TRAFFIC IMPACT STUDY

1575 HURONTARIO STREET
CITY OF MISSISSAUGA, REGION OF PEEL

PREPARED FOR:
DREAM SUITES

PREPARED BY:

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CONSULTING ENGINEERS

1.0 Executive Summary

CF Crozier & Associates Inc. (Crozier) was retained by Dream Suites to complete a Transportation Impact Study in support of an Official Plan Amendment (OPA) and Zoning By-law Amendment (ZBA) for the proposed residential development located at 1575 Hurontario Street, City of Mississauga, and Regional Municipality of Peel. The subject property is bounded by existing commercial buildings to the north and south, existing residential subdivision and Maplewood Road to the east, and Hurontario Street to the west. The location of the proposed development is reflected in **Figure 1**.

The Terms of Reference for the study was confirmed with staff from the City of Mississauga and Ontario Ministry of Transportation (MTO), with correspondence included in **Appendix A**.

The subject property is approximately 0.36 hectares (0.89 acres). The Site Plan for the proposed development consists of 42 units of two to three storey townhouses and 56 underground parking spaces. The development also proposes the use of the existing full moves access to Hurontario Street. The proposed Site Plan is reflected in **Figure 2**.

Analysis of the existing traffic volumes has determined that the intersection of Hurontario Street at QEW EB Off Ramp/South Service Road currently operates at a levels of service (LOS) "D" or better during both peak periods with maximum volume-to-capacity ratios at and above MTO's maximum threshold of 0.75, indicating a revised signal timing plan is required to avoid long queues and possible spillback onto the highway QEW. Furthermore, the intersection of Hurontario Street at Pinetree Way is operating at level of service "A" during both peak periods. The intersection of Hurontario Street at Indian Valley Trail / Pinewood Trail is currently operating at a LOS "C" during both peak periods. In addition, a signal has been proposed for the intersection due to the implementation of the Hurontario-Main LRT.

Per correspondence with the City of Mississauga, a one-time traffic volume reduction is applied to 2021 background traffic growth on Hurontario Street due to the Hurontario-Main LRT. This reduction is used to assume the increase in transit modal split and decrease in automobile modal split. A 0.5% to 1% compounded annual growth is then applied to traffic volumes along Hurontario Street from 2021 to 2023. In addition, 0.0% to 3.0% compounded annual growth is applied to traffic volumes along South Service road from existing to 2023 future conditions as specified by the City of Mississauga. Finally, as recommended by the City of Mississauga, no growth is applied on all other local roadways (Pinetree Way, Pinewood Trail, Indian Valley Trail and Hampshire Crescent) as there are limited development opportunities in those neighbourhood.

Per correspondence with the Ontario Ministry of Transportation (MTO), a conservative one percent annual compounded growth rate is calculated using MTO's Annual Average Daily Traffic (AADT) volumes for QEW EB Off ramp at Hurontario Street. It is noteworthy that the one percent growth rate is considered conservative as this growth rate do not consider the anticipated decrease in traffic volumes related to the increase in transit usage. Further to the background growth, the trips generated by three separate developments are considered in the future background analysis.

Intersection analyses of the 2023 future background traffic volumes indicate that the intersection of Hurontario Street at QEW EB Off Ramp is anticipated to continue operating at a LOS "D" with a maximum volume-to-capacity ratios above MTO's threshold of 0.75 in the weekday a.m. and p.m. peak hours. The intersection of Hurontario Street at Pinetree Way and Hurontario Street at Indian Valley Trail/Pinewood Trail are expected to operate at a LOS "A" during both peak periods.

The proposed residential development is expected to add 15 and 19 trips to the boundary road network in the weekday a.m. and p.m. peak hours, respectively.

Metrolinx and City of Mississauga identifies Hurontario Street as a major corridor and is preparing to expand transit services in the local network in order to support the future LRT service along Hurontario-Main street from Port Credit GO station to Brampton Gateway Terminal. The construction of the LRT is scheduled to complete by 2022, and its improvements along Hurontario Street includes multi-use trail, midblock pedestrian crosswalks as well as natural scenery in order to encourage the use of alternate mode of transportation such as walking, cycling and transit. Commercial and recreational developments are also expected throughout the corridor. Thus, it can be expected that the auto trip generations of the site, as well as the existing traffic volumes will be reduced due to the improve convenience.

The proposed development produces a low trip generation, and thus it is not expected to adversely affect the boundary road network. Intersection analyses of the 2023 total traffic volumes indicate that the intersection of Hurontario Street at QEW EB off-ramp/South Service Road is anticipated to operate at an unchanged LOS "D" with maximum volume-to-capacity ratios above MTO's threshold of 0.75 in the weekday a.m. and p.m. peak hours. The intersections of Hurontario Street at Pinetree Way and Hurontario Street at Indian Valley Trail/Pinewood Trail are anticipated to continue operating at a LOS "A" in the weekday a.m. and p.m. peak hours. When compared between future background and future total conditions, all metrics indicate that the development does not significantly alter the future intersection operations.

A signal optimization analysis concludes that the future background conditions and future total conditions can be significantly improved with a lower cycle length (i.e. 120 seconds). While the maximum volume-to-capacity ratios at the intersection of QEW EB Off Ramp/South service road are reduced below MTO's maximum threshold, all other minor approaches as well as the northbound and southbound left turn/U-turn movements are also anticipated to moderately improve at all intersections. However, it is understood that the final signal timing plans (i.e. cycle lengths and splits) will be confirmed upon LRT implementation with requirements for corridor progression finalized later in the future.

Assessment of sight distance at the site access indicate that there is sufficient sight distance for vehicles entering and exiting the subject property. Accordingly, the proposed development is not expected to create a safety hazard due to vehicle ingress or egress at the full moves site access on Hurontario Street. The access can be supported from a sight distance perspective.

Truck turning analysis was undertaken and it was confirmed that a standard Region of Peel garbage track can maneuver into the loading space in a forward motion, empty the bins, reverse and exit the site without any issues.

It is concluded that the traffic generated by the proposed development is relatively low and can be accommodated by the boundary road network.

The analysis undertaken within was prepared using the most recent Site Plan. Any minor changes to the Plan will not materially affect the conclusions contained within this report.

In conclusion, the proposed residential development can be supported from a traffic safety and operation perspective.

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2.0 Introduction

2.1 Background

Dream Suites has retained CF Crozier & Associates Inc. (Crozier) to complete a Transportation Impact Study in support of an Official Plan Amendment (OPA) and Zoning By-law Amendment (ZBA) for the proposed residential development located at 1575 Hurontario Street in the City of Mississauga, Regional Municipality of Peel.

The purpose of the study is to assess the impacts of the proposed development on the boundary road network and to recommend any required mitigation measures, if warranted.

The study analyzes the operations of the boundary road intersections. The future traffic operations with and without the addition of the site generated vehicular trips are also analyzed.

The study has been completed in accordance with agreed upon Terms of Reference with the City of Mississauga and Ontario Ministry of Transportation (MTO), with correspondence included in **Appendix A**. The associated analyses and findings outlined therein.

2.2 Development Proposal

The development proposal is outlined in **Table 1** below.

Table 1
Proposed Development Statistics

Townhouse Unit	Proposed Residential units
Building A	21
Building B	21
Total	**42**
Proposed Parking Supply	**Units**
Residential	45
Visitors	11
Total	**56**

The subject property proposes 42 back-to-back, stacked 2 to 3 storey townhomes, contained within two buildings. The development proposes 56 parking spaces, 11 of which are allocated for visitor parking, and the remaining 46 are allocated for residents.

The Site Plan dated October 3rd, 2019 proposes a full-moves access to form the fourth leg of the intersection of Hurontario Street and Pinetree Way. Due to the close proximity of the proposed site access to neighbouring private access at 1569 Hurontario Street drive way, it has been proposed to close and relocate the existing 1569 Hurontario Street driveway access to within the proposed townhouse site access.

The Site Location Plan has been included as **Figure 1** while the relevant development statistics and Concept Plan prepared by Kirkor Architects & Planners has been included as **Figure 2**.

3.0 Existing Conditions

3.1 Development Lands

The subject property is an approximate 0.36 hectare (0.89 acres) undeveloped lot located in a mixed-use neighbourhood of commercial and residential developments in the City of Mississauga, Region of Peel.

The subject lands are bounded by existing commercial buildings to the north and south, existing residential subdivision and Maplewood Road to the east, and Hurontario Street to the west. Currently, the subject lands are comprised of a vacant asphalt paved area and a vegetated area in the rear, east side of Hurontario Street. The subject property currently has one unused site access at the intersection of Hurontario Street and Pinetree Way.

3.2 Study Area

The study area encompasses the boundary road network surrounding the subject property and is described in **Section 3.3**. The Transportation Impact Study analyzes the following existing intersections as agreed in the terms of reference with the City of Mississauga and MTO;

- Hurontario Street and Pinetree Way
- Hurontario Street and QEW EB Off Ramp/South Service Road
- Hurontario Street and Pinewood Trail/Indian Valley Trail

3.3 Boundary Road Network

Hurontario Street is a north-south two-way arterial road under the jurisdiction of the City of Mississauga, with a posted speed limit of 50 km/h. The roadway consists of two approximate 3.5 to 3.7 metre lanes of travel per direction and an approximate 3.5 metre shared left turn lane. There exists an approximate 1.5 metre sidewalk on the west side of the roadway, separated from the roadway by a boulevard strip and an approximate five metre paved sidewalk on the east side of the roadway, separated from the roadway by curb and gutter. The paved asphalt sidewalk does not have delineation to separate pedestrians from cyclists.

Pinetree way is an east-west two-way roadway under the jurisdiction of the City of Mississauga with a posted speed limit of 20 km/h at the intersection of Hurontario Street and Pinetree Way due to the curvature of the roadway preceding the intersection. The roadway consists of one approximate 3.5 metre lane per direction. An approximate two metre paved sidewalk exists on the south side of the roadway, separated from the roadway by curb and gutter.

South Service Road is an east-west two-way major collector within the City of Mississauga, with a posted speed limit of 60 km/h. The posted speed may be temporarily reduced to 40 km/h during the weekday, consistent with hours of operations of a nearby school. The roadway features two lanes, approximately 3.5 metres width each, with dedicated left and right turn lanes in the westbound direction. There are 1.5 metre standard concrete sidewalks on both sides of the roadway, with the south side separated from the roadway by a curb, gutter and a paved asphalt maintenance strip. South Service Road forms the fourth leg, in the east side, of the intersection at Hurontario Street and QEW Eastbound (EB) Off Ramp/South Service Road.

QEW Eastbound Off Ramp is an east-west highway off ramp within the City of Mississauga, however, under the jurisdiction of Ontario Ministry of Transportation (MTO). The off ramp has a recommended posted speed of 50 km/h. however, vehicles are often observed travelling at speed in excess of 80 km/h. The off-ramp features two lanes, both in the east-bound (EB) directions, which divides into three

lanes at the intersection of QEW EB Off Ramp and Hurontario street. The three lanes are divided to form dual left turn lanes, as well as a shared through-right turn lane. The QEW EB Off Ramp forms the fourth leg, in the west side, of the intersection at Hurontario Street and QEW EB Off Ramp /South Service Road.

Pinewood Trail is an east-west local roadway within the City of Mississauga, with no posted speed limit and, thus, 50 km/h is assumed for the roadway as per the City and municipal regulations. The roadway is approximately 7.0 metre wide. Although there is no lane delineation, there is sufficient room to accommodate cars travelling in opposite directions, simultaneously. On-street parking is available on both sides of the street, with selected locations, prohibit from parking between 8:00 a.m. to 5:00 p.m. on the weekday. No trucks or other heavy vehicles are allowed on the road and the intersection at Hurontario Street, allows for full moves turning movements. Pinewood Trail forms one of the four legs, in the east side of the intersection at Hurontario Street and Indian Valley Trail/Pinewood Trail.

Indian Valley Trail is an east-west local roadway in the City of Mississauga that has a posted speed limit of 40 km/h. The roadway forms the fourth leg of a skewed intersection at Hurontario Street and Pinewood Trail/Indian Valley Trail. There is no lane delineation, however, there is enough room to accommodate two cars travelling in opposite directions simultaneously. On-street parking is permitted on both sides of the street. No trucks or other heavy vehicles are allowed on the roadway. Indian Valley Trail forms the fourth leg, in the west side, of the intersection of Hurontario Street and Indian Valley Trail/Pinewood Trail.

3.3.1 Hurontario Street and Pinetree Way Intersection

The intersection of Hurontario Street and Pinetree Way is currently a three-legged, signalized intersection under the City of Mississauga's jurisdiction. The north approach (Hurontario Street) consists of a through lane and a shared through/right-turn lane. The south approach (Hurontario Street) consists of two through lanes and a right turn lane with an approximate 180 metres of effective storage. The west approach (Pinetree Way) consists of a designated right turn lane and a designated left turn lane with an approximate 40 metres of effective storage. The proposed site access will form the fourth leg of the intersection, which makes use of the existing vacant site entrance in the east approach.

Per Hurontario-Main LRT Appendix A.1, LRT Infrastructure Design, after the LRT implementation in 2022, the roadway configurations will remain the same. Since there is no southbound left turn proposed, vehicles travelling southbound, wishing to enter the subject property, must continue southbound and conduct a U-Turn at the intersection of Hurontario Street and Indian Valley Trail /Pinewood Trail. Vehicles can then enter the site using the northbound right turn.

3.3.2 Hurontario Street and QEW EB Off Ramp/South Service Road Intersection

The intersection of Hurontario Street and QEW Off Ramp /South Service Road is currently a four-legged, signalized intersection under the Ontario Ministry of Transportation's jurisdiction.

The north approach (Hurontario Street) consists of two through lanes, and a shared through-right turn lane. The south approach (Hurontario Street) consists of two through lanes and a dedicated left turn lane.

The eastbound approach (QEW EB Off Ramp) has a dual left turn lane, and a shared through-right turn lane. The westbound approach (South Service Road) has a dedicated left turn lane and dedicated right turn lane. No westbound through movement is permitted.

Finally, an eastbound entrance ramp to QEW EB is located in the north-east of the intersection.

Although during majority of the day, the entrance ramp is free flowing, during peak periods with extremely high traffic volumes, as well as during special circumstances, the entrance ramp may be closed or metered with a red traffic signal located at the end of the entrance ramp. During such time, an advance flashing warning signal is turned on, vehicles are no longer free flowing into the highway, and vehicles must stop at the stop bar until the traffic signal turns green.

3.3.3 Hurontario Street and Indian Valley Trail/Pinewood Trail Intersection

The intersection of Hurontario Street and Indian Valley Trail/Pinewood Trail is currently a skewed, four-legged, two-way stop-controlled intersection, under the City of Mississauga's jurisdiction. Hurontario Street is free flowing with two through lanes in each direction of travel, as well as a shared left turn lane separating the two directions of travel. Right turns from Hurontario Street are shared with the through lane, while the east and west approach from Indian Valley Trail and Pinewood Trail are currently a single shared right- through-left turn lane with a stop controlled.

Per Hurontario-Main LRT Appendix A.1, LRT Infrastructure Design, after the LRT implementation in 2022, there is a proposed signalized intersection, allowing for protected northbound and southbound left turns, as well as U-turn movements. The roadway configurations remain the same, dedicated left turn lanes with two through lanes in both directions along Hurontario Street, with the right most through lane sharing with the right turn movements. Furthermore, two LRT tracks are proposed in the middle of the roadway, separating northbound and southbound direction of travel. Pinewood Trail's and Indian Valley Trail's road configurations will remain the same, with single lane in each direction. No LRT Transit stop is proposed at this signalized intersection.

3.3.4 Hurontario Street and Hampshire Crescent Intersection

The intersection of Hurontario Street and Hampshire Crescent is a three-legged one way stop-controlled intersection with full moves permitted, under the City of Mississauga's jurisdiction. It is located approximately 100 metres north of the intersection of Hurontario Street and Indian Valley Trail/Pinewood Trail. The intersection serves as the sole entrance and exit to a small residential subdivision of about 45 single detached houses. Upon the LRT implementation in 2022, as per Hurontario-Main LRT Appendix A.1, LRT Infrastructure Design, this intersection will remain a one way stop controlled, however with right-in and right-out movements only. Vehicles exiting, wishing to turn northbound on Hurontario Street will require to conduct a U-Turn at Hurontario Street and Indian Valley Trail/Pinewood Trail, vice versa for vehicles entering from northbound Hurontario Street.

3.4 Transit Operations

MiWay is a public transportation agency which operates local and express buses for the City of Mississauga.

GO Transit is a regional public transportation agency operated by Metrolinx, which operates regional buses and railway services within the Golden Horseshoe region of Ontario.

Table 2 below outlines the existing transit routes, direction, days of operation, peak hour headways, and the location of bus stops in the study area.

Table 2
Existing Transit Services

Route	Direction	Span	Days of Operation	Peak Hour Headways (min)	Bus Stops in Study Area
103	Two-Way (North-South)	Hurontario St. From Port Credit GO Station to Brampton Gateway Terminal	Monday to Sunday	11	Hurontario Street at North Service Road (550.0 metres from Subject Site)
19	Two-Way (North-South)	Hurontario St. From Port Credit GO Station to 407 Car Pool Lot	Monday to Sunday	10-12	Hurontario Street at Pinetree Way (30.0 metres from Subject Site)

MiWay Route 103 offers express connections along the same route as MiWay Route 19, however Route 19 operates daily local services between Port Credit GO Station and 407 Car Pool Lot, with additional stops in comparison to Route 103. There are three other Route 19 branches (19A, 19B and 19C) which operates the shortened route along Hurontario Street during selected periods of the day. These shortened routes while increase frequencies of the transit services in the denser areas of Mississauga, they do not make scheduled stops at the subject area.

Appendix B contains the relevant transit information.

Metrolinx is planning to implement a Light Rail Transit (LRT) corridor on Hurontario Street (Hurontario-Main LRT), spanning 20 kilometres from Port Credit GO Station at Park Street East to Brampton Gateway Terminal at Steeles Avenue East. The Hurontario-Main LRT corridor is part of Metrolinx's "Big Move" in various GTHA transit improvement projects and is scheduled for implementation in 2022.

As per the benefit case analysis conducted by Steer Davies Gleave, dated March 2016, the proposed LRT is likely to replace or re-route MiWay's express Route 103. The proposed Hurontario LRT provides the same route but at a faster, higher capacity and more frequent connectivity between City of Mississauga and City of Brampton. The proposed 22 LRT stops are located at various key locations of the cities which include:

- Port Credit GO Station
- Cooksville GO Station
- Trillium Health Centre
- Square One Shopping Centre / Transit Terminal
- Shoppers World Brampton (Shopping Center)
- 407 Hurontario Car Pool Lot (Transfer to GO-Transit regional bus services)

Based on the preliminary design provided in the Hurontario-Main LRT EA report, the nearest LRT transit stop will be approximately 550 metres away from the Subject Development, complimented by Port Credit GO-Station at two LRT transit stops away from the Subject Site.

It is expected that the new Hurontario-Main LRT would continue to provide "GO CO-Fare", a

discounted fare for passengers transferring between the LRT and the GO-Transit. Currently, MiWay offers GO CO-Fare of $0.80 if passengers transfer between MiWay and GO-Transit using PRESTO, a smart card fare payment system managed by Metrolinx. It can be anticipated that a similar co-fare discount would be offered for the future LRT as it will be operated by Metrolinx.

The relevant intersection operational impact due to the transit improvements is discussed further in Future Background Conditions "Hurontario-Main LRT" of **Section 4.6**. **Appendix C** contains the relevant LRT information.

3.5 Traffic Data

Turning movement counts for the study intersections were conducted by Spectrum Traffic staff on Tuesday July 31, 2018 between 7:00 a.m. – 9:00 a.m., and 4:00 p.m. – 7:00 p.m. to reflect commuter peak hours. Signal timing plans were provided by City Staff for modelling purposes.

Intersection analysis was conducted utilizing peak hour factors (PHFs) as calculated for each intersection during each time period. **Table 3** below outlines the calculated peak hour factors at each intersection during each peak hour.

Table 3
Peak Hour Factors

Intersection	Peak Hour	Intersection Peak Hour Factor
Hurontario Street and QEW EB Off Ramp/ South Service Road	Weekday A.M. 8:00 a.m. – 9:00 a.m.	0.95
	Weekday P.M. 4:30 p.m. – 5:30 p.m.	0.97
Hurontario Street and Pinetree Way	Weekday A.M. 8:00 a.m. – 9:00 a.m.	0.92
	Weekday P.M. 5:00 p.m. – 6:00 p.m.	0.97
Hurontario Street and Hampshire Crescent	Weekday A.M. 8:00 a.m. – 9:00 a.m.	0.91
	Weekday P.M. 4:00 p.m. – 5:00 p.m.	0.95
Hurontario Street and Indian Valley Trail/Pinewood Trail	Weekday A.M. 8:00 a.m. – 9:00 a.m.	0.92
	Weekday P.M. 4:15 p.m. – 5:15 p.m.	0.97

The PHFs outlined above represent near-uniform traffic flow on the boundary road network and are reflective of typical urban commuter travel patterns.

The traffic count data and signal timing cards are provided in **Appendix D**. **Figure 3** illustrates the 2017 existing traffic volumes.

3.6 Intersection Modelling

The intersection operations are modelled based on Region of Peel Synchro Guidelines version 9.1 dated 2016, as well as the City of Mississauga's Traffic Impact Study Guidelines.

The traffic counts at the intersection of Hurontario Street and Pinetree Way was conducted in a manner that would include movements in and out of the private access at 1569 Hurontario Street.

Due to the proposed consolidated site access with the planned fourth leg of the intersection under future total conditions, the ingressing and egressing volumes from the private access are included in the existing and future background through movements. However, these volumes are separated into their respective movements under the 2023 future total conditions as per the proposed intersection and roadway configurations after the LRT and the Subject Development implementations.

3.7 Intersection Operations

The operations of the critical intersections were analyzed on the basis of the traffic volumes illustrated in **Figure 3** and analysis of all intersections were based on signal timings as provided by the City of Mississauga. Signal timing data have been included in **Appendix D**.

Table 4 outlines 2018 existing traffic level of service for the counts taken at the subject intersections under existing conditions and geometric configurations. Detailed capacity analyses are included in **Appendix E.** Level of Service definitions are included in **Appendix F.**

Table 4
2018 Existing Level of Service

Intersection	Control	Peak Hour	Level of Service[1]	Control Delay	Maximum V/C Ratios[2]
Hurontario Street and QEW EB Off Ramp/ South Service Road	Signal	A.M.	C	34.9 s	0.75 (EBL)
		P.M.	D	38.2 s	0.81 (EBT) 0.74 (EBL)
Hurontario Street and Pinetree Way	Signal	A.M.	A	6.6 s	0.55 (EBL)
		P.M.	A	4.1 s	0.40 (EBL) 0.40 (SBT)
Hurontario Street and Indian Valley Trail/Pinewood Trail	Two-Way Stop Controlled	A.M.	C	20.2 s	0.21 (EB)
		P.M.	C	24.2 s	0.18 (EB)

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle. The level of Service of a stop-controlled intersection is based on the minor (stopped) approach control delay per vehicle.
Note 2: Volume-to-capacity ratios greater than 0.85 were considered critical for all intersection approaches other than the QEW Eastbound Off-ramp which has a critical threshold of 0.75 per MTO TIS Guidelines.

The signalized intersection of Hurontario Street at QEW EB Off Ramp/South Service Road is currently operating at a LOS "C" and a LOS "D" in the weekday a.m. and p.m. peak hours, respectively. The control delays are 34.9 seconds and 38.2 seconds, and the maximum volume-to-capacity ratios are 0.75 (EBL) and 0.81 (EBT) in the weekday a.m. and p.m. peak hours, respectively. These metrics indicate that the intersection is operating efficiently with acceptable delays and reserve capacity to accommodate future increases in traffic volume.

Although the maximum volume-to-capacity ratios of 0.75 and 0.81 are considered good and acceptable by the City standards, due to MTO's conservative critical threshold of 0.75, the volume-to-capacity ratios of the eastbound movements are currently operating at the threshold during a.m. peak period and exceed the threshold during p.m. peak period. As a result, opportunities for improvements via optimized signal timing plans may be considered by the City and MTO in order to reduce the volume-to-capacity ratios and to prevent possible spillback onto QEW.

The signalized intersection of Hurontario Street and Pinetree Way is currently operating at a LOS "A" during the weekday a.m. and p.m. peak periods. The control delays are 6.6 seconds and 4.1 seconds, and the maximum volume-to-capacity ratios for the intersection are 0.55 (EBL) and 0.40 (EBL, SBT) in the weekday a.m. and p.m. peak hours, respectively. These metrics indicate that the intersection is operating efficiently with minor delays and has reserve capacity to accommodate future increases in traffic volume.

Although the overall intersection of Hurontario Street and Pinetree Way is performing well during both peak periods, in terms of overall delays and volume-to-capacity ratios, the eastbound left turn movement is performing at a LOS "F" during both peak periods, with control delays of 83.3 seconds and 81.2 seconds during a.m. and p.m. peak period, respectively. Although such conditions are typical for minor approaches during peak periods in urban cities, the poor level of service of the minor approaches, indicates that a lower cycle length for the intersection or additional green time could be reallocated to minor approaches in order to reduce eastbound movement delays. A signal optimization was conducted and found to effectively reduce the delay.

The two-way stop-controlled intersection of Hurontario Street and Indian Valley Trail/ Pinewood Trail is currently operating at a LOS "C" during both weekday a.m. and p.m. peak hours. The intersection experiences a maximum individual volume-to-capacity ratios of 0.21 and 0.18 for the eastbound movement and a control delay of 20.2 seconds and 24.2 seconds in the weekday a.m. and p.m. peak hours, respectively. These metrics indicate that the intersection is operating efficiently with acceptable delays and reserve capacity to accommodate future increases in traffic volume.

4.0 Future Background Conditions

4.1 Horizon Years

The subject development is anticipated to be fully built out and occupied prior to 2023; therefore, horizon year of 2023 is assumed, as agreed upon Terms of Reference with the City of Mississauga and MTO.

4.2 Growth Rate

The City of Mississauga staff provided growth rates to be used for all future background traffic growth in 2023 with exception of QEW EB Off Ramp, which is provided separately by MTO. The Hurontario-Main LRT is expected to begin operation in 2021 and therefore, subsequent growth rates were calculated in reference to 2021. Relevant correspondence is included in **Appendix A** and the growth rates are outlined below in **Table 5** to **Table 8** below.

Table 5
Hurontario Street Growth Rates (Ref: City of Mississauga)

	Growth 2018 to 2021		Compounded Annual Growth 2021-2023	
	NB	SB	NB	SB
AM Peak	-15%	-15.5%	0.5%	1.0%
PM Peak	-8.0%	-13.5%	1.0%	0.5%

As indicated in **Table 5** above, traffic volume on Hurontario Street is projected to decrease between existing conditions and 2021 horizon year. This one time decrease in growth is due to the proposed Light Rail transit (LRT) on Hurontario-Main corridor. The negative growth rate is primarily due to the planned lane reductions, which is associated with capacity reduction post-LRT, and is assumed to account for modal shifts in future traffic operations.

Table 6
South Service Road Growth Rates (Ref: City of Mississauga)

	Compounded Annual Growth Existing to 2023	
	EB	WB
AM Peak	0.0%	0.5%
PM Peak	3.0%	0.0%

Table 7
Local Streets Growth Rates (Ref: City of Mississauga)

	Compounded Annual Growth 2018-2023
AM Peak	0%
PM Peak	

As indicated in **Table 7** above, vehicular traffic to and from local roadways such as Pinetree Way, Pinewood Trail, Indian Valley Trail and Hampshire Crescent, are not expected to grow due to the limited development opportunities expected in these mature residential neighbourhood, as well as the implementation of LRT in year 2021.

In contrast, as shown in **Table 6**, South Service Road is considered a major collector. Thus a 0% up to 3% growth rates have been calculated by the City of Mississauga.

Table 8
QEW EB Off Ramp Growth Rates

	Compounded Annual Growth 2018-2023
AM Peak	1.0%
PM Peak	

Finally, QEW EB Off Ramp growth rates were calculated based on MTO's AADT data available for QEW at Hurontario Street between 1988 to 2016.

During the most recent data available between 2012 to 2016, QEW at Hurontario Street increased at an annual average compounded rate of 0.34% per year in the past five years (2012 to 2016), and at an annual average compounded rate of 0.56% per year in the most recent three years (2014 to 2016). Thus, through consultation with MTO, a conservative 1.0% annual compounded growth rate was assumed for the QEW EB Off Ramp between 2018 to 2023. This 1.0% growth rate is considered conservative as no transit reduction was applied for the LRT implementation.

Relevant excerpts from the MTO AADT data is attached in **Appendix I**, while consultations with MTO and City of Mississauga are attached in **Appendix A.**

4.3 Background Development

Currently, several development applications can be found in the City of Mississauga's online Planning and Building Applications (P&B) map. Aside from the applications listed in **Table 9**, other developments in the area are considered minor and will be captured in the anticipated growth rate.

Table 9
Background Developments

Development	Descriptions	Build-out	Status
1484 Hurontario Street	4,155 sq. ft. 2 Storey General Office	N/A	Application approved; unknown build out
2024 and 2040 Camilla Road (Ref. 131-3103)	149 townhouse units	2018	Construction delayed, expect build out before 2021
2114, 2124 & 2130 Hurontario Street & 2095, 2107, 2113 & 2121 Grange Drive **(2120 Hurontario Street; The Residences at Gordon Woods)**	Two High-Rise Residential Condominium Towers: 594 Residential Units + 690 Sq. M. of Retail	2020	Construction has not started, under OMB Appeal. Otherwise expected full build out by 2023

4.3.1 1484 Hurontario Street

Per the City of Mississauga's Community of Adjustment Agenda dated December 15th, 2016, the owner proposes the construction of a two-storey office facility with a detached garage.

Per correspondence with the City of Mississauga's Planner, included in **Appendix A**, the existing property is a medical office with a residential unit located in the upper floor of a two-storey facility. Although a Site Plan has been approved for a 4,155 square foot office building, no build-out date or Traffic Impact Study have been provided.

Since no further details were provided, it was assumed that the full build-out of the development will be completed at or before 2023, and a general office land use was assumed for the purpose of a conservative analysis.

Table 10 outlines the trip generation as per Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition.

Table 10
Future Development: 1484 Hurontario Street Trip Generations

Use	Roadway Peak Hour	Number of Trips		
		Inbound	Outbound	Total
LU 710 General Office Building (4,155 sq. ft.)	Weekday A.M.	26	4	30
	Weekday P.M.	1	5	6
LU 720 Medical Dental Office Building (4,155 sq. ft.)	Weekday A.M.	9	3	12
	Weekday P.M.	4	10	14

Table 10 above illustrates the trips generated by the background development at 1484 Hurontario Street. Since the exact type of office use is not provided, Land Use 710 General Office Building was conservatively assumed due to the higher trips generated by this land use in comparison to a Medical Dental Office Building.

4.3.2 2024 and 2040 Camilla Road

The trips generated by the 2024 and 2040 Camilla Road townhouse development are shown in **Table 11** below. The trips generated are based on ITE Trip Generation Manual, 9th Edition obtained from the approved Traffic Impact Study (Crozier, 2017).

Table 11
2024 and 2040 Camilla Road Trip Generation

Use	Roadway Peak Hour	Units	Total Number of Trips Generated		
			Inbound	Outbound	Total
Condominium / Townhouse (Category 230)	Weekday A.M.	176[1]	14	67	81
	Weekday P.M.		64	32	96

Note 1: The original Traffic Impact Study analyzed were based on a previous version of the Site Plan which consists of 176 townhouse units. Since the time of the analysis, per the approved TIS, the unit yield has been decreased to 149 units.

The analysis contained in the approved Traffic Impact Study dated March 2017, was based on the original proposed 176 townhouse units. Thus, the modelling results contained herein will be overstated by 10 and 12 two-way trips in the a.m. and p.m. peak periods respectively.

4.3.3 2120 Hurontario Street

2120 Hurontario Street, also known as The Residences at Gordon Woods, proposes two high-rise residential condominium towers between 25 to 32 storeys, with a shared 6 storey podium, small number of town homes and 690 square metres of retail spaces located in the lower floor.

The trips generated by 2120 Hurontario Street are shown in **Table 12** below. The trips generated shown are based on ITE Trip Generation Manual, 8th Edition, obtained from the development's Traffic Impact Study (IBI Group, 2016) provided by the City of Mississauga.

Table 12
2120 Hurontario Street Trip Generation

Land Use	Dwellings or GFA	AM Peak Hour			PM Peak Hour		
		Total	Entering	Exiting	Total	Entering	Exiting
High-Rise Residential Condominium (Category 232)	594	201	38	163	217	135	82
Pharmacy / Drugstore without Drive-Through Window (Category 880)	7427 Sq. Ft.	22	14	8	62	30	32
Total		223	52	171	279	165	114

Per 2120 Hurontario Street's Traffic Impact study, the residential trips generated were further reduced by 20% to reflect the implementation of the Hurontario-Main LRT. In addition, the retail trips generated were reduced by 50% to reflect synergy between the residential and retail portion of the development. **Table 13** below reflects the adjusted trips generation as obtained from 2120 Hurontario Street's Traffic Impact Study.

Table 13
2120 Hurontario Street Reduced Trip Generation

Land Use	Dwellings or GFA	AM Peak Hour			PM Peak Hour		
		Total	Entering	Exiting	Total	Entering	Exiting
High-Rise Residential Condominium (Category 232)	594	161	30	131	174	108	66
Pharmacy / Drugstore without Drive-Through Window (Category 880)	7427 Sq. Ft.	11	7	4	31	15	16
Total		172	37	135	205	123	82

4.4 Background Trip Distribution

4.4.1 1484 Hurontario Street

The trips generated by the 1484 Hurontario Street development during the future background conditions were distributed to the boundary road network based on TTS data results.

The TTS results were based on 2011 survey data for trips to and from the 2006 GTA zone, filtered to reflect weekday trips made during AM peak hours as well as work-based trips. The office is located in 2006 GTA zone number 3647. Due to the lack of existing commercial facilities in this zone, 2006 GTA zone number 3648 was used instead for analysis.

Below is a list of summarized trip distribution for the background office development, rounded to nearest 5% in order to capture variations and other variables not considered herein. Internal trips generated within Mississauga are reflective of the existing travel pattern. The full TTS data is summarized in **Appendix H**. The trip assignment of 1484 Hurontario background development is included as **Figure 7.**

- 40% of the trips will travel to and from the north on Hurontario Street;
- 15% of the trips will travel to and from the south on Hurontario Street;
- 30% of the trips will travel from QEW EB Off Ramp. These 30% will travel north on Hurontario Street for outbound trips;
- 5% of the trips will travel to and from Indian Valley Trail;
- 5% of the trips will travel to and from Pinewood Trail; and,
- 5% of the trips will travel to and from Pinetree Way;

It is important to note that the trips generated by this development are forecasted to be relatively small in scale especially during afternoon peak periods. Thus, variations in the above calculated trip distributions will not materially alter the findings and conclusions made in this report.

4.4.2 2024 and 2040 Camilla Road

The trips generated by the 2024 and 2040 Camilla Road townhouse development were distributed based on the approved Traffic Impact Study (Crozier, 2017), attached as **Figure 8**. Vehicles in the through movements of Hurontario Street at QEW EB Off Ramp/South Service Road are conservatively assumed to continue through the Subject Development's study intersections to Southern Mississauga such as Lakeshore Road or Port Credit Go Station.

4.4.3 2120 Hurontario Street

The trips generated by the 2120 Hurontario Street development were distributed based on the Traffic Impact Study (IBI Group, 2016), attached as **Figure 9**. Vehicles in the through movements of Hurontario Street at QEW EB Off Ramp/South Service Road are conservatively assumed to continue southbound and northbound through the Subject Development's study intersections.

It is important to notice that the development's Traffic Impact Study assumed the retail store is oriented for residents and pass-by vehicles only. As a result, retail trips accessing the development are expected to be used by southbound traffic only and that northbound traffic would not access the retail development due to the inconvenience caused by the road configurations and the LRT.

4.5 Future Roadway Improvements

As confirmed with the City, at the time of this report, aside from the Hurontario-Main LRT construction,

there are no other planned roadway improvements identified for the horizon years that would increase capacity within the scope of this project.

4.6 Hurontario-Main LRT

As mentioned in **Section 3.4**, Metrolinx is planning to implement an LRT transit service on Hurontario Street from Port Credit GO station to Brampton's Gateway Transit Terminal. The planned LRT route is approximately 20 kilometres in length and is scheduled for implementation in 2021 or 2022.

The LRT corridor is proposing a station stop at the current Express Route 103 bus stop, at the intersection of Hurontario Street and North Service Road, approximately 550 metres from the subject property. The proposed LRT offers an improved transit opportunity for the properties on Hurontario Street.

As per Metrolinx's Hurontario-Main LRT Benefit Case Analysis (Steer Davies Gleave, March 2016), the design headway is assumed to be 5 minutes during peak hours and no greater than 10 minutes during off-peak hours.

The road reconfigurations include lane reductions to 2 lanes per direction north of QEW, while the lane configurations south of QEW, within the subject area, will be maintained through road widening.

Construction is scheduled to begin in late 2018 and expected to complete in late 2021 or 2022, within the 5-year horizon of the proposed residential development. Thus, future background and future total conditions will include LRT, revised signal timing plans and lane re-configurations. Future lane re-configurations to accommodate the Hurontario-Main LRT is further discussed in **Section 4.7** below.

4.6.1 Intersection Operations with LRT

The implementation of LRT on Hurontario Street will restrict existing private driveways and selected intersections (i.e. Hampshire Crescent) to right in and right out (RI-RO) operations only. As a result, U-turns are expected at key signalized intersections such as Pinetree Way, and Indian Valley Trail/Pinewood Trail. The following traffic redistributions are anticipated:

- Southbound left turns will be prohibited at private accesses between Pinetree Way and Indian Valley Trail/Pinewood Trail. Therefore, southbound traffic intended to access these properties are expected to do so via southbound U-turns at Hurontario Street and Indian Valley Trail/Pinewood Trail, and right turn into respective accesses once northbound.
- Similarly, existing northbound left turns at private accesses between Pinetree Way and Indian Valley Trail/Pinewood Trail are expected to do so via northbound U-turns at Hurontario Street and Pinetree Way, and right turn into respective accesses once southbound.
- While it may be convenient for some motorists to make U-turns at adjacent intersections to ingress and egress minor roadways or respective site accesses, other motorists can be expected to take alternate routes without U-turns to conveniently access their destination.
- In accounting for such traffic diversions, relevant traffic volumes from 1569 Hurontario Street's traffic movements are redistributed in this analysis.
- Due to the lack of TMCs for other private accesses between Pinetree Way and Indian Valley Trail/Pinewood Trail, these redistributions are not included. The trips generated by these detached residential houses are very minor and are not expected to alter the findings and conclusions in this report.
- Northbound left turn at Hampshire Crescent is redistributed to northbound U-turn at Pinetree Way and southbound right turn at Hampshire Crescent.
- Northbound U-turn at Indian Valley Trail is not considered in the analysis due to the lack of TMCs, south of the study area.

The intersection of Hurontario Street at QEW EB Off Ramp/South Service Road is also a signalized intersection with protected left turn movements proposed. However, no U-turn movements are expected due to the consecutive signalized intersections with full moves permissible directly upstream. A comprehensive LRT traffic redistribution is included as **Figure 4** and **Figure 5.**

Per Metrolinx's Environmental Report Appendix B13 "Future Year VISSIM Models Report Excerpt", within the study area, the Hurontario-Main LRT will be operating in the center of the road, concurrently with northbound and southbound vehicle through movements.

Per Metrolinx's Infrastructure Design, referred to as "Appendix A1 LRT Infrastructure Design" dated June 2014, the signalized pedestrian crossings will be provided mid-block at selected locations. However, these crossings are not proposed within the study area.

While Hurontario Street south of QEW will continue to operate at the current lane configurations of two travel lanes per direction, Hurontario Street north of QEW will be reduced from three to two travel lanes per direction. **Table 14** below is a list of major changes to the roadway operations surrounding the study area.

Table 14
Hurontario-Main LRT Major Roadway Changes near Subject Property

Intersections Or Boundaries	Location relative to subject property	Existing	Proposed
Queensway East to Port Credit GO-Station	1.1km north to 1.5km south	No dedicated bike lanes	Multi-use trail proposed
Hurontario Street and QEW WB Ramp	350 metres north	Dedicated right turn lanes	Shared thru and right turn lanes
Hurontario Street and QEW EB Off Ramp/ South Service Road	120 metres north	2 NB Thru and 1 NB Thru-Right	3 NB Thru and 1 NB Thru-Right; 3rd NB Thru to be used as a storage lane for NBLT downstream
Hurontario Street and Hampshire Crescent	230 metres south	Full-moves permitted	Right In/Right Out only
Hurontario Street and Indian Valley Trail / Pinewood Trail	300 metres south	Unsignalized Intersection	Signalized Intersection

Although the current lane configurations are maintained in the study area, it is anticipated that following the implementation of the Hurontario-Main LRT, intersection operations will be significantly affected due to the reduced capacity from the reallocation of green time to transit priority, and the elimination of permissive left turns. While the transit modal split and transit's level of service are expected to improve, those who continue to drive will experience an increased delay due to the revised signal operations. Furthermore, signalized pedestrian crossings are proposed at midblock to allow safe and efficient pedestrians access to opposite side of the road and to LRT station, resulting in further vehicle travel delays are expected along the corridor.

Figure 4 illustrates the future road network. **Appendix C** contains excerpts from Metrolinx's Environmental Project Report, LRT Infrastructure Design, illustrating the future roadway configurations on Hurontario Street.

Table 15 below illustrates the assumed variables used for future signal operations.

Table 15
Assumed Parameters for Future LRT Conditions

Variables	Assumed	Reference
Cycle Length (s)	160 seconds & 120 seconds	Lower cycle length commonly used for urban, pedestrian friendly area.
Yellow Time (s)	Protected U-Turns & Left Turns: 3.0 seconds Thru movements: 4.0 seconds	Consistent with the original signal timings along Hurontario Street.
All Red Time (s)	Protected U-Turns & Left Turns: 0.0 seconds NB and SB Thru: 3.0 seconds EB and WB: 2.5 seconds	Consistent with the original signal timings along Hurontario Street.
Minimum Green (s)	Protected U-Turns & Left Turns: 5.0 seconds Thru movements: 8.0 seconds	Consistent with the original signal timings along Hurontario Street.
Peak Hour Factor (Indian Valley Trail/Pinewood Trail)	1.0	Per Region of Peel's recommended future condition value
Peak Hour Factor (All other intersections)	As per field measurements	For the purpose of comparing existing with future conditions

Due to the lack of detailed information provided for Hurontario-Main LRT, the original cycle length of 160 seconds is first used for the future background traffic analysis described below. However, as a result of the undesirable maximum volume-to-capacity ratios at QEW EB Off Ramp, as well as the excessive delays experienced by majority of the minor approaches, a revised 120 seconds cycle length is used for optimization.

It is important to note that a lower cycle length is commonly used in urban area to reduce pedestrian delays. Therefore, modelling of the future background and future total conditions were adjusted to reflect future traffic operations.

4.7 Intersection Operations

Tables 16 outlines 2023 future background traffic levels of service associated with the boundary road network based on the future background traffic volumes illustrated in **Figures 6** to **Figure 11**, with detailed capacity analyses included in **Appendix E**.

Since the number of vehicles entering and exiting the private driveway south of 1575 Hurontario Street was included in the existing condition traffic counts, these vehicles are accounted for in the U-turn redistribution following the implementation of the Hurontario-Main LRT. There are five other private driveways between Pinetree Way and Hampshire Crescent, as well as three other private driveways between Hampshire Crescent and Indian Valley Trails that are excluded in the U-turn redistributions due to the lack of data available for these properties. Nonetheless, these single detached residential houses are not expected to generate significant number of traffic volumes and hence will not materially affect the conclusions made in this report.

Table 16
2023 Future Background Level of Service (Cycle length: 160 seconds)

Intersection	Control	Peak Hour	Level of Service[1]	Control Delay	Maximum V/C Ratios[2]
Hurontario Street and QEW EB Off Ramp/ South Service Road	Signal	A.M.	D	41.6 s	0.75 (EBL)
		P.M.	D	42.9 s	0.78[3] (EBT) 0.72 (EBL)
Hurontario Street and Pinetree Way	Signal	A.M.	A	7.2 s	0.54 (EBL)
		P.M.	A	5.4 s	0.42 (EBL)
Hurontario Street and Indian Valley Trail/Pinewood Trail	Signal	A.M.	A	10.0 s	0.55 (EBT)
		P.M.	A	7.7 s	0.48 (EBT)

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle.
Note 2: Volume-to-capacity ratios greater than 0.85 were considered critical for all intersection approaches other than the QEW Eastbound Off-ramp which has a critical threshold of 0.75 per MTO TIS Guidelines.
Note 3: The reduction in V/C for QEW EB Off Ramp is associated with the optimized splits using Synchro 10.

The signalized intersection of Hurontario Street at QEW EB Off Ramp/South Service Road is expected to operate at a reduced LOS "D" in the weekday a.m. and p.m. peak hours under 2023 future background traffic conditions. The intersection is expected to experience control delays of 41.6 seconds and 42.9 seconds, and maximum volume-to-capacity ratios of 0.75 (EBL) and 0.78 (EBT) in the weekday a.m. and p.m. peak hours, respectively. Although these metrics indicate that the intersection is expected to continue to operate efficiently under future background traffic conditions, the QEW EB Off Ramp is operating at, and beyond, MTO's maximum volume-to-capacity ratio threshold of 0.75 during both peak periods.

While the maximum volume-to-capacity ratio in the weekday a.m. and p.m. peak hour exceeds MTO's critical threshold of 0.75, the maximum 95th percentile queue length is 112.9 metres. As the length of the off-ramp is more than 250 metres, these queues can be safely accommodated without impeding the traffic flow on QEW. Nevertheless, it is recommended that the City and MTO consider the possibility of revising the signal timing plan in order to minimize the risk of possible spillback onto the highway. Detailed optimizations are explored further below in **Section 4.9**.

The signalized intersection of Hurontario Street at Pinetree Way is expected to operate at a LOS "A" during both weekday a.m. and p.m. peak hours under 2023 future background traffic conditions. The intersection is anticipated to experience a control delays of 7.2 seconds and 5.4 seconds and maximum volume-to-capacity ratios of 0.54 (EBL) and 0.42 (EBL) in the weekday a.m. and p.m. peak hours, respectively. All these metrics indicate that the intersection is expected to operate at an efficient level of service, with reserve capacity for increases in traffic volumes.

The signalized intersection of Hurontario Street and Indian Valley Trail/Pinetree way is expected to operate at an improved LOS "A" during both weekday a.m. and p.m. peak hours. The intersection is anticipated to experience a decreased control delay of 10.0 seconds and 7.7 seconds in the weekday a.m. and p.m. peak hours, respectively. The maximum volume-to-capacity ratios are anticipated to be 0.55 (EBT) and 0.48 (EBT) in the weekday a.m. and p.m. peak hours, respectively. As expected, the metrics above indicate that the intersection is expected to continue to operate at an improved level of service as compared to the existing stop-controlled intersection, with reserve

capacity for increases in traffic volumes.

Although all these intersections are operating at an acceptable level of service as an intersection overall, the maximum volume-to-capacity exceeds MTO's critical threshold of 0.75, and majority of the individual movements in the minor approaches as well as the protected left turn and U-tum movements are operating at a LOS E or worse, indicating significant delays for individual movements. These levels of service can be attributed to the prolonged cycle length of 160 seconds, uncommon in urban cities. The lengthy cycle requires left turn and U-tum vehicles, as well as queued vehicles on minor approaches to wait at an extended period of time until the next cycle. As a result, **Section 4.9** explores an optimized signal timing plan based on a cycle length of 120 seconds.

4.8 Optimized Intersection Operations

A reduced cycle length of 120 seconds during a.m. and p.m. peak periods are used for the optimized future background conditions. As the current cycle length for the Hurontario corridor is set at 160 seconds, the optimized cycle length represents a reduction of 40 seconds.

In order to promote non-auto mode usage, the City of Mississauga is moving towards a pedestrian friendly corridor. Thus, the cycle length reduction is supportable from traffic operations perspective because a lower cycle length can effectively reduce vehicle delays in the minor approaches and left turn/U-turn movements, as well as pedestrian and cyclist delays.

Tables 17 outlines the 2023 future background optimized traffic levels of service associated with the boundary road network based on the future background traffic volumes illustrated in **Figures 6** to **Figure 11**, with detailed capacity analyses included in **Appendix E**.

Table 17
2023 Future Background Optimized Level of Service (Cycle length: 120 seconds)

Intersection	Control	Peak Hour	Level of Service[1]	Control Delay	Maximum V/C Ratios[2]
Hurontario Street and QEW EB Off Ramp/South Service Road	Signal (optimized)	A.M.	C	33.7 s	0.69 (EBL)
		P.M.	D	40.2 s	0.72 (EBT)
Hurontario Street and Pinetree Way	Signal (optimized)	A.M.	A	6.4 s	0.47 (EBL)
		P.M.	A	5.3 s	0.43 (SBT)
Hurontario Street and Indian Valley Trail/Pinewood Trail	Signal (optimized)	A.M.	A	7.8 s	0.49 (EBT)
		P.M.	A	7.0 s	0.40 (EBT)

Note[1]: The Level of Service of a signalized intersection is based on the average control delay per vehicle.
Note[2]: Volume-to-capacity ratios greater than 0.85 were considered critical for all intersection approaches other than the QEW Eastbound Off-ramp which has a critical threshold of 0.75 per MTO TIS Guidelines.

The signalized intersection of Hurontario Street at QEW EB Off Ramp/South Service Road is expected to operate at an improved LOS "C" and at an unchanged LOS "D" during a.m. and p.m. peak hours, respectively. The intersection is expected to experience an improved control delays of 33.7 seconds and 40.2 seconds, as well as an improved maximum volume-to-capacity ratios below MTO's critical threshold of 0.75 during both peak periods when compared to 2023 future background conditions

under a longer cycle length. All these metrics indicate that the shorter cycle length improves level of service and maximum volume-to-capacity-ratios (below MTO's threshold). Thus, a shorter cycle length is a viable option for the City and MTO to consider.

The signalized intersection of Hurontario Street at Pinetree Way is expected to operate at a LOS "A" during both weekday a.m. and p.m. peak hours under 2023 future background traffic conditions. The intersection is anticipated to experience an improved control delays of 6.4 seconds and 5.3 seconds and maximum volume-to-capacity ratios of 0.47 (EBL) and 0.43 (SBT) in the weekday a.m. and p.m. peak hours, respectively. All these metrics indicate that the intersection is expected to operate at an improved level of service, with reserve capacity for increases in traffic volumes.

The signalized intersection of Hurontario Street and Indian Valley Trail/Pinetree way is expected to operate at an unchanged LOS "A" in weekday a.m. and p.m. peak hours. The intersection is anticipated to experience an improved control delay of 7.8 seconds and 7.0 seconds in the weekday a.m. and p.m. peak hours, respectively. The maximum volume-to-capacity ratios are anticipated to improve to 0.49 (EBT) and 0.40 (EBT) in the weekday a.m. and p.m. peak hours, respectively. As expected, the metrics above indicate that the intersection operations are expected to improve under a lower cycle length when compared to 2023 future background conditions with 160 seconds of cycle length.

As shown above and in detail by individual movements included in **Appendix E**, the lower cycle length is justifiable from both vehicle, transit and pedestrian operations and safety perspectives. Although the excessive delays experienced are typical in urban cities with LRT implemented, opportunities to improve level of service and capacity of the road network may be explored by the City and MTO using a lower cycle length.

5.0 Site Generated Traffic

5.1 Multimodal Trip Generation

Considerations were given to the transit, pedestrian and bicycle trip generation of the site. Current Transportation Tomorrow Survey (TTS) data was used for the zones surrounding Hurontario Street and resulted in a modal split of 65% auto drivers, 13% auto passengers, 13 percent transit users and 7% walking. The current modal split indicates that residents in the area favour driving than other modes of transportation.

As discussed previously, the existing transit services on Hurontario Street are moderate, with less than 15 minutes headways or better. Express buses with improved frequencies are provided during peak hours along major corridors and as per MiWay's "Five Transit Service Plan", the level of service of transit would improve further as MiWay plans to introduces new transit routes, LRT and grid transit system in the next 5 years. Based on Metrolinx's Benefit Case Analysis, it is expected that transit ridership along Hurontario corridor would increase by 42% as compared to the "Do Minimum" scenario, where only buses are offered. For conservative reason of this report, no further trip reductions would be applied in the below trips generated.

5.2 Trip Generation

The proposed development will result in additional vehicles on the boundary road network that previously did not exist. The proposed development will also cause some additional turning movements at the boundary road intersections.

The trip generation of the townhouses was forecasted using the average rates provided in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, under the Land Use Category

221 "Multi-Family Housing (Mid-Rise)". Per the Site Plan dated October 3rd, 2019, the proposed development is comprised of 42 townhouse units. Per the ITE Trip Generation Manual, the townhouses are forecasted to generate 15 and 19 trips in the weekday a.m. and p.m. peak hours, respectively.

The forecasted trips are tabulated in **Table 18**.

Table 18
Trip Generation

Use	Roadway Peak Hour	Number of Trips		
		Inbound	Outbound	Total
LU 230 Multi-Family Housing (Mid-Rise) (42 Units)	Weekday A.M.	4	11	15
	Weekday P.M.	12	7	19

It should be noted that the trips generated by the Subject Development are not typically associated with traffic operation issues. Thus, no issues with boundary road network are anticipated during future conditions. Moreover, trips per **Table 18** above are considered conservative as it does not account for transit reductions related to the proposed Hurontario-Main LRT and existing mode split.

5.3 Trip Distribution and Assignment

The trips generated by the development were distributed to the boundary roadways based on Transportation Tomorrow Survey (TTS) data. TTS is a comprehensive survey of transportation characteristics of households in the Golden Horseshoe, Simcoe County and surrounding areas.

The TTS results were based on 2011 survey data for trips from various planning districts, to specific 2006 GTA zones. The proposed site is located in 2006 GTA zone number 3648 which is a mixed-use zone with residential and commercial. The adjacent zone 3647 is primary residential in nature, and were considered to be an accurate representation for the proposed residential development when determining trip distribution. As such, the trip distribution was based on the TTS data provided for zone 3647 and 3648 during the weekday a.m. peak period. The resultant trip distribution was inversely applied to the p.m. peak hour.

The resultant inbound and outbound trip distribution is outlined in **Table 19** below, rounded to the nearest 5% in order to capture variations and other unknown variables. The full TTS data is summarized in **Appendix H**.

Table 19
Trip Distribution

Arriving From / Departing To	% of Existing Trips
Hurontario Street (North)	55%
Hurontario Street (South)	25%
Pinetree Way	5%
QEW EB Off Ramp / QEW WB On Ramp	15%

Trips to and from cities to the north, east and west were assumed to access the site via Queen Elizabeth Way (QEW) and Hurontario Street (North). Specifically, trips from the west and north west such as Oakville, Milton, Guelph and more, were assumed to access the site via QEW EB Off Ramp. The same proportion of trips were also assumed to travel to these destinations via Hurontario Street (North), then QEW WB On Ramp.

Hurontario Street (North) was also assumed to be used to travel within Mississauga with the exception of a small percentage of trips which travels across Mississauga through the southern neighbourhood, presumably on Lakeshore Road.

Finally, small proportion of internal trips generated within 2006 GTA zone number 3647 and 3648 will make use of local roads instead of Hurontario Street.

The trips generated by the proposed development were assigned to the boundary road network as per the distributions illustrated in **Figure 12**. The trip assignments are illustrated in **Figure 13**. Again, it is important to note that the trips generated by the Subject Development is very small, less than 20 trips. Thus, variations in the above calculated trip distributions will not materially alter the findings and conclusions made in this report.

6.0 Future Total Conditions

6.1 Basis of Assessment

The traffic impacts arising from the proposed development were assessed on the basis of the site generated traffic illustrated in **Figures 12** and **Figure 13**, superimposed on the future background traffic volumes in **Figure 11.** The resulting total traffic volumes for the weekday a.m. and p.m. peak hours are illustrated in **Figures 14** for the 2023 horizon year.

6.2 Intersection Operations

Table 20 outlines the 2023 future total traffic conditions associated with the boundary road network, with detailed capacity analyses included in **Appendix E**.

Table 21 outlines the optimized 2023 future total traffic conditions as recommended in the 2023 future background conditions.

Table 20
2023 Future Total Level of Service (Cycle length: 160 seconds)

Intersection	Control	Peak Hour	Level of Service[1]	Control Delay	Max V/C Ratios[2]	95th percentile Queues > Storage Length
Hurontario Street and QEW EB Off Ramp/South Service Road	Signal	A.M.	D	40.8 s	0.75 (EBL)	None
		P.M.	D	42.5 s	0.79 (EBT)	None
Hurontario Street and Pinetree Way	Signal	A.M.	A	8.7 s	0.69 (EBL)	None
		P.M.	A	5.4 s	0.58 (EBL)	None
Hurontario Street and Indian Valley Trail/Pinewood Trail	Signal	A.M.	A	9.2 s	0.55 (EBT)	None
		P.M.	A	7.8 s	0.48 (EBT)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle.
Note 2: Volume-to-capacity ratios greater than 0.85 were considered critical for all intersection approaches other than the QEW East bound Off-ramp which has a critical threshold of 0.75 per MTO TIS Guidelines.
Note 3: In comparison to 2023 Future Background Traffic Conditions, the improved LOS and control delays are associated with the optimized splits and overall control delay calculations.

Table 21
2023 Future Total Level of Service (Cycle length: 120 seconds)

Intersection	Control	Peak Hour	Level of Service[1]	Control Delay	Max V/C Ratios[2]	95th percentile Queues > Storage Length
Hurontario Street and QEW EB Off Ramp/South Service Road	Signal (optimized)	A.M.	C	33.8 s	0.69 (EBL)	None
		P.M.	D	36.4 s	0.73 (EBT)	None
Hurontario Street and Pinetree Way	Signal (optimized)	A.M.	A	6.6 s	0.62 (EBL)	None
		P.M.	A	5.8 s	0.50 (EBL)	None
Hurontario Street and Indian Valley Trail/Pinewood Trail	Signal (optimized)	A.M.	A	7.8 s	0.49 (EBT)	None
		P.M.	A	7.3 s	0.39 (EBT)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle.
Note 2: Volume-to-capacity ratios greater than 0.85 were considered critical for all intersection approaches other than the QEW Eastbound Off-ramp which has a critical threshold of 0.75 per MTO TIS Guidelines.

As expected with a lower cycle length of 120 seconds, similar improvements are observed for overall intersection delays, as well as level of service in minor approaches and left turn/U-turn movements under 2023 future total conditions.

The signalized intersection of Hurontario Street at QEW EB Off Ramp/South Service Road is expected to operate at an improved LOS "C" during the weekday a.m. peak hours, and at an unchanged LOS "D" during p.m. peak hours under 2023 future total optimized traffic conditions. The overall level of service improvements is associated with the improved individual movements from LOS F to LOS E or better. The intersection is expected to experience a decrease in control delays of 7.0 seconds and 6.1 seconds, as well as an improved maximum volume-to-capacity ratios of 0.69 (EBL) and 0.73 (EBT) in the weekday a.m. and p.m. peak hours, respectively. All these metrics indicate that the shorter cycle length improves level of service and maximum volume-to-capacity-ratios below MTO's threshold. Thus, a shorter cycle length is a viable option for the City and MTO to consider.

The signalized intersection of Hurontario Street at Pinetree Way is expected to operate at a LOS "A" during both weekday a.m. and p.m. peak hours under 2023 future total traffic conditions. The intersection is anticipated to experience improved control delays of 6.6 seconds and 5.8 seconds and maximum volume-to-capacity ratios of 0.67 (EBL) and 0.50 (EBL) in the weekday a.m. and p.m. peak hours, respectively. All these metrics indicate that the intersection is expected to operate at an improved level of service, with reserve capacity for increases in traffic volumes as compared to the 2023 future total conditions under a longer cycle length of 160 seconds.

The signalized intersection of Hurontario Street and Indian Valley Trail/Pinetree way is expected to

operate at a LOS "A" during both weekday a.m. and p.m. peak hours. The intersection is anticipated to experience an improved control delay of 7.8 seconds and 7.3 seconds in the weekday a.m. and p.m. peak hours, respectively, under optimized future conditions. The maximum volume-to-capacity ratios are anticipated to improve to 0.49 (EBT) and 0.39 (EBT) in the weekday a.m. and p.m. peak hours, respectively. As expected, the metrics above indicate that the intersection is expected to operate at a reduced movement delays as compared to the 2023 future total conditions under a longer cycle length of 160 seconds.

All left turn movements' 95th percentile queue length is below the designated storage length. Thus, no queuing issues are anticipated in the future.

As shown above and in detail by individual movements included in **Appendix E**, the lower cycle length is justifiable from both vehicle, transit and pedestrian operations and safety perspectives. Although both future background and future total conditions are typical and expected in urban cities with LRT implemented, opportunities to improve level of service and capacity of the road network may be explored by the City and MTO using a lower cycle length.

Finally, regardless of the cycle length and signal optimizations used, these traffic operations indicate that the addition of the development site traffic to the boundary road network is expected to have negligible impact on traffic operations. In comparison to 2023 future background conditions, all intersections are expected to operate at the same level of service, and remain at a LOS "D" or better during all peak periods. Therefore, the boundary road network is expected to operate with reserve capacity for increases in traffic volumes and the proposed development at 1575 Hurontario Street is supportable from a traffic operations perspective.

7.0 Sight Distance Assessment

Sight distance measurements were conducted using the Transportation Association of Canada's (TAC) "Geometric Design Guide for Canadian Roads" (GDGCR) to measure the distance available for vehicles exiting from the subject property onto Hurontario Street. As confirmed in Metrolinx's Hurontario-Main LRT Infrastructure Design document, Hurontario roadway is fairly flat (slope of 0.95%) and straight. Thus, the vertical and horizontal curvatures are not a factor for driver line of sight. Hurontario Street has a posted speed limit of 50 km/h. Therefore a 60 km/h design speed at the subject property was selected to reflect the traffic engineering convention of a 10 km/h increase to the posted speed limit for lower speed roads.

Using a 60 km/h design speed for vehicles making a right turn from the minor road and as per TAC GDGCR – Table 9.9.6 of section 9.9.2.3 Case B2, a sight stopping distance of 85 metres is required, and the minimum required design sight distances for a passenger vehicle making a right turn onto a 60km/h roadway is 110 metres.

Sight line analysis was conducted at the intersection using a driver eye height of 1.05 metres, and driver decision point approximately 5.4 metres back from the edge of the travelled portion of the major roadway, Hurontario Street. Analysis of the visibility sight triangle has confirmed that a sight distance in excess of 150 metres from the proposed site access is measured. Therefore, there is sufficient sight distance for vehicles entering and exiting at the proposed site access.

Next, per Case D, "Intersection with Traffic Signal Control" from TAC GDGCR Section 9.9.2.3, the following requirements must be met for a signalized intersection:

- The first vehicle stopped at each approach must be visible to the driver of the first vehicle stopped on each of the other approaches.

- Left-turning vehicles must also have sufficient sight distance to select gaps in oncoming traffic and complete left-turns.

Upon a thorough review of the intersection, no sight distance issues were found. Each vehicle stopped at the stop bar of the intersection are visible to vehicles stopped at other approaches of the intersection. Left turn vehicles on Hurontario Street are made using the protected left-turn phase (implemented in the future by the LRT construction) while vehicles exiting the site access or turning from Pinetree Way have no visual obstructions that would reduce the sight distance of each vehicles.

Therefore, given the guidelines set out in the TAC GDGCR, no modification in property lines via the provision of daylight triangles are required to provide the required sight lines at the signalized intersection of Hurontario Street and Pinetree Way. The existing intersection configuration and property limits satisfy both criterion outlined above. Thus, the proposed development is supported from the sight distance perspective.

Relevant TAC GDGCR tables are provided in **Appendix G**.

8.0 Vehicle Maneuverability

Analysis of truck turning movements indicate that there is sufficient space for a standard Region of Peel's Waste Removal vehicle to manoeuvre in and out of the loading space. In addition, approximately 22 metres is available from the garbage pad to the back of the curb, providing in excess of 18 metres of maneuverability for the garbage truck. Thus, waste collection requirements are considered adequate. Passenger cars can also manoeuvre around the site without issues.

The design of the intersection (post-LRT) is on-going and final intersection/access design will be completed during detailed design at subsequent submissions.

9.0 Transportation Demand Management

Transportation Demand Management measures are implemented in order to reduce the number of single-occupant automobile trips generated by the site. These strategies include providing safe and well-lit pedestrian walkways and sidewalks linking the building to nearby pedestrian facilities and bus stops. Additionally, improvements to the pedestrian realm including benches and garbage receptacles along the sidewalk encourage walking. Companies can also implement different strategies and incentives such as partnership with Smart Commute, which will encourage employees to walk and cycle to work.

9.1 Existing Pedestrian and Transit Opportunities

Currently, there are limited Transportation Demand Management (TDM) in the study area to encourage the use of non-auto modes of transportation and reduce single-occupancy vehicle (SOV) trips.

As outlined above, there is existing pedestrian connectivity from the subject property to the surrounding area using sidewalks available on both sides of the Hurontario corridor. In addition, there are existing transit services in the study area to provide local and express connectivity to the wider Greater Toronto Area (GTA). The subject property is directly abutting a local transit stop at the intersection of Pinetree Way at Hurontario Street, as well as within 500 metres from another transit stop with express MiWay transit services, thus providing quick connections to Port Credit GO-Transit station, as well as Square One Shopping Centre & Transit Terminal, making transit a viable mode of transportation. The existing north-south direction transit services provide a good level of service with headways of approximately 10 minutes during majority of the day.

9.2 Future TDM Measures

Many effective travel demand measures are currently available to the site. The site is located in close proximity to existing and proposed public transit and cycling facilities which will reduce the need for vehicle ownership at the proposed development.

As part of MiWay's Five Transit Service Plan between 2016 to 2020, MiWay is in the process of improving the entire City of Mississauga's transit system through the implementation of grid system transit services, higher frequencies along major corridors (15 minutes or better in all major corridors by 2022), as well as creating new local and express bus routes in order to increase flexibility and accessibility for passengers throughout the City.

MiWay's bus Route 102 is proposed to offer East-West express services along QEW between the west boundary limit of the City of Mississauga and City of Toronto's Islington Subway Station. The nearest proposed bus stop within the study area is likely located 500 metres from subject property at North Service Road/QEW and Hurontario Street to compliment the proposed Hurontario LRT.

Furthermore, a multi-use trail will be provided on Hurontario Street (see **Appendix C** for excerpts). As there are currently no dedicated cycling facilities in the immediate study area, the implementation of the multi-use trail with pedestrian and cyclist delineation as well as other scenery improvements will encourage cycling, walking and transit as a viable alternative mode of transportation. Moreover, the provision of pre-loaded Presto cards for residents can be considered to further encourage transit usage.

9.3 Smart Commute

Smart Commute is a non-profit Transportation Management Association (TMA) committed to reducing traffic congestion, improving air quality and taking action on climate change. The subject property is located in the Smart Commute Mississauga region.

Smart Commute Mississauga works with many organizations and employers in the Greater Toronto and Hamilton Area (GTHA) by providing resources and tools which allow commuters to consider transportation alternatives. The Smart Commute Program has similar initiatives in 13 regions across the GTHA, which provides services for residents not working or residing in the Mississauga area.

More specifically, the following TDM strategies are provided by Smart Commute and have been historically shown to reduce SOV trips to and from developments similar to the proposed residential development:

a. Carpooling: Smart Commute Mississauga promotes carpooling as a viable transportation mode choice. The Smart Commute online tool, which is available at the Smart Commute Mississauga website, helps commuters find and share carpool trips. Employers can also set up their own networks to assist their staff in finding carpool partners. Additionally, Smart Commute Mississauga highlights the benefits of carpooling such as cost savings, benefits to the environment, and stress reduction, while also providing information on several carpool parking lots located along major corridors within the City of Mississauga.

b. Emergency Ride Home (ERH): The ERH program works in conjunction with any sustainable mode of transportation used by an employee during their commute to work, for ridership security. The program provides an allowance in the form of a $75 reimbursement for all emergency transportation costs such as transit, taxi, or rental car, in the event of an unforeseen emergency – increasing employee confidence in suggested alternative modes of travel. The Smart Commute website provides instructions on how to submit an ERH claim online or by mail.

c. Flexible Work Arrangements: Smart Commute Mississauga supports many alternative work arrangements as a means to reduce gridlock, clean the air and decrease stress levels for employees.
   - **Flexible work hours** can include a range of work options including compressed work weeks, earned days off, flex time, staggered work hours, and reduced work hours. These options help to ease congestion by reducing the number of commuters on the road, improving traffic flow and reducing idling times.
   - **Telework** allows employees to work from home by connecting to their employer's computer network and also conduct meetings remotely through conference calls. Telework allows employees to remain productive in spite of emergencies such as health issues, storms, natural disasters, transit strikes and road closures. Furthermore, telework reduces greenhouse gas emissions by decreasing the number of peak hour trips generated by the development.

d. Cycling and Walking: Smart Commute Mississauga encourages increased walking and cycling by offering an online tool where residents can set goals and track active commuting habits and calories burned. Members can also earn rewards for walking and cycling to work. Smart Commute Mississauga provides information on the Carrot Rewards application which allows users to earn rewards for walking from several programs such as Aeroplan and Scene Rewards. Smart Commute Mississauga also connects members to cycling tools such as Cycling Maps and Handbooks, Can-Bike Training Courses, and Bicycle User Groups to find bike buddies.

e. Transit Pass Programs: Smart Commute Mississauga supports the use of PRESTO passes, which makes it easier for commuters to pay their fare while travelling within and between transit systems; PRESTO passes can be used across 11 transit systems in the GTA. Schools, colleges and workplaces in the City of Mississauga may offer discounted transit passes which can increase the convenience of public transport use. Smart Commute Mississauga offers regular transit information which facilitates increased transit use. Residents attending school and/or working in the City of Mississauga, or other participating municipalities can take advantage of such opportunities.

f. Corporate Shuttles: Shuttles open up transit to areas with limited accessibility, allowing more users to leave their vehicles at home or at Carpool lot. Employers may establish a shuttle services from their office to the nearest transit hub. Smart Commute Mississauga can guide organizations through the process by conducting feasibility studies on the possibility of establishing a shuttle service, and examine issues such as liability, fuel efficiency, routing information, cost and case studies. Smart Commute Mississauga can provide implementation guidelines and ongoing consulting on shuttle programs.

The Smart Commute Mississauga program is utilized city wide by many employers and organizations and will contribute to reduced SOV trips generated by the proposed development. As noted above, the Smart Commute Program has similar initiatives in 13 regions across the Greater Toronto and Hamilton Area (GTHA). This presents a collaborative opportunity for reduction in SOV trips and automobile dependency for the subject development through planned initiatives, infrastructure and programs throughout the GTHA.

10.0 Conclusions

The detailed analysis contained within this report has resulted in the following key findings:

- Although the existing boundary road network is currently operating at an acceptable level of service D or better, the intersection of Hurontario Street at QEW EB Off Ramp is operating at

and above MTO's maximum volume-to-capacity ratio of 0.75. Thus, a revised optimized signal timing plan should be considered;

- Examination of the 2023 future background traffic conditions indicate that the intersection of Hurontario Street at QEW EB Off Ramp/South service Road is expected to continue to operate at a Level of Service "D" with volume-to-capacity ratios above MTO's critical threshold of 0.75 in the weekday a.m. and p.m. peak hours. Thus, a revised optimized signal timing plan should be considered;

- Examination of the 2023 future background traffic conditions indicate that the intersections of Hurontario Street at Pinetree Way, and Hurontario Street at Indian Valley Trail/Pinewood Trail are expected to operate at a LOS "A" in the weekday a.m. and p.m. peak hours.

- Calculation of the trips generated by the proposed residential development indicate that the proposed development is expected to add 15 and 19 trips to the boundary road network in the weekday a.m. and p.m. peak hours, respectively. These trips were not adjusted for mode share, TDM impacts or in consideration of proximity of the forthcoming Hurontario-Main LRT; accordingly, the trip generation is considered conservative. Such low trips are not typically associated with traffic operations issues.

- Examination of the 2023 future total traffic conditions indicate that the intersection of Hurontario Street at QEW EB Off-ramp/South Service Road is expected to operate at an unchanged Level of Service "D" in the weekday a.m. and p.m. peak hours. In addition, similar to the future background conditions under the cycle length of 160 seconds, the maximum volume-to-capacity ratios are expected to be above MTO's threshold of 0.75.

- Examination of the 2023 future total traffic conditions indicate that the intersections of Hurontario Street at Pinetree Way, and Hurontario Street at Indian Valley Trail/Pinewood Trail are expected to continue operating at a Level of Service "A" during both peak hours.

- Signal optimization was conducted, demonstrating a lower cycle length (i.e. 120 seconds) can greatly improve volume-to-capacity ratios at various intersections, as well as reduce control delays experienced by minor approaches and left turn/U-turn movements. Thus, a lower cycle length is supportable and should be explored by the City and MTO.

- Assessment of sight distance at the site access indicate that there is sufficient sight distance for vehicles entering and exiting the subject property. Accordingly, the proposed development is not expected to create a safety hazard due to vehicle ingress or egress at the intersection of Pinetree Way and Hurontario Street. The access can be supported from a sight distance perspective.

- Transportation Demand Management measures such as carpooling, vanpooling, teleworking, and pre-loaded Presto Cards provide alternative options for commuters and help to reduce the number of single occupant trips to and from the site. These measures may be explored further once future tenants are confirmed.

It is concluded that the trip generation associated with the development are low and not typically associated wit traffic operation issues. Moreover, signal optimization was found to improve existing and future background conditions and should be considered by the City and MTO. Accordingly, the development can be supported from a traffic operations perspective.

The analysis undertaken within was prepared using the most recent Site Plan. Any minor changes to the Plan will not materially affect the conclusions contained within this report.

The proposed residential development can be supported from a traffic safety and operations perspective.

Respectfully submitted by,

C.F. CROZIER & ASSOCIATES INC.

Michael A. Linton, MASc., P.Eng.
Associate, Transportation

C.F. CROZIER & ASSOCIATES INC.

Martin Chan, E.I.T.
EIT, Transportation

/MC

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APPENDIX A

Correspondence

Martin Chan

From: Giancarlo Tedesco <giancarlo.tedesco@mississauga.ca>
Sent: July 6, 2018 3:34 PM
To: Michael Linton; Lawrence, Morgan (MTO)
Cc: Martin Chan
Subject: RE: 1575 Hurontario Street, Mississauga - Traffic Brief Terms of Reference Updated (CFCA:1110-4677)

Hello Michael,

Further to our email below, please expect the following additional comments:

- Provide appropriately scaled figure(s) which demonstrate:
* alignment with the existing West leg of the intersection in addition to detailing turning movement diagrams for opposing EBL/WBL movements using an HSU truck template . This will be required in order to demonstrate the feasibility of the preliminary entrance reconfiguration at the signals on Hurontario Street.

* that all requirements of the fire route bylaw are being satisfied for the reconfigured entrance and interconnection of 1569 Hurontario Street. The applicant is required to obtain and provide signoff from Mississauga Fire and Emergency Services which details compliance for the adjacent property's modifications.

* a sufficient turnaround function for waste collection, emergency services, and passenger car vehicles internal to the site.

Regards,

Giancarlo Tedesco, E.I.T., C.E.T.
Traffic Planning Technologist
T 905-615-3200 ext.5798
giancarlo.tedesco@mississauga.ca

From: Giancarlo Tedesco
Sent: 2018/07/06 1:41 PM
To: 'Michael Linton'; Lawrence, Morgan (MTO)
Cc: Martin Chan
Subject: RE: 1575 Hurontario Street, Mississauga - Traffic Brief Terms of Reference Updated (CFCA:1110-4677)

Hello Michael,

We have reviewed the terms of Reference and are pleased to offer the following comments, please see our markups below.

Giancarlo Tedesco, E.I.T., C.E.T.
Traffic Planning Technologist
T 905-615-3200 ext.5798
giancarlo.tedesco@mississauga.ca

From: Michael Linton [mailto:mlinton@cfcrozier.ca]
Sent: 2018/07/04 3:29 PM
To: Giancarlo Tedesco; Lawrence, Morgan (MTO)
Cc: Martin Chan
Subject: RE: 1575 Hurontario Street, Mississauga - Traffic Brief Terms of Reference Updated (CFCA:1110-4677)

Good Afternoon Giancarlo and Morgan,

Hope all is well! I was touching base to see if you had a chance to review the ToR below and if you had any feedback so far.

Thanks,

Mike

| **MICHAEL LINTON** MASc., P.Eng. | C.F. CROZIER & ASSOCIATES
| 211 Yonge Street, Suite 301 | Toronto, ON M5B 1M4
| cfcrozier.ca | mlinton@cfcrozier.ca | tel 416 477 3392

From: Michael Linton
Sent: Wednesday, June 20, 2018 4:59 PM
To: Giancarlo Tedesco <giancarlo.tedesco@mississauga.ca>; Lawrence, Morgan (MTO) <Morgan.Lawrence@ontario.ca>
Cc: Martin Chan <mchan@cfcrozier.ca>
Subject: 1575 Hurontario Street, Mississauga - Traffic Brief Terms of Reference Updated (CFCA:1110-4677)

Good Afternoon Giancarlo and Morgan,

The following email is regarding a Terms of Reference for 1575 Hurontario Street in Mississauga.

You may recall that our Client proposed 60 townhouse units at 1575 Hurontario Street in Mississauga for which traffic analysis is needed to support OPA and ZBA applications. This unit count may reduce following revisions per City comments but for the purposes of the ToR we can assume the 60 townhouse units. Using fitted curve equations from the ITE Trip Generation Manual (10th Ed.), the development is anticipated to generate 22 and 26 two-way trips during the weekday a.m. and p.m. peak hours, respectively. As the property is fronting Hurontario Street where the upcoming Hurontario-Main LRT Line is expected to be completed by 2022, further reduction of the aforementioned trip estimates is expected. On this basis, we do not anticipate traffic operational issues due to site generated traffic.

- Please confirm the land use code selected.

However, as the site proposes a shared access with the adjacent property to the south forming the fourth leg of the existing signalized Pinetree Way and Hurontario Street intersection, we assume that confirmation of acceptable operations and lane configurations at this intersection would be the focus of the analysis.

- The developer is advised that a southbound left turn lane at the site entrance/ Pinetree Way is not being proposed in the LRT plans. It is expected that the southbound left turn movement into the site will be restricted due to impacts to the roadway operation and level of service. As a result, southbound vehicles will be required to make a controlled u-turn at the intersection of Pinewood Trail/ Indian Valley Trail in order to access the site with a right-in movement. Right-in, right-out, left-out movements will be permitted.

With the above in mind we propose the following:

- Due to the small number trips generated by the development, we assume that analysis of the intersection of Hurontario Street and Pinetree Way as well as Hurontario Street and QEW EB on/off ramp would suffice. – Please add the intersection of Pinewood Trail/ Indian Valley Trail @ Hurontario Street
- A five-year (2023) study horizon would suffice.
- Trip distribution will be based on TTS data as confirmed with existing traffic patterns. – ensure 2011 TTS data is referenced
- Aside from LRT improvements, no other roadway capacity improvements have been identified. Would you please advise is this is still the case? Correct, please ensure to reference www.lrt-mississauga.brampton.ca for design plates, etc.
- We understand that a reduction in capacity/growth is expected upon LRT implementation. Please advise the growth rates to be applied as based on the recent Hurontario Street Corridor Study and specific background developments if applicable.

- Traffic data – Please contact Will Wright from Traffic Operations Section (William.Wright@mississauga.ca) for latest TMC.
- Signal timing data – Please contact Jim Kartsomanis from Traffic Signal Section (Jim.Kartsomanis@mississauga.ca) for the current signal timing plans.
- Growth Rates (Should be regarded for Municipal Roads as applicable) - Please contact Tyler Xuereb from Transportation Planning Section (tyler.xuereb@mississauga.ca) for growth rates from the City's model.
- Please use the following link to gather information of any development proposed in the neighbouring lands for background traffic: http://www.mississauga.ca/portal/residents/developmentinformation. These developments and any other that you find in your research are to be taken into consideration for the background traffic.

We appreciate any feedback you may have on this approach and kindly request any existing and proposed signal timing plans available for the study intersections. We'd also appreciate if you'd be able to confirm that a Traffic Brief with the above scope would suffice due to the relatively small scale of the development. I understand that there may have been recent counts conducted during the completion of the recent corridor study – would you also be able to provide?

If you have any questions in the meantime please feel free to give me call; I'd be happy to discuss.

Thanks and Best Regards,

Mike

| **MICHAEL LINTON** MASc., P.Eng. | C.F. CROZIER & ASSOCIATES

| 8 Market Street, Suite 600 | Toronto, ON M5E 1M6

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Martin Chan

From: Shen, Rey (MTO) <Rey.Shen@ontario.ca>
Sent: August 14, 2018 10:51 AM
To: Martin Chan
Cc: Lawrence, Morgan (MTO); Phil Iannacito; Tuen, Matthew (MTO)
Subject: RE: QEW at Hurontario EB Off Ramp Growth Rates

Hi Martin,

Your approach in using a 1% growth rate for the off ramp is acceptable to the ministry.

If you require any further input, please let me know.

Thanks,
Rey

From: Martin Chan [mailto:mchan@cfcrozier.ca]
Sent: August 10, 2018 2:02 PM
To: Shen, Rey (MTO)
Subject: QEW at Hurontario EB Off Ramp Growth Rates

Good afternoon Rey,

We have been referred by your colleague, Morgan Lawrence, who mentioned that you'll now be handling the file.

As per the emails below, the City and MTO coordinated on the TOR but following a recent conversation with the City, we have been asked to confirm with MTO regarding the growth rates for QEW at Hurontario EB Off Ramp between 2018 to 2021, and 2021 to 2023. Based on MTO's AADT data at QEW and Hurontario, the off ramp has been increasing at an average annual rate of 0.34% during the past 5 years or 0.6% per year for the past 3 years. We have decided to use 1% growth rate for the off ramp, which is consistent with the growth rate provided by the City for Hurontario Street of 0.5% to 1% for the year 2021-2023, however much more conservative as no reduction is applied to the volume counts between 2018 to 2021 for the LRT implementation. Please advise if the above assumptions are supportable from MTO's perspective.

We appreciate any feedback you may have on this approach. If you have any questions in the meantime, please feel free to give me a call; I'd be happy to discuss.

Thank you,

Martin

| **MARTIN CHAN** E.I.T. | C.F. CROZIER & ASSOCIATES
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Martin Chan

From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: August 9, 2018 11:18 AM
To: Martin Chan
Subject: RE: 1575 Hurontario Street, Mississauga - Traffic Impact Study

Hi Martin,

Here are the growth rates for South Service Road.

	Compound Annual Growth from Existing to 2023	
	EB	WB
Time		
AM Peak Hour	0.0%	0.5%
PM Peak Hour	3.0%	0.0%

-This analysis assumes the lane reductions on Hurontario Street due to LRT.

Regards,

Tyler

From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: August 8, 2018 1:26 PM
To: Martin Chan <mchan@cfcrozier.ca>
Subject: RE: 1575 Hurontario Street, Mississauga - Traffic Impact Study

Hi Martin,

In regards to applying the growth rate calculated from MTO AADT's data at QEW and Hurontario Street for QEW EB off ramp approach, this is something I would talk to Giancarlo about as this may be something that should be run by the MTO.

As for applying a 2 % growth rate for all minor approaches on Indian Valley Trail/Pinewood Trail and Pinetree Way, we suggest a 0 % growth rate as this is a residential area and as such will have very little to no growth. Since South Service Road is a major collector I can provide these growth rates for you.

I will send the results for South Service Road as soon as I have them.

Regards,

Tyler

From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: July 16, 2018 9:57 AM
To: Martin Chan <mchan@cfcrozier.ca>
Subject: RE: 1575 Hurontario Street, Mississauga - Traffic Impact Study

Hello Martin,

Using the City's Travel Demand model and supporting traffic count data, the city's Transportation Planning section has determined the projected growth on Hurontario Street to be used as part of your study. The recommended projected growth is shown below.

Hurontario Street

	Growth from Existing to 2021		Compounded Annual Growth from 2021-2023	
	NB	SB	NB	SB
Time				
AM Peak Hour	-15.0%	-15.5%	0.5%	1.0%
PM Peak Hour	-8.0%	-13.5%	1.0%	0.5%

-The above analysis assumes the lane reductions on Hurontario Street from 3 through lanes in each direction to 2 through lanes in each direction, therefore your analysis should also reflect these network changes.

-The rates from Existing to 2021 represent a one-time total change, this mainly represents the changes in travel patterns as a result of the LRT implementation on Hurontario Street.

-From 2021-2023 the rates represent a compound annual growth rate.

In regards to your request for growth rates without the Hurontario LRT, unfortunately we do not have a scenario in the model where the LRT is not coded into the network.

Regards,

Tyler

From: Martin Chan [mailto:mchan@cfcrozier.ca]
Sent: 2018/07/12 2:06 PM
To: Tyler Xuereb
Subject: RE: 1575 Hurontario Street, Mississauga - Traffic Impact Study

Hi Tyler,

Can you confirm that the LRT is still being implemented in 2023? We are doing the study for existing 2018 and horizon year 2023. It will be great to have the growth rates with & without LRT considered between 2018 to 2023, as well as how the growth rate is expected to change after LRT is implemented in year 2023.

Thanks again.

Martin

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From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: July 12, 2018 1:05 PM
To: Martin Chan <mchan@cfcrozier.ca>
Subject: RE: 1575 Hurontario Street, Mississauga - Traffic Impact Study

Hi Martin,

Thanks for this information. Could you let me know what the horizon year is please and thank you!

Tyler

From: Martin Chan [mailto:mchan@cfcrozier.ca]
Sent: 2018/07/12 12:50 PM

To: Tyler Xuereb
Subject: RE: 1575 Hurontario Street, Mississauga - Traffic Impact Study

Hi Tyler,

Thank you, and yes we have a confirmed TOR from the City. If required, please see below, for the confirmed TOR from Giancarlo.

Martin

| **MARTIN CHAN** E.I.T. | C.F. CROZIER & ASSOCIATES
| 211 Yonge Street, Suite 301 | Toronto, ON M5B 2H1
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From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: July 12, 2018 11:46 AM
To: Martin Chan <mchan@cfcrozier.ca>
Subject: RE: 1575 Hurontario Street, Mississauga - Traffic Impact Study

Hi Martin,

I can for sure help you out with this request. Can you just confirm for me that a TOR has been submitted and commented on.

Regards,

Tyler

From: Martin Chan [mailto:mchan@cfcrozier.ca]
Sent: 2018/07/12 10:44 AM
To: Tyler Xuereb
Subject: 1575 Hurontario Street, Mississauga - Traffic Impact Study

Hi Tyler,

My name is Martin from C.F. Crozier & Associates, we are working on a Traffic Impact Study for a development on 1575 Hurontario Street.

To supplement our study, we are wondering if the City has projected growth rates for Hurontario Street, south of the QEW (with LRT considered) and for the following intersection;

1. Hurontario Street and Pinetree Way
2. Hurontario Street and South Service Road/QEW EB Exit Ramp (Please advise if we need to contact MTO for this intersection)
3. Hurontario Street and Pinewood Trial/Indian Valley Trail

Please do not hesitate to contact me through this email or phone number provided below if you require any additional information. Thank you.

Martin Chan

| **MARTIN CHAN** E.I.T. | C.F. CROZIER & ASSOCIATES

| 211 Yonge Street, Suite 301 | Toronto, ON M5B 2H1

| cfcrozier.ca | mchan@cfcrozier.ca | tel 416 477 3392

Martin Chan

From: Steve MacRae <Steve.MacRae@mississauga.ca>
Sent: July 18, 2018 3:07 PM
To: Martin Chan
Cc: Matthew Williams; Ken Moore
Subject: RE: Hurontario-Main LRT

Follow Up Flag: Follow up
Flag Status: Flagged

Martin,

I am in receipt of your request.

I can tell you that your 3 assumptions are correct and that for the most part, we don't foresee adding more signalized intersections to Hurontario (especially in the southern portion).

In terms of cycle lengths, transit reductions, etc. given the stage of procurement and the involvement of both Metrolinx and Infrastructure Ontario, we are seeking their input and will answer your questions as soon as we have a response to share.

Steve

Steve MacRae, C.E.T.
Traffic Management Lead-Hurontario LRT Project Office
T 905-615-3200 ext.4347
steve.macrae@mississauga.ca

City of Mississauga | Transportation and Works Department,
Hurontario LRT Project Office

From: Martin Chan [mailto:mchan@cfcrozier.ca]
Sent: 2018/07/16 10:02 AM
To: Steve MacRae
Subject: Hurontario-Main LRT

Hi Steve,

I was referred by Ken, in regards to the Hurontario-Main LRT related questions. As shown in Ken's forwarded emails, my firm is working on a residential development on 1575 Hurontario Street, and as part of the Traffic Impact Study, we were requested to model the Hurontario corridor with and without the LRT implementations.

As discussed with Ken, I was wondering if the City of Mississauga have some general information as to how the traffic signals will operate with the LRT. We intend to model the intersections assuming the following;

- Based on the infrastructure design on Metrolinx's website, we assumed any proposed post LRT signalized Intersections with left turns will also permit U-turns;
- However all left turns & U turns will be permitted during protected phase only.

- LRT will proceed through the intersections at the same time/phase as the parallel vehicle Thru movements

Based on my firm's experience with LRT related projects, we usually use cycle lengths, transit reductions and assumptions or other synchro variables found in the relevant EA reports. However, we haven't found such detailed information in Hurontario-Main LRT EA report. Would you be able to provide some necessary information or an overview of how the traffic signals will operate? Any information such as cycle lengths, transit reductions and more will be a great help for us.

Thank you.

Best regards,

Martin

| **MARTIN CHAN** E.I.T. | C.F. CROZIER & ASSOCIATES
| 211 Yonge Street, Suite 301 | Toronto, ON M5B 1M4
| cfcrozier.ca | mchan@cfcrozier.ca | tel 416 477 3392

Martin Chan

From: David Breveglieri <David.Breveglieri@mississauga.ca>
Sent: July 24, 2018 2:57 PM
To: Martin Chan
Subject: RE: 1484 Hurontario Street TIS

The medical office with the residential unit upstairs was the previous owner. At this point construction commencement is in the applicants hands. We have not been given a timeline.

MISSISSAUGA

David Breveglieri
Planner, Development and Design
T 905-615-3200 ext.5551
david.breveglieri@mississauga.ca

City of Mississauga | Planning and Building Department,
Development and Design Division

From: Martin Chan [mailto:mchan@cfcrozier.ca]
Sent: 2018/07/24 12:19 PM
To: David Breveglieri
Subject: RE: 1484 Hurontario Street TIS

Thanks for your help David,

Is there a status update with the development (i.e. the use and when it will open)? I understood that an application was made previously for medical office with a separate use upstairs.

| **MARTIN CHAN** E.I.T. | C.F. CROZIER & ASSOCIATES
| 211 Yonge Street, Suite 301 | Toronto, ON M5B 1M4
| cfcrozier.ca | mchan@cfcrozier.ca | tel 416 477 3392

CROZIER & ASSOCIATES Consulting Engineers
Land development engineering, from the ground up.
Water Resources · Transportation · Structural · Mechanical · Electrical · Building Science

---

From: David Breveglieri <David.Breveglieri@mississauga.ca>
Sent: July 24, 2018 11:05 AM

To: Martin Chan <mchan@cfcrozier.ca>
Subject: RE: 1484 Hurontario Street TIS

Hi Martin,

The Site Plan for 1484 Hurontario St. was approved for a 4155 sq.ft. office building however there was no traffic study submitted given that it was permitted as of right.

David Breveglieri
Planner, Development and Design
T 905-615-3200 ext.5551
david.breveglieri@mississauga.ca

City of Mississauga | Planning and Building Department,
Development and Design Division

From: Martin Chan [mailto:mchan@cfcrozier.ca]
Sent: 2018/07/23 3:57 PM
To: David Breveglieri
Subject: FW: 1484 Hurontario Street TIS

Hi David,

I would like to follow up with the email below. Do you have any information for the development on 1484 Hurontario Street in terms of size and type of development and if there is a previously submitted traffic impact study that my firm could use as a reference?

Thank you,

Martin

| **MARTIN CHAN** E.I.T. | C.F. CROZIER & ASSOCIATES
| 211 Yonge Street, Suite 301 | Toronto, ON M5B 1M4
| cfcrozier.ca | mchan@cfcrozier.ca | tel 416 477 3392

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From: Martin Chan
Sent: July 10, 2018 2:41 PM
To: david.breveglieri@mississauga.ca
Subject: 1484 Hurontario Street TIS

Hi David,

My name is Martin from C.F. Crozier & Associates, we are working on a Traffic Impact Study for a development in 1575 Hurontario Street.

To supplement our study and the analysis of the future background traffic conditions, we would like to request the Traffic Impact Study for 1484 Hurontario Street.

Please do not hesitate to contact me through this email or phone number provided below if you have any comments or require any additional information. Thank you.

Best Regards,

Martin

| **MARTIN CHAN** E.I.T. | C.F. CROZIER & ASSOCIATES
| 211 Yonge Street, Suite 301 | Toronto, ON M5B 2H1
| cfcrozier.ca | mchan@cfcrozier.ca | tel 416 477 3392

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APPENDIX B

Transit Data

mi local

MiWAY

19 Hurontario

Monday-Sunday Service

Effective: September 5, 2016

Legend

Islington	TTC Subway Station	Major Transit Terminal	Shopping Centre	Public Library
Clarkson	GO Train Station	Hospital	High School, University or College	Living Arts Centre
	Transitway Station	Ice Rink	Recreation or Community Centre	Civic Centre (City Hall)

Customer Service - We're here to help

@MiWayHelps | miway.ca/feedback | 905-615-INFO (4636)

miway.info@mississauga.ca | TTY: 905-615-3886

Find a schedule or trip plan

m.miway.ca | miway.ca/planatrip

citylink 905-615-4BUS(4287)

Call and enter a four-digit bus stop number.

MISSISSAUGA

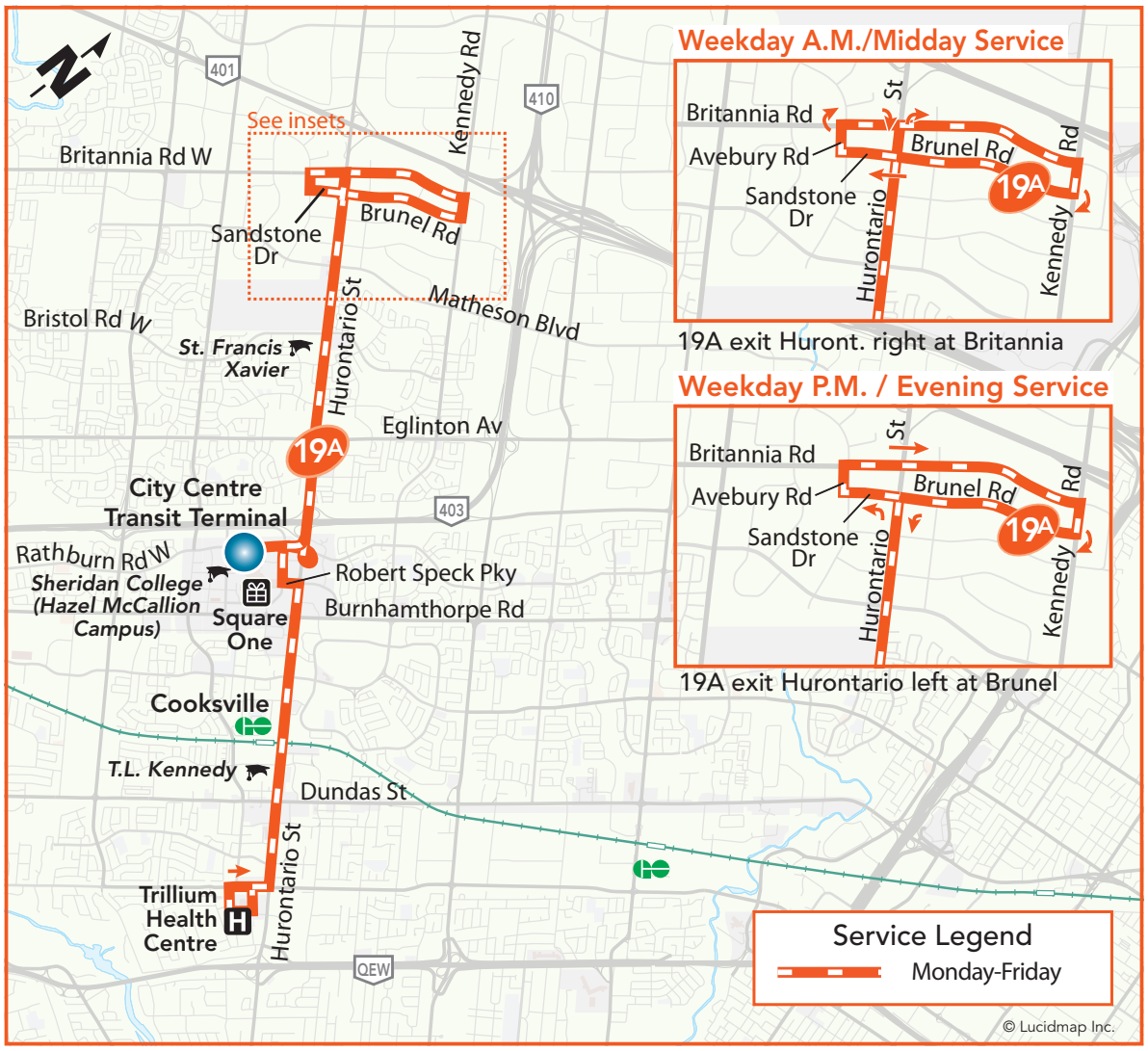
mi local

mi WAY

19A Hurontario-Britannia

Monday-Friday Service

Effective: September 5, 2016



Legend

Islington	TTC Subway Station	Major Transit Terminal	Shopping Centre	Public Library
Clarkson	GO Train Station	Hospital	High School, University or College	Living Arts Centre
	Transitway Station	Ice Rink	Recreation or Community Centre	Civic Centre (City Hall)

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miway.info@mississauga.ca | TTY: 905-615-3886

Find a schedule or trip plan

m.miway.ca | miway.ca/planatrip

citylink 905-615-4BUS(4287)

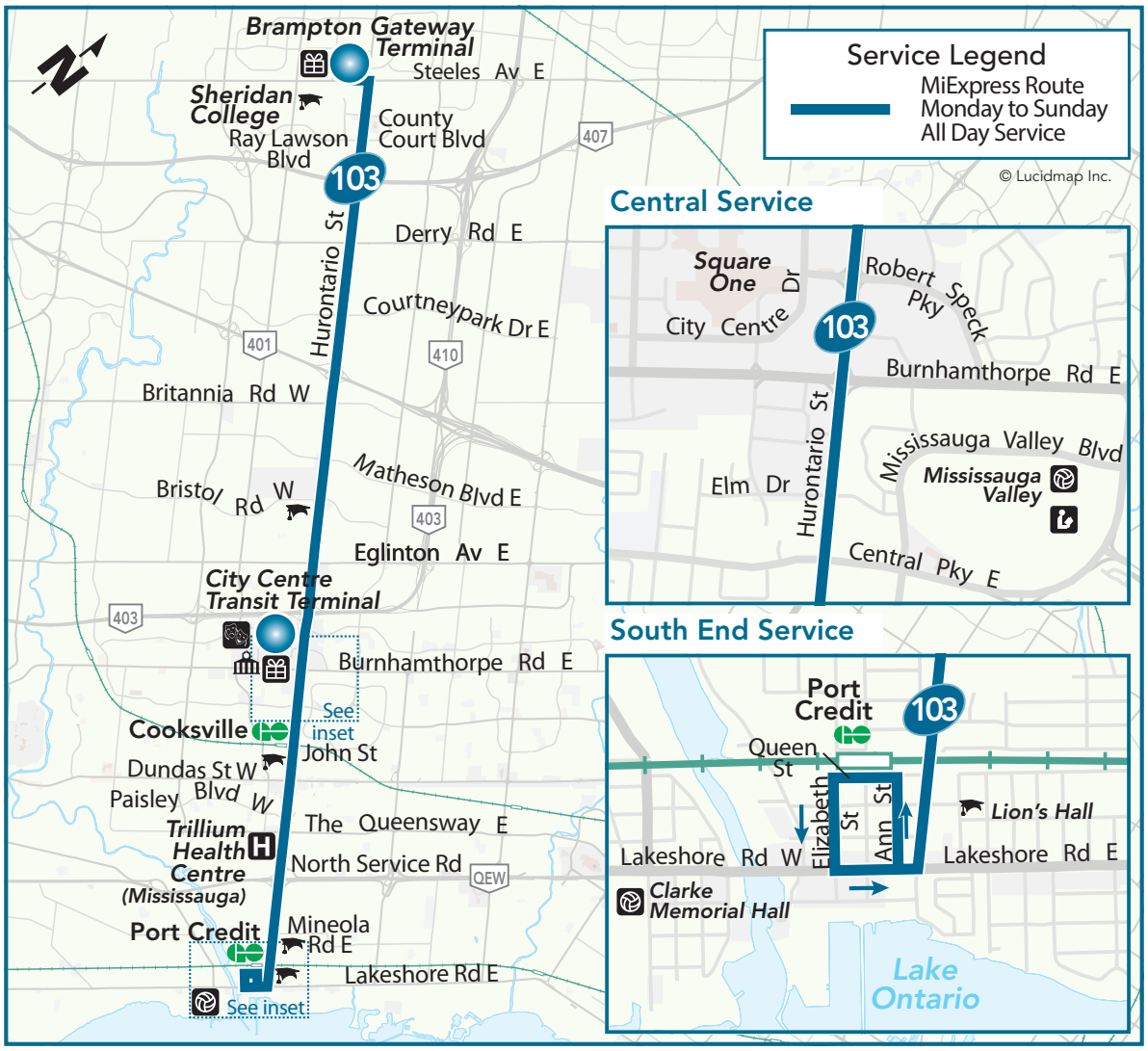
Call and enter a four-digit bus stop number.

MISSISSAUGA

103 Hurontario Express

Monday-Sunday Service

Effective: May 1, 2017



Legend

- TTC Subway Station
- GO Train Station
- Transitway Station
- Major Transit Terminal
- Hospital
- Ice Rink
- Shopping Centre
- High School, University or College
- Recreation or Community Centre
- Public Library
- Living Arts Centre
- Civic Centre (City Hall)

MiWay Customer Service		Trip Plans & Schedules	
@MiWayHelps	TTY: 905-615-3886	m.miway.ca Mobile Site	miway.ca/planatrip Online Trip Planner
miway.ca/feedback	miway.info@mississauga.ca		citylink 905-615-4BUS(4287) Call and enter a four-digit bus stop number.
905-615-INFO (4636)	Customer Service Ambassadors In person at various locations		

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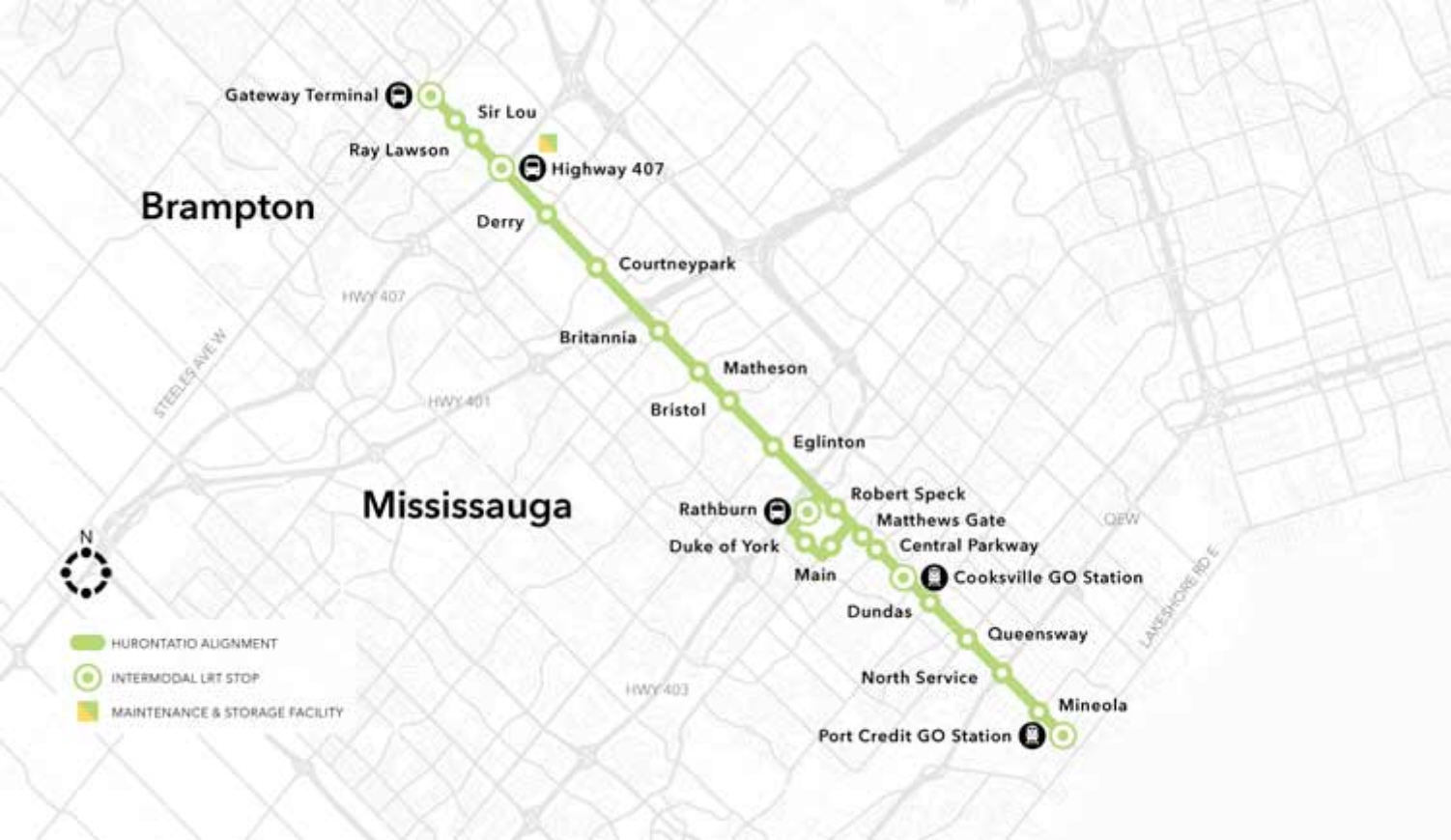
APPENDIX C

Hurontario-Main LRT


Gateway Terminal
Sir Lou
Ray Lawson
Highway 407
Brampton
Derry
Courtneypark
HWY 407
Britannia
Matheson
STEELES AVE W
HWY 401
Bristol
Eglinton
Mississauga
Robert Speck
Rathburn
Matthews Gate
QEW
Duke of York
Central Parkway
Main
Cooksville GO Station
Dundas
Queensway
LAKESHORE RD E
North Service
HWY 403
Mineola
Port Credit GO Station
N
HURONTATIO ALIGNMENT
INTERMODAL LRT STOP
MAINTENANCE & STORAGE FACILITY

HURONTARIO LRT FREQUENTLY ASKED QUESTIONS

When will construction begin and end?

Metrolinx is working with the cities of Mississauga and Brampton and the Region of Peel to ready the project for procurement. A detailed schedule will emerge through the project procurement process once a project team is selected. Construction is anticipated to begin in late 2018, with expected completion in late 2022.

Will Hurontario be widened?

The Hurontario LRT line will operate in a dedicated lane, separated from traffic. North of the QEW, two traffic lanes will become LRT lanes; and south of the QEW, the roadway will be widened to maintain today's traffic configuration.

What will the traffic be like during construction?

Safe and efficient travel will be the focus during the construction period. Metrolinx understands that construction of the LRT line will have an impact on people travelling along Hurontario Street. We are committed to working closely with many stakeholders (i.e. City Transportation, local MPPs and Councillors, Peel Police Services, traffic and parking enforcement, etc.) to monitor and understand the impacts of construction, and to mitigate the impacts, where practical.

Will bus service continue?

Local bus service between LRT stops will remain in operation along Hurontario. A modified bus service plan is being developed in coordination with local transit operators to consider alternative bus routes and adjusted bus frequencies to deliver an integrated and efficient transit system.

Why not build a subway?

LRT was found to be the best fit for the corridor over other forms of rapid transit. A subway option was looked at as part of the Hurontario-Main Master Plan. Project ridership volumes did not support the significant cost of subway development and it did not suit the overall corridor vision based on feedback from the public.

The Hurontario-Main Benefits Case Analysis (2010) evaluated three options: full Light Rail Transit (LRT), full Bus Rapid Transit (BRT) and an

option with LRT in the southern segment and BRT in the northern segment. Both the full LRT and mixed LRT/BRT options generate positive benefits for the region and will be capable of accommodating long-term travel demand growth along the corridor. The full BRT option would not be capable of meeting projected 2021 capacity requirements.

As planning on the Hurontario LRT project progressed, two additional Business Case Analyses were prepared, one in 2014 and another in 2016. Those documents can be found here.

What kind of vehicles will be used?
Urban-style LRT is designed to be fully integrated with the surrounding streetscape. The vehicles will be accessible, with low-floor, street-level boarding. The specific type of vehicle, and vehicle vendor, has not yet been determined; that will be determined through the procurement process.

How much will it cost to ride?
Fare levels have not yet been determined, but they are expected to be consistent with fares charged elsewhere on the Mississauga and Brampton transit systems.

How frequently will the trains run?
Service plan details have not yet been finalized and will rely on input from the selected consortium that will be responsible for designing, building, financing, operating and maintaining the Hurontario LRT system. A fundamental focus of these service plans will be to meet the needs of transit users. A potential service plan may include weekday/Saturday service from 5:00 a.m. to 1:30 a.m. and on Sunday from 7:00 p.m. to midnight, with an operating frequency of every 5 minutes during the peak hours.

How will trains loop downtown Mississauga?
Stop locations are established; however, operational plans related to how the trains will travel north, south and through the Downtown Mississauga loop have not yet been finalized. These operational details will rely on input from the selected consortium that will be responsible for designing, building, financing, operating and maintaining the Hurontario LRT system. A fundamental focus of these service plans will be to meet the needs of transit users.

A potential option may involve Southbound trains travelling from the Brampton Gateway Terminal, and Northbound trains travelling from the Port Credit GO Station looping at Downtown Mississauga and returning back. This operating scenario would require passengers wishing to travel further south, or further north of the Downtown loop, to transfer between trains.

Will there be additional parking Hurontario LRT stops?
No. There are currently parking lots at Port Credit GO Station and Cooksville GO Station, two stops on the Hurontario LRT line.

How will cycling be integrated?
The Hurontario corridor is being designed to accommodate cycling to, from and within Mississauga and Brampton. The project team is working to include cycling where feasible along the corridor. A variety of formats are being used to suit the variety of settings found along the corridor. The priority is the safety and comfort of cyclists and other users of the corridor.

What are the next steps?
A Request for Qualifications (RFQ) was issued by Metrolinx and Infrastructure Ontario on October 18, 2016 to pre-qualify proponent teams to design, build, finance, operate and maintain the Hurontario LRT project. That RFQ closed in January 2017. A Request for Proposals will be issued later in 2017 to three prequalified bidding teams. After a comprehensive review, one of these teams will be awarded the contract in 2018, with construction expected to start later that year.

Why is an LRT necessary?
Hurontario is an important corridor for the future of Mississauga and Brampton. The LRT will transform Hurontario into a vibrant people-oriented corridor connecting communities and accommodating growth anticipated over the next 30 years. A reliable and convenient transit system through this corridor will be a means to effective, sustainable economic and residential growth. The project will mean a doubling of the corridor's capacity to move people, significantly improved transit travel times, and serve as a crucial link between many of the region’s existing transit lines.

HURONTARIO STREET

FILE No.	CONTRACT No.	SHEET No.
	508956	LRT-RD-NC008

DIMENSIONS SHOWN ON THIS PLAN ARE IN METRES UNLESS OTHERWISE NOTED

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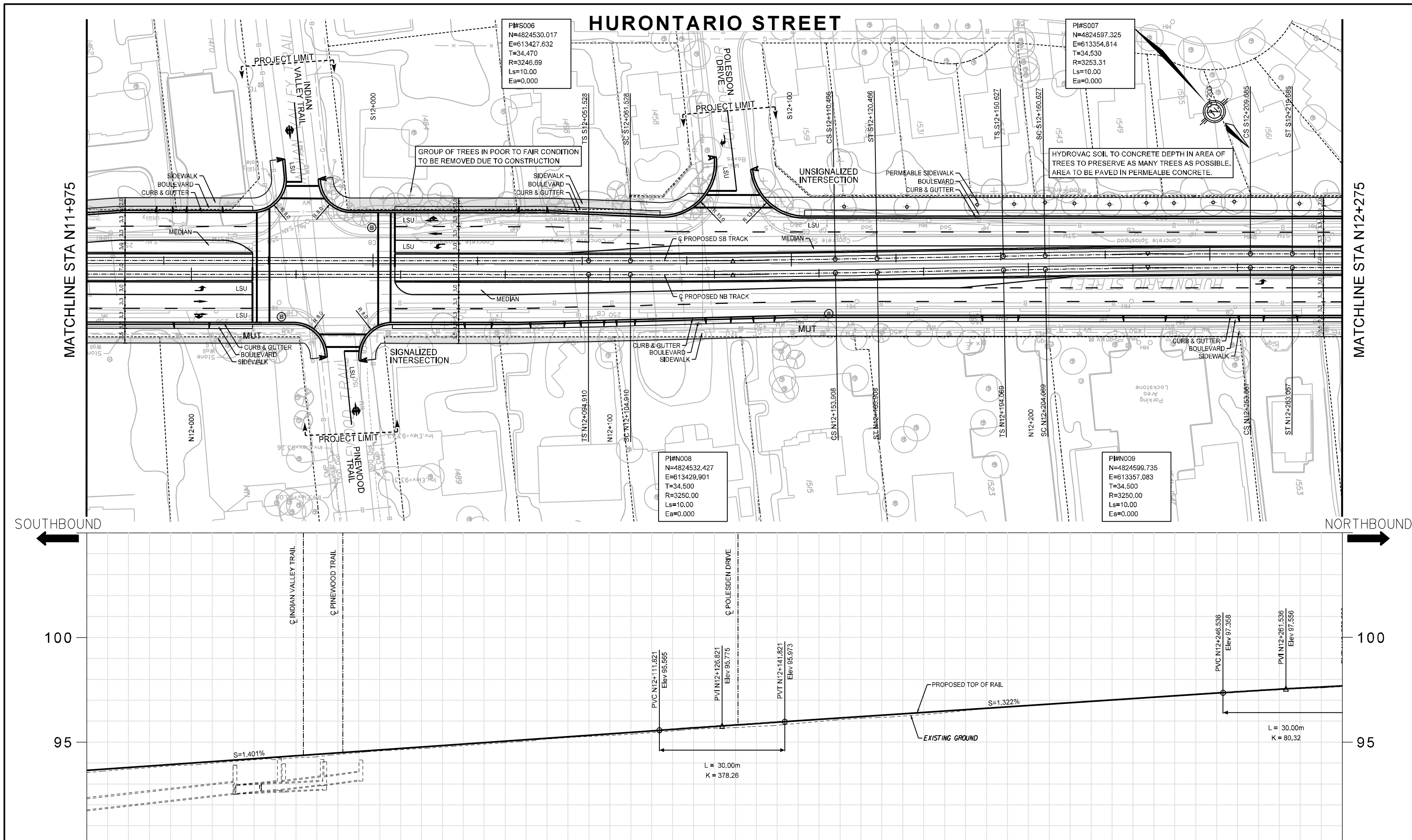
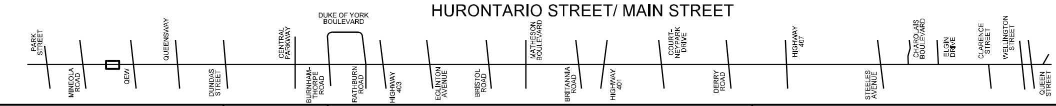


NOT FOR CONSTRUCTION

EXISTING GROUND ELEVATION / PROPOSED TOP OF RAIL PROFILE	93.550 / 93.648	93.909 / 93.996	94.247 / 94.348	94.637 / 94.699	94.973 / 95.049	95.314 / 95.399	95.659 / 95.747	95.983 / 96.082	96.320 / 96.412	96.755 / 96.743	97.077 / 97.073	97.416 / 97.403	97.646 / 97.684
DESIGN ℄ CHAINAGE	N11+975	N12+000	N12+025	N12+050	N12+075	N12+100	N12+125	N12+150	N12+175	N12+200	N12+225	N12+250	N12+275

HURONTARIO STREET/ MAIN STREET



No.	REVISIONS	INITIAL	DATE

REFERENCE MATERIAL:
Surveyed Plans : HMLRT-CombinedSurvey.dgn, CityCentre.dgn, HMLRT-HWY401.dgn, Topo-LRT@QEW.dgn, LRT.dtm, CityCentre.dtm, LRT@QEW.dtm
Design Plans : HMLRT - Alignment.dgn, HMLRT - Roadway.dgn, HMLRT - Profile.dgn
Sewer Plans :
Water Plans :
Geodetic Bench Mark Index Elevation=
Borehole Report -

SCALES
HORIZONTAL 1:500 (0 5m 10m 20m)
VERTICAL 1:100 (0 1m 2m 4m)

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CHECKED A.DELCHEV
APPROVED
DATE 2014/06/04

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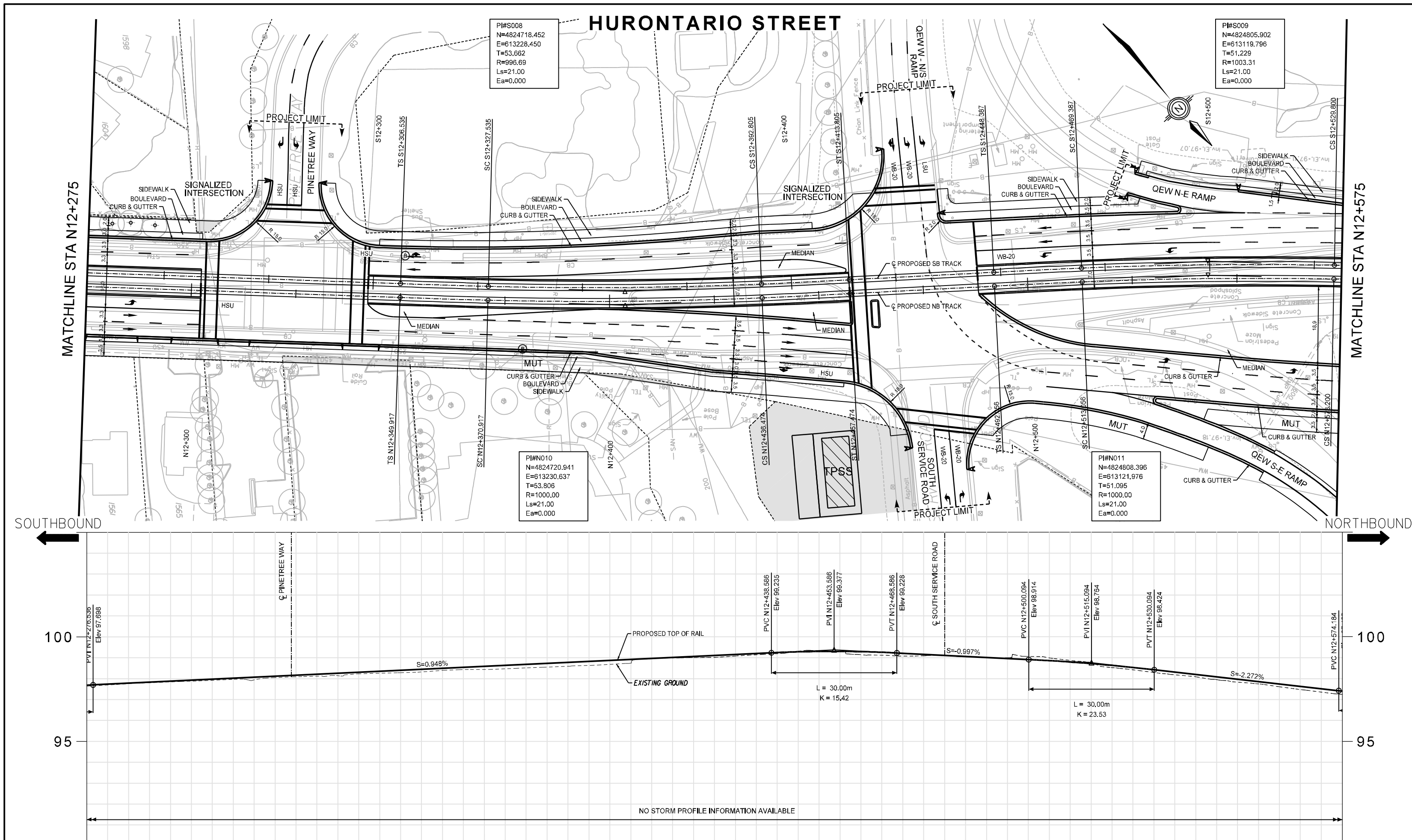
HURONTARIO-MAIN LRT PROJECT
PRELIMINARY DESIGN/TPAP
PLAN AND PROFILE
STA N11+975 TO STA N12+275



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98.475 / 98.632	N12+375
98.682 / 98.869	N12+400
99.017 / 99.106	N12+425
99.331 / 99.301	N12+450
99.096 / 99.164	N12+475
99.062 / 98.915	N12+500
98.419 / 98.534	N12+525
97.825 / 97.971	N12+550
97.242 / 97.404	N12+575

FILE No. | CONTRACT No. 508956 | SHEET No. LRT-RD-NC009

DIMENSIONS SHOWN ON THIS PLAN ARE IN METRES UNLESS OTHERWISE NOTED

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Design Plans : HMLRT - Alignment.dgn, HMLRT - Roadway.dgn, HMLRT - Profile.dgn
Sewer Plans :
Water Plans :
Geodetic Bench Mark Index Elevation=
Borehole Report -

SCALES: HORIZONTAL 1:500; VERTICAL 1:100

DESIGNED ELAINE EJIONG · CHECKED A.DELCHEV · APPROVED · DATE 2014/06/04

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HURONTARIO-MAIN LRT PROJECT
PRELIMINARY DESIGN/TPAP
PLAN AND PROFILE
STA N12+275 TO STA N12+575

HURONTARIO STREET

FILE No.	CONTRACT No.	SHEET No.
	508956	LRT-RD-NC010

DIMENSIONS SHOWN ON THIS PLAN ARE IN METRES UNLESS OTHERWISE NOTED

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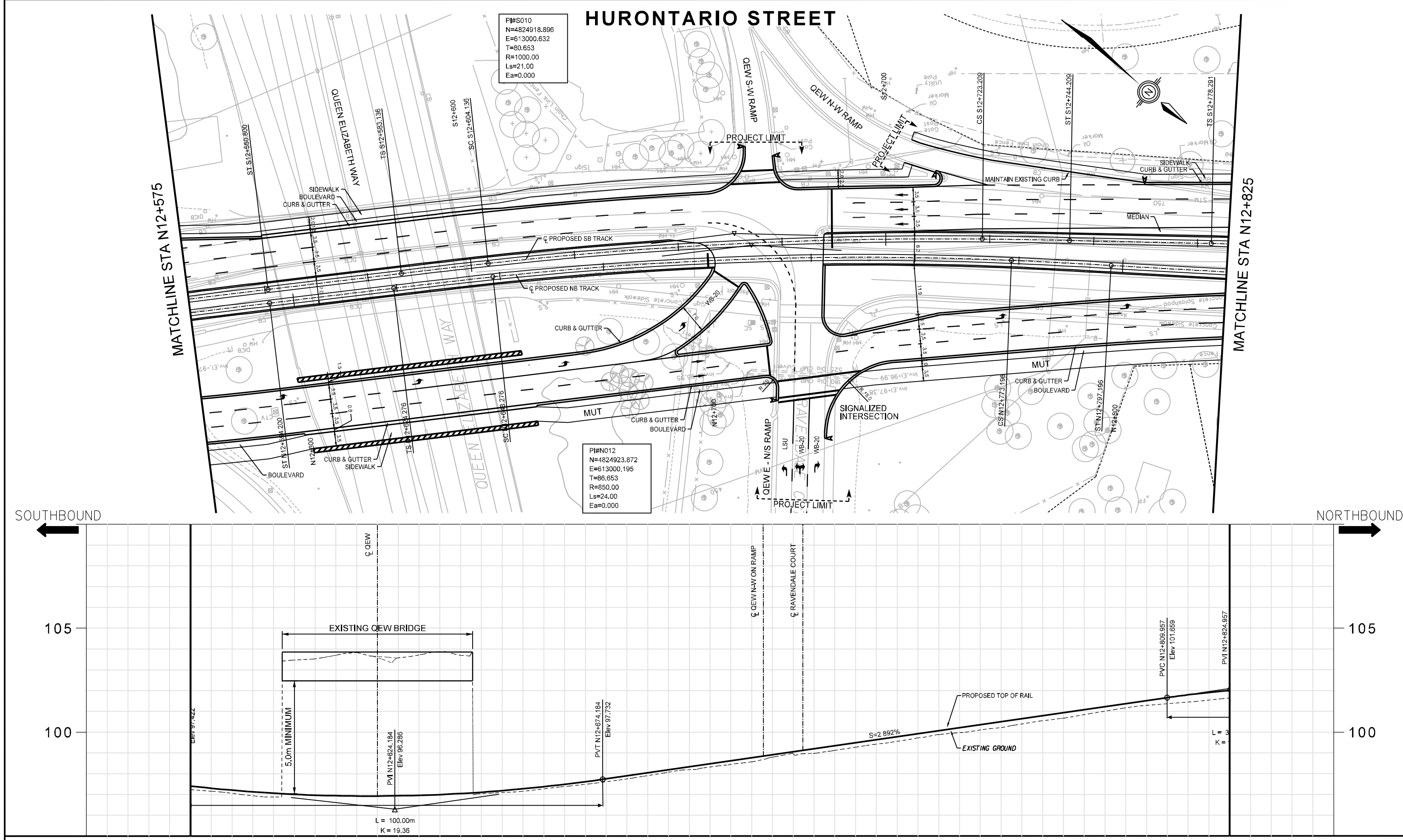

DESIGN ℄ CHAINAGE	EXISTING GROUND ELEVATION	PROPOSED TOP OF RAIL PROFILE
N12+575	97.242	97.404
N12+600	103.471	97.008
N12+625	103.574	96.934
N12+650	97.094	97.184
N12+675	97.614	97.756
N12+700	98.317	98.479
N12+725	98.978	99.202
N12+750	99.723	99.925
N12+775	100.393	100.648
N12+800	101.173	101.371
N12+825	101.641	102.004

NOT FOR CONSTRUCTION

HURONTARIO STREET/ MAIN STREET

PARK STREET, MINEOLA ROAD, QEW, QUEENSWAY, DUNDAS STREET, CENTRAL PARKWAY, BURNHAMTHORPE ROAD, DUKE OF YORK BOULEVARD, RATHBURN ROAD, HIGHWAY 403, EGLINTON AVENUE, BRISTOL ROAD, MATHESON BOULEVARD, BRITANNIA ROAD, HIGHWAY 401, COURTNEYPARK DRIVE, DERRY ROAD, HIGHWAY 407, STEELES AVENUE, CHAROLAIS BOULEVARD, ELGIN DRIVE, CLARENCE STREET, WELLINGTON STREET, QUEEN STREET

No.	REVISIONS	INITIAL	DATE

REFERENCE MATERIAL:
Surveyed Plans : HMLRT-CombinedSurvey.dgn, CityCentre.dgn, HMLRT-HWY401.dgn, Topo-LRT@QEW.dgn, LRT.dtm, CityCentre.dtm, LRT@QEW.dtm
Design Plans : HMLRT - Alignment.dgn, HMLRT - Roadway.dgn, HMLRT - Profile.dgn
Sewer Plans :
Water Plans :
Geodetic Bench Mark Index Elevation=
Borehole Report -

SCALES
HORIZONTAL 1:500 (0, 5m, 10m, 20m)
VERTICAL 1:100 (0, 1m, 2m, 4m)

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DESIGNED ELVIN CHIONG
CHECKED A.DELCHEV
APPROVED
DATE 2014/06/04

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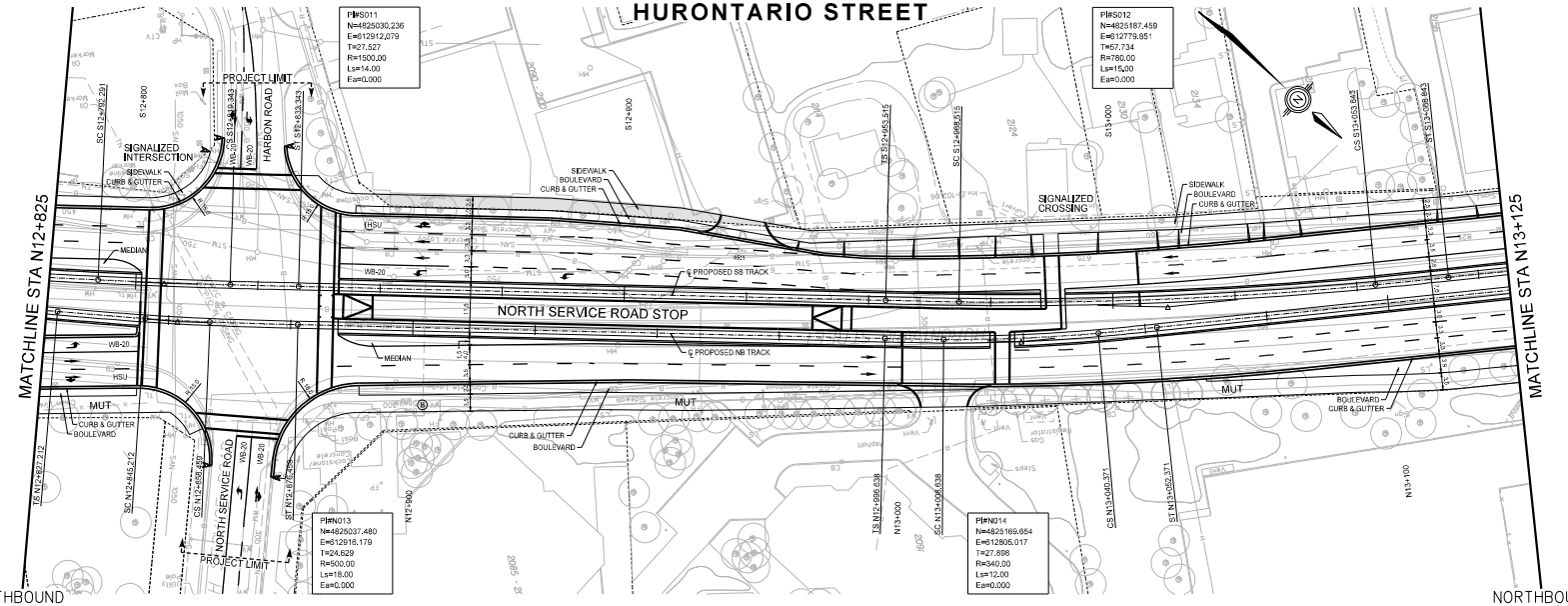
HURONTARIO-MAIN LRT PROJECT PRELIMINARY DESIGN/TPAP

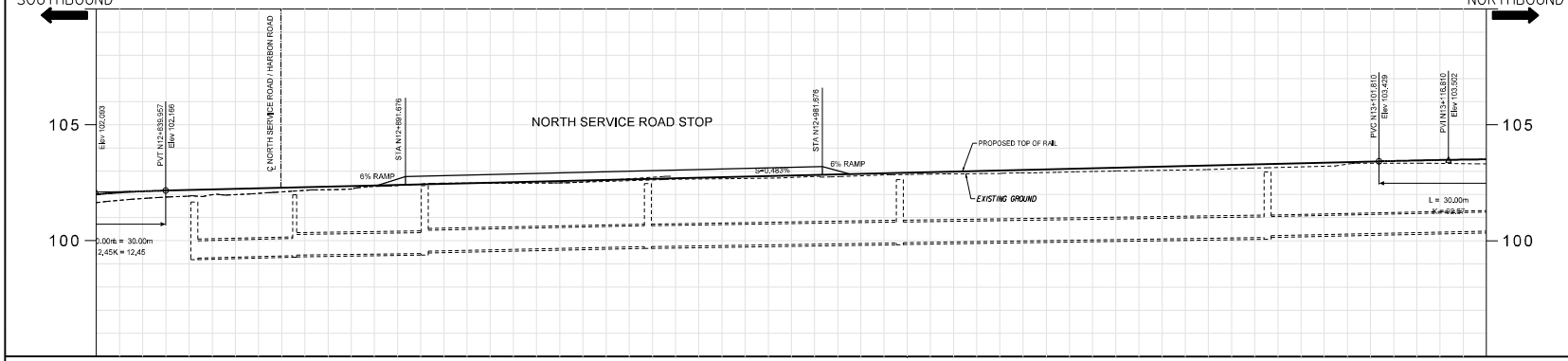
PLAN AND PROFILE

STA N12+575 TO STA N12+825

HURONTARIO STREET

HURONTARIO STREET





NOT FOR CONSTRUCTION

10+647	10+983	11+205	11+480	11+496	11+649	11+713	11+863	11+924	12+029	12+140	12+346	12+529
102.004	102.214	102.336	102.455	102.576	102.697	102.817	102.938	103.058	103.179	103.300	103.420	103.512
N12+825	N12+850	N12+875	N12+900	N12+925	N12+950	N12+975	N13+000	N13+025	N13+050	N13+075	N13+100	N13+125

EXISTING GROUND ELEVATION / PROPOSED TOP OF RAIL PROFILE

DESIGN ℄ CHAINAGE

HURONTARIO STREET/ MAIN STREET

No.	REVISIONS	INITIAL	DATE

REFERENCE MATERIAL:
Surveyed Plans : HMLRT-CombinedSurvey.dgn, CityCentre.dgn, HMLRT-HWY401.dgn, Topo-LRT@QEW.dgn, LRT.dtm, CityCentre.dtm, LRT@QEW.dtm
Design Plans : HMLRT - Alignment.dgn, HMLRT - Roadway.dgn, HMLRT - Profile.dgn
Sewer Plans :
Water Plans :
Geodetic Bench Mark Index Elevation=
Borehole Report -

SCALES
HORIZONTAL 1:500 (0, 5m, 10m, 20m)
VERTICAL 1:100 (0, 1m, 2m, 4m)

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DESIGNED
CHECKED
APPROVED
DATE

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HURONTARIO-MAIN LRT PROJECT
PRELIMINARY DESIGN/TPAP
PLAN AND PROFILE
STA N12+825 TO STA N13+125

FILE No.	CONTRACT No.	SHEET No.
	508956	LRT-RD-NC011

DIMENSIONS SHOWN ON THIS PLAN ARE IN METRES UNLESS OTHERWISE NOTED

Notes:

APPENDIX D

Traffic Data

Signal Timing Report

Runtime: 07/27/2018 13:15:53

Device: 0710

Region: Mississauga **Signal ID:** 0710 **Location:** HURONTARIO STREET N at QEW South Terminal

Phase	Units	1 SB LT	2 NB/SB	3 WB	4 EB	5		7	8
Walk	Sec	0	9	0	11	0	0	0	0
Ped Clear	Sec	0	12	0	16	0	0	0	0
Min Green	Sec	5	8	8	8	0	0	0	0
Passage	Sec	2.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	25	48	20	30	0	0	0	0
Maximum 2	Sec	25	48	20	30	0	0	0	0
Yellow Change	Sec	3.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	3.0	2.5	2.5	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	phaseNotOn	phaseNotOn	other	other	other	other
[P2] Options	Bit	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Act Rest In Walk	Enabled Non Lock Det	Enabled Non Lock Det	0	0	0	0
[P2] Ring	Ring	1	1	1	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coord Pattern	Units	1	2	3	4	5		7	8
Cycle Time	Sec	160	160	160	0	0	0	0	0
Offset	Sec	88	70	126	0	0	0	0	0
Split	Split	1	2	3	0	0	0	0	0
Sequence	Sequence	1	1	1	0	0	0	0	0

Coord Split	Units	1	2	3	4	5		7	8
Split 1 - Mode	Enum	maxVehRecall	none	minVehRecall	maxVehRecall	none	none	none	none
Split 1 - Time	Sec	24	64	26	46	0	0	0	0
Split 1 - Coord	Enum	false	true	false	false	false	false	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	24	59	27	50	0	0	0	0
Split 2 - Coord	Enum	false	true	false	false	false	false	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none

Split 3 - Time	Sec	14	74	26	46	0	0	0	0
Split 3 - Coord	Enum	false	true	false	false	false	false	false	false
TB Schedule	**Units**	**1**	**2**	**3**	**4**	**5**		**7**	**8**
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F----------	--M---------	----M------	------J-----
Day of Week	Bit	-MTWTF-	S------	------S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	12345678901234567890 1	12345678901234567890 1	12345678901234567890 1	1---------- ------	----------9----- ------	---------- -----0-	----------1---- ------	-2---------- ------
Day Plan	Number	1	3	2	3	3	3	3	3
TB Schedule	**Units**	**9**	**10**	**11**	**12**	**13**		**15**	**16**
Month	Bit	-------A----	--------S---	---------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	-----6---------- ------	--3---------- ------	-------8---------- ------	---------- 5------	---------- 6-----	---------- 4-------	0	0
Day Plan	Number	3	3	3	3	3	3	0	0
TB Dayplan	**Units**	**1**	**2**	**3**	**4**	**5**		**7**	**8**
Plan 1 Hour	Hour	0	6	9	15	19	0	0	0
Plan 1 Minute	Min	0	0	30	0	30	0	0	0
Plan 1 Action	Number	8	1	2	3	2	0	0	0
Plan 2 Hour	Hour	0	7	0	0	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	8	2	0	0	0	0	0	0
Plan 3 Hour	Hour	0	8	23	0	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	2	8	0	0	0	0	0
TB Action	**Units**	**1**	**2**	**3**	**4**	**5**		**7**	**8**
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Pattern 7	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

Signal Timing Report

Runtime: 07/27/2018 14:28:02

Device: 0701

Region: Mississauga **Signal ID:** 0701 **Location:** HURONTARIO STREET N at Pinetree Way

Phase	Units	1	2 NB/SB	3	4 EB	5		7	8
Walk	Sec	0	8	0	11	0	0	0	0
Ped Clear	Sec	0	12	0	16	0	0	0	0
Min Green	Sec	0	8	0	8	0	0	0	0
Passage	Sec	0.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	0	50	0	25	0	0	0	0
Maximum 2	Sec	0	50	0	25	0	0	0	0
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	2.5	0.0	2.5	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	other	redClear	other	phaseNotOn	other	other	other	other
[P2] Options	Bit	0	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Act Rest In Walk	0	Enabled Non Lock Det	0	0	0	0
[P2] Ring	Ring	0	1	0	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coord Pattern	Units	1	2	3	4	5		7	8
Cycle Time	Sec	160	160	160	0	0	0	0	0
Offset	Sec	77	62	112	0	0	0	0	0
Split	Split	1	2	3	0	0	0	0	0
Sequence	Sequence	1	1	1	0	0	0	0	0

Coord Split	Units	1	2	3	4	5		7	8
Split 1 - Mode	Enum	none	none	none	pedRecall	none	none	none	none
Split 1 - Time	Sec	0	126	0	34	0	0	0	0
Split 1 - Coord	Enum	false	true	false	false	false	false	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	110	0	50	0	0	0	0
Split 2 - Coord	Enum	false	true	false	false	false	false	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none

Split 3 - Time	Sec	0	114	0	46	0	0	0	0
Split 3 - Coord	Enum	false	true	false	false	false	false	false	false
Split 4 - Mode	Enum	none	none	none	none	none	none	none	none
Split 4 - Time	Sec	0	105	0	35	0	0	0	0
Split 4 - Coord	Enum	false	true	false	false	false	false	false	false
Split 5 - Mode	Enum	none	none	none	none	none	none	none	none
Split 5 - Time	Sec	0	60	0	40	0	0	0	0
Split 5 - Coord	Enum	false	true	false	false	false	false	false	false
TB Schedule	**Units**	**1**	**2**	**3**	**4**	**5**		**7**	**8**
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F----------	--M--------	----M-------	------J-----
Day of Week	Bit	-MTWTF-	S------	------S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	123456789012345678901234567890 1	123456789012345678901234567890 1	123456789012345678901234567890 1	1---------- ------	----------9----- ------	---------- -----0-	----------1---- ------	-2---------- ------
Day Plan	Number	1	3	2	3	3	3	3	3
TB Schedule	**Units**	**9**	**10**	**11**	**12**	**13**		**15**	**16**
Month	Bit	-------A----	--------S---	---------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	-----6---------- ------	--3---------- ------	-------8---------- ------	---------- 5------	---------- 6-----	---------- 4-------	0	0
Day Plan	Number	3	3	3	3	3	3	0	0
TB Dayplan	**Units**	**1**	**2**	**3**	**4**	**5**		**7**	**8**
Plan 1 Hour	Hour	0	6	9	15	19	0	0	0
Plan 1 Minute	Min	0	0	30	0	30	0	0	0
Plan 1 Action	Number	8	1	2	3	2	0	0	0
Plan 2 Hour	Hour	0	7	0	0	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	8	2	0	0	0	0	0	0
Plan 3 Hour	Hour	0	8	23	0	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	2	8	0	0	0	0	0
TB Action	**Units**	**1**	**2**	**3**	**4**	**5**		**7**	**8**
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Pattern 7	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

Turning Movement Count (3 . HURONTARIO ST & HAMPSHIRE CRESCENT / POLESDEN DR)

Start Time	N Approach HURONTARIO ST					S Approach HURONTARIO ST					W Approach HAMPSHIRE CRESCENT / POLESDEN DR					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	U-Turn N:N	Peds N:	Approach Total	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	0	172	1	0	173	175	0	0	0	175	0	4	0	0	4	352	
07:15:00	1	112	0	0	113	158	1	0	0	159	0	1	0	2	1	273	
07:30:00	2	247	0	0	249	218	1	0	0	219	1	6	0	0	7	475	
07:45:00	1	194	0	0	195	221	0	0	0	221	1	5	0	0	6	422	1522
08:00:00	1	184	0	0	185	201	0	0	0	201	2	2	0	0	4	390	1560
08:15:00	4	201	0	0	205	224	2	0	0	226	2	3	0	0	5	436	1723
08:30:00	3	236	0	0	239	210	0	0	2	210	3	4	0	2	7	456	1704
08:45:00	1	217	0	0	218	260	1	0	0	261	5	1	0	0	6	485	1767
BREAK																	
16:00:00	0	285	0	0	285	276	2	0	0	278	0	2	0	1	2	565	
16:15:00	5	297	0	0	302	262	1	0	0	263	3	0	0	1	3	568	
16:30:00	5	254	0	0	259	258	0	0	0	258	5	2	0	0	7	524	
16:45:00	5	297	0	0	302	282	2	0	0	284	1	2	0	1	3	589	2246
17:00:00	1	281	2	1	284	271	2	0	0	273	2	1	0	4	3	560	2241
17:15:00	2	260	0	0	262	306	2	0	0	308	0	0	0	2	0	570	2243
17:30:00	2	288	0	0	290	224	4	0	0	228	2	2	0	0	4	522	2241
17:45:00	4	281	0	0	285	290	2	0	0	292	2	6	0	2	8	585	2237
18:00:00	2	276	0	0	278	259	1	0	0	260	2	1	0	6	3	541	2218
18:15:00	1	285	1	0	287	264	1	0	0	265	2	1	0	0	3	555	2203
18:30:00	3	294	0	0	297	225	1	0	0	226	0	3	0	2	3	526	2207
18:45:00	5	297	0	0	302	261	1	0	0	262	6	3	0	0	9	573	2195
Grand Total	48	4958	4	1	5010	4845	24	0	2	4869	39	49	0	23	88	**9967**	-
Approach%	1%	99%	0.1%		-	99.5%	0.5%	0%		-	44.3%	55.7%	0%		-	**-**	-
Totals %	0.5%	49.7%	0%		50.3%	48.6%	0.2%	0%		48.9%	0.4%	0.5%	0%		0.9%	**-**	-

Heavy	0	11	0	-	9	0	0	-	0	0	0	-	-	-
Heavy %	0%	0.2%	0%	-	0.2%	0%	0%	-	0%	0%	0%	-	-	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-

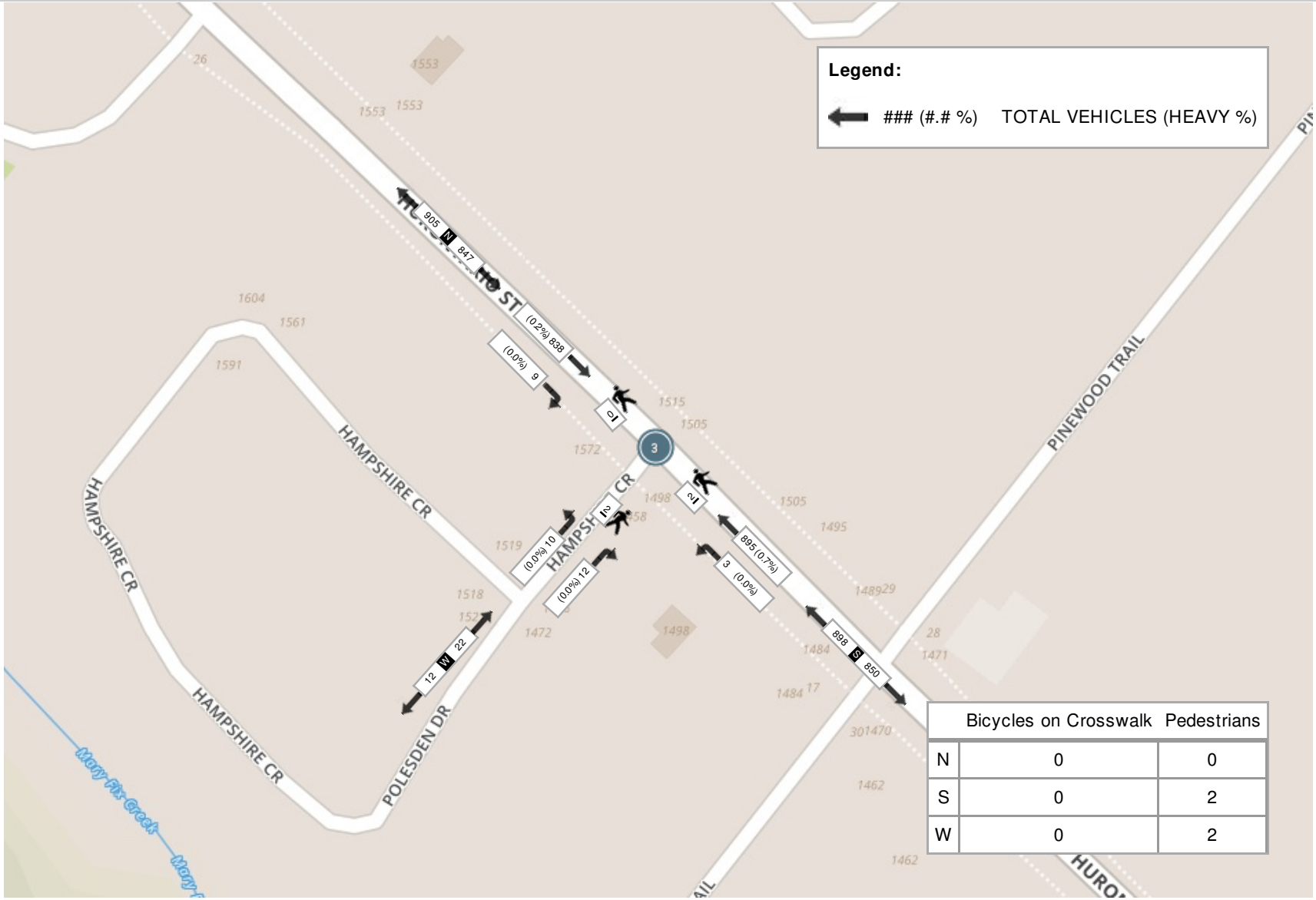
Peak Hour: 08:00 AM - 09:00 AM Weather: Partly Cloudy (18.8 °C)

Start Time	N Approach HURONTARIO ST					S Approach HURONTARIO ST					W Approach HAMPSHIRE CRESCENT / POLESDEN DR					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
08:00:00	1	184	0	0	185	201	0	0	0	201	2	2	0	0	4	390
08:15:00	4	201	0	0	205	224	2	0	0	226	2	3	0	0	5	436
08:30:00	3	236	0	0	239	210	0	0	2	210	3	4	0	2	7	456
08:45:00	1	217	0	0	218	260	1	0	0	261	5	1	0	0	6	485
Grand Total	9	838	0	0	847	895	3	0	2	898	12	10	0	2	22	**1767**
Approach%	1.1%	98.9%	0%		-	99.7%	0.3%	0%		-	54.5%	45.5%	0%		-	-
Totals %	0.5%	47.4%	0%		47.9%	50.7%	0.2%	0%		50.8%	0.7%	0.6%	0%		1.2%	-
PHF	0.56	0.89	0		0.89	0.86	0.38	0		0.86	0.6	0.63	0		0.79	-
Heavy	0	2	0		2	6	0	0		6	0	0	0		0	-
Heavy %	0%	0.2%	0%		0.2%	0.7%	0%	0%		0.7%	0%	0%	0%		0%	-
Lights	8	800	0		808	862	3	0		865	12	9	0		21	-
Lights %	88.9%	95.5%	0%		95.4%	96.3%	100%	0%		96.3%	100%	90%	0%		95.5%	-
Mediums	1	35	0		36	27	0	0		27	0	1	0		1	-
Mediums %	11.1%	4.2%	0%		4.3%	3%	0%	0%		3%	0%	10%	0%		4.5%	-
Articulated Trucks	0	2	0		2	6	0	0		6	0	0	0		0	-
Articulated Trucks %	0%	0.2%	0%		0.2%	0.7%	0%	0%		0.7%	0%	0%	0%		0%	-
Bicycles on Road	0	1	0		1	0	0	0		0	0	0	0		0	-
Bicycles on Road %	0%	0.1%	0%		0.1%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	2	-	-	-	-	2	-	-
Pedestrians%	-	-	-	0%		-	-	-	50%		-	-	-	50%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 04:00 PM - 05:00 PM Weather:

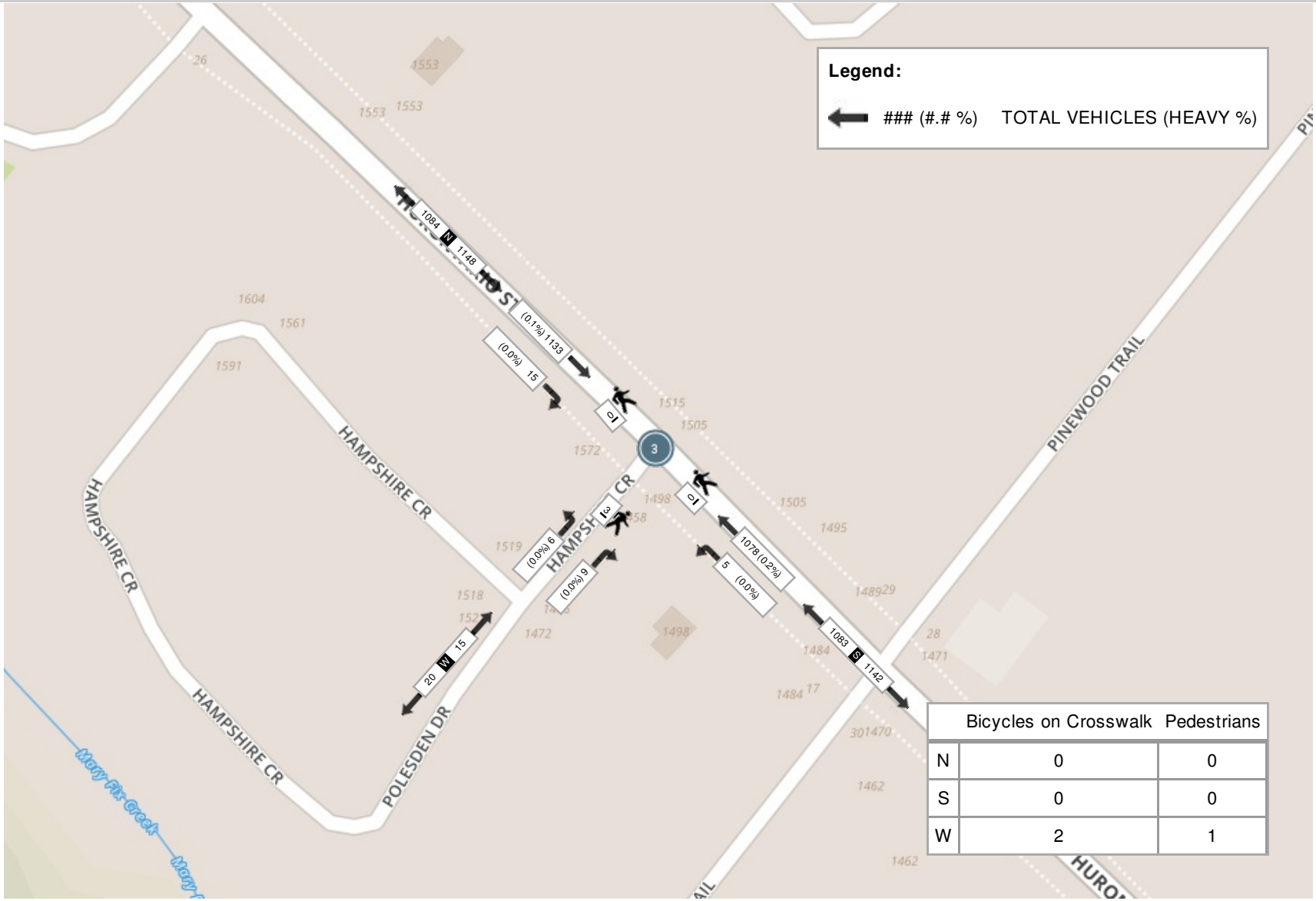
Start Time	N Approach HURONTARIO ST					S Approach HURONTARIO ST					W Approach HAMPSHIRE CRESCENT / POLESDEN DR					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
16:00:00	0	285	0	0	285	276	2	0	0	278	0	2	0	1	2	565
16:15:00	5	297	0	0	302	262	1	0	0	263	3	0	0	1	3	568
16:30:00	5	254	0	0	259	258	0	0	0	258	5	2	0	0	7	524
16:45:00	5	297	0	0	302	282	2	0	0	284	1	2	0	1	3	589
Grand Total	15	1133	0	0	1148	1078	5	0	0	1083	9	6	0	3	15	**2246**
Approach%	1.3%	98.7%	0%		-	99.5%	0.5%	0%		-	60%	40%	0%		-	-
Totals %	0.7%	50.4%	0%		51.1%	48%	0.2%	0%		48.2%	0.4%	0.3%	0%		0.7%	-
PHF	0.75	0.95	0		0.95	0.96	0.63	0		0.95	0.45	0.75	0		0.54	-
Heavy	0	1	0		1	2	0	0		2	0	0	0		0	-
Heavy %	0%	0.1%	0%		0.1%	0.2%	0%	0%		0.2%	0%	0%	0%		0%	-
Lights	15	1108	0		1123	1042	5	0		1047	9	6	0		15	-
Lights %	100%	97.8%	0%		97.8%	96.7%	100%	0%		96.7%	100%	100%	0%		100%	-
Mediums	0	22	0		22	34	0	0		34	0	0	0		0	-
Mediums %	0%	1.9%	0%		1.9%	3.2%	0%	0%		3.1%	0%	0%	0%		0%	-
Articulated Trucks	0	1	0		1	2	0	0		2	0	0	0		0	-
Articulated Trucks %	0%	0.1%	0%		0.1%	0.2%	0%	0%		0.2%	0%	0%	0%		0%	-
Bicycles on Road	0	2	0		2	0	0	0		0	0	0	0		0	-
Bicycles on Road %	0%	0.2%	0%		0.2%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	33.3%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	66.7%		-

Peak Hour: 08:00 AM - 09:00 AM Weather: Partly Cloudy (18.8 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	2
W	0	2

Peak Hour: 04:00 PM - 05:00 PM Weather:



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
W	2	1

Turning Movement Count (2 . HURONTARIO ST & PINETREE WAY)

Start Time	N Approach HURONTARIO ST						E Approach SOUTH-EAST PROPERTY ACCESS						S Approach HURONTARIO ST						W Approach PINETREE WAY						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	4	175	0	0	0	179	0	0	0	0	2	0	0	186	0	0	0	186	1	0	9	0	0	10	375	
07:15:00	4	122	0	0	2	126	0	0	0	0	4	0	0	156	0	0	0	156	2	0	9	0	2	11	293	
07:30:00	5	241	0	0	4	246	0	0	1	0	4	1	0	206	0	0	0	206	1	0	17	0	2	18	471	
07:45:00	7	202	0	1	0	210	0	0	0	0	5	0	0	236	0	0	1	236	0	0	6	0	1	6	452	1591
08:00:00	2	196	0	0	4	198	0	0	1	0	2	1	1	198	1	0	1	200	1	0	17	0	0	18	417	1633
08:15:00	3	189	0	0	2	192	0	0	0	0	2	0	0	223	1	0	2	224	0	0	14	0	0	14	430	1770
08:30:00	7	247	3	2	0	259	0	0	0	0	1	0	0	213	2	0	0	215	2	0	20	0	2	22	496	1795
08:45:00	8	213	0	0	1	221	0	0	0	0	3	0	1	228	0	0	3	229	3	0	23	0	1	26	476	1819
BREAK																										
16:00:00	13	266	0	0	5	279	1	0	0	0	6	1	0	268	1	0	0	269	0	0	14	0	0	14	563	
16:15:00	22	296	1	0	1	319	1	0	0	0	4	1	0	267	0	0	0	267	0	0	16	0	0	16	603	
16:30:00	15	259	0	0	3	274	1	0	0	0	6	1	0	249	2	0	0	251	3	1	13	0	0	17	543	
16:45:00	16	288	0	0	0	304	0	0	0	0	9	0	1	281	1	0	0	283	0	0	7	0	1	7	594	2303
17:00:00	15	294	0	0	2	309	1	0	0	0	5	1	0	283	0	0	2	283	1	0	8	0	2	9	602	2342
17:15:00	15	255	0	0	0	270	2	0	0	0	9	2	0	293	4	0	0	297	3	0	16	0	3	19	588	2327
17:30:00	15	285	0	0	0	300	1	0	1	0	4	2	0	235	2	0	0	237	0	0	10	0	0	10	549	2333
17:45:00	12	286	0	0	1	298	1	0	0	0	8	1	0	297	0	0	1	297	1	0	11	0	4	12	608	2347
18:00:00	23	277	0	0	5	300	0	0	0	0	11	0	1	256	0	0	0	257	1	0	8	0	2	9	566	2311
18:15:00	18	287	0	0	0	305	1	1	0	0	2	2	2	260	1	0	1	263	1	0	9	0	0	10	580	2303
18:30:00	15	292	0	0	0	307	1	0	1	0	4	2	0	228	0	0	1	228	8	0	11	0	0	19	556	2310
18:45:00	16	290	0	0	0	306	1	0	0	0	7	1	0	257	1	0	2	258	4	0	5	0	0	9	574	2276
Grand Total	235	4960	4	3	30	5202	11	1	4	0	98	16	6	4820	16	0	14	4842	32	1	243	0	20	276	**10336**	-
Approach%	4.5%	95.3%	0.1%	0.1%		-	68.8%	6.3%	25%	0%		-	0.1%	99.5%	0.3%	0%		-	11.6%	0.4%	88%	0%		-	-	-
Totals %	2.3%	48%	0%	0%		50.3%	0.1%	0%	0%	0%		0.2%	0.1%	46.6%	0.2%	0%		46.8%	0.3%	0%	2.4%	0%		2.7%	-	-
Heavy	0	10	0	0		-	0	0	0	0		-	0	10	0	0		-	0	0	0	0		-	-	-
Heavy %	0%	0.2%	0%	0%		-	0%	0%	0%	0%		-	0%	0.2%	0%	0%		-	0%	0%	0%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

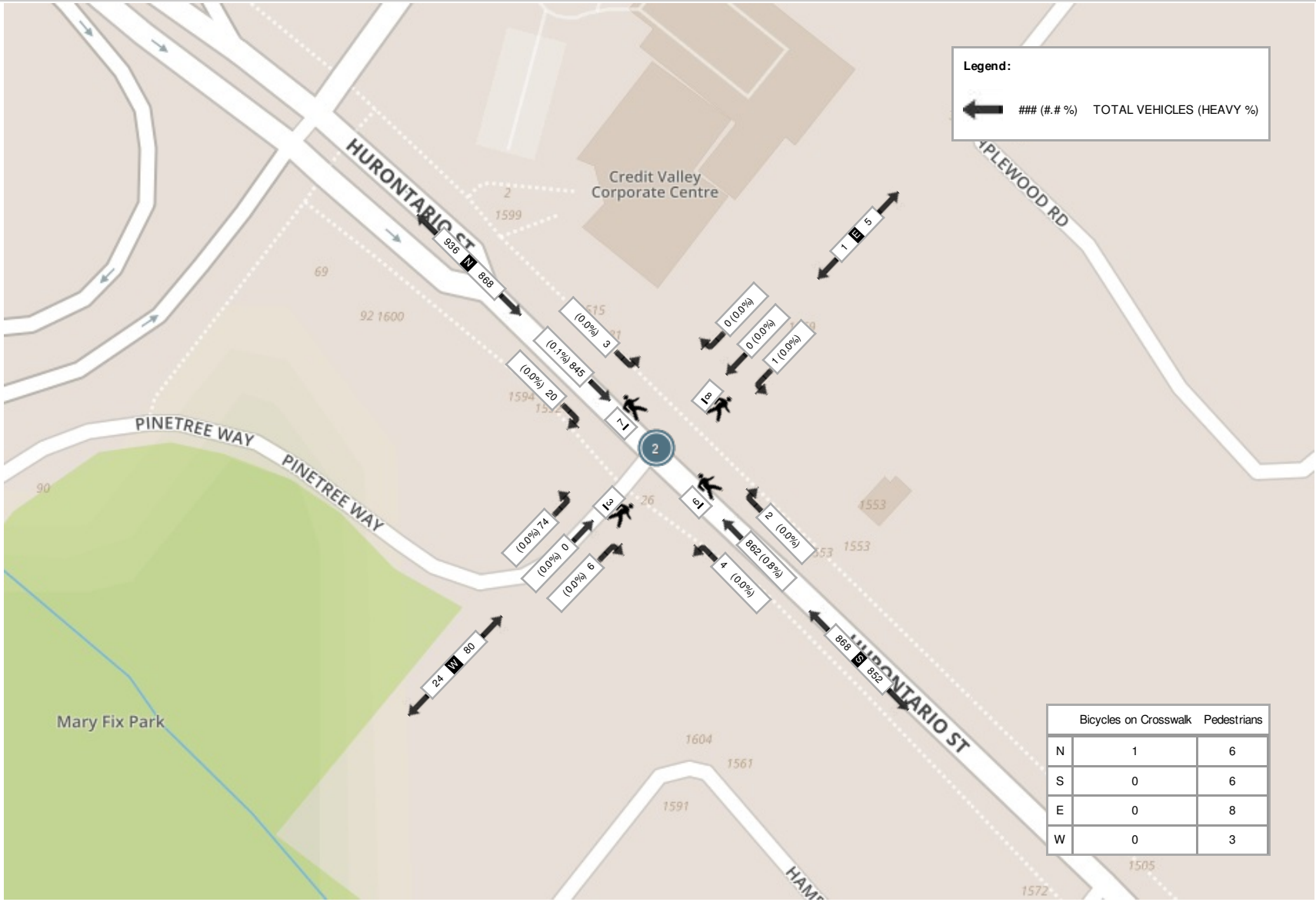
Peak Hour: 08:00 AM - 09:00 AM Weather: Partly Cloudy (18.8 °C)

Start Time	N Approach HURONTARIO ST						E Approach SOUTH-EAST PROPERTY ACCESS						S Approach HURONTARIO ST						W Approach PINETREE WAY						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	2	196	0	0	4	198	0	0	1	0	2	1	1	198	1	0	1	200	1	0	17	0	0	18	417
08:15:00	3	189	0	0	2	192	0	0	0	0	2	0	0	223	1	0	2	224	0	0	14	0	0	14	430
08:30:00	7	247	3	2	0	259	0	0	0	0	1	0	0	213	2	0	0	215	2	0	20	0	2	22	496
08:45:00	8	213	0	0	1	221	0	0	0	0	3	0	1	228	0	0	3	229	3	0	23	0	1	26	476
Grand Total	20	845	3	2	7	870	0	0	1	0	8	1	2	862	4	0	6	868	6	0	74	0	3	80	**1819**
Approach%	2.3%	97.1%	0.3%	0.2%		-	0%	0%	100%	0%		-	0.2%	99.3%	0.5%	0%		-	7.5%	0%	92.5%	0%		-	**-**
Totals %	1.1%	46.5%	0.2%	0.1%		47.8%	0%	0%	0.1%	0%		0.1%	0.1%	47.4%	0.2%	0%		47.7%	0.3%	0%	4.1%	0%		4.4%	**-**
PHF	0.63	0.86	0.25	0.25		0.84	0	0	0.25	0		0.25	0.5	0.95	0.5	0		0.95	0.5	0	0.8	0		0.77	**-**
Heavy	0	1	0	0		1	0	0	0	0		0	0	7	0	0		7	0	0	0	0		0	**-**
Heavy %	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.8%	0%	0%		0.8%	0%	0%	0%	0%		0%	**-**
Lights	20	806	3	2		831	0	0	1	0		1	2	828	4	0		834	6	0	74	0		80	**-**
Lights %	100%	95.4%	100%	100%		95.5%	0%	0%	100%	0%		100%	100%	96.1%	100%	0%		96.1%	100%	0%	100%	0%		100%	**-**
Mediums	0	37	0	0		37	0	0	0	0		0	0	27	0	0		27	0	0	0	0		0	**-**
Mediums %	0%	4.4%	0%	0%		4.3%	0%	0%	0%	0%		0%	0%	3.1%	0%	0%		3.1%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	0	7	0	0		7	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.8%	0%	0%		0.8%	0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Bicycles on Road %	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	6	-	-	-	-	-	8	-	-	-	-	-	6	-	-	-	-	-	3	-	**-**
Pedestrians%	-	-	-	-	25%		-	-	-	-	33.3%		-	-	-	-	25%		-	-	-	-	12.5%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	4.2%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 05:00 PM - 06:00 PM Weather:

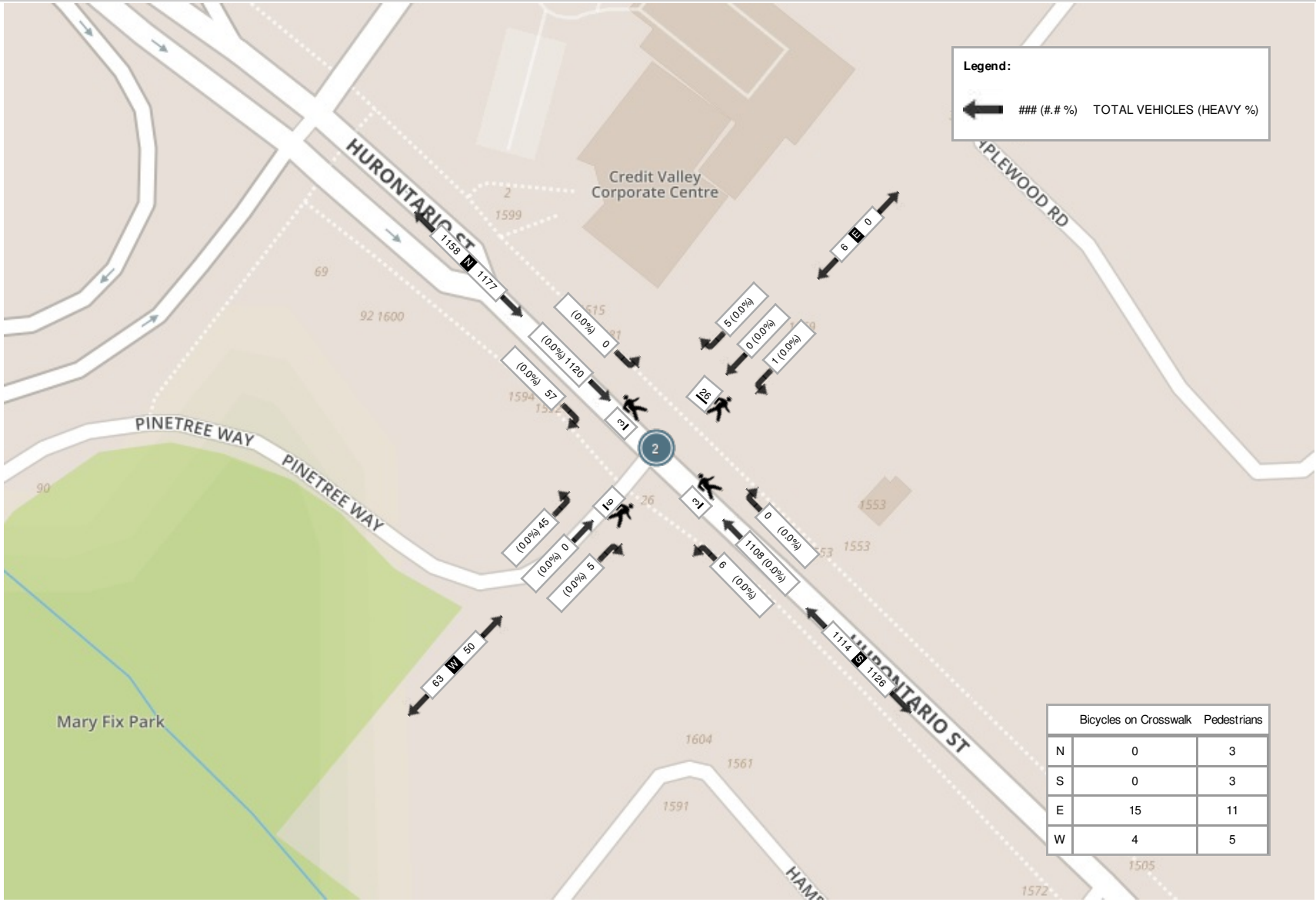
Start Time	N Approach HURONTARIO ST						E Approach SOUTH-EAST PROPERTY ACCESS						S Approach HURONTARIO ST						W Approach PINETREE WAY						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	15	294	0	0	2	309	1	0	0	0	5	1	0	283	0	0	2	283	1	0	8	0	2	9	602
17:15:00	15	255	0	0	0	270	2	0	0	0	9	2	0	293	4	0	0	297	3	0	16	0	3	19	588
17:30:00	15	285	0	0	0	300	1	0	1	0	4	2	0	235	2	0	0	237	0	0	10	0	0	10	549
17:45:00	12	286	0	0	1	298	1	0	0	0	8	1	0	297	0	0	1	297	1	0	11	0	4	12	608
Grand Total	57	1120	0	0	3	1177	5	0	1	0	26	6	0	1108	6	0	3	1114	5	0	45	0	9	50	**2347**
Approach%	4.8%	95.2%	0%	0%		-	83.3%	0%	16.7%	0%		-	0%	99.5%	0.5%	0%		-	10%	0%	90%	0%		-	**-**
Totals %	2.4%	47.7%	0%	0%		50.1%	0.2%	0%	0%	0%		0.3%	0%	47.2%	0.3%	0%		47.5%	0.2%	0%	1.9%	0%		2.1%	**-**
PHF	0.95	0.95	0	0		0.95	0.63	0	0.25	0		0.75	0	0.93	0.38	0		0.94	0.42	0	0.7	0		0.66	**-**
Heavy	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Heavy %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Lights	57	1103	0	0		1160	5	0	1	0		6	0	1089	6	0		1095	5	0	45	0		50	**-**
Lights %	100%	98.5%	0%	0%		98.6%	100%	0%	100%	0%		100%	0%	98.3%	100%	0%		98.3%	100%	0%	100%	0%		100%	**-**
Mediums	0	17	0	0		17	0	0	0	0		0	0	19	0	0		19	0	0	0	0		0	**-**
Mediums %	0%	1.5%	0%	0%		1.4%	0%	0%	0%	0%		0%	0%	1.7%	0%	0%		1.7%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	3	-	-	-	-	-	11	-	-	-	-	-	3	-	-	-	-	-	5	-	**-**
Pedestrians%	-	-	-	-	7.3%		-	-	-	-	26.8%		-	-	-	-	7.3%		-	-	-	-	12.2%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	15	-	-	-	-	-	0	-	-	-	-	-	4	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	36.6%		-	-	-	-	0%		-	-	-	-	9.8%		**-**

Peak Hour: 08:00 AM - 09:00 AM Weather: Partly Cloudy (18.8 °C)



	Bicycles on Crosswalk	Pedestrians
N	1	6
S	0	6
E	0	8
W	0	3

Peak Hour: 05:00 PM - 06:00 PM Weather:



Turning Movement Count (1 . HURONTARIO ST & PINEWOOD TRAIL / INDIAN VALLEY TRAIL)

Start Time	N Approach HURONTARIO ST						E Approach PINEWOOD TRAIL						S Approach HURONTARIO ST						W Approach INDIAN VALLEY TRAIL						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	2	170	2	0	0	174	7	0	0	0	2	7	2	169	1	0	0	172	0	0	8	0	1	8	361	
07:15:00	4	111	2	0	0	117	7	0	0	0	2	7	1	141	3	0	0	145	1	0	6	0	1	7	276	
07:30:00	3	239	2	0	0	244	1	0	0	0	4	1	0	214	4	0	0	218	4	0	5	0	0	9	472	
07:45:00	2	188	7	1	0	198	8	0	1	0	5	9	5	206	2	0	0	213	1	0	13	0	0	14	434	1543
08:00:00	4	185	2	0	0	191	7	0	1	0	1	8	2	182	2	0	0	186	3	0	10	0	0	13	398	1580
08:15:00	4	191	3	0	0	198	4	0	0	0	5	4	1	220	2	0	0	223	2	0	6	0	0	8	433	1737
08:30:00	8	229	5	0	0	242	6	0	1	0	3	7	0	182	2	0	0	184	4	0	17	0	2	21	454	1719
08:45:00	7	209	3	0	1	219	14	1	1	0	7	16	2	228	2	0	0	232	0	1	14	0	0	15	482	1767
BREAK																										
16:00:00	6	258	9	0	0	273	8	1	1	0	1	10	0	259	3	0	0	262	4	0	8	0	1	12	557	
16:15:00	15	274	4	0	0	293	3	1	0	0	3	4	2	256	5	0	0	263	5	0	4	0	1	9	569	
16:30:00	10	243	5	0	0	258	8	1	2	0	7	11	4	249	2	0	0	255	1	1	6	0	0	8	532	
16:45:00	11	273	9	0	0	293	2	0	1	0	7	3	1	268	0	0	0	269	3	1	11	0	1	15	580	2238
17:00:00	17	263	8	0	0	288	3	0	0	0	5	3	4	266	4	0	0	274	1	0	8	0	3	9	574	2255
17:15:00	11	239	8	1	0	259	7	0	0	0	8	7	1	291	0	0	2	292	2	0	6	0	1	8	566	2252
17:30:00	13	264	6	0	0	283	7	0	0	0	7	7	3	217	2	0	1	222	3	0	5	0	0	8	520	2240
17:45:00	11	269	2	0	0	282	11	0	1	0	4	12	6	272	3	0	0	281	5	0	6	0	2	11	586	2246
18:00:00	7	267	3	0	0	277	5	0	0	0	9	5	4	252	7	0	0	263	3	0	6	0	7	9	554	2226
18:15:00	8	267	5	0	0	280	7	0	0	0	1	7	1	244	4	0	0	249	3	1	9	0	0	13	549	2209
18:30:00	8	264	12	0	1	284	5	0	1	0	5	6	3	221	3	0	0	227	1	0	7	0	0	8	525	2214
18:45:00	11	276	8	1	0	296	7	0	0	0	10	7	3	238	3	0	0	244	1	0	11	0	0	12	559	2187
Grand Total	162	4679	105	3	2	4949	127	4	10	0	96	141	45	4575	54	0	3	4674	47	4	166	0	20	217	**9981**	-
Approach%	3.3%	94.5%	2.1%	0.1%		-	90.1%	2.8%	7.1%	0%		-	1%	97.9%	1.2%	0%		-	21.7%	1.8%	76.5%	0%		-	**-**	-
Totals %	1.6%	46.9%	1.1%	0%		49.6%	1.3%	0%	0.1%	0%		1.4%	0.5%	45.8%	0.5%	0%		46.8%	0.5%	0%	1.7%	0%		2.2%	**-**	-
Heavy	1	9	0	0		-	0	0	0	0		-	0	6	1	0		-	1	0	1	0		-	**-**	-
Heavy %	0.6%	0.2%	0%	0%		-	0%	0%	0%	0%		-	0%	0.1%	1.9%	0%		-	2.1%	0%	0.6%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

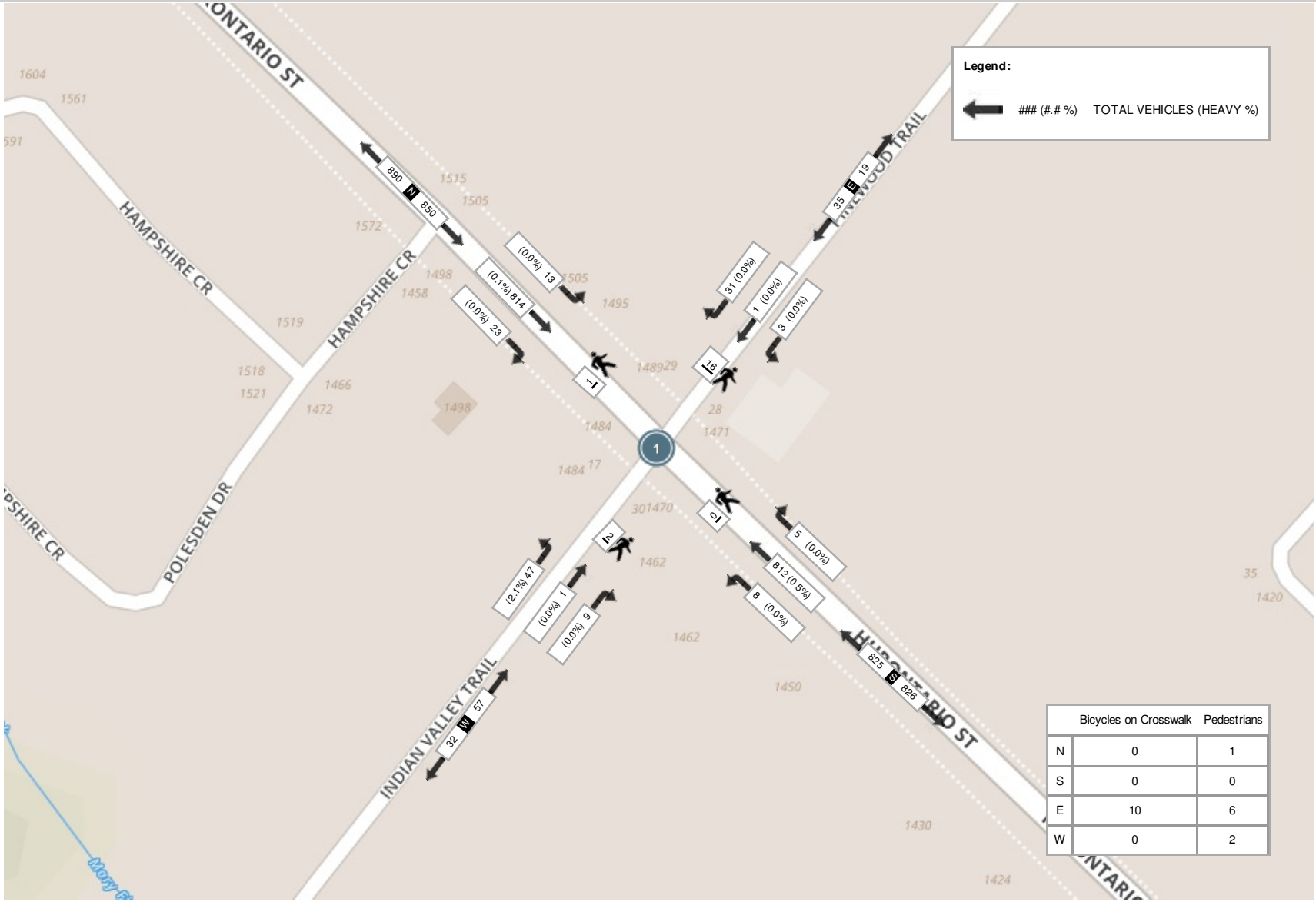
Peak Hour: 08:00 AM - 09:00 AM Weather: Partly Cloudy (18.8 °C)

Start Time	N Approach HURONTARIO ST						E Approach PINEWOOD TRAIL						S Approach HURONTARIO ST						W Approach INDIAN VALLEY TRAIL						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	4	185	2	0	0	191	7	0	1	0	1	8	2	182	2	0	0	186	3	0	10	0	0	13	398
08:15:00	4	191	3	0	0	198	4	0	0	0	5	4	1	220	2	0	0	223	2	0	6	0	0	8	433
08:30:00	8	229	5	0	0	242	6	0	1	0	3	7	0	182	2	0	0	184	4	0	17	0	2	21	454
08:45:00	7	209	3	0	1	219	14	1	1	0	7	16	2	228	2	0	0	232	0	1	14	0	0	15	482
Grand Total	23	814	13	0	1	850	31	1	3	0	16	35	5	812	8	0	0	825	9	1	47	0	2	57	**1767**
Approach%	2.7%	95.8%	1.5%	0%		-	88.6%	2.9%	8.6%	0%		-	0.6%	98.4%	1%	0%		-	15.8%	1.8%	82.5%	0%		-	**-**
Totals %	1.3%	46.1%	0.7%	0%		48.1%	1.8%	0.1%	0.2%	0%		2%	0.3%	46%	0.5%	0%		46.7%	0.5%	0.1%	2.7%	0%		3.2%	**-**
PHF	0.72	0.89	0.65	0		0.88	0.55	0.25	0.75	0		0.55	0.63	0.89	1	0		0.89	0.56	0.25	0.69	0		0.68	**-**
Heavy	0	1	0	0		1	0	0	0	0		0	0	4	0	0		4	0	0	1	0		1	**-**
Heavy %	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	0%	0%	2.1%	0%		1.8%	**-**
Lights	21	778	12	0		811	31	1	3	0		35	5	782	8	0		795	9	1	45	0		55	**-**
Lights %	91.3%	95.6%	92.3%	0%		95.4%	100%	100%	100%	0%		100%	100%	96.3%	100%	0%		96.4%	100%	100%	95.7%	0%		96.5%	**-**
Mediums	1	34	0	0		35	0	0	0	0		0	0	26	0	0		26	0	0	1	0		1	**-**
Mediums %	4.3%	4.2%	0%	0%		4.1%	0%	0%	0%	0%		0%	0%	3.2%	0%	0%		3.2%	0%	0%	2.1%	0%		1.8%	**-**
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	0	4	0	0		4	0	0	1	0		1	**-**
Articulated Trucks %	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	0%	0%	2.1%	0%		1.8%	**-**
Bicycles on Road	1	1	1	0		3	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Bicycles on Road %	4.3%	0.1%	7.7%	0%		0.4%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	1	-	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	5.3%		-	-	-	-	31.6%		-	-	-	-	0%		-	-	-	-	10.5%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	10	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	52.6%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 04:15 PM - 05:15 PM Weather:

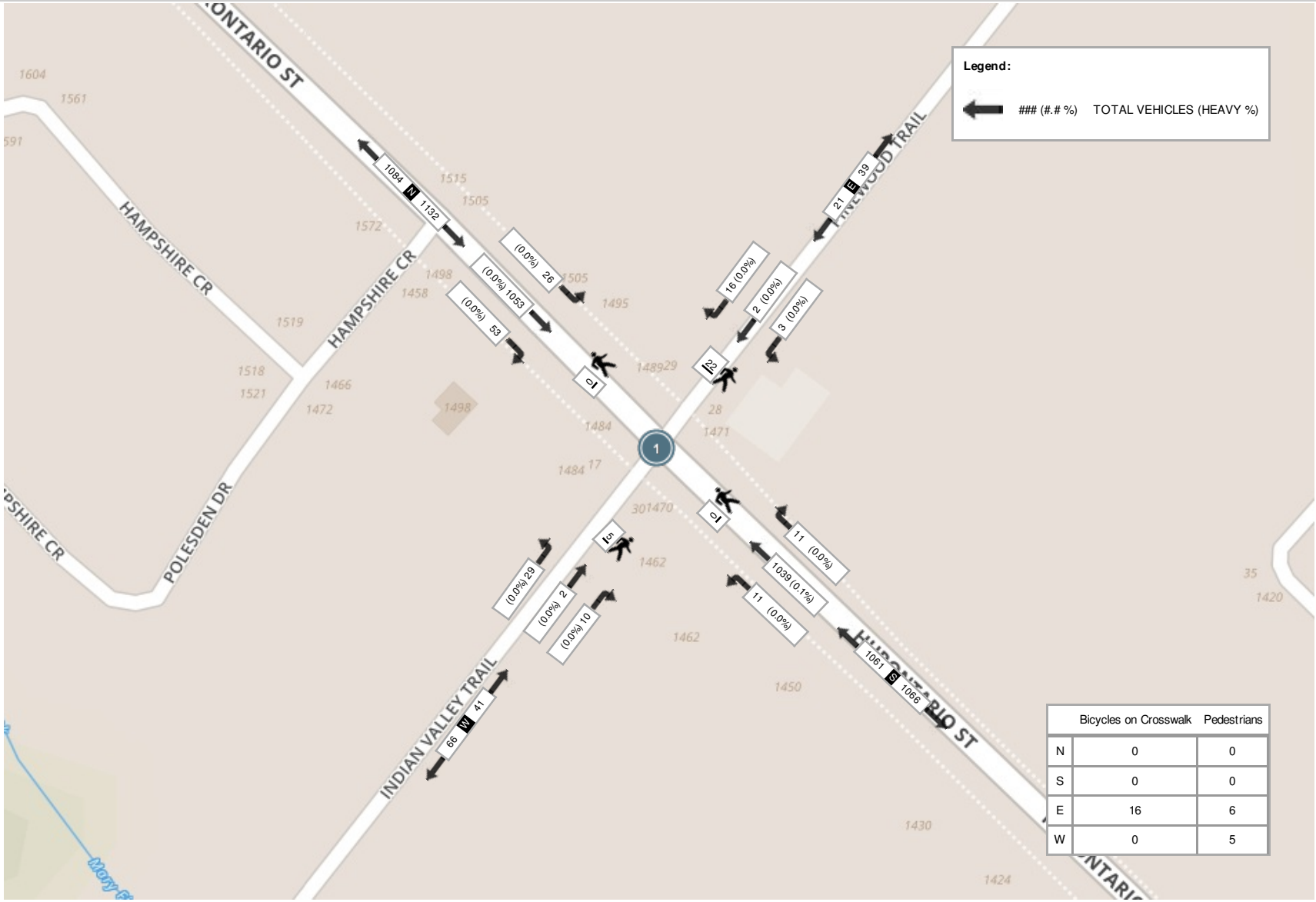
Start Time	N Approach HURONTARIO ST						E Approach PINEWOOD TRAIL						S Approach HURONTARIO ST						W Approach INDIAN VALLEY TRAIL						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:15:00	15	274	4	0	0	293	3	1	0	0	3	4	2	256	5	0	0	263	5	0	4	0	1	9	569
16:30:00	10	243	5	0	0	258	8	1	2	0	7	11	4	249	2	0	0	255	1	1	6	0	0	8	532
16:45:00	11	273	9	0	0	293	2	0	1	0	7	3	1	268	0	0	0	269	3	1	11	0	1	15	580
17:00:00	17	263	8	0	0	288	3	0	0	0	5	3	4	266	4	0	0	274	1	0	8	0	3	9	574
Grand Total	53	1053	26	0	0	1132	16	2	3	0	22	21	11	1039	11	0	0	1061	10	2	29	0	5	41	**2255**
Approach%	4.7%	93%	2.3%	0%		-	76.2%	9.5%	14.3%	0%		-	1%	97.9%	1%	0%		-	24.4%	4.9%	70.7%	0%		-	**-**
Totals %	2.4%	46.7%	1.2%	0%		50.2%	0.7%	0.1%	0.1%	0%		0.9%	0.5%	46.1%	0.5%	0%		47.1%	0.4%	0.1%	1.3%	0%		1.8%	**-**
PHF	0.78	0.96	0.72	0		0.97	0.5	0.5	0.38	0		0.48	0.69	0.97	0.55	0		0.97	0.5	0.5	0.66	0		0.68	**-**
Heavy	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Heavy %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	**-**
Lights	53	1032	25	0		1110	15	1	3	0		19	11	1004	11	0		1026	10	2	29	0		41	**-**
Lights %	100%	98%	96.2%	0%		98.1%	93.8%	50%	100%	0%		90.5%	100%	96.6%	100%	0%		96.7%	100%	100%	100%	0%		100%	**-**
Mediums	0	19	1	0		20	1	0	0	0		1	0	34	0	0		34	0	0	0	0		0	**-**
Mediums %	0%	1.8%	3.8%	0%		1.8%	6.3%	0%	0%	0%		4.8%	0%	3.3%	0%	0%		3.2%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	2	0	0		2	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	**-**
Bicycles on Road %	0%	0.2%	0%	0%		0.2%	0%	50%	0%	0%		4.8%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	5	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	22.2%		-	-	-	-	0%		-	-	-	-	18.5%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	16	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	59.3%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 08:00 AM - 09:00 AM Weather: Partly Cloudy (18.8 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	1
S	0	0
E	10	6
W	0	2

Peak Hour: 04:15 PM - 05:15 PM Weather:



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	16	6
W	0	5

Turning Movement Count (4 . HURONTARIO ST & SOUTH SERVICE RD / QEW EB EXIT RAMP)

Start Time	N Approach HURONTARIO ST						E Approach SOUTH SERVICE RD						S Approach HURONTARIO ST						W Approach QEW EB EXIT RAMP						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	0	151	21	0	0	172	18	0	5	0	4	23	9	200	0	0	1	209	10	14	76	0	0	100	504	
07:15:00	0	119	16	0	0	135	21	0	4	0	6	25	6	161	0	0	0	167	18	28	94	0	0	140	467	
07:30:00	0	203	31	0	0	234	33	0	10	0	3	43	14	198	0	0	2	212	26	27	111	0	2	164	653	
07:45:00	0	176	49	0	0	225	41	0	4	0	6	45	12	242	0	0	0	254	24	38	90	0	0	152	676	2300
08:00:00	0	173	21	0	0	194	32	0	7	0	5	39	11	197	0	0	4	208	29	24	115	0	0	168	609	2405
08:15:00	0	150	32	0	0	182	45	0	11	0	6	56	14	223	0	0	0	237	25	35	123	0	0	183	658	2596
08:30:00	0	230	32	0	0	262	31	0	10	0	5	41	12	238	0	0	2	250	26	20	99	0	0	145	698	2641
08:45:00	0	177	20	0	0	197	44	0	11	0	8	55	12	231	0	0	2	243	39	15	147	0	0	201	696	2661
BREAK																										
16:00:00	0	209	22	0	0	231	49	0	13	0	0	62	10	252	0	0	0	262	52	22	120	0	0	194	749	
16:15:00	0	261	27	0	0	288	32	0	8	0	11	40	17	286	0	0	1	303	41	24	118	0	0	183	814	
16:30:00	0	224	23	0	0	247	40	0	20	1	10	61	15	255	0	0	0	270	31	25	130	0	0	186	764	
16:45:00	0	244	37	0	0	281	42	0	19	0	6	61	13	272	0	0	0	285	42	26	107	0	1	175	802	3129
17:00:00	0	256	23	0	0	279	44	0	10	0	8	54	11	302	0	0	1	313	52	30	101	0	0	183	829	3209
17:15:00	0	203	30	0	0	233	42	0	20	0	10	62	11	305	0	0	3	316	42	32	138	0	0	212	823	3218
17:30:00	0	245	22	0	0	267	35	0	16	0	6	51	7	231	0	0	0	238	31	16	84	0	0	131	687	3141
17:45:00	0	257	21	0	0	278	25	0	15	0	11	40	17	302	0	0	1	319	38	13	86	0	4	137	774	3113
18:00:00	0	230	15	0	0	245	42	0	19	0	9	61	11	237	0	0	1	248	25	7	82	0	0	114	668	2952
18:15:00	0	257	23	0	0	280	25	0	17	0	1	42	10	282	0	0	0	292	26	10	50	0	0	86	700	2829
18:30:00	0	241	15	1	0	257	31	0	12	0	4	43	6	238	0	0	2	244	44	17	116	0	0	177	721	2863
18:45:00	0	238	25	0	0	263	27	0	10	0	9	37	4	256	0	0	1	260	49	5	114	0	0	168	728	2817
Grand Total	0	4244	505	1	0	4750	699	0	241	1	128	941	222	4908	0	0	21	5130	670	428	2101	0	7	3199	**14020**	-
Approach%	0%	89.3%	10.6%	0%		-	74.3%	0%	25.6%	0.1%		-	4.3%	95.7%	0%	0%		-	20.9%	13.4%	65.7%	0%		-	-	-
Totals %	0%	30.3%	3.6%	0%		33.9%	5%	0%	1.7%	0%		6.7%	1.6%	35%	0%	0%		36.6%	4.8%	3.1%	15%	0%		22.8%	-	-
Heavy	0	7	0	0		-	0	0	0	0		-	0	9	0	0		-	3	0	12	0		-	-	-
Heavy %	0%	0.2%	0%	0%		-	0%	0%	0%	0%		-	0%	0.2%	0%	0%		-	0.4%	0%	0.6%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

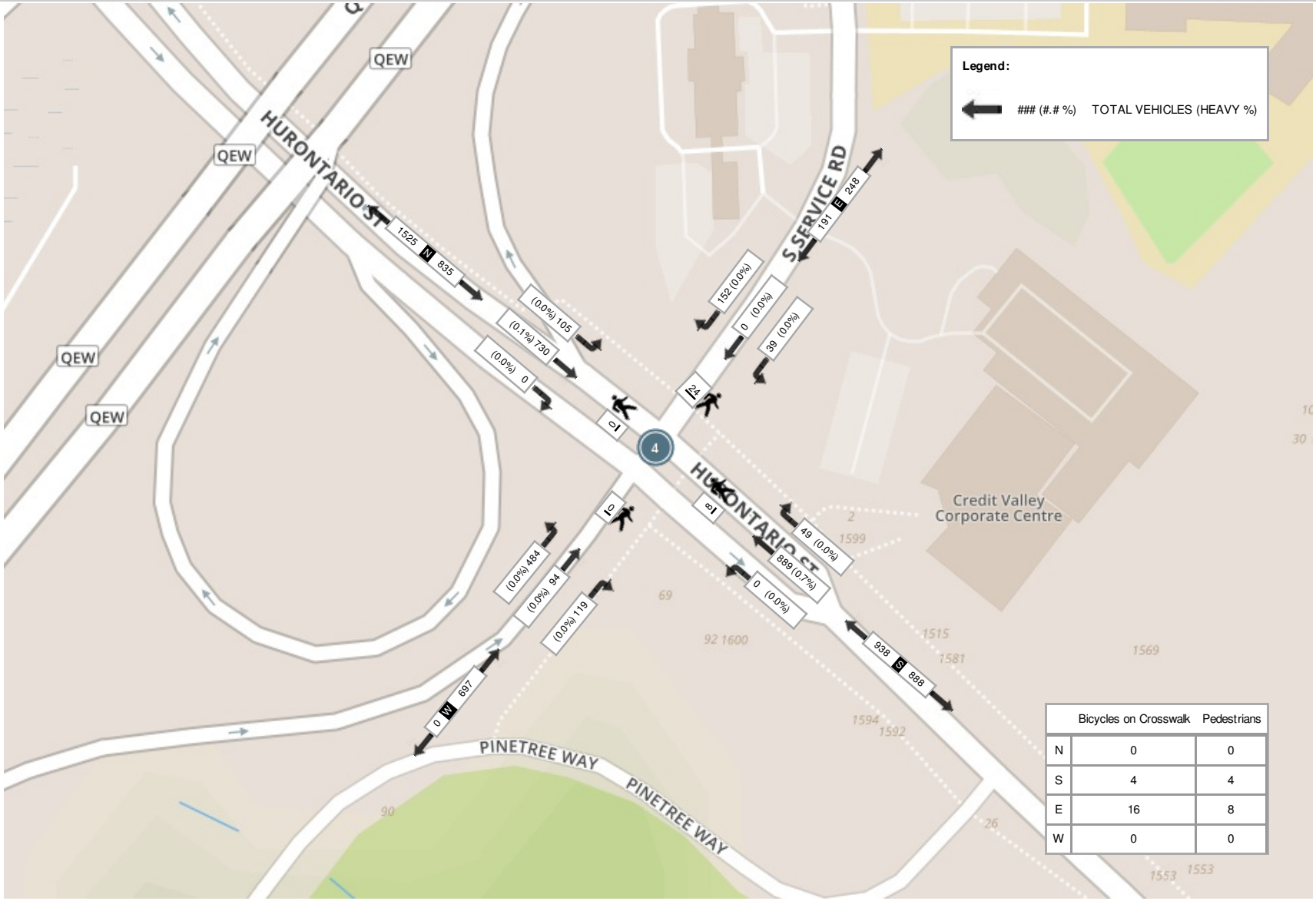
Peak Hour: 08:00 AM - 09:00 AM Weather: Partly Cloudy (18.8 °C)

Start Time	N Approach HURONTARIO ST						E Approach SOUTH SERVICE RD						S Approach HURONTARIO ST						W Approach QEW EB EXIT RAMP						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	0	173	21	0	0	194	32	0	7	0	5	39	11	197	0	0	4	208	29	24	115	0	0	168	609
08:15:00	0	150	32	0	0	182	45	0	11	0	6	56	14	223	0	0	0	237	25	35	123	0	0	183	658
08:30:00	0	230	32	0	0	262	31	0	10	0	5	41	12	238	0	0	2	250	26	20	99	0	0	145	698
08:45:00	0	177	20	0	0	197	44	0	11	0	8	55	12	231	0	0	2	243	39	15	147	0	0	201	696
Grand Total	0	730	105	0	0	835	152	0	39	0	24	191	49	889	0	0	8	938	119	94	484	0	0	697	**2661**
Approach%	0%	87.4%	12.6%	0%		-	79.6%	0%	20.4%	0%		-	5.2%	94.8%	0%	0%		-	17.1%	13.5%	69.4%	0%		-	**-**
Totals %	0%	27.4%	3.9%	0%		31.4%	5.7%	0%	1.5%	0%		7.2%	1.8%	33.4%	0%	0%		35.2%	4.5%	3.5%	18.2%	0%		26.2%	**-**
PHF	0	0.79	0.82	0		0.8	0.84	0	0.89	0		0.85	0.88	0.93	0	0		0.94	0.76	0.67	0.82	0		0.87	**-**
Heavy	0	1	0	0		1	0	0	0	0		0	0	6	0	0		6	0	0	0	0		0	**-**
Heavy %	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.6%	0%	0%	0%	0%		0%	**-**
Lights	0	696	102	0		798	151	0	38	0		189	49	853	0	0		902	114	94	478	0		686	**-**
Lights %	0%	95.3%	97.1%	0%		95.6%	99.3%	0%	97.4%	0%		99%	100%	96%	0%	0%		96.2%	95.8%	100%	98.8%	0%		98.4%	**-**
Mediums	0	32	3	0		35	1	0	1	0		2	0	30	0	0		30	5	0	6	0		11	**-**
Mediums %	0%	4.4%	2.9%	0%		4.2%	0.7%	0%	2.6%	0%		1%	0%	3.4%	0%	0%		3.2%	4.2%	0%	1.2%	0%		1.6%	**-**
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	0	6	0	0		6	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.6%	0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Bicycles on Road %	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	-	4	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	25%		-	-	-	-	12.5%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	16	-	-	-	-	-	4	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	50%		-	-	-	-	12.5%		-	-	-	-	0%		**-**

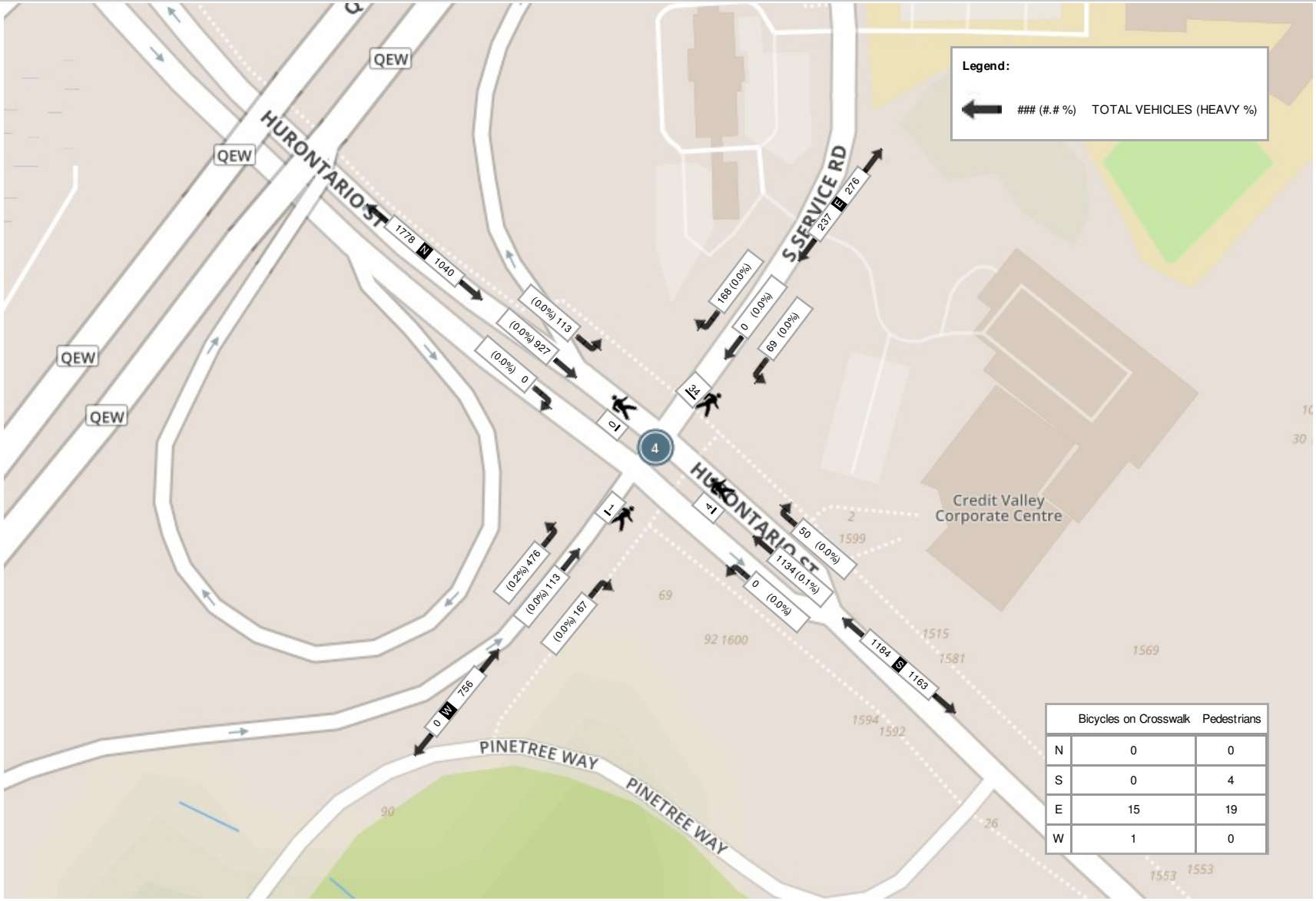
Peak Hour: 04:30 PM - 05:30 PM Weather:

Start Time	N Approach HURONTARIO ST						E Approach SOUTH SERVICE RD						S Approach HURONTARIO ST						W Approach QEW EB EXIT RAMP						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:30:00	0	224	23	0	0	247	40	0	20	1	10	61	15	255	0	0	0	270	31	25	130	0	0	186	764
16:45:00	0	244	37	0	0	281	42	0	19	0	6	61	13	272	0	0	0	285	42	26	107	0	1	175	802
17:00:00	0	256	23	0	0	279	44	0	10	0	8	54	11	302	0	0	1	313	52	30	101	0	0	183	829
17:15:00	0	203	30	0	0	233	42	0	20	0	10	62	11	305	0	0	3	316	42	32	138	0	0	212	823
Grand Total	0	927	113	0	0	1040	168	0	69	1	34	238	50	1134	0	0	4	1184	167	113	476	0	1	756	**3218**
Approach%	0%	89.1%	10.9%	0%		-	70.6%	0%	29%	0.4%		-	4.2%	95.8%	0%	0%		-	22.1%	14.9%	63%	0%		-	**-**
Totals %	0%	28.8%	3.5%	0%		32.3%	5.2%	0%	2.1%	0%		7.4%	1.6%	35.2%	0%	0%		36.8%	5.2%	3.5%	14.8%	0%		23.5%	**-**
PHF	0	0.91	0.76	0		0.93	0.95	0	0.86	0.25		0.96	0.83	0.93	0	0		0.94	0.8	0.88	0.86	0		0.89	**-**
Heavy	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	0	1	0		1	**-**
Heavy %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.1%	0%	0%		0.1%	0%	0%	0.2%	0%		0.1%	**-**
Lights	0	910	112	0		1022	167	0	68	1		236	49	1106	0	0		1155	165	113	472	0		750	**-**
Lights %	0%	98.2%	99.1%	0%		98.3%	99.4%	0%	98.6%	100%		99.2%	98%	97.5%	0%	0%		97.6%	98.8%	100%	99.2%	0%		99.2%	**-**
Mediums	0	17	1	0		18	1	0	1	0		2	1	24	0	0		25	2	0	3	0		5	**-**
Mediums %	0%	1.8%	0.9%	0%		1.7%	0.6%	0%	1.4%	0%		0.8%	2%	2.1%	0%	0%		2.1%	1.2%	0%	0.6%	0%		0.7%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	0	1	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.1%	0%	0%		0.1%	0%	0%	0.2%	0%		0.1%	**-**
Bicycles on Road	0	0	0	0		0	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	19	-	-	-	-	-	4	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	48.7%		-	-	-	-	10.3%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	15	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	38.5%		-	-	-	-	0%		-	-	-	-	2.6%		**-**

Peak Hour: 08:00 AM - 09:00 AM Weather: Partly Cloudy (18.8 °C)



Peak Hour: 04:30 PM - 05:30 PM Weather:



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	4
E	15	19
W	1	0

APPENDIX E

Detailed Capacity Analyses

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	12	3	895	838	9
Future Volume (vph)	10	12	3	895	838	9
Ideal Flow (vphpl)	1900	1640	1860	1900	1900	1640
Lane Width (m)	3.5	3.6	3.5	3.7	3.7	3.6
Storage Length (m)	0.0	0.0	35.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	30.0		0.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.927				0.998	
Flt Protected	0.978		0.950			
Satd. Flow (prot)	1670	0	1713	3579	3571	0
Flt Permitted	0.978		0.950			
Satd. Flow (perm)	1670	0	1713	3579	3571	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	61.3			106.7	183.0	
Travel Time (s)	4.4			7.7	13.2	
Confl. Peds. (#/hr)		2	2			2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	11	13	3	984	921	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	3	984	931	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	12	3	895	838	9
Future Volume (Veh/h)	10	12	3	895	838	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	11	13	3	984	921	10
Pedestrians	2			2		
Lane Width (m)	3.5			3.6		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					183	
pX, platoon unblocked	0.93	0.93	0.93			
vC, conflicting volume	1426	470	933			
vC1, stage 1 conf vol	928					
vC2, stage 2 conf vol	498					
vCu, unblocked vol	1312	287	784			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	98	100			
cM capacity (veh/h)	335	660	773			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	24	3	492	492	614	317
Volume Left	11	3	0	0	0	0
Volume Right	13	0	0	0	0	10
cSH	457	773	1700	1700	1700	1700
Volume to Capacity	0.05	0.00	0.29	0.29	0.36	0.19
Queue Length 95th (m)	1.3	0.1	0.0	0.0	0.0	0.0
Control Delay (s)	13.3	9.7	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	13.3	0.0			0.0	
Approach LOS	B					

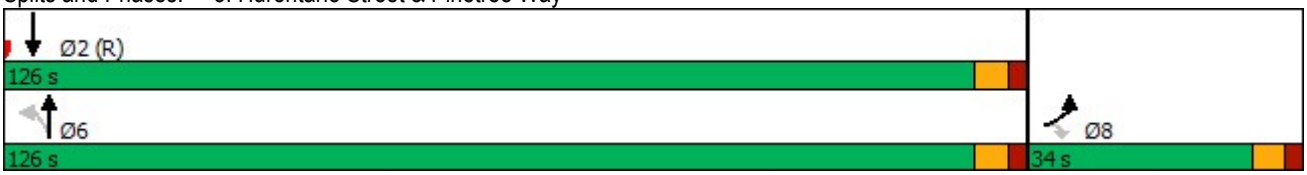
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		

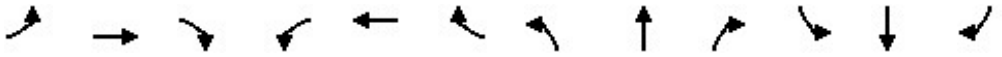
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	74	6	4	864	848	20
Future Volume (vph)	74	6	4	864	848	20
Ideal Flow (vphpl)	1860	1640	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.5	3.7	3.7	3.6
Storage Length (m)	0.0	40.0	40.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	30.0		0.0			
Lane Util. Factor	1.00	1.00	0.91	0.91	0.95	0.95
Ped Bike Factor	0.99	0.98	1.00		1.00	
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1713	1351	1559	3428	3567	0
Flt Permitted	0.950		0.298			
Satd. Flow (perm)	1695	1321	488	3428	3567	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		7			4	
Link Speed (k/h)	30			50	50	
Link Distance (m)	191.7			183.0	149.7	
Travel Time (s)	23.0			13.2	10.8	
Confl. Peds. (#/hr)	6	6	3			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	7	4	939	922	22
Shared Lane Traffic (%)			10%			
Lane Group Flow (vph)	80	7	4	939	944	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	8			6	2	
Permitted Phases		8	6			
Detector Phase	8	8	6	6	2	
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	33.5	33.5	26.5	26.5	26.5	
Total Split (s)	34.0	34.0	126.0	126.0	126.0	
Total Split (%)	21.3%	21.3%	78.8%	78.8%	78.8%	
Maximum Green (s)	27.5	27.5	119.5	119.5	119.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	1.0	1.0	0.0	3.0	3.0	
Total Lost Time (s)	7.5	7.5	6.5	9.5	9.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	
Recall Mode	None	None	Max	Max	C-Max	
Walk Time (s)	11.0	11.0	8.0	8.0		
Flash Dont Walk (s)	16.0	16.0	12.0	12.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	13.7	13.7	132.3	129.3	129.3	
Actuated g/C Ratio	0.09	0.09	0.83	0.81	0.81	
v/c Ratio	0.55	0.06	0.01	0.34	0.33	
Control Delay	83.3	34.3	3.2	4.6	1.8	
Queue Delay	0.0	0.0	0.0	0.0	0.1	
Total Delay	83.3	34.3	3.2	4.6	1.9	
LOS	F	C	A	A	A	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	79.3			4.6	1.9	
Approach LOS	E			A	A	
Queue Length 50th (m)	26.2	0.0	0.2	39.0	19.1	
Queue Length 95th (m)	44.1	5.5	1.2	55.4	15.9	
Internal Link Dist (m)	167.7			159.0	125.7	
Turn Bay Length (m)		40.0	40.0			
Base Capacity (vph)	283	224	403	2770	2883	
Starvation Cap Reductn	0	0	0	0	692	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.28	0.03	0.01	0.34	0.43	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 77 (48%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 6.6		Intersection LOS: A	
Intersection Capacity Utilization 47.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Hurontario Street & Pinetree Way



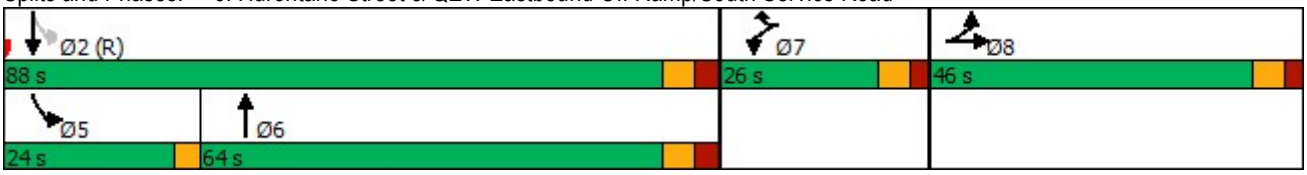


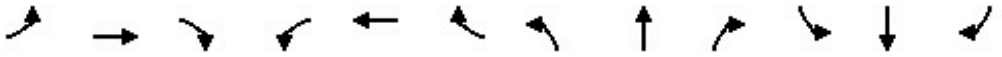
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	484	94	119	39	0	152	0	889	49	105	730	0
Future Volume (vph)	484	94	119	39	0	152	0	889	49	105	730	0
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1900	1640
Lane Width (m)	3.5	3.7	3.6	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	0.0		71.0	65.0		0.0	0.0		36.0	0.0		0.0
Storage Lanes	2		1	1		1	0		1	1		0
Taper Length (m)	30.0			70.0			30.0			30.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Ped Bike Factor		0.99		0.99				1.00		1.00		
Frt		0.916				0.850		0.992				
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	3323	1703	0	1713	0	1351	0	5083	0	1713	3579	0
Flt Permitted	0.950			0.950						0.227		
Satd. Flow (perm)	3323	1703	0	1704	0	1351	0	5083	0	408	3579	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37				160		6				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		296.0			171.7			149.7			40.4	
Travel Time (s)		21.3			12.4			10.8			2.9	
Confl. Peds. (#/hr)			4	4					8	8		
Confl. Bikes (#/hr)			4						16			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	509	99	125	41	0	160	0	936	52	111	768	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	509	224	0	41	0	160	0	988	0	111	768	0
Turn Type	Split	NA		Prot		Prot		NA		pm+pt	NA	
Protected Phases	8	8		7		7		6		5	2	
Permitted Phases		8						6		2	2	
Detector Phase	8	8		7		7		6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0		8.0		8.0		5.0	8.0	
Minimum Split (s)	33.5	33.5		14.5		14.5		28.0		8.0	27.5	
Total Split (s)	46.0	46.0		26.0		26.0		64.0		24.0	88.0	
Total Split (%)	28.8%	28.8%		16.3%		16.3%		40.0%		15.0%	55.0%	
Maximum Green (s)	39.5	39.5		19.5		19.5		57.0		21.0	81.0	
Yellow Time (s)	4.0	4.0		4.0		4.0		4.0		3.0	4.0	
All-Red Time (s)	2.5	2.5		2.5		2.5		3.0		0.0	3.0	
Lost Time Adjust (s)	1.0	3.0		1.0		1.0		3.0		1.0	3.0	
Total Lost Time (s)	7.5	9.5		7.5		7.5		10.0		4.0	10.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	5.0	5.0		5.0		5.0		5.0		5.0	5.0	
Recall Mode	None	None		None		None		Max		None	C-Max	
Walk Time (s)	11.0	11.0						9.0				
Flash Dont Walk (s)	16.0	16.0						12.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effct Green (s)	32.6	30.6		10.8		10.8		76.5		97.6	91.6	
Actuated g/C Ratio	0.20	0.19		0.07		0.07		0.48		0.61	0.57	
v/c Ratio	0.75	0.63		0.36		0.67		0.41		0.33	0.38	
Control Delay	66.8	56.7		78.4		23.1		26.6		17.5	20.5	
Queue Delay	0.0	0.0		0.0		0.0		0.3		0.0	0.0	
Total Delay	66.8	56.7		78.4		23.1		26.9		17.5	20.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	E		E		C		C		B	C	
Approach Delay		63.7			34.4			26.9			20.1	
Approach LOS		E			C			C			C	
Queue Length 50th (m)	83.3	58.4		13.4		0.0		81.2		14.8	71.1	
Queue Length 95th (m)	98.5	83.9		26.3		24.4		112.7		30.1	104.6	
Internal Link Dist (m)		272.0			147.7			125.7			16.4	
Turn Bay Length (m)				65.0								
Base Capacity (vph)	807	421		198		297		2432		411	2048	
Starvation Cap Reductn	0	0		0		0		689		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	0.63	0.53		0.21		0.54		0.57		0.27	0.38	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 88 (55%), Referenced to phase 2:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 34.9		Intersection LOS: C	
Intersection Capacity Utilization 65.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	1	9	3	1	31	8	812	5	13	814	23
Future Volume (vph)	47	1	9	3	1	31	8	812	5	13	814	23
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1900	1640
Lane Width (m)	3.6	3.7	3.6	3.6	3.7	3.6	3.5	3.7	3.6	3.5	3.7	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	45.0		0.0	45.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	30.0			30.0			65.0			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												
Frt		0.978			0.879			0.999			0.996	
Flt Protected		0.960			0.996		0.950			0.950		
Satd. Flow (prot)	0	1768	0	0	1649	0	1713	3575	0	1713	3564	0
Flt Permitted		0.960			0.996		0.950			0.950		
Satd. Flow (perm)	0	1768	0	0	1649	0	1713	3575	0	1713	3564	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		55.9			63.1			116.9			106.7	
Travel Time (s)		4.0			4.5			8.4			7.7	
Confl. Peds. (#/hr)	1					1	2		16	6		2
Confl. Bikes (#/hr)									10			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	1	10	3	1	34	9	883	5	14	885	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	38	0	9	888	0	14	910	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	1	9	3	1	31	8	812	5	13	814	23
Future Volume (Veh/h)	47	1	9	3	1	31	8	812	5	13	814	23
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	51	1	10	3	1	34	9	883	5	14	885	25
Pedestrians		2			16						1	
Lane Width (m)		3.7			3.7						3.6	
Walking Speed (m/s)		1.2			1.2						1.2	
Percent Blockage		0			1						0	
Right turn flare (veh)												
Median type								None			TWLTL	
Median storage veh)											2	
Upstream signal (m)											290	
pX, platoon unblocked	0.94	0.94	0.94	0.94	0.94		0.94					
vC, conflicting volume	1422	1850	457	1400	1860	461	912			904		
vC1, stage 1 conf vol	928	928		920	920							
vC2, stage 2 conf vol	495	922		481	940							
vCu, unblocked vol	1328	1781	305	1305	1791	461	787			904		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	81	100	98	99	100	94	99			98		
cM capacity (veh/h)	271	247	651	261	248	539	780			738		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	62	38	9	589	299	14	590	320
Volume Left	51	3	9	0	0	14	0	0
Volume Right	10	34	0	0	5	0	0	25
cSH	298	484	780	1700	1700	738	1700	1700
Volume to Capacity	0.21	0.08	0.01	0.35	0.18	0.02	0.35	0.19
Queue Length 95th (m)	6.1	2.0	0.3	0.0	0.0	0.5	0.0	0.0
Control Delay (s)	20.2	13.1	9.7	0.0	0.0	10.0	0.0	0.0
Lane LOS	C	B	A			A		
Approach Delay (s)	20.2	13.1	0.1			0.2		
Approach LOS	C	B						

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	39.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	9	5	1078	1133	15
Future Volume (vph)	6	9	5	1078	1133	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.5	3.7	3.7	3.6
Storage Length (m)	0.0	0.0	35.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	30.0		0.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.919				0.998	
Flt Protected	0.980		0.950			
Satd. Flow (prot)	1659	0	1750	3579	3571	0
Flt Permitted	0.980		0.950			
Satd. Flow (perm)	1659	0	1750	3579	3571	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	61.3			106.7	183.0	
Travel Time (s)	4.4			7.7	13.2	
Confl. Peds. (#/hr)			3			1
Confl. Bikes (#/hr)						2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	6	9	5	1135	1193	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	5	1135	1209	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	3.0			3.0	3.0	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.01	1.00	1.01	0.99	0.99	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	9	5	1078	1133	15
Future Volume (Veh/h)	6	9	5	1078	1133	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	6	9	5	1135	1193	16
Pedestrians	3					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)					183	
pX, platoon unblocked	0.91	0.91	0.91			
vC, conflicting volume	1782	608	1212			
vC1, stage 1 conf vol	1204					
vC2, stage 2 conf vol	578					
vCu, unblocked vol	1668	384	1045			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	99			
cM capacity (veh/h)	246	560	603			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	15	5	568	568	795	414
Volume Left	6	5	0	0	0	0
Volume Right	9	0	0	0	0	16
cSH	371	603	1700	1700	1700	1700
Volume to Capacity	0.04	0.01	0.33	0.33	0.47	0.24
Queue Length 95th (m)	1.0	0.2	0.0	0.0	0.0	0.0
Control Delay (s)	15.1	11.0	0.0	0.0	0.0	0.0
Lane LOS	C	B				
Approach Delay (s)	15.1	0.0			0.0	
Approach LOS	C					

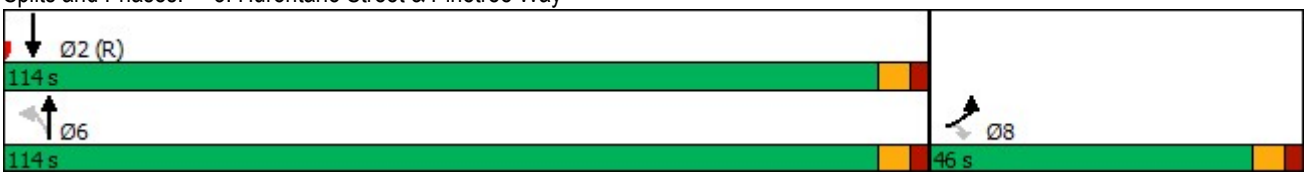
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	45	5	6	1113	1120	57
Future Volume (vph)	45	5	6	1113	1120	57
Ideal Flow (vphpl)	1860	1640	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.5	3.7	3.7	3.6
Storage Length (m)	0.0	40.0	40.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	30.0		0.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99	0.98			1.00	
Frt		0.850			0.993	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1713	1351	1713	3579	3546	0
Flt Permitted	0.950		0.223			
Satd. Flow (perm)	1704	1328	402	3579	3546	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5			7	
Link Speed (k/h)	30			50	50	
Link Distance (m)	191.7			183.0	149.7	
Travel Time (s)	23.0			13.2	10.8	
Confl. Peds. (#/hr)	3	3	3			5
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	46	5	6	1147	1155	59
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	5	6	1147	1214	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	3.0			3.0	3.0	
Two way Left Turn Lane				Yes		
Headway Factor	1.04	1.22	1.04	0.99	0.99	1.21
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	1	1	
Detector Template	Left	Right	Left			
Leading Detector (m)	10.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	8			6	2	
Permitted Phases		8	6			
Detector Phase	8	8	6	6	2	
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	33.5	33.5	26.5	26.5	26.5	
Total Split (s)	46.0	46.0	114.0	114.0	114.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	28.8%	28.8%	71.3%	71.3%	71.3%	
Maximum Green (s)	39.5	39.5	107.5	107.5	107.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	1.0	1.0	0.0	3.0	3.0	
Total Lost Time (s)	7.5	7.5	6.5	9.5	9.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	
Recall Mode	None	None	Max	Max	C-Max	
Walk Time (s)	11.0	11.0	8.0	8.0	8.0	
Flash Dont Walk (s)	16.0	16.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	10.7	10.7	139.5	137.1	137.1	
Actuated g/C Ratio	0.07	0.07	0.87	0.86	0.86	
v/c Ratio	0.40	0.05	0.02	0.37	0.40	
Control Delay	81.2	39.6	2.5	3.6	1.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	81.2	39.6	2.5	3.7	1.5	
LOS	F	D	A	A	A	
Approach Delay	77.1			3.7	1.5	
Approach LOS	E			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 112 (70%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.40			
Intersection Signal Delay: 4.1		Intersection LOS: A	
Intersection Capacity Utilization 55.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Hurontario Street & Pinetree Way

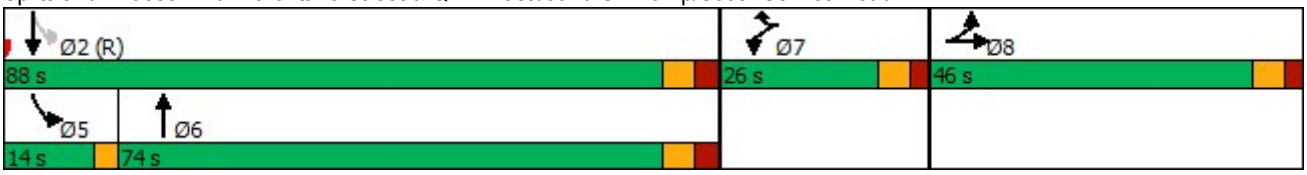


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	476	113	167	69	0	168	0	1134	50	113	927	0
Future Volume (vph)	476	113	167	69	0	168	0	1134	50	113	927	0
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1900	1900
Lane Width (m)	3.5	3.7	3.6	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	0.0		71.0	65.0		0.0	0.0		36.0	0.0		0.0
Storage Lanes	2		1	1		1	0		1	1		0
Taper Length (m)	30.0			70.0			30.0			30.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Ped Bike Factor	0.99							1.00				
Frt		0.910				0.850		0.994				
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	3323	1714	0	1713	0	1351	0	5088	0	1713	3579	0
Flt Permitted	0.950			0.950						0.159		
Satd. Flow (perm)	3300	1714	0	1713	0	1351	0	5088	0	287	3579	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43				136		5				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		296.0			171.7			149.7			40.4	
Travel Time (s)		21.3			12.4			10.8			2.9	
Confl. Peds. (#/hr)	4					4			19	34		
Confl. Bikes (#/hr)									15			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	491	116	172	71	0	173	0	1169	52	116	956	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	491	288	0	71	0	173	0	1221	0	116	956	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		3.0			3.0			3.0			3.0	
Two way Left Turn Lane											Yes	
Headway Factor	1.04	0.99	1.21	1.04	0.99	1.22	1.04	0.99	1.22	1.04	0.99	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1		1		1		0		2	0	
Detector Template												
Leading Detector (m)	10.0	10.0		10.0		10.0		0.0		35.0	0.0	
Trailing Detector (m)	0.0	0.0		0.0		0.0		0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0		0.0		0.0		0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0		10.0		0.6		10.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(m)										25.0		
Detector 2 Size(m)										10.0		
Detector 2 Type										Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)										0.0		
Turn Type	Split	NA		Prot		Prot		NA		pm+pt	NA	
Protected Phases	8	8		7		7		6		5	2	
Permitted Phases		8						6		2	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8		7		7		6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0		8.0		8.0		5.0	8.0	
Minimum Split (s)	33.5	33.5		14.5		14.5		28.0		8.0	28.0	
Total Split (s)	46.0	46.0		26.0		26.0		74.0		14.0	88.0	
Total Split (%)	28.8%	28.8%		16.3%		16.3%		46.3%		8.8%	55.0%	
Maximum Green (s)	39.5	39.5		19.5		19.5		67.0		11.0	81.0	
Yellow Time (s)	4.0	4.0		4.0		4.0		4.0		3.0	4.0	
All-Red Time (s)	2.5	2.5		2.5		2.5		3.0		0.0	3.0	
Lost Time Adjust (s)	1.0	3.0		1.0		1.0		3.0		1.0	3.0	
Total Lost Time (s)	7.5	9.5		7.5		7.5		10.0		4.0	10.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	5.0	5.0		5.0		5.0		5.0		5.0	5.0	
Recall Mode	None	None		None		None		Max		None	C-Max	
Walk Time (s)	11.0	11.0						9.0			9.0	
Flash Dont Walk (s)	16.0	16.0						12.0			12.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)	32.0	30.0		13.2		13.2		75.4		95.8	89.8	
Actuated g/C Ratio	0.20	0.19		0.08		0.08		0.47		0.60	0.56	
v/c Ratio	0.74	0.81		0.50		0.73		0.51		0.44	0.48	
Control Delay	66.7	69.9		81.6		36.5		30.0		21.0	23.3	
Queue Delay	0.0	0.0		0.0		0.0		0.3		0.0	0.0	
Total Delay	66.7	69.9		81.6		36.5		30.3		21.0	23.3	
LOS	E	E		F		D		C		C	C	
Approach Delay		67.9			49.6			30.3			23.1	
Approach LOS		E			D			C			C	

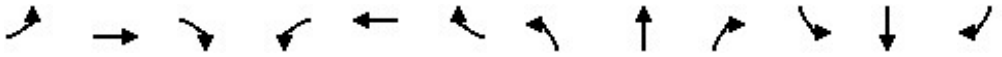
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 126 (79%), Referenced to phase 2:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 38.2		Intersection LOS: D	
Intersection Capacity Utilization 73.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	2	10	3	2	16	11	1039	11	26	1053	53
Future Volume (vph)	29	2	10	3	2	16	11	1039	11	26	1053	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.5	3.6	3.6	3.5	3.6	3.5	3.7	3.6	3.5	3.7	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	45.0		0.0	45.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	30.0			30.0			65.0			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												
Frt		0.968			0.897			0.998			0.993	
Flt Protected		0.966			0.993		0.950			0.950		
Satd. Flow (prot)	0	1722	0	0	1641	0	1750	3571	0	1750	3553	0
Flt Permitted		0.966			0.993		0.950			0.950		
Satd. Flow (perm)	0	1722	0	0	1641	0	1750	3571	0	1750	3553	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		55.9			63.1			116.9			106.7	
Travel Time (s)		4.0			4.5			8.4			7.7	
Confl. Peds. (#/hr)							5		6	22		5
Confl. Bikes (#/hr)									16			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	30	2	10	3	2	16	11	1071	11	27	1086	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	42	0	0	21	0	11	1082	0	27	1141	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		3.0			3.0			3.0			3.0	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.01	1.00	1.00	1.01	1.00	1.01	0.99	1.00	1.01	0.99	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	2	10	3	2	16	11	1039	11	26	1053	53
Future Volume (Veh/h)	29	2	10	3	2	16	11	1039	11	26	1053	53
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	30	2	10	3	2	16	11	1071	11	27	1086	55
Pedestrians		5			22							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			2							
Right turn flare (veh)												
Median type								None			TWLTL	
Median storage veh)											2	
Upstream signal (m)											290	
pX, platoon unblocked	0.93	0.93	0.93	0.93	0.93		0.93					
vC, conflicting volume	1747	2298	576	1728	2320	563	1146			1104		
vC1, stage 1 conf vol	1172	1172		1120	1120							
vC2, stage 2 conf vol	574	1126		608	1200							
vCu, unblocked vol	1650	2244	387	1630	2268	563	1002			1104		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	99	98	98	99	97	98			96		
cM capacity (veh/h)	195	178	565	194	181	461	635			617		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	42	21	11	714	368	27	724	417
Volume Left	30	3	11	0	0	27	0	0
Volume Right	10	16	0	0	11	0	0	55
cSH	230	343	635	1700	1700	617	1700	1700
Volume to Capacity	0.18	0.06	0.02	0.42	0.22	0.04	0.43	0.25
Queue Length 95th (m)	5.2	1.6	0.4	0.0	0.0	1.1	0.0	0.0
Control Delay (s)	24.2	16.2	10.8	0.0	0.0	11.1	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	24.2	16.2	0.1			0.3		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	45.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	22	0	788	753	12
Future Volume (vph)	0	22	0	788	753	12
Ideal Flow (vphpl)	1900	1640	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.0	3.3	3.0	3.3
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.998	
Flt Protected						
Satd. Flow (prot)	0	1375	0	3421	3297	0
Flt Permitted						
Satd. Flow (perm)	0	1375	0	3421	3297	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	61.3			106.7	183.0	
Travel Time (s)	4.4			7.7	13.2	
Confl. Peds. (#/hr)		2	2			2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	24	0	866	827	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	24	0	866	840	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	0	788	753	12
Future Volume (Veh/h)	0	22	0	788	753	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	24	0	866	827	13
Pedestrians	2			2		
Lane Width (m)	3.5			3.3		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				107	183	
pX, platoon unblocked	0.96	0.93	0.93			
vC, conflicting volume	1268	424	842			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	948	232	681			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	248	714	843			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	24	433	433	551	289
Volume Left	0	0	0	0	0
Volume Right	24	0	0	0	13
cSH	714	1700	1700	1700	1700
Volume to Capacity	0.03	0.25	0.25	0.32	0.17
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0
Control Delay (s)	10.2	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	10.2	0.0		0.0	
Approach LOS	B				

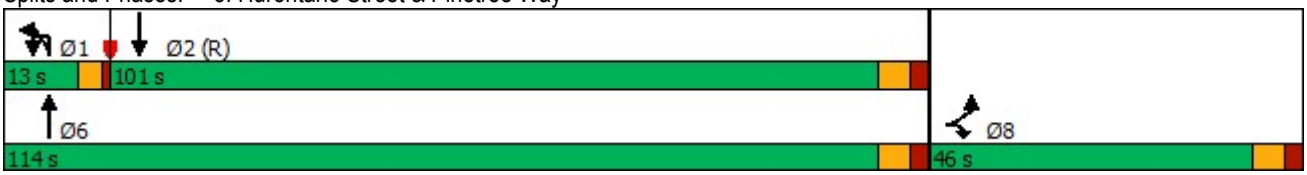
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	32.4%	ICU Level of Service		A
Analysis Period (min)	15			

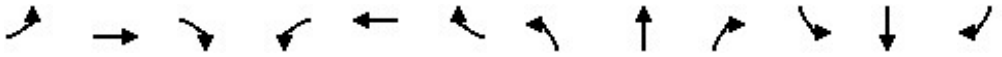
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	74	7	4	4	746	758	20
Future Volume (vph)	74	7	4	4	746	758	20
Ideal Flow (vphpl)	1860	1640	1900	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.0	3.0	3.3	3.3	3.3
Storage Length (m)	0.0	40.0		50.0			0.0
Storage Lanes	1	1		1			0
Taper Length (m)	30.0			25.0			
Lane Util. Factor	1.00	1.00	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99			0.99		1.00	
Frt		0.850				0.996	
Flt Protected	0.950			0.950			
Satd. Flow (prot)	1713	1351	0	1617	3421	3406	0
Flt Permitted	0.950			0.950			
Satd. Flow (perm)	1695	1351	0	1604	3421	3406	0
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		8				3	
Link Speed (k/h)	30				50	50	
Link Distance (m)	191.7				183.0	149.7	
Travel Time (s)	23.0				13.2	10.8	
Confl. Peds. (#/hr)	6	6		3			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	8	4	4	811	824	22
Shared Lane Traffic (%)							
Lane Group Flow (vph)	80	8	0	8	811	846	0
Turn Type	Prot	Prot	Prot	Prot	NA	NA	
Protected Phases	8	8	1	1	6	2	
Permitted Phases							
Detector Phase	8	8	1	1	6	2	
Switch Phase							
Minimum Initial (s)	8.0	8.0	5.0	5.0	8.0	8.0	
Minimum Split (s)	33.5	33.5	9.0	9.0	26.5	26.5	
Total Split (s)	46.0	46.0	13.0	13.0	114.0	101.0	
Total Split (%)	28.8%	28.8%	8.1%	8.1%	71.3%	63.1%	
Maximum Green (s)	39.5	39.5	9.0	9.0	107.5	94.5	
Yellow Time (s)	4.0	4.0	3.0	3.0	4.0	4.0	
All-Red Time (s)	2.5	2.5	1.0	1.0	2.5	2.5	
Lost Time Adjust (s)	1.0	1.0		0.0	3.0	3.0	
Total Lost Time (s)	7.5	7.5		4.0	9.5	9.5	
Lead/Lag			Lead	Lead		Lag	
Lead-Lag Optimize?			Yes	Yes		Yes	
Vehicle Extension (s)	5.0	5.0	3.0	3.0	5.0	5.0	
Recall Mode	None	None	None	None	Max	C-Max	
Walk Time (s)	11.0	11.0			8.0		
Flash Dont Walk (s)	16.0	16.0			12.0		
Pedestrian Calls (#/hr)	0	0			0		
Act Effct Green (s)	13.7	13.7		6.4	129.3	126.9	
Actuated g/C Ratio	0.09	0.09		0.04	0.81	0.79	
v/c Ratio	0.54	0.07		0.12	0.29	0.31	
Control Delay	83.1	32.3		77.6	4.0	2.1	
Queue Delay	0.0	0.0		0.0	0.0	0.1	
Total Delay	83.1	32.3		77.6	4.0	2.1	
LOS	F	C		E	A	A	

Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Approach Delay	78.5				4.7	2.1	
Approach LOS	E				A	A	
Queue Length 50th (m)	26.2	0.0		2.5	27.9	9.5	
Queue Length 95th (m)	44.1	5.8		8.8	39.2	23.2	
Internal Link Dist (m)	167.7				159.0	125.7	
Turn Bay Length (m)		40.0		50.0			
Base Capacity (vph)	412	331		90	2763	2701	
Starvation Cap Reductn	0	0		0	0	617	
Spillback Cap Reductn	0	0		0	0	0	
Storage Cap Reductn	0	0		0	0	0	
Reduced v/c Ratio	0.19	0.02		0.09	0.29	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 77 (48%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 7.2		Intersection LOS: A	
Intersection Capacity Utilization 45.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Hurontario Street & Pinetree Way



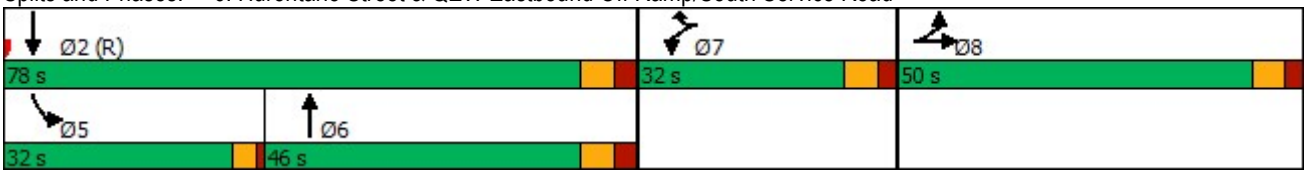


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	511	99	133	40	0	156	0	767	49	159	648	0
Future Volume (vph)	511	99	133	40	0	156	0	767	49	159	648	0
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1900	1640
Lane Width (m)	3.5	3.7	3.6	3.5	3.7	3.5	3.0	3.3	3.3	3.5	3.5	3.5
Storage Length (m)	0.0		71.0	65.0		0.0	60.0		36.0	0.0		0.0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (m)	30.0			70.0			50.0			30.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00				1.00		0.99		
Frt		0.914				0.850		0.991				
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	3323	1701	0	1713	0	1351	0	6110	0	1713	3500	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3323	1701	0	1707	0	1351	0	6110	0	1697	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41				164		8				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		296.0			171.7			149.7			40.4	
Travel Time (s)		21.3			12.4			10.8			2.9	
Confl. Peds. (#/hr)			4	4					8	8		
Confl. Bikes (#/hr)			4						16			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	538	104	140	42	0	164	0	807	52	167	682	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	538	244	0	42	0	164	0	859	0	167	682	0
Turn Type	Split	NA		Prot		Prot		NA		Prot	NA	
Protected Phases	8	8		7		7		6		5	2	
Permitted Phases		8						6			2	
Detector Phase	8	8		7		7		6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0		8.0		8.0		5.0	8.0	
Minimum Split (s)	46.0	46.0		14.5		14.5		28.0		9.0	27.5	
Total Split (s)	50.0	50.0		32.0		32.0		46.0		32.0	78.0	
Total Split (%)	31.3%	31.3%		20.0%		20.0%		28.8%		20.0%	48.8%	
Maximum Green (s)	43.5	43.5		25.5		25.5		39.0		28.0	71.0	
Yellow Time (s)	4.0	4.0		4.0		4.0		4.0		3.0	4.0	
All-Red Time (s)	2.5	2.5		2.5		2.5		3.0		1.0	3.0	
Lost Time Adjust (s)	1.0	3.0		1.0		1.0		3.0		1.0	3.0	
Total Lost Time (s)	7.5	9.5		7.5		7.5		10.0		5.0	10.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	5.0	5.0		5.0		5.0		5.0		5.0	5.0	
Recall Mode	None	None		None		None		Max		None	C-Max	
Walk Time (s)	11.0	11.0						9.0				
Flash Dont Walk (s)	28.5	28.5						12.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effct Green (s)	34.4	32.4		10.9		10.9		63.1		21.6	89.7	
Actuated g/C Ratio	0.22	0.20		0.07		0.07		0.39		0.14	0.56	
v/c Ratio	0.75	0.65		0.36		0.67		0.36		0.72	0.35	
Control Delay	65.4	55.8		78.5		23.1		32.5		83.3	21.1	
Queue Delay	0.0	0.0		0.0		0.0		0.0		0.0	0.0	
Total Delay	65.4	55.8		78.5		23.1		32.5		83.3	21.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	E		E		C		C		F	C	
Approach Delay		62.4			34.4			32.5			33.4	
Approach LOS		E			C			C			C	
Queue Length 50th (m)	87.9	63.4		13.8		0.0		54.1		54.5	63.1	
Queue Length 95th (m)	102.3	89.1		27.0		24.8		65.2		78.1	94.9	
Internal Link Dist (m)		272.0			147.7			125.7			16.4	
Turn Bay Length (m)				65.0								
Base Capacity (vph)	884	462		262		345		2412		293	1961	
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	0.61	0.53		0.16		0.48		0.36		0.57	0.35	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 88 (55%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 41.6		Intersection LOS: D	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road



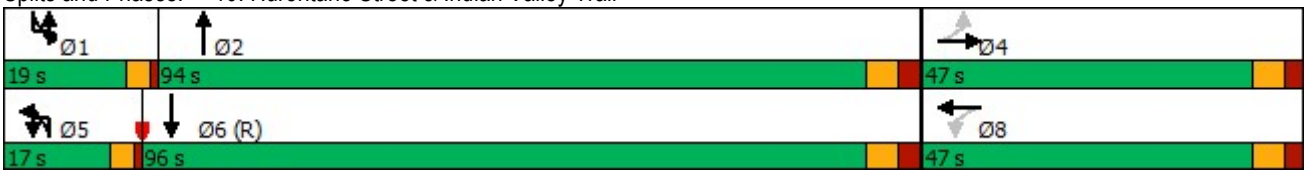
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	50	1	10	3	2	31	13	698	5	13	13	711
Future Volume (vph)	50	1	10	3	2	31	13	698	5	13	13	711
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1860	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.3	3.3	3.0	3.0	3.3
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0		40.0	
Storage Lanes	0		0	0		0	1		0		1	
Taper Length (m)	30.0			30.0			30.0				25.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Ped Bike Factor		1.00			0.99		1.00	1.00			0.99	1.00
Frt		0.978			0.884			0.999				0.992
Flt Protected		0.961			0.996		0.950				0.950	
Satd. Flow (prot)	0	1731	0	0	1603	0	1617	3416	0	0	1617	3389
Flt Permitted		0.768			0.976		0.950				0.950	
Satd. Flow (perm)	0	1382	0	0	1570	0	1612	3416	0	0	1602	3389
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		6			31			1				6
Link Speed (k/h)		50			50			50				50
Link Distance (m)		55.9			63.1			116.9				106.7
Travel Time (s)		4.0			4.5			8.4				7.7
Confl. Peds. (#/hr)	1					1	2		16		6	
Confl. Bikes (#/hr)									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
Adj. Flow (vph)	50	1	10	3	2	31	13	698	5	13	13	711
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	0	0	36	0	13	703	0	0	26	753
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	33.5	33.5		33.5	33.5		9.0	27.0		9.0	9.0	27.0
Total Split (s)	47.0	47.0		47.0	47.0		17.0	94.0		19.0	19.0	96.0
Total Split (%)	29.4%	29.4%		29.4%	29.4%		10.6%	58.8%		11.9%	11.9%	60.0%
Maximum Green (s)	40.5	40.5		40.5	40.5		13.0	87.0		15.0	15.0	89.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	2.5	2.5		2.5	2.5		1.0	3.0		1.0	1.0	3.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)		6.5			6.5		4.0	7.0			4.0	7.0
Lead/Lag							Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max		None	None	C-Max
Walk Time (s)	11.0	11.0		11.0	11.0			8.0				8.0
Flash Dont Walk (s)	16.0	16.0		16.0	16.0			12.0				12.0
Pedestrian Calls (#/hr)	0	0		0	0			0				0
Act Effct Green (s)		12.2			12.2		6.9	130.6			8.1	133.7
Actuated g/C Ratio		0.08			0.08		0.04	0.82			0.05	0.84
v/c Ratio		0.55			0.24		0.19	0.25			0.32	0.27
Control Delay		81.9			28.2		79.4	5.3			101.2	3.3
Queue Delay		0.0			0.0		0.0	0.0			0.0	0.0
Total Delay		81.9			28.2		79.4	5.3			101.2	3.3

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	42
Future Volume (vph)	42
Ideal Flow (vphpl)	1640
Lane Width (m)	3.3
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Adj. Flow (vph)	42
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
LOS		F			C		E	A			F	A
Approach Delay		81.9			28.2			6.7				6.6
Approach LOS		F			C			A				A
Queue Length 50th (m)		18.1			1.6		4.3	32.4			9.0	25.4
Queue Length 95th (m)		34.2			13.8		12.2	50.2			19.4	32.1
Internal Link Dist (m)		31.9			39.1			92.9				82.7
Turn Bay Length (m)							30.0				40.0	
Base Capacity (vph)		354			420		131	2788			151	2833
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		0.17			0.09		0.10	0.25			0.17	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 123 (77%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 10.0		Intersection LOS: A	
Intersection Capacity Utilization 43.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Hurontario Street & Indian Valley Trail



Lane Group	SBR
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	15	0	1032	1009	20
Future Volume (vph)	0	15	0	1032	1009	20
Ideal Flow (vphpl)	1900	1640	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.0	3.3	3.0	3.3
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.997	
Flt Protected						
Satd. Flow (prot)	0	1375	0	3421	3293	0
Flt Permitted						
Satd. Flow (perm)	0	1375	0	3421	3293	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	61.3			106.7	183.0	
Travel Time (s)	4.4			7.7	13.2	
Confl. Peds. (#/hr)		2	2			2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	16	0	1134	1109	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	16	0	1134	1131	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	15	0	1032	1009	20
Future Volume (Veh/h)	0	15	0	1032	1009	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	16	0	1134	1109	22
Pedestrians	2			2		
Lane Width (m)	3.5			3.3		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				107	183	
pX, platoon unblocked	0.94	0.90	0.90			
vC, conflicting volume	1689	570	1133			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1201	297	924			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	167	627	660			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	16	567	567	739	392
Volume Left	0	0	0	0	0
Volume Right	16	0	0	0	22
cSH	627	1700	1700	1700	1700
Volume to Capacity	0.03	0.33	0.33	0.43	0.23
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0
Control Delay (s)	10.9	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	10.9	0.0		0.0	
Approach LOS	B				

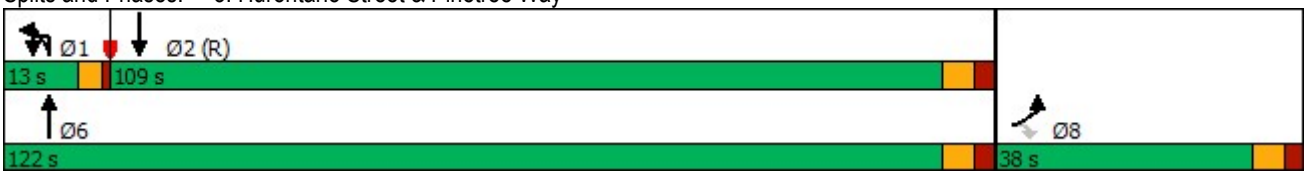
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	45	5	6	6	1049	982	57
Future Volume (vph)	45	5	6	6	1049	982	57
Ideal Flow (vphpl)	1860	1640	1860	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.0	3.0	3.3	3.3	3.3
Storage Length (m)	0.0	40.0		50.0			0.0
Storage Lanes	1	1		1			0
Taper Length (m)	30.0			20.0			
Lane Util. Factor	1.00	1.00	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99	0.98		0.99		1.00	
Frt		0.850				0.992	
Flt Protected	0.950			0.950			
Satd. Flow (prot)	1713	1351	0	1617	3421	3390	0
Flt Permitted	0.950			0.950			
Satd. Flow (perm)	1695	1321	0	1608	3421	3390	0
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		5				7	
Link Speed (k/h)	30				50	50	
Link Distance (m)	191.7				183.0	149.7	
Travel Time (s)	23.0				13.2	10.8	
Confl. Peds. (#/hr)	6	6		3			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	5	7	7	1140	1067	62
Shared Lane Traffic (%)							
Lane Group Flow (vph)	49	5	0	14	1140	1129	0
Turn Type	Prot	Perm	Prot	Prot	NA	NA	
Protected Phases	8		1	1	6	2	
Permitted Phases		8					
Detector Phase	8	8	1	1	6	2	
Switch Phase							
Minimum Initial (s)	8.0	8.0	5.0	5.0	8.0	8.0	
Minimum Split (s)	33.5	33.5	9.0	9.0	26.5	26.5	
Total Split (s)	38.0	38.0	13.0	13.0	122.0	109.0	
Total Split (%)	23.8%	23.8%	8.1%	8.1%	76.3%	68.1%	
Maximum Green (s)	31.5	31.5	9.0	9.0	115.5	102.5	
Yellow Time (s)	4.0	4.0	3.0	3.0	4.0	4.0	
All-Red Time (s)	2.5	2.5	1.0	1.0	2.5	2.5	
Lost Time Adjust (s)	1.0	1.0		0.0	3.0	3.0	
Total Lost Time (s)	7.5	7.5		4.0	9.5	9.5	
Lead/Lag			Lead	Lead		Lag	
Lead-Lag Optimize?			Yes	Yes		Yes	
Vehicle Extension (s)	5.0	5.0	3.0	3.0	5.0	5.0	
Recall Mode	None	None	None	None	Max	C-Max	
Walk Time (s)	11.0	11.0			8.0		
Flash Dont Walk (s)	16.0	16.0			12.0		
Pedestrian Calls (#/hr)	0	0			0		
Act Effct Green (s)	10.9	10.9		7.0	136.9	131.9	
Actuated g/C Ratio	0.07	0.07		0.04	0.86	0.82	
v/c Ratio	0.42	0.05		0.20	0.39	0.40	
Control Delay	81.6	39.4		76.1	3.7	2.7	
Queue Delay	0.0	0.0		0.0	0.0	0.1	
Total Delay	81.6	39.4		76.1	3.7	2.7	
LOS	F	D		E	A	A	

Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Approach Delay	77.7				4.6	2.7	
Approach LOS	E				A	A	
Queue Length 50th (m)	16.0	0.0		4.7	42.2	14.3	
Queue Length 95th (m)	30.8	4.7		12.8	57.3	31.3	
Internal Link Dist (m)	167.7				159.0	125.7	
Turn Bay Length (m)		40.0		50.0			
Base Capacity (vph)	326	255		90	2926	2796	
Starvation Cap Reductn	0	0		0	0	331	
Spillback Cap Reductn	0	0		0	0	0	
Storage Cap Reductn	0	0		0	0	0	
Reduced v/c Ratio	0.15	0.02		0.16	0.39	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 112 (70%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 5.4		Intersection LOS: A	
Intersection Capacity Utilization 52.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Hurontario Street & Pinetree Way

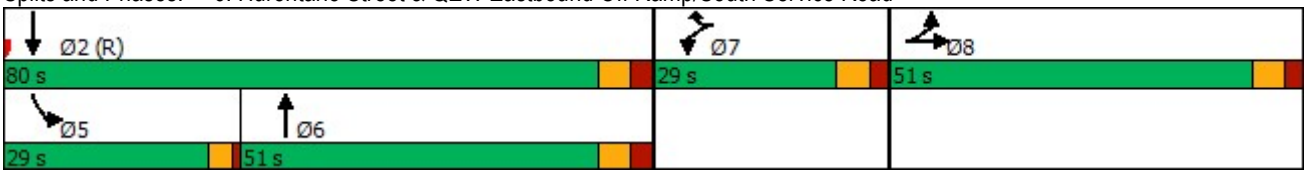


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	508	119	176	69	0	168	0	1073	58	158	829	0
Future Volume (vph)	508	119	176	69	0	168	0	1073	58	158	829	0
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1900	1640
Lane Width (m)	3.5	3.7	3.6	3.5	3.7	3.5	3.0	3.3	3.3	3.5	3.5	3.5
Storage Length (m)	0.0		71.0	65.0		0.0	60.0		36.0	0.0		0.0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (m)	30.0			70.0			50.0			30.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00				1.00		0.99		
Frt		0.910				0.850		0.992				
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	3323	1693	0	1713	0	1351	0	6122	0	1713	3500	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3323	1693	0	1708	0	1351	0	6122	0	1703	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45				177		6				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		296.0			171.7			149.7			40.4	
Travel Time (s)		21.3			12.4			10.8			2.9	
Confl. Peds. (#/hr)			4	4					8	8		
Confl. Bikes (#/hr)			4						16			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	535	125	185	73	0	177	0	1129	61	166	873	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	535	310	0	73	0	177	0	1190	0	166	873	0
Turn Type	Split	NA		Prot		Prot		NA		Prot	NA	
Protected Phases	8	8		7		7		6		5	2	
Permitted Phases		8						6			2	
Detector Phase	8	8		7		7		6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0		8.0		8.0		5.0	8.0	
Minimum Split (s)	46.0	46.0		14.5		14.5		28.0		9.0	27.5	
Total Split (s)	51.0	51.0		29.0		29.0		51.0		29.0	80.0	
Total Split (%)	31.9%	31.9%		18.1%		18.1%		31.9%		18.1%	50.0%	
Maximum Green (s)	44.5	44.5		22.5		22.5		44.0		25.0	73.0	
Yellow Time (s)	4.0	4.0		4.0		4.0		4.0		3.0	4.0	
All-Red Time (s)	2.5	2.5		2.5		2.5		3.0		1.0	3.0	
Lost Time Adjust (s)	1.0	3.0		1.0		1.0		3.0		1.0	3.0	
Total Lost Time (s)	7.5	9.5		7.5		7.5		10.0		5.0	10.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	5.0	5.0		5.0		5.0		5.0		5.0	5.0	
Recall Mode	None	None		None		None		Max		None	C-Max	
Walk Time (s)	11.0	11.0						9.0				
Flash Dont Walk (s)	28.5	28.5						12.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effct Green (s)	36.0	34.0		13.1		13.1		60.2		20.7	85.9	
Actuated g/C Ratio	0.22	0.21		0.08		0.08		0.38		0.13	0.54	
v/c Ratio	0.72	0.78		0.52		0.65		0.52		0.75	0.46	
Control Delay	62.3	64.2		83.0		20.1		35.8		87.4	25.5	
Queue Delay	0.0	0.0		0.0		0.0		0.2		0.0	0.0	
Total Delay	62.3	64.2		83.0		20.1		36.0		87.4	25.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	E		F		C		D		F	C	
Approach Delay		63.0			38.5			36.0			35.4	
Approach LOS		E			D			D			D	
Queue Length 50th (m)	86.8	86.5		23.9		0.0		71.1		54.1	91.4	
Queue Length 95th (m)	98.2	112.9		41.2		25.4		102.8		80.3	135.6	
Internal Link Dist (m)		272.0			147.7			125.7			16.4	
Turn Bay Length (m)				65.0								
Base Capacity (vph)	916	479		230		334		2307		258	1878	
Starvation Cap Reductn	0	0		0		0		389		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	0.58	0.65		0.32		0.53		0.62		0.64	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 126 (79%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 42.9		Intersection LOS: D	
Intersection Capacity Utilization 73.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road



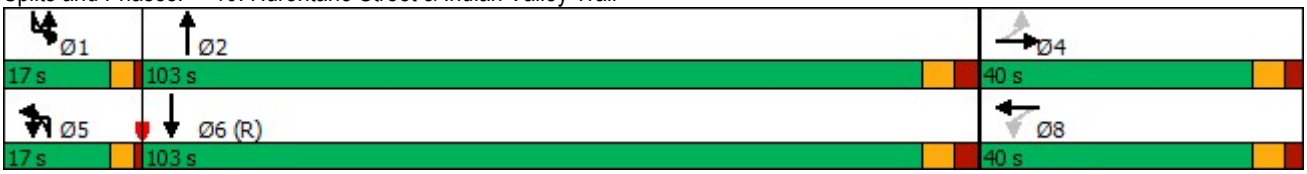
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	33	2	11	3	2	16	11	980	11	6	26	938
Future Volume (vph)	33	2	11	3	2	16	11	980	11	6	26	938
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1860	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.3	3.3	3.0	3.0	3.3
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0		40.0	
Storage Lanes	0		0	0		0	1		0		1	
Taper Length (m)	30.0			30.0			30.0				25.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Ped Bike Factor		1.00			0.99		1.00	1.00			0.99	1.00
Frt		0.968			0.897			0.998				0.992
Flt Protected		0.965			0.993		0.950				0.950	
Satd. Flow (prot)	0	1721	0	0	1624	0	1617	3411	0	0	1617	3389
Flt Permitted		0.774			0.956		0.950				0.950	
Satd. Flow (perm)	0	1378	0	0	1563	0	1614	3411	0	0	1607	3389
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		9			16			1				6
Link Speed (k/h)		50			50			50				50
Link Distance (m)		55.9			63.1			116.9				106.7
Travel Time (s)		4.0			4.5			8.4				7.7
Confl. Peds. (#/hr)	1					1	2		16		6	
Confl. Bikes (#/hr)									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
Adj. Flow (vph)	33	2	11	3	2	16	11	980	11	6	26	938
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	21	0	11	991	0	0	32	992
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	33.5	33.5		33.5	33.5		9.0	27.0		9.0	9.0	27.0
Total Split (s)	40.0	40.0		40.0	40.0		17.0	103.0		17.0	17.0	103.0
Total Split (%)	25.0%	25.0%		25.0%	25.0%		10.6%	64.4%		10.6%	10.6%	64.4%
Maximum Green (s)	33.5	33.5		33.5	33.5		13.0	96.0		13.0	13.0	96.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	2.5	2.5		2.5	2.5		1.0	3.0		1.0	1.0	3.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)		6.5			6.5		4.0	7.0			4.0	7.0
Lead/Lag							Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?							Yes					Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max		None	None	C-Max
Walk Time (s)	11.0	11.0		11.0	11.0			8.0				8.0
Flash Dont Walk (s)	16.0	16.0		16.0	16.0			12.0				12.0
Pedestrian Calls (#/hr)	0	0		0	0			0				0
Act Effct Green (s)		10.2			10.2		6.7	129.9			8.6	135.8
Actuated g/C Ratio		0.06			0.06		0.04	0.81			0.05	0.85
v/c Ratio		0.48			0.18		0.16	0.36			0.37	0.34
Control Delay		75.1			36.7		78.7	5.9			95.0	2.2
Queue Delay		0.0			0.0		0.0	0.0			0.0	0.0
Total Delay		75.1			36.7		78.7	5.9			95.0	2.2

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	54
Future Volume (vph)	54
Ideal Flow (vphpl)	1640
Lane Width (m)	3.3
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Adj. Flow (vph)	54
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
LOS		E			D		E	A			F	A
Approach Delay		75.1			36.7			6.7				5.1
Approach LOS		E			D			A				A
Queue Length 50th (m)		12.2			1.6		3.6	48.3			10.6	27.7
Queue Length 95th (m)		26.5			11.1		10.9	72.3			20.2	41.4
Internal Link Dist (m)		31.9			39.1			92.9				82.7
Turn Bay Length (m)							30.0				40.0	
Base Capacity (vph)		295			339		131	2769			131	2878
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			0.06		0.08	0.36			0.24	0.34

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 153 (96%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 7.7		Intersection LOS: A	
Intersection Capacity Utilization 48.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Hurontario Street & Indian Valley Trail



Lane Group	SBR
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	22	0	788	753	12
Future Volume (vph)	0	22	0	788	753	12
Ideal Flow (vphpl)	1900	1640	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.0	3.3	3.0	3.3
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.998	
Flt Protected						
Satd. Flow (prot)	0	1375	0	3421	3297	0
Flt Permitted						
Satd. Flow (perm)	0	1375	0	3421	3297	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	61.3			106.7	183.0	
Travel Time (s)	4.4			7.7	13.2	
Confl. Peds. (#/hr)		2	2			2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	24	0	866	827	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	24	0	866	840	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	0	788	753	12
Future Volume (Veh/h)	0	22	0	788	753	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	24	0	866	827	13
Pedestrians	2			2		
Lane Width (m)	3.5			3.3		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				107	183	
pX, platoon unblocked	0.95	0.92	0.92			
vC, conflicting volume	1268	424	842			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	875	195	650			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	274	745	854			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	24	433	433	551	289
Volume Left	0	0	0	0	0
Volume Right	24	0	0	0	13
cSH	745	1700	1700	1700	1700
Volume to Capacity	0.03	0.25	0.25	0.32	0.17
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	10.0	0.0		0.0	
Approach LOS	A				

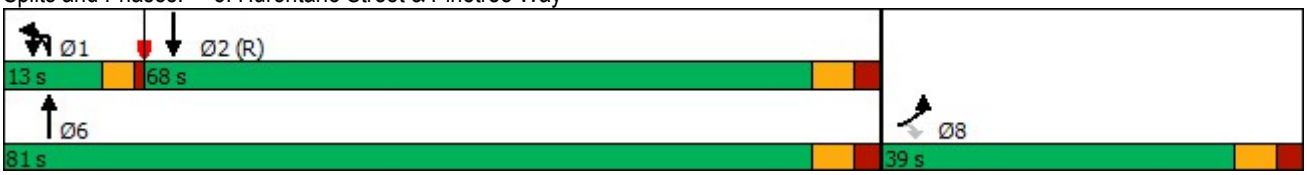
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	74	7	4	4	746	758	20
Future Volume (vph)	74	7	4	4	746	758	20
Ideal Flow (vphpl)	1860	1640	1900	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.0	3.0	3.3	3.3	3.3
Storage Length (m)	0.0	40.0		50.0			0.0
Storage Lanes	1	1		1			0
Taper Length (m)	30.0			20.0			
Lane Util. Factor	1.00	1.00	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99	0.98		0.99		1.00	
Frt		0.850				0.996	
Flt Protected	0.950			0.950			
Satd. Flow (prot)	1713	1351	0	1617	3421	3406	0
Flt Permitted	0.950			0.950			
Satd. Flow (perm)	1699	1325	0	1607	3421	3406	0
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		8				3	
Link Speed (k/h)	30				50	50	
Link Distance (m)	191.7				183.0	149.7	
Travel Time (s)	23.0				13.2	10.8	
Confl. Peds. (#/hr)	6	6		3			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	8	4	4	811	824	22
Shared Lane Traffic (%)							
Lane Group Flow (vph)	80	8	0	8	811	846	0
Turn Type	Prot	Perm	Prot	Prot	NA	NA	
Protected Phases	8		1	1	6	2	
Permitted Phases		8					
Detector Phase	8	8	1	1	6	2	
Switch Phase							
Minimum Initial (s)	8.0	8.0	5.0	5.0	8.0	8.0	
Minimum Split (s)	33.5	33.5	9.0	9.0	26.5	26.5	
Total Split (s)	39.0	39.0	13.0	13.0	81.0	68.0	
Total Split (%)	32.5%	32.5%	10.8%	10.8%	67.5%	56.7%	
Maximum Green (s)	32.5	32.5	9.0	9.0	74.5	61.5	
Yellow Time (s)	4.0	4.0	3.0	3.0	4.0	4.0	
All-Red Time (s)	2.5	2.5	1.0	1.0	2.5	2.5	
Lost Time Adjust (s)	1.0	1.0		0.0	3.0	3.0	
Total Lost Time (s)	7.5	7.5		4.0	9.5	9.5	
Lead/Lag			Lead	Lead		Lag	
Lead-Lag Optimize?			Yes	Yes		Yes	
Vehicle Extension (s)	5.0	5.0	3.0	3.0	5.0	5.0	
Recall Mode	None	None	None	None	Max	C-Max	
Walk Time (s)	11.0	11.0			8.0		
Flash Dont Walk (s)	16.0	16.0			12.0		
Pedestrian Calls (#/hr)	0	0			0		
Act Effct Green (s)	11.9	11.9		6.2	96.0	93.7	
Actuated g/C Ratio	0.10	0.10		0.05	0.80	0.78	
v/c Ratio	0.47	0.06		0.10	0.30	0.32	
Control Delay	59.5	25.6		71.3	3.0	3.8	
Queue Delay	0.0	0.0		0.0	0.0	0.2	
Total Delay	59.5	25.6		71.3	3.0	3.9	
LOS	E	C		E	A	A	

Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Approach Delay	56.4				3.7	3.9	
Approach LOS	E				A	A	
Queue Length 50th (m)	19.0	0.0		2.0	17.4	14.6	
Queue Length 95th (m)	34.4	4.9		7.8	23.5	20.2	
Internal Link Dist (m)	167.7				159.0	125.7	
Turn Bay Length (m)		40.0		50.0			
Base Capacity (vph)	449	353		121	2738	2661	
Starvation Cap Reductn	0	0		0	0	809	
Spillback Cap Reductn	0	0		0	0	0	
Storage Cap Reductn	0	0		0	0	0	
Reduced v/c Ratio	0.18	0.02		0.07	0.30	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 103 (86%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 6.4		Intersection LOS: A	
Intersection Capacity Utilization 45.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Hurontario Street & Pinetree Way

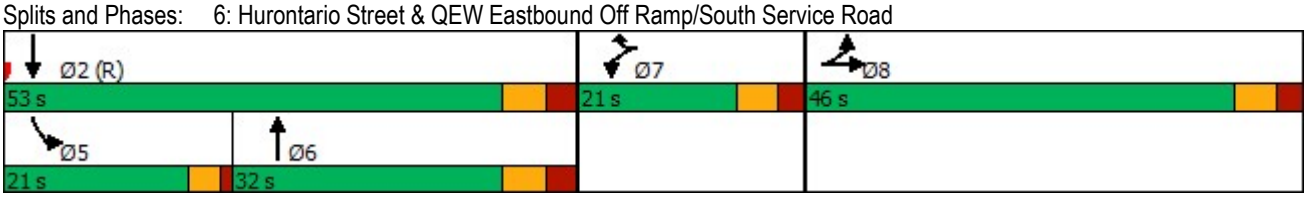


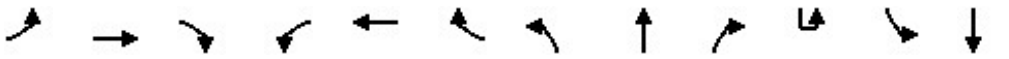
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	511	99	133	40	0	156	0	767	49	159	648	0
Future Volume (vph)	511	99	133	40	0	156	0	767	49	159	648	0
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1900	1640
Lane Width (m)	3.5	3.7	3.6	3.5	3.7	3.5	3.0	3.3	3.3	3.5	3.5	3.5
Storage Length (m)	0.0		71.0	65.0		0.0	60.0		36.0	0.0		0.0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (m)	30.0			70.0			50.0			30.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00				1.00		0.99		
Frt		0.914				0.850		0.991				
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	3323	1703	0	1713	0	1351	0	6111	0	1713	3500	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3323	1703	0	1709	0	1351	0	6111	0	1701	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58				164		10				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		296.0			171.7			149.7			40.4	
Travel Time (s)		21.3			12.4			10.8			2.9	
Confl. Peds. (#/hr)			4	4					8	8		
Confl. Bikes (#/hr)			4						16			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	538	104	140	42	0	164	0	807	52	167	682	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	538	244	0	42	0	164	0	859	0	167	682	0
Turn Type	Split	NA		Prot		Prot		NA		Prot	NA	
Protected Phases	8	8		7		7		6		5	2	
Permitted Phases		8						6			2	
Detector Phase	8	8		7		7		6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0		8.0		8.0		5.0	8.0	
Minimum Split (s)	46.0	46.0		14.5		14.5		28.0		9.0	27.5	
Total Split (s)	46.0	46.0		21.0		21.0		32.0		21.0	53.0	
Total Split (%)	38.3%	38.3%		17.5%		17.5%		26.7%		17.5%	44.2%	
Maximum Green (s)	39.5	39.5		14.5		14.5		25.0		17.0	46.0	
Yellow Time (s)	4.0	4.0		4.0		4.0		4.0		3.0	4.0	
All-Red Time (s)	2.5	2.5		2.5		2.5		3.0		1.0	3.0	
Lost Time Adjust (s)	1.0	3.0		1.0		1.0		3.0		1.0	3.0	
Total Lost Time (s)	7.5	9.5		7.5		7.5		10.0		5.0	10.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	5.0	5.0		5.0		5.0		5.0		5.0	5.0	
Recall Mode	None	None		None		None		Max		None	C-Max	
Walk Time (s)	11.0	11.0						9.0				
Flash Dont Walk (s)	28.5	28.5						12.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effct Green (s)	28.0	26.0		9.7		9.7		35.2		17.1	57.3	
Actuated g/C Ratio	0.23	0.22		0.08		0.08		0.29		0.14	0.48	
v/c Ratio	0.69	0.59		0.30		0.63		0.48		0.69	0.41	
Control Delay	46.5	36.9		56.8		19.1		29.6		63.4	22.7	
Queue Delay	0.0	0.0		0.0		0.0		0.0		0.0	0.0	
Total Delay	46.5	36.9		56.8		19.1		29.6		63.4	22.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D		E		B		C		E	C	
Approach Delay		43.5			26.8			29.6			30.7	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	63.2	41.5		10.0		0.0		39.6		39.4	55.7	
Queue Length 95th (m)	75.5	63.8		21.2		21.3		56.1		63.4	86.1	
Internal Link Dist (m)		272.0			147.7			125.7			16.4	
Turn Bay Length (m)				65.0								
Base Capacity (vph)	1066	558		192		297		1799		255	1670	
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	0.50	0.44		0.22		0.55		0.48		0.65	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 80 (67%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 33.7		Intersection LOS: C	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road





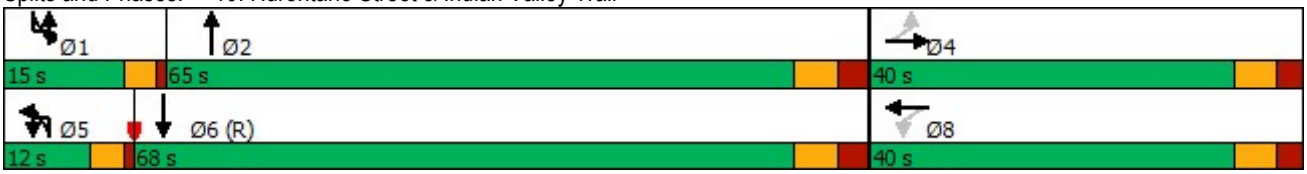
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	50	1	10	3	2	31	13	698	5	13	13	711
Future Volume (vph)	50	1	10	3	2	31	13	698	5	13	13	711
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1860	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.3	3.3	3.0	3.0	3.3
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0		40.0	
Storage Lanes	0		0	0		0	1		0		1	
Taper Length (m)	30.0			30.0			30.0				25.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Ped Bike Factor		1.00			0.99		1.00	1.00			0.99	1.00
Frt		0.978			0.884			0.999				0.992
Flt Protected		0.961			0.996		0.950				0.950	
Satd. Flow (prot)	0	1731	0	0	1603	0	1617	3416	0	0	1617	3389
Flt Permitted		0.740			0.971		0.950				0.950	
Satd. Flow (perm)	0	1332	0	0	1563	0	1613	3416	0	0	1606	3389
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		8			31			1				7
Link Speed (k/h)		50			50			50				50
Link Distance (m)		55.9			63.1			116.9				106.7
Travel Time (s)		4.0			4.5			8.4				7.7
Confl. Peds. (#/hr)	1					1	2		16		6	
Confl. Bikes (#/hr)									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
Adj. Flow (vph)	50	1	10	3	2	31	13	698	5	13	13	711
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	0	0	36	0	13	703	0	0	26	753
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	33.5	33.5		33.5	33.5		9.0	27.0		9.0	9.0	27.0
Total Split (s)	40.0	40.0		40.0	40.0		12.0	65.0		15.0	15.0	68.0
Total Split (%)	33.3%	33.3%		33.3%	33.3%		10.0%	54.2%		12.5%	12.5%	56.7%
Maximum Green (s)	33.5	33.5		33.5	33.5		8.0	58.0		11.0	11.0	61.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	2.5	2.5		2.5	2.5		1.0	3.0		1.0	1.0	3.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)		6.5			6.5		4.0	7.0			4.0	7.0
Lead/Lag							Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max		None	None	C-Max
Walk Time (s)	11.0	11.0		11.0	11.0			8.0				8.0
Flash Dont Walk (s)	16.0	16.0		16.0	16.0			12.0				12.0
Pedestrian Calls (#/hr)	0	0		0	0			0				0
Act Effct Green (s)		10.6			10.6		6.6	92.7			7.5	95.6
Actuated g/C Ratio		0.09			0.09		0.06	0.77			0.06	0.80
v/c Ratio		0.49			0.22		0.15	0.27			0.26	0.28
Control Delay		58.2			22.2		57.2	6.2			64.2	1.8
Queue Delay		0.0			0.0		0.0	0.0			0.0	0.0
Total Delay		58.2			22.2		57.2	6.2			64.2	1.8

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	42
Future Volume (vph)	42
Ideal Flow (vphpl)	1640
Lane Width (m)	3.3
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Adj. Flow (vph)	42
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
LOS		E			C		E	A			E	A
Approach Delay		58.2			22.2			7.1				3.9
Approach LOS		E			C			A				A
Queue Length 50th (m)		12.8			1.2		3.1	29.8			6.8	8.6
Queue Length 95th (m)		26.5			11.4		9.9	47.6			17.3	11.1
Internal Link Dist (m)		31.9			39.1			92.9				82.7
Turn Bay Length (m)							30.0				40.0	
Base Capacity (vph)		377			458		108	2639			148	2700
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			0.08		0.12	0.27			0.18	0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 90 (75%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 7.8		Intersection LOS: A	
Intersection Capacity Utilization 43.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Hurontario Street & Indian Valley Trail



Lane Group	SBR
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	15	0	1032	1009	20
Future Volume (vph)	0	15	0	1032	1009	20
Ideal Flow (vphpl)	1900	1640	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.0	3.3	3.0	3.3
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.997	
Flt Protected						
Satd. Flow (prot)	0	1375	0	3421	3293	0
Flt Permitted						
Satd. Flow (perm)	0	1375	0	3421	3293	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	61.3			106.7	183.0	
Travel Time (s)	4.4			7.7	13.2	
Confl. Peds. (#/hr)		2	2			2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	16	0	1134	1109	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	16	0	1134	1131	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	15	0	1032	1009	20
Future Volume (Veh/h)	0	15	0	1032	1009	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	16	0	1134	1109	22
Pedestrians	2			2		
Lane Width (m)	3.5			3.3		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				107	183	
pX, platoon unblocked	0.92	0.87	0.87			
vC, conflicting volume	1689	570	1133			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1074	209	856			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	198	692	678			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	16	567	567	739	392
Volume Left	0	0	0	0	0
Volume Right	16	0	0	0	22
cSH	692	1700	1700	1700	1700
Volume to Capacity	0.02	0.33	0.33	0.43	0.23
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0
Control Delay (s)	10.3	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	10.3	0.0		0.0	
Approach LOS	B				

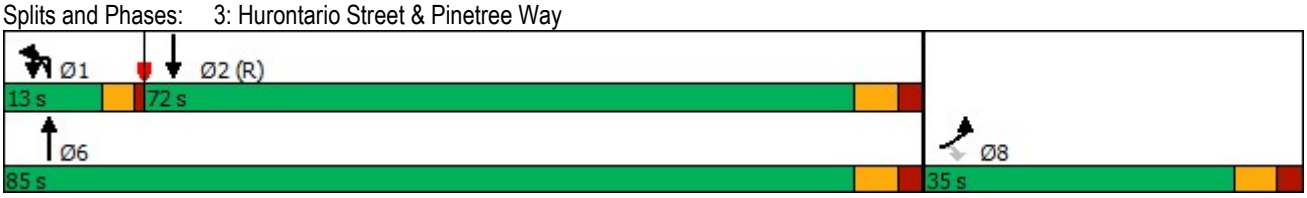
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	45	5	6	6	1049	982	57
Future Volume (vph)	45	5	6	6	1049	982	57
Ideal Flow (vphpl)	1860	1640	1900	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.0	3.0	3.3	3.3	3.3
Storage Length (m)	0.0	40.0		50.0			0.0
Storage Lanes	1	1		1			0
Taper Length (m)	30.0			20.0			
Lane Util. Factor	1.00	1.00	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99	0.98		1.00		1.00	
Frt		0.850				0.992	
Flt Protected	0.950			0.950			
Satd. Flow (prot)	1713	1351	0	1617	3421	3390	0
Flt Permitted	0.950			0.950			
Satd. Flow (perm)	1699	1325	0	1610	3421	3390	0
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		5				7	
Link Speed (k/h)	30				50	50	
Link Distance (m)	191.7				183.0	149.7	
Travel Time (s)	23.0				13.2	10.8	
Confl. Peds. (#/hr)	6	6		3			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	5	7	7	1140	1067	62
Shared Lane Traffic (%)							
Lane Group Flow (vph)	49	5	0	14	1140	1129	0
Turn Type	Prot	Perm	Prot	Prot	NA	NA	
Protected Phases	8		1	1	6	2	
Permitted Phases		8					
Detector Phase	8	8	1	1	6	2	
Switch Phase							
Minimum Initial (s)	8.0	8.0	5.0	5.0	8.0	8.0	
Minimum Split (s)	33.5	33.5	9.0	9.0	26.5	26.5	
Total Split (s)	35.0	35.0	13.0	13.0	85.0	72.0	
Total Split (%)	29.2%	29.2%	10.8%	10.8%	70.8%	60.0%	
Maximum Green (s)	28.5	28.5	9.0	9.0	78.5	65.5	
Yellow Time (s)	4.0	4.0	3.0	3.0	4.0	4.0	
All-Red Time (s)	2.5	2.5	1.0	1.0	2.5	2.5	
Lost Time Adjust (s)	1.0	1.0		0.0	3.0	3.0	
Total Lost Time (s)	7.5	7.5		4.0	9.5	9.5	
Lead/Lag			Lead	Lead		Lag	
Lead-Lag Optimize?			Yes	Yes		Yes	
Vehicle Extension (s)	5.0	5.0	3.0	3.0	5.0	5.0	
Recall Mode	None	None	None	None	Max	C-Max	
Walk Time (s)	11.0	11.0			8.0		
Flash Dont Walk (s)	16.0	16.0			12.0		
Pedestrian Calls (#/hr)	0	0			0		
Act Effct Green (s)	9.9	9.9		6.7	97.9	93.2	
Actuated g/C Ratio	0.08	0.08		0.06	0.82	0.78	
v/c Ratio	0.35	0.04		0.16	0.41	0.43	
Control Delay	58.1	29.6		52.2	4.7	2.8	
Queue Delay	0.0	0.0		0.0	0.0	0.1	
Total Delay	58.1	29.6		52.2	4.7	2.9	
LOS	E	C		D	A	A	

Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Approach Delay	55.4				5.3	2.9	
Approach LOS	E				A	A	
Queue Length 50th (m)	11.7	0.0		3.5	40.1	18.4	
Queue Length 95th (m)	24.0	4.1		m9.3	59.7	26.9	
Internal Link Dist (m)	167.7				159.0	125.7	
Turn Bay Length (m)		40.0		50.0			
Base Capacity (vph)	392	307		121	2791	2634	
Starvation Cap Reductn	0	0		0	0	416	
Spillback Cap Reductn	0	0		0	0	0	
Storage Cap Reductn	0	0		0	0	0	
Reduced v/c Ratio	0.13	0.02		0.12	0.41	0.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 112 (93%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.43			
Intersection Signal Delay: 5.3		Intersection LOS: A	
Intersection Capacity Utilization 52.7%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Hurontario Street & Pinetree Way



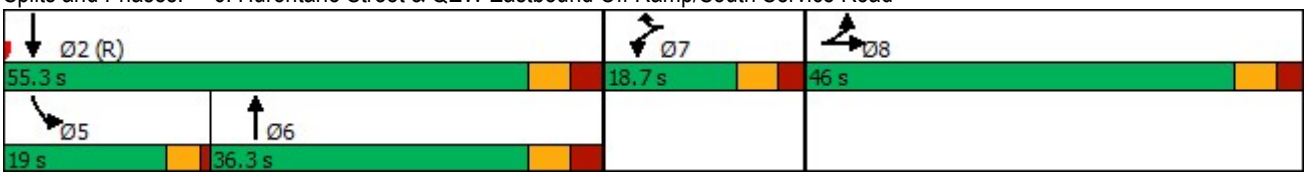
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	508	119	176	69	0	168	0	1073	58	158	829	0
Future Volume (vph)	508	119	176	69	0	168	0	1073	58	158	829	0
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1900	1640
Lane Width (m)	3.5	3.7	3.6	3.5	3.7	3.5	3.0	3.3	3.3	3.5	3.5	3.5
Storage Length (m)	0.0		71.0	65.0		0.0	60.0		36.0	0.0		0.0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (m)	30.0			70.0			50.0			30.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00				1.00		1.00		
Frt		0.910				0.850		0.992				
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	3323	1695	0	1713	0	1351	0	6123	0	1713	3500	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3323	1695	0	1709	0	1351	0	6123	0	1706	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64				177		8				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		296.0			171.7			149.7			40.4	
Travel Time (s)		21.3			12.4			10.8			2.9	
Confl. Peds. (#/hr)			4	4					8	8		
Confl. Bikes (#/hr)			4						16			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	535	125	185	73	0	177	0	1129	61	166	873	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	535	310	0	73	0	177	0	1190	0	166	873	0
Turn Type	Split	NA		Prot		Prot		NA		Prot	NA	
Protected Phases	8	8		7		7		6		5	2	
Permitted Phases		8						6			2	
Detector Phase	8	8		7		7		6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0		8.0		8.0		5.0	8.0	
Minimum Split (s)	46.0	46.0		14.5		14.5		28.0		9.0	27.5	
Total Split (s)	46.0	46.0		18.7		18.7		36.3		19.0	55.3	
Total Split (%)	38.3%	38.3%		15.6%		15.6%		30.3%		15.8%	46.1%	
Maximum Green (s)	39.5	39.5		12.2		12.2		29.3		15.0	48.3	
Yellow Time (s)	4.0	4.0		4.0		4.0		4.0		3.0	4.0	
All-Red Time (s)	2.5	2.5		2.5		2.5		3.0		1.0	3.0	
Lost Time Adjust (s)	1.0	3.0		1.0		1.0		3.0		1.0	3.0	
Total Lost Time (s)	7.5	9.5		7.5		7.5		10.0		5.0	10.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	5.0	5.0		5.0		5.0		5.0		5.0	5.0	
Recall Mode	None	None		None		None		Max		None	C-Max	
Walk Time (s)	11.0	11.0						9.0				
Flash Dont Walk (s)	28.5	28.5						12.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effct Green (s)	28.9	26.9		10.1		10.1		34.2		16.7	56.0	
Actuated g/C Ratio	0.24	0.22		0.08		0.08		0.28		0.14	0.47	
v/c Ratio	0.67	0.72		0.51		0.64		0.68		0.70	0.53	
Control Delay	44.9	43.0		64.8		18.8		46.1		65.1	25.7	
Queue Delay	0.0	0.0		0.0		0.0		0.0		0.0	0.0	
Total Delay	44.9	43.0		64.8		18.8		46.1		65.1	25.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D		E		B		D		E	C	
Approach Delay		44.2			32.2			46.1			32.0	
Approach LOS		D			C			D			C	
Queue Length 50th (m)	62.3	57.4		17.4		0.0		88.2		38.8	80.1	
Queue Length 95th (m)	72.9	81.5		33.5		22.7		#104.1		#77.6	115.6	
Internal Link Dist (m)		272.0			147.7			125.7			16.4	
Turn Bay Length (m)				65.0								
Base Capacity (vph)	1066	560		159		286		1751		241	1632	
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	0.50	0.55		0.46		0.62		0.68		0.69	0.53	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 100 (83%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 40.2		Intersection LOS: D	
Intersection Capacity Utilization 73.4%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	33	2	11	3	2	16	11	980	11	6	26	938
Future Volume (vph)	33	2	11	3	2	16	11	980	11	6	26	938
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1860	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.3	3.3	3.0	3.0	3.3
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0		40.0	
Storage Lanes	0		0	0		0	1		0		1	
Taper Length (m)	30.0			30.0			30.0				25.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Ped Bike Factor		1.00			0.99		1.00	1.00			1.00	1.00
Frt		0.968			0.897			0.998				0.992
Flt Protected		0.965			0.993		0.950				0.950	
Satd. Flow (prot)	0	1721	0	0	1624	0	1617	3412	0	0	1617	3389
Flt Permitted		0.774			0.940		0.950				0.950	
Satd. Flow (perm)	0	1379	0	0	1537	0	1614	3412	0	0	1610	3389
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		11			16			1				7
Link Speed (k/h)		50			50			50				50
Link Distance (m)		55.9			63.1			116.9				106.7
Travel Time (s)		4.0			4.5			8.4				7.7
Confl. Peds. (#/hr)	1					1	2		16		6	
Confl. Bikes (#/hr)									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
Adj. Flow (vph)	33	2	11	3	2	16	11	980	11	6	26	938
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	21	0	11	991	0	0	32	992
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	33.5	33.5		33.5	33.5		9.0	27.0		9.0	9.0	27.0
Total Split (s)	37.0	37.0		37.0	37.0		17.0	66.0		17.0	17.0	66.0
Total Split (%)	30.8%	30.8%		30.8%	30.8%		14.2%	55.0%		14.2%	14.2%	55.0%
Maximum Green (s)	30.5	30.5		30.5	30.5		13.0	59.0		13.0	13.0	59.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	2.5	2.5		2.5	2.5		1.0	3.0		1.0	1.0	3.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)		6.5			6.5		4.0	7.0			4.0	7.0
Lead/Lag							Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max		None	None	C-Max
Walk Time (s)	11.0	11.0		11.0	11.0			8.0				8.0
Flash Dont Walk (s)	16.0	16.0		16.0	16.0			12.0				12.0
Pedestrian Calls (#/hr)	0	0		0	0			0				0
Act Effct Green (s)		9.3			9.3		6.4	93.6			7.9	99.1
Actuated g/C Ratio		0.08			0.08		0.05	0.78			0.07	0.83
v/c Ratio		0.40			0.16		0.13	0.37			0.30	0.35
Control Delay		52.1			28.5		56.8	6.5			81.3	2.0
Queue Delay		0.0			0.0		0.0	0.0			0.0	0.0
Total Delay		52.1			28.5		56.8	6.5			81.3	2.0

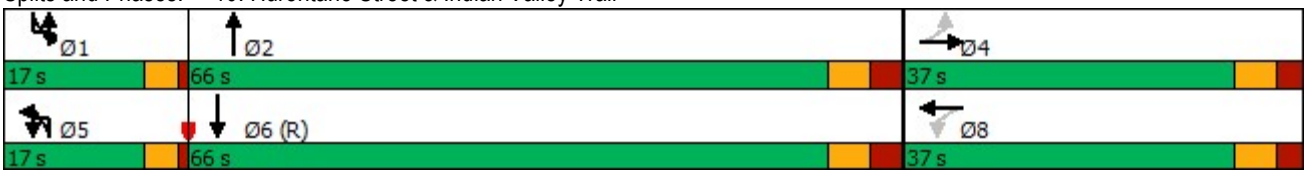
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	54
Future Volume (vph)	54
Ideal Flow (vphpl)	1640
Lane Width (m)	3.3
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Adj. Flow (vph)	54
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
LOS		D			C		E	A			F	A
Approach Delay		52.1			28.5			7.1				4.5
Approach LOS		D			C			A				A
Queue Length 50th (m)		8.4			1.2		2.7	45.1			0.0	19.6
Queue Length 95th (m)		20.5			9.3		8.9	69.5			m16.7	26.5
Internal Link Dist (m)		31.9			39.1			92.9				82.7
Turn Bay Length (m)							30.0				40.0	
Base Capacity (vph)		358			402		175	2662			175	2801
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		0.13			0.05		0.06	0.37			0.18	0.35

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 33 (28%), Referenced to phase 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 7.0 Intersection LOS: A
Intersection Capacity Utilization 48.2% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Hurontario Street & Indian Valley Trail



Lane Group	SBR
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection: 1:

Movement	NB	NB	NB	NB	SB	SB
Directions Served	T	T	T	R	T	T
Maximum Queue (m)	4.9	7.4	1.6	24.4	35.6	6.3
Average Queue (m)	1.4	1.8	0.3	10.2	17.0	1.3
95th Queue (m)	8.6	9.6	3.1	30.1	46.8	10.5
Link Distance (m)	20.9	20.9	20.9	20.9	2.4	2.4
Upstream Blk Time (%)		0		1	1	0
Queuing Penalty (veh)		0		3	5	0
Storage Bay Dist (m)						
Storage Blk Time (%)					1	
Queuing Penalty (veh)					4	

Intersection: 2: Hurontario Street & Hampshire Cres.

Movement	EB	NB
Directions Served	R	T
Maximum Queue (m)	10.8	1.4
Average Queue (m)	5.9	0.3
95th Queue (m)	13.8	2.8
Link Distance (m)	49.2	90.7
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Hurontario Street & Pinetree Way

Movement	EB	EB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	LTR	UL	T	TR	T	TR
Maximum Queue (m)	31.5	3.0	8.9	4.7	21.9	28.8	25.3	29.6
Average Queue (m)	20.1	0.6	3.0	1.9	11.7	16.7	8.8	15.7
95th Queue (m)	38.4	4.2	9.8	6.5	24.0	33.0	33.8	35.4
Link Distance (m)	179.0	179.0	69.1		166.6	166.6	131.0	131.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)				50.0				
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 5:

Movement	SE	SE
Directions Served	T	T
Maximum Queue (m)	16.9	12.3
Average Queue (m)	7.2	4.0
95th Queue (m)	42.9	29.5
Link Distance (m)	95.2	95.2
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	TR	L	R	T	T	T	TR	L	T	T
Maximum Queue (m)	78.0	91.0	71.4	22.5	65.8	47.4	71.6	88.1	75.1	55.7	63.1	48.1
Average Queue (m)	57.9	62.2	47.6	13.9	47.1	29.7	40.3	52.8	46.5	42.6	51.6	31.3
95th Queue (m)	86.5	97.5	77.2	27.5	78.7	55.5	74.2	100.0	85.4	64.8	78.4	52.2
Link Distance (m)	283.7	283.7			152.8		131.0	131.0		20.9	20.9	20.9
Upstream Blk Time (%)								0		54	34	22
Queuing Penalty (veh)								0		145	91	58
Storage Bay Dist (m)			71.0	65.0		60.0			36.0			
Storage Blk Time (%)		5	1		5	0	1	11	17			
Queuing Penalty (veh)		11	2		2	0	2	27	33			

Intersection: 10: Hurontario Street & Indian Valley Trail

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	UL	T	TR	UL	T	TR
Maximum Queue (m)	25.0	12.7	10.7	31.6	27.9	14.3	7.3	10.4
Average Queue (m)	12.9	7.5	4.5	16.4	11.1	8.9	2.4	4.4
95th Queue (m)	31.2	15.8	13.9	35.2	30.2	19.0	7.9	14.1
Link Distance (m)	43.7	50.9		109.6	109.6		90.7	90.7
Upstream Blk Time (%)	1							
Queuing Penalty (veh)	0							
Storage Bay Dist (m)			30.0			40.0		
Storage Blk Time (%)				1				
Queuing Penalty (veh)				0				

Network Summary

Network wide Queuing Penalty: 383

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	22	0	792	758	12
Future Volume (vph)	0	22	0	792	758	12
Ideal Flow (vphpl)	1900	1640	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.0	3.3	3.0	3.3
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.998	
Flt Protected						
Satd. Flow (prot)	0	1375	0	3421	3297	0
Flt Permitted						
Satd. Flow (perm)	0	1375	0	3421	3297	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	61.3			106.7	183.0	
Travel Time (s)	4.4			7.7	13.2	
Confl. Peds. (#/hr)		2	2			2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	24	0	870	833	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	24	0	870	846	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	0	792	758	12
Future Volume (Veh/h)	0	22	0	792	758	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	24	0	870	833	13
Pedestrians	2			2		
Lane Width (m)	3.5			3.3		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				107	183	
pX, platoon unblocked	0.96	0.93	0.93			
vC, conflicting volume	1276	427	848			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	952	233	686			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	246	713	839			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	24	435	435	555	291
Volume Left	0	0	0	0	0
Volume Right	24	0	0	0	13
cSH	713	1700	1700	1700	1700
Volume to Capacity	0.03	0.26	0.26	0.33	0.17
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0
Control Delay (s)	10.2	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	10.2	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		

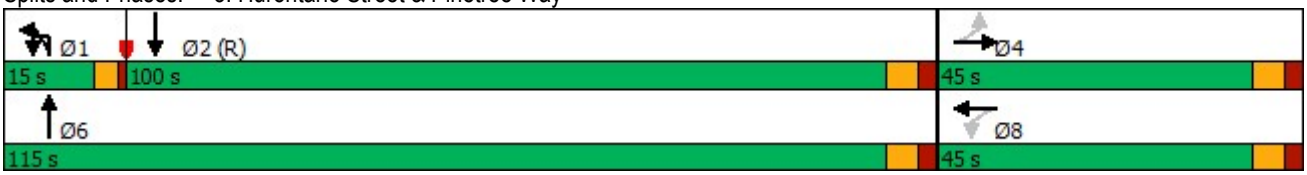
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	74	0	7	3	1	8	4	4	741	9	0	761
Future Volume (vph)	74	0	7	3	1	8	4	4	741	9	0	761
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1900	1860	1900	1640	1900	1900
Lane Width (m)	3.5	3.6	3.5	3.6	3.6	3.6	3.0	3.0	3.3	3.6	3.6	3.3
Storage Length (m)	0.0		40.0	0.0		0.0		50.0		0.0	0.0	
Storage Lanes	1		0	0		0		1		0	0	
Taper Length (m)	30.0			7.5				20.0			30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor	0.99	0.97						0.99				1.00
Frt		0.850			0.910				0.998			0.996
Flt Protected	0.950				0.988			0.950				
Satd. Flow (prot)	1713	1540	0	0	1675	0	0	1617	3414	0	0	3406
Flt Permitted	0.750				0.943			0.950				
Satd. Flow (perm)	1338	1540	0	0	1598	0	0	1606	3414	0	0	3406
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		236			8				2			3
Link Speed (k/h)		30			30				50			50
Link Distance (m)		191.7			80.5				183.0			149.7
Travel Time (s)		23.0			9.7				13.2			10.8
Confl. Peds. (#/hr)	6		6					3				
Peak Hour Factor	0.92	0.92	0.92	1.00	1.00	1.00	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	0	8	3	1	8	4	4	805	10	0	827
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	8	0	0	12	0	0	8	815	0	0	849
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA			NA
Protected Phases		4			8		1	1	6			2
Permitted Phases	4			8								
Detector Phase	4	4		8	8		1	1	6			2
Switch Phase												
Minimum Initial (s)	5.0	5.0		8.0	8.0		5.0	5.0	8.0			8.0
Minimum Split (s)	24.5	24.5		33.5	33.5		9.0	9.0	26.5			26.5
Total Split (s)	45.0	45.0		45.0	45.0		15.0	15.0	115.0			100.0
Total Split (%)	28.1%	28.1%		28.1%	28.1%		9.4%	9.4%	71.9%			62.5%
Maximum Green (s)	38.5	38.5		38.5	38.5		11.0	11.0	108.5			93.5
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0	4.0			4.0
All-Red Time (s)	2.5	2.5		2.5	2.5		1.0	1.0	2.5			2.5
Lost Time Adjust (s)	1.0	0.0			0.0			0.0	3.0			3.0
Total Lost Time (s)	7.5	6.5			6.5			4.0	9.5			9.5
Lead/Lag							Lead	Lead				Lag
Lead-Lag Optimize?							Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	5.0			5.0
Recall Mode	None	None		None	None		None	None	Max			C-Max
Walk Time (s)	7.0	7.0		11.0	11.0				8.0			
Flash Dont Walk (s)	11.0	11.0		16.0	16.0				12.0			
Pedestrian Calls (#/hr)	0	0		0	0				0			
Act Effct Green (s)	13.9	14.9			14.9			6.4	129.1			126.7
Actuated g/C Ratio	0.09	0.09			0.09			0.04	0.81			0.79
v/c Ratio	0.69	0.02			0.08			0.12	0.30			0.31
Control Delay	98.5	0.1			38.9			95.9	3.2			4.1
Queue Delay	0.0	0.0			0.0			0.0	0.0			0.2
Total Delay	98.5	0.1			38.9			95.9	3.2			4.3
LOS	F	A			D			F	A			A

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	20
Future Volume (vph)	20
Ideal Flow (vphpl)	1640
Lane Width (m)	3.3
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	3
Peak Hour Factor	0.92
Adj. Flow (vph)	22
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Approach Delay		89.5			38.9				4.1			4.3
Approach LOS		F			D				A			A
Queue Length 50th (m)	26.5	0.0			1.3			2.7	19.2			14.6
Queue Length 95th (m)	44.6	0.0			8.1			9.2	25.6			32.9
Internal Link Dist (m)		167.7			56.5				159.0			125.7
Turn Bay Length (m)								50.0				
Base Capacity (vph)	313	549			390			111	2754			2697
Starvation Cap Reductn	0	0			0			0	0			952
Spillback Cap Reductn	0	0			0			0	0			0
Storage Cap Reductn	0	0			0			0	0			0
Reduced v/c Ratio	0.26	0.01			0.03			0.07	0.30			0.49

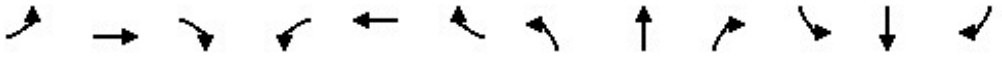
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 88 (55%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 8.7		Intersection LOS: A	
Intersection Capacity Utilization 46.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Hurontario Street & Pinetree Way



Lane Group	SBR
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

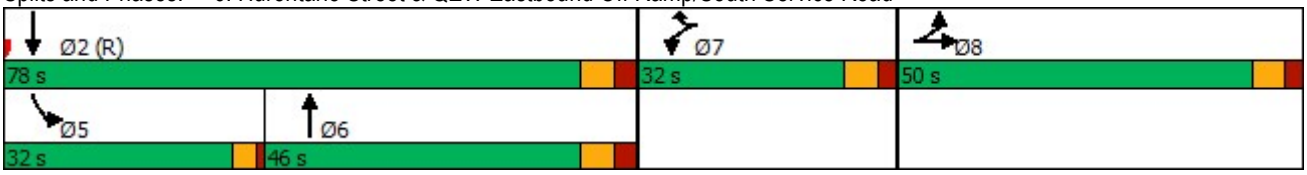


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	511	99	134	40	0	156	0	775	49	159	650	0
Future Volume (vph)	511	99	134	40	0	156	0	775	49	159	650	0
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1900	1640
Lane Width (m)	3.5	3.7	3.6	3.5	3.7	3.5	3.0	3.3	3.3	3.5	3.5	3.5
Storage Length (m)	0.0		71.0	65.0		0.0	60.0		36.0	0.0		0.0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (m)	30.0			70.0			50.0			30.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00				1.00		0.99		
Frt		0.914				0.850		0.991				
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	3323	1701	0	1713	0	1351	0	6111	0	1713	3500	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3323	1701	0	1707	0	1351	0	6111	0	1697	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41				164		8				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		296.0			171.7			149.7			40.4	
Travel Time (s)		21.3			12.4			10.8			2.9	
Confl. Peds. (#/hr)			4	4					8	8		
Confl. Bikes (#/hr)			4						16			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	538	104	141	42	0	164	0	816	52	167	684	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	538	245	0	42	0	164	0	868	0	167	684	0
Turn Type	Split	NA		Prot		Prot		NA		Prot	NA	
Protected Phases	8	8		7		7		6		5	2	
Permitted Phases		8						6			2	
Detector Phase	8	8		7		7		6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0		8.0		8.0		5.0	8.0	
Minimum Split (s)	46.0	46.0		14.5		14.5		28.0		9.0	27.5	
Total Split (s)	50.0	50.0		32.0		32.0		46.0		32.0	78.0	
Total Split (%)	31.3%	31.3%		20.0%		20.0%		28.8%		20.0%	48.8%	
Maximum Green (s)	43.5	43.5		25.5		25.5		39.0		28.0	71.0	
Yellow Time (s)	4.0	4.0		4.0		4.0		4.0		3.0	4.0	
All-Red Time (s)	2.5	2.5		2.5		2.5		3.0		1.0	3.0	
Lost Time Adjust (s)	1.0	3.0		1.0		1.0		3.0		1.0	3.0	
Total Lost Time (s)	7.5	9.5		7.5		7.5		10.0		5.0	10.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	5.0	5.0		5.0		5.0		5.0		5.0	5.0	
Recall Mode	None	None		None		None		Max		None	C-Max	
Walk Time (s)	11.0	11.0						9.0				
Flash Dont Walk (s)	28.5	28.5						12.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effct Green (s)	34.4	32.4		10.9		10.9		63.1		21.6	89.7	
Actuated g/C Ratio	0.22	0.20		0.07		0.07		0.39		0.14	0.56	
v/c Ratio	0.75	0.65		0.36		0.67		0.36		0.72	0.35	
Control Delay	65.4	56.0		78.5		23.1		30.2		83.3	21.1	
Queue Delay	0.0	0.0		0.0		0.0		0.0		0.0	0.0	
Total Delay	65.4	56.0		78.5		23.1		30.2		83.3	21.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	E		E		C		C		F	C	
Approach Delay		62.4			34.4			30.2			33.4	
Approach LOS		E			C			C			C	
Queue Length 50th (m)	87.9	63.8		13.8		0.0		47.2		54.5	63.4	
Queue Length 95th (m)	102.3	89.5		27.0		24.8		88.2		78.1	95.1	
Internal Link Dist (m)		272.0			147.7			125.7			16.4	
Turn Bay Length (m)				65.0								
Base Capacity (vph)	884	462		262		345		2413		293	1961	
Starvation Cap Reductn	0	0		0		0		0		0	0	
Spillback Cap Reductn	0	0		0		0		0		0	45	
Storage Cap Reductn	0	0		0		0		0		0	0	
Reduced v/c Ratio	0.61	0.53		0.16		0.48		0.36		0.57	0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 65 (41%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 40.8		Intersection LOS: D	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road



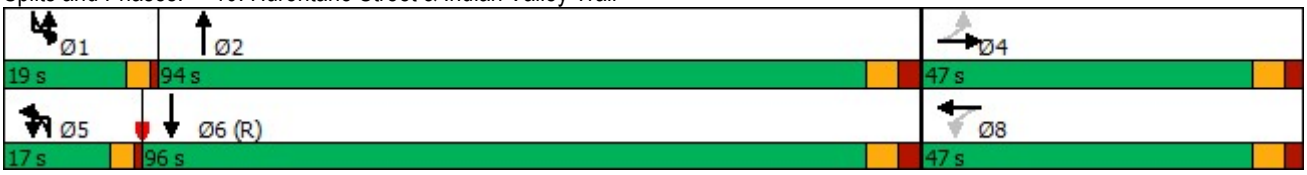
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	50	1	10	3	2	31	13	699	5	16	13	713
Future Volume (vph)	50	1	10	3	2	31	13	699	5	16	13	713
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1860	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.3	3.3	3.0	3.0	3.3
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0		40.0	
Storage Lanes	0		0	0		0	1		0		1	
Taper Length (m)	30.0			30.0			30.0				25.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Ped Bike Factor		1.00			0.99		1.00	1.00			0.99	1.00
Frt		0.978			0.884			0.999				0.992
Flt Protected		0.961			0.996		0.950				0.950	
Satd. Flow (prot)	0	1731	0	0	1603	0	1617	3416	0	0	1617	3389
Flt Permitted		0.768			0.976		0.950				0.950	
Satd. Flow (perm)	0	1382	0	0	1570	0	1612	3416	0	0	1602	3389
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		6			31			1				6
Link Speed (k/h)		50			50			50				50
Link Distance (m)		55.9			63.1			116.9				106.7
Travel Time (s)		4.0			4.5			8.4				7.7
Confl. Peds. (#/hr)	1					1	2		16		6	
Confl. Bikes (#/hr)									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
Adj. Flow (vph)	50	1	10	3	2	31	13	699	5	16	13	713
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	0	0	36	0	13	704	0	0	29	755
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	33.5	33.5		33.5	33.5		9.0	27.0		9.0	9.0	27.0
Total Split (s)	47.0	47.0		47.0	47.0		17.0	94.0		19.0	19.0	96.0
Total Split (%)	29.4%	29.4%		29.4%	29.4%		10.6%	58.8%		11.9%	11.9%	60.0%
Maximum Green (s)	40.5	40.5		40.5	40.5		13.0	87.0		15.0	15.0	89.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	2.5	2.5		2.5	2.5		1.0	3.0		1.0	1.0	3.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)		6.5			6.5		4.0	7.0			4.0	7.0
Lead/Lag							Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max		None	None	C-Max
Walk Time (s)	11.0	11.0		11.0	11.0			8.0				8.0
Flash Dont Walk (s)	16.0	16.0		16.0	16.0			12.0				12.0
Pedestrian Calls (#/hr)	0	0		0	0			0				0
Act Effct Green (s)		12.2			12.2		6.9	130.4			8.4	133.7
Actuated g/C Ratio		0.08			0.08		0.04	0.82			0.05	0.84
v/c Ratio		0.55			0.24		0.19	0.25			0.35	0.27
Control Delay		81.9			28.2		79.4	5.4			95.9	1.5
Queue Delay		0.0			0.0		0.0	0.0			0.0	0.0
Total Delay		81.9			28.2		79.4	5.4			95.9	1.5

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	42
Future Volume (vph)	42
Ideal Flow (vphpl)	1640
Lane Width (m)	3.3
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Adj. Flow (vph)	42
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
LOS		F			C		E	A			F	A
Approach Delay		81.9			28.2			6.7				5.0
Approach LOS		F			C			A				A
Queue Length 50th (m)		18.1			1.6		4.3	32.7			9.7	7.8
Queue Length 95th (m)		34.2			13.8		12.2	50.9			22.5	10.3
Internal Link Dist (m)		31.9			39.1			92.9				82.7
Turn Bay Length (m)							30.0				40.0	
Base Capacity (vph)		354			420		131	2783			151	2833
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		0.17			0.09		0.10	0.25			0.19	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 78 (49%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 46.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Hurontario Street & Indian Valley Trail



Lane Group	SBR
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection: 1:

Movement	SB	SB
Directions Served	T	T
Maximum Queue (m)	45.8	6.8
Average Queue (m)	28.3	2.0
95th Queue (m)	52.2	10.1
Link Distance (m)	2.4	2.4
Upstream Blk Time (%)	4	1
Queuing Penalty (veh)	18	2
Storage Bay Dist (m)		
Storage Blk Time (%)	4	
Queuing Penalty (veh)	12	

Intersection: 2: Hurontario Street & Hampshire Cres.

Movement	EB	NB	NB	SB	SB
Directions Served	R	T	T	T	TR
Maximum Queue (m)	8.7	3.0	4.2	3.8	2.8
Average Queue (m)	3.7	0.6	0.8	0.8	1.0
95th Queue (m)	10.8	4.3	6.2	7.6	7.0
Link Distance (m)	49.2	90.7	90.7	163.1	163.1
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Hurontario Street & Pinetree Way/Site Access

Movement	EB	EB	WB	NB	NB	NB	SB	SB
Directions Served	L	R	LTR	UL	T	TR	T	TR
Maximum Queue (m)	19.4	4.4	8.1	8.6	43.4	35.8	35.6	44.0
Average Queue (m)	10.5	1.1	3.3	3.0	22.5	20.9	12.0	18.2
95th Queue (m)	22.4	5.9	11.4	9.5	48.6	42.8	41.0	54.8
Link Distance (m)	178.4		86.7		163.1	163.1	131.0	131.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)		40.0		50.0				
Storage Blk Time (%)					0			
Queuing Penalty (veh)					0			

Intersection: 5:

Movement	SE
Directions Served	T
Maximum Queue (m)	11.1
Average Queue (m)	2.2
95th Queue (m)	14.3
Link Distance (m)	95.2
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	TR	L	R	T	T	T	TR	L	T	T
Maximum Queue (m)	81.9	97.1	82.5	28.0	63.0	75.4	79.5	77.3	72.6	48.6	62.9	57.2
Average Queue (m)	60.9	63.7	60.4	16.8	47.2	46.7	59.1	60.9	46.2	35.6	60.4	42.0
95th Queue (m)	94.0	111.8	93.4	33.9	70.7	81.9	90.1	90.2	84.0	54.2	70.5	66.6
Link Distance (m)	283.7	283.7			152.8		131.0	131.0		20.9	20.9	20.9
Upstream Blk Time (%)										47	40	30
Queuing Penalty (veh)										131	112	82
Storage Bay Dist (m)			71.0	65.0		60.0			36.0			
Storage Blk Time (%)		6	6		1	1	9	32	17			
Queuing Penalty (veh)		19	16		1	3	25	103	45			

Intersection: 10: Hurontario Street & Indian Valley Trail

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	UL	T	TR	UL	T	TR
Maximum Queue (m)	23.9	10.7	14.2	51.9	38.5	19.3	9.5	21.2
Average Queue (m)	13.7	4.3	5.6	30.4	20.9	9.6	3.7	7.5
95th Queue (m)	29.2	12.8	15.4	58.5	46.9	23.2	11.9	22.1
Link Distance (m)	43.7	50.9		109.6	109.6		90.7	90.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			30.0			40.0		
Storage Blk Time (%)				7				
Queuing Penalty (veh)				1				

Network Summary

Network wide Queuing Penalty: 570

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	15	0	1043	1020	20
Future Volume (vph)	0	15	0	1043	1020	20
Ideal Flow (vphpl)	1900	1640	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.0	3.3	3.0	3.3
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.997	
Flt Protected						
Satd. Flow (prot)	0	1375	0	3421	3293	0
Flt Permitted						
Satd. Flow (perm)	0	1375	0	3421	3293	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	61.3			106.7	183.0	
Travel Time (s)	4.4			7.7	13.2	
Confl. Peds. (#/hr)		2	2			2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	16	0	1146	1121	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	16	0	1146	1143	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	15	0	1043	1020	20
Future Volume (Veh/h)	0	15	0	1043	1020	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	16	0	1146	1121	22
Pedestrians	2			2		
Lane Width (m)	3.5			3.3		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				107	183	
pX, platoon unblocked	0.94	0.90	0.90			
vC, conflicting volume	1707	576	1145			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1212	306	939			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	164	619	652			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	16	573	573	747	396
Volume Left	0	0	0	0	0
Volume Right	16	0	0	0	22
cSH	619	1700	1700	1700	1700
Volume to Capacity	0.03	0.34	0.34	0.44	0.23
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0
Control Delay (s)	11.0	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	11.0	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

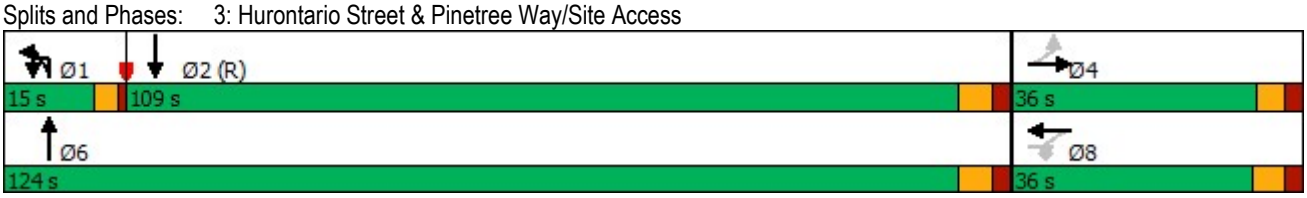
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	45	1	5	3	0	5	6	6	1049	11	0	991
Future Volume (vph)	45	1	5	3	0	5	6	6	1049	11	0	991
Ideal Flow (vphpl)	1860	1900	1640	1900	1900	1900	1860	1860	1900	1640	1900	1900
Lane Width (m)	3.5	3.6	3.5	3.6	3.6	3.6	3.0	3.0	3.3	3.6	3.6	3.3
Storage Length (m)	0.0		40.0	0.0		0.0		50.0		0.0	0.0	
Storage Lanes	1		1	0		0		1		0	0	
Taper Length (m)	30.0			7.5				20.0			30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor	0.99		0.98					1.00				1.00
Frt			0.850		0.916				0.998			0.992
Flt Protected	0.950				0.982			0.950				
Satd. Flow (prot)	1713	1863	1351	0	1676	0	0	1617	3414	0	0	3390
Flt Permitted	0.752				0.890			0.950				
Satd. Flow (perm)	1342	1863	1321	0	1519	0	0	1610	3414	0	0	3390
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			51		51				2			7
Link Speed (k/h)		30			30				50			50
Link Distance (m)		191.7			97.9				183.0			149.7
Travel Time (s)		23.0			11.7				13.2			10.8
Confl. Peds. (#/hr)	6		6					3				
Peak Hour Factor	0.92	0.92	0.92	1.00	1.00	1.00	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	1	5	3	0	5	7	7	1140	12	0	1077
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	1	5	0	8	0	0	14	1152	0	0	1139
Turn Type	Perm	NA	custom	Perm	NA		Prot	Prot	NA			NA
Protected Phases		4			8		1	1	6			2
Permitted Phases	4		8	8								
Detector Phase	4	4	8	8	8		1	1	6			2
Switch Phase												
Minimum Initial (s)	5.0	5.0	8.0	8.0	8.0		5.0	5.0	8.0			8.0
Minimum Split (s)	24.0	24.0	33.5	33.5	33.5		9.0	9.0	26.5			26.5
Total Split (s)	36.0	36.0	36.0	36.0	36.0		15.0	15.0	124.0			109.0
Total Split (%)	22.5%	22.5%	22.5%	22.5%	22.5%		9.4%	9.4%	77.5%			68.1%
Maximum Green (s)	30.0	30.0	29.5	29.5	29.5		11.0	11.0	117.5			102.5
Yellow Time (s)	3.5	3.5	4.0	4.0	4.0		3.0	3.0	4.0			4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5		1.0	1.0	2.5			2.5
Lost Time Adjust (s)	1.0	0.0	1.0		0.0			0.0	3.0			3.0
Total Lost Time (s)	7.0	6.0	7.5		6.5			4.0	9.5			9.5
Lead/Lag							Lead	Lead				Lag
Lead-Lag Optimize?							Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	5.0	5.0	5.0		3.0	3.0	5.0			5.0
Recall Mode	None	None	None	None	None		None	None	Max			C-Max
Walk Time (s)	7.0	7.0	11.0	11.0	11.0				8.0			
Flash Dont Walk (s)	11.0	11.0	16.0	16.0	16.0				12.0			
Pedestrian Calls (#/hr)	0	0	0	0	0				0			
Act Effct Green (s)	10.2	11.2	10.2		11.2			7.0	137.6			132.7
Actuated g/C Ratio	0.06	0.07	0.06		0.07			0.04	0.86			0.83
v/c Ratio	0.58	0.01	0.04		0.05			0.20	0.39			0.41
Control Delay	97.0	66.0	0.6		0.6			78.5	3.4			2.4
Queue Delay	0.0	0.0	0.0		0.0			0.0	0.0			0.1
Total Delay	97.0	66.0	0.6		0.6			78.5	3.4			2.5
LOS	F	E	A		A			E	A			A

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	57
Future Volume (vph)	57
Ideal Flow (vphpl)	1640
Lane Width (m)	3.3
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	3
Peak Hour Factor	0.92
Adj. Flow (vph)	62
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Approach Delay		87.7			0.6				4.3			2.5
Approach LOS		F			A				A			A
Queue Length 50th (m)	16.3	0.3	0.0		0.0			4.5	39.8			20.3
Queue Length 95th (m)	31.2	2.5	0.0		0.0			m13.4	54.6			33.5
Internal Link Dist (m)		167.7			73.9				159.0			125.7
Turn Bay Length (m)			40.0					50.0				
Base Capacity (vph)	243	349	277		321			111	2936			2812
Starvation Cap Reductn	0	0	0		0			0	0			389
Spillback Cap Reductn	0	0	0		0			0	4			0
Storage Cap Reductn	0	0	0		0			0	0			0
Reduced v/c Ratio	0.20	0.00	0.02		0.02			0.13	0.39			0.47

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 129 (81%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 5.4		Intersection LOS: A	
Intersection Capacity Utilization 65.1%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Hurontario Street & Pinetree Way/Site Access



Lane Group	SBR
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

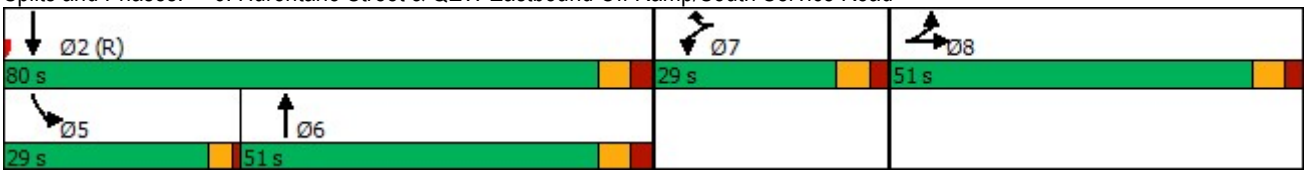
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	508	119	178	69	0	168	0	1078	58	158	836	0
Future Volume (vph)	508	119	178	69	0	168	0	1078	58	158	836	0
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1900	1640
Lane Width (m)	3.5	3.7	3.6	3.5	3.7	3.5	3.0	3.3	3.3	3.5	3.5	3.5
Storage Length (m)	0.0		71.0	65.0		0.0	60.0		36.0	0.0		0.0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (m)	30.0			70.0			50.0			30.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00				1.00		0.99		
Frt		0.910				0.850		0.992				
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	3323	1693	0	1713	0	1351	0	6122	0	1713	3500	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3323	1693	0	1708	0	1351	0	6122	0	1703	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45				177		6				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		296.0			171.7			149.7			40.4	
Travel Time (s)		21.3			12.4			10.8			2.9	
Confl. Peds. (#/hr)			4	4					8	8		
Confl. Bikes (#/hr)			4						16			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	535	125	187	73	0	177	0	1135	61	166	880	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	535	312	0	73	0	177	0	1196	0	166	880	0
Turn Type	Split	NA		Prot		Prot		NA		Prot	NA	
Protected Phases	8	8		7		7		6		5	2	
Permitted Phases		8						6			2	
Detector Phase	8	8		7		7		6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0		8.0		8.0		5.0	8.0	
Minimum Split (s)	46.0	46.0		14.5		14.5		28.0		9.0	27.5	
Total Split (s)	51.0	51.0		29.0		29.0		51.0		29.0	80.0	
Total Split (%)	31.9%	31.9%		18.1%		18.1%		31.9%		18.1%	50.0%	
Maximum Green (s)	44.5	44.5		22.5		22.5		44.0		25.0	73.0	
Yellow Time (s)	4.0	4.0		4.0		4.0		4.0		3.0	4.0	
All-Red Time (s)	2.5	2.5		2.5		2.5		3.0		1.0	3.0	
Lost Time Adjust (s)	1.0	3.0		1.0		1.0		3.0		1.0	3.0	
Total Lost Time (s)	7.5	9.5		7.5		7.5		10.0		5.0	10.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	5.0	5.0		5.0		5.0		5.0		5.0	5.0	
Recall Mode	None	None		None		None		Max		None	C-Max	
Walk Time (s)	11.0	11.0						9.0				
Flash Dont Walk (s)	28.5	28.5						12.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effct Green (s)	36.1	34.1		13.1		13.1		60.1		20.6	85.8	
Actuated g/C Ratio	0.23	0.21		0.08		0.08		0.38		0.13	0.54	
v/c Ratio	0.71	0.79		0.52		0.65		0.52		0.75	0.47	
Control Delay	62.1	64.4		83.0		20.1		34.9		87.6	25.6	
Queue Delay	0.0	0.0		0.0		0.0		0.2		0.0	0.0	
Total Delay	62.1	64.4		83.0		20.1		35.1		87.6	25.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	E		F		C		D		F	C	
Approach Delay		63.0			38.5			35.1			35.5	
Approach LOS		E			D			D			D	
Queue Length 50th (m)	86.8	87.2		23.9		0.0		70.3		54.1	92.5	
Queue Length 95th (m)	97.9	113.9		41.2		25.4		107.2		80.5	137.0	
Internal Link Dist (m)		272.0			147.7			125.7			16.4	
Turn Bay Length (m)				65.0								
Base Capacity (vph)	917	479		230		334		2305		258	1876	
Starvation Cap Reductn	0	0		0		0		389		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	0.58	0.65		0.32		0.53		0.62		0.64	0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 126 (79%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 42.5		Intersection LOS: D	
Intersection Capacity Utilization 73.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road



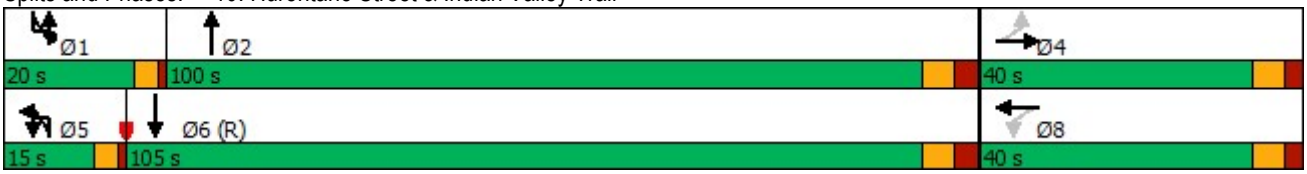
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	33	2	11	3	2	16	11	982	11	15	26	940
Future Volume (vph)	33	2	11	3	2	16	11	982	11	15	26	940
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1860	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.3	3.3	3.0	3.0	3.3
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0		40.0	
Storage Lanes	0		0	0		0	1		0		1	
Taper Length (m)	30.0			30.0			30.0				25.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Ped Bike Factor		1.00			0.99		1.00	1.00			0.99	1.00
Frt		0.968			0.897			0.998				0.992
Flt Protected		0.965			0.993		0.950				0.950	
Satd. Flow (prot)	0	1721	0	0	1624	0	1617	3411	0	0	1617	3389
Flt Permitted		0.774			0.956		0.950				0.950	
Satd. Flow (perm)	0	1378	0	0	1563	0	1614	3411	0	0	1607	3389
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		9			16			1				7
Link Speed (k/h)		50			50			50				50
Link Distance (m)		55.9			63.1			116.9				106.7
Travel Time (s)		4.0			4.5			8.4				7.7
Confl. Peds. (#/hr)	1					1	2		16		6	
Confl. Bikes (#/hr)									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
Adj. Flow (vph)	33	2	11	3	2	16	11	982	11	15	26	940
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	21	0	11	993	0	0	41	994
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	33.5	33.5		33.5	33.5		9.0	27.0		9.0	9.0	27.0
Total Split (s)	40.0	40.0		40.0	40.0		15.0	100.0		20.0	20.0	105.0
Total Split (%)	25.0%	25.0%		25.0%	25.0%		9.4%	62.5%		12.5%	12.5%	65.6%
Maximum Green (s)	33.5	33.5		33.5	33.5		11.0	93.0		16.0	16.0	98.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	2.5	2.5		2.5	2.5		1.0	3.0		1.0	1.0	3.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)		6.5			6.5		4.0	7.0			4.0	7.0
Lead/Lag							Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?							Yes					Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max		None	None	C-Max
Walk Time (s)	11.0	11.0		11.0	11.0			8.0				8.0
Flash Dont Walk (s)	16.0	16.0		16.0	16.0			12.0				12.0
Pedestrian Calls (#/hr)	0	0		0	0			0				0
Act Effct Green (s)		10.2			10.2		6.7	129.1			9.4	135.8
Actuated g/C Ratio		0.06			0.06		0.04	0.81			0.06	0.85
v/c Ratio		0.48			0.18		0.16	0.36			0.43	0.35
Control Delay		75.1			36.7		78.7	6.3			110.2	0.7
Queue Delay		0.0			0.0		0.0	0.0			0.0	0.0
Total Delay		75.1			36.7		78.7	6.3			110.2	0.7

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	54
Future Volume (vph)	54
Ideal Flow (vphpl)	1640
Lane Width (m)	3.3
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Adj. Flow (vph)	54
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
LOS		E			D		E	A			F	A
Approach Delay		75.1			36.7			7.1				5.0
Approach LOS		E			D			A				A
Queue Length 50th (m)		12.2			1.6		3.6	49.8			13.9	1.7
Queue Length 95th (m)		26.5			11.1		10.9	75.1			29.0	6.3
Internal Link Dist (m)		31.9			39.1			92.9				82.7
Turn Bay Length (m)							30.0				40.0	
Base Capacity (vph)		295			339		111	2752			161	2878
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			0.06		0.10	0.36			0.25	0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 148 (93%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 7.8		Intersection LOS: A	
Intersection Capacity Utilization 55.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 10: Hurontario Street & Indian Valley Trail



Lane Group	SBR
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection: 1:

Movement	NB	NB	NB	NB	SB	SB
Directions Served	T	T	T	R	T	T
Maximum Queue (m)	12.0	12.3	5.5	20.9	26.8	1.6
Average Queue (m)	4.1	3.7	1.1	6.6	9.3	0.3
95th Queue (m)	14.0	14.3	7.9	24.3	30.9	3.1
Link Distance (m)	20.9	20.9	20.9	20.9	2.4	2.4
Upstream Blk Time (%)	0	0	0	0	1	0
Queuing Penalty (veh)	0	0	0	1	4	0
Storage Bay Dist (m)						
Storage Blk Time (%)					1	
Queuing Penalty (veh)					3	

Intersection: 2: Hurontario Street & Hampshire Cres.

Movement	EB
Directions Served	R
Maximum Queue (m)	7.3
Average Queue (m)	4.1
95th Queue (m)	11.2
Link Distance (m)	49.2
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Hurontario Street & Pinetree Way

Movement	EB	EB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	LTR	UL	T	TR	T	TR
Maximum Queue (m)	32.3	7.3	7.1	4.9	24.5	31.9	5.7	16.5
Average Queue (m)	18.5	1.7	2.1	1.2	11.3	13.1	1.4	7.9
95th Queue (m)	37.0	7.5	8.6	5.4	25.4	33.2	6.4	21.2
Link Distance (m)	179.0	179.0	69.1		166.6	166.6	131.0	131.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)				50.0				
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 5:

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	TR	L	R	T	T	T	TR	L	T	T
Maximum Queue (m)	60.9	63.8	56.5	15.4	56.8	32.9	46.0	70.5	65.6	51.6	62.2	42.0
Average Queue (m)	43.8	43.1	32.5	9.9	45.1	23.4	34.3	49.7	44.3	32.4	50.6	27.2
95th Queue (m)	68.3	72.9	60.2	19.0	77.9	38.5	50.1	78.0	75.2	57.1	70.8	47.1
Link Distance (m)	283.7	283.7			152.8		131.0	131.0		20.9	20.9	20.9
Upstream Blk Time (%)										38	37	15
Queuing Penalty (veh)										103	99	41
Storage Bay Dist (m)			71.0	65.0		60.0			36.0			
Storage Blk Time (%)		0	1		7		0	14	13			
Queuing Penalty (veh)		0	3		3		0	35	26			

Intersection: 10: Hurontario Street & Indian Valley Trail

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	UL	T	TR	UL	T	TR
Maximum Queue (m)	26.9	13.2	11.0	36.0	32.4	15.6	9.2	13.0
Average Queue (m)	16.2	7.4	4.3	18.6	15.0	7.2	5.1	5.3
95th Queue (m)	29.2	15.9	12.3	40.3	35.4	18.3	12.5	15.5
Link Distance (m)	43.7	50.9		109.6	109.6		90.7	90.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			30.0			40.0		
Storage Blk Time (%)				2				
Queuing Penalty (veh)				0				

Network Summary

Network wide Queuing Penalty: 320

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	22	0	792	758	12
Future Volume (vph)	0	22	0	792	758	12
Ideal Flow (vphpl)	1900	1640	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.0	3.3	3.0	3.3
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.998	
Flt Protected						
Satd. Flow (prot)	0	1375	0	3421	3297	0
Flt Permitted						
Satd. Flow (perm)	0	1375	0	3421	3297	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	61.3			106.7	183.0	
Travel Time (s)	4.4			7.7	13.2	
Confl. Peds. (#/hr)		2	2			2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	24	0	870	833	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	24	0	870	846	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	0	792	758	12
Future Volume (Veh/h)	0	22	0	792	758	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	24	0	870	833	13
Pedestrians	2			2		
Lane Width (m)	3.5			3.3		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				107	183	
pX, platoon unblocked	0.95	0.92	0.92			
vC, conflicting volume	1276	427	848			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	882	198	656			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	271	742	850			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	24	435	435	555	291
Volume Left	0	0	0	0	0
Volume Right	24	0	0	0	13
cSH	742	1700	1700	1700	1700
Volume to Capacity	0.03	0.26	0.26	0.33	0.17
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	10.0	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	74	0	7	3	1	8	4	4	741	9	0	761
Future Volume (vph)	74	0	7	3	1	8	4	4	741	9	0	761
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1900	1860	1900	1640	1900	1900
Lane Width (m)	3.5	3.6	3.5	3.6	3.6	3.6	3.0	3.0	3.3	3.6	3.6	3.3
Storage Length (m)	0.0		40.0	0.0		0.0		50.0		0.0	0.0	
Storage Lanes	1		0	0		0		1		0	0	
Taper Length (m)	30.0			7.5				20.0			30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor	0.99	0.98						1.00				1.00
Frt		0.850			0.910				0.998			0.996
Flt Protected	0.950				0.988			0.950				
Satd. Flow (prot)	1713	1546	0	0	1675	0	0	1617	3414	0	0	3405
Flt Permitted	0.750				0.932			0.950				
Satd. Flow (perm)	1342	1546	0	0	1580	0	0	1611	3414	0	0	3405
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		289			8				2			3
Link Speed (k/h)		30			30				50			50
Link Distance (m)		191.7			80.5				183.0			149.7
Travel Time (s)		23.0			9.7				13.2			10.8
Confl. Peds. (#/hr)	6		6					3				
Peak Hour Factor	0.92	0.92	0.92	1.00	1.00	1.00	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	0	8	3	1	8	4	4	805	10	0	827
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	8	0	0	12	0	0	8	815	0	0	849
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA			NA
Protected Phases		4			8		1	1	6			2
Permitted Phases	4			8								
Detector Phase	4	4		8	8		1	1	6			2
Switch Phase												
Minimum Initial (s)	5.0	5.0		8.0	8.0		5.0	5.0	8.0			8.0
Minimum Split (s)	24.5	24.5		33.5	33.5		9.0	9.0	26.5			26.5
Total Split (s)	39.0	39.0		39.0	39.0		20.0	20.0	81.0			61.0
Total Split (%)	32.5%	32.5%		32.5%	32.5%		16.7%	16.7%	67.5%			50.8%
Maximum Green (s)	32.5	32.5		32.5	32.5		16.0	16.0	74.5			54.5
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0	4.0			4.0
All-Red Time (s)	2.5	2.5		2.5	2.5		1.0	1.0	2.5			2.5
Lost Time Adjust (s)	1.0	0.0			0.0			0.0	3.0			3.0
Total Lost Time (s)	7.5	6.5			6.5			4.0	9.5			9.5
Lead/Lag							Lead	Lead				Lag
Lead-Lag Optimize?							Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	5.0			5.0
Recall Mode	None	None		None	None		None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0		11.0	11.0				8.0			
Flash Dont Walk (s)	11.0	11.0		16.0	16.0				12.0			
Pedestrian Calls (#/hr)	0	0		0	0				0			
Act Effct Green (s)	11.5	12.5			12.7			6.2	96.1			93.8
Actuated g/C Ratio	0.10	0.10			0.11			0.05	0.80			0.78
v/c Ratio	0.62	0.02			0.07			0.10	0.30			0.32
Control Delay	72.0	0.1			29.6			60.1	3.9			2.2
Queue Delay	0.0	0.0			0.0			0.0	0.0			0.1
Total Delay	72.0	0.1			29.6			60.1	3.9			2.3
LOS	E	A			C			E	A			A

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	20
Future Volume (vph)	20
Ideal Flow (vphpl)	1640
Lane Width (m)	3.3
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	3
Peak Hour Factor	0.92
Adj. Flow (vph)	22
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Approach Delay		65.4			29.6				4.4			2.3
Approach LOS		E			C				A			A
Queue Length 50th (m)	19.4	0.0			0.9			2.0	22.8			14.5
Queue Length 95th (m)	35.0	0.0			6.7			m7.6	32.7			20.3
Internal Link Dist (m)		167.7			56.5				159.0			125.7
Turn Bay Length (m)								50.0				
Base Capacity (vph)	352	629			433			215	2734			2661
Starvation Cap Reductn	0	0			0			0	0			545
Spillback Cap Reductn	0	0			0			0	0			0
Storage Cap Reductn	0	0			0			0	0			0
Reduced v/c Ratio	0.23	0.01			0.03			0.04	0.30			0.40

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 118 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 6.6		Intersection LOS: A	
Intersection Capacity Utilization 46.6%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Hurontario Street & Pinetree Way

Lane Group	SBR
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

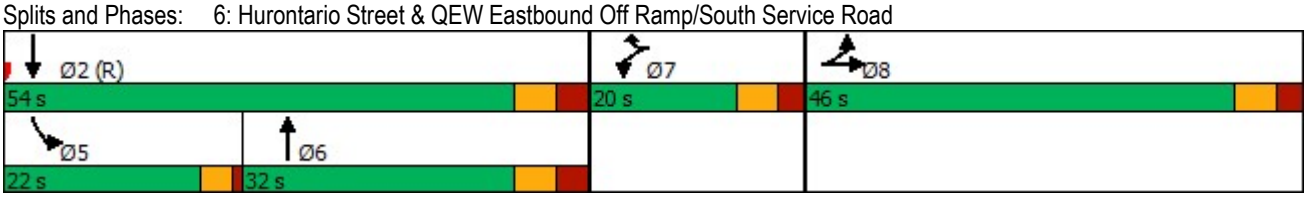
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	511	99	134	40	0	156	0	775	49	159	650	0
Future Volume (vph)	511	99	134	40	0	156	0	775	49	159	650	0
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1900	1640
Lane Width (m)	3.5	3.7	3.6	3.5	3.7	3.5	3.0	3.3	3.3	3.5	3.5	3.5
Storage Length (m)	0.0		71.0	65.0		0.0	60.0		36.0	0.0		0.0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (m)	30.0			70.0			50.0			30.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00				1.00		0.99		
Frt		0.914				0.850		0.991				
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	3323	1703	0	1713	0	1351	0	6111	0	1713	3500	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3323	1703	0	1709	0	1351	0	6111	0	1701	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58				164		10				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		296.0			171.7			149.7			40.4	
Travel Time (s)		21.3			12.4			10.8			2.9	
Confl. Peds. (#/hr)			4	4					8	8		
Confl. Bikes (#/hr)			4						16			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	538	104	141	42	0	164	0	816	52	167	684	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	538	245	0	42	0	164	0	868	0	167	684	0
Turn Type	Split	NA		Prot		Prot		NA		Prot	NA	
Protected Phases	8	8		7		7		6		5	2	
Permitted Phases		8						6			2	
Detector Phase	8	8		7		7		6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0		8.0		8.0		5.0	8.0	
Minimum Split (s)	46.0	46.0		14.5		14.5		28.0		9.0	27.5	
Total Split (s)	46.0	46.0		20.0		20.0		32.0		22.0	54.0	
Total Split (%)	38.3%	38.3%		16.7%		16.7%		26.7%		18.3%	45.0%	
Maximum Green (s)	39.5	39.5		13.5		13.5		25.0		18.0	47.0	
Yellow Time (s)	4.0	4.0		4.0		4.0		4.0		3.0	4.0	
All-Red Time (s)	2.5	2.5		2.5		2.5		3.0		1.0	3.0	
Lost Time Adjust (s)	1.0	3.0		1.0		1.0		3.0		1.0	3.0	
Total Lost Time (s)	7.5	9.5		7.5		7.5		10.0		5.0	10.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	5.0	5.0		5.0		5.0		5.0		5.0	5.0	
Recall Mode	None	None		None		None		Max		None	C-Max	
Walk Time (s)	11.0	11.0						9.0				
Flash Dont Walk (s)	28.5	28.5						12.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effct Green (s)	28.0	26.0		9.5		9.5		35.4		17.1	57.5	
Actuated g/C Ratio	0.23	0.22		0.08		0.08		0.30		0.14	0.48	
v/c Ratio	0.69	0.59		0.31		0.64		0.48		0.69	0.41	
Control Delay	46.5	37.0		57.5		19.6		29.7		63.2	22.5	
Queue Delay	0.0	0.0		0.0		0.0		0.0		0.0	0.0	
Total Delay	46.5	37.0		57.5		19.6		29.7		63.2	22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D		E		B		C		E	C	
Approach Delay		43.5			27.3			29.7			30.5	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	63.2	41.8		10.0		0.0		41.5		39.5	56.0	
Queue Length 95th (m)	75.5	63.8		21.4		21.5		50.2		62.8	85.2	
Internal Link Dist (m)		272.0			147.7			125.7			16.4	
Turn Bay Length (m)				65.0								
Base Capacity (vph)	1066	558		178		287		1810		262	1677	
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	0.50	0.44		0.24		0.57		0.48		0.64	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 99 (83%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 33.8		Intersection LOS: C	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road



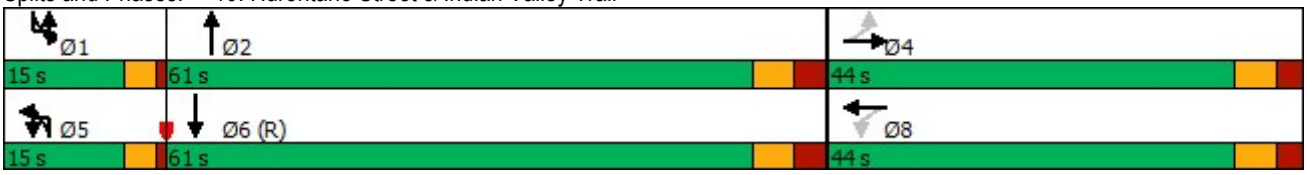
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	50	1	10	3	2	31	13	699	5	16	13	713
Future Volume (vph)	50	1	10	3	2	31	13	699	5	16	13	713
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1860	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.3	3.3	3.0	3.0	3.3
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0		40.0	
Storage Lanes	0		0	0		0	1		0		1	
Taper Length (m)	30.0			30.0			30.0				25.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Ped Bike Factor		1.00			0.99		1.00	1.00			0.99	1.00
Frt		0.978			0.884			0.999				0.992
Flt Protected		0.961			0.996		0.950				0.950	
Satd. Flow (prot)	0	1731	0	0	1603	0	1617	3416	0	0	1617	3389
Flt Permitted		0.740			0.971		0.950				0.950	
Satd. Flow (perm)	0	1332	0	0	1563	0	1613	3416	0	0	1606	3389
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		9			31			1				6
Link Speed (k/h)		50			50			50				50
Link Distance (m)		55.9			63.1			116.9				106.7
Travel Time (s)		4.0			4.5			8.4				7.7
Confl. Peds. (#/hr)	1					1	2		16		6	
Confl. Bikes (#/hr)									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
Adj. Flow (vph)	50	1	10	3	2	31	13	699	5	16	13	713
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	0	0	36	0	13	704	0	0	29	755
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	33.5	33.5		33.5	33.5		9.0	27.0		9.0	9.0	27.0
Total Split (s)	44.0	44.0		44.0	44.0		15.0	61.0		15.0	15.0	61.0
Total Split (%)	36.7%	36.7%		36.7%	36.7%		12.5%	50.8%		12.5%	12.5%	50.8%
Maximum Green (s)	37.5	37.5		37.5	37.5		11.0	54.0		11.0	11.0	54.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	2.5	2.5		2.5	2.5		1.0	3.0		1.0	1.0	3.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)		6.5			6.5		4.0	7.0			4.0	7.0
Lead/Lag							Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max		None	None	C-Max
Walk Time (s)	11.0	11.0		11.0	11.0			8.0				8.0
Flash Dont Walk (s)	16.0	16.0		16.0	16.0			12.0				12.0
Pedestrian Calls (#/hr)	0	0		0	0			0				0
Act Effct Green (s)		10.5			10.5		6.6	92.6			7.7	95.7
Actuated g/C Ratio		0.09			0.09		0.06	0.77			0.06	0.80
v/c Ratio		0.49			0.22		0.15	0.27			0.28	0.28
Control Delay		57.5			22.3		57.2	6.2			70.7	1.4
Queue Delay		0.0			0.0		0.0	0.0			0.0	0.0
Total Delay		57.5			22.3		57.2	6.2			70.7	1.4

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	42
Future Volume (vph)	42
Ideal Flow (vphpl)	1640
Lane Width (m)	3.3
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Adj. Flow (vph)	42
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
LOS		E			C		E	A			E	A
Approach Delay		57.5			22.3			7.2				3.9
Approach LOS		E			C			A				A
Queue Length 50th (m)		12.5			1.2		3.1	30.0			7.6	6.5
Queue Length 95th (m)		26.3			11.4		9.9	48.1			18.4	8.1
Internal Link Dist (m)		31.9			39.1			92.9				82.7
Turn Bay Length (m)							30.0				40.0	
Base Capacity (vph)		422			509		148	2636			148	2702
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		0.14			0.07		0.09	0.27			0.20	0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 7.8		Intersection LOS: A	
Intersection Capacity Utilization 46.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Hurontario Street & Indian Valley Trail



Lane Group	SBR
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection: 1:

Movement	SB
Directions Served	T
Maximum Queue (m)	30.8
Average Queue (m)	14.6
95th Queue (m)	45.2
Link Distance (m)	2.4
Upstream Blk Time (%)	1
Queuing Penalty (veh)	5
Storage Bay Dist (m)	
Storage Blk Time (%)	1
Queuing Penalty (veh)	3

Intersection: 2: Hurontario Street & Hampshire Cres.

Movement	EB	NB
Directions Served	R	T
Maximum Queue (m)	7.3	1.6
Average Queue (m)	3.2	0.3
95th Queue (m)	10.1	3.1
Link Distance (m)	49.2	90.7
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Hurontario Street & Pinetree Way/Site Access

Movement	EB	EB	EB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	LTR	UL	T	TR	T	TR
Maximum Queue (m)	13.6	4.9	8.8	6.1	8.1	32.6	35.0	40.3	42.3
Average Queue (m)	8.5	1.1	1.9	2.0	2.5	16.8	14.7	17.5	21.7
95th Queue (m)	20.0	6.3	7.8	8.1	8.8	36.4	38.2	51.4	52.3
Link Distance (m)	178.4	178.4		86.7		163.1	163.1	131.0	131.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			40.0		50.0				
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 5:

Movement	SE
Directions Served	T
Maximum Queue (m)	1.9
Average Queue (m)	0.7
95th Queue (m)	4.9
Link Distance (m)	95.2
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	TR	L	R	T	T	T	TR	L	T	T
Maximum Queue (m)	68.6	59.5	59.7	45.1	96.0	107.3	119.5	116.6	82.0	49.5	62.0	45.6
Average Queue (m)	48.7	39.7	39.4	21.6	72.7	88.8	99.8	98.7	80.2	30.9	54.2	30.8
95th Queue (m)	71.2	64.2	64.4	59.2	124.9	112.0	126.3	122.7	85.6	54.3	68.7	50.9
Link Distance (m)	283.7	283.7			152.8		131.0	131.0		20.9	20.9	20.9
Upstream Blk Time (%)					1		1	0		45	40	22
Queuing Penalty (veh)					0		3	1		126	110	61
Storage Bay Dist (m)			71.0	65.0		60.0			36.0			
Storage Blk Time (%)		0	0		35	43	71	71	49			
Queuing Penalty (veh)		0	0		24	1127	1859	1891	1294			

Intersection: 10: Hurontario Street & Indian Valley Trail

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	UL	T	TR	UL	T	TR
Maximum Queue (m)	21.8	10.7	6.7	43.3	34.4	16.6	32.5	37.0
Average Queue (m)	10.3	5.8	2.7	27.5	14.3	9.4	11.9	14.9
95th Queue (m)	25.1	14.0	8.7	54.2	37.5	20.3	37.2	44.7
Link Distance (m)	43.7	50.9		109.6	109.6		90.7	90.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			30.0			40.0		
Storage Blk Time (%)				5			1	
Queuing Penalty (veh)				1			0	

Network Summary

Network wide Queuing Penalty: 6505

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	15	0	1043	1020	20
Future Volume (vph)	0	15	0	1043	1020	20
Ideal Flow (vphpl)	1900	1640	1860	1900	1900	1640
Lane Width (m)	3.5	3.5	3.0	3.3	3.0	3.3
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.997	
Flt Protected						
Satd. Flow (prot)	0	1375	0	3421	3293	0
Flt Permitted						
Satd. Flow (perm)	0	1375	0	3421	3293	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	61.3			106.7	183.0	
Travel Time (s)	4.4			7.7	13.2	
Confl. Peds. (#/hr)		2	2			2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	16	0	1146	1121	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	16	0	1146	1143	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	15	0	1043	1020	20
Future Volume (Veh/h)	0	15	0	1043	1020	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	16	0	1146	1121	22
Pedestrians	2			2		
Lane Width (m)	3.5			3.3		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				107	183	
pX, platoon unblocked	0.93	0.87	0.87			
vC, conflicting volume	1707	576	1145			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1068	217	871			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	200	683	670			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	16	573	573	747	396
Volume Left	0	0	0	0	0
Volume Right	16	0	0	0	22
cSH	683	1700	1700	1700	1700
Volume to Capacity	0.02	0.34	0.34	0.44	0.23
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0
Control Delay (s)	10.4	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	10.4	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

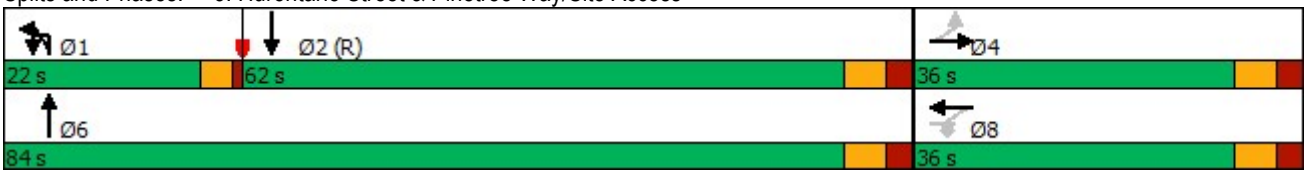
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	45	1	5	3	0	5	6	6	1049	11	0	991
Future Volume (vph)	45	1	5	3	0	5	6	6	1049	11	0	991
Ideal Flow (vphpl)	1860	1900	1640	1900	1900	1900	1860	1860	1900	1640	1900	1900
Lane Width (m)	3.5	3.6	3.5	3.6	3.6	3.6	3.0	3.0	3.3	3.6	3.6	3.3
Storage Length (m)	0.0		40.0	0.0		0.0		50.0		0.0	0.0	
Storage Lanes	1		1	0		0		1		0	0	
Taper Length (m)	30.0			7.5				20.0			30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor	0.99		0.98					1.00				1.00
Frt			0.850		0.916				0.998			0.992
Flt Protected	0.950				0.982			0.950				
Satd. Flow (prot)	1713	1863	1351	0	1676	0	0	1617	3414	0	0	3390
Flt Permitted	0.752				0.885			0.950				
Satd. Flow (perm)	1345	1863	1325	0	1510	0	0	1614	3414	0	0	3390
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			68		68				2			6
Link Speed (k/h)		30			30				50			50
Link Distance (m)		191.7			97.9				183.0			149.7
Travel Time (s)		23.0			11.7				13.2			10.8
Confl. Peds. (#/hr)	6		6					3				
Peak Hour Factor	0.92	0.92	0.92	1.00	1.00	1.00	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	1	5	3	0	5	7	7	1140	12	0	1077
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	1	5	0	8	0	0	14	1152	0	0	1139
Turn Type	Perm	NA	custom	Perm	NA		Prot	Prot	NA			NA
Protected Phases		4			8		1	1	6			2
Permitted Phases	4		8	8								
Detector Phase	4	4	8	8	8		1	1	6			2
Switch Phase												
Minimum Initial (s)	5.0	5.0	8.0	8.0	8.0		5.0	5.0	8.0			8.0
Minimum Split (s)	24.5	24.5	33.5	33.5	33.5		9.0	9.0	26.5			26.5
Total Split (s)	36.0	36.0	36.0	36.0	36.0		22.0	22.0	84.0			62.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%		18.3%	18.3%	70.0%			51.7%
Maximum Green (s)	29.5	29.5	29.5	29.5	29.5		18.0	18.0	77.5			55.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	3.0	4.0			4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5		1.0	1.0	2.5			2.5
Lost Time Adjust (s)	1.0	0.0	1.0		0.0			0.0	3.0			3.0
Total Lost Time (s)	7.5	6.5	7.5		6.5			4.0	9.5			9.5
Lead/Lag							Lead	Lead				Lag
Lead-Lag Optimize?							Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	5.0	5.0	5.0		3.0	3.0	5.0			5.0
Recall Mode	None	None	None	None	None		None	None	Max			C-Max
Walk Time (s)	7.0	7.0	11.0	11.0	11.0				8.0			
Flash Dont Walk (s)	11.0	11.0	16.0	16.0	16.0				12.0			
Pedestrian Calls (#/hr)	0	0	0	0	0				0			
Act Effct Green (s)	8.8	9.8	9.3		10.3			6.7	98.5			93.8
Actuated g/C Ratio	0.07	0.08	0.08		0.09			0.06	0.82			0.78
v/c Ratio	0.50	0.01	0.03		0.04			0.16	0.41			0.43
Control Delay	69.8	48.0	0.4		0.4			74.2	2.1			5.7
Queue Delay	0.0	0.0	0.0		0.0			0.0	0.0			0.3
Total Delay	69.8	48.0	0.4		0.4			74.2	2.1			5.9
LOS	E	D	A		A			E	A			A

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	57
Future Volume (vph)	57
Ideal Flow (vphpl)	1640
Lane Width (m)	3.3
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	3
Peak Hour Factor	0.92
Adj. Flow (vph)	62
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Approach Delay		63.1			0.4				3.0			5.9
Approach LOS		E			A				A			A
Queue Length 50th (m)	11.9	0.2	0.0		0.0			3.5	15.0			17.5
Queue Length 95th (m)	24.5	2.0	0.0		0.0			m9.9	19.5			79.2
Internal Link Dist (m)		167.7			73.9				159.0			125.7
Turn Bay Length (m)			40.0					50.0				
Base Capacity (vph)	319	457	366		422			242	2804			2651
Starvation Cap Reductn	0	0	0		0			0	0			744
Spillback Cap Reductn	0	0	0		0			0	0			0
Storage Cap Reductn	0	0	0		0			0	0			0
Reduced v/c Ratio	0.15	0.00	0.01		0.02			0.06	0.41			0.60

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 22 (18%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 5.8		Intersection LOS: A	
Intersection Capacity Utilization 65.1%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Hurontario Street & Pinetree Way/Site Access



Lane Group	SBR
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

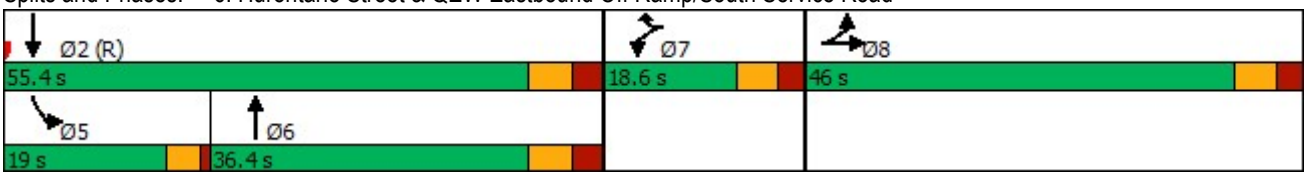
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	508	119	178	69	0	168	0	1078	58	158	836	0
Future Volume (vph)	508	119	178	69	0	168	0	1078	58	158	836	0
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1900	1640
Lane Width (m)	3.5	3.7	3.6	3.5	3.7	3.5	3.0	3.3	3.3	3.5	3.5	3.5
Storage Length (m)	0.0		71.0	65.0		0.0	60.0		36.0	0.0		0.0
Storage Lanes	2		1	1		1	1		1	1		0
Taper Length (m)	30.0			70.0			50.0			30.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00				1.00		1.00		
Frt		0.910				0.850		0.992				
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	3323	1695	0	1713	0	1351	0	6123	0	1713	3500	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3323	1695	0	1709	0	1351	0	6123	0	1706	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64				177		8				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		296.0			171.7			149.7			40.4	
Travel Time (s)		21.3			12.4			10.8			2.9	
Confl. Peds. (#/hr)			4	4					8	8		
Confl. Bikes (#/hr)			4						16			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	535	125	187	73	0	177	0	1135	61	166	880	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	535	312	0	73	0	177	0	1196	0	166	880	0
Turn Type	Split	NA		Prot		Prot		NA		Prot	NA	
Protected Phases	8	8		7		7		6		5	2	
Permitted Phases		8						6			2	
Detector Phase	8	8		7		7		6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0		8.0		8.0		5.0	8.0	
Minimum Split (s)	46.0	46.0		14.5		14.5		28.0		9.0	27.5	
Total Split (s)	46.0	46.0		18.6		18.6		36.4		19.0	55.4	
Total Split (%)	38.3%	38.3%		15.5%		15.5%		30.3%		15.8%	46.2%	
Maximum Green (s)	39.5	39.5		12.1		12.1		29.4		15.0	48.4	
Yellow Time (s)	4.0	4.0		4.0		4.0		4.0		3.0	4.0	
All-Red Time (s)	2.5	2.5		2.5		2.5		3.0		1.0	3.0	
Lost Time Adjust (s)	1.0	3.0		1.0		1.0		3.0		1.0	3.0	
Total Lost Time (s)	7.5	9.5		7.5		7.5		10.0		5.0	10.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	5.0	5.0		5.0		5.0		5.0		5.0	5.0	
Recall Mode	None	None		None		None		Max		None	C-Max	
Walk Time (s)	11.0	11.0						9.0				
Flash Dont Walk (s)	28.5	28.5						12.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effct Green (s)	29.0	27.0		10.1		10.1		34.3		16.7	56.0	
Actuated g/C Ratio	0.24	0.22		0.08		0.08		0.29		0.14	0.47	
v/c Ratio	0.67	0.73		0.51		0.64		0.68		0.70	0.54	
Control Delay	44.8	43.2		65.0		18.9		35.5		65.4	25.8	
Queue Delay	0.0	0.0		0.0		0.0		0.0		0.0	0.1	
Total Delay	44.8	43.2		65.0		18.9		35.5		65.4	25.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D		E		B		D		E	C	
Approach Delay		44.2			32.4			35.5			32.1	
Approach LOS		D			C			D			C	
Queue Length 50th (m)	62.3	58.0		17.4		0.0		61.6		38.8	80.8	
Queue Length 95th (m)	72.8	82.0		33.5		22.7		#80.5		#78.0	116.7	
Internal Link Dist (m)		272.0			147.7			125.7			16.4	
Turn Bay Length (m)				65.0								
Base Capacity (vph)	1066	560		158		285		1754		240	1632	
Starvation Cap Reductn	0	0		0		0		0		0	0	
Spillback Cap Reductn	0	1		0		0		0		0	70	
Storage Cap Reductn	0	0		0		0		0		0	0	
Reduced v/c Ratio	0.50	0.56		0.46		0.62		0.68		0.69	0.56	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 106 (88%), Referenced to phase 2:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 36.4		Intersection LOS: D	
Intersection Capacity Utilization 73.5%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 6: Hurontario Street & QEW Eastbound Off Ramp/South Service Road



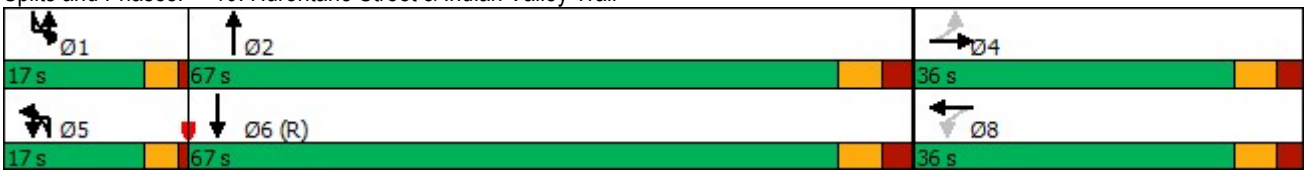
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	33	2	11	3	2	16	11	982	11	15	26	940
Future Volume (vph)	33	2	11	3	2	16	11	982	11	15	26	940
Ideal Flow (vphpl)	1860	1900	1640	1860	1900	1640	1860	1900	1640	1860	1860	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.3	3.3	3.0	3.0	3.3
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0		40.0	
Storage Lanes	0		0	0		0	1		0		1	
Taper Length (m)	30.0			30.0			30.0				25.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Ped Bike Factor		1.00			0.99		1.00	1.00			1.00	1.00
Frt		0.968			0.897			0.998				0.992
Flt Protected		0.965			0.993		0.950				0.950	
Satd. Flow (prot)	0	1721	0	0	1624	0	1617	3412	0	0	1617	3389
Flt Permitted		0.774			0.940		0.950				0.950	
Satd. Flow (perm)	0	1379	0	0	1537	0	1614	3412	0	0	1610	3389
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		11			16			1				7
Link Speed (k/h)		50			50			50				50
Link Distance (m)		55.9			63.1			116.9				106.7
Travel Time (s)		4.0			4.5			8.4				7.7
Confl. Peds. (#/hr)	1					1	2		16		6	
Confl. Bikes (#/hr)									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
Adj. Flow (vph)	33	2	11	3	2	16	11	982	11	15	26	940
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	21	0	11	993	0	0	41	994
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	33.5	33.5		33.5	33.5		9.0	27.0		9.0	9.0	27.0
Total Split (s)	36.0	36.0		36.0	36.0		17.0	67.0		17.0	17.0	67.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		14.2%	55.8%		14.2%	14.2%	55.8%
Maximum Green (s)	29.5	29.5		29.5	29.5		13.0	60.0		13.0	13.0	60.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	2.5	2.5		2.5	2.5		1.0	3.0		1.0	1.0	3.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)		6.5			6.5		4.0	7.0			4.0	7.0
Lead/Lag							Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?							Yes					Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max		None	None	C-Max
Walk Time (s)	11.0	11.0		11.0	11.0			8.0				8.0
Flash Dont Walk (s)	16.0	16.0		16.0	16.0			12.0				12.0
Pedestrian Calls (#/hr)	0	0		0	0			0				0
Act Effct Green (s)		9.3			9.3		6.4	90.9			8.5	99.1
Actuated g/C Ratio		0.08			0.08		0.05	0.76			0.07	0.83
v/c Ratio		0.39			0.16		0.13	0.38			0.36	0.35
Control Delay		51.9			28.4		56.8	7.5			58.8	1.9
Queue Delay		0.0			0.0		0.0	0.0			0.0	0.0
Total Delay		51.9			28.4		56.8	7.5			58.8	1.9

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	54
Future Volume (vph)	54
Ideal Flow (vphpl)	1640
Lane Width (m)	3.3
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Adj. Flow (vph)	54
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
LOS		D			C		E	A			E	A
Approach Delay		51.9			28.4			8.0				4.2
Approach LOS		D			C			A				A
Queue Length 50th (m)		8.4			1.2		2.7	46.2			10.8	12.6
Queue Length 95th (m)		20.5			9.3		8.9	71.8			23.0	23.3
Internal Link Dist (m)		31.9			39.1			92.9				82.7
Turn Bay Length (m)							30.0				40.0	
Base Capacity (vph)		347			389		175	2584			175	2800
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		0.13			0.05		0.06	0.38			0.23	0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 7.3		Intersection LOS: A	
Intersection Capacity Utilization 55.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 10: Hurontario Street & Indian Valley Trail



Lane Group	SBR
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

APPENDIX F

Level of Service Definitions

Level of Service Definitions

Two-Way Stop Controlled Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Large and frequent gaps in traffic on the main roadway. Queuing on the minor street is rare.
B	> 10 and ≤ 15	VERY GOOD. Many gaps exist in traffic on the main roadway. Queuing on the minor street is minimal.
C	> 15 and ≤ 25	GOOD. Fewer gaps exist in traffic on the main roadway. Delay on minor approach becomes more noticeable.
D	> 25 and ≤ 35	FAIR. Infrequent and shorter gaps in traffic on the main roadway. Queue lengths develop on the minor street.
E	> 35 and ≤ 50	POOR. Very infrequent gaps in traffic on the main roadway. Queue lengths become noticeable.
F	> 50	UNSATISFACTORY. Very few gaps in traffic on the main roadway. Excessive delay with significant queue lengths on the minor street.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

Level of Service Definitions

Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Extremely favourable progression with most vehicles arriving during the green phase. Most vehicles do not stop and short cycle lengths may contribute to low delay.
B	> 10 and ≤ 20	VERY GOOD. Very good progression and/or short cycle lengths with slightly more vehicles stopping than LOS "A" causing slightly higher levels of average delay.
C	> 20 and ≤ 35	GOOD. Fair progression and longer cycle lengths lead to a greater number of vehicles stopping than LOS "B".
D	> 35 and ≤ 55	FAIR. Congestion becomes noticeable with higher average delays resulting from a combination of long cycle lengths, high volume-to-capacity ratios and unfavourable progression.
E	> 55 and ≤ 80	POOR. Lengthy delays values are indicative of poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures are common with individual movement failures also common.
F	> 80	UNSATISFACTORY. Indicative of oversaturated conditions with vehicular demand greater than the capacity of the intersection.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

APPENDIX G

TAC Geometric Design Guide for Canadian Roads

The intersection sight distance along the major road (distance b in **Figure 9.9.2**) is determined by:

$$ISD = 0.278\ V_{major}\ t_g \qquad (9.9.1)$$

Where:

ISD = intersection sight distance (length of the leg of sight triangle along the major road) (m)

V_{major} = design speed of the major road (km/h)

t_g = time gap for minor road vehicle to enter the major road (s)

Table 9.9.5: Time Gap for Case B2—Right Turn from Stop and Case B3—Crossing Maneuver

Design Vehicle	Time Gap (t_g)(s) at Design Speed of Major Road
Passenger car	6.5
Single-unit truck	8.5
Combination truck (WB 19 and WB 20)	10.5

Note: Time gaps are for a stopped vehicle to turn left onto a two-lane highway with no median and with grades of 3% or less. The table values should be adjusted as follows:

- For multi-lane highways: For left turns onto two-lane highways with more than two lanes, add 0.5 s for passenger cars and 0.7 s for trucks for each additional lane, from the left, in excess of one, to be crossed by the turning vehicle.
- For minor approach grades: If the approach grade is an upgrade that exceeds 3%, add 0.1 s for each percent grade for left turns.

Table 9.9.6: Design Intersection Sight Distance – Case B2, Right Turn from Stop, and Case B3, Crossing Maneuver

Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (m)	Design (m)
20	20	36.1	40
30	35	54.2	55
40	50	72.3	75
50	65	90.4	95
60	85	108.4	110
70	105	126.5	130
80	130	144.6	145
90	160	162.6	165
100	185	180.7	185
110	220	198.8	200
120	250	216.8	220
130	285	234.9	235

Note: Intersection sight distance shown is for a stopped passenger car to turn right onto or to cross a two-lane highway with no median and with grades of 3% or less. For other conditions, the time gap should be adjusted and the sight distance recalculated.

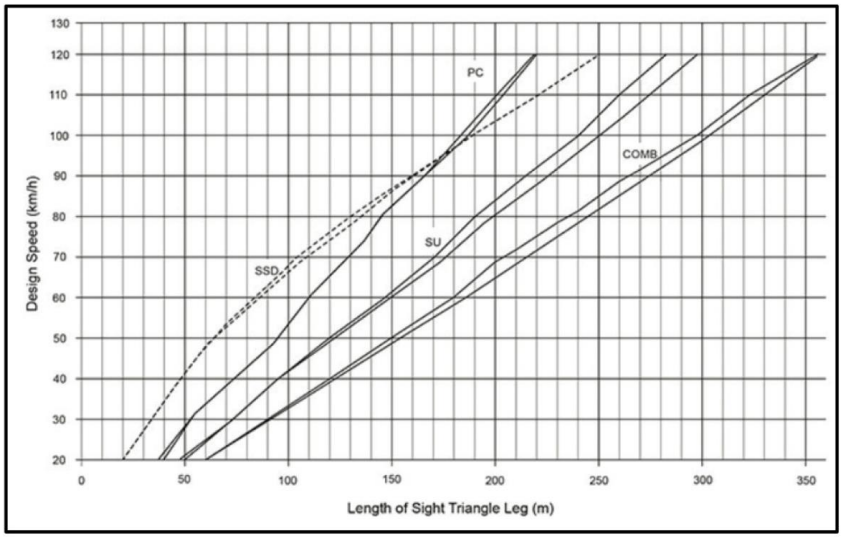


Figure 9.9.5: Intersection Sight Distance – Case B2, Right Turn from Stop, and Case B3, Crossing Maneuver (Calculated and Design Values Plotted)

APPENDIX H

TTS Data

Wed Aug 08 2018 15:32:42 GMT-0400 (Eastern Daylight Time) - Run Time: 1859ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: Primary travel mode of trip - mode_prime

Filters:
(Start time of trip - start_time In 600-900
and
Primary travel mode of trip - mode_prime In
and
2006 GTA zone of origin - gta06_orig In 3648)

Trip 2016
Table:

	Auto driver	Route
PD 1 of Toronto	190	North
PD 2 of Toronto	34	North
PD 3 of Toronto	63	North
PD 4 of Toronto	78	North
PD 7 of Toronto	73	North
PD 8 of Toronto	106	North
PD 9 of Toronto	109	North
PD 10 of Toronto	18	North
PD 11 of Toronto	21	North
PD 12 of Toronto	13	North
PD 13 of Toronto	23	North
PD 14 of Toronto	14	North
PD 16 of Toronto	24	North
Richmond Hill	22	North
Vaughan	92	North
Brampton	58	North
Mississauga	1527	Internal
Milton	11	WB QEW
Oakville	135	WB QEW
Burlington	24	WB QEW
Dundas	9	WB QEW
St. Catharines	24	WB QEW
Kitchener	16	WB QEW
City of Guelph	18	WB QEW
Orangeville	15	North
Total	2717	

Legend:

North	Hurontario STreet
South	Hurontario Street
West QEW	Part of "North Hurontario" during outbound.
West	Pinetree Way
East	--

Internal Trips % Calculations

Hurontario at Pinetree Way

Existing Distribution in Mississauga

Total volumes	1816	
		Revised (include QEW We
North	52%	50%
South	47%	
West QEW	1%	
	1	

At South Service Road

Total volumes	2661	
North		
South		
West QEW	4%	4% of the North traffic (2.

Mississauga			
Internal Tr	% Existing	% Assume	# of Trips
North	50%	45%	687
South	47%	40%	611
West QEW	2%	10%	153
West Pinet	1%	5%	76
Total	100%	1	1527

To/From

Overall Trip Distribution	# of Trips	%	% Assumed
North	1640	60%	60%
South	611	22%	20%
West (QEW Off-Ramp)	390	14%	15%
West (Pinetree)	76	3%	5%
Total	2717	100%	100%

Wed Aug 08 2018 10:17:28 GMT-0400 (Eastern Daylight Time) - Run Time: 2462ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: Primary travel mode of trip - mode_prime

Filters:
(Primary travel mode of trip - mode_prime In d
and
2006 GTA zone of destination - gta06_dest In 3648
and
Start time of trip - start_time In 600-900
and
Trip purpose of destination - purp_dest In W)

Trip 2016
Table:

	Auto driver	Route
PD 1 of Toronto	4	North
PD 2 of Toronto	38	North
PD 3 of Toronto	13	North
PD 8 of Toronto	10	North
Brampton	62	North
Mississauga	289	See internal
Oakville	53	West (QEW EB Off Ramp)
Burlington	23	West (QEW EB Off Ramp)
Orangeville	22	North
Bradford-West Gwillimbury	16	North
Total	530	

Legend:	To/From	
North	Hurontario	
South	Hurontario	
West	(QEW EB Off Ramp)	Part of "North Hurontario'
West	Pinetree Wood	
West	Indian Valley	
East	Pinewood Trail	

Internal Trips

Mississauga		
Internal Tri	Assume %	# of trips
North	20%	58
South	40%	116
West QEW	10%	29
West Pinet	10%	29
West India	10%	29
East Pinew	10%	29
	100%	290

	In	Out
A.M.	26	4
PM	1	5

Overall Trip Distribution (To/From)		%	% Assumed
North	223	42%	45%
South	116	22%	20%
West (QEW Off-Ramp)	105	20%	20%
West (Pinetree)	29	5%	5%
West (Indian Valley)	29	5%	5%
East (Pinewood)	29	5%	5%
	531	100%	100%

Am
In
12
5
5
1
1
1
25

buted anyway. Negligible impact

Out
2
1
1
0
0
0

Pm	
In	Out
0.45	2
0.2	1
0.2	1
0.05	0
0.05	0
0.05	0

APPENDIX I

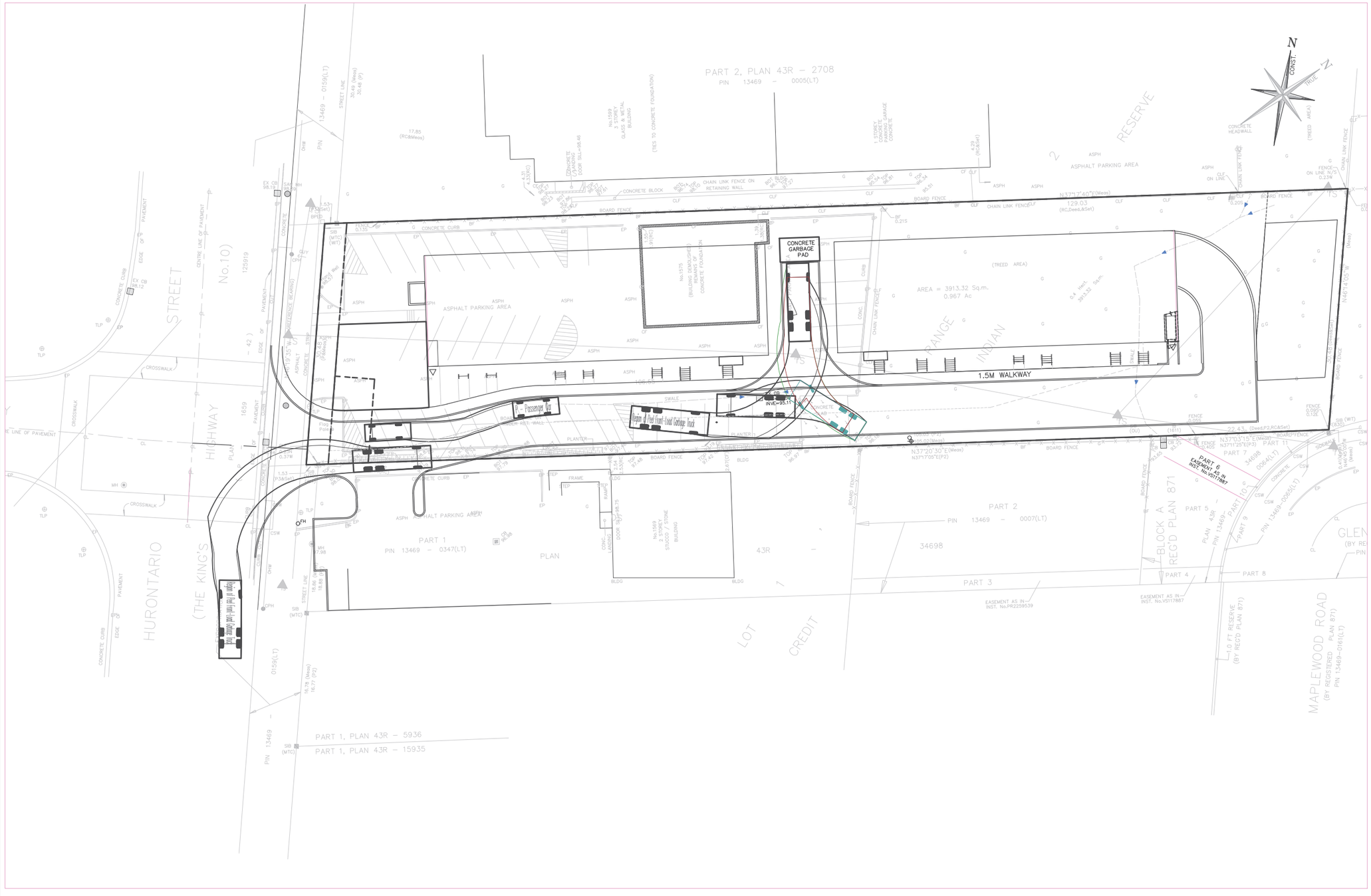
MTO AADT Data

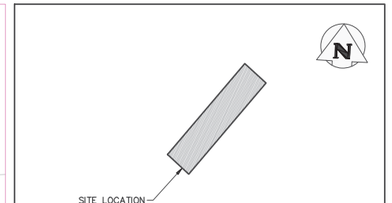
Highway	Location Description	Dist. (KM)	Year	Pattern Type	AADT	SADT	SAWDT	WADT	AR
			2015	C	138,400	152,200	148,100	124,600	N/A
			2016	C	139,800	153,800	149,600	125,900	N/A
QEW	MISSISSAUGA RD IC-130	2.0	1988	C	114,000	126,500	126,500	102,500	1.0
			1989	C	118,000	130,900	132,100	106,100	1.2
			1990	C	121,600	134,900	134,900	109,300	0.9
			1991	C	120,100	132,100	133,300	109,200	1.0
			1992	C	120,900	130,500	134,100	112,400	0.9
			1993	C	123,300	133,100	136,800	113,400	1.1
			1994	C	125,800	137,100	140,900	113,200	1.0
			1995	C	128,300	138,600	143,700	118,000	0.8
			1996	C	131,900	148,400	150,400	118,800	0.8
			1997	C	138,200	145,100	161,700	129,900	0.9
			1998	C	144,100	153,300	168,600	136,900	1.2
			1999	C	147,600	157,000	172,700	140,200	0.6
			2000	C	146,000	164,300	164,800	131,500	0.8
			2001	C	148,000	167,200	167,200	133,200	0.9
			2002	C	150,000	168,000	169,300	135,000	1.1
			2003	C	154,800	173,400	174,900	139,300	1.0
			2004	C	158,800	177,400	178,500	143,300	0.9
			2005	C	162,000	180,400	181,900	145,500	0.8
			2006	C	152,500	169,400	170,800	137,200	0.9
			2007	C	154,500	171,700	174,100	138,800	0.8
			2008	C	137,200	151,400	149,300	123,100	1.1
			2009	C	149,200	164,700	166,300	134,300	0.7
			2010	C	158,700	174,900	176,500	142,900	0.7
			2011	C	160,300	176,300	177,900	144,200	N/A
			2012	C	161,800	178,000	174,800	145,600	N/A
			2013	C	150,000	165,000	163,500	135,000	N/A
			2014	C	162,200	178,500	173,600	146,000	N/A
			2015	C	163,600	180,000	175,100	147,200	N/A
			2016	C	164,900	181,400	176,500	148,500	N/A
QEW	HWY 10-HURONTARIO ST IC-132	2.1	1988	C	122,500	128,600	138,400	115,100	1.0
			1989	C	126,800	133,100	143,200	120,400	1.0

Highway	Location Description	Dist. (KM)	Year	Pattern Type	AADT	SADT	SAWDT	WADT	AR
			1990	C	130,900	140,000	151,700	124,300	1.0
			1991	C	128,900	136,600	148,200	125,000	0.8
			1992	C	129,800	137,500	146,600	119,400	0.8
			1993	C	137,900	146,200	155,800	126,900	1.1
			1994	C	143,700	152,300	160,900	132,200	1.3
			1995	C	144,600	153,300	160,500	133,000	1.2
			1996	C	148,100	157,600	173,300	140,700	1.0
			1997	C	151,600	159,200	177,400	142,500	0.8
			1998	C	155,100	165,000	181,500	147,300	1.1
			1999	C	157,600	167,700	184,400	149,700	0.9
			2000	C	160,500	170,800	189,100	150,900	1.2
			2001	C	163,500	174,900	192,900	153,700	0.8
			2002	C	166,500	177,400	195,900	155,900	1.0
			2003	C	169,500	179,700	200,000	159,300	0.9
			2004	C	186,500	197,100	218,500	176,200	0.6
			2005	C	175,400	185,600	205,100	164,500	0.7
			2006	C	167,500	177,100	195,700	157,600	0.8
			2007	C	169,000	179,200	195,600	158,600	1.1
			2008	C	142,000	156,700	154,600	127,400	1.3
			2009	C	142,500	186,600	188,400	152,200	0.7
			2010	C	165,900	191,300	193,000	156,300	0.7
			2011	C	170,000	187,000	188,700	153,000	N/A
			2012	C	169,100	186,000	182,600	152,200	N/A
			2013	C	170,000	187,000	185,300	153,000	N/A
			2014	C	171,000	188,100	183,000	153,900	N/A
			2015	C	171,900	189,100	183,900	154,700	N/A
			2016	C	172,900	190,200	185,000	155,600	N/A
QEW	CAWTHRA RD IC-134	1.8	1988	C	124,500	130,700	140,600	117,000	0.9
			1989	C	128,800	135,100	145,400	122,300	0.8
			1990	C	132,900	142,200	154,100	126,200	0.6
			1991	C	130,900	138,700	150,500	126,900	0.5
			1992	C	131,900	139,800	149,000	121,300	0.8
			1993	C	137,400	145,500	157,900	131,800	0.8

APPENDIX J

Truck Turning Plans



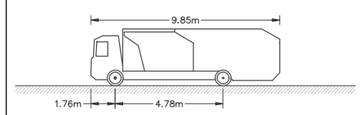


LEGEND

- PROPERTY LINE
- FRONT LOADING GARBAGE TRUCK
- DIRECTION OF TRUCK MOVEMENT
- PROPOSED FIRE HYDRANT LOCATION

REGION OF PEEL FRONT–LOAD GARBAGE TRUCK

SCALE: N.T.S.



VEHICLE STATISTICS:

OVERALL VEHICLE LENGTH:	9.85 m
OVERALL VEHICLE WIDTH:	2.77m
OVERALL VEHICLE HEIGHT:	3.25 m
MIN. BODY/GROUND CLEARANCE:	0.343 m
VEHICLE TRACK WIDTH:	2.77 m
LOCK–TO–LOCK TIME:	6.00 sec
CURB TO CURB TURNING RADIUS:	13 m

No.	ISSUE / REVISION	YYYY/MMM/DD
1B	ISSUED FOR COORDINATION	2019/OCT/08
1A	ISSUED FOR COORDINATION	2018/OCT/31
1	ISSUED FOR FSR	2017/DEC/06
0	ISSUED FOR FSR (NOT SUBMITTED)	2017/SEP/14

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN BY KIRKOR ARCHITECTS + PLANNERS. DRAWING DATED SEPT 2019

DRAWING NOTES:

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.

THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT. DO NOT SCALE THIS DRAWING.

ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

Project

1575 HURONTARIO STREET
CITY OF MISSISSAUGA

Drawing

TRUCK TURNING PLAN

NOT FOR CONSTRUCTION

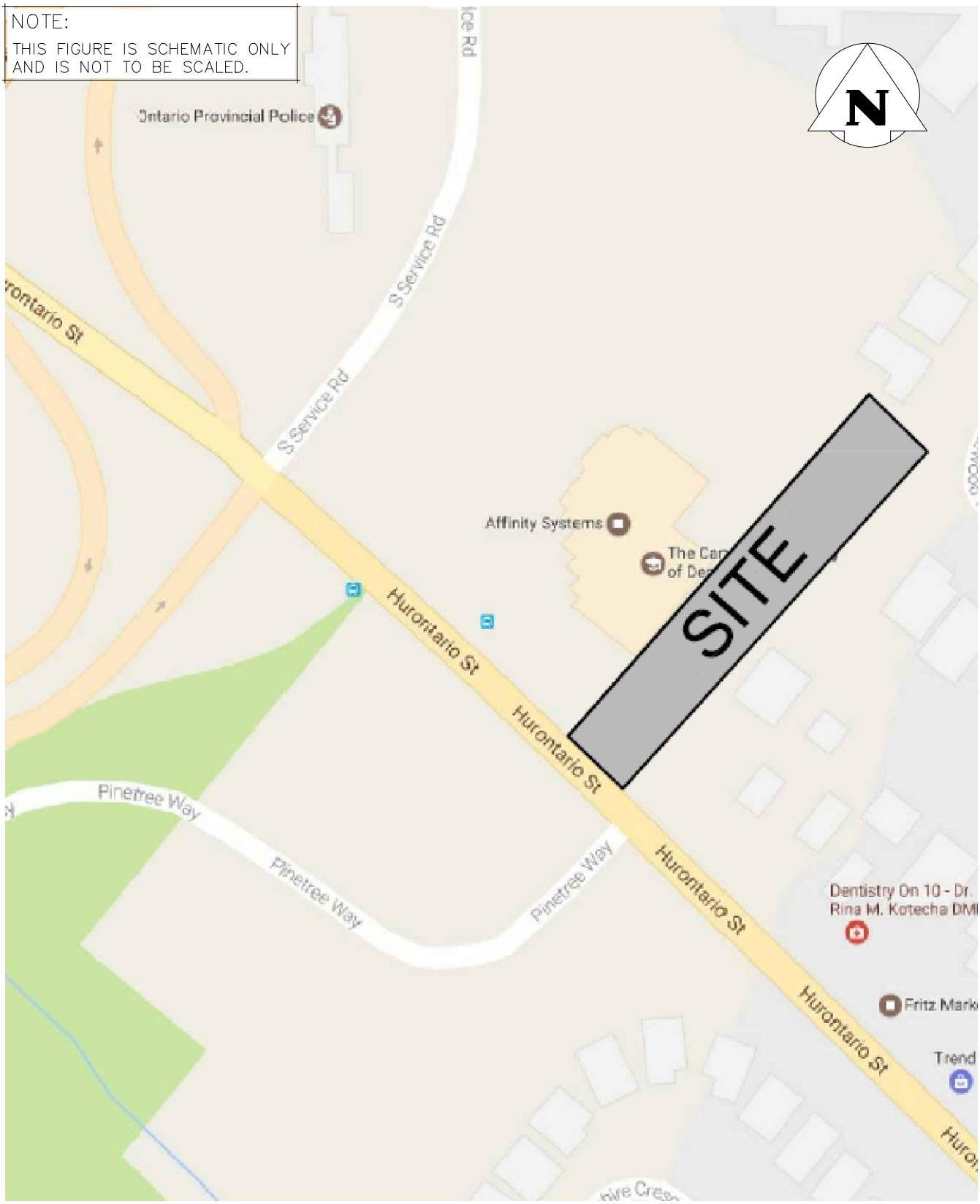
Stamp

CROZIER & ASSOCIATES
Consulting Engineers
2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905 875–0026 T
905 875–4915 F
www.cfcrozier.ca

Drawn	T.F.	Design	T.F.	Project No.	1110–4677
Check	M.C.	Check	M.C.	Scale	1:250
				Dwg.	C 03

Figures

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

SITE LOCATION PLAN

CROZIER CONSULTING ENGINEERS
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Suite 301
Toronto, ON M5B 1M4
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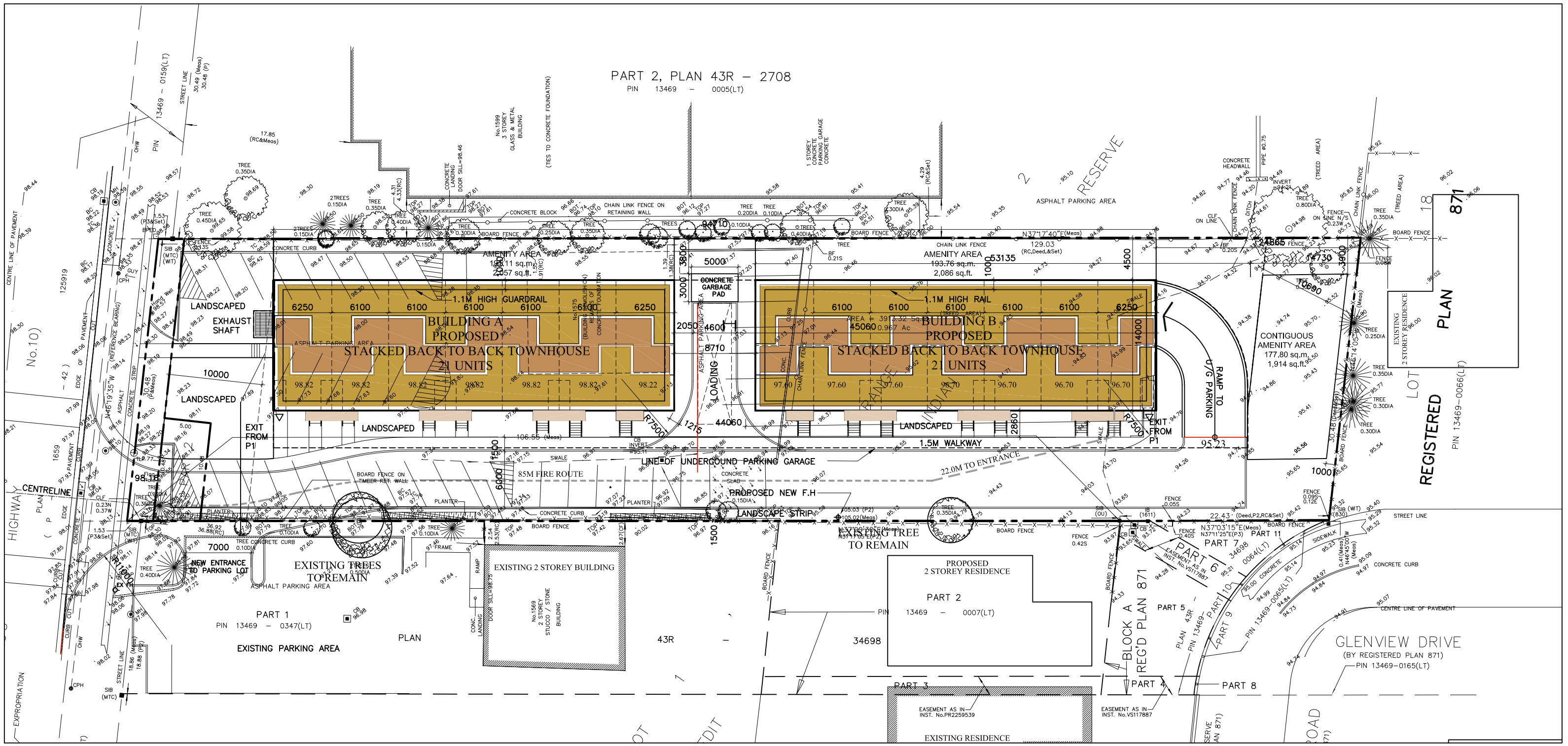
Drawn	Design	Project No.	
A.J.D.	M.C.	1110-4677	
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 1

SITE PLAN

RESIDENTIAL DEVELOPMENT

42 STACKED / BACK TO BACK TOWNHOUSE UNITS



SITE STATISTICS

LOT AREA = 3,913.32 M2
UNIT COUNT = 42 UNITS
PARKING
= 56 SPACES – RATIO 1.33/ PER UNIT

RESIDENTIAL DEVELOPMENT | HURONTARIO STREET, MISSISSAUGA, ONTARIO.
DREAM MAKER

PROJECT NO. 17-094
3 October 2019
SCALE 1:400

KIRKOR ARCHITECTS + PLANNERS

NOTE:
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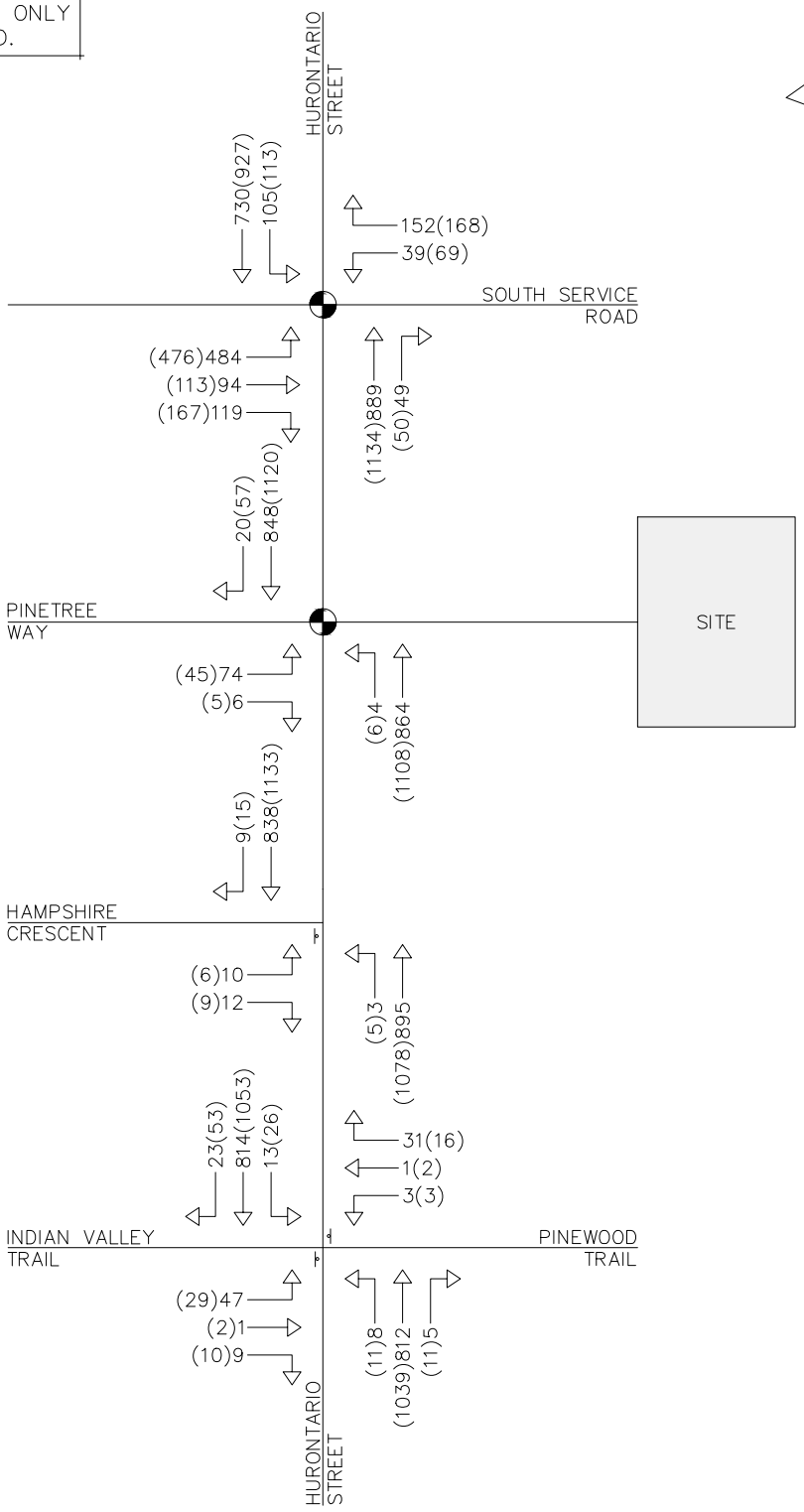

LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

EXISTING TRAFFIC

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Drawn	Design	Project No.	
A.J.D.	A.J.D.		1110-4677
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 03

NOTE:
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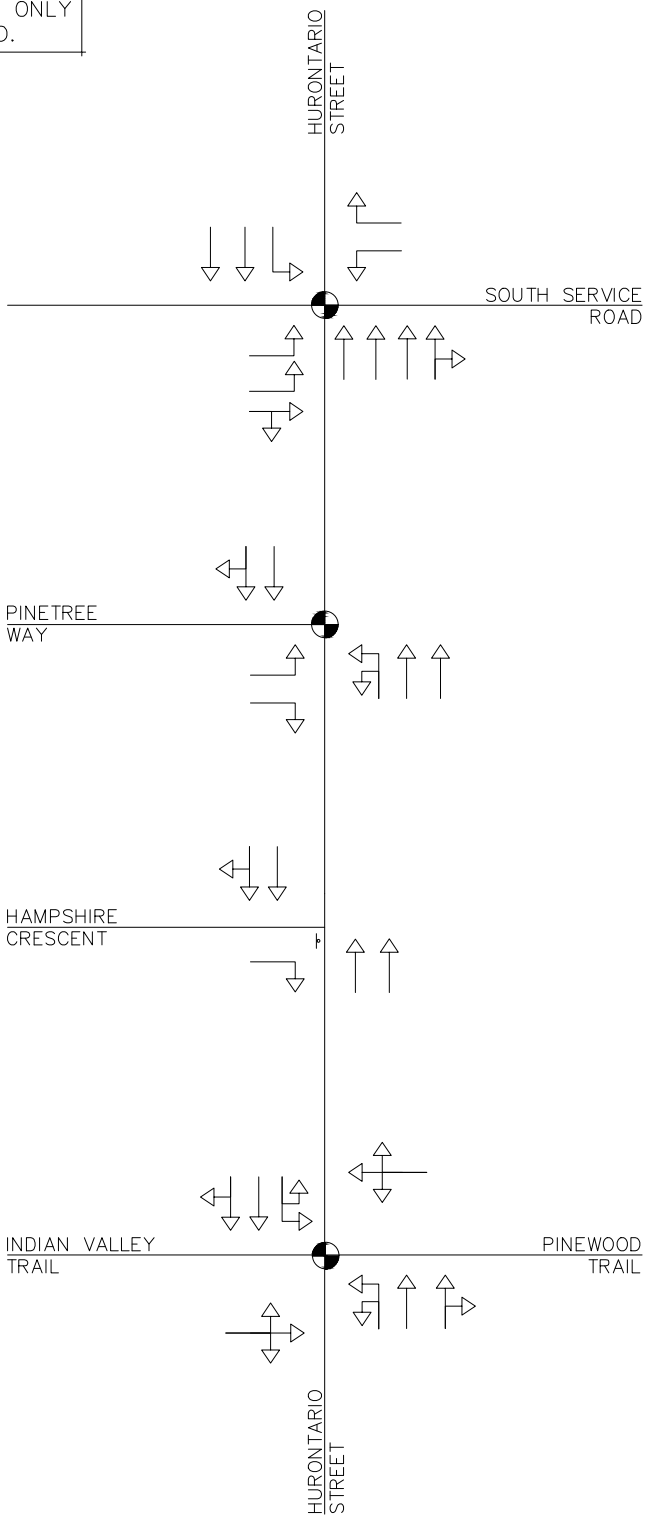

LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

FUTURE ROAD NETWORK WITH LRT

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Drawn	Design	Project No.	
A.J.D.	M.C.		1110-4677
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 04

NOTE:
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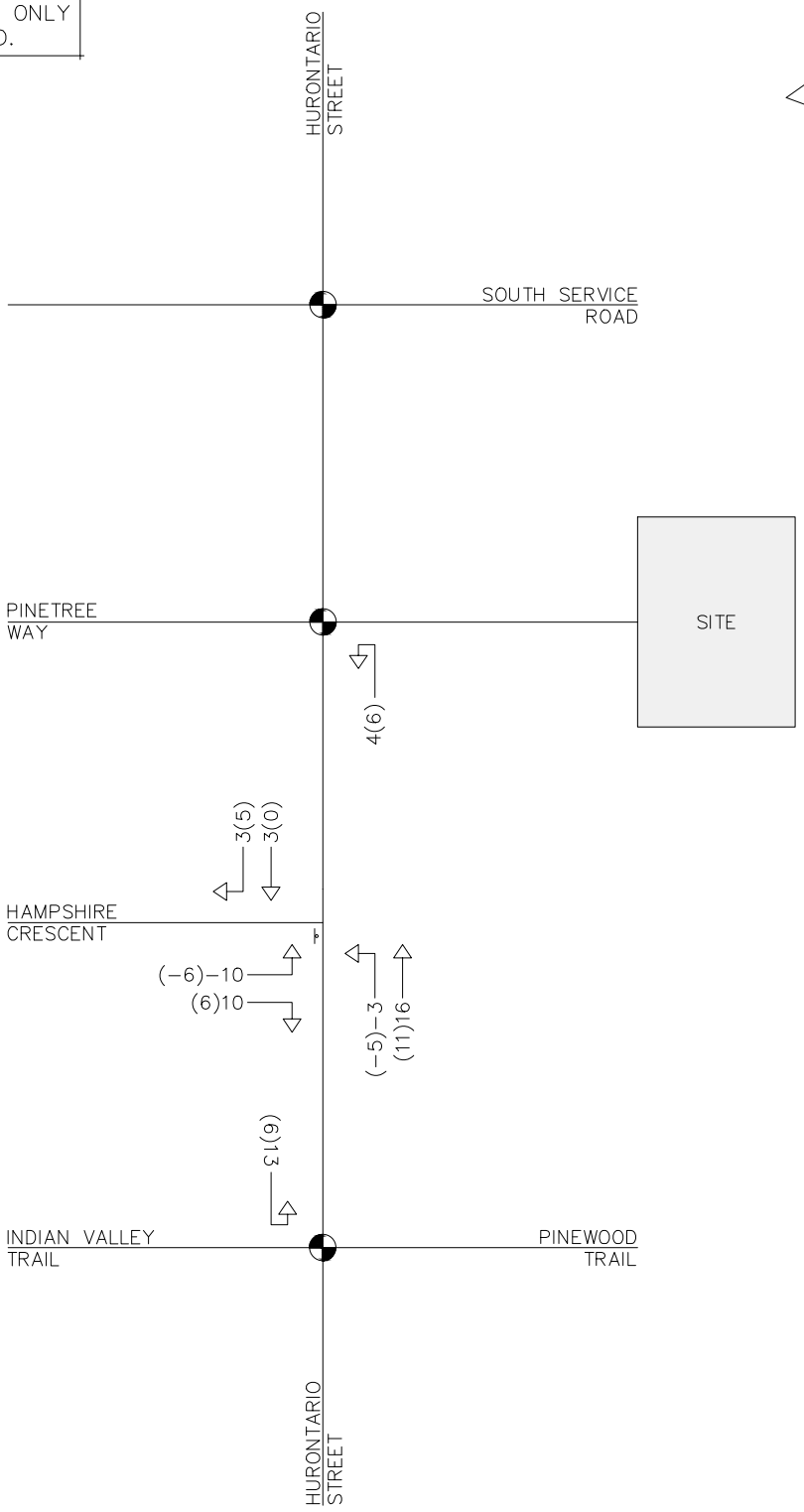

LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

2021 FUTURE ROAD NETWORK WITH LRT

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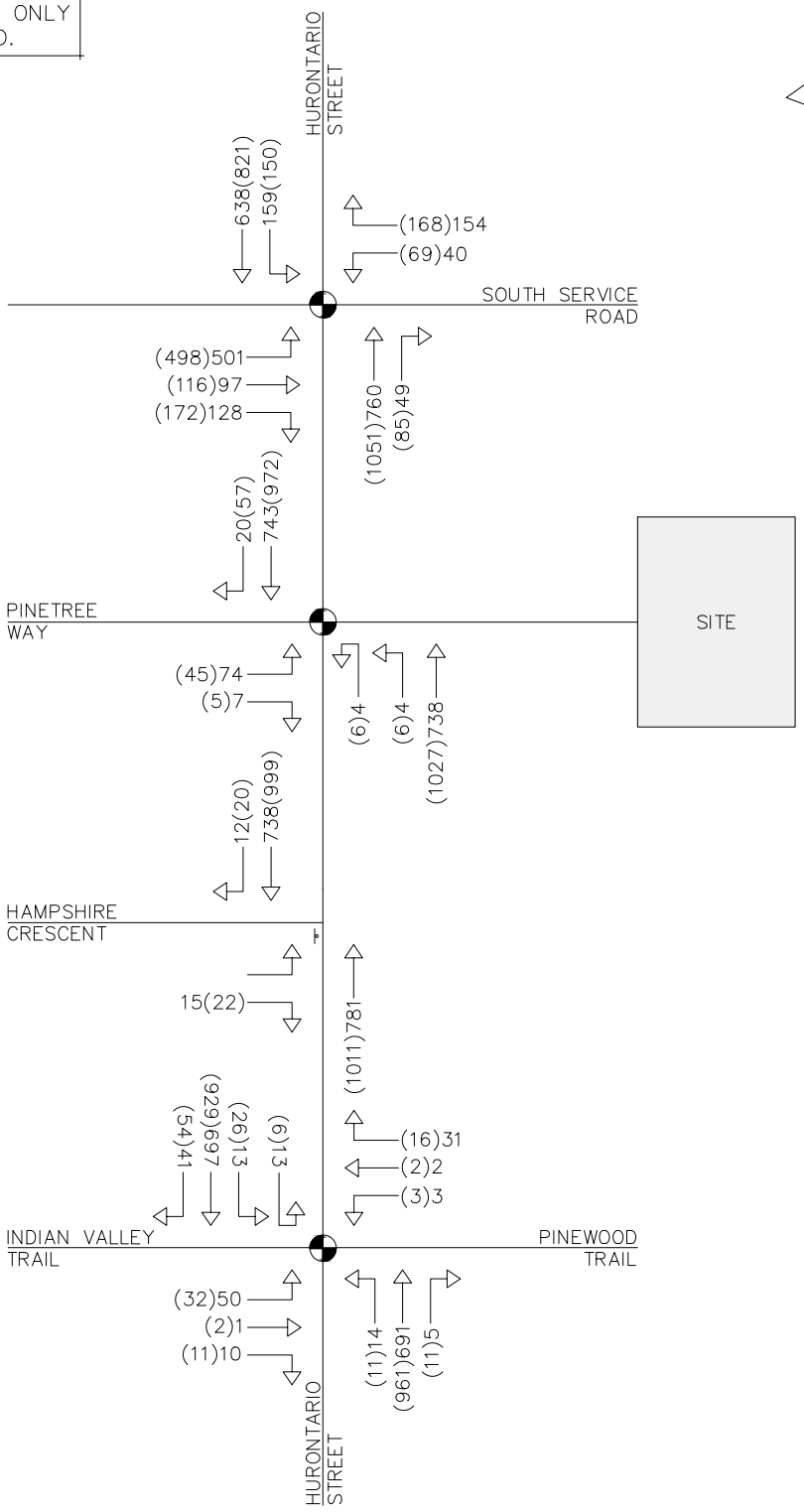
Drawn	Design	Project No.	
A.J.D.	M.C.	1110-4677	
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 05

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

2021 FUTURE BACKGROUND TRAFFIC

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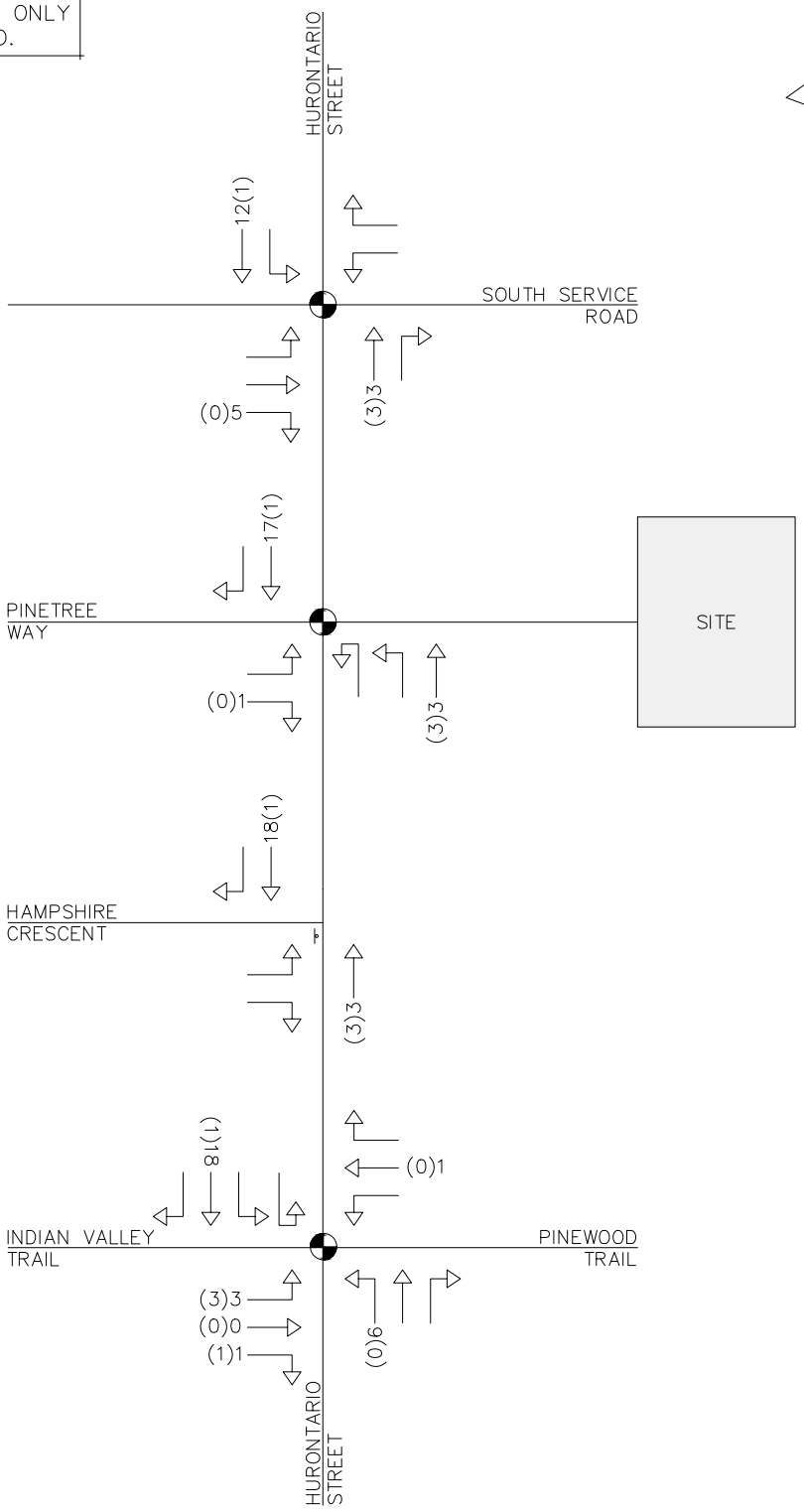
Drawn	Design	Project No.	
A.J.D.	M.C.		1110-4677
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 06

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

BACKGROUND TRIP ASSIGNMENT:
1484 HURONTARIO

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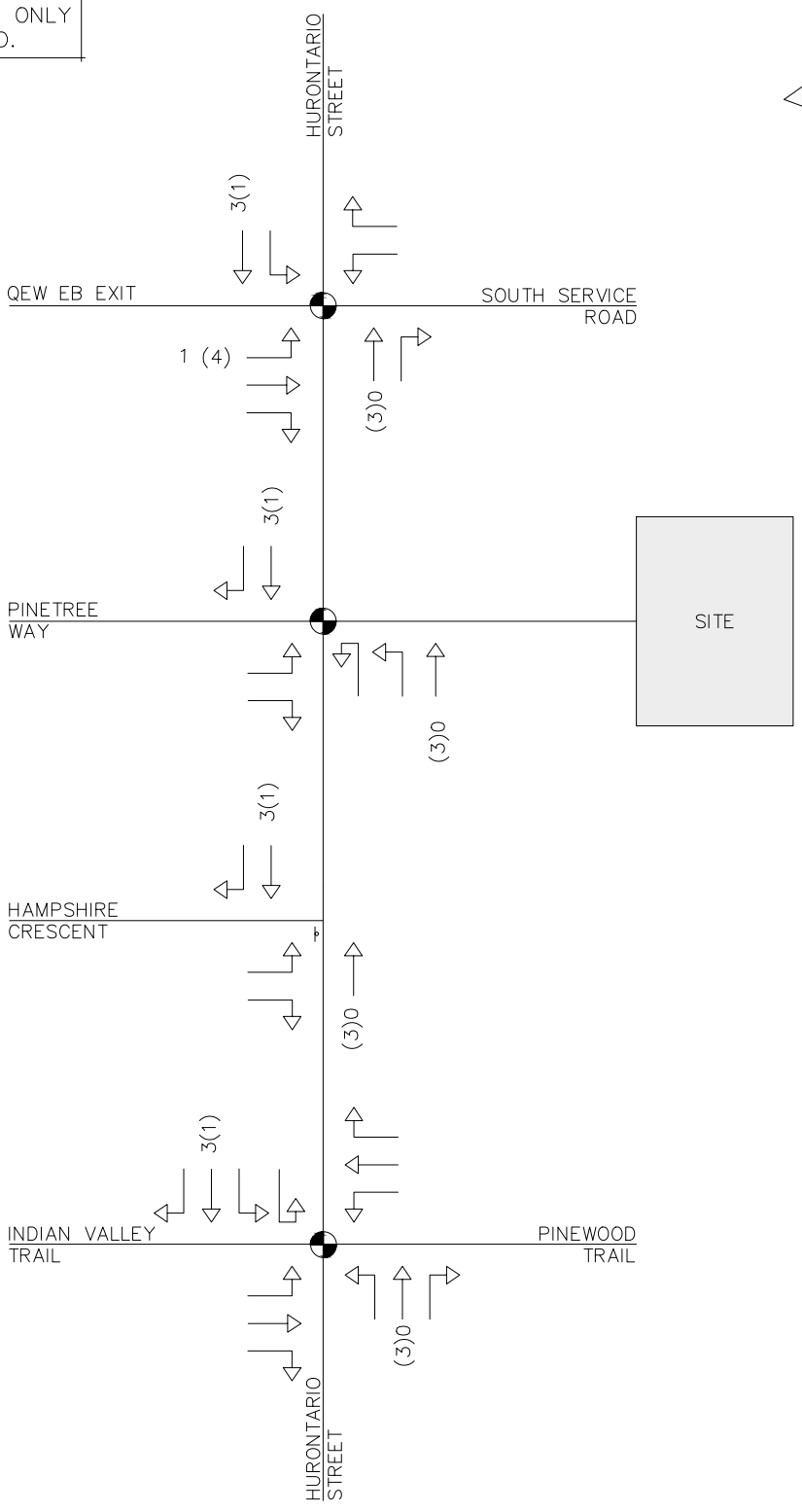
Drawn	Design	Project No.	
A.J.D.	M.C.		1110-4677
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 07

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

BACKGROUND TRIP ASSIGNMENT: CAMILLA ROAD DEVELOPMENT

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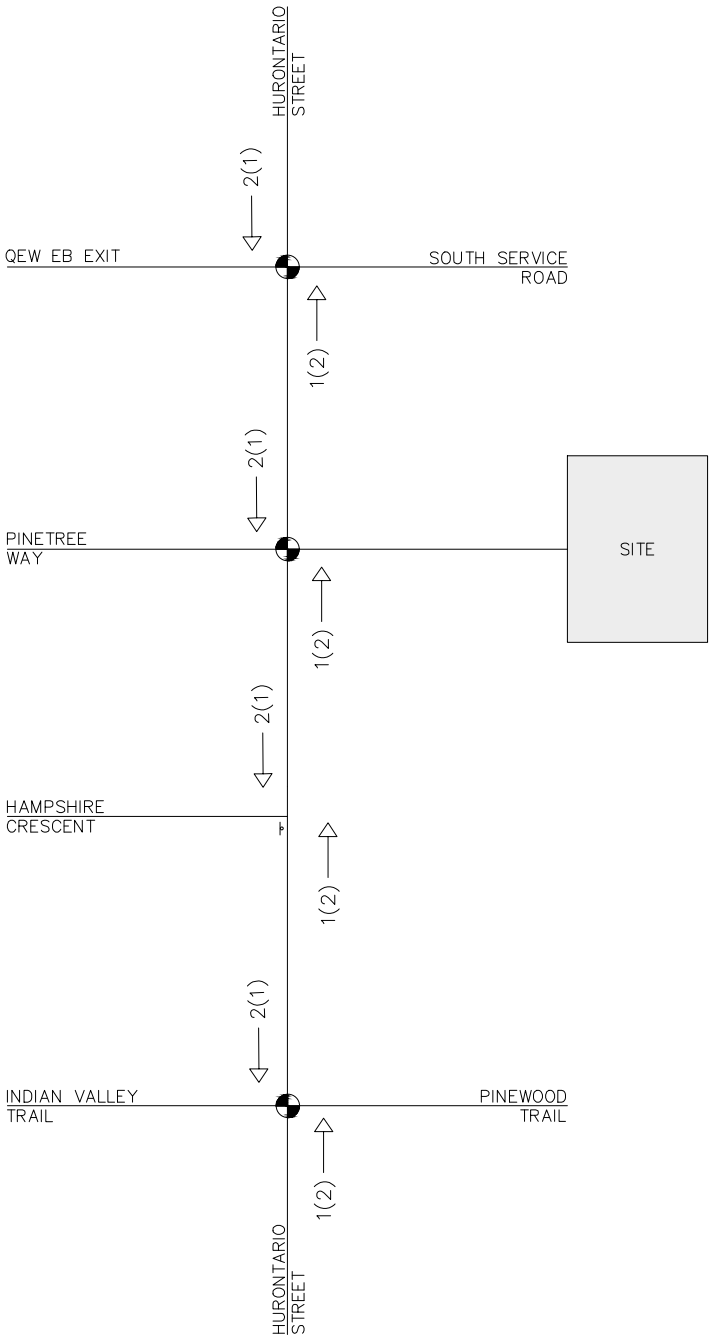
Drawn	Design	Project No.	
A.J.D.	M.C.		1110-4677
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 08

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

BACKGROUND TRIP ASSIGNMENT: 2120 HURONTARIO STREET (RESIDENTIAL)

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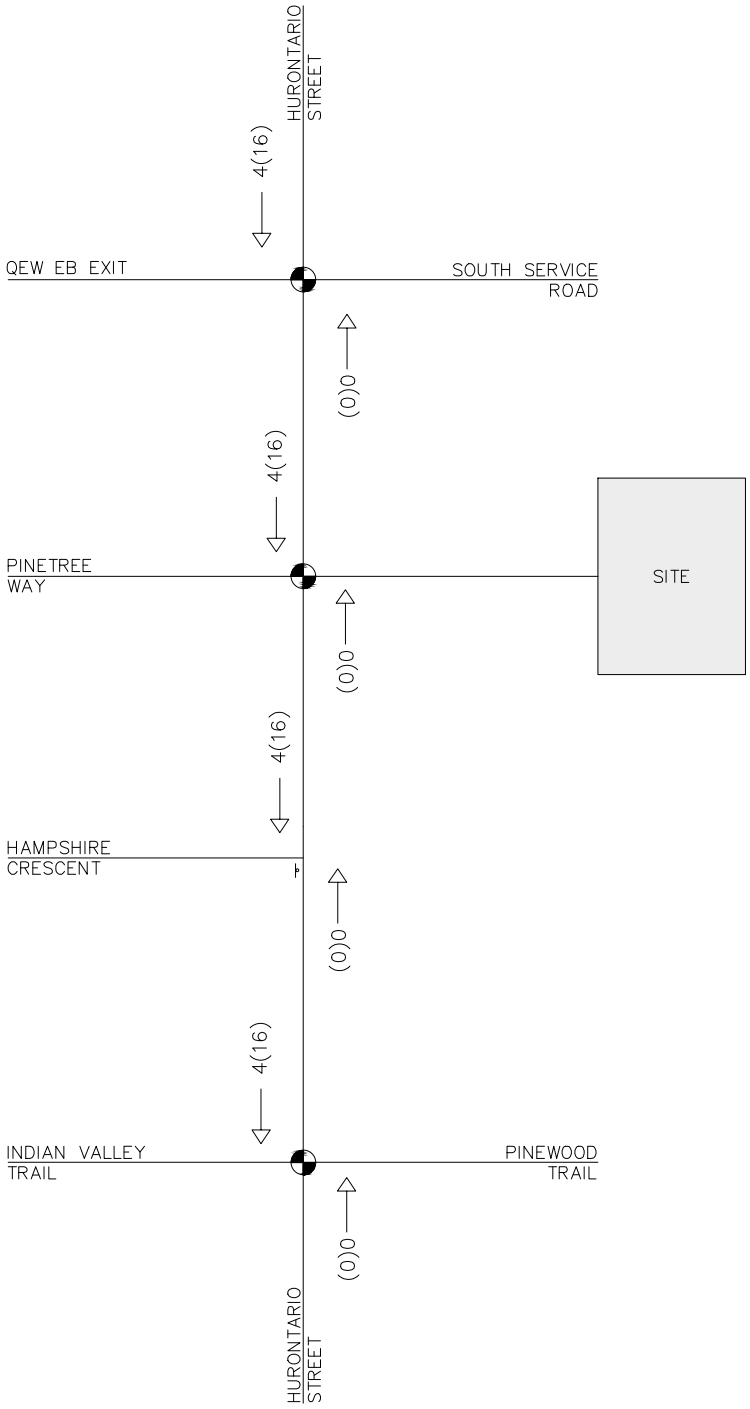
Drawn	Design	Project No.	
A.J.D.	M.C.		1110-4677
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 9

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

BACKGROUND TRIP ASSIGNMENT: 2120 HURONTARIO STREET (COMMERCIAL)

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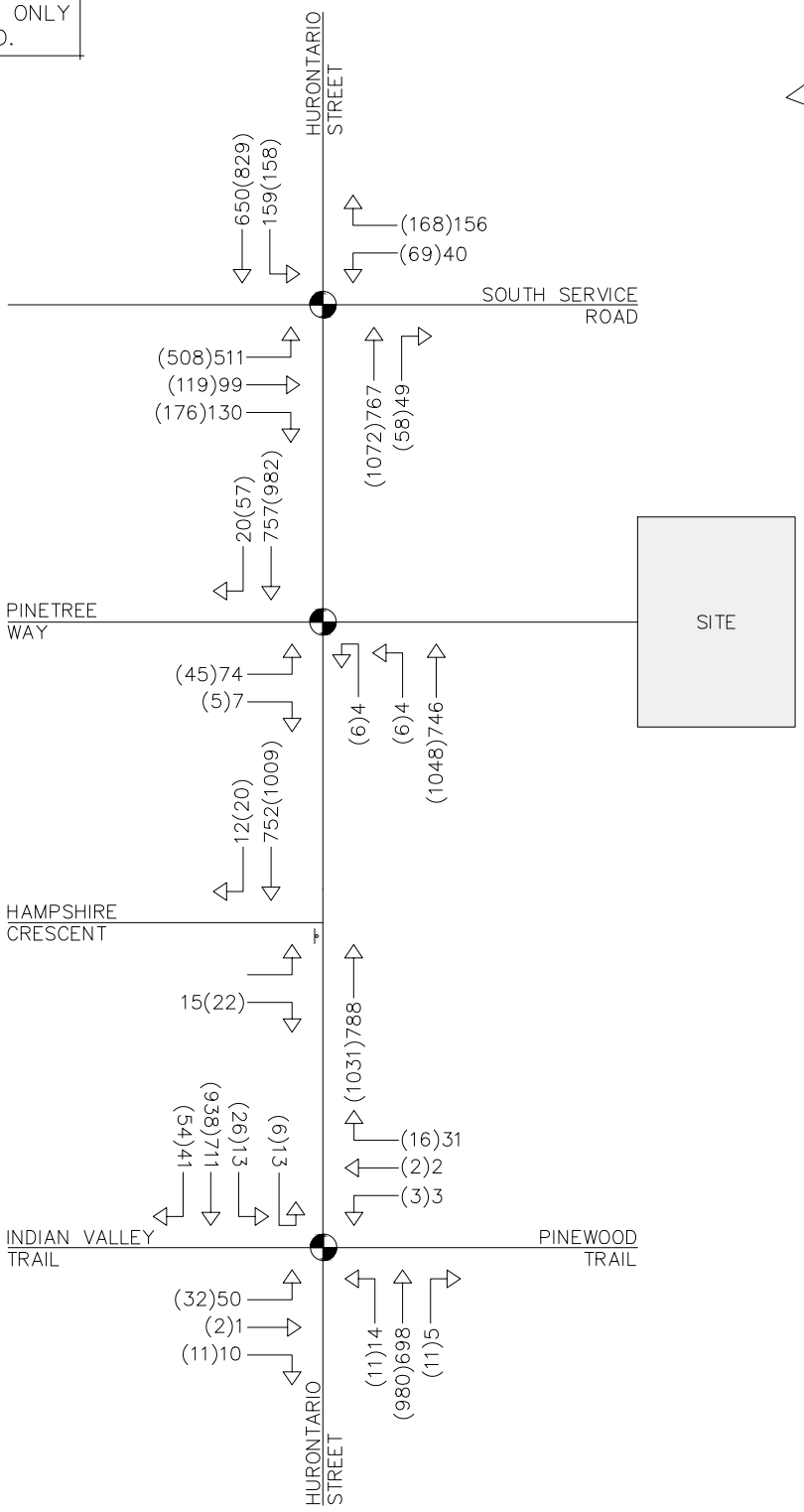
Drawn	Design	Project No.	
A.J.D.	M.C.		1110-4677
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 10

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
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DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

2023 FUTURE BACKGROUND TRAFFIC

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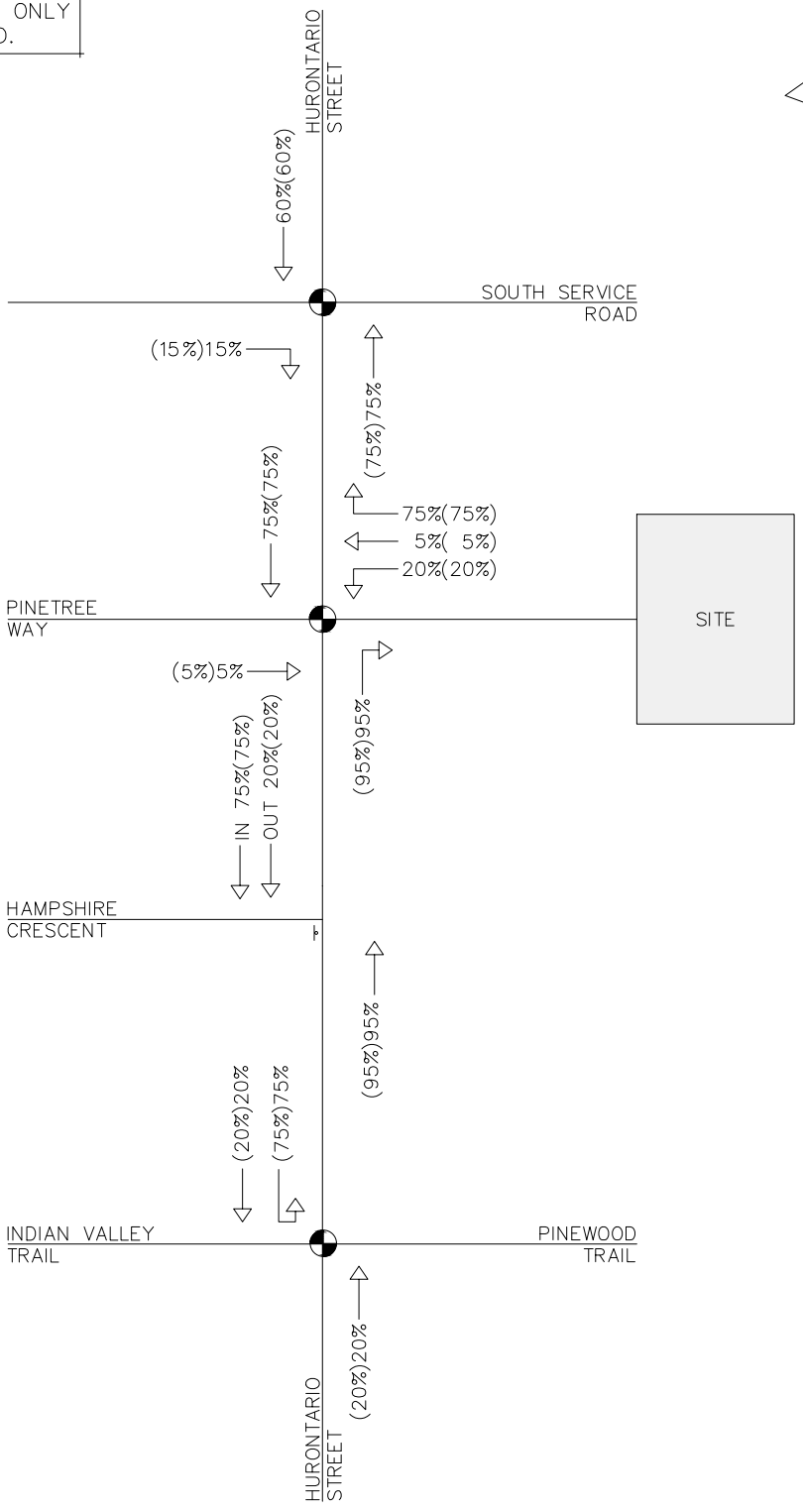
Drawn	Design	Project No.	
A.J.D.	M.C.	1110-4677	
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 11

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

TRIP DISTRIBUTION

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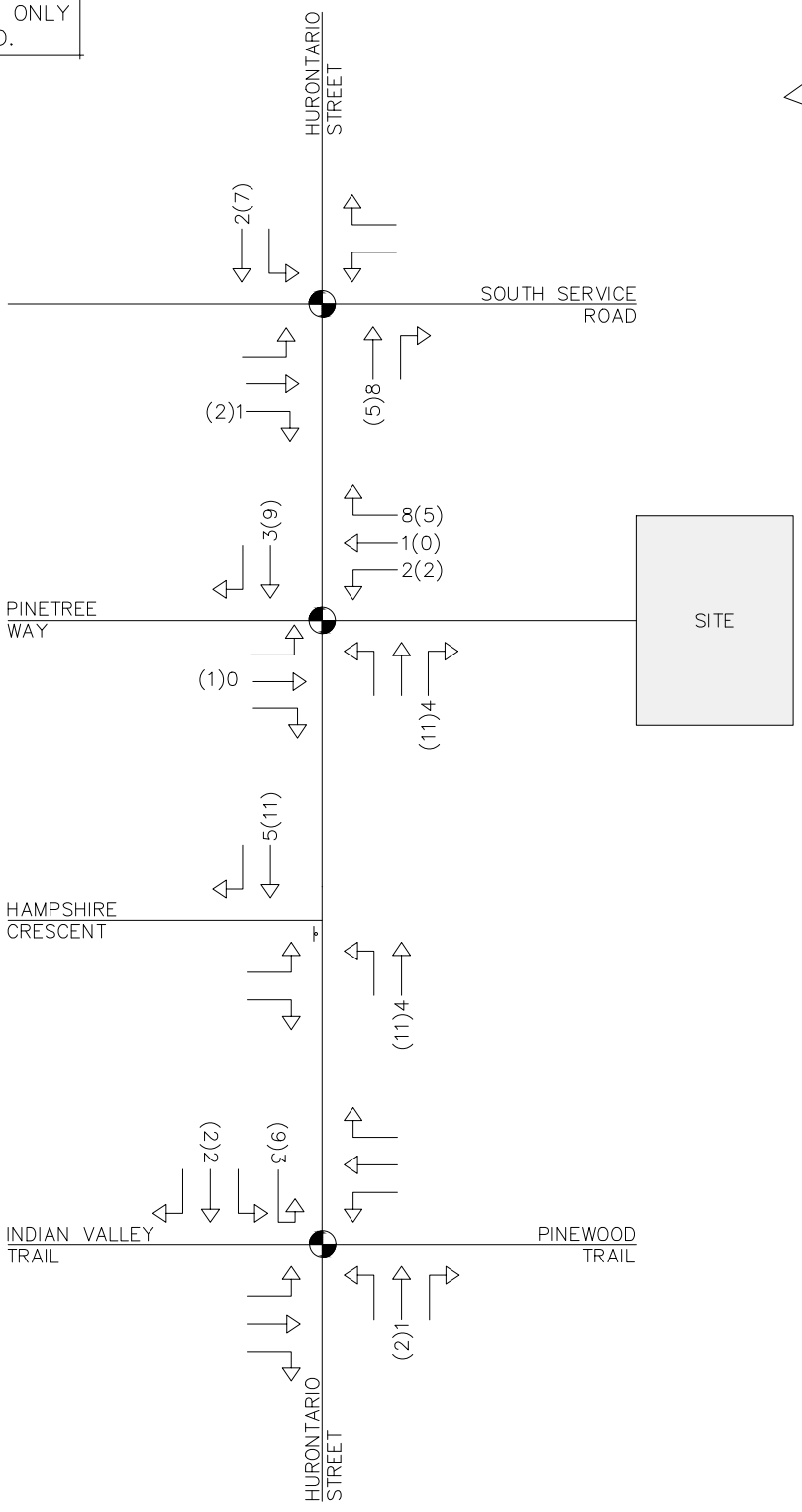
Drawn	Design	Project No.	
A.J.D.	M.C.	1110-4677	
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 12

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

TRIP ASSIGNMENT

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Drawn	Design	Project No.	
A.J.D.	M.C.	1110-4677	
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 13

NOTE:
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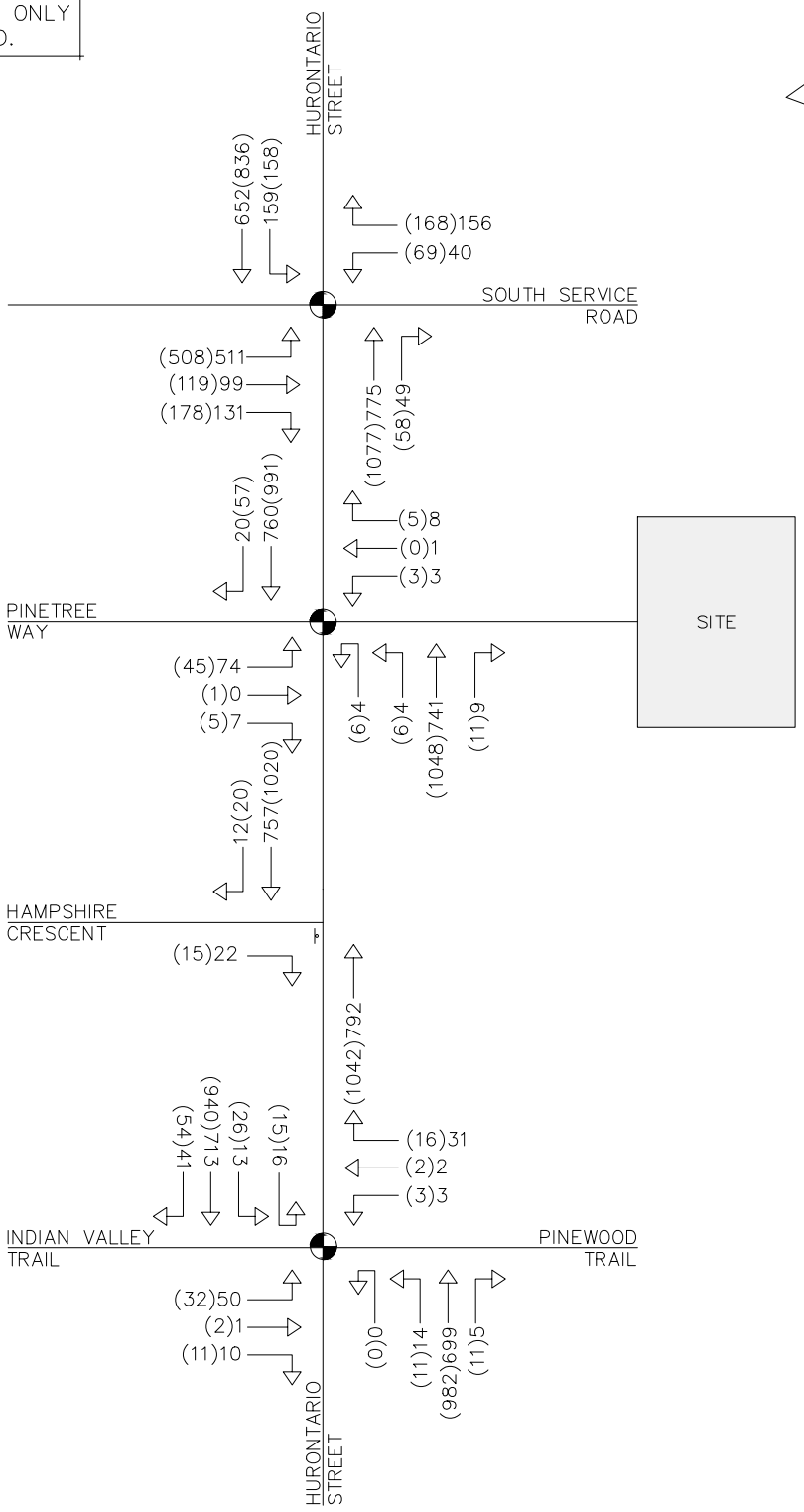

LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

DREAM SUITES
1575 HURONTARIO STREET
CITY OF MISSISSAUGA

2023 FUTURE TOTAL TRAFFIC

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Drawn	Design	Project No.	
A.J.D.	M.C.	1110-4677	
Check	Check	Scale	Dwg.
M.C.	M.L.	N.T.S.	FIG. 14