | 278 | 520 | 510 | 266 | 228 | | | | 278 | |
| IC_single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | | 4.1 | |
| IC_2 stage (s) | | | | | | | | | | | | |
| IF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | | 2.2 | |
| p0 queue free % | 100 | 99 | 99 | 95 | 96 | 100 | 99 | | | | 100 | |
| CM capacity (veh/h) | 436 | 418 | 687 | 391 | 425 | 739 | 1283 | | | | 1230 | |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total | 12 | 37 | 236 | 178 | | | | | | | | |
| Volume Left | 0 | 20 | 8 | 0 | | | | | | | | |
| Volume Right | 7 | 0 | 23 | 0 | | | | | | | | |
| CSH | 545 | 406 | 1283 | 1230 | | | | | | | | |
| Volume to Capacity | 0.02 | 0.09 | 0.01 | 0.00 | | | | | | | | |
| Queue Length 95th (m) | 0.5 | 2.4 | 0.1 | 0.0 | | | | | | | | |
| Control Delay (s) | 11.7 | 14.8 | 0.3 | 0.0 | | | | | | | | |
| Lane LOS | B | B | A | | | | | | | | | |
| Approach Delay (s) | 11.7 | 14.8 | 0.3 | 0.0 | | | | | | | | |
| Approach LOS | B | B | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | 1.6 | | | | | | | | | | | |
| Intersection Capacity Utilization | 37.2% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics
85: Street I & Street EE

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------------------|-------|------|------|-------|------|------|-------|------|------|------|-------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Lane Width (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grade (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Storage Length (m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taper Length (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.896 | | | | | | | | | | | |
| Flt Protected | 0 | 1688 | 0 | 0 | 1883 | 0 | 0 | 1876 | 0 | 0 | 1883 | 0 |
| Satd. Flow (prot) | 0 | 1688 | 0 | 0 | 1883 | 0 | 0 | 1876 | 0 | 0 | 1883 | 0 |
| Flt Permitted | 0 | 50 | 0 | 0 | 50 | 0 | 0 | 50 | 0 | 0 | 50 | 0 |
| Satd. Flow (perm) | 0 | 50 | 0 | 0 | 50 | 0 | 0 | 50 | 0 | 0 | 50 | 0 |
| Link Speed (k/h) | 275.5 | | | 332.9 | | | 217.2 | | | | 229.8 | |
| Link Distance (m) | 19.8 | | | 24.0 | | | 15.6 | | | | 16.5 | |
| Travel Time (s) | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
85: Street I & Street EE

05-15-2023

| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 0 | 5 | 17 | 0 | 17 | 0 | 20 | 221 | 0 | 0 | 191 | 0 |
| Traffic Volume (veh/h) | 0 | 5 | 17 | 0 | 17 | 0 | 20 | 221 | 0 | 0 | 191 | 0 |
| Future Volume (Veh/h) | 0 | 5 | 17 | 0 | 17 | 0 | 20 | 221 | 0 | 0 | 191 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| Grade | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 5 | 17 | 0 | 17 | 0 | 20 | 221 | 0 | 0 | 191 | 0 |
| Pedestrians | 50 | | | 50 | | | 50 | | | | 50 | |
| Lane Width (m) | 3.7 | | | 3.7 | | | 3.7 | | | | 3.7 | |
| Walking Speed (m/s) | 1.2 | | | 1.2 | | | 1.2 | | | | 1.2 | |
| Percent Blockage | 4 | | | 4 | | | 4 | | | | 4 | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | None | | | | None | |
| Median storage (veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | 342 | | | | | |
| pk_platoon unblocked | | | | | | | | | | | | |
| vC_conflicting volume | 560 | 552 | 291 | 572 | 552 | 321 | 241 | | | | | 271 |
| vC1_stage 1 conf vol | | | | | | | | | | | | |
| vC2_stage 2 conf vol | | | | | | | | | | | | |
| vCu_unblocked vol | 560 | 552 | 291 | 572 | 552 | 321 | 241 | | | | | 271 |
| IC_single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | | | 4.1 |
| IC_2 stage (s) | | | | | | | | | | | | |
| IF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | | | 2.2 |
| p0 queue free % | 100 | 99 | 98 | 100 | 96 | 100 | 98 | | | | | 100 |
| cM capacity (veh/h) | 360 | 398 | 685 | 353 | 398 | 659 | 1269 | | | | | 1237 |
| Direction_Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | |
| Volume Total | 22 | 17 | 241 | 191 | | | | | | | | |
| Volume Left | 0 | 0 | 20 | 0 | | | | | | | | |
| Volume Right | 17 | 0 | 0 | 0 | | | | | | | | |
| cSH | 589 | 398 | 1269 | 1237 | | | | | | | | |
| Volume to Capacity | 0.04 | 0.04 | 0.02 | 0.00 | | | | | | | | |
| Queue Length 95th (m) | 0.9 | 1.1 | 0.4 | 0.0 | | | | | | | | |
| Control Delay (s) | 11.3 | 14.4 | 0.8 | 0.0 | | | | | | | | |
| Lane LOS | B | B | A | | | | | | | | | |
| Approach Delay (s) | 11.3 | 14.4 | 0.8 | 0.0 | | | | | | | | |
| Approach LOS | B | B | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | 1.5 | | | | | | | | | | | |
| Intersection Capacity Utilization | 46.5% | | | | | | | | | | | |
| ICU Level of Service | A | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |

Lanes and Geometrics

88: Humber Station Rd & Street EE

05-15-2023



| Lane Group | EBL | EBR | NBL | NBT | SBR | SBT |
|----------------------|-------|------|------|-------|-------|------|
| Lane Configurations | W | | | 4A | 4A | 4A |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (m) | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Grade (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Storage Length (m) | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 |
| Taper Length (m) | 1 | 0 | 0 | 0 | 0 | 0 |
| Storage Lanes | 1 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 0.95 |
| Pad Bike Factor | | | | 1.00 | | |
| Frt | | | | 0.997 | | |
| Flt Protected | 0.950 | | | | | |
| Satd. Flow (prot) | 1789 | 0 | 0 | 3579 | 3558 | 0 |
| Flt Permitted | 0.950 | | | | | |
| Satd. Flow (perm) | 1789 | 0 | 0 | 3579 | 3558 | 0 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | 5 | |
| Link Speed (k/h) | 50 | | | 50 | 50 | |
| Link Distance (m) | 332.9 | | | 347.2 | 128.1 | |
| Travel Time (s) | 24.0 | | | 25.0 | 9.2 | |
| Intersection Summary | | | | | | |
| Area Type: Other | | | | | | |

Timings

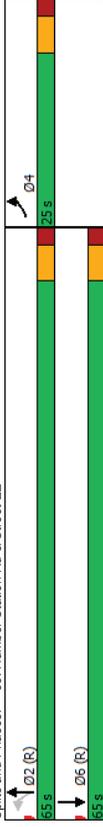
88: Humber Station Rd & Street EE

05-15-2023



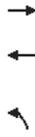
| Lane Group | EBL | NBT | SBT |
|--|-------|-------|-------|
| Lane Configurations | W | 4A | 4A |
| Traffic Volume (vph) | 5 | 1228 | 799 |
| Future Volume (vph) | 5 | 1228 | 799 |
| Turn Type | Prot | NA | NA |
| Protected Phases | 4 | 2 | 6 |
| Permitted Phases | | | |
| Detector Phases | 4 | 2 | 6 |
| Switch Phase | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 25.0 | 25.0 | 25.0 |
| Total Split (s) | 25.0 | 65.0 | 65.0 |
| Total Split (%) | 27.8% | 72.2% | 72.2% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 |
| Lead/Lag | | | |
| Lead-Lag Optimize? | | | |
| Recall Mode | None | C-Max | C-Max |
| Act Effct Green (s) | 10.9 | 77.6 | 77.6 |
| Actuated g/C Ratio | 0.12 | 0.86 | 0.86 |
| v/C Ratio | 0.02 | 0.40 | 0.27 |
| Control Delay | 29.8 | 4.5 | 3.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.8 | 4.5 | 3.7 |
| LOS | C | A | A |
| Approach Delay | 29.8 | 4.5 | 3.7 |
| Approach LOS | C | A | A |
| Intersection Summary | | | |
| Cycle Length: 90 | | | |
| Actuated Cycle Length: 90 | | | |
| Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green | | | |
| Natural Cycle: 55 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/C Ratio: 0.40 | | | |
| Intersection Signal Delay: 4.3 | | | |
| Intersection Capacity Utilization 48.1% | | | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 88: Humber Station Rd & Street EE



Queues
88: Humber Station Rd & Street EE

05-15-2023



| | EBL | NBT | SBT |
|------------------------|-------|-------|-------|
| Lane Group Flow (vph) | 5 | 1228 | 816 |
| v/c Ratio | 0.02 | 0.40 | 0.27 |
| Control Delay | 29.8 | 4.5 | 3.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.8 | 4.5 | 3.7 |
| Queue Length 50th (m) | 0.9 | 0.0 | 0.0 |
| Queue Length 95th (m) | 3.6 | 69.1 | 40.0 |
| Internal Link Dist (m) | 308.9 | 323.2 | 104.1 |
| Turn Bay Length (m) | | | |
| Base Capacity (vph) | 377 | 3086 | 3088 |
| Starvation Cap Reductn | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.01 | 0.40 | 0.27 |

Intersection Summary

HCM Signalized Intersection Capacity Analysis
88: Humber Station Rd & Street EE

05-15-2023



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|------------------------|-------|------|-------|------|------|------|
| Lane Configurations | W | | | | | |
| Traffic Volume (vph) | 5 | 0 | 0 | 1228 | 799 | 17 |
| Future Volume (vph) | 5 | 0 | 0 | 1228 | 799 | 17 |
| Ideal Flow (vphpb) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | | | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | | | 0.95 | 0.95 | |
| Frb. ped/bikes | 1.00 | | | 1.00 | 1.00 | |
| Frb. ped/bikes | 1.00 | | | 1.00 | 1.00 | |
| Frt | 1.00 | | | 1.00 | 1.00 | |
| Flt Protected | | | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | 1789 | 3579 | 3557 |
| Flt Permitted | | | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | | | 1789 | 3579 | 3557 |
| Peak-hour factor, PHF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj. Flow (vph) | 5 | 0 | 0 | 1228 | 799 | 17 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 5 | 0 | 0 | 1228 | 815 | 0 |
| Confl. Peds. (#/hr) | | | 50 | | | 50 |
| Turn Type | Prot | | NA | NA | NA | |
| Protected Phases | 4 | | 2 | 2 | 6 | |
| Permitted Phases | | | 2 | | | |
| Actuated Green, G (s) | 7.6 | | 70.4 | 70.4 | 70.4 | |
| Effective Green, g (s) | 7.6 | | 70.4 | 70.4 | 70.4 | |
| Actuated g/C Ratio | 0.08 | | 0.78 | 0.78 | 0.78 | |
| Clearance Time (s) | 6.0 | | 6.0 | 6.0 | 6.0 | |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 151 | | 2799 | 2782 | | |
| v/s Ratio Prot | c0.00 | | c0.34 | 0.23 | | |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.03 | | 0.44 | 0.29 | | |
| Uniform Delay, d1 | 37.8 | | 3.2 | 2.8 | | |
| Progression Factor | 1.00 | | 1.00 | 1.00 | | |
| Incremental Delay, d2 | 0.1 | | 0.5 | 0.3 | | |
| Delay (s) | 37.9 | | 3.8 | 3.0 | | |
| Level of Service | D | | A | A | | |
| Approach Delay (s) | 37.9 | | 3.8 | 3.0 | | |
| Approach LOS | D | | A | A | | |

Intersection Summary

| | | | | |
|-----------------------------------|--|-------|---------------------------|------|
| HCM 2000 Control Delay | | 3.5 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | | 0.40 | | |
| Actuated Cycle Length (s) | | 90.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | | 48.1% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |
| c Critical Lane Group | | | | |

| | |
|---|--|
| Junctions 9 | |
| ARCADY 9 - Roundabout Module | |
| Version: 9.0.1.4646 (J) | |
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Filename: Bolton King&Emil - 1h.j9
 Path: G:\0 DEMASIMULATIONS\01 BA Group\7694-01 Bolton\Analysis\01 May_2023\ARCADY ROUNDABOUT
 Report generation date: 16/05/2023 20:55:34

- »EX_2022, AM
- »EX_2022, PM
- »FB_2041, AM
- »FB_2041, PM
- »FT_2041, AM
- »FT_2041, PM

Summary of junction performance

| Queue (Veh) | 95% Queue (Veh) | Delay (s) | RFC | AM | | | PM | | | Network Residual Capacity | Junction LOS | Junction Delay (s) | RFC | LOS | Junction Delay (s) | Network Residual Capacity |
|-----------------------------|-----------------|-----------|------|--------------------|--------------|---------------------------|--------------------|--------------|---------------------------|---------------------------|--------------|--------------------|-----|------|--------------------|---------------------------|
| | | | | Junction Delay (s) | Junction LOS | Network Residual Capacity | Junction Delay (s) | Junction LOS | Network Residual Capacity | | | | | | | |
| [Lane Simulation] - EX_2022 | | | | | | | | | | | | | | | | |
| Arm 1 | 0.5 | 1.7 | 3.88 | A | | | | | 0.4 | 1.6 | 3.70 | A | | | | % |
| Arm 2 | 0.5 | 1.6 | 4.47 | A | | | | 3.96 | 1.1 | 3.2 | 5.48 | A | | 4.65 | A | [] |
| Arm 3 | 0.6 | 1.7 | 3.64 | A | | | | | 0.2 | 1.1 | 3.87 | A | | | | [] |
| [Lane Simulation] - FB_2041 | | | | | | | | | | | | | | | | |
| Arm 1 | 0.6 | 1.9 | 3.63 | A | | | | | 0.5 | 1.8 | 3.85 | A | | | | % |
| Arm 2 | 0.6 | 1.8 | 4.26 | A | | | | 3.82 | 1.4 | 4.0 | 5.36 | A | | 4.48 | A | [] |
| Arm 3 | 0.5 | 1.4 | 3.50 | A | | | | | 0.4 | 1.6 | 3.47 | A | | | | [] |
| [Lane Simulation] - FT_2041 | | | | | | | | | | | | | | | | |
| Arm 1 | 1.1 | 2.7 | 4.67 | A | | | | | 1.1 | 2.8 | 4.40 | A | | | | % |
| Arm 2 | 1.3 | 3.7 | 4.82 | A | | | | 4.48 | 4.9 | 11.7 | 10.56 | B | | 7.60 | A | [] |
| Arm 3 | 0.8 | 3.0 | 3.97 | A | | | | | 0.8 | 2.3 | 4.15 | A | | | | [] |

There are warnings associated with one or more model runs - see the Data Errors and Warnings tables for each Analysis or Demand Set.
 Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Arm and junction delays are averages for all movements, including movements with zero delay. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

| File Description | |
|------------------|------------|
| Title | (untitled) |
| Location | |
| Site number | |
| Date | 30/10/2020 |
| Version | |
| Status | (new file) |
| Identifier | |
| Client | |
| Job number | |
| Enumerator | BACTORDINA |
| Description | |

Units

| Distance units | Speed units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m | kph | Veh | Veh | perHour | s | -Min | perMin |

Analysis Options

| Vehicle length (m) | Calculate Queue Percentiles | Calculate detailed queuing delay | Calculate residual capacity | Residual capacity criteria type | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|--------------------|-----------------------------|----------------------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75 | ✓ | | ✓ | Delay | 0.85 | 36.00 | 20.00 |

Lane Simulation options

| Stop criteria (%) | Stop criteria number of trials | Random seed | Results refresh speed (s) | Individual vehicle animation number of trials | Use crossings quick response | Last run random seed | Last run number of trials | Last run time taken (s) |
|-------------------|--------------------------------|-------------|---------------------------|---|------------------------------|----------------------|---------------------------|-------------------------|
| 1.00 | 100000 | -1 | 3 | 1 | ✓ | 1844813358 | 101 | 2.47 |

Demand Set Summary

| ID | Scenario name | Time Period | Description | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Single time segment only | Run automatically |
|-----|---------------|-------------|-------------|----------------------|--------------------|---------------------|---------------------------|--------------------------|-------------------|
| D1 | EX_2022 | AM | EX | FLAT | 08:00 | 09:00 | 60 | ✓ | ✓ |
| D2 | EX_2022 | PM | EX | FLAT | 16:00 | 17:00 | 60 | ✓ | ✓ |
| D7 | FB_2041 | AM | FB | FLAT | 08:00 | 09:00 | 60 | ✓ | ✓ |
| D8 | FB_2041 | PM | FB | FLAT | 16:00 | 17:00 | 60 | ✓ | ✓ |
| D9 | FT_2041 | AM | FT | FLAT | 08:00 | 09:00 | 60 | ✓ | ✓ |
| D10 | FT_2041 | PM | FT | FLAT | 16:00 | 17:00 | 60 | ✓ | ✓ |

Analysis Set Details

| ID | Use Lane Simulation | Include in report | Network flow scaling factor (%) | Network capacity scaling factor (%) |
|-----|---------------------|-------------------|---------------------------------|-------------------------------------|
| All | ✓ | ✓ | 100.000 | 100.000 |



EX_2022, AM

Data Errors and Warnings

| Severity | Area | Item | Description |
|----------|------------------|------------------------|---|
| Warning | Lane Simulation | A1 - [Lane Simulation] | This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results. |
| Warning | Flow Arm 1 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 2 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 3 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Queue variations | Analysis Options | Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high. |

Junction Network

Junctions

| Junction | Name | Junction Type | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------|--------------------|--------------|
| 1 | untitled | Standard Roundabout | 1,2,3 | 3.96 | A |

Junction Network Options

| Driving side | Lighting |
|--------------|----------------|
| Right | Normal/unknown |

Arms

Arms

| Arm | Name | Description |
|-----|----------|-------------|
| 1 | untitled | |
| 2 | untitled | |
| 3 | untitled | |

Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PH - Conflict angle (deg) | Exit only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|---------------------------|-----------|
| 1 | 6.17 | 8.29 | 30.0 | 22.0 | 55.0 | 20.0 | |
| 2 | 6.87 | 7.55 | 30.0 | 21.6 | 55.0 | 20.0 | |
| 3 | 7.09 | 8.65 | 30.0 | 21.5 | 55.0 | 20.0 | |

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

| Arm | Final slope | Final intercept (PCU/hr) |
|-----|-------------|--------------------------|
| 1 | 0.738 | 2487 |
| 2 | 0.715 | 2361 |
| 3 | 0.768 | 2651 |

The slope and intercept shown above include any corrections and adjustments.

Lane Simulation - Arm options

| Arm | Lane capacity source | Traffic Considering Secondary Lanes (%) |
|-----|----------------------|---|
| 1 | Evenly split | 10.00 |
| 2 | Evenly split | 10.00 |
| 3 | Evenly split | 10.00 |



Lanes

| Arm | Lane level | Lane | Destination arms | Has limited storage | Storage (PCU) | Minimum capacity (PCU/hr) | Maximum capacity (PCU/hr) |
|-----|-------------------|------|------------------|---------------------|---------------|---------------------------|---------------------------|
| 1 | 1 [Give-way line] | 1 | 2 | | Infinity | 0 | 99999 |
| | | 2 | 2,3 | | Infinity | 0 | 99999 |
| | | 3 | | | Infinity | 0 | 99999 |
| 2 | 1 [Give-way line] | 1 | 3 | | Infinity | 0 | 99999 |
| | | 2 | 1,3 | | Infinity | 0 | 99999 |
| | | 3 | | | Infinity | 0 | 99999 |
| 3 | 1 [Give-way line] | 1 | 1,2 | | Infinity | 0 | 99999 |
| | | 2 | 2 | | Infinity | 0 | 99999 |
| | | 3 | | | Infinity | 0 | 99999 |

Entry Lane slope and intercept

| Arm | Lane level | Lane | Final slope | Final intercept (PCU/hr) |
|-----|-------------------|------|-------------|--------------------------|
| 1 | 1 [Give-way line] | 1 | 0.369 | 1244 |
| | | 2 | 0.369 | 1244 |
| | | 3 | 0.369 | 1180 |
| 2 | 1 [Give-way line] | 1 | 0.369 | 1180 |
| | | 2 | 0.369 | 1180 |
| | | 3 | 0.384 | 1325 |
| 3 | 1 [Give-way line] | 1 | 0.384 | 1325 |
| | | 2 | 0.384 | 1325 |
| | | 3 | | |

Lane Movements

| Arm | Lane Level | Lane | Destination arm |
|-----|-------------------|------|-----------------|
| 1 | 1 [Give-way line] | 1 | 1 ✓ |
| | | 2 | 2 ✓ |
| | | 3 | 3 ✓ |
| 2 | 1 [Give-way line] | 1 | 1 ✓ |
| | | 2 | 2 ✓ |
| | | 3 | 3 ✓ |
| 3 | 1 [Give-way line] | 1 | 1 ✓ |
| | | 2 | 2 ✓ |
| | | 3 | 3 ✓ |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period | Description | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Single time segment only | Run automatically |
|----|---------------|-------------|-------------|----------------------|--------------------|---------------------|---------------------------|--------------------------|-------------------|
| D1 | EX_2022 | AM | EX | FLAT | 08:00 | 09:00 | 60 | ✓ | ✓ |

| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
|------------------------------|-------------------------------|--------------------|---------------------------|
| ✓ | ✓ | HV Percentages | 2.00 |

Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| 1 | | FLAT | ✓ | 418 | 100.000 |
| 2 | | FLAT | ✓ | 315 | 100.000 |
| 3 | | FLAT | ✓ | 406 | 100.000 |

Origin-Destination Data

Demand (Veh/hr)

| | To | 1 | 2 | 3 |
|--------|-----|-----|-----|---|
| From 1 | 0 | 302 | 116 | |
| From 2 | 244 | 0 | 71 | |
| From 3 | 180 | 226 | 0 | |

Vehicle Mix



Heavy Vehicle Percentages

| | | To | | |
|------|---|----|----|----|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 12 | 6 |
| | 2 | 8 | 0 | 25 |
| | | 3 | 4 | 9 |
| | | 0 | 0 | 0 |

Results

Results Summary for whole modelled period

| Arm | Max delay (s) | Max Queue (Veh) | Max Bsh. percentage Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|-----|---------------|-----------------|---------------------------------|---------|-------------------------|-------------------------------|
| 1 | 3.88 | 0.5 | 1.7 | A | 433 | 433 |
| 2 | 4.47 | 0.5 | 1.6 | A | 310 | 310 |
| 3 | 3.64 | 0.6 | 1.7 | A | 409 | 409 |

Main Results for each time segment

08:00 - 09:00

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Throughput (Veh/hr) | Throughput (ext side) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------------|---------------------|--------------------------------|-------------------|-----------------|-----------|-----|
| 1 | 432 | 432 | 228 | 430 | 421 | 0.0 | 0.5 | 3.884 | A |
| 2 | 310 | 310 | 124 | 308 | 534 | 0.0 | 0.5 | 4.489 | A |
| 3 | 409 | 409 | 241 | 408 | 191 | 0.0 | 0.6 | 3.638 | A |

Queue Variation Results for each time segment

08:00 - 09:00

| Arm | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q90 (Veh) | Q95 (Veh) |
|-----|------------|-----------|-----------|-----------|-----------|
| 1 | 0.54 | 0.00 | 0.00 | 1.39 | 1.74 |
| 2 | 0.54 | 0.00 | 0.00 | 1.33 | 1.65 |
| 3 | 0.60 | 0.00 | 0.00 | 0.93 | 1.72 |

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

08:00 - 09:00

| Arm | Side | Lane level | Lane | Destination arms | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-------|------------|------|------------------|-----------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-----|
| 1 | Entry | 1 | 1 | 2 | 169 | 1000 | 0.164 | 169 | 0.0 | 0.2 | 3.706 | A |
| | | | 2 | 2.3 | 263 | 1055 | 0.249 | 262 | 0.0 | 0.3 | 3.999 | A |
| 2 | Entry | 1 | 1 | 3 | 44 | 897 | 0.048 | 44 | 0.0 | 0.0 | 4.057 | A |
| | | | 2 | 1.3 | 267 | 1026 | 0.260 | 264 | 0.0 | 0.5 | 4.535 | A |
| 3 | Entry | 1 | 1 | 1.2 | 278 | 1170 | 0.238 | 277 | 0.0 | 0.4 | 3.746 | A |
| | | | 2 | 2 | 131 | 1126 | 0.117 | 130 | 0.0 | 0.2 | 3.404 | A |
| | Exit | 1 | 1 | | 191 | | | 191 | 0.0 | 0.0 | 0.000 | A |

EX_2022, PM

Data Errors and Warnings

| Severity | Area | Item | Description |
|----------|------------------|------------------------|---|
| Warning | Lane Simulation | A1 - [Lane Simulation] | This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results. |
| Warning | Flow Arm 1 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 2 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 3 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Queue variations | Analysis Options | Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high. |

Junction Network

Junctions

| Junction | Name | Junction Type | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------|--------------------|--------------|
| 1 | untitled | Standard Roundabout | 1,2,3 | 4.65 | A |

Junction Network Options

| Driving side | Lighting |
|--------------|----------------|
| Right | Normal/unknown |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period | Description | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------|-------------|-------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D2 | EX_2022 | PM | EX | FLAT | 16:00 | 17:00 | 60 | ✓ |

| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
|------------------------------|-------------------------------|--------------------|---------------------------|
| ✓ | ✓ | HV Percentages | 2.00 |

Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| 1 | | FLAT | ✓ | 491 | 100.000 |
| 2 | | FLAT | ✓ | 731 | 100.000 |
| 3 | | FLAT | ✓ | 165 | 100.000 |

Origin-Destination Data

Demand (Veh/hr)

| | To |
|------|-------------------|
| | 1 2 3 |
| From | 1 0 315 176 |
| | 2 415 0 316 |
| | 3 91 74 0 |

Vehicle Mix

Heavy Vehicle Percentages

| | To |
|------|----------------|
| | 1 2 3 |
| From | 1 0 6 7 |
| | 2 8 0 6 |
| | 3 9 22 0 |

Results

Results Summary for whole modelled period

| Arm | Max delay (s) | Max Queue (Veh) | Max 85th percentile Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|-----|---------------|-----------------|---------------------------------|---------|-------------------------|-------------------------------|
| 1 | 3.70 | 0.4 | 1.6 | A | 495 | 495 |
| 2 | 5.48 | 1.1 | 3.2 | A | 725 | 725 |
| 3 | 3.87 | 0.2 | 1.1 | A | 158 | 158 |

Main Results for each time segment

16:00 - 17:00

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Throughput (Veh/hr) | Throughput (exit side) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------------|---------------------|---------------------------------|-------------------|-----------------|-----------|-----|
| 1 | 495 | 495 | 74 | 496 | 495 | 0.0 | 0.4 | 3.699 | A |
| 2 | 725 | 725 | 174 | 728 | 395 | 0.0 | 1.0 | 5.478 | A |
| 3 | 157 | 157 | 413 | 157 | 489 | 0.0 | 0.2 | 3.872 | A |

Queue Variation Results for each time segment

16:00 - 17:00

| Arm | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q80 (Veh) | Q95 (Veh) |
|-----|------------|-----------|-----------|-----------|-----------|
| 1 | 0.42 | 0.00 | 0.00 | 1.22 | 1.59 |
| 2 | 1.06 | 0.00 | 0.24 | 2.42 | 3.25 |
| 3 | 0.20 | 0.00 | 0.00 | 0.42 | 1.15 |

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:00 - 17:00

| Arm | Side | Lane level | Lane | Destination arms | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-------|------------|------|------------------|-----------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-----|
| 1 | Entry | 1 | 1 | 2 | 178 | 1137 | 0.157 | 179 | 0.0 | 0.1 | 3.472 | A |
| | | | 2 | 2.3 | 317 | 1139 | 0.278 | 317 | 0.0 | 0.3 | 3.860 | A |
| | | | 3 | 496 | 496 | 0.0 | 0.0 | 0.0 | 0.000 | A | | |
| 2 | Entry | 1 | 1 | 3 | 209 | 1054 | 0.198 | 209 | 0.0 | 0.2 | 3.935 | A |
| | | | 2 | 1.3 | 517 | 1037 | 0.499 | 519 | 0.0 | 0.8 | 6.112 | A |
| | | | 3 | 395 | 395 | 0.0 | 0.0 | 0.0 | 0.000 | A | | |
| 3 | Entry | 1 | 1 | 1.2 | 118 | 1030 | 0.115 | 118 | 0.0 | 0.1 | 3.879 | A |
| | | | 2 | 2 | 39 | 947 | 0.042 | 39 | 0.0 | 0.0 | 3.852 | A |
| | | | 3 | 489 | 489 | 0.0 | 0.0 | 0.0 | 0.000 | A | | |

Lanes: Queue Variation Results for each time segment

| Arm | Side | Lane level | Lane | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q80 (Veh) | Q95 (Veh) |
|-----|-------|------------|------|------------|-----------|-----------|-----------|-----------|
| 1 | Entry | 1 | 1 | 0.09 | 0.00 | 0.00 | 0.00 | 0.37 |
| | | 2 | 2 | 0.33 | 0.00 | 0.00 | 0.00 | 1.46 |
| 2 | Exit | 1 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 2 | 2 | 0.24 | 0.00 | 0.00 | 0.64 | 1.89 |
| 3 | Entry | 1 | 1 | 0.81 | 0.00 | 0.00 | 1.85 | 2.63 |
| | | 2 | 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Exit | 1 | 1 | 0.19 | 0.00 | 0.00 | 0.43 | 1.06 |
| | | 2 | 2 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Exit | 1 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 2 | 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

16:00 - 17:00

FB_2041, AM

Data Errors and Warnings

| Severity | Area | Item | Description |
|----------|------------------|------------------------|---|
| Warning | Lane Simulation | A1 - [Lane Simulation] | This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results. |
| Warning | Flow Arm 1 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 2 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 3 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Vehicle Mix | Vehicle Mix | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. |
| Warning | Queue variations | Analysis Options | Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high. |

Junction Network

Junctions

| Junction | Name | Junction Type | Arm order | Junction Delay (s) | Junction LOS |
|----------|--------|---------------------|-----------|--------------------|--------------|
| 1 | united | Standard Roundabout | 1,2,3 | 3.82 | A |

Junction Network Options

| Driving side | Lighting |
|--------------|----------------|
| Right | Normal/unknown |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period name | Description | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Single time segment only | Run automatically |
|----|---------------|------------------|-------------|----------------------|--------------------|---------------------|---------------------------|--------------------------|-------------------|
| D7 | FB_2041 | AM | FB | FLAT | 08:00 | 09:00 | 60 | ✓ | ✓ |

Vehicle mix varies over turn Vehicle mix varies over entry HV Percentages PCU Factor for a HV (PCU) 2.00

Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| 1 | | FLAT | ✓ | 505 | 100.000 |
| 2 | | FLAT | ✓ | 594 | 100.000 |
| 3 | | FLAT | ✓ | 527 | 100.000 |

Origin-Destination Data

Demand (Veh/hr)

| | To |
|------|-------------|
| | 1 2 3 |
| From | 1 0 365 140 |
| | 2 338 0 266 |
| | 3 206 321 0 |

Vehicle Mix



Heavy Vehicle Percentages

| | | To | | |
|------|---|----|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 |

Results

Results Summary for whole modelled period

| Arm | Max delay (s) | Max Queue (Veh) | Max Bsh. percentage Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|-----|---------------|-----------------|---------------------------------|---------|-------------------------|-------------------------------|
| 1 | 3.63 | 0.6 | 1.9 | A | 504 | 504 |
| 2 | 4.26 | 0.6 | 1.8 | A | 596 | 596 |
| 3 | 3.50 | 0.5 | 1.4 | A | 533 | 533 |

Main Results for each time segment

08:00 - 09:00

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Throughput (Veh/hr) (ext side) | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------------|--------------------------------|---------------------|-------------------|-----------------|-----------|-----|
| 1 | 504 | 504 | 330 | 502 | 546 | 0.0 | 0.6 | 3.634 | A |
| 2 | 596 | 596 | 136 | 599 | 696 | 0.0 | 0.6 | 4.261 | A |
| 3 | 533 | 533 | 341 | 384 | 384 | 0.0 | 0.5 | 3.502 | A |

Queue Variation Results for each time segment

08:00 - 09:00

| Arm | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q90 (Veh) | Q95 (Veh) |
|-----|------------|-----------|-----------|-----------|-----------|
| 1 | 0.56 | 0.00 | 0.00 | 1.13 | 1.85 |
| 2 | 0.60 | 0.00 | 0.00 | 1.35 | 1.81 |
| 3 | 0.49 | 0.00 | 0.00 | 0.93 | 1.42 |

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

08:00 - 09:00

| Arm | Side | Lane level | Lane | Destination arms | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-------|------------|------|------------------|-----------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|--------|
| 1 | Entry | 1 | 1 | 2 | 202 | 1122 | 0.180 | 202 | 0.0 | 0.2 | 3.363 | A |
| | | | 2 | 2.3 | 302 | 1122 | 0.269 | 300 | 0.0 | 0.4 | 3.794 | A |
| | | | Exit | 1 | 546 | | | 546 | 0.0 | 0.0000 | 0.0 | 0.0000 |
| 2 | Entry | 1 | 1 | 3 | 159 | 1132 | 0.140 | 159 | 0.0 | 0.1 | 3.411 | A |
| | | | 2 | 1.3 | 438 | 1132 | 0.387 | 440 | 0.0 | 0.5 | 4.578 | A |
| | | | Exit | 1 | 696 | | | 696 | 0.0 | 0.0000 | 0.0 | 0.0000 |
| 3 | Entry | 1 | 1 | 1.2 | 346 | 1195 | 0.290 | 349 | 0.0 | 0.3 | 3.673 | A |
| | | | 2 | 2 | 187 | 1195 | 0.156 | 187 | 0.0 | 0.2 | 3.183 | A |
| | | | Exit | 1 | 384 | | | 384 | 0.0 | 0.0000 | 0.0 | 0.0000 |

Lanes: Queue Variation Results for each time segment

08:00 - 09:00

| Arm | Side | Lane level | Lane | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q90 (Veh) | Q95 (Veh) |
|-----|-------|------------|------|------------|-----------|-----------|-----------|-----------|
| 1 | Entry | 1 | 1 | 0.17 | 0.00 | 0.00 | 0.38 | 0.77 |
| | | | 2 | 0.40 | 0.00 | 0.00 | 0.80 | 0.97 |
| | | | Exit | 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | Entry | 1 | 1 | 0.13 | 0.00 | 0.00 | 1.00 | 1.00 |
| | | | 2 | 0.48 | 0.00 | 0.00 | 0.96 | 1.66 |
| | | | Exit | 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Entry | 1 | 1 | 0.32 | 0.00 | 0.00 | 0.72 | 0.92 |
| | | | 2 | 0.17 | 0.00 | 0.00 | 0.39 | 0.73 |
| | | | Exit | 1 | 0.00 | 0.00 | 0.00 | 0.00 |



Heavy Vehicle Percentages

| | | To | | |
|------|---|----|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 |

Results

Results Summary for whole modelled period

| Arm | Max delay (s) | Max Queue (Veh) | Max 85th percentile Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|-----|---------------|-----------------|---------------------------------|---------|-------------------------|-------------------------------|
| 1 | 3.85 | 0.5 | 1.8 | A | 593 | 593 |
| 2 | 5.36 | 1.4 | 4.0 | A | 905 | 905 |
| 3 | 3.47 | 0.4 | 1.6 | A | 415 | 415 |

Main Results for each time segment

16:00 - 17:00

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Throughput (Veh/hr) | Throughput (exit side) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------------|---------------------|---------------------------------|-------------------|-----------------|-----------|-----|
| 1 | 593 | 311 | 595 | 595 | 598 | 0.0 | 0.5 | 3.846 | A |
| 2 | 905 | 905 | 213 | 905 | 692 | 0.0 | 1.4 | 5.364 | A |
| 3 | 415 | 415 | 494 | 414 | 625 | 0.0 | 0.4 | 3.370 | A |

Queue Variation Results for each time segment

16:00 - 17:00

| Arm | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q80 (Veh) | Q95 (Veh) |
|-----|------------|-----------|-----------|-----------|-----------|
| 1 | 0.51 | 0.00 | 0.00 | 0.98 | 1.83 |
| 2 | 1.39 | 0.00 | 0.38 | 3.15 | 3.89 |
| 3 | 0.40 | 0.00 | 0.00 | 0.95 | 1.56 |

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:00 - 17:00

| Arm | Side | Lane level | Lane | Destination arms | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-------|------------|------|------------------|-----------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-----|
| 1 | Entry | 1 | 1 | 2 | 218 | 1129 | 0.193 | 219 | 0.0 | 0.2 | 3.457 | A |
| | | | 2 | 2.3 | 375 | 1129 | 0.332 | 376 | 0.0 | 0.3 | 4.074 | A |
| | | | Exit | 1 | 598 | | | 598 | 0.0 | 0.0 | 0.000 | A |
| 2 | Entry | 1 | 1 | 3 | 282 | 1104 | 0.255 | 282 | 0.0 | 0.4 | 3.854 | A |
| | | | 2 | 1.3 | 623 | 1104 | 0.565 | 624 | 0.0 | 1.0 | 6.041 | A |
| | | | Exit | 1 | 692 | | | 692 | 0.0 | 0.0 | 0.000 | A |
| 3 | Entry | 1 | 1 | 1.2 | 254 | 1136 | 0.223 | 253 | 0.0 | 0.2 | 3.557 | A |
| | | | 2 | 2 | 161 | 1136 | 0.142 | 161 | 0.0 | 0.1 | 3.339 | A |
| | | | Exit | 1 | 625 | | | 625 | 0.0 | 0.0 | 0.000 | A |



FB_2041, PM

Data Errors and Warnings

| Severity | Area | Item | Description |
|----------|------------------|------------------------|---|
| Warning | Lane Simulation | A1 - [Lane Simulation] | This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results. |
| Warning | Flow Arm 1 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 2 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 3 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Vehicle Mix | | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. |
| Warning | Queue variations | Analysis Options | Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high. |

Junction Network

Junctions

| Junction | Name | Junction Type | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------|--------------------|--------------|
| 1 | untitled | Standard Roundabout | 1,2,3 | 4.48 | A |

Junction Network Options

| Driving side | Lighting |
|--------------|-----------------|
| Right | Normal/Junction |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period name | Description | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Single time segment only | Run automatically |
|--------------|---------------|------------------|-------------|----------------------|--------------------|---------------------|---------------------------|--------------------------|-------------------|
| DB FB_2041 | PM | PM | FB | FLAT | 16:00 | 17:00 | 60 | ✓ | ✓ |

| Vehicle mix varies over turn | Vehicle mix varies over entry | PCU Factor for a HV (PCU) |
|------------------------------|-------------------------------|---------------------------|
| ✓ | ✓ | 2.00 |

Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use OD data | Average Demand (Veh/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------|-------------------------|--------------------|
| 1 | | FLAT | ✓ | 584 | 100.000 |
| 2 | | FLAT | ✓ | 889 | 100.000 |
| 3 | | FLAT | ✓ | 410 | 100.000 |

Origin-Destination Data

Demand (Veh/hr)

| | | To | | |
|------|---|-----|-----|-----|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 381 | 213 |
| | 2 | 488 | 0 | 401 |
| | 3 | 104 | 306 | 0 |

Vehicle Mix

Lanes: Queue Variation Results for each time segment

| Arm | Side | Lane level | Lane | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q80 (Veh) | Q95 (Veh) |
|-----|-------|------------|------|------------|-----------|-----------|-----------|-----------|
| 1 | Entry | 1 | 1 | 0.19 | 0.00 | 0.00 | 0.46 | 0.80 |
| | | 2 | 2 | 0.33 | 0.00 | 0.00 | 0.83 | 1.33 |
| 2 | Exit | 1 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 2 | 1 | 0.37 | 0.00 | 0.00 | 0.89 | 1.49 |
| 3 | Entry | 1 | 2 | 1.02 | 0.00 | 0.02 | 2.43 | 2.88 |
| | | 2 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Exit | 1 | 1 | 0.25 | 0.00 | 0.00 | 0.64 | 0.94 |
| | | 2 | 2 | 0.15 | 0.00 | 0.00 | 0.30 | 0.69 |
| 3 | Exit | 1 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 2 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

16:00 - 17:00

FT_2041, AM

Data Errors and Warnings

| Severity | Area | Item | Description |
|----------|------------------|------------------------|---|
| Warning | Lane Simulation | A1 - [Lane Simulation] | This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results. |
| Warning | Flow Arm 1 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 2 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 3 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Vehicle Mix | Vehicle Mix | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. |
| Warning | Queue variations | Analysis Options | Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high. |

Junction Network

Junctions

| Junction | Name | Junction Type | Arm order | Junction Delay (s) | Junction LOS |
|----------|--------|---------------------|-----------|--------------------|--------------|
| 1 | united | Standard Roundabout | 1,2,3 | 4.48 | A |

Junction Network Options

| Driving side | Lighting |
|--------------|----------------|
| Right | Normal/unknown |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period name | Description | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Single time segment only | Run automatically |
|----|---------------|------------------|-------------|----------------------|--------------------|---------------------|---------------------------|--------------------------|-------------------|
| D9 | FT_2041 | AM | FT | FLAT | 08:00 | 09:00 | 60 | ✓ | ✓ |

Vehicle mix varies over turn Vehicle mix varies over entry HV Percentages PCU Factor for a HV (PCU) 2.00

Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| 1 | | FLAT | ✓ | 817 | 100.000 |
| 2 | | FLAT | ✓ | 787 | 100.000 |
| 3 | | FLAT | ✓ | 850 | 100.000 |

Origin-Destination Data

Demand (Veh/hr)

| | To |
|------|-------------|
| | 1 2 3 |
| From | 1 0 677 140 |
| | 2 434 0 353 |
| | 3 206 644 0 |

Vehicle Mix



Heavy Vehicle Percentages

| | | To | | |
|------|---|----|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 |

Results

Results Summary for whole modelled period

| Arm | Max delay (s) | Max Queue (Veh) | Max Bsh. percentage Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|-----|---------------|-----------------|---------------------------------|---------|-------------------------|-------------------------------|
| 1 | 4.67 | 1.1 | 2.7 | A | 819 | 819 |
| 2 | 4.82 | 1.3 | 3.7 | A | 784 | 784 |
| 3 | 3.97 | 0.8 | 3.0 | A | 836 | 836 |

Main Results for each time segment

08:00 - 09:00

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Throughput (Veh/hr) (ext side) | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------------|--------------------------------|---------------------|-------------------|-----------------|-----------|-----|
| 1 | 819 | 819 | 635 | 628 | 819 | 0.0 | 1.1 | 4.671 | A |
| 2 | 784 | 784 | 133 | 1320 | 778 | 0.0 | 1.3 | 4.817 | A |
| 3 | 836 | 836 | 421 | 480 | 841 | 0.0 | 0.8 | 3.973 | A |

Queue Variation Results for each time segment

08:00 - 09:00

| Arm | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q80 (Veh) | Q85 (Veh) |
|-----|------------|-----------|-----------|-----------|-----------|
| 1 | 1.06 | 0.00 | 0.38 | 2.11 | 2.74 |
| 2 | 1.34 | 0.00 | 0.43 | 2.85 | 3.74 |
| 3 | 0.81 | 0.00 | 0.00 | 1.84 | 2.59 |

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

08:00 - 09:00

| Arm | Lane level | Lane | Destination arms | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|------------|------|------------------|-----------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-----|
| 1 | Entry | 1 | 2 | 375 | 1009 | 0.371 | 375 | 0.0 | 0.4 | 4.482 | A |
| | | 2 | 2.3 | 444 | 1009 | 0.440 | 444 | 0.0 | 0.6 | 4.821 | A |
| | Exit | 1 | 3 | 628 | 1133 | 0.207 | 628 | 0.0 | 0.0 | 0.000 | A |
| 2 | Entry | 1 | 2 | 549 | 1133 | 0.485 | 544 | 0.0 | 1.0 | 5.316 | A |
| | | 1 | 1.3 | 1320 | 1164 | 0.414 | 1320 | 0.0 | 0.0 | 0.000 | A |
| | Exit | 1 | 1.2 | 482 | 1164 | 0.414 | 486 | 0.0 | 0.5 | 4.184 | A |
| 3 | Entry | 1 | 2 | 354 | 1164 | 0.304 | 366 | 0.0 | 0.4 | 3.691 | A |
| | Exit | 1 | 1 | 480 | 480 | 1.000 | 480 | 0.0 | 0.0 | 0.000 | A |



Heavy Vehicle Percentages

| | To |
|------|---------|
| | 1 2 3 |
| From | 1 0 0 0 |
| | 2 0 0 0 |
| | 3 0 0 0 |

Results

Results Summary for whole modelled period

| Arm | Max delay (s) | Max Queue (Veh) | Max 85th percentile Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|-----|---------------|-----------------|---------------------------------|---------|-------------------------|-------------------------------|
| 1 | 4.40 | 1.1 | 2.8 | A | 788 | 788 |
| 2 | 10.56 | 4.9 | 11.7 | B | 1536 | 1536 |
| 3 | 4.15 | 0.8 | 2.3 | A | 588 | 588 |

Main Results for each time segment

16:00 - 17:00

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Throughput (Veh/hr) | Throughput (exit side) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------------|---------------------|---------------------------------|-------------------|-----------------|-----------|-----|
| 1 | 788 | 788 | 482 | 787 | 905 | 0.0 | 1.1 | 4.402 | A |
| 2 | 1536 | 1536 | 214 | 1521 | 1055 | 0.0 | 4.9 | 10.555 | B |
| 3 | 588 | 588 | 802 | 586 | 934 | 0.0 | 0.8 | 4.150 | A |

Queue Variation Results for each time segment

16:00 - 17:00

| Arm | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q80 (Veh) | Q85 (Veh) |
|-----|------------|-----------|-----------|-----------|-----------|
| 1 | 1.06 | 0.00 | 0.38 | 1.98 | 2.83 |
| 2 | 4.92 | 0.00 | 3.44 | 10.99 | 11.71 |
| 3 | 0.78 | 0.00 | 0.12 | 1.66 | 2.33 |

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:00 - 17:00

| Arm | Side | Lane level | Lane | Destination arms | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-------|------------|------|------------------|-----------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-----|
| 1 | Entry | 1 | 1 | 2 | 323 | 1066 | 0.303 | 324 | 0.0 | 0.4 | 4.072 | A |
| | | | 2 | 2.3 | 465 | 1066 | 0.436 | 463 | 0.0 | 0.7 | 4.639 | A |
| | | | Exit | 1 | 906 | | 906 | 0.0 | 0.0 | 0.000 | A | |
| 2 | Entry | 1 | 1 | 3 | 586 | 1104 | 0.531 | 585 | 0.0 | 1.1 | 6.201 | A |
| | | | 2 | 1.3 | 950 | 1104 | 0.861 | 936 | 0.0 | 3.8 | 13.249 | B |
| | | | Exit | 1 | 1055 | | 1055 | 0.0 | 0.0 | 0.000 | A | |
| 3 | Entry | 1 | 1 | 1.2 | 326 | 1018 | 0.321 | 325 | 0.0 | 0.5 | 4.261 | A |
| | | | 2 | 2 | 261 | 1018 | 0.257 | 261 | 0.0 | 0.3 | 4.011 | A |
| | | | Exit | 1 | 934 | | 934 | 0.0 | 0.0 | 0.000 | A | |



FT_2041, PM

Data Errors and Warnings

| Severity | Area | Item | Description |
|----------|------------------|------------------------|---|
| Warning | Lane Simulation | A1 - (Lane Simulation) | This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results. |
| Warning | Flow Arm 1 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 2 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 3 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Vehicle Mix | | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. |
| Warning | Queue variations | Analysis Options | Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high. |

Junction Network

Junctions

| Junction | Name | Junction Type | Arm order | Junction Delay (s) | Junction LOS |
|----------|--------|---------------------|-----------|--------------------|--------------|
| 1 | united | Standard Roundabout | 1,2,3 | 7.60 | A |

Junction Network Options

| Driving side | Lighting |
|--------------|-----------------|
| Right | Normal/Junction |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period | Description | Traffic profile (Type) | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Single time segment only | Run automatically |
|-----|---------------|-------------|-------------|------------------------|--------------------|---------------------|---------------------------|--------------------------|-------------------|
| D10 | FT_2041 | PM | FT | FLAT | 16:00 | 17:00 | 60 | ✓ | ✓ |

| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
|------------------------------|-------------------------------|--------------------|---------------------------|
| ✓ | ✓ | HV Percentages | 2.00 |

Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use OD data | Average Demand (Veh/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------|-------------------------|--------------------|
| 1 | | FLAT | ✓ | 788 | 100.000 |
| 2 | | FLAT | ✓ | 1536 | 100.000 |
| 3 | | FLAT | ✓ | 588 | 100.000 |

Origin-Destination Data

Demand (Veh/hr)

| | To |
|------|-------------|
| | 1 2 3 |
| From | 1 0 576 213 |
| | 2 812 0 724 |
| | 3 104 495 0 |

Vehicle Mix

Lanes: Queue Variation Results for each time segment

| Arm | Side | Lane level | Lane | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q80 (Veh) | Q85 (Veh) |
|-----|-------|------------|------|------------|-----------|-----------|-----------|-----------|
| 1 | Entry | 1 | 1 | 0.36 | 0.00 | 0.00 | 0.80 | 2.00 |
| | Exit | 1 | 1 | 0.70 | 0.00 | 0.12 | 1.13 | 1.85 |
| 2 | Entry | 1 | 1 | 1.10 | 0.00 | 0.00 | 2.78 | 3.98 |
| | Exit | 1 | 2 | 3.82 | 0.00 | 2.65 | 7.30 | 8.88 |
| 3 | Entry | 1 | 1 | 0.49 | 0.00 | 0.00 | 0.83 | 1.42 |
| | Exit | 1 | 2 | 0.30 | 0.00 | 0.00 | 0.68 | 0.86 |

16:00 - 17:00

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.1.4646 (I)
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Filename: Bolton.GO.Access - 1h.j9

Path: G:\0 DEMASIMULATIONS\01 BA Group\7694-01 Bolton\Analysis\01 May_2023\ARCADY ROUNDABOUT

Report generation date: 16/05/2023 11:07:02

- » 2041 FB, AM
- » 2041 FB, PM
- » 2041 FT, AM
- » 2041 FT, PM

Summary of junction performance

| | AM | | | | PM | | | | Network Residual Capacity | | | | | | | | | | | |
|-----------------------------|-------------|-----------------|-----------|------|--------------------|--------------|-----------|------|---------------------------|--------------------|--------------|--|--|------|--|---|--|--|--|--|
| | Queue (Veh) | 85% Queue (Veh) | Delay (s) | RF C | Junction Delay (s) | Junction LOS | Delay (s) | RF C | | Junction Delay (s) | Junction LOS | | | | | | | | | |
| [Lane Simulation] - 2041 FB | | | | | | | | | | | | | | | | | | | | |
| Arm 1 | 0.0 | -1 | 3.57 | | A | | | | 3.85 | | A | | | | | | | | | |
| Arm 2 | 0.4 | 1.6 | 3.53 | | A | | | | 3.48 | | A | | | 3.39 | | A | | | | |
| Arm 3 | 0.5 | 2.0 | 3.13 | | A | | | | 2.79 | | A | | | | | | | | | |
| [Lane Simulation] - 2041 FT | | | | | | | | | | | | | | | | | | | | |
| Arm 1 | 0.7 | 2.0 | 4.82 | | A | | | | 4.47 | | A | | | 4.48 | | A | | | | |
| Arm 2 | 0.6 | 1.9 | 4.03 | | A | | | | 4.88 | | A | | | | | | | | | |
| Arm 3 | 0.5 | 1.7 | 3.30 | | A | | | | 3.41 | | A | | | | | | | | | |

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Arm and junction delays are averages for all movements, including movements with zero delay. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

| Title | Location | Site number | Date | Version | Status | Identifier | Client | Jobnumber | Enumerator | Description |
|------------|----------------------|-------------|------------|---------|--------|------------|--------|-----------|------------|-------------|
| (untitled) | Emil Kolb & GOAccess | | 30/10/2020 | | | (new file) | | | | |

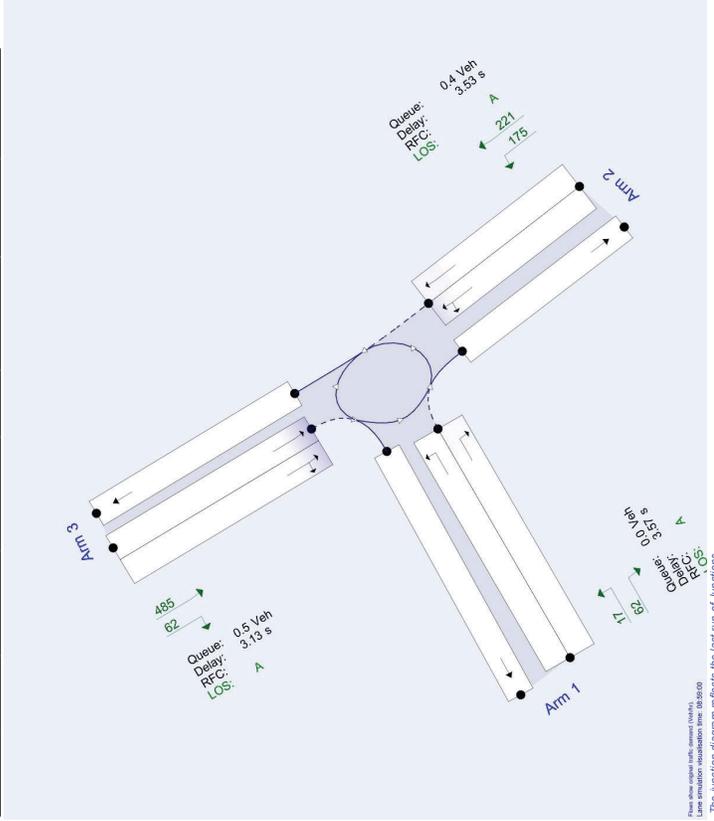


Units

| Distance units | Speed units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m | kph | Veh | Veh | perhour | s | Min | permin |

Analysis Set Details

| ID | Use Lane Simulation | Include in report | Network flow scaling factor (%) | Network capacity scaling factor (%) |
|----|---------------------|-------------------|---------------------------------|-------------------------------------|
| 41 | ✓ | ✓ | 100.000 | 100.000 |



Analysis Options

| Vehicle length (m) | Calculate Queue Percentiles | Calculate detailed queuing delay | Calculate residual capacity | Residual capacity criteria type | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|--------------------|-----------------------------|----------------------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75 | ✓ | | ✓ | Delay | 0.85 | 36.00 | 20.00 |

Lane Simulation options

| Stop criteria (%) | Stop criteria time (s) | Stop criteria number of trials | Random seed | Results refresh speed (s) | Individual vehicle animation number of trials | Use crossings quick response | Last run random seed | Last run number of trials | Last run time taken (s) |
|-------------------|------------------------|--------------------------------|-------------|---------------------------|---|------------------------------|----------------------|---------------------------|-------------------------|
| 1.00 | 100000 | 100000 | -1 | 3 | 1 | ✓ | 148573274 | 101 | 1.33 |

Demand Set Summary

| ID | Scenario name | Time Period | Description | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Single time segment only | Run automatically |
|----|---------------|-------------|-------------|----------------------|--------------------|---------------------|---------------------------|--------------------------|-------------------|
| D5 | 2041 FB AM | AM | FB 2041 | FLAT | 08:00 | 09:00 | 60 | ✓ | ✓ |
| D6 | 2041 FB PM | PM | FB 2041 | FLAT | 16:00 | 17:00 | 60 | ✓ | ✓ |
| D7 | 2041 FT AM | AM | FT 2041 | FLAT | 08:00 | 09:00 | 60 | ✓ | ✓ |
| D8 | 2041 FT PM | PM | FT 2041 | FLAT | 16:00 | 17:00 | 60 | ✓ | ✓ |



2041 FB, AM

Data Errors and Warnings

| Severity | Area | Item | Description |
|----------|------------------|------------------------|---|
| Warning | Lane Simulation | A1 - (Lane Simulation) | This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results. |
| Warning | Flow Arm 1 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 2 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 3 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Vehicle Mix | | HV% is zero for all movements / lane segments. Vehicle Mix matrix should be completed whether working in PCUs or Vels. |
| Warning | Queue variations | Analysis Options | Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high. |

Junction Network

| Junction | Name | Junction Type | Arm order | Junction Delay (s) | Junction LOS |
|----------|----------|---------------------|-----------|--------------------|--------------|
| 1 | untitled | Standard Roundabout | 1,2,3 | 3.32 | A |

Junction Network Options

| Driving side | Lighting |
|--------------|----------------|
| Right | Normal/unknown |

Arms

| Arm | Name | Description |
|-----|----------|-------------|
| 1 | untitled | |
| 2 | untitled | |
| 3 | untitled | |

Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1 | 6.17 | 8.29 | 30.0 | 22.0 | 55.0 | 20.0 | |
| 2 | 6.87 | 7.55 | 30.0 | 21.6 | 55.0 | 20.0 | |
| 3 | 7.09 | 8.65 | 30.0 | 21.5 | 55.0 | 20.0 | |

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

| Arm | Final slope | Final intercept (PCU/hr) |
|-----|-------------|--------------------------|
| 1 | 0.738 | 2487 |
| 2 | 0.715 | 2381 |
| 3 | 0.768 | 2651 |

The slope and intercept shown above include any corrections and adjustments.

Lane Simulation - Arm options

| Arm | Lane capacity source | Traffic Considering Secondary Lanes (%) |
|-----|----------------------|---|
| 1 | Evenly split | 10.00 |
| 2 | Evenly split | 10.00 |
| 3 | Evenly split | 10.00 |



Lanes

| Arm | Lane level | Lane | Destination arms | Has limited storage | Storage (PCU) | Minimum capacity (PCU/hr) | Maximum capacity (PCU/hr) |
|-----|-------------------|------|------------------|---------------------|---------------|---------------------------|---------------------------|
| 1 | 1 [Give-way line] | 1 | 2 | | Infinity | 0 | 99999 |
| | | 2 | 3 | | Infinity | 0 | 99999 |
| | | 3 | | | Infinity | 0 | 99999 |
| 2 | 1 [Give-way line] | 1 | 3 | | Infinity | 0 | 99999 |
| | | 2 | | | Infinity | 0 | 99999 |
| | | 1,3 | | | Infinity | 0 | 99999 |
| 3 | 1 [Give-way line] | 1 | 1,2 | | Infinity | 0 | 99999 |
| | | 2 | 2 | | Infinity | 0 | 99999 |
| | | | | | Infinity | 0 | 99999 |

Entry Lane slope and intercept

| Arm | Lane level | Lane | Final slope | Final intercept (PCU/hr) |
|-----|-------------------|------|-------------|--------------------------|
| 1 | 1 [Give-way line] | 1 | 0.369 | 1244 |
| | | 2 | 0.369 | 1244 |
| 2 | 1 [Give-way line] | 1 | 0.358 | 1180 |
| | | 2 | 0.358 | 1180 |
| 3 | 1 [Give-way line] | 1 | 0.384 | 1325 |
| | | 2 | 0.384 | 1325 |

Lane Movements

| Arm | Lane Level | Lane | Destination arm | | |
|-----|-------------------|------|-----------------|---|---|
| | | | 1 | 2 | 3 |
| 1 | 1 [Give-way line] | 1 | | ✓ | |
| | | 2 | | | ✓ |
| 2 | 1 [Give-way line] | 1 | | | ✓ |
| | | 2 | ✓ | | ✓ |
| 3 | 1 [Give-way line] | 1 | ✓ | | ✓ |
| | | 2 | | ✓ | |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period | Description | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Single time segment only | Run automatically |
|----|---------------|-------------|-------------|----------------------|--------------------|---------------------|---------------------------|--------------------------|-------------------|
| D5 | 2041 FB | AM | FB 2041 | FLAT | 08:00 | 09:00 | 60 | ✓ | ✓ |

| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
|------------------------------|-------------------------------|--------------------|---------------------------|
| ✓ | ✓ | HV Percentages | 2.00 |

Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| 1 | | FLAT | ✓ | 79 | 100.000 |
| 2 | | FLAT | ✓ | 396 | 100.000 |
| 3 | | FLAT | ✓ | 547 | 100.000 |

Origin-Destination Data

Demand (Veh/hr)

| | To | | |
|--------|-----|-----|-----|
| | 1 | 2 | 3 |
| From 1 | 0 | 62 | 17 |
| From 2 | 175 | 0 | 221 |
| From 3 | 62 | 485 | 0 |

Vehicle Mix



Heavy Vehicle Percentages

| From | To | | |
|------|----|---|---|
| | 1 | 2 | 3 |
| 1 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 |

Results

Results Summary for whole modelled period

| Arm | Max delay (s) | Max Queue (Veh) | Max Sat. percentage Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|-----|---------------|-----------------|---------------------------------|---------|-------------------------|-------------------------------|
| 1 | 3.57 | 0.0 | -1 | A | 79 | 79 |
| 2 | 3.53 | 0.4 | 1.6 | A | 392 | 392 |
| 3 | 3.13 | 0.5 | 2.0 | A | 543 | 543 |

Main Results for each time segment

08:00 - 09:00

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Throughput (Veh/hr) | Throughput (ext side) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------------|---------------------|--------------------------------|-------------------|-----------------|-----------|-----|
| 1 | 79 | 79 | 482 | 80 | 241 | 0.0 | 0.0 | 3.569 | A |
| 2 | 392 | 392 | 18 | 392 | 544 | 0.0 | 0.4 | 3.532 | A |
| 3 | 543 | 543 | 161 | 542 | 229 | 0.0 | 0.5 | 3.125 | A |

Queue Variation Results for each time segment

08:00 - 09:00

| Arm | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q80 (Veh) | Q95 (Veh) |
|-----|------------|-----------|-----------|-----------|-----------|
| 1 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 0.41 | 0.00 | 0.00 | 0.99 | 1.55 |
| 3 | 0.47 | 0.00 | 0.00 | 1.36 | 1.99 |

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

08:00 - 09:00

| Arm | Lane level | Lane Side | Destination arms | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|------------|-----------|------------------|-----------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-----|
| 1 | 1 | Entry | 1 | 61 | 1065 | 0.057 | 62 | 0.0 | 0.0 | 3.588 | A |
| | | | 2 | 18 | 1065 | 0.017 | 18 | 0.0 | 0.0 | 3.498 | A |
| | | | 3 | 241 | 1065 | 0.017 | 241 | 0.0 | 0.0 | 0.000 | A |
| 2 | 1 | Entry | 1 | 119 | 1174 | 0.101 | 119 | 0.0 | 0.1 | 3.173 | A |
| | | | 2 | 273 | 1174 | 0.233 | 274 | 0.0 | 0.3 | 3.663 | A |
| | | | 1,3 | 544 | 1174 | 0.233 | 544 | 0.0 | 0.0 | 0.000 | A |
| 3 | 1 | Entry | 1 | 294 | 1256 | 0.234 | 293 | 0.0 | 0.3 | 3.169 | A |
| | | | 2 | 250 | 1256 | 0.199 | 249 | 0.0 | 0.1 | 3.073 | A |
| | | | 1 | 229 | 1256 | 0.199 | 229 | 0.0 | 0.0 | 0.000 | A |

Lanes: Queue Variation Results for each time segment

08:00 - 09:00

| Arm | Side | Lane level | Lane | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q80 (Veh) | Q95 (Veh) |
|-----|-------|------------|------|------------|-----------|-----------|-----------|-----------|
| 1 | Entry | 1 | 1 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | Exit | 1 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 2 | 0.08 | 0.00 | 0.00 | 0.00 | 1.00 |
| 3 | Exit | 1 | 1 | 0.33 | 0.00 | 0.00 | 0.84 | 2.00 |
| | | | 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Entry | 1 | 1 | 0.32 | 0.00 | 0.00 | 0.99 | 1.55 |
| | | | 2 | 0.15 | 0.00 | 0.00 | 0.30 | 0.69 |
| 3 | Exit | 1 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |



2041 FB, PM

Data Errors and Warnings

| Severity | Area | Item | Description |
|----------|------------------|------------------------|---|
| Warning | Lane Simulation | A1 - [Lane Simulation] | This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results. |
| Warning | Flow Arm 1 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 2 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 3 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Vehicle Mix | | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. |
| Warning | Queue variations | Analysis Options | Queue percentages may be unreliable if the mean queue in any time segment is very low or very high. |

Junction Network

| Junction ID | Name | Junction Type | Arm order | Junction Delay (s) | Junction LOS |
|-------------|--------|---------------------|-----------|--------------------|--------------|
| 1 | united | Standard Roundabout | 1,2,3 | 3.39 | A |

Junction Network Options

| Driving side | Lighting |
|--------------|-----------------|
| Right | Normal/Junction |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period name | Description | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Single time segment only | Run automatically |
|----|---------------|------------------|-------------|----------------------|--------------------|---------------------|---------------------------|--------------------------|-------------------|
| D6 | 2041 FB | PM | FB 2041 | FLAT | 16:00 | 17:00 | 60 | ✓ | ✓ |

| Vehicle mix varies over turn | Vehicle mix varies over entry | PCU Factor for a HV (PCU) |
|------------------------------|-------------------------------|---------------------------|
| ✓ | ✓ | 2.00 |

Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use OD data | Average Demand (Veh/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------|-------------------------|--------------------|
| 1 | | FLAT | ✓ | 260 | 100.000 |
| 2 | | FLAT | ✓ | 613 | 100.000 |
| 3 | | FLAT | ✓ | 203 | 100.000 |

Origin-Destination Data

Demand (Veh/hr)

| | To | 1 | 2 | 3 |
|------|----|----|-----|------|
| From | 1 | 0 | 221 | 59 |
| | 2 | 39 | 0 | 1574 |
| | 3 | 14 | 189 | 0 |

Vehicle Mix

Heavy Vehicle Percentages

| | To | 1 | 2 | 3 |
|------|----|---|---|---|
| From | 1 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 |

Results

Results Summary for whole modelled period

| Arm | Max delay (s) | Max Queue (Veh) | Max 85th percentile Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|-----|---------------|-----------------|---------------------------------|---------|-------------------------|-------------------------------|
| 1 | 3.65 | 0.2 | 0.8 | A | 282 | 282 |
| 2 | 3.48 | 0.6 | 2.0 | A | 609 | 609 |
| 3 | 2.79 | 0.1 | 0.6 | A | 209 | 209 |

Main Results for each time segment

16:00 - 17:00

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Throughput (Veh/hr) | Throughput (exit side) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------------|---------------------|---------------------------------|-------------------|-----------------|-----------|-----|
| 1 | 282 | 282 | 195 | 284 | 53 | 0.0 | 0.2 | 3.647 | A |
| 2 | 609 | 609 | 61 | 610 | 417 | 0.0 | 0.6 | 3.481 | A |
| 3 | 209 | 209 | 39 | 209 | 653 | 0.0 | 0.1 | 2.791 | A |

Queue Variation Results for each time segment

16:00 - 17:00

| Arm | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q80 (Veh) | Q85 (Veh) |
|-----|------------|-----------|-----------|-----------|-----------|
| 1 | 0.24 | 0.00 | 0.00 | 0.59 | 0.82 |
| 2 | 0.63 | 0.00 | 0.00 | 1.36 | 1.99 |
| 3 | 0.13 | 0.00 | 0.00 | 0.17 | 0.63 |

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:00 - 17:00

| Arm | Side | Lane level | Lane | Destination arms | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-------|------------|------|------------------|-----------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------|
| 1 | Entry | 1 | 1 | 2 | 221 | 1172 | 0.189 | 222 | 0.0 | 0.2 | 3.785 | A |
| | | | 2 | 3 | 61 | 1172 | 0.052 | 61 | 0.0 | 0.0 | 3.246 | A |
| | | | Exit | 1 | 1 | 53 | 53 | 0.0 | 53 | 0.0 | 0.0 | 0.000 |
| 2 | Entry | 1 | 1 | 3 | 205 | 1156 | 0.254 | 205 | 0.0 | 0.4 | 3.454 | A |
| | | | 2 | 1,3 | 315 | 1156 | 0.272 | 316 | 0.0 | 0.3 | 3.505 | A |
| | | | Exit | 1 | 1 | 417 | 417 | 0.0 | 417 | 0.0 | 0.0 | 0.000 |
| 3 | Entry | 1 | 1 | 1,2 | 110 | 1311 | 0.084 | 111 | 0.0 | 0.0 | 2.785 | A |
| | | | 2 | 2 | 99 | 1311 | 0.075 | 98 | 0.0 | 0.1 | 2.786 | A |
| | | | Exit | 1 | 1 | 653 | 653 | 0.0 | 653 | 0.0 | 0.0 | 0.000 |

Lanes: Queue Variation Results for each time segment

| Arm | Side | Lane level | Lane | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q80 (Veh) | Q95 (Veh) |
|-----|-------|------------|------|------------|-----------|-----------|-----------|-----------|
| 1 | Entry | 1 | 1 | 0.20 | 0.00 | 0.00 | 0.49 | 0.78 |
| | Exit | 1 | 1 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | Entry | 1 | 1 | 0.36 | 0.00 | 0.00 | 0.76 | 0.93 |
| | Exit | 1 | 1 | 0.28 | 0.00 | 0.00 | 0.63 | 0.86 |
| 3 | Entry | 1 | 1 | 0.05 | 0.00 | 0.00 | 0.00 | 1.00 |
| | Exit | 1 | 1 | 0.08 | 0.00 | 0.00 | 0.00 | 1.00 |

16:00 - 17:00

2041 FT, AM

Data Errors and Warnings

| Severity | Area | Item | Description |
|----------|------------------|------------------------|---|
| Warning | Lane Simulation | A1 - [Lane Simulation] | This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results. |
| Warning | Flow Arm 1 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 2 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 3 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Vehicle Mix | Vehicle Mix | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. |
| Warning | Queue variations | Analysis Options | Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high. |

Junction Network

Junctions

| Junction | Name | Junction Type | Arm order | Junction Delay (s) | Junction LOS |
|----------|--------|---------------------|-----------|--------------------|--------------|
| 1 | united | Standard Roundabout | 1,2,3 | 4.03 | A |

Junction Network Options

| Driving side | Lighting |
|--------------|----------------|
| Right | Normal/unknown |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period name | Description | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Single time segment only | Run automatically |
|----|---------------|------------------|-------------|----------------------|--------------------|---------------------|---------------------------|--------------------------|-------------------|
| D7 | 2041 FT | AM | FT 2041 | FLAT | 08:00 | 09:00 | 60 | ✓ | ✓ |

Vehicle mix varies over turn Vehicle mix varies over entry HV Percentages PCU Factor for a HV (PCU) 2.00

Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| 1 | | FLAT | ✓ | 530 | 100.000 |
| 2 | | FLAT | ✓ | 492 | 100.000 |
| 3 | | FLAT | ✓ | 566 | 100.000 |

Origin-Destination Data

Demand (Veh/hr)

| | To |
|------|-------------|
| | 1 2 3 |
| From | 1 0 386 144 |
| | 2 271 0 221 |
| | 3 101 465 0 |

Vehicle Mix



Heavy Vehicle Percentages

| | | To | | |
|------|---|----|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 |

Results

Results Summary for whole modelled period

| Arm | Max delay (s) | Max Queue (Veh) | Max Bsh. percentage Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|-----|---------------|-----------------|---------------------------------|---------|-------------------------|-------------------------------|
| 1 | 4.82 | 0.7 | 2.0 | A | 523 | 523 |
| 2 | 4.03 | 0.6 | 1.9 | A | 483 | 483 |
| 3 | 3.30 | 0.5 | 1.7 | A | 566 | 566 |

Main Results for each time segment

08:00 - 09:00

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Throughput (Veh/hr) | Throughput (ext side) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------------|---------------------|--------------------------------|-------------------|-----------------|-----------|-----|
| 1 | 523 | 523 | 470 | 521 | 364 | 0.0 | 0.7 | 4.823 | A |
| 2 | 483 | 483 | 137 | 482 | 854 | 0.0 | 0.6 | 4.028 | A |
| 3 | 566 | 566 | 267 | 566 | 352 | 0.0 | 0.5 | 3.303 | A |

Queue Variation Results for each time segment

08:00 - 09:00

| Arm | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q90 (Veh) | Q95 (Veh) |
|-----|------------|-----------|-----------|-----------|-----------|
| 1 | 0.74 | 0.00 | 0.01 | 1.58 | 1.99 |
| 2 | 0.58 | 0.00 | 0.00 | 1.45 | 1.90 |
| 3 | 0.46 | 0.00 | 0.00 | 0.99 | 1.71 |

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

08:00 - 09:00

| Arm | Side | Lane level | Lane | Destination arms | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-------|------------|------|------------------|-----------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-----|
| 1 | Entry | 1 | 1 | 2 | 386 | 1070 | 0.360 | 384 | 0.0 | 0.6 | 5.171 | A |
| | | | 2 | 3 | 138 | 1070 | 0.129 | 137 | 0.0 | 0.1 | 3.890 | A |
| 2 | Entry | 1 | 1 | 3 | 364 | 1131 | 0.116 | 364 | 0.0 | 0.0 | 0.000 | A |
| | | | 2 | 1,3 | 352 | 1131 | 0.311 | 350 | 0.0 | 0.5 | 4.273 | A |
| 3 | Entry | 1 | 1 | 1,2 | 854 | 1223 | 0.254 | 854 | 0.0 | 0.0 | 0.000 | A |
| | | | 2 | 2 | 255 | 1223 | 0.209 | 255 | 0.0 | 0.2 | 3.199 | A |
| | Exit | 1 | 1 | | 352 | | | 352 | 0.0 | 0.0 | 0.000 | A |

Lanes: Queue Variation Results for each time segment

08:00 - 09:00

| Arm | Side | Lane level | Lane | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q90 (Veh) | Q95 (Veh) |
|-----|-------|------------|------|------------|-----------|-----------|-----------|-----------|
| 1 | Entry | 1 | 1 | 0.60 | 0.00 | 0.00 | 1.11 | 1.74 |
| | | | 2 | 0.14 | 0.00 | 0.00 | 0.24 | 0.66 |
| 2 | Exit | 1 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 2 | 0.08 | 0.00 | 0.00 | 0.00 | 1.00 |
| 3 | Exit | 1 | 1 | 0.50 | 0.00 | 0.00 | 1.24 | 1.87 |
| | | | 2 | 0.26 | 0.00 | 0.00 | 0.62 | 0.93 |
| 3 | Entry | 1 | 2 | 0.20 | 0.00 | 0.00 | 1.00 | 1.00 |
| | | | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |





Heavy Vehicle Percentages

| | To | | |
|------|----|---|---|
| | 1 | 2 | 3 |
| From | 1 | 0 | 0 |
| | 2 | 0 | 0 |
| | 3 | 0 | 0 |

Results

Results Summary for whole modelled period

| Arm | Max delay (s) | Max Queue (Veh) | Max 85th percentile Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|-----|---------------|-----------------|---------------------------------|---------|-------------------------|-------------------------------|
| 1 | 4.47 | 0.6 | 1.9 | A | 595 | 595 |
| 2 | 4.88 | 1.3 | 4.0 | A | 922 | 922 |
| 3 | 3.41 | 0.3 | 0.9 | A | 339 | 339 |

Main Results for each time segment

16:00 - 17:00

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Throughput (Veh/hr) | Throughput (ext side) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------------|---------------------|--------------------------------|-------------------|-----------------|-----------|-----|
| 1 | 595 | 595 | 177 | 596 | 562 | 0.0 | 0.6 | 4.472 | A |
| 2 | 922 | 922 | 180 | 922 | 593 | 0.0 | 1.3 | 4.876 | A |
| 3 | 339 | 339 | 368 | 340 | 703 | 0.0 | 0.3 | 3.411 | A |

Queue Variation Results for each time segment

16:00 - 17:00

| Arm | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q80 (Veh) | Q85 (Veh) |
|-----|------------|-----------|-----------|-----------|-----------|
| 1 | 0.64 | 0.00 | 0.00 | 1.53 | 1.92 |
| 2 | 1.31 | 0.00 | 0.49 | 2.98 | 3.89 |
| 3 | 0.29 | 0.00 | 0.00 | 0.68 | 0.91 |

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:00 - 17:00

| Arm | Side | Lane level | Lane | Destination arms | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
|-----|-------|------------|------|------------------|-----------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------|
| 1 | Entry | 1 | 1 | 2 | 416 | 1178 | 0.353 | 416 | 0.0 | 0.5 | 4.852 | A |
| | | | 2 | 3 | 179 | 1178 | 0.152 | 180 | 0.0 | 0.1 | 3.618 | A |
| | | | Exit | 1 | 1 | 562 | | | 562 | 0.0 | 0.0 | 0.000 |
| 2 | Entry | 1 | 1 | 3 | 329 | 1116 | 0.295 | 329 | 0.0 | 0.4 | 4.012 | A |
| | | | 2 | 1,3 | 593 | 1116 | 0.531 | 593 | 0.0 | 0.9 | 5.367 | A |
| | | | Exit | 1 | 1 | 593 | | | 593 | 0.0 | 0.0 | 0.000 |
| 3 | Entry | 1 | 1 | 1,2 | 239 | 1172 | 0.203 | 240 | 0.0 | 0.2 | 3.538 | A |
| | | | 2 | 2 | 100 | 1172 | 0.085 | 100 | 0.0 | 0.1 | 3.103 | A |
| | | | Exit | 1 | 1 | 703 | | | 703 | 0.0 | 0.0 | 0.000 |



2041 FT, PM

Data Errors and Warnings

| Severity | Area | Item | Description |
|----------|------------------|------------------------|---|
| Warning | Lane Simulation | A1 - (Lane Simulation) | This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results. |
| Warning | Flow Arm 1 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 2 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Flow Arm 3 | Analysis Options | Queue Variations cannot be calculated for the selected traffic profile type. |
| Warning | Vehicle Mix | | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. |
| Warning | Queue variations | Analysis Options | Queue percentages may be unreliable if the mean queue in any time segment is very low or very high. |

Junction Network

Junctions

| Junction | Name | Junction Type | Arm order | Junction Delay (s) | Junction LOS |
|----------|--------|---------------------|-----------|--------------------|--------------|
| 1 | united | Standard Roundabout | 1,2,3 | 4.48 | A |

Junction Network Options

| Driving side | Lighting |
|--------------|-----------------|
| Right | Normal/Junction |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period name | Description | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Single time segment only | Run automatically |
|-----|---------------|------------------|-------------|----------------------|--------------------|---------------------|---------------------------|--------------------------|-------------------|
| Db1 | 2041 FT | PM | FT 2041 | FLAT | 16:00 | 17:00 | 60 | ✓ | ✓ |

| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
|------------------------------|-------------------------------|--------------------|---------------------------|
| ✓ | ✓ | HV Percentages | 2.00 |

Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use OD data | Average Demand (Veh/hr) | Scaling Factor (%) |
|-----|------------|--------------|-------------|-------------------------|--------------------|
| 1 | | FLAT | ✓ | 606 | 100.000 |
| 2 | | FLAT | ✓ | 937 | 100.000 |
| 3 | | FLAT | ✓ | 333 | 100.000 |

Origin-Destination Data

Demand (Veh/hr)

| | To | | |
|------|----|-----|-----|
| | 1 | 2 | 3 |
| From | 1 | 0 | 425 |
| | 2 | 467 | 0 |
| | 3 | 159 | 174 |

Vehicle Mix



Lanes: Queue Variation Results for each time segment

16:00 - 17:00

| Arm | Side | Lane level | Lane | Mean (Veh) | Q05 (Veh) | Q50 (Veh) | Q90 (Veh) | Q95 (Veh) |
|-----|-------|------------|------|------------|-----------|-----------|-----------|-----------|
| 1 | Entry | 1 | 1 | 0.50 | 0.00 | 0.00 | 1.29 | 1.60 |
| | Exit | 1 | 2 | 0.14 | 0.00 | 0.00 | 0.19 | 0.70 |
| 2 | Entry | 1 | 1 | 0.43 | 0.00 | 0.00 | 0.95 | 1.56 |
| | Exit | 1 | 2 | 0.89 | 0.00 | 0.11 | 1.91 | 2.49 |
| 3 | Entry | 1 | 1 | 0.22 | 0.00 | 0.00 | 0.52 | 0.79 |
| | Exit | 1 | 2 | 0.07 | 0.00 | 0.00 | 0.00 | 1.00 |

APPENDIX G: Signal Warrants



Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

Gore Rd & South Site access

What is the direction of the Main Road street?

North-South

When was the data collected?

2022

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

1

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

3

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

| Hour Ending | Main Northbound Approach | | | Minor Eastbound Approach | | | Main Southbound Approach | | | Minor Westbound Approach | | | Pedestrians Crossing Main Road |
|--------------|--------------------------|--------------|------------|--------------------------|----------|----------|--------------------------|--------------|----------|--------------------------|----------|------------|--------------------------------|
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | |
| 7:00 | | 149 | 27 | | | | 9 | 525 | | 129 | | 14 | 10 |
| 8:00 | 0 | 398 | 71 | 0 | 0 | 0 | 14 | 858 | 0 | 211 | 0 | 37 | 10 |
| 9:00 | | 299 | 53 | | | | 17 | 1,050 | | 259 | | 28 | 10 |
| 10:00 | | 149 | 27 | | | | 9 | 525 | | 129 | | 14 | 10 |
| 15:00 | | 592 | 88 | | | | 24 | 236 | | 85 | | 18 | 10 |
| 16:00 | 0 | 934 | 140 | 0 | 0 | 0 | 42 | 418 | 0 | 151 | 0 | 29 | 10 |
| 17:00 | | 1,184 | 177 | | | | 48 | 472 | | 170 | | 36 | 10 |
| 18:00 | | 592 | 88 | | | | 24 | 236 | | 85 | | 18 | 10 |
| Total | 0 | 4,297 | 671 | 0 | 0 | 0 | 187 | 4,320 | 0 | 1,219 | 0 | 194 | 80 |

Justification 5: Collision Experience

| Preceding Months | Number of Collisions* |
|------------------|-----------------------|
| 1-12 | 4 |
| 13-24 | 3 |
| 25-36 | 4 |

* Include only collisions that are susceptible to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|--|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Factored 8 hour pedestrian volume | 120 | | 15 | | 7 | | 0 | | |
| % Assigned to crossing rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Pedestrian Volume at Crossing | | | | | | | | | 128 |
| Net 8 Hour Vehicular Volume on Street Being Crossed | | | | | | | | | 6,411 |

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|---|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Total 8 hour pedestrians delayed greater than 10 seconds | 10 | 10 | 1 | 6 | 2 | 4 | 0 | 0 | |
| Factored volume of total pedestrians | 120 | | 15 | | 7 | | 0 | | |
| Factored volume of delayed pedestrians | 30 | | 8 | | 8 | | 0 | | |
| % Assigned to Crossing Rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Volume of Total Pedestrians | | | | | | | | | 128 |
| Net 8 Hour Volume of Delayed Pedestrians | | | | | | | | | 34 |

Results Sheet

[Input Sheet](#)

[Analysis Sheet](#)

[Proposed Collision](#)

[GO TO Justification:](#)

Intersection: Gore Rd & South Site access

Count Date: 2022

Summary Results

| Justification | | Compliance | | Signal Justified? | |
|-----------------------------|-------------------|------------|---|-------------------------------------|-------------------------------------|
| | | | | YES | NO |
| 1. Minimum Vehicular Volume | A Total Volume | 100 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Volume | 68 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Delay to Cross Traffic | A Main Road | 100 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Road | 100 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Combination | A Justificaton 1 | 68 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Justification 2 | 100 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. 4-Hr Volume | | 100 | % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| | | | | | |
|-------------------------|--|----|---|--------------------------|-------------------------------------|
| 5. Collision Experience | | 73 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------|--|----|---|--------------------------|-------------------------------------|

| | | | | | |
|----------------|----------|-----------------------|--|--------------------------|-------------------------------------|
| 6. Pedestrians | A Volume | Justification not met | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Delay | Justification not met | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

Humber & Steet Y

What is the direction of the Main Road street?

North-South

When was the data collected?

2022

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

2 or more

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

4

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

| Hour Ending | Main Northbound Approach | | | Minor Eastbound Approach | | | Main Southbound Approach | | | Minor Westbound Approach | | | Pedestrians Crossing Main Road |
|--------------|--------------------------|--------------|------------|--------------------------|--------------|------------|--------------------------|--------------|------------|--------------------------|--------------|------------|--------------------------------|
| | LT | TH | RT | |
| 7:00 | 37 | 231 | 47 | 21 | 181 | 35 | 47 | 317 | 9 | 65 | 54 | 67 | 10 |
| 8:00 | 66 | 412 | 84 | 37 | 316 | 60 | 80 | 542 | 16 | 112 | 95 | 119 | 10 |
| 9:00 | 74 | 461 | 94 | 42 | 362 | 70 | 93 | 634 | 19 | 131 | 109 | 133 | 10 |
| 10:00 | 37 | 231 | 47 | 21 | 181 | 35 | 47 | 317 | 9 | 65 | 54 | 67 | 10 |
| 15:00 | 63 | 491 | 125 | 30 | 108 | 22 | 105 | 235 | 10 | 44 | 184 | 55 | 10 |
| 16:00 | 113 | 877 | 224 | 54 | 189 | 37 | 180 | 402 | 17 | 76 | 321 | 98 | 10 |
| 17:00 | 126 | 982 | 251 | 60 | 216 | 44 | 211 | 470 | 20 | 88 | 367 | 110 | 10 |
| 18:00 | 63 | 491 | 125 | 30 | 108 | 22 | 105 | 235 | 10 | 44 | 184 | 55 | 10 |
| Total | 581 | 4,176 | 998 | 295 | 1,661 | 323 | 867 | 3,153 | 112 | 625 | 1,368 | 703 | 80 |

Justification 5: Collision Experience

| Preceding Months | Number of Collisions* |
|------------------|-----------------------|
| 1-12 | 4 |
| 13-24 | 3 |
| 25-36 | 4 |

* Include only collisions that are susceptible to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|--|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Factored 8 hour pedestrian volume | 120 | | 15 | | 7 | | 0 | | |
| % Assigned to crossing rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Pedestrian Volume at Crossing | | | | | | | | | 128 |
| Net 8 Hour Vehicular Volume on Street Being Crossed | | | | | | | | | 6,411 |

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|---|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Total 8 hour pedestrians delayed greater than 10 seconds | 10 | 10 | 1 | 6 | 2 | 4 | 0 | 0 | |
| Factored volume of total pedestrians | 120 | | 15 | | 7 | | 0 | | |
| Factored volume of delayed pedestrians | 30 | | 8 | | 8 | | 0 | | |
| % Assigned to Crossing Rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Volume of Total Pedestrians | | | | | | | | | 128 |
| Net 8 Hour Volume of Delayed Pedestrians | | | | | | | | | 34 |

Results Sheet

[Input Sheet](#)

[Analysis Sheet](#)

[Proposed Collision](#)

[GO TO Justification:](#)

Intersection: Humber & Steet Y

Count Date: 2022

Summary Results

| | Justification | Compliance | Signal Justified? | |
|-----------------------------|-------------------|------------|-------------------------------------|-------------------------------------|
| | | | YES | NO |
| 1. Minimum Vehicular Volume | A Total Volume | 100 % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | B Crossing Volume | 100 % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Delay to Cross Traffic | A Main Road | 94 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Road | 100 % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Combination | A Justificaton 1 | 100 % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | B Justification 2 | 94 % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. 4-Hr Volume | | 100 % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| | | | | |
|-------------------------|--|------|--------------------------|-------------------------------------|
| 5. Collision Experience | | 73 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------|--|------|--------------------------|-------------------------------------|

| | | | | |
|----------------|----------|-----------------------|--------------------------|-------------------------------------|
| 6. Pedestrians | A Volume | Justification not met | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Delay | Justification not met | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

King & East Site access

What is the direction of the Main Road street?

East-West

When was the data collected?

2022

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

2 or more

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

3

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

| Hour Ending | Main Eastbound Approach | | | Minor Northbound Approach | | | Main Westbound Approach | | | Minor Southbound Approach | | | Pedestrians Crossing Main Road |
|--------------|-------------------------|--------------|----------|---------------------------|----------|----------|-------------------------|--------------|------------|---------------------------|----------|------------|--------------------------------|
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | |
| 7:00 | 17 | 414 | | | | | | 367 | 34 | 132 | | 61 | 10 |
| 8:00 | 26 | 663 | | | | | | 604 | 57 | 211 | | 101 | 10 |
| 9:00 | 33 | 829 | | | | | | 735 | 69 | 263 | | 123 | 10 |
| 10:00 | 17 | 414 | | | | | | 367 | 34 | 132 | | 61 | 10 |
| 15:00 | 48 | 446 | | | | | | 481 | 87 | 70 | | 37 | 10 |
| 16:00 | 77 | 715 | | | | | | 791 | 144 | 113 | | 61 | 10 |
| 17:00 | 96 | 893 | | | | | | 962 | 175 | 141 | | 75 | 10 |
| 18:00 | 48 | 446 | | | | | | 481 | 87 | 70 | | 37 | 10 |
| Total | 362 | 4,821 | 0 | 0 | 0 | 0 | 0 | 4,789 | 688 | 1,131 | 0 | 557 | 80 |

Justification 5: Collision Experience

| Preceding Months | Number of Collisions* |
|------------------|-----------------------|
| 1-12 | 4 |
| 13-24 | 3 |
| 25-36 | 4 |

* Include only collisions that are susceptible to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|--|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Factored 8 hour pedestrian volume | 120 | | 15 | | 7 | | 0 | | |
| % Assigned to crossing rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Pedestrian Volume at Crossing | | | | | | | | | 128 |
| Net 8 Hour Vehicular Volume on Street Being Crossed | | | | | | | | | 6,411 |

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|---|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Total 8 hour pedestrians delayed greater than 10 seconds | 10 | 10 | 1 | 6 | 2 | 4 | 0 | 0 | |
| Factored volume of total pedestrians | 120 | | 15 | | 7 | | 0 | | |
| Factored volume of delayed pedestrians | 30 | | 8 | | 8 | | 0 | | |
| % Assigned to Crossing Rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Volume of Total Pedestrians | | | | | | | | | 128 |
| Net 8 Hour Volume of Delayed Pedestrians | | | | | | | | | 34 |

Intersection: King & East Site access

Count Date: 2022

Summary Results

| | Justification | Compliance | Signal Justified? | |
|-----------------------------|-------------------|------------|-------------------------------------|-------------------------------------|
| | | | YES | NO |
| 1. Minimum Vehicular Volume | A Total Volume | 100 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Volume | 74 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Delay to Cross Traffic | A Main Road | 98 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Road | 100 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Combination | A Justificaton 1 | 74 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Justification 2 | 98 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. 4-Hr Volume | | 100 % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| | | | | |
|-------------------------|--|------|--------------------------|-------------------------------------|
| 5. Collision Experience | | 73 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------|--|------|--------------------------|-------------------------------------|

| | | | | |
|----------------|----------|-----------------------|--------------------------|-------------------------------------|
| 6. Pedestrians | A Volume | Justification not met | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Delay | Justification not met | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

King & West Site access

What is the direction of the Main Road street?

East-West

When was the data collected?

2022

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

2 or more

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

3

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

| Hour Ending | Main Eastbound Approach | | | Minor Northbound Approach | | | Main Westbound Approach | | | Minor Southbound Approach | | | Pedestrians Crossing Main Road |
|--------------|-------------------------|--------------|----------|---------------------------|----------|----------|-------------------------|--------------|------------|---------------------------|----------|------------|--------------------------------|
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | |
| 7:00 | 17 | 299 | | | | | | 394 | 34 | 132 | | 61 | 10 |
| 8:00 | 26 | 479 | | | | | | 648 | 57 | 211 | | 101 | 10 |
| 9:00 | 33 | 599 | | | | | | 789 | 69 | 263 | | 123 | 10 |
| 10:00 | 17 | 299 | | | | | | 394 | 34 | 132 | | 61 | 10 |
| 15:00 | 48 | 424 | | | | | | 431 | 87 | 70 | | 37 | 10 |
| 16:00 | 76 | 679 | | | | | | 709 | 144 | 113 | | 61 | 10 |
| 17:00 | 95 | 848 | | | | | | 862 | 175 | 141 | | 74 | 10 |
| 18:00 | 48 | 424 | | | | | | 431 | 87 | 70 | | 37 | 10 |
| Total | 360 | 4,051 | 0 | 0 | 0 | 0 | 0 | 4,658 | 688 | 1,131 | 0 | 554 | 80 |

Justification 5: Collision Experience

| Preceding Months | Number of Collisions* |
|------------------|-----------------------|
| 1-12 | 4 |
| 13-24 | 3 |
| 25-36 | 4 |

* Include only collisions that are susceptible to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|--|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Factored 8 hour pedestrian volume | 120 | | 15 | | 7 | | 0 | | |
| % Assigned to crossing rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Pedestrian Volume at Crossing | | | | | | | | | 128 |
| Net 8 Hour Vehicular Volume on Street Being Crossed | | | | | | | | | 6,411 |

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|---|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Total 8 hour pedestrians delayed greater than 10 seconds | 10 | 10 | 1 | 6 | 2 | 4 | 0 | 0 | |
| Factored volume of total pedestrians | 120 | | 15 | | 7 | | 0 | | |
| Factored volume of delayed pedestrians | 30 | | 8 | | 8 | | 0 | | |
| % Assigned to Crossing Rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Volume of Total Pedestrians | | | | | | | | | 128 |
| Net 8 Hour Volume of Delayed Pedestrians | | | | | | | | | 34 |

Results Sheet

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Intersection: King & West Site access

Count Date: 2022

Summary Results

| Justification | | Compliance | | Signal Justified? | |
|-----------------------------|-------------------|------------|---|-------------------------------------|-------------------------------------|
| | | | | YES | NO |
| 1. Minimum Vehicular Volume | A Total Volume | 100 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Volume | 73 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Delay to Cross Traffic | A Main Road | 96 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Road | 100 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Combination | A Justificaton 1 | 73 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Justification 2 | 96 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. 4-Hr Volume | | 100 | % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| | | | | |
|-------------------------|----|---|--------------------------|-------------------------------------|
| 5. Collision Experience | 73 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------|----|---|--------------------------|-------------------------------------|

| | | | | | |
|----------------|----------|-----------------------|--|--------------------------|-------------------------------------|
| 6. Pedestrians | A Volume | Justification not met | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Delay | Justification not met | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

Humber Station Rd & Street EE

What is the direction of the Main Road street?

North-South

When was the data collected?

2022

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

2 or more

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

3

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

| Hour Ending | Main Northbound Approach | | | Minor Eastbound Approach | | | Main Southbound Approach | | | Minor Westbound Approach | | | Pedestrians Crossing Main Road |
|--------------|--------------------------|--------------|----------|--------------------------|----------|----------|--------------------------|--------------|-----------|--------------------------|----------|----------|--------------------------------|
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | |
| 7:00 | | 309 | | 8 | | | | 415 | 1 | | | | 10 |
| 8:00 | | 552 | | 15 | | | | 709 | 2 | | | | 10 |
| 9:00 | | 619 | | 17 | | | | 829 | 3 | | | | 10 |
| 10:00 | | 309 | | 8 | | | | 415 | 1 | | | | 10 |
| 15:00 | | 614 | | 3 | | | | 384 | 9 | | | | 10 |
| 16:00 | | 1,097 | | 5 | | | | 656 | 15 | | | | 10 |
| 17:00 | | 1,229 | | 5 | | | | 767 | 17 | | | | 10 |
| 18:00 | | 614 | | 3 | | | | 384 | 9 | | | | 10 |
| Total | 0 | 5,344 | 0 | 64 | 0 | 0 | 0 | 4,559 | 57 | 0 | 0 | 0 | 80 |

Justification 5: Collision Experience

| Preceding Months | Number of Collisions* |
|------------------|-----------------------|
| 1-12 | 4 |
| 13-24 | 3 |
| 25-36 | 4 |

* Include only collisions that are susceptible to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|--|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Factored 8 hour pedestrian volume | 120 | | 15 | | 7 | | 0 | | |
| % Assigned to crossing rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Pedestrian Volume at Crossing | | | | | | | | | 128 |
| Net 8 Hour Vehicular Volume on Street Being Crossed | | | | | | | | | 6,411 |

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|---|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Total 8 hour pedestrians delayed greater than 10 seconds | 10 | 10 | 1 | 6 | 2 | 4 | 0 | 0 | |
| Factored volume of total pedestrians | 120 | | 15 | | 7 | | 0 | | |
| Factored volume of delayed pedestrians | 30 | | 8 | | 8 | | 0 | | |
| % Assigned to Crossing Rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Volume of Total Pedestrians | | | | | | | | | 128 |
| Net 8 Hour Volume of Delayed Pedestrians | | | | | | | | | 34 |

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Intersection: Humber Station Rd & Street EE

Count Date: 2022

Summary Results

| Justification | | Compliance | | Signal Justified? | |
|-----------------------------|-------------------|------------|---|--------------------------|-------------------------------------|
| | | | | YES | NO |
| 1. Minimum Vehicular Volume | A Total Volume | 95 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Volume | 3 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Delay to Cross Traffic | A Main Road | 95 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Road | 24 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Combination | A Justificaton 1 | 3 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Justification 2 | 24 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. 4-Hr Volume | | 9 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| | | | | | |
|-------------------------|--|----|---|--------------------------|-------------------------------------|
| 5. Collision Experience | | 73 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------|--|----|---|--------------------------|-------------------------------------|

| | | | | | |
|----------------|----------|-----------------------|--|--------------------------|-------------------------------------|
| 6. Pedestrians | A Volume | Justification not met | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Delay | Justification not met | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

Humber Station & Street E

What is the direction of the Main Road street?

North-South

When was the data collected?

2022

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

1

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

4

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

| Hour Ending | Main Northbound Approach | | | Minor Eastbound Approach | | | Main Southbound Approach | | | Minor Westbound Approach | | | Pedestrians Crossing Main Road |
|--------------|--------------------------|--------------|--------------|--------------------------|-----------|------------|--------------------------|--------------|-----------|--------------------------|----------|-----------|--------------------------------|
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | |
| 7:00 | 20 | 114 | 193 | 3 | 2 | 54 | 1 | 206 | 1 | 83 | 1 | 3 | 10 |
| 8:00 | 36 | 204 | 344 | 6 | 3 | 93 | 1 | 353 | 1 | 143 | 1 | 5 | 10 |
| 9:00 | 41 | 229 | 386 | 7 | 4 | 109 | 2 | 412 | 2 | 167 | 2 | 5 | 10 |
| 10:00 | 20 | 114 | 193 | 3 | 2 | 54 | 1 | 206 | 1 | 83 | 1 | 3 | 10 |
| 15:00 | 76 | 352 | 193 | 5 | 7 | 38 | 3 | 124 | 3 | 169 | 1 | 2 | 10 |
| 16:00 | 135 | 629 | 346 | 9 | 12 | 66 | 5 | 212 | 4 | 290 | 1 | 3 | 10 |
| 17:00 | 151 | 704 | 387 | 10 | 14 | 77 | 5 | 247 | 5 | 339 | 1 | 3 | 10 |
| 18:00 | 76 | 352 | 193 | 5 | 7 | 38 | 3 | 124 | 3 | 169 | 1 | 2 | 10 |
| Total | 555 | 2,698 | 2,236 | 48 | 51 | 530 | 20 | 1,884 | 19 | 1,443 | 8 | 24 | 80 |

Justification 5: Collision Experience

| Preceding Months | Number of Collisions* |
|------------------|-----------------------|
| 1-12 | 4 |
| 13-24 | 3 |
| 25-36 | 4 |

* Include only collisions that are susceptible to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|--|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Factored 8 hour pedestrian volume | 120 | | 15 | | 7 | | 0 | | |
| % Assigned to crossing rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Pedestrian Volume at Crossing | | | | | | | | | 128 |
| Net 8 Hour Vehicular Volume on Street Being Crossed | | | | | | | | | 6,411 |

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|---|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Total 8 hour pedestrians delayed greater than 10 seconds | 10 | 10 | 1 | 6 | 2 | 4 | 0 | 0 | |
| Factored volume of total pedestrians | 120 | | 15 | | 7 | | 0 | | |
| Factored volume of delayed pedestrians | 30 | | 8 | | 8 | | 0 | | |
| % Assigned to Crossing Rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Volume of Total Pedestrians | | | | | | | | | 128 |
| Net 8 Hour Volume of Delayed Pedestrians | | | | | | | | | 34 |

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Intersection: Humber Station & Street E

Count Date: 2022

Summary Results

| | Justification | Compliance | Signal Justified? | |
|-----------------------------|-------------------|------------|-------------------------------------|-------------------------------------|
| | | | YES | NO |
| 1. Minimum Vehicular Volume | A Total Volume | 99 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Volume | 97 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Delay to Cross Traffic | A Main Road | 94 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Road | 100 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Combination | A Justificaton 1 | 97 % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | B Justification 2 | 94 % | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. 4-Hr Volume | | 100 % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| | | | | |
|-------------------------|--|------|--------------------------|-------------------------------------|
| 5. Collision Experience | | 73 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------|--|------|--------------------------|-------------------------------------|

| | | | | |
|----------------|----------|-----------------------|--------------------------|-------------------------------------|
| 6. Pedestrians | A Volume | Justification not met | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Delay | Justification not met | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

Emil Kolb Parkway & GO Station Rd

What is the direction of the Main Road street?

North-South

When was the data collected?

2022

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

2 or more

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

3

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

| Hour Ending | Main Northbound Approach | | | Minor Eastbound Approach | | | Main Southbound Approach | | | Minor Westbound Approach | | | Pedestrians Crossing Main Road |
|--------------|--------------------------|--------------|----------|--------------------------|----------|--------------|--------------------------|--------------|------------|--------------------------|----------|----------|--------------------------------|
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | |
| 7:00 | 136 | 111 | | 72 | | 193 | | 232 | 51 | | | | 10 |
| 8:00 | 183 | 149 | | 97 | | 305 | | 367 | 80 | | | | 10 |
| 9:00 | 271 | 221 | | 144 | | 386 | | 465 | 101 | | | | 10 |
| 10:00 | 136 | 111 | | 72 | | 193 | | 232 | 51 | | | | 10 |
| 15:00 | 203 | 265 | | 90 | | 213 | | 87 | 79 | | | | 10 |
| 16:00 | 331 | 431 | | 147 | | 502 | | 206 | 187 | | | | 10 |
| 17:00 | 407 | 530 | | 181 | | 425 | | 174 | 159 | | | | 10 |
| 18:00 | 203 | 265 | | 90 | | 213 | | 87 | 79 | | | | 10 |
| Total | 1,870 | 2,083 | 0 | 893 | 0 | 2,429 | 0 | 1,851 | 787 | 0 | 0 | 0 | 80 |

Justification 5: Collision Experience

| Preceding Months | Number of Collisions* |
|------------------|-----------------------|
| 1-12 | 4 |
| 13-24 | 3 |
| 25-36 | 4 |

* Include only collisions that are susceptible to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|--|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Factored 8 hour pedestrian volume | 120 | | 15 | | 7 | | 0 | | |
| % Assigned to crossing rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Pedestrian Volume at Crossing | | | | | | | | | 128 |
| Net 8 Hour Vehicular Volume on Street Being Crossed | | | | | | | | | 6,411 |

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|---|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Total 8 hour pedestrians delayed greater than 10 seconds | 10 | 10 | 1 | 6 | 2 | 4 | 0 | 0 | |
| Factored volume of total pedestrians | 120 | | 15 | | 7 | | 0 | | |
| Factored volume of delayed pedestrians | 30 | | 8 | | 8 | | 0 | | |
| % Assigned to Crossing Rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Volume of Total Pedestrians | | | | | | | | | 128 |
| Net 8 Hour Volume of Delayed Pedestrians | | | | | | | | | 34 |

Results Sheet

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GO TO Justification:

Intersection: Emil Kolb Parkway & GO Station Rd

Count Date: 2022

Summary Results

| Justification | | Compliance | | Signal Justified? | |
|-----------------------------|-------------------|------------|---|-------------------------------------|-------------------------------------|
| | | | | YES | NO |
| 1. Minimum Vehicular Volume | A Total Volume | 97 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Volume | 100 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Delay to Cross Traffic | A Main Road | 81 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Road | 100 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Combination | A Justificaton 1 | 97 | % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | B Justification 2 | 81 | % | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. 4-Hr Volume | | 100 | % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| | | | | | |
|-------------------------|--|----|---|--------------------------|-------------------------------------|
| 5. Collision Experience | | 73 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------|--|----|---|--------------------------|-------------------------------------|

| | | | | | |
|----------------|----------|-----------------------|--|--------------------------|-------------------------------------|
| 6. Pedestrians | A Volume | Justification not met | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Delay | Justification not met | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

Gore Rd & North Site access

What is the direction of the Main Road street?

North-South

When was the data collected?

2022

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

1

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

3

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

| Hour Ending | Main Northbound Approach | | | Minor Eastbound Approach | | | Main Southbound Approach | | | Minor Westbound Approach | | | Pedestrians Crossing Main Road |
|--------------|--------------------------|--------------|------------|--------------------------|----------|----------|--------------------------|--------------|----------|--------------------------|----------|------------|--------------------------------|
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | |
| 7:00 | | 125 | 26 | | | | 22 | 403 | | 131 | | 16 | 10 |
| 8:00 | 0 | 334 | 70 | 0 | 0 | 0 | 36 | 658 | 0 | 214 | 0 | 42 | 10 |
| 9:00 | | 251 | 53 | | | | 44 | 805 | | 262 | | 32 | 10 |
| 10:00 | | 125 | 26 | | | | 22 | 403 | | 131 | | 16 | 10 |
| 15:00 | | 438 | 94 | | | | 27 | 177 | | 83 | | 25 | 10 |
| 16:00 | 0 | 691 | 149 | 0 | 0 | 0 | 48 | 313 | 0 | 147 | 0 | 39 | 10 |
| 17:00 | | 876 | 189 | | | | 54 | 354 | | 166 | | 49 | 10 |
| 18:00 | | 438 | 94 | | | | 27 | 177 | | 83 | | 25 | 10 |
| Total | 0 | 3,278 | 701 | 0 | 0 | 0 | 280 | 3,290 | 0 | 1,217 | 0 | 244 | 80 |

Justification 5: Collision Experience

| Preceding Months | Number of Collisions* |
|------------------|-----------------------|
| 1-12 | 4 |
| 13-24 | 3 |
| 25-36 | 4 |

* Include only collisions that are susceptible to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|--|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Factored 8 hour pedestrian volume | 120 | | 15 | | 7 | | 0 | | |
| % Assigned to crossing rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Pedestrian Volume at Crossing | | | | | | | | | 128 |
| Net 8 Hour Vehicular Volume on Street Being Crossed | | | | | | | | | 6,411 |

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|---|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 20 | 80 | 0 | 15 | 1 | 5 | 0 | 0 | |
| Total 8 hour pedestrians delayed greater than 10 seconds | 10 | 10 | 1 | 6 | 2 | 4 | 0 | 0 | |
| Factored volume of total pedestrians | 120 | | 15 | | 7 | | 0 | | |
| Factored volume of delayed pedestrians | 30 | | 8 | | 8 | | 0 | | |
| % Assigned to Crossing Rate | 100% | | 50% | | 0% | | 0% | | |
| Net 8 Hour Volume of Total Pedestrians | | | | | | | | | 128 |
| Net 8 Hour Volume of Delayed Pedestrians | | | | | | | | | 34 |

Results Sheet

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Intersection: Gore Rd & North Site access

Count Date: 2022

Summary Results

| | Justification | Compliance | Signal Justified? | |
|-----------------------------|-------------------|------------|-------------------------------------|-------------------------------------|
| | | | YES | NO |
| 1. Minimum Vehicular Volume | A Total Volume | 100 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Volume | 70 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Delay to Cross Traffic | A Main Road | 95 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Road | 100 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Combination | A Justificaton 1 | 70 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Justification 2 | 95 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. 4-Hr Volume | | 100 % | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| | | | | |
|-------------------------|--|------|--------------------------|-------------------------------------|
| 5. Collision Experience | | 73 % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------|--|------|--------------------------|-------------------------------------|

| | | | | |
|----------------|----------|-----------------------|--------------------------|-------------------------------------|
| 6. Pedestrians | A Volume | Justification not met | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Delay | Justification not met | <input type="checkbox"/> | <input checked="" type="checkbox"/> |