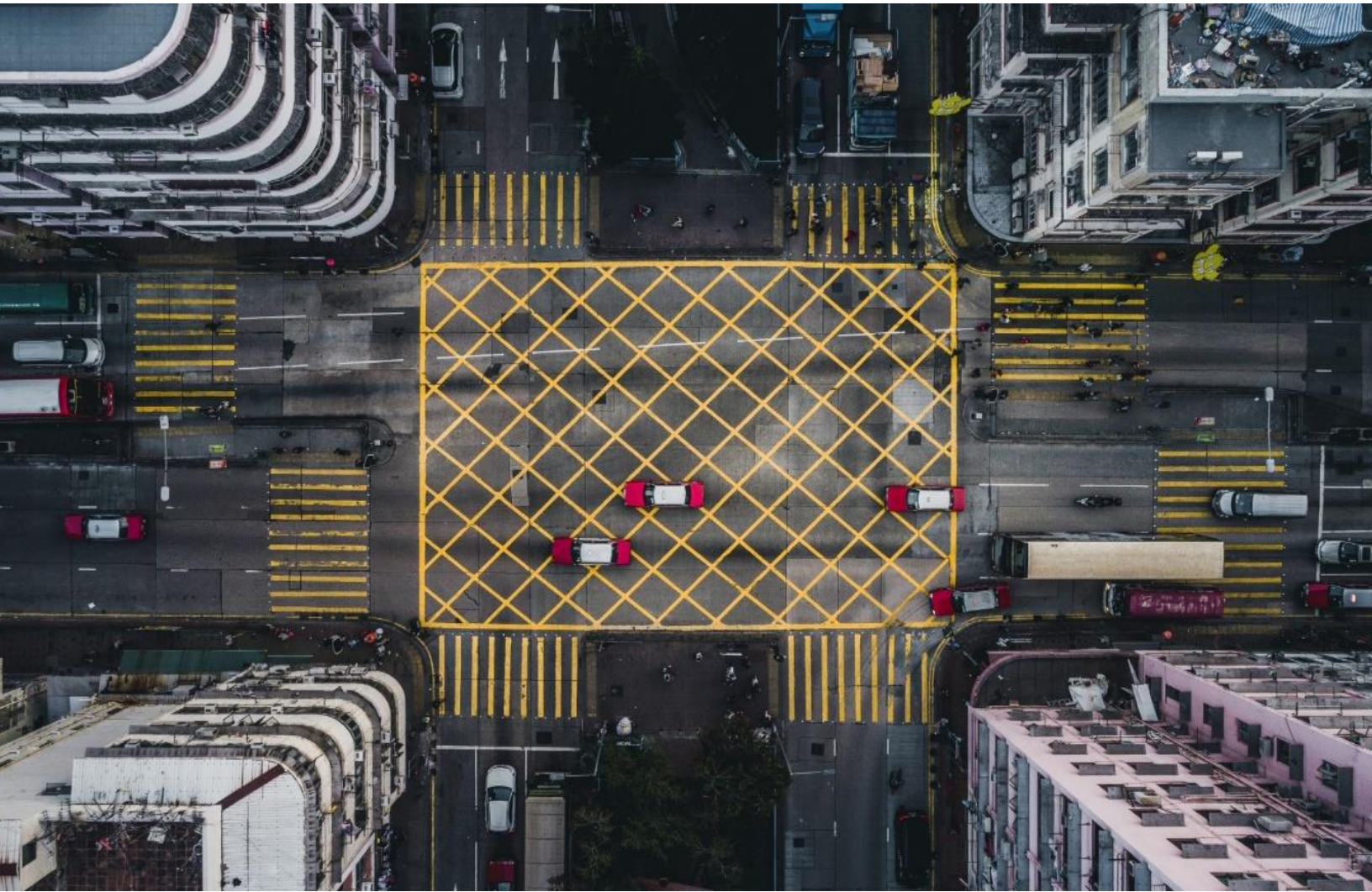
Traffic Impact Study

49 South Service Road

Edenshaw SSR Developments Limited

14 October 2022

→ **The Power of Commitment**



Executive summary

GHD Limited was retained by Edenshaw SSR Developments Limited to prepare a Traffic Impact Study in support of the proposed high-rise residential development located at 49 South Service Road, located northeast of the intersection of Hurontario Street and South Service Road/QEW Eastbound Off-Ramp, in the City of Mississauga.

This report determines the site related traffic and subsequent traffic related impacts on the adjacent road network during the weekday a.m. and p.m. peak hours. These impacts are based on the projected future background traffic and road network conditions derived for a 2024, 2029, and 2034 future planning horizon year.

The proposed draft plan of subdivision prepared by Kirkor Architects and Planners, dated August 2022, consists of a 26-storey high-rise residential building with 353 dwelling units and 146 vehicle parking spaces.

Access to the subject site is proposed via a one-way entrance (east access) and a full-moves driveway (west access) along South Service Road which are aligned with accesses on the opposite side of the road.

The proposed development is expected to generate a total of 73 new two-way trips consisting of 31 inbound and 42 outbound trips during weekday a.m. peak hour and 88 new two-way trips consisting of 42 inbound and 46 outbound trips during the weekday p.m. peak hour.

Under the Existing, Future Background and Future Total scenarios, both the intersections along Hurontario Street (at the QEW Eastbound On-Ramp/Off-Ramp and at the QEW Westbound Off-Ramp/South Service Road) are reported to operate at critical levels of service and delays. However, this is an existing condition based on the estimated traffic volumes along Hurontario Street and the subject site traffic is expected to have a negligible impact on the operation of both intersections. The operation of these intersections is expected to improve as transit modal splits increase along Hurontario Street with the addition of the Hurontario LRT and cycling improvements near the subject site.

All other study intersections including the site accesses are reported to operate with acceptable v/c rations and delays with no queuing issues.

A Vehicle Swept Path Analysis was undertaken to assess the site's ability to accommodate the required turning movements of a waste collection truck, MSU Truck, emergency vehicle and a passenger vehicles as per TAC design guidelines and confirmed that the site loading areas, layby's and underground parking garage can sufficiently accommodate the aforementioned design vehicles.

Under the City of Mississauga's Zoning By-law 0225-2027, the subject site is required to provide 389 parking spaces (318 resident and 71 visitor spaces), 229 bicycle parking spaces (212 long-term and 17 short-term), and one loading space.

The subject site provides a total of 137 vehicle parking spaces, 229 bicycle parking spaces and one loading spaces. This results in a deficit of 252 vehicular parking spaces from the By-law requirement, however both the bicycle parking and loading space requirements meet the City's By-law requirement.

A series of TDM measures are proposed for the subject site to encourage residents to explore various modes of transportation in order to reduce their dependency on single occupancy vehicle trips. These measures include good pedestrian and cycling connectivity to the municipal networks, a reduced parking supply, wayfinding signage and real-time bus schedules on screens within the lobby.

A sightline assessment was conducted for the west access and concluded that there is sufficient intersection stopping sight distance to the east of the access and to the intersection to the west of the site access for a road with a design speed of 80 km/h.

We trust that this satisfies your requirements, but do not hesitate to contact the undersigned if you have any questions.

Sincerely,

October 14, 2022

William Maria, P. Eng.

Transportation Planning Lead

Contents

Table Index

Figure Index

Appendices

1. Introduction

1.1 Retainer and Objective

GHD Limited was retained by Edenshaw SSR Developments Limited to prepare a Transportation Impact Study in support of the proposed residential high-rise development located at 49 South Service Road in the City of Mississauga.

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

The purpose of this study is to:

- Establish baseline traffic conditions for the study area in 2022 and determine future background operating conditions for a future planning horizon in 2024, 2029 and 2034.
- Utilize Institute of Transportation Engineer's (ITE) Trip Generation data, data provided by the City of Mississauga, 2016 Transportation Tomorrow Survey data, and existing travel patterns to estimate the site trips generated by the proposed development and distribute the traffic to the adjacent road network.
- Determine future operating traffic conditions during the weekday peek periods through intersection capacity analysis.
- Review the proposed parking supply for the development.
- Review swept paths and circulation for the expected design vehicles within the site.

Figure 1 Site Location

1.2 Study Team

The GHD team involved in the preparation of the study are:

- William Maria, P. Eng., Transportation Planning Lead
- Rafael Andrenacci, B.Eng., Transportation Planner

2. Site Characteristics

2.1 Study Area

Based on the approved Terms of Reference for the study provided in **Appendix A**, the following intersections were included in the study area:

- Hurontario Street and the QEW Westbound On-Ramp/Off-Ramp
- Hurontario Street and South Service Road/QEW Eastbound Off-Ramp
- South Service Road and Crestview Avenue
- South Service Road and the proposed site accesses

2.2 Proposed Development Content

A site plan prepared by Kirkor Architects and Planners, dated September 2022, is shown in **Figure 2**. The proposed development consists of a high-rise residential building with a total of 353 dwelling units.

Access to the subject site is proposed via two driveways, the east driveway is a one-way inbound only access located near the eastern limit of the subject site and the west driveway a proposed full-moves driveway. Both proposed site driveways are located opposite existing driveways on the south side of South Service Road.

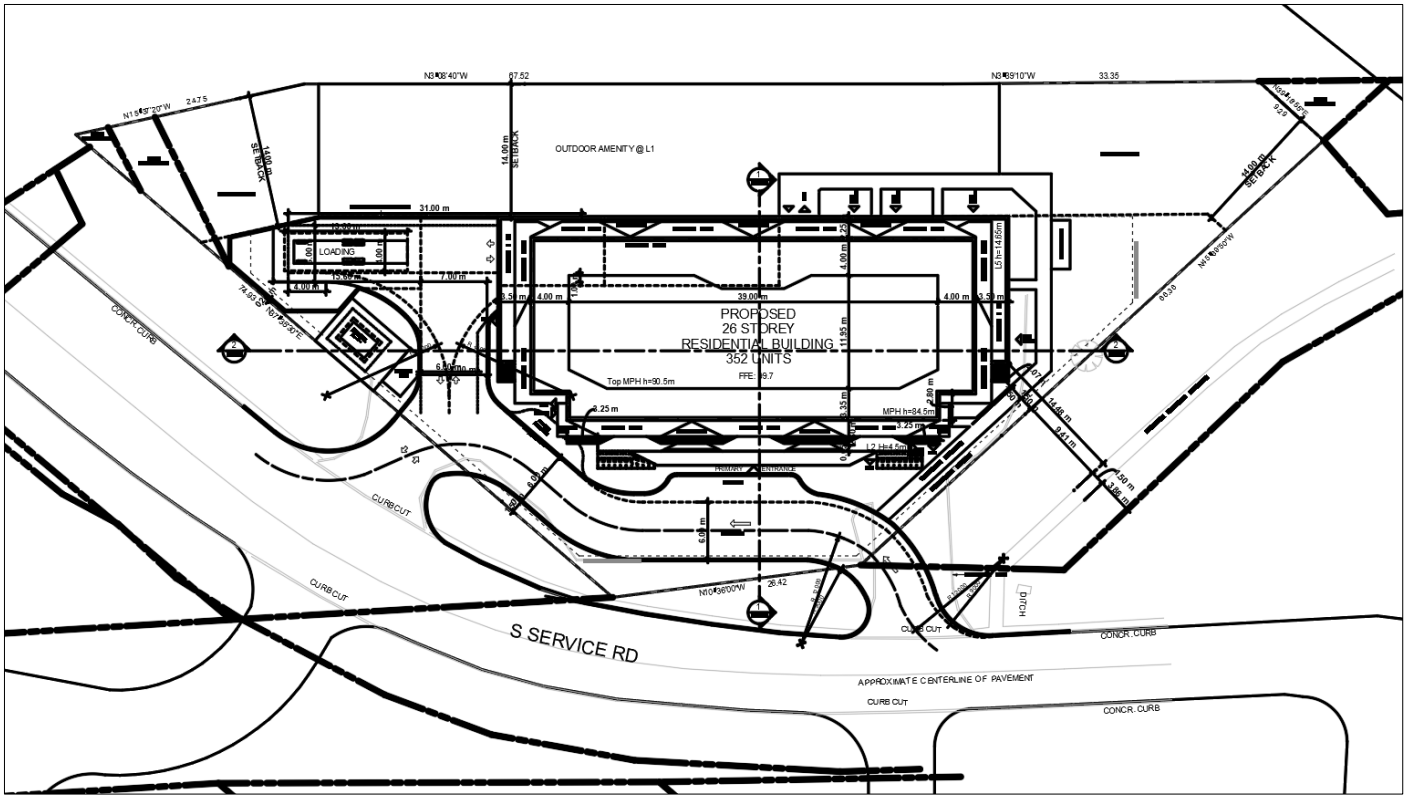


Figure 2 Site Plan

3. Existing Conditions

3.1 Existing Road Network

Hurontario Street is a north-south arterial road under the jurisdiction of the City of Mississauga. In the study area it has a five-lane urban cross section north of the QEW Westbound On-Ramp/Off-Ramp and reduced to a four-lane cross-section south of the intersection. The intersection of Hurontario Street and the QEW Westbound On-Ramp/Off-Ramp is signalized, with an auxiliary left-turn lane in the northbound direction and a channelized right-turn lane in the southbound direction. The intersection of Hurontario Street and South Service Road/QEW Eastbound Off-Ramp is also signalized, an auxiliary left-turn lane and a channelized right-turn lane (the change from a five-lane to a four-lane cross-section) in the southbound direction, and an auxiliary through-right turn lane in the northbound direction (with the through lane accessing the QEW eastbound on-ramp north of the intersection) in the northbound direction. The posted speed limit on Hurontario Street is 50 km/h

The Queen Elizabeth Way and its on-ramps and off-ramps are under the jurisdiction of the Ministry of Transportation. The eastbound off-ramp at Hurontario Street is signalized, with two right-turn lanes and a left-turn lane in the westbound direction. The westbound off-ramp is located on the west approach of the intersection with Hurontario Street and South Service Road and is also a signalized intersection with two left-turn lanes and a right-turn lane.

South Service Road is an east-west major collector road under the jurisdiction of the City of Mississauga. Within the study area it has a two-lane cross-section. Its intersection with Hurontario Street and the QEW Eastbound Off-Ramp is signalized, with a right-turn lane and an auxiliary left-turn lane in the westbound direction (through traffic is not permitted as the off-ramp is located on the opposing approach). The intersection with Crestview Avenue is an unsignalized T-intersection with the stop-control located on the approach on Crestview Avenue.

Crestview Avenue is a north-south minor collector road (from South Service Road to Radley Road) under the jurisdiction of the City of Mississauga. Within the study area it has a two-lane cross-section with its northern terminus located at the unsignalized intersection with South Service Road, with the stop-control provided only along the approach on Crestview Avenue.

The existing lane configuration and traffic controls are shown in the figure below.

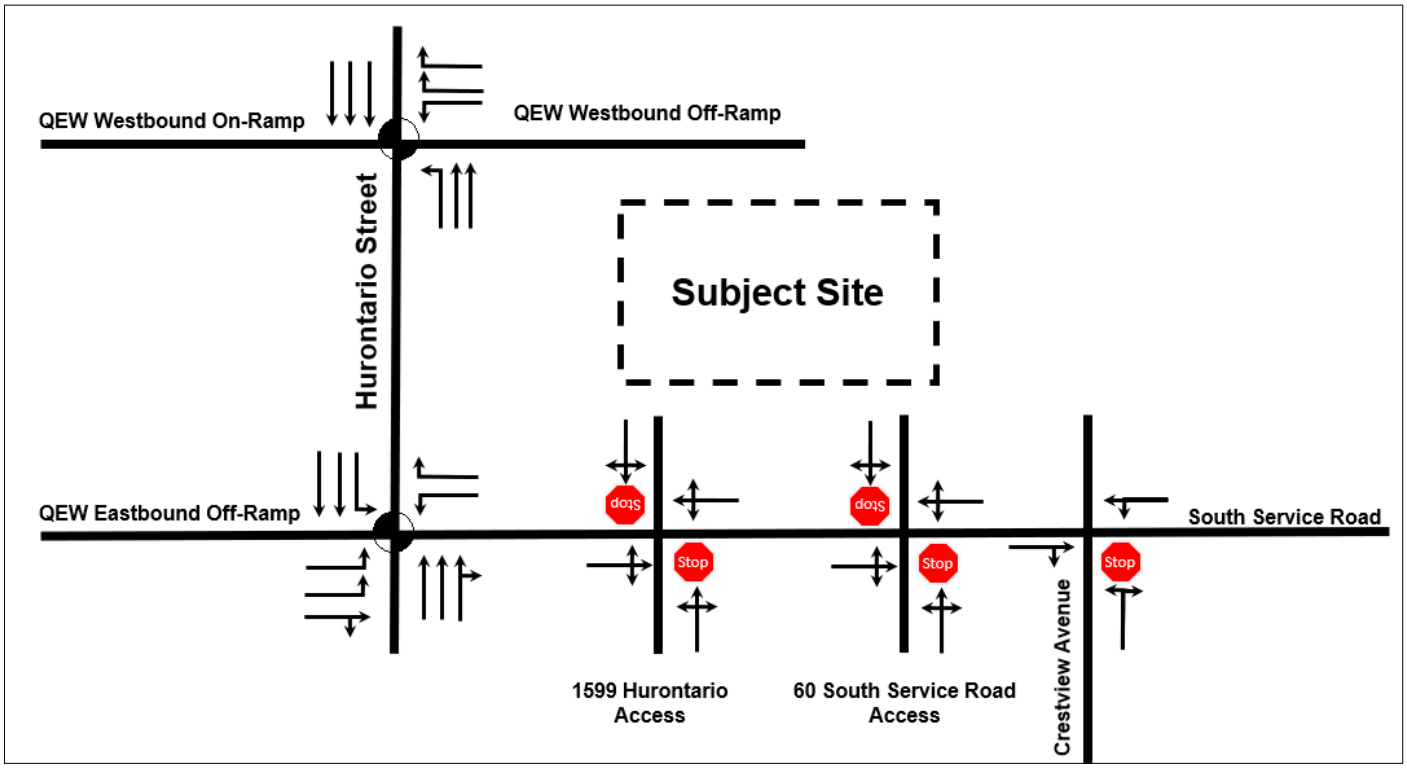


Figure 3 Existing Lane Configuration and Traffic Controls

3.2 Pedestrian and Bicycle Routes

Pedestrian sidewalks are provided on both sides of the roads throughout the study area with the exception of:

- West side of Hurontario Street between the QEW eastbound on-ramp and westbound off-ramp
- South Service Road along the frontage of the subject site
- East side of Crestview Avenue

Additionally, a pedestrian connection is provided east of the subject site that connects South Service Road to Hurontario Street south of the QEW Westbound Off-Ramp via a pedestrian passageway under the QEW.

Within the study area, a multi-use path is provided on the east side of Hurontario Street and ends at the Harborn Road/North Service Road intersection. The pedestrian connection previously mentioned has also been identified as a “Park Trail” on the City’s Cycling Map.

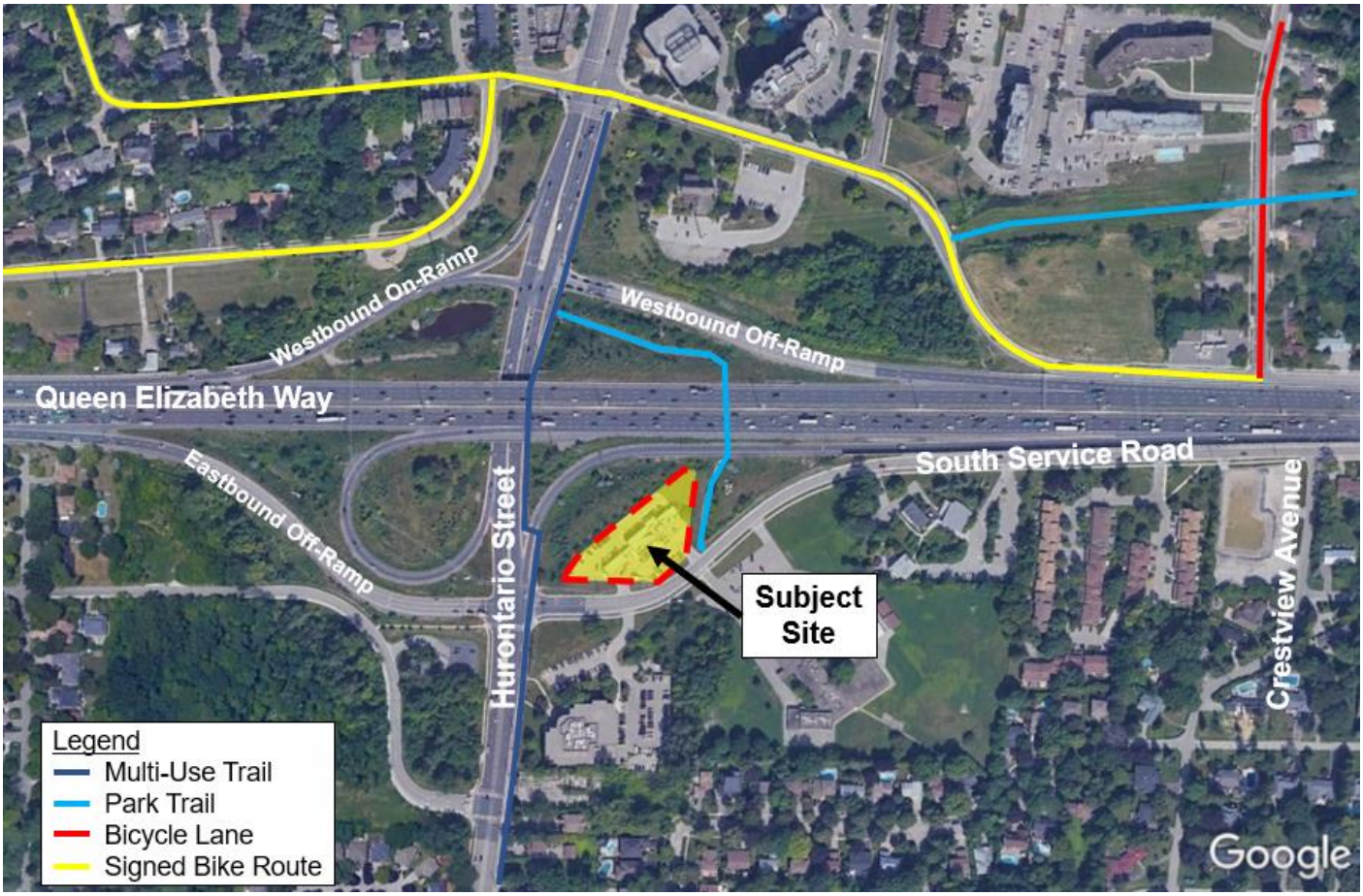


Figure 4 Existing Pedestrian and Cycling Facilities

3.3 Transit Services

MiWay currently offers the following routes within or near the study area:

Route 2 (Hurontario) operates in the north/south direction along Hurontario Street between the Port Credit Go Station and the City Centre Transit Terminal at Square One (south of Highway 403). It currently operates with 10-minute headways during the morning peak hour and 8-minute headways during the p.m. peak hour.

The nearest transit stop to the subject site is located south of the intersection of Hurontario Street and South Service Road/QEW Eastbound Off-Ramp for the northbound direction, and at the intersection of Hurontario Street and Pinetree Way for the southbound direction. The transit stops located near the site are shown in the figure below

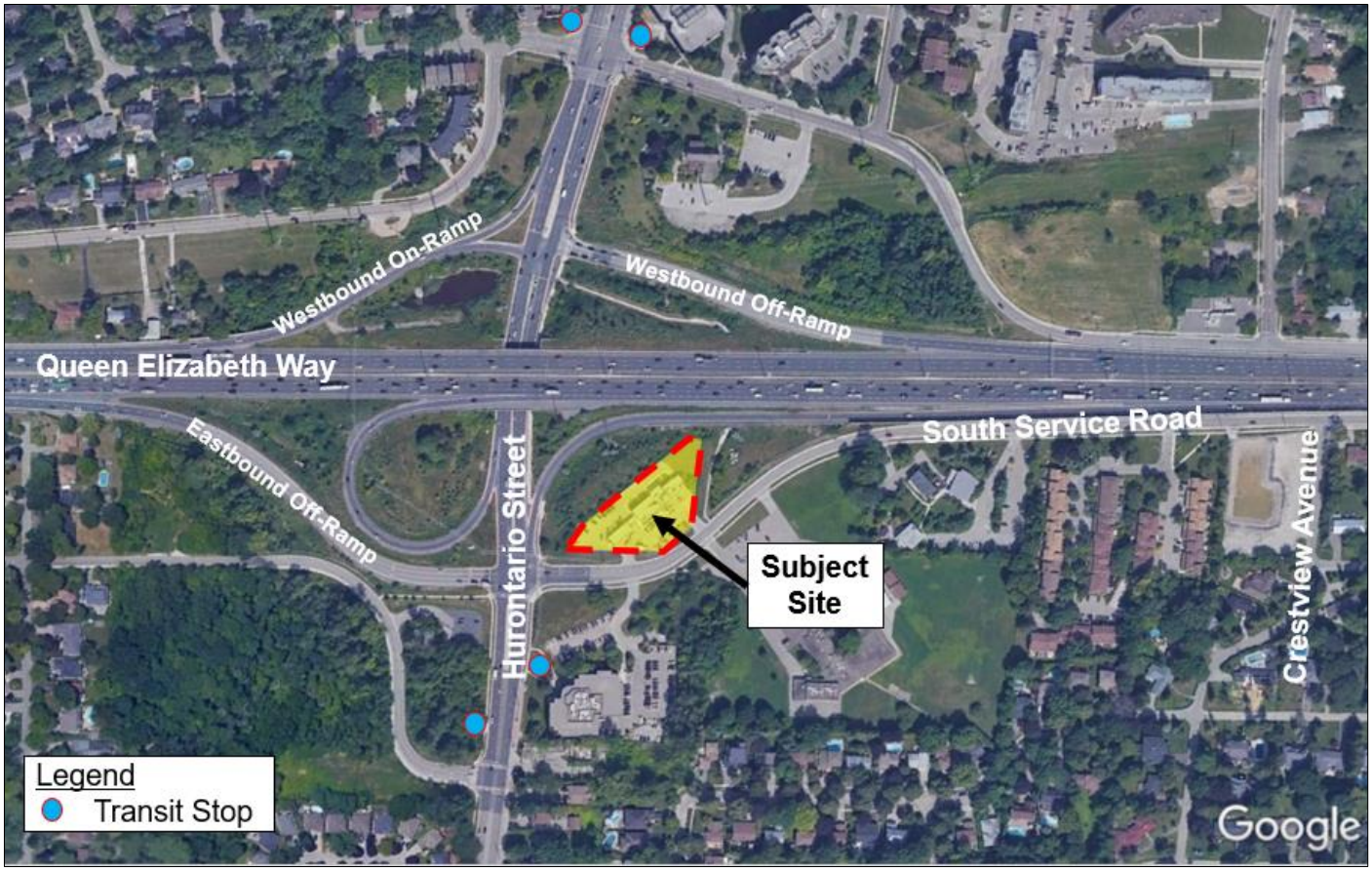


Figure 5 Nearby Existing Transit Stops

3.4 Existing Traffic Data

Due to the ongoing construction of the Hurontario LRT, updated turning movement counts would not provide an accurate representation of existing volumes along Hurontario Street. As a result, GHD used historic counts provided by the City of Mississauga and the MTO and projected them to the baseline existing 2022 traffic condition for both intersections along Hurontario Street.

GHD contracted Spectrum Traffic Data Inc. to collect turning movement counts in September 2022 during the a.m. and p.m. peak hours at the remaining study intersections of South Service Road and Crestview Avenue, as well as both existing site accesses which are located opposite side two other existing driveways (60 South Service Road access and 1599 Hurontario Street access). The source of the traffic counts available to GHD are summarized in the table below.

Table 1 Traffic Count Data

Intersection	Source	Year
Hurontario Street and QEW Eastbound On-Ramp/Off-Ramp	MTO	2016
Hurontario Street and South Service Road/QEW Westbound Off-Ramp	MTO	2016

Hurontario Street and South Service Road/QEW Westbound Off-Ramp	City of Mississauga	2018
South Service Road and Crestview Avenue	Spectrum Traffic	2022
South Service Road and 49 South Service Road/1599 Hurontario Street	Spectrum Traffic	2022
South Service Road and 49 South Service Road/60 South Service Road	Spectrum Traffic	2022

A review of the two available historic counts at the intersection of Hurontario Street and South Service Road/QW Eastbound off-ramp revealed growth rates that ranged from a negative value to 18% per annum. Through discussion with City of Mississauga staff, GHD was directed to utilize a 3% growth rate along Hurontario Street. Similarly, a growth rate was also calculated for the QEW Off-Ramps, however it resulted in a negative growth rate. GHD reached out the MTO to establish a growth rate to be used, with a general 2% per annum growth rate suggested by the MTO.

The projected baseline 2022 traffic volumes for the a.m. and p.m. peak hours are summarized in **Figure 6**.

The historic and most recent turning movement count data from the MTO, City of Mississauga and Spectrum Traffic Inc. are provided in **Appendix B**.

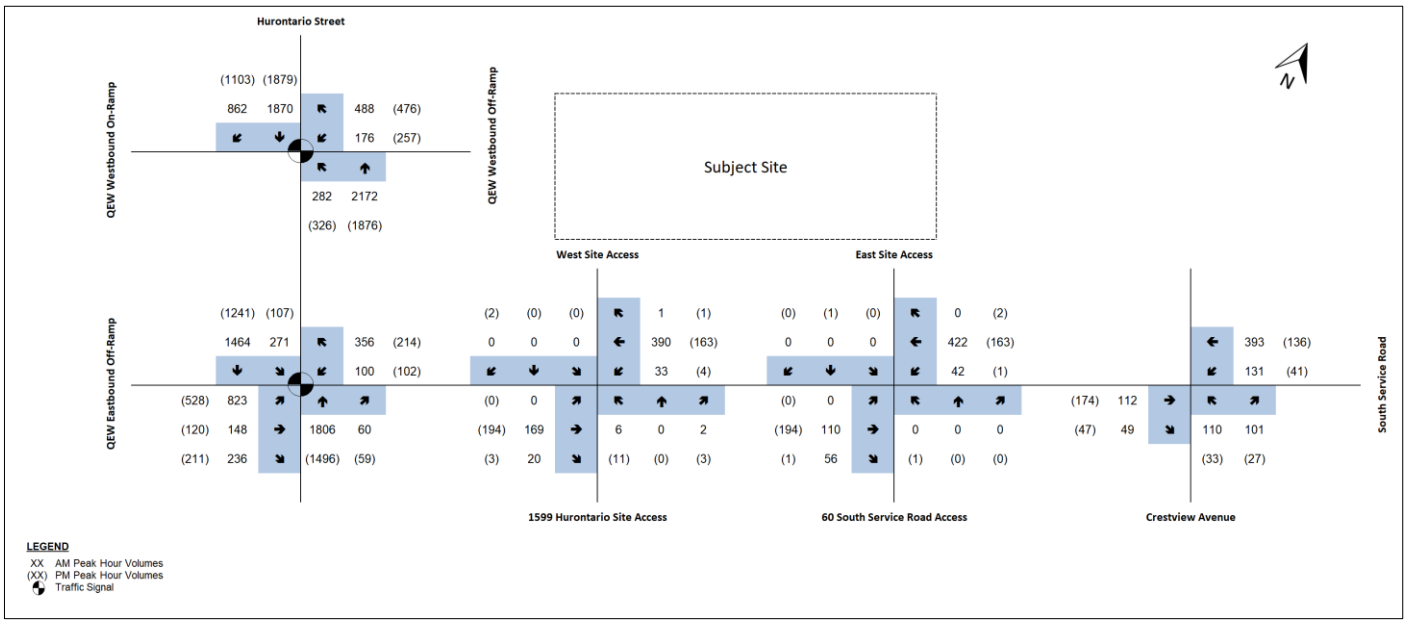


Figure 6 Baseline 2022 Existing Traffic Volumes

4. Future Background Traffic

4.1 Study Horizon Year

As agreed with the City of Mississauga and the MTO, the future horizon years selected for analysis includes 2024 (full build-out), 2029 (5-year post build-out), and 2034 (10-year post build-out) which corresponds with the MTO's TIS Study requirements.

4.2 Future Hurontario LRT Line

The future Hurontario LRT Line (to be renamed the Hazel McCallion Line upon opening) is an 18-kilometre LRT line that will run between the Port Credit Station to the south and the Brampton Gateway Terminal to the north and will provide a connection to the Milton and Lakeshore West GO lines, the Mississauga Transit Way and the Zum Transitway. The LRT line is currently anticipated to be completed by Fall 2024. Trains will run with a headway of 7.5 minutes with the LRT trains having transit signal priority. The design of the LRT also includes a multi-use trail along the east side and a sidewalk along the west side. The nearest LRT station is located approximately 330 metres away from the proposed development, accessible via either South Service Road and Hurontario Street or the pedestrian passageway under the QEW.

The Hurontario LRT line is shown in **Figure 7**, with the LRT route and station located in close proximity to site shown in **Figure 8**.

Figure 7 Hurontario LRT Line Map

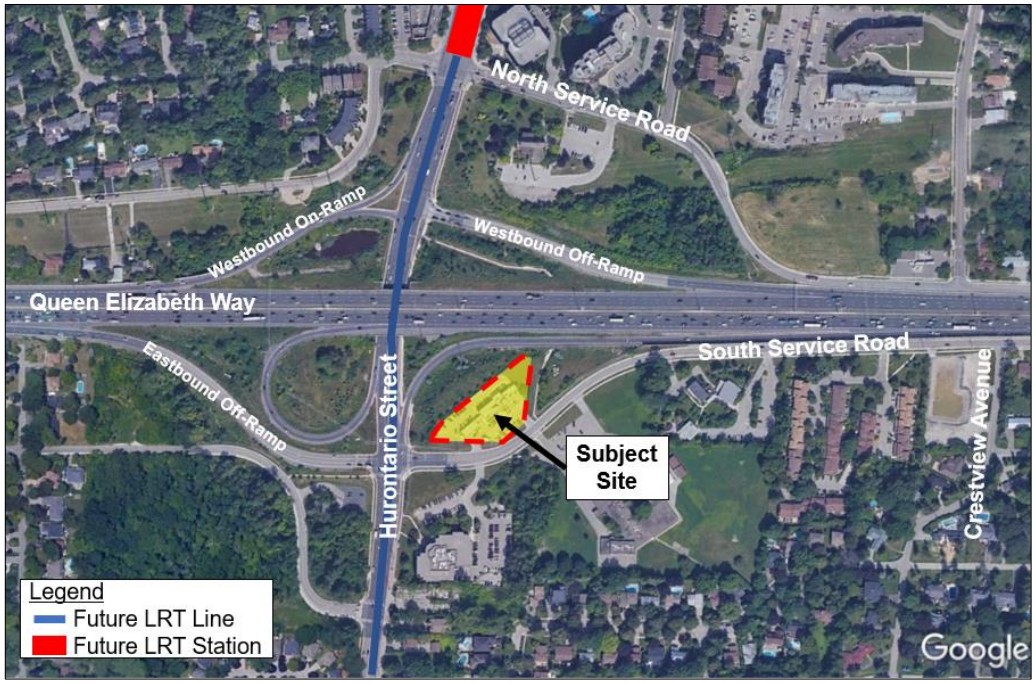


Figure 8 Hurontario LRT Line Adjacent to the Subject Site

4.3 Future Road Network Improvements

The Hurontario LRT is currently being constructed, with full build-out expected by Fall 2024. Within the study area, the Hurontario LRT will be located above ground and will be located within the current northbound lanes, with the northbound lanes being shifted to the east of the LRT tracks. The new lane configuration as a result of the Hurontario LRT are as follows:

- Reduction from three to two southbound through lanes at the intersection of Hurontario Street and the QEW Westbound on-ramp/off-ramp
- Increase in the southbound left-turn storage length on Hurontario at South Service Road/QEW Eastbound off-ramp

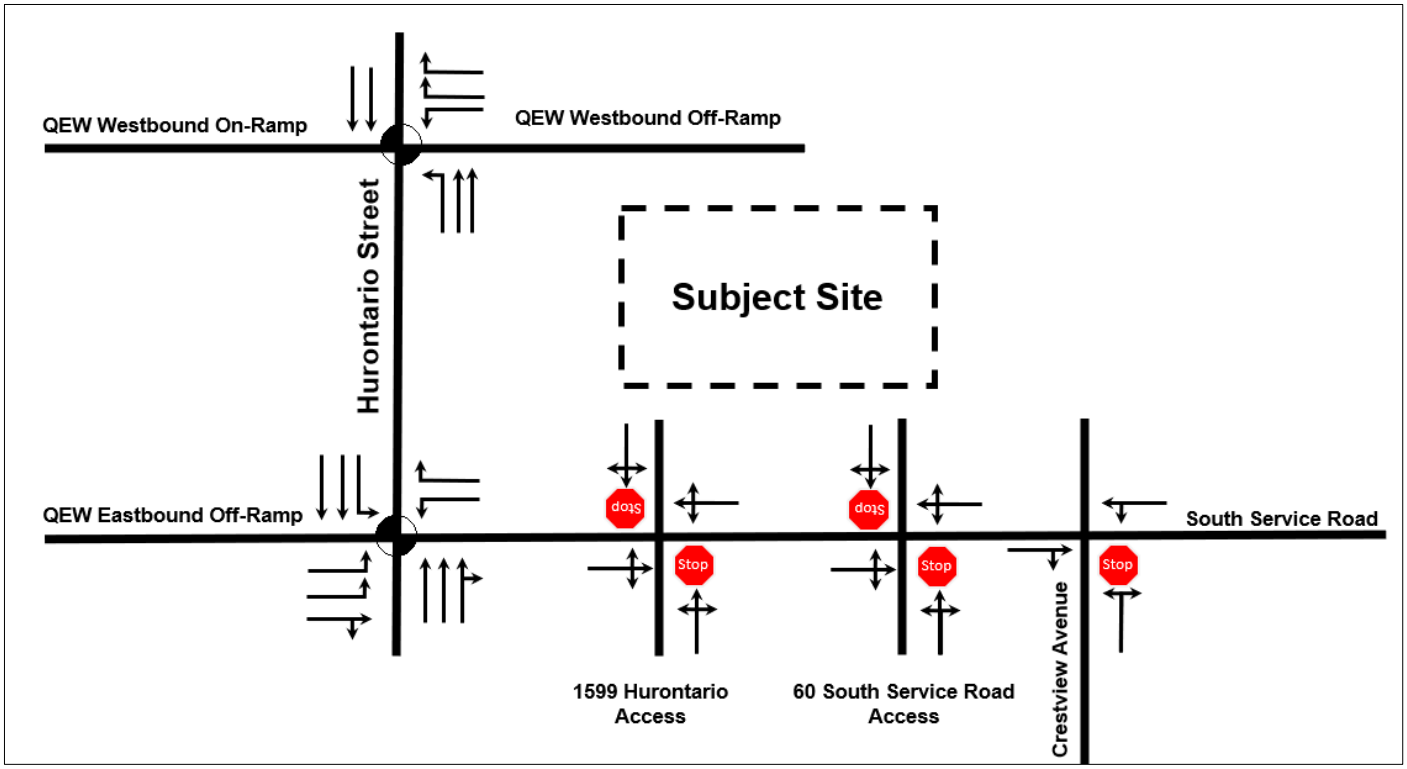


Figure 9 Future Lane Configuration

4.4 Corridor Growth

GHD applied a 2% per annum growth rate to the QEW off-ramps, with the following growth rates provided by the City of Mississauga for the remaining roads:

Table 2 City of Mississauga Growth Rates

Road	Peak Hour	Growth Rate (Existing-2031)	Growth Rate (2031-2034)
Hurontario Street (NB/SB)	A.M.	0.5%	1.0%
	P.M.	0.5%	1.5%
South Service Road (EB/WB)	A.M.	0.0%	0.0%
	P.M.	2.0%	1.0%

4.5 Background Development Traffic

GHD reviewed the City's development application web portal to review planned or approved background developments located near the subject site which could contribute to traffic volumes at the study intersections. The following development was identified, with City staff confirming there were no additional developments to be included

- 1575 Hurontario Street

The proposed trip generation from the background development is summarized in the table below, with the site trip assignment provided in **Figure 10.**

Table 3 Background Development Site Traffic

	Unit Count	Peak Hour Trips

Background Development		Weekday AM			Weekday PM		
		In	Out	Total	In	Out	Total
1575 Hurontario Street	18 Townhouse Units	28	87	115	81	51	132

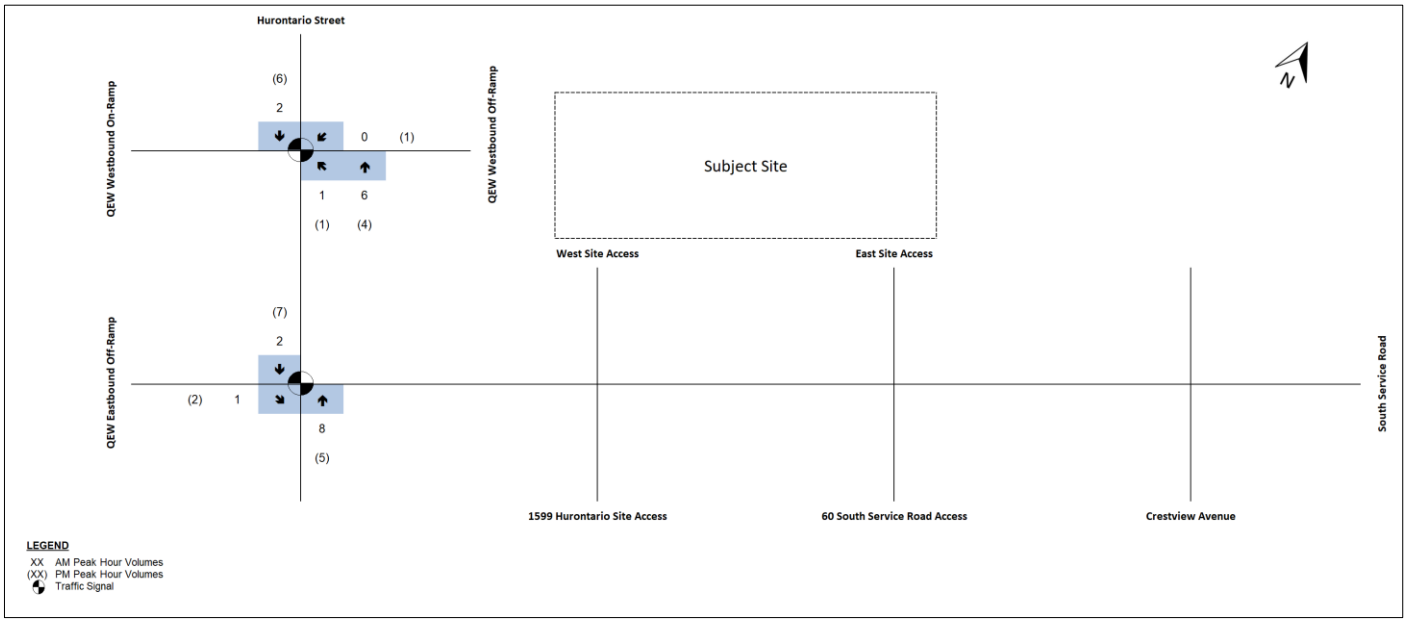


Figure 10 Total Background Development Site Traffic

4.6 Future Background Traffic Volumes

The background traffic volumes for the 2024, 2029 and 2034 horizon years were derived by applying the aforementioned growth rates to the projected 2022 traffic volumes and adding the total background development site traffic from **Figure 10**.

The resulting 2027 and 2032 future background traffic volumes are summarized in **Figure 11**, **Figure 12**, and **Figure 13**.

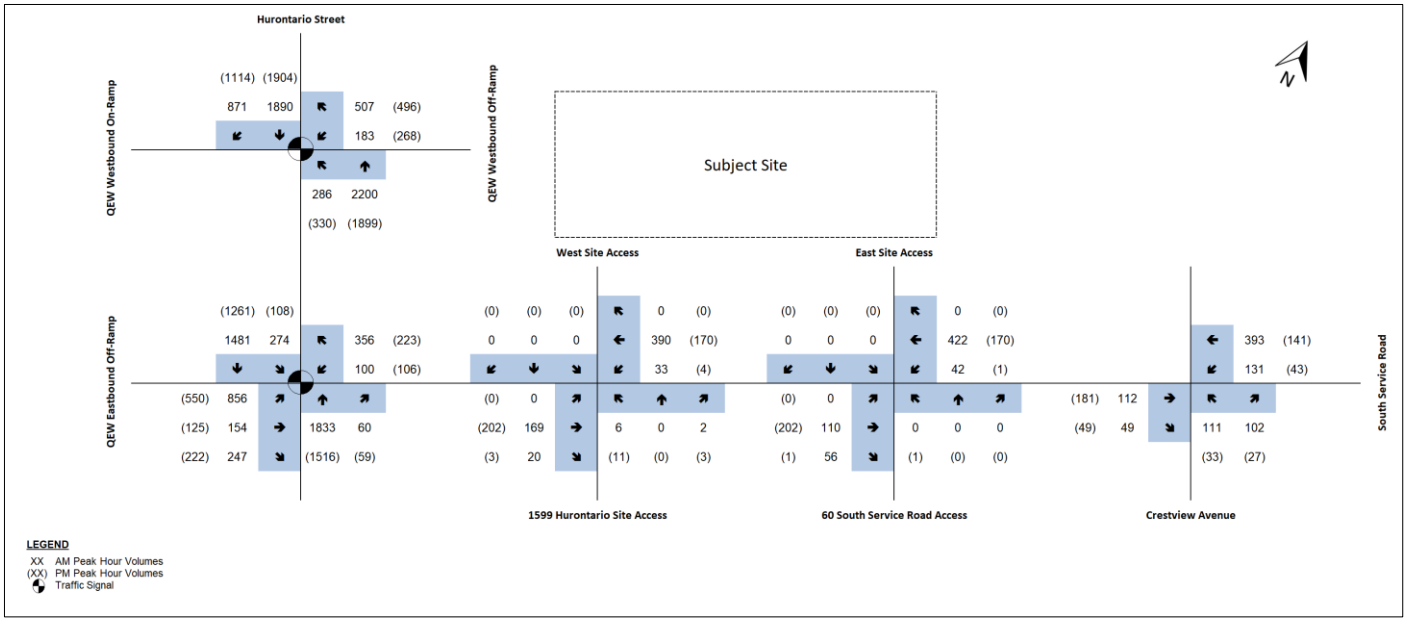


Figure 11 2024 Future Background Traffic Volumes

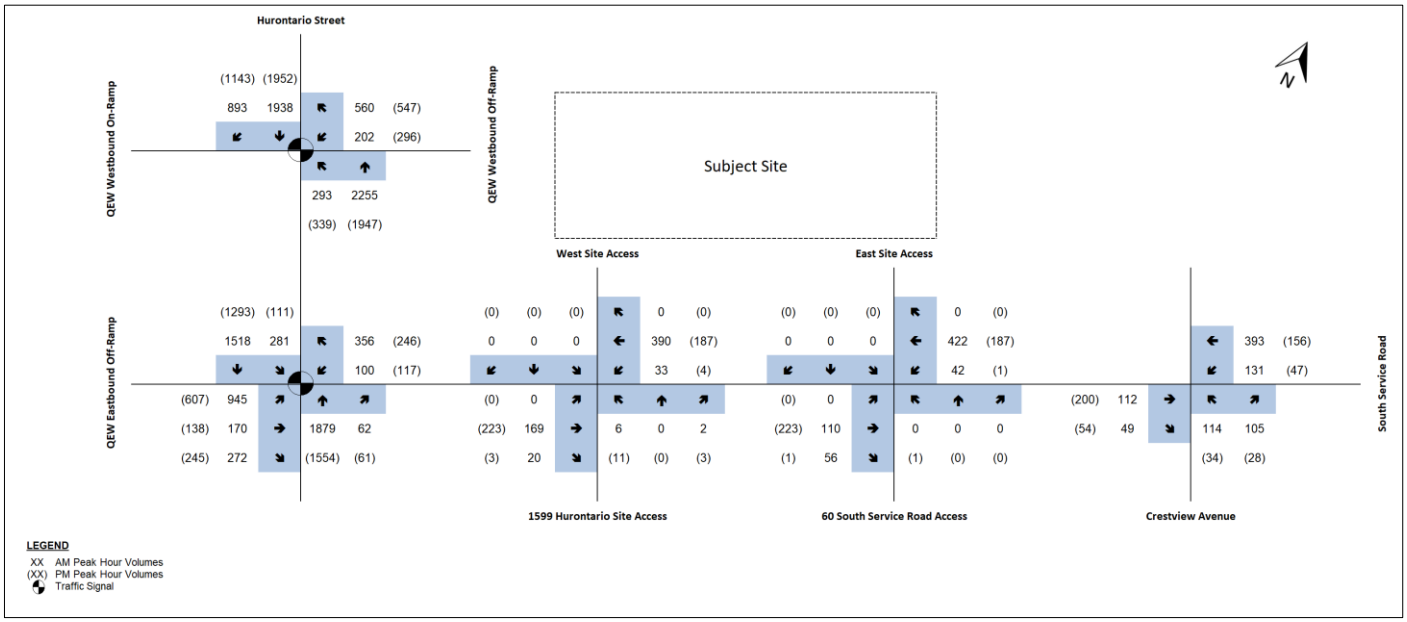


Figure 12 2029 Future Background Traffic Volumes

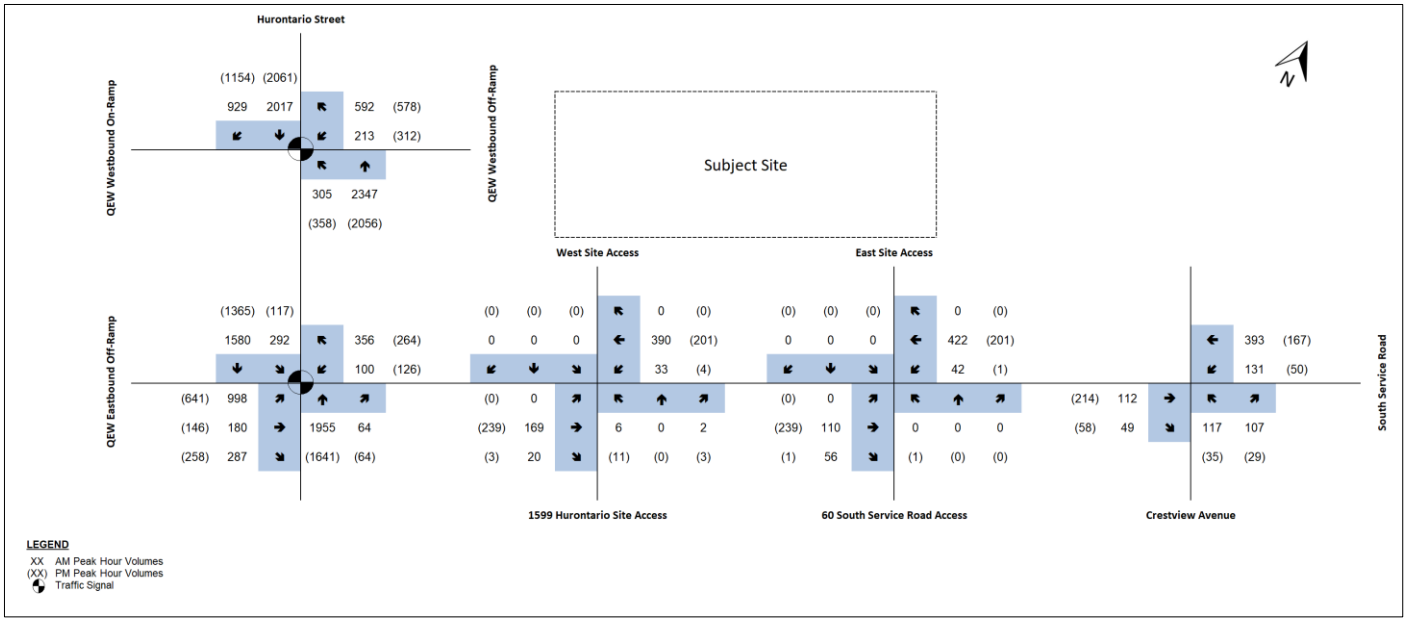


Figure 13 2034 Future Background Traffic Volumes

5. Site Generated Traffic

5.1 Site Traffic Generation

The subject site consists of 353 dwelling units. Trip generation for the residential uses was calculated using rates provided in the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 11th Edition using Land Use Code (LUC) 222 (Multifamily Housing – High-Rise)

With the addition of the Hurontario LRT located adjacent to the site, the City of Mississauga provided the projected modal split for the area. With the opening of the Hurontario LRT, it is expected that the modal split for the area will shift from 5% for auto driver to other modes, mostly to transit.

The modal split for future horizon years was derived from the 2016 Transportation Tomorrow Survey (TTS) data modified to account for the expected shift. The zones used for the analysis consisted of the subject site's zone and other surrounding zones adjacent to Hurontario Street (3632,3647,3648,3652,3653,3657,3659) and was based on apartment dwelling units. In the analysis it was assumed that the ITE Trip Generation rates already include a 5% transit modal split. The future modal splits for the study area are provided in **Table 4** below and is based on the 2016 TTS data while taking into consideration the ITE assumed transit split and the expected shift of 5% from auto to other non-auto modes. The full data sheets are provided in **Appendix C.**

Table 4 2024-2034 Projected Modal Split

Peak Hour	Direction	Auto	Non-Auto
A.M. Peak	Inbound	94%	6%
	Outbound	60%	35%
P.M Peak	Inbound	61%	34%
	Outbound	85%	10%

Table 5 below summarizes the estimated trip generation for the proposed development.

Table 5 Estimated Site Trips

Land Uses	GFA (Dwelling Units)	Parameters	Peak Hour					
			Weekday AM			Weekday PM		
			In	Out	Total	In	Out	Total
Multifamily Housing (High-Rise) (LUC 222)	353 units	Trip Ratio	34%	66%	100%	56%	44%	100%
		Gross Trips	33	64	97	64	51	115
		Total Non-Auto Mode Split	6%	35%	-	34%	10%	-
		Non-Auto Mode Split Reduction	-2	-22	-24	-22	-5	-27
		Total New Trips	**31**	**42**	**73**	**42**	**46**	**88**
		Total Primary Trips	**31**	**42**	**73**	**42**	**46**	**88**

The proposed development is expected to generate a total of 73 new two-way trips consisting of 31 inbound and 42 outbound trips during weekday a.m. peak hour and 88 new two-way trips consisting of 42 inbound and 46 outbound trips during the weekday p.m. peak hour.

5.2 Site Traffic Distribution and Assignment

The distribution of the site-generated traffic was based on a review of the 2016 Transportation Tomorrow Survey (TTS) and the existing traffic patterns extracted from the 2018 and 2022 turning movement counts conducted at the study intersections. The trip distribution is summarized in **Table 6** below.

Table 6 Trips Distribution

Origin/Destination	AM Peak Hour		PM Peak Hour	
	Percentage of Inbound Trips	Percentage of Outbound Trips	Percentage of Inbound Trips	Percentage of Outbound Trips
North on Hurontario	25%	20%	20%	25%
South on Hurontario	20%	20%	20%	30%
East on the QEW	20%	25%	25%	10%
West on the QEW	25%	25%	25%	25%
East on South Service Road	5%	5%	5%	5%
South on Crestview Avenue	5%	5%	5%	5%
Total	**100%**	**100%**	**100%**	**100%**

The site access located nearest to the eastern limit of the subject site will serve as an inbound only access primarily to pick up and drop off residents or deliveries to the site. Since a low volume of traffic is projected to use the east inbound only access, only four trips were assigned to this access during both the a.m. and p.m. peak hours (one from the east and three from the west). The remaining site traffic was assigned to the west access (towards the underground parking).

The trip distribution for the subject site for the weekday a.m. and p.m. peak hours is shown in **Figure 14**, with the site trip assignment provided in **Figure 15**.

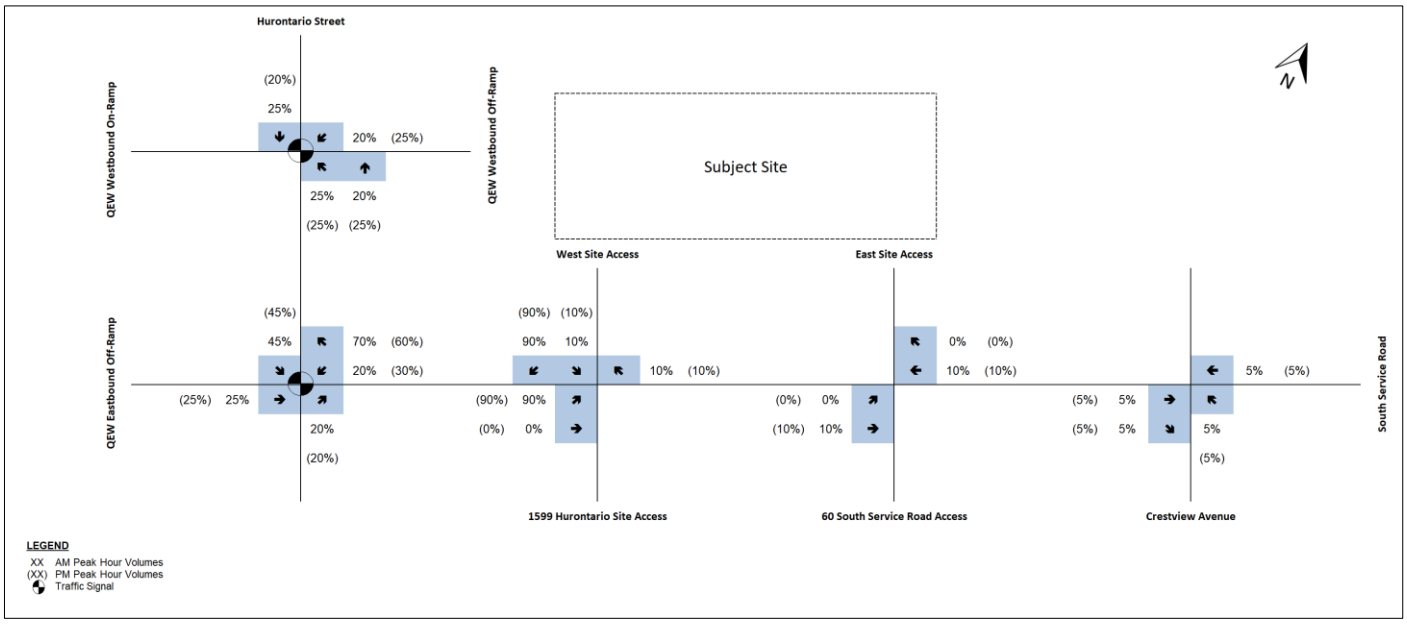


Figure 14 Trip Distribution

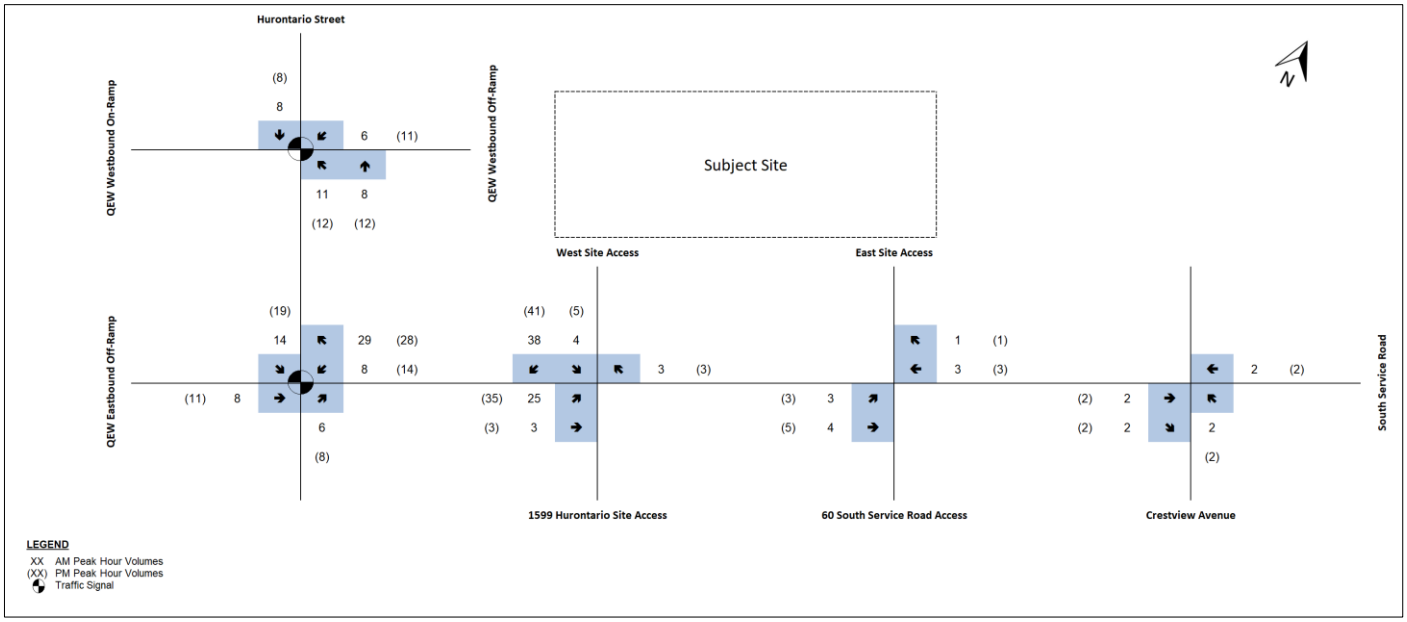


Figure 15 Total Site Trips

6. Future Total Traffic

The future total traffic conditions in the weekday a.m. and p.m. peak hours for the 2024, 2029 and 2034 planning horizons were derived by combining the projected future background traffic with the corresponding estimated site generated traffic. The resulting traffic volumes are presented in **Figure 16**, **Figure 17** and **Figure 18**.

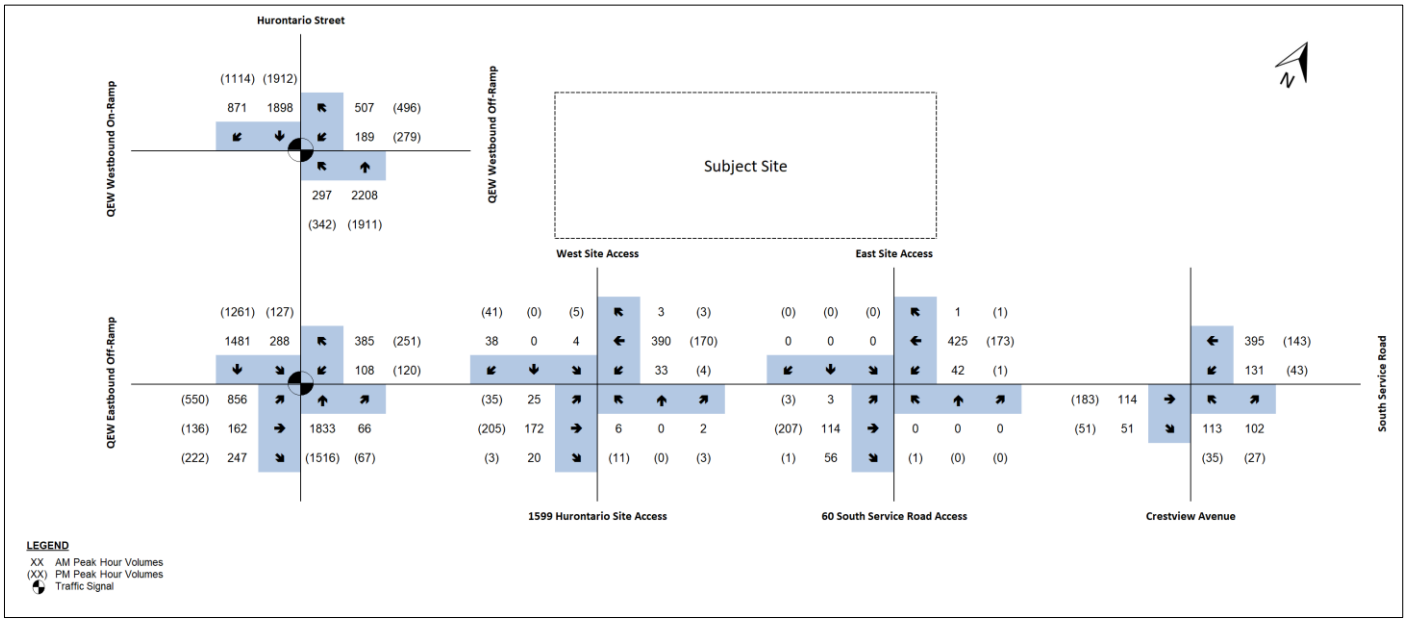


Figure 16 2024 Future Total Traffic Volumes

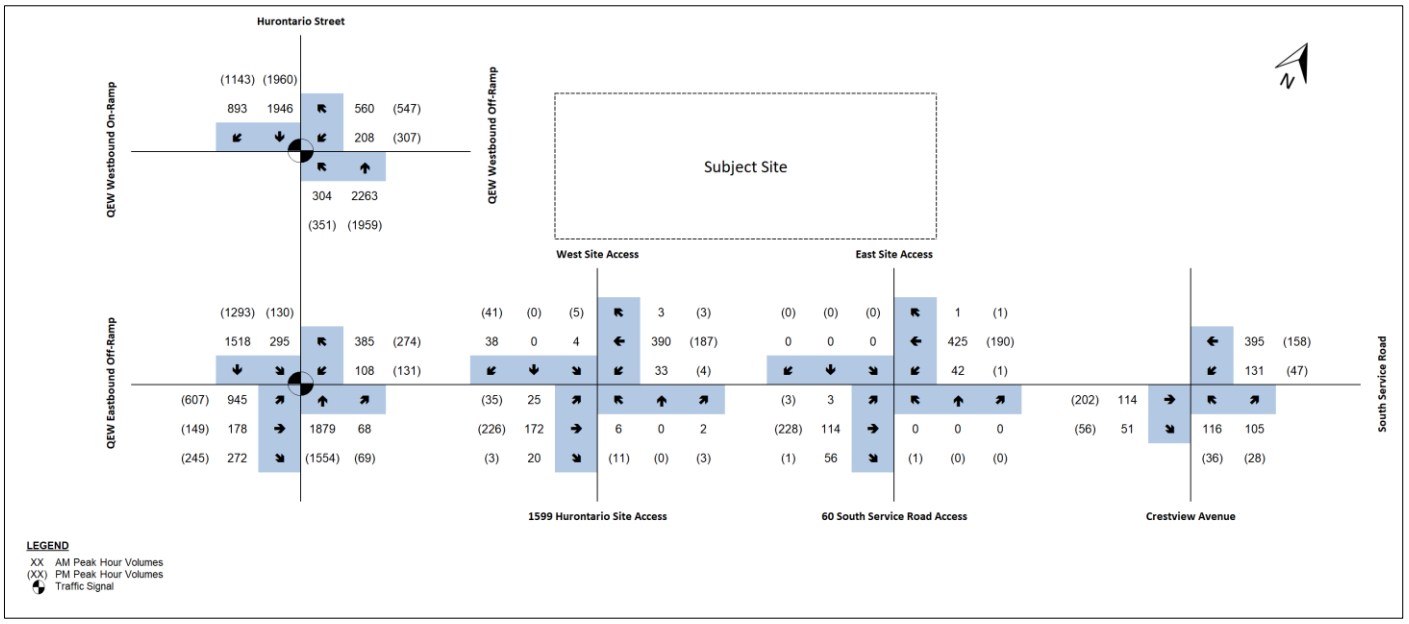


Figure 17 2029 Future Total Traffic Volumes

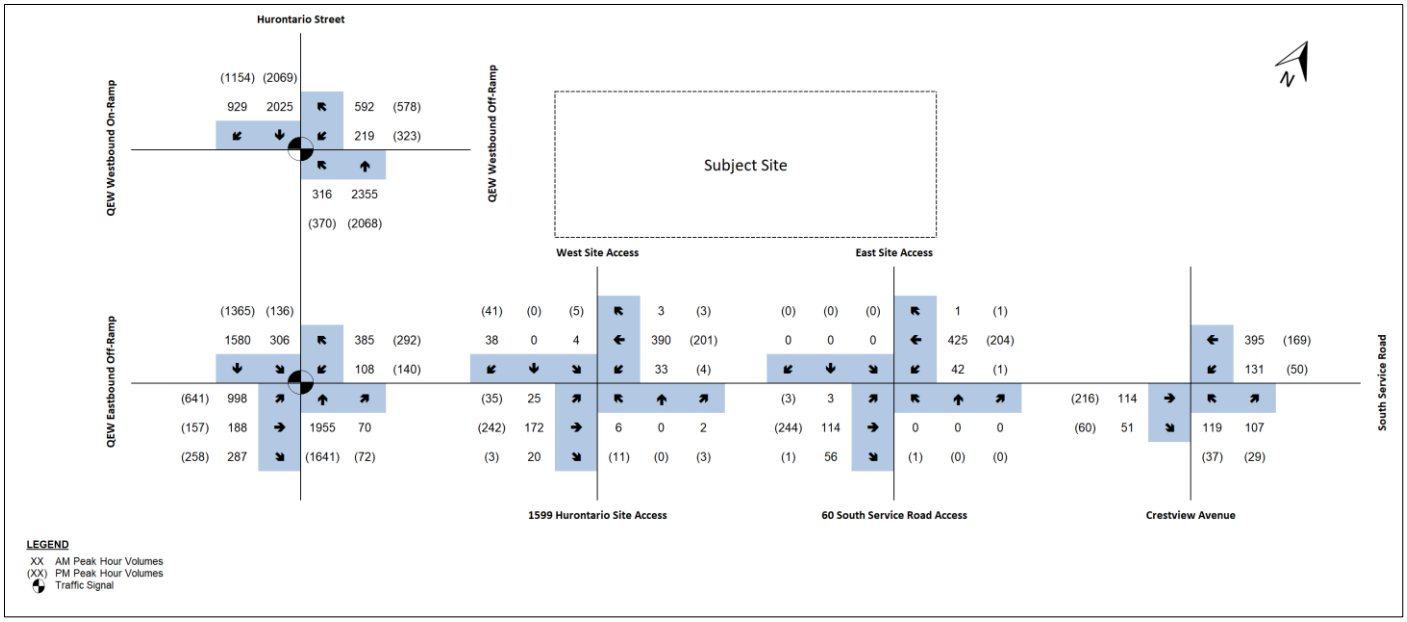


Figure 18 2034 Future Total Traffic Volumes

7. Capacity Analysis

The capacity analysis identifies how well the intersections and driveways are operating. The analysis contained within this report utilized the Highway Capacity Manual (HCM) 2000 procedure within the Synchro Version 10 Software package. The reported intersection volume-to-capacity ratios (v/c) are a measure of the saturation volume for each turning movement, while the levels-of-service (LOS) are a measure of the average delay for each turning movement. Queuing characteristics are reported as the predicted 95th percentile queue for each turning movement. Both pedestrian crossing volumes and heavy vehicle proportions are included in the analyses. The peak hour factors from the traffic counts were used to analyze existing and future traffic conditions.

The analysis includes identification and required modifications and improvements (if any) at intersections where the addition of background growth or background growth plus site-generated traffic volumes causes the following:

'Critical' intersections and movements for a signalized intersection include:

- V/C ratios for overall intersections operations, through movements, or shared through/turning movements increase to 0.85 or above;
- V/C ratios for exclusive movements increase to 0.90 or above; or
- 95th percentile queue length for individual movements that are projected to, or exceed, the storage length.

'Critical' intersections and movements for an unsignalized intersection include:

- Level of Services (LOS), based on average delay per vehicle, on individual movements exceeds LOS "D",
- Queue length for individual movements that exceeds the lesser of 5 vehicles or the available queue storage.

The following tables summarize the HCM capacity results for the study intersections during the weekday a.m. and p.m. peak hours under existing (2022), future background (2024, 2029 & 2034) and future total (2024, 2029 & 2034) traffic conditions. The detailed calculation sheets are provided in **Appendix D**.

7.1 Hurontario Street and the QEW Eastbound On-Ramp/Off-Ramp

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic condition are summarized in the following table.

Table 7 Capacity analysis of Hurontario Street and the QEW Eastbound On-Ramp/Off-Ramp

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Existing 2022	Overall: **0.98** (C) 30 WBL = 0.62 (E) 64 WBR = **0.95** (F) 94 NBL = **0.97** (F) 89 NBT = **0.89** (A) 8 SBT = 0.68 (C) 24 SBR = 0.81 (C) 34	 WBL = 85 m WBR = 125 m NBL = 70 m NBT = 50 m SBT = 175 m SBR = 220 m	Overall: **0.91** (C) 30 WBL = **0.92** (F) 96 WBR = **0.94** (F) 91 NBL = 0.88 (E) 78 NBT = 0.76 (B) 13 SBT = 0.75 (C) 31 SBR = 0.75 (A) 3	 WBL = 140 m WBR = 125 m NBL = 105 m NBT = 115 m SBT = 230 m SBR = 0 m
Future Background 2024	Overall: **1.06** (C) 35 WBL = 0.69 (E) 69 WBR = **1.06** (F) 124 NBL = **1.04** (F) 106 NBT = **0.89** (A) 6 SBT = **0.97** (D) 45 SBR = 0.59 (A) 2	 WBL = 90 m WBR = 140 m NBL = 80 m NBT = 80 m SBT = 380 m SBR = 0 m	Overall: **1.07** (D) 45 WBL = **0.94** (F) 100 WBR = **0.96** (F) 95 NBL = **1.08** (F) 132 NBT = 0.78 (B) 15 SBT = **1.03** (E) 63 SBR = 0.76 (A) 3	 WBL = 150 m WBR = 130 m NBL = 175 m NBT = 220 m SBT = 405 m SBR = 0 m
Future Total 2024	Overall: **1.09** (D) 36 WBL = 0.71 (E) 71 WBR = **1.06** (F) 124 NBL = **1.08** (F) 121 NBT = **0.89** (A) 6 SBT = **0.97** (D) 46 SBR = 0.59 (A) 2	 WBL = 90 m WBR = 140 m NBL = 80 m NBT = 80 m SBT = 385 m SBR = 0 m	Overall: **1.11** (D) 47 WBL = **0.98** (F) 110 WBR = **0.96** (F) 95 NBL = **1.12** (F) 145 NBT = 0.78 (B) 15 SBT = **1.04** (E) 65 SBR = 0.76 (A) 3	 WBL = 160 m WBR = 130 m NBL = 185 m NBT = 220 m SBT = 410 m SBR = 0 m
Future Background 2029	Overall: **1.09** (D) 41 WBL = 0.71 (E) 69 WBR = **1.1** (F) 135 NBL = **1.06** (F) 114 NBT = **0.92** (A) 8 SBT = **1.02** (E) 57 SBR = 0.61 (A) 2	 WBL = 95 m WBR = 160 m NBL = 80 m NBT = 85 m SBT = 405 m SBR = 0 m	Overall: **1.11** (D) 53 WBL = **1.04** (F) 127 WBR = **1.07** (F) 126 NBL = **1.1** (F) 140 NBT = 0.8 (B) 16 SBT = **1.06** (E) 72 SBR = 0.77 (A) 4	 WBL = 170 m WBR = 150 m NBL = 180 m NBT = 230 m SBT = 425 m SBR = 0 m
Future Total 2029	Overall: **1.12** (D) 43 WBL = 0.73 (E) 71 WBR = **1.1** (F) 135 NBL = **1.1** (F) 129 NBT = **0.93** (A) 9 SBT = **1.02** (E) 58 SBR = 0.61 (A) 2	 WBL = 100 m WBR = 160 m NBL = 80 m NBT = 90 m SBT = 410 m SBR = 0 m	Overall: **1.15** (D) 55 WBL = **1.08** (F) 138 WBR = **1.07** (F) 126 NBL = **1.14** (F) 154 NBT = 0.8 (B) 16 SBT = **1.06** (E) 73 SBR = 0.77 (A) 4	 WBL = 180 m WBR = 150 m NBL = 190 m NBT = 235 m SBT = 425 m SBR = 0 m
Future Background 2034	Overall: **1.14** (D) 50 WBL = 0.75 (E) 72 WBR = **1.16** (F) 159 NBL = **1.1** (F) 128 NBT = **0.96** (B) 12 SBT = **1.06** (E) 70 SBR = 0.63 (A) 2	 WBL = 105 m WBR = 170 m NBL = 80 m NBT = 80 m SBT = 435 m SBR = 0 m	Overall: **1.22** (E) 64 WBL = **1.14** (F) 160 WBR = **1.17** (F) 163 NBL = **1.21** (F) 179 NBT = 0.84 (B) 17 SBT = **1.09** (F) 84 SBR = 0.78 (A) 4	 WBL = 185 m WBR = 170 m NBL = 200 m NBT = 260 m SBT = 455 m SBR = 0 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Future Total 2034	Overall: **1.17** (D) 52 WBL = 0.77 (E) 73 WBR = **1.16** (F) 159 NBL = **1.15** (F) 145 NBT = **0.96** (B) 12 SBT = **1.06** (E) 72 SBR = 0.63 (A) 2	 WBL = 110 m WBR = 170 m NBL = 80 m NBT = 80 m SBT = 440 m SBR = 0 m	Overall: **1.25** (E) 67 WBL = **1.18** (F) 175 WBR = **1.17** (F) 163 NBL = **1.25** (F) 195 NBT = 0.84 (B) 17 SBT = **1.1** (F) 86 SBR = 0.78 (A) 4	 WBL = 195 m WBR = 170 m NBL = 210 m NBT = 265 m SBT = 460 m SBR = 0 m

Under existing conditions, the intersection of Hurontario Street and South Service Road/QEW Eastbound Off-Ramp is operating at critical levels with an overall v/c ratio of 0.98 LOS C and 0.91 LOS C during the a.m. and p.m. peak hours respectively. The only reported critical movement during the existing 2022 scenario occurs in the westbound right, northbound left and northbound through movements during the a.m. and the westbound left and westbound right movements during the p.m. peak hour.

With the addition of corridor growth and background traffic under the future background 2024 scenario, including the removal of a southbound through lane due to the LRT, the overall intersection is reported to operate with a v/c ratio of 1.06 LOS C and 1.07 LOS D during the a.m. and p.m. peak hours, respectively. During the a.m. peak hour, the same movements continue to operate at critical levels as under existing conditions with the addition of the southbound through movements which expected to also operate at critical levels. During the p.m. peak hour, the same movements also continue to operate at critical levels as with existing conditions with the addition of the southbound through movement which also operates above capacity. Signal timings were optimized to improve capacity and delays where possible.

Under the 2024 future total traffic condition, with the addition of the site traffic generated by the subject site, the overall intersection v/c ratios increase slightly from 1.06 to 1.09 LOS D during the a.m. peak hour and 1.07 to 1.11 LOS D during the p.m. peak hour. The same movements expected to operate at critical levels under the future background condition continue to operate at critical levels during both the a.m. and p.m. peak hours under the future total traffic scenario with no new movements reporting as critical. As with the future background scenario, signal timings were optimized to improve capacity and delays where possible but considering the high v/c ratios reported under the background traffic scenario, synchro is sensitive to any additional volumes which results in a marked increase in delays based on a small increase in volumes. Signal timings were optimized to improve capacity and delays where possible.

Under the 2029 future background scenario, with the continued corridor growth and background traffic, this intersection is reported to operate with an overall v/c ratio of 1.09 LOS D and 1.11 LOS D during the a.m. and p.m. peak hours, respectively with no change in the reported critical movements. Signal timings were optimized to improve capacity and delays where possible.

Under the 2029 future total traffic condition, including the subject site traffic, the overall intersection is expected to continue to operate at critical levels (1.12 LOS D during the a.m. peak hour and 1.15 LOS D during the p.m. peak hour). No new critical movements are reported demonstrating that site generated traffic has a negligible impact on the operation of the intersection. Signal timings were optimized to improve capacity and delays where possible.

Under the 2034 future background scenario, with the continued corridor growth and the same background traffic, the overall intersection is reported to operate with a v/c ratio of 1.14 LOS D and 1.22 LOS E during the a.m. and p.m. peak hours, respectively. Signal timings were optimized to improve capacity and delays where possible.

Under the 2034 future total traffic scenario, with the addition of the site traffic generated, the overall intersection is expected to continue operating at critical levels, (1.17 LOS D during the a.m. peak hour and 1.25 LOS E during the p.m. peak hour). Signal timings were optimized to improve capacity and delays where possible.

The subject site is expected to contribute a maximum of 12 additional trips to any one movement at this intersection over the peak hours or approximately 1 trip every 5 minutes. This volume of traffic is within the daily variation of traffic

for this intersection. The primary contributor to the increased delays and queuing at this study intersection is the assumed corridor growth rate along Hurontario Street.

7.2 Hurontario Street and South Service Road/QEW Westbound Off-Ramp

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions out are summarized in the following table.

Table 8 Capacity analysis of Hurontario Street and South Service Road/QEW Westbound Off-Ramp

Scenario	AM Peak Hour	PM Peak Hour	PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Existing 2022	Overall: **1.19** (F) 146 EBL = 0.86 (E) 59 EBTR = 0.76 (E) 56 WBL = 0.68 (F) 81 WBR = 0.88 (E) 78 NBT = **1.48** (F) 281 NBTR = **1.32** (F) 220 SBL = **1.06** (F) 135 SBT = **1.03** (F) 109	 EBL = 165 m EBTR = 150 m WBL = 55 m WBR = 185 m NBT = 365 m NBTR = 295 m SBL = 175 m SBT = 365 m	Overall: **0.94** (E) 59 EBL = 0.68 (E) 57 EBTR = 0.79 (E) 66 WBL = 0.66 (E) 79 WBR = 0.89 (F) 94 NBT = **1.04** (E) 77 NBTR = 0.09 (C) 25 SBL = 0.69 (F) 81 SBT = 0.74 (C) 29	 EBL = 100 m EBTR = 120 m WBL = 55 m WBR = 95 m NBT = 425 m NBTR = 20 m SBL = 45 m SBT = 205 m
Future Background 2024	Overall: **1.25** (F) 114 EBL = 0.88 (E) 61 EBTR = 0.83 (E) 62 WBL = 1.02 (F) 167 WBR = 1.17 (F) 171 NBT = 1.19 (F) 149 NBTR = 1.15 (F) 141 SBL = 1.4 (F) 249 SBT = 0.98 (E) 75	 EBL = 175 m EBTR = 170 m WBL = 85 m WBR = 220 m NBT = 325 m NBTR = 290 m SBL = 125 m SBT = 295 m	Overall: **0.95** (E) 61 EBL = 0.67 (E) 55 EBTR = 0.83 (E) 69 WBL = 0.67 (E) 79 WBR = **0.93** (F) 104 NBT = **1.04** (E) 78 NBTR = 0.13 (C) 27 SBL = 0.74 (E) 58 SBT = 0.77 (C) 35	 EBL = 105 m EBTR = 140 m WBL = 90 m WBR = 150 m NBT = 335 m NBTR = 25 m SBL = 55 m SBT = 220 m
Future Total 2024	Overall: **1.26** (F) 121 EBL = 0.88 (E) 61 EBTR = **0.85** (E) 64 WBL = **1.1** (F) 192 WBR = **1.23** (F) 193 NBT = **1.22** (F) 160 NBTR = **1.18** (F) 154 SBL = **1.41** (F) 249 SBT = **0.98** (E) 75	 EBL = 175 m EBTR = 185 m WBL = 90 m WBR = 240 m NBT = 330 m NBTR = 300 m SBL = 130 m SBT = 280 m	Overall: **0.99** (E) 66 EBL = 0.66 (D) 54 EBTR = 0.84 (E) 69 WBL = 0.73 (F) 84 WBR = **1.09** (F) 150 NBT = **1.04** (E) 78 NBTR = 0.14 (C) 28 SBL = **0.97** (F) 114 SBT = 0.79 (D) 37	 EBL = 105 m EBTR = 145 m WBL = 100 m WBR = 170 m NBT = 335 m NBTR = 25 m SBL = 75 m SBT = 220 m
Future Background 2029	Overall: **1.26** (F) 126 EBL = **0.95** (E) 69 EBTR = **0.9** (E) 71 WBL = **1.17** (F) 223 WBR = **1.18** (F) 176 NBT = **1.19** (F) 148 NBTR = **1.33** (F) 216 SBL = **1.38** (F) 234 SBT = **1.01** (F) 80	 EBL = 210 m EBTR = 210 m WBL = 85 m WBR = 215 m NBT = 320 m NBTR = 350 m SBL = 120 m SBT = 275 m	Overall: **0.99** (E) 70 EBL = 0.69 (D) 54 EBTR = **0.86** (E) 70 WBL = 0.78 (F) 92 WBR = **0.96** (F) 107 NBT = 1.**1** (F) 105 NBTR = 0.25 (C) 33 SBL = 0.64 (D) 45 SBT = 0.82 (D) 39	 EBL = 115 m EBTR = 160 m WBL = 90 m WBR = 150 m NBT = 345 m NBTR = 45 m SBL = 45 m SBT = 235 m

Scenario	AM Peak Hour	PM Peak Hour	PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Future Total 2029	Overall: **1.31** (F) 132 EBL = **0.95** (E) 69 EBTR = **0.92** (E) 74 WBL = **1.**27 (F) 258 WBR = **1.28** (F) 214 NBT = **1.19** (F) 149 NBTR = **1.34** (F) 221 SBL = **1.44** (F) 262 SBT = **1.01** (E) 80	EBL = 210 m EBTR = 220 m WBL = 90 m WBR = 240 m NBT = 320 m NBTR = 355 m SBL = 125 m SBT = 275 m	Overall: **1.02** (E) 76 EBL = 0.68 (D) 53 EBTR = **0.87** (E) 71 WBL = 0.85 (F) 102 WBR = **1.07** (F) 140 NBT = **1.12** (F) 110 NBTR = 0.27 (C) 33 SBL = 0.77 (E) 61 SBT = 0.83 (D) 40	EBL = 115 m EBTR = 165 m WBL = 105 m WBR = 170 m NBT = 350 m NBTR = 50 m SBL = 60 m SBT = 235 m
Future Background 2034	Overall: **1.31** (F) 124 EBL = **1.29** (F) 201 EBTR = **1.22** (F) 180 WBL = **1.17** (F) 223 WBR = **1.08** (F) 137 NBT = **1.07** (F) 94 NBTR = **1.21** (F) 159 SBL = **1.25** (F) 168 SBT = **0.91** (D) 52	EBL = 270 m EBTR = 265 m WBL = 85 m WBR = 205 m NBT = 305 m NBTR = 350 m SBL = 110 m SBT = 250 m	Overall: **1.05** (F) 86 EBL = 0.7 (D) 53 EBTR = **0.88** (E) 72 WBL = 0.87 (F) 110 WBR = **1.04** (F) 130 NBT = **1.19** (F) 143 NBTR = 0.28 (C) 34 SBL = 0.65 (D) 46 SBT = **0.88** (D) 43	EBL = 125 m EBTR = 180 m WBL = 100 m WBR = 160 m NBT = 380 m NBTR = 55 m SBL = 45 m SBT = 260 m
Future Total 2034	Overall: **1.37** (F) 132 EBL = **1.33** (F) 216 EBTR = **1.27** (F) 199 WBL = **1.13** (F) 204 WBR = **1.14** (F) 156 NBT = **1.07** (F) 94 NBTR = **1.22** (F) 164 SBL = **1.31** (F) 193 SBT = **0.91** (D) 52	EBL = 275 m EBTR = 275 m WBL = 90 m WBR = 225 m NBT = 305 m NBTR = 350 m SBL = 115 m SBT = 250 m	Overall: **1.09** (F) 91 EBL = 0.69 (D) 52 EBTR = **0.9** (E) 73 WBL = **1.01** (F) 151 WBR = **1.17** (F) 176 NBT = **1.2** (F) 145 NBTR = 0.29 (C) 34 SBL = 0.76 (E) 60 SBT = **0.88** (D) 43	EBL = 125 m EBTR = 190 m WBL = 110 m WBR = 180 m NBT = 385 m NBTR = 55 m SBL = 60 m SBT = 260 m

Under existing conditions, the intersection of Hurontario Street and the QEW Westbound On-Ramp/Off-Ramp is operating at with an overall v/c ratio of 1.19 LOS F and 0.94 LOS E during the a.m. and p.m. peak hours respectively. The intersection is reported to operate over capacity during the a.m. peak hour and at capacity during the p.m. peak hour. All northbound and southbound movements are operating at critical levels and above capacity during the a.m. peak hour, however, only the northbound through movement is reported to operate above capacity during the p.m. peak hour.

With the addition of corridor growth and background traffic under the future background 2024 scenario, the overall intersection is reported to operate with a small increase in v/c ratios to 1.25 LOS F and 0.95 LOS E during the a.m. and p.m. peak hours, respectively. During the a.m. peak hour, the northbound and southbound movements continue to operate at critical levels, with the northbound through and westbound right movements operating at a critical level during the p.m. peak hour. Signal timings were optimized to improve capacity and delays where possible.

Under the 2024 future total traffic condition, with the addition of the site generated traffic, the overall intersection is expected to continue to operate at critical levels (1.26 LOS F during the a.m. peak hour and 0.99 LOS E during the p.m. peak hour). During both the a.m. and p.m. peak hour, all critical approaches continue to operate at a critical level with the addition of the southbound left-turn lane operating at a critical level during the p.m. peak hour. Signal timings were optimized to improve capacity and delays where possible.

Under the 2029 future background scenario, with the continued corridor growth and the same background traffic, the overall intersection is reported to operate with a v/c ratio 1.26 LOS F and 0.99 LOS E during the a.m. and p.m. peak hours, respectively. During the a.m. peak hour, all approaches are now operating at a critical. During the p.m. peak

hour, the eastbound through-right, westbound right and northbound through approaches are all operating at a critical level. Signal timings were optimized to improve capacity and delays where possible.

Under the 2029 future total traffic condition, with the addition of the site traffic generated by the development, the overall intersection is expected to operate (or continues to operate) at critical levels, (1.31 LOS F during the a.m. peak hour and 1.02 LOS E during the p.m. peak hour). During the a.m. peak hour, all approaches continue to operate at a critical level. During the p.m. peak hour, all critical movements from the future background scenario continue to operate at critical levels with no new movements reaching critical levels. Signal timings were optimized to improve capacity and delays where possible.

Under the 2034 future background scenario, including corridor growth and background traffic, the overall intersection is reported to operate with a v/c ratio 1.31 LOS F and 1.05 LOS F during the a.m. and p.m. peak hours, respectively. During the a.m. peak hour, all movements are reported to operate at critical levels. During the p.m. peak hour, the eastbound through-right, westbound right, northbound through and the southbound through movements are reported to operate at critical levels. Signal timings were optimized to improve capacity and delays where possible.

Under the 2034 future total traffic condition, including the site traffic generated, the overall intersection is expected to operate at critical levels, (1.37 LOS F during the a.m. peak hour and 1.09 LOS F during the p.m. peak hour). During the a.m. peak hour, all movements continue operating at a critical level, with a negligible increase when compared to the future background 2034 scenario. Similarly, the same movements operating at critical levels during the future background 2034 p.m. peak hour continue to operate at critical levels. Signal timings were optimized to improve capacity and delays where possible.

The subject site is expected to contribute a maximum of 29 additional trips to the westbound right turn movement at this intersection during the a.m. peak hour or approximately 1 trip every 2 minutes. Similar to the background traffic conditions, the delays experienced at this intersection can be attributed to the high volume of traffic along Hurontario Street and the eastbound off-ramp. With a split signal timing, no additional green time can be provided to the westbound leg of the intersection or other critical movements.

7.3 South Service Road and Crestview Avenue

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 9 Capacity analysis of South Service Road and Crestview Avenue

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Existing 2022	EBTR = 0.11 (A) 0 WBTL = 0.11 (A) 3 NBLR = 0.59 (D) 26	EBTR = 0 m WBTL = 5 m NBLR = 30 m	EBTR = 0.15 (A) 0 WBTL = 0.04 (A) 2 NBLR = 0.11 (B) 12	EBTR = 0 m WBTL = 5 m NBLR = 5 m
Future Background 2024	EBTR = 0.11 (A) 0 WBTL = 0.11 (A) 3 NBLR = 0.6 (D) 26	EBTR = 0 m WBTL = 5 m NBLR = 30 m	EBTR = 0.15 (A) 0 WBTL = 0.04 (A) 2 NBLR = 0.11 (B) 12	EBTR = 0 m WBTL = 5 m NBLR = 5 m
Future Total 2024	EBTR = 0.11 (A) 0 WBTL = 0.11 (A) 3 NBLR = 0.61 (D) 27	EBTR = 0 m WBTL = 5 m NBLR = 30 m	EBTR = 0.16 (A) 0 WBTL = 0.04 (A) 2 NBLR = 0.12 (B) 12	EBTR = 0 m WBTL = 5 m NBLR = 5 m
Future Background 2029	EBTR = 0.11 (A) 0 WBTL = 0.11 (A) 3 NBLR = 0.61 (D) 27	EBTR = 0 m WBTL = 5 m NBLR = 30 m	EBTR = 0.17 (A) 0 WBTL = 0.04 (A) 2 NBLR = 0.12 (B) 12	EBTR = 0 m WBTL = 5 m NBLR = 5 m
Future Total 2029	EBTR = 0.11 (A) 0 WBTL = 0.11 (A) 3 NBLR = 0.62 (D) 28	EBTR = 0 m WBTL = 5 m NBLR = 35 m	EBTR = 0.17 (A) 0 WBTL = 0.04 (A) 2 NBLR = 0.13 (B) 12	EBTR = 0 m WBTL = 5 m NBLR = 5 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Future Background 2034	EBTR = 0.11 (A) 0 WBTL = 0.11 (A) 3 NBLR = 0.63 (D) 28	EBTR = 0 m WBTL = 5 m NBLR = 35 m	EBTR = 0.18 (A) 0 WBTL = 0.05 (A) 2 NBLR = 0.13 (B) 13	EBTR = 0 m WBTL = 5 m NBLR = 5 m
Future Total 2034	EBTR = 0.11 (A) 0 WBTL = 0.11 (A) 3 NBLR = 0.64 (D) 28	EBTR = 0 m WBTL = 5 m NBLR = 35 m	EBTR = 0.18 (A) 0 WBTL = 0.05 (A) 2 NBLR = 0.14 (B) 13	EBTR = 0 m WBTL = 5 m NBLR = 5 m

Under existing conditions, the intersection of South Service Road and Crestview Avenue is operating at a satisfactory level with the northbound approach operating with a v/c ratio of 0.59 LOS D, 26 seconds of delay and a 30 metre 95th percentile queue length during the a.m. peak hour and a v/c ratio of 0.11 LOS B, 12 seconds of delay and a 95th percentile queue length of 5 metres.

With the addition of corridor growth and background traffic under the future background 2024 scenario, the northbound approach is expected to increase slightly to a v/c ratio of 0.60 LOS D during the a.m. peak hour, with no changes expected for the v/c ratio during the p.m. peak hour nor to the delays and queue lengths for both peak hours.

Under the 2024 future total traffic condition, with the addition of the site traffic generated by the development, the v/c ratio of the northbound approach is expected to increase by 0.01 during both peak hours with an increase of 1 second reported to the delay during the a.m. peak hour.

Similarly, during the 2029 and 2034 horizon years, negligible increases are expected to the northbound approach, with the approach expected to operate with a v/c ratio of 0.62 LOS D and 0.13 LOS B during both peak hours respectively under the 2034 future total condition.

7.4 South Service Road and the West Access

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the future total traffic conditions out are summarized in the following table.

Table 10 Capacity analysis of South Service Road and the West Access

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Future Total 2024	EBTLR = 0.03 (A) 1 WBT = 0.04 (A) 2 WBTR = 0.14 (A) 0 NBTLR = 0.03 (C) 19 SBTLR = 0.08 (B) 11	EBTLR = 5 m WBT = 5 m WBTR = 0 m NBTLR = 5 m SBTLR = 5 m	EBTLR = 0.03 (A) 1 WBT = 0 (A) 0 WBTR = 0.06 (A) 0 NBTLR = 0.05 (C) 16 SBTLR = 0.07 (A) 10	EBTLR = 5 m WBT = 5 m WBTR = 0 m NBTLR = 5 m SBTLR = 5 m
Future Total 2029	EBTLR = 0.03 (A) 1 WBT = 0.04 (A) 2 WBTR = 0.14 (A) 0 NBTLR = 0.03 (C) 19 SBTLR = 0.08 (B) 11	EBTLR = 5 m WBT = 5 m WBTR = 0 m NBTLR = 5 m SBTLR = 5 m	EBTLR = 0.03 (A) 1 WBT = 0 (A) 0 WBTR = 0.07 (A) 0 NBTLR = 0.06 (C) 17 SBTLR = 0.07 (A) 10	EBTLR = 5 m WBT = 5 m WBTR = 0 m NBTLR = 5 m SBTLR = 5 m
Future Total 2034	EBTLR = 0.03 (A) 1 WBT = 0.04 (A) 2 WBTR = 0.14 (A) 0 NBTLR = 0.03 (C) 19 SBTLR = 0.08 (B) 11	EBTLR = 5 m WBT = 5 m WBTR = 0 m NBTLR = 5 m SBTLR = 5 m	EBTLR = 0.03 (A) 1 WBT = 0 (A) 0 WBTR = 0.07 (A) 0 NBTLR = 0.06 (C) 17 SBTLR = 0.07 (B) 10	EBTLR = 5 m WBT = 5 m WBTR = 0 m NBTLR = 5 m SBTLR = 5 m

Under the 2024, 2029 and 2034 future total horizon years, the west access along South Service Road is operating at satisfactory levels with low v/c ratios, levels of delay and queue lengths.

7.5 South Service Road and the East Access

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the future total traffic conditions out are summarized in the following table.

Table 11 Capacity analysis of South Service Road and the East Access

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Future Total 2024	EBTR = 0 (A) 0 WBTL = 0.05 (A) 1 NBTLR = 0 (A) 0 SBTLR = 0 (A) 0	EBTR = 5 m WBTL = 5 m NBTLR = 0 m SBTLR = 0 m	EBTR = 0 (A) 0 WBTL = 0 (A) 0 NBTLR = 0 (C) 16 SBTLR = 0 (A) 0	EBTR = 5 m WBTL = 0 m NBTLR = 5 m SBTLR = 0 m
Future Total 2029	EBTR = 0 (A) 0 WBTL = 0.05 (A) 1 NBTLR = 0 (A) 0 SBTLR = 0 (A) 0	EBTR = 5 m WBTL = 5 m NBTLR = 0 m SBTLR = 0 m	EBTR = 0 (A) 0 WBTL = 0 (A) 0 NBTLR = 0 (C) 17 SBTLR = 0 (A) 0	EBTR = 5 m WBTL = 0 m NBTLR = 5 m SBTLR = 0 m
Future Total 2034	EBTR = 0 (A) 0 WBTL = 0.05 (A) 1 NBTLR = 0 (A) 0 SBTLR = 0 (A) 0	EBTR = 5 m WBTL = 5 m NBTLR = 0 m SBTLR = 0 m	EBTR = 0 (A) 0 WBTL = 0 (A) 0 NBTLR = 0 (C) 17 SBTLR = 0 (A) 0	EBTR = 5 m WBTL = 0 m NBTLR = 5 m SBTLR = 0 m

Under the 2024, 2029 and 2034 future total horizon years, the east access along South Service Road is operating at satisfactory levels with low v/c ratios, levels of delay and queue lengths.

8. Parking and Loading Review

8.1 Existing City of Mississauga Zoning By-law

8.1.1 Vehicular Parking Requirement

The subject site is governed by the City of Mississauga's Zoning By-law 0225-2007, with the minimum parking requirement found in Section 3.1.2.1 for Condominium. The subject site is located within Precinct 2, as identified in the City of Mississauga's Schedule B, Zoning Map 07. The minimum required By-law parking rate for the development is as follows:

- Condominium, Apartment
    - 0.90 spaces per dwelling unit, for residents
    - 0.20 spaces per dwelling unit, for visitors

The minimum parking required for the proposed development is as follow:

- 353 dwelling units x (0.90 spaces/unit) = 317.7 spaces
- 353 dwelling units x (0.20 spaces/unit) = 70.6 spaces

In total, 389 vehicular parking spaces are required under the City's By-law 0225-2007.

8.1.2 Bicycle Parking Requirement

The bicycle parking requirement is also found within the City of Mississauga's Zoning By-law 0225-2007, with the minimum bicycle parking requirement found in Section 3.1.6.5.1 for apartments without exclusive garages. The minimum required bicycle parking By-law rate for the development is as follows:

- Apartment and stacked townhouse without exclusive garages
    - Class A: 0.6 spaces per unit
    - Class B: The greater of 0.05 spaces per unit of 6.0 spaces

Notwithstanding Sections 3.1.6.5 and 3.1.6.6 of the City's By-law, required off-street bicycle parking spaces shall only be required for the construction of new buildings or portions thereof, effective June 8, 2023. Under the City's By-law, the proposed development is required to provide the following bicycle parking supply:

- 353 dwelling units x (0.6 spaces/unit) = 212 Class A spaces
- 353 dwelling units x (0.05 spaces/unit) = 18 Class B spaces

In total, 230 bicycle parking spaces are required, with 212 Class A spaces and 18 Class B spaces.

8.1.3 Loading Space Requirement

Under City of Mississauga's Zoning By-law 0225-2007, the loading space requirement for apartment buildings is found in Section 3.1.4.5. and requires 1 loading space per apartment and/or retirement building containing a minimum of 30 dwelling units. The subject site is therefore required to provide one loading space with an unobstructed rectangular area with a minimum width of 3.5 m and a minimum length of 9.0 m.

8.2 Proposed Parking and Loading Supply

The following parking and loading supply is proposed for the 353 unit high-rise development:

- Resident parking spaces provided: 102 spaces. (0.29 spaces/unit)
- Visitor parking spaces provided: 35 spaces. (0.10 space/unit).
- 212 long-term bicycle parking spaces
- 17 short-term bicycle parking spaces
- 1 loading space

The Zoning By-law requirement for vehicle and bicycle parking and loading spaces and the subject site's provision are summarized in the table below.

Table 12 Parking and Loading Requirements and Provision

	Requirement	Provision	Surplus/Shortfall
Vehicle Parking	318 spaces	102 spaces	**-216 spaces**
Visitor Parling	71 spaces	35 spaces	**-36 spaces**
Long-term Bicycle Parking	212 spaces	212 spaces	**Met**
Short-term Bicycle Parking	18 spaces	18 spaces	**Met**
Loading Space	1 space	1 space	**Met**

8.3 Parking Assessment

Providing off-street residential parking influences a commuter choice on whether to drive or choose alternate forms of transportation. Providing more parking in general leads to a higher percentage of auto ownership and auto usage as well. Changing travel behaviour is best done when a prospective buyer is looking to purchase a unit and providing the opportunity for a prospective buyer to easily purchase a parking space either through making it affordable, at no additional cost, or having an excess in number of spaces available to purchase can introduce travel behaviour into an area that once established is hard to change.

The Region's Sustainable Transportation Strategy (STS), approved by Council in 2018 sets out a goal of a 50% sustainable transportation mode share in the Region by 2041.

The Peel Region Sustainable Transportation Strategy provides a framework for how the Region will:

- increase the current 37% share of trips by walking, cycling, transit, carpooling and telework in Peel Region, to achieve a 50% sustainable mode share by 2041
- accommodate growth in a way that prioritizes environmental, societal and economic sustainability
- contribute to a regional transportation system that is safe, convenient, efficient, multi-modal, well-integrated and sustainable.

The Region's STS includes mode share targets for transit, walking, cycling, carpooling and telework for 2041, aiming to maximize the role of sustainable modes in serving the Region's projected growth in travel demand. Achieving these targets will require substantial improvements in major transportation infrastructure (rapid transit, walking and cycling) and services.

The STS also has two accompanying implementation plans, one on active transportation and another on transportation demand management. Short-term priorities of the STS include:

Key themes for short-term action in the STS include:

- the locations of new and upgraded walking and cycling infrastructure
- encouraging and supporting cycling and walking to and from schools, transit hubs, and other community destinations
- implementation of new carpool lots and targeted carpooling promotion
- the development of a teleworking toolkit
- guidance for new development

As demonstrated in sections below, municipalities have begun to assist developers in helping to change travel behaviour by reducing or eliminating minimum parking requirements altogether for areas adjacent to high order transit stations.

8.4 Approved Parking Rates Near High Order Transit

City of Toronto

In December of 2021 the City of Toronto adopted a new Zoning Bylaw Amendment that will remove most minimum parking requirements for new developments, including mixed-use buildings, and instead replaced it with a maximum parking space requirement. These changes are in alignment with the City's climate action strategy that will encourage residents to use alternative travel modes to the car, such as walking, cycling and public transit. The maximum parking rates in the draft Zoning By-Law for areas in Parking Zone A, which include areas in close proximity to public transit, are as follows:

- 0.3 spaces per bachelor unit up to 45 ft^2,

- 1.0 per bachelor unit greater than 45 ft^2,
- 0.5 per one-bedroom unit
- 0.8 per two-bedroom units
- 1.0 per three or more bedroom units

City of Vaughan

In October of 2021, the City of Vaughan Council passed Zoning By-law 001-2021, with a portion of the By-law being appealed to the OLT, that would see a reduction in the minimum number of parking spaces required. Under the previous By-law, 1-88, a minimum of 1.5 parking spaces per dwelling unit was required. The City's new By-law reduced the minimum requirement for most of the city to 1.2 spaces per unit (residents and visitors), with the greatest reduction observed in the Vaughan Metropolitan Centre area at a rate of 0.55 spaces per unit (0.40 spaces/unit for residents, 0.15 spaces per unit for visitors). The Vaughan Metropolitan Centre (VMC) area shares similar characteristics with the subject site's area future transportation network context. The VMC is serviced by the TTC's Vaughan Metropolitan Centre Station, the Highway 7 Bus Rapidway, ZUM transit, as well as local transit provided by the YRT. In comparison, the subject site will be serviced by the Hurontario LRT Line, which provides connection to the Port Credit Station to the south and Mississauga's City Centre and Bus terminal to the north.

City of Brampton

In April of 2021 the City of Brampton passed By-Law 45-2021 for Parking Requirements in the Downtown, Central Area and a portion of the Hurontario-Main Corridor to amend the parking requirements and eliminate minimum parking requirements for specific uses. In recognition of Queen Street being the busiest transit corridor in Brampton and population and employment anticipated to grow by 40 to 50 percent over the next 25 years, the city is planning for rapid transit on Queen Street which aligns with their overall regional transportation plan. The passing of this By-Law is the first step in supporting the future rapid transit system and transit mode targets by allowing developers to provide parking based on market research and to market units to prospective residents who are looking to live in a walkable transit-oriented community where vehicle ownership is not required.

City of Ottawa

The City of Ottawa in December of 2019 officially opened the Confederation Line which runs through the downtown area. The City's Zoning By-Law parking requirements were revised to eliminate minimum parking requirements for developments within 600 metres of an LRT station and instead adopt a maximum parking allowance. As a result, residential developments near LRT stations are not required to provide any resident parking and are required to only provide visitor parking at a rate of 0.10 spaces per unit.

North Oakville (Town of Oakville)

The Town of Oakville passed Zoning By-Law 2009-189, which provides parking requirements for the area of North Oakville. Included in this By-Law is a maximum parking rate for residential land uses, such as apartment buildings with more than 4 storeys (up to 1.25 spaces per dwelling unit for residents plus 0.20 for visitors). This By-Law is in line with the North Oakville Parking Strategy study, prepared in November 2009, which provided the Town with a strategy to create a pedestrian friendly and a more transit-oriented suburb by encouraging a more efficient use of private and public parking resources and provide a reduced parking requirement to reflect transit planning goals.

8.5 Transportation Planning Context

Providing off-street residential parking influences a commuter choice on whether to drive or choose alternate forms of transportation. Providing more parking in general leads to a higher percentage of auto ownership and auto usage as well. Changing travel behaviour is best done when a prospective buyer is looking to purchase a unit and providing the opportunity for a prospective buyer to easily purchase a parking space either through making it affordable, at no additional cost, or having an excess in number of spaces available to purchase can introduce travel behaviour into an area that once established is hard to change.

As demonstrated in sections above, municipalities have begun to assist developers in helping to change travel behaviour by reducing or eliminating minimum parking requirements altogether for areas adjacent to high order transit stations.

Considering that some of the residents will not have a parking space, the proposed development will be marketed to prospective purchasers who are looking to live in a walkable transit-oriented community where a vehicle is not required for commuting or discretionary trips and the limited number of parking spaces will be explicitly noted in any promotional material. Consequently, a process of elimination is expected where many residents who choose to forgo owning a vehicle will be enticed to purchase a unit considering the transit infrastructure in the area and the proposed TDM measures proposed within the site.

The development is proposing Travel Demand Management (TDM), as outlined in Section 9 of the report including planning and design, walking and cycling, transit, parking, carshare/bikeshare, wayfinding and trip planning, education and promotion that can be adopted to make alternatives more competitive to driving, reducing the dependency on auto trips, and the need to provide an excessive supply of parking

8.5.1 Walk Score

GHD reviewed the walk, transit, and bike score for the subject site (49 South Service) using walkscore.com, with the scores summarized in the table below. Overall, the subject site has only a satisfactory walk and transit score due to the current lack of existing transit facilities in the surrounding area. However, as the Hurontario LRT and its adjacent multi-use path are built out, residents will have additional methods to complete shorter trips without needing a car.

Walkscore provides the option to identify the areas attainable by car, transit, foot and by bike while adjusting the time it takes to attain certain areas. Using a 20-minute commute time, within walking distance is an area extending to the north along Hurontario Street to just north of Queensway and to the south to the train tracks currently being used by GO Transit's Lakeshore West line, to the west along Pinetree Way towards the Credit River, and to the east along South Service Road to Ewald Road. Within this area there are many schools, parks, grocery, retail stores, and medical services.

Similarly, a travel time of 30 minutes using public transit provides access to the intersection of Hurontario Street and Dundas Street to the north, and to Hurontario Street and Lakeshore Road to the south. Although transit service along Hurontario Street is currently limited to buses, this will change with the introduction of the Hurontario LRT.

Table 13 Walk Score for 7015 Yonge Street

Mode	Score	Comment
Walk Score	38	Car-Dependent, Most errands require a car.
Transit Score	48	Some Transit, A few nearby public transportation options.
Bike Score	49	Somewhat Bikeable, Minimal bike infrastructure.

8.5.1.1 Future Transportation Network – Improved Scores

When taking into consideration the future Hurontario LRT line, the walk, transit and bike scores are expected to improve significantly as more areas become more accessible within a shorter travel time.

9. Travel Demand Management

9.1 Travel Demand Management

Travel Demand Management (TDM) refers to a variety of strategies to reduce congestion, minimize the number of single-occupant vehicles, encourage non-auto modes of travel, and reduce vehicle dependency to create a sustainable transportation system. TDM strategies have multiple benefits including the following:

- Reduced auto-related emissions to improve air quality;
- Decreased traffic congestion to reduce travel time;
- Increased travel options for businesses and commuters;
- Reduced personal transportation costs and energy consumptions; and
- Support Provincial smart growth objectives.

The combined benefits listed above will assist in creating a more active and livable community through improvements to overall active transportation standards for the local businesses and surrounding community.

9.2 Existing TDM Opportunities

9.2.1 Walking/Cycling

Sidewalks are currently provided along at least one side of the study area roads. Additionally, a pedestrian connection is provided just east of the subject site that connects South Service Road to Hurontario Street just south of the QEW Westbound Off-Ramp. This pedestrian connection provides a safer passage for pedestrians to access Hurontario Street without having to cross the QEW Eastbound On-Ramp, which does not currently provide a controlled crossing for pedestrians.

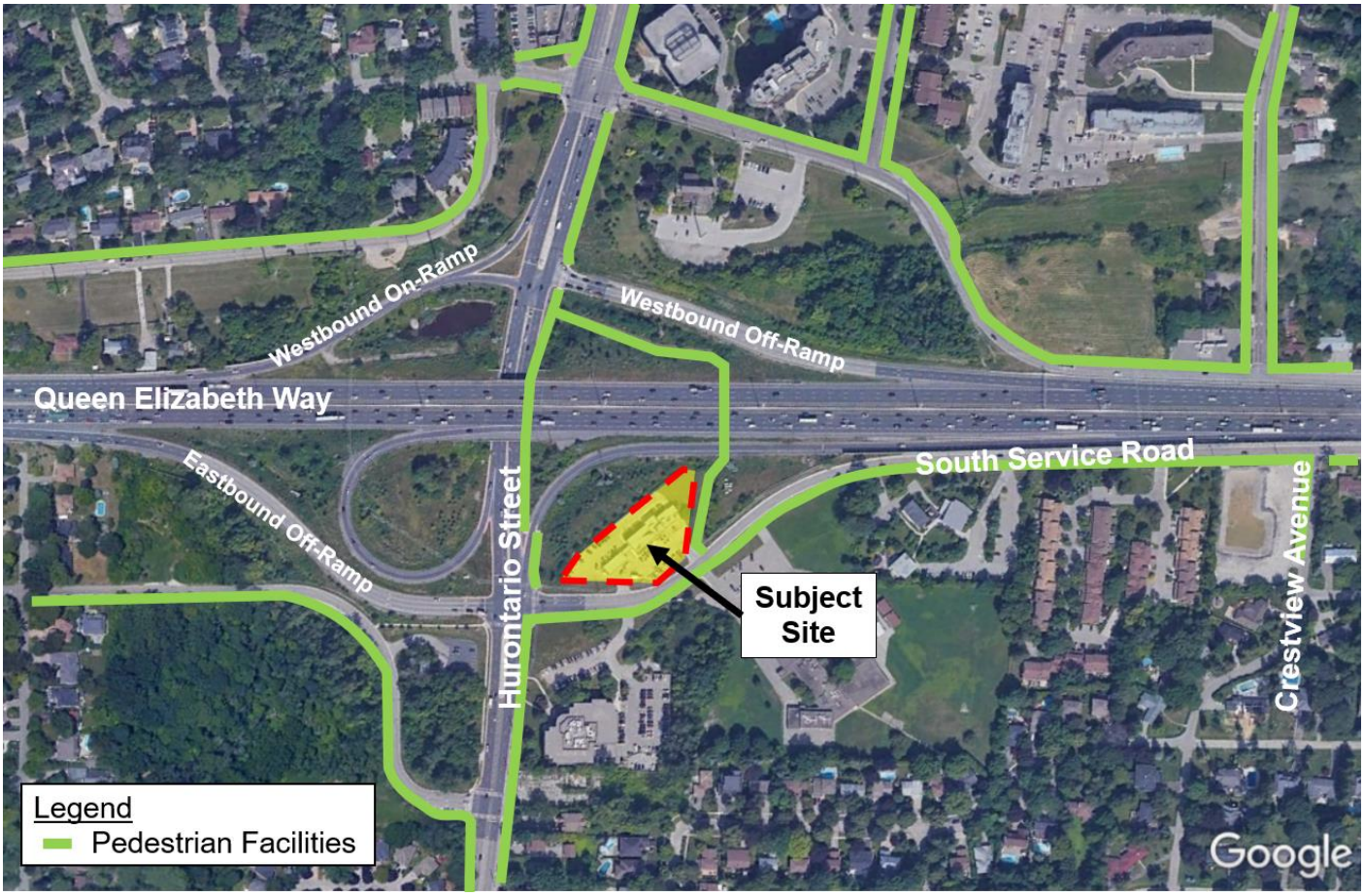


Figure 19 Pedestrian Routes

9.2.2 Transit

MiWay currently offers bus service along Hurontario Street on Route 2 with headways of approximately 10 and 8 minutes during the a.m. and p.m. peak hours, respectively. The route currently operates in the north/south direction along Hurontario Street between the Port Credit GO Station and the City Centre Transit Terminal in the southwest corner of Hurontario Street and Highway 403. The route provides a connection to the Lake Shore West (via Port Credit GO Station) and the Milton lines (via Cooksville GO Station), providing a connection to Union Station in downtown Toronto.

The nearest MiWay Transit bus stop along Hurontario is located at the intersection of Hurontario Street and Pinetree Way in the southbound direction and mid-block along Hurontario Street between Pinetree Way and South Service Road in the northbound direction. Additionally, transit stops are also located north of the subject site at North Service Road/Harborn Road, which is also the location of the North Service Road Hurontario LRT Station.

The anticipated opening year of the Hurontario LRT which coincides with the full build-out year of the proposed development. Once the LRT is in operation, bus service along Hurontario is expected to remain following a modified bus service plan that is currently being developed and will provide local bus service between LRT stops.

While the service plan details have not been finalized, the Hurontario LRT is expected to operate Monday to Saturday from 5:00 a.m. to 1:30 a.m. and on Sunday from 7:00 a.m. to midnight with an operating frequency of every 5 minutes during the peak hours.

9.3 Recommended TDM Measures

Table 14 Recommended TDM Strategies

TDM Measure	Responsibility	Cost	Note
Hard Measures			
Pedestrian connections	Applicant	Integrated into the overall development cost	Site plan includes a walkway system providing a connection to the municipal sidewalks. Enhanced pedestrian amenities will also be provided on-site, including but not limited to benches, landscaping and lighting.
Cycling connections	Applicant	Integrated into the overall development cost	The subject site is located a short distance away from the proposed cycling facilities along Hurontario Street
Bicycle Parking	Applicant	Integrated into the overall development cost. Long term bike parking racks with an enclosed room estimated at approx. $400 per bike plus $150 installation per bike space. Short term bike parking costs are estimated at $300 per rack that can accommodate 2 bikes. Values to be confirmed through detailed design. Bike repair station estimated cost of $1,500.00	Bicycle parking will be provided matching the requirements of the City Bylaw for short term and long term bicycle parking. Short-term bicycle parking will also be provided within well-lit and visible areas. One bicycle repair station is proposed to be located within the long-term bicycle room.
Reduced Vehicular Parking	Applicant	Integrated into the overall development cost	It is proposed to lower the resident parking supply for the site to reduce reliance on the automobile for travel needs.

Public Transit Access	Applicant	Integrated into the overall development cost	The subject site is located within walking distance of various public transit bus routes (MiWay) and will be a short distance from the future Hurontario LRT station at North Service Road.
Soft Measures			
Monitoring program/report	Applicant	To be determined	To measure success and effectiveness of programs.
Transit incentives (i.e. PRESTO cards)	Applicant	Provide a suggested fare card value of $150.00 per unit to encourage residents to use public transit.	To be provided with the purchase of each unit.
Information packages (MiWay, GO Transit, Hurontario LRT information, cycling maps)	Applicant	To be determined.	Distributed at the sales office with Purchase and Sales Agreement
Transit Information	Applicant	To be determined	Developer to provide screens in the main lobby that will display real-time data for the local bus routes and LRT line, in addition to wayfinding signage
Membership with Smart Commute	Applicant	Developer to investigate if membership is feasible. Membership services and costs would be negotiated at that time.	Condominium corporation can provide link to Smart Commute in communications (example in Information Packets)
Unbundled vehicle parking sales	Applicant	Integrated into the overall development cost	Proposed to unbundle the sales of the parking space and unit to provide residents with the true cost of the parking space.
Car share parking	Applicant	Integrated into the overall development cost	Car share spaces to be provided within the underground parking garage.

10. Sightline Review

Adjacent to the proposed site, South Service Road has a posted speed limit of 60 km/h (reduced to 40 km/h when signals adjacent to the school are flashing) and is relatively flat with no significant vertical changes in elevation. For the purpose of Stopping Sight Distance requirements a design speed of 80 km/h was used for the assessment on South Service Road based on the 60 km/h posted speed limit. Per Transportation Association of Canada's Geometric Design Guide for Canadian Roads (TAC GDGCR) Table 2.5.2, the minimum stopping sight-distance for level roadways with a design speed of 80 km/h is 130 metres for level roadways.

Section 9.9 of the TAC GDCR provides intersection sight distances for different scenarios, with the following scenarios used to complete the intersection sight distance analysis:

- Case B1 – Left turn from the minor road
- Case B2 – Right turn from the minor road
- Case F – Left turns from the major road

For the purpose of the assessment, the minor road is assumed to be the site driveway.

A vehicle entering the major road (South Service Road) from the site access is assumed to stop a distance of approximately 4.5 to 5.4 metres to the pavement edge of South Service Road as recommended by TAC. In this stopped position, the driver will be required to look left and right in order to perceive and react to approaching vehicles prior to initiating a turning movement onto South Service Road.

The required intersection sight distances are provided in TAC GDGCR Tables 9.9.4, 9.9.6 and 9.9.12 for passenger vehicles turning left from stop, turning right from stop, or turning left from the major road, respectively, and are summarized in the following table. The required intersection sight distances summarized in the tables below are based on an 80 km/h design speed along the major road.

Table 10 Intersection Sight Distance Requirement

Case (Design Speed of 60 km/h)	Required Intersection Sight Distance for Passenger Cars (TAC 2017)	Sufficient Intersection Sight Distance?	TAC Reference
B1: Vehicles turning left from stop	170 m	Yes	Table 9.9.4
B2: Vehicles turning right from stop	145 m	Yes	Table 9.9.6
F: Left turns from the major road	125 m	Yes	Table 9.9.12

The available sight distances along South Service Road to the east and west of the proposed site access meet the minimum required stopping sight distance for an 80 km/h design speed. Despite falling short of the required stopping sight distance to the west of the site access, the intersection is in full view of the proposed site access and provides the driver with ample time to react to an oncoming vehicle. Similarly, despite the sightline going through the frontage of the subject looking towards the west, no obstructions (such as parked cars) will be located within the driver's sightline. The sightline assessment is shown in **Figure 20** below.

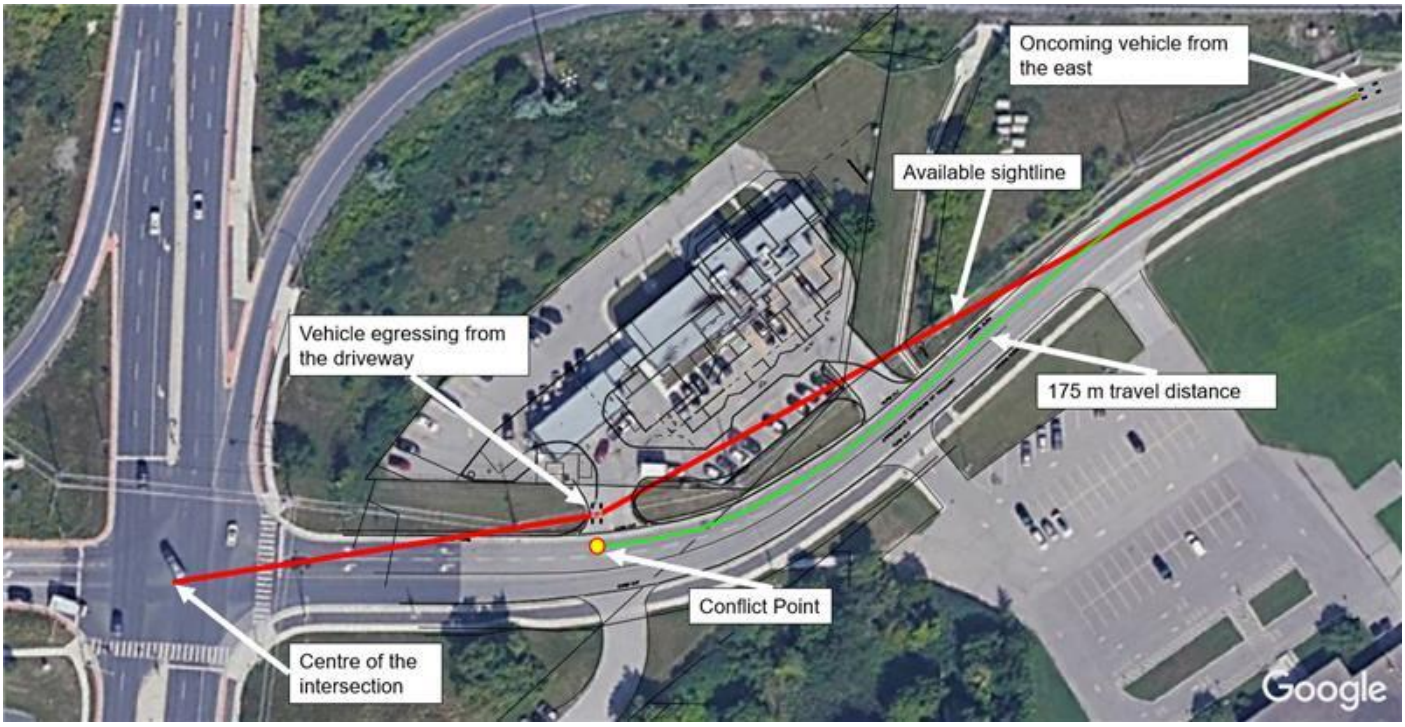


Figure 20 Sightline Assessment

11. Vehicle Swept Path Analysis

GHD undertook a Vehicle Swept Path Analysis to assess the proposed site plan's ability to accommodate the required turning movements of a Medium Sized Unit (MSU) Loading Vehicle, TAC Passenger Vehicle, Waste Collection Truck, and Emergency Vehicles.

The results of the analysis, which are provided in **Appendix E,** illustrate that the site can sufficiently accommodate the aforementioned design vehicles with no conflicts.

12. Community Impacts

The proposed development is estimated to generate an acceptable volume of new site trips to the adjacent road network and study intersections as confirmed in Section 7.0 of this report. The subject site's generated traffic with have a marginal impact on the operation of all the study intersections and roadways. There are no recommended improvements to the study intersections required in response to development of the subject site.

At this time public consultations have not occurred and comments from the public have not been received. This section of the report will be updated once a statutory meeting has been held to include any transportation comments or concerns that were raised through written correspondence to the City and through verbal comments made at the meetings.

13. Conclusion

The proposed draft plan of subdivision consists of a 26-storey high-rise residential building with 353 dwelling units and 146 vehicle parking spaces.

Access to the subject site is proposed via two accesses located along South Service Road, in the same location as the two site accesses found under existing conditions.

The proposed development is expected to generate a total of 73 new two-way trips consisting of 31 inbound and 42 outbound trips during weekday a.m. peak hour and 88 new two-way trips consisting of 42 inbound and 46 outbound trips during the weekday p.m. peak hour.

Both the intersection of Hurontario Street at the QEW Eastbound On-ramp/Off-ramp and Hurontario Street at the QEW Westbound Off-ramp/South Service Road are at critical levels under existing conditions and are expected to operate over capacity under the three future traffic scenarios in 2024, 2029 and 2034. Despite both intersections operating above capacity, the low volume of subject site traffic is expected to have a negligible impact on the operation of both intersections. The large delays and capacity issues can be attributed to the growth rate applied to Hurontario Street and the MTO off-ramps. A reduction on the delays along Hurontario Street can only be expected if transit modal splits increase along Hurontario Street with the opening of the Hurontario LRT line as more residents transfer to using public transit.

Under the City's Zoning By-law, the subject site requires a total of 389 vehicle parking spaces, 229 bicycle parking spaces and one loading space. The subject site proposes to provide a total of 137 parking spaces (a rate of 0.29 spaces per unit for residents and 0.10 per unit for visitors), 229 bicycle parking spaces and one loading space. The requirement for bicycle parking and loading spaces are met, however the site is short 252 vehicular parking spaces. The reduced parking rate is proposed to encourage residents to no longer require the use of a car and further reduce residents' dependency on cars.

The reduced parking supply is supportive of the Region's Sustainable Transportation Strategy that proposes a target of 50% of trip made by a sustainable transportation mode in the Region by 2041. It is also supported by several TDM measures proposed for the subject site to encourage residents to explore various modes of transportation in order to reduce their dependency on single occupancy vehicle trips. These measures include good pedestrian and cycling connectivity to the municipal networks, a reduced parking supply, wayfinding signage and real-time bus schedules on screens within the lobby.

A Vehicle Swept Path Analysis was undertaken to assess the site's ability to accommodate the required turning movements of a waste collection truck, an MSU Truck, an emergency vehicle and a Passenger vehicle as per TAC design guidelines and confirmed that the site can sufficiently accommodate the aforementioned design vehicles.

A sightline assessment was conducted for the west access and concluded that there is sufficient sight distance to the east of the access and to the intersection to the west of the site access for a road with a design speed of 80 km/h.

Appendices

Appendix A

Terms of Reference

Raf Andrenacci

From: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>
Sent: Monday, September 12, 2022 3:03 PM
To: Raf Andrenacci
Subject: RE: Terms of Reference - 49 South Service Road

Hi Raf,

For the existing condition please assume the pre-LRT and for the future horizon year post-LRT.

Regards,

Kate (Jekaterina) Vassilyev
Traffic Planning Technologist
T 905-615-3200 ext.8171
kate.vassilyev@mississauga.ca

City of Mississauga | Transportation and Works Department,
Infrustructure Planning Division

From: Raf Andrenacci <Raf.Andrenacci@ghd.com>
Sent: Monday, September 12, 2022 10:40 AM
To: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>
Cc: Trans Projects <Trans.Projects@mississauga.ca>; Ryan Au <Ryan.Au@mississauga.ca>; Will Maria <William.Maria@ghd.com>
Subject: Re: Terms of Reference - 49 South Service Road

Hi Kate,

With the Hurontario LRT construction currently underway having an effect on travel patterns in the area, would it be possible to omit the analysis of the Hurontario intersections for the Existing 2022 horizon year? If not, would it be preferred to use the pre-LRT or the post-LRT lane configuration and signal timings.

Thanks,
Raf

From: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>
Sent: Thursday, September 8, 2022 2:35 PM
To: Raf Andrenacci <Raf.Andrenacci@ghd.com>
Cc: Trans Projects <Trans.Projects@mississauga.ca>; Ryan Au <Ryan.Au@mississauga.ca>
Subject: RE: Terms of Reference - 49 South Service Road

Good afternoon Raf,

Thank you for providing the TOR for our section review. Please find comments and references below in blue. If you have any questions please feel free to contact me.

Raf Andrenacci

From: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>
Sent: Thursday, September 8, 2022 2:35 PM
To: Raf Andrenacci
Cc: Trans Projects; Ryan Au
Subject: RE: Terms of Reference - 49 South Service Road

Good afternoon Raf,

Thank you for providing the TOR for our section review. Please find comments and references below in blue. If you have any questions please feel free to contact me.

Regards,

Kate (Jekaterina) Vassilyev
Traffic Planning Technologist
T 905-615-3200 ext.8171
kate.vassilyev@mississauga.ca

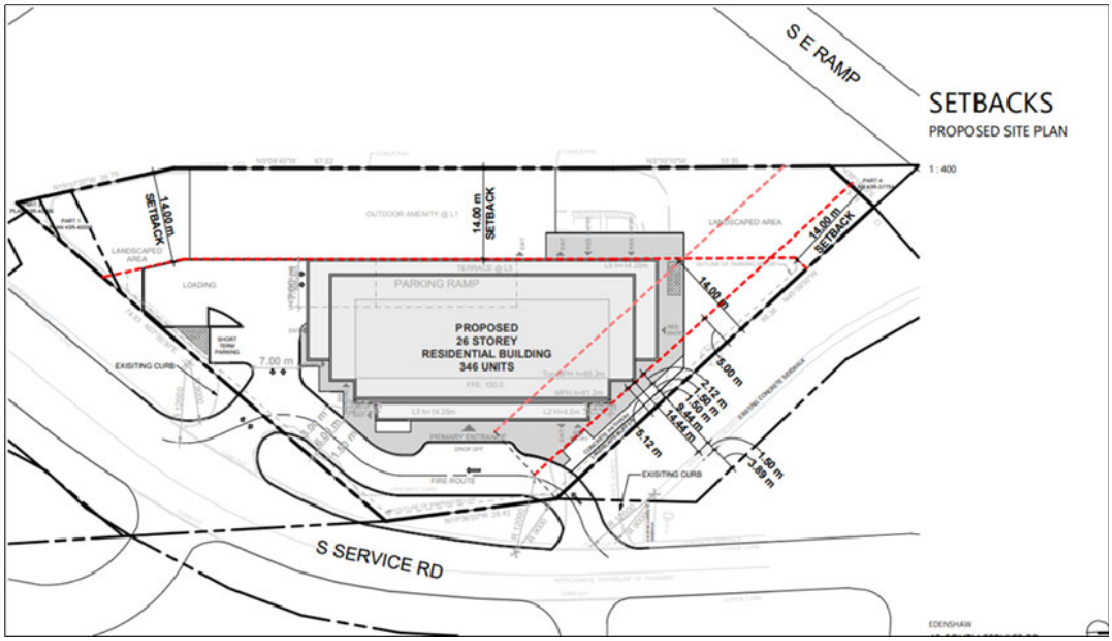
City of Mississauga | Transportation and Works Department,
Infrustructure Planning Division

From: Raf Andrenacci <Raf.Andrenacci@ghd.com>
Sent: Thursday, September 1, 2022 1:09 PM
To: Ryan Au <Ryan.Au@mississauga.ca>; Mark.j.white@ontario.ca
Cc: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>
Subject: Terms of Reference - 49 South Service Road

Good afternoon,

GHD Inc. has been retained to prepare a Transportation Impact Study for the proposed redevelopment of the property municipally known as 49 South Service Road in the City of Mississauga to residential uses consisting of a 26-storey residential building with 365 dwelling units.

Access to the subject site is proposed via one single full-moves driveway onto South Service Road and one inbound driveway from South Service Road. Both driveways are proposed to be located across from existing driveways on South Service Road. Please note that additional justification should be provided to support the proposed full-moves access as Traffic Planning Section sees potential operational issues.



In order to properly scope this project, we ask that the City and MTO review and provide comments on the following scope and confirm if there are any additional items required as part of the study. Please see below in blue.

Study intersections

- Hurontario Street and South Service Road/QEW Eastbound Off-Ramp
- Hurontario Street and QEW Westbound Off-Ramp/QEW Westbound On-Ramp
- South Service Road and the proposed site access/1599 Hurontario Street site access

- South Service Road and the proposed site access/60 South Service Road site access
- South Service Road and Crestview Avenue

Traffic Data

Updated traffic counts at the existing study intersections will be undertaken during the a.m. and p.m. peak hours. Please use the existing counts (if available) and apply sensitivity analysis.

Study Peak Hours
Weekday a.m. and p.m. peak hours

Study Horizon Year
2022 (existing), 2024 (build-out), 2029 (five years pos build-out), 2034 (ten years post-build-out)

Background Growth Rate
GHD will consult with Tyler from the City of Mississauga to determine the growth rates to be used along Hurontario Street, MTO to be consulted about growth rates to be used for the QEW on-ramp/off-ramps.

Background Development Traffic
Future background traffic volumes will include other developments (under construction or planned). GHD has reviewed the City's development application portal and determined that the site at 1575 Hurontario Street is the only proposed development in close proximity to the site that would generate additional traffic along the study intersections. City to confirm if there are any additional developments to include. No additional Development.

Trip Generation
Will be completed using rates published by the ITE Trip Generation 11th Edition, Land Use Code 222 (multifamily housing, high-rise).

The directional distribution of traffic approaching and departing the site will be determined based on TTS 2016 data, existing local patterns and first principles.

The analysis will Identify the transportation system requirements and other measures required to ensure the acceptable operation of the study intersections, including auxiliary turning lanes and other transportation infrastructure improvements.

Modal splits to be confirmed with City staff. Please confirm with Norbert Orzel, Norbert.Orzel@mississauga.ca

TAC, MTO and City guidelines will be reviewed in order to complete an access management

Review for the site access that reviews corner clearance, driveway spacing, auxiliary lanes, corner radii, and clear throat distance.

Existing TDM opportunities will be identified and future TDM opportunities will be recommended for the site.

The parking supply will be reviewed in accordance with the City's Zoning By-law. If there is a parking deficiency, a parking assessment will be completed with the Terms of Reference agreed upon with the City of Mississauga.

Include a section for Community Impacts. Any traffic related impacts on the existing community and comments from the public through the planning approvals process shall be addressed in this section.

If the above scope is acceptable to the City and MTO, it will form the basis of our scope of work.

Thank you,
Raf

Raf Andrenacci

From: Routledge, Graham (MTO) <Graham.Routledge@ontario.ca>
Sent: Friday, September 9, 2022 11:26 AM
To: Raf Andrenacci
Subject: FW: Terms of Reference - 49 South Service Road
Attachments: General Guidelines for the Preparation of Traffic Impact Studies Feb 2021.pdf; QEW at Hurontario St. (South Ramp).pdf; QEW at Hurontario St. (North Ramp).pdf

Good morning Raf,

MTO has reviewed the Terms of Reference for 49 South Service Road in Mississauga, please find our comments below:

- Proponent to reference and shall follow attached ministry's latest general guidelines (Feb 2021) for the preparation of TIS.
- Attached ministry's latest TMCs at QEW/Hurontario IC from 2016, proponent may conduct new TMCs if deemed necessary. Note Hurontario Street is currently under construction, please arrange the collection of any new counts accordingly. Historical volume data may be found at https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/tvSsplash.aspx
- Please indicate traffic software package and version proposed for the analysis.
- Future year traffic analysis should incorporate modifications to the study intersections due to the Hurontario LRT. Also consider the impacts of LRT on mode split, expected travel patterns in developing future traffic projections and provide appropriate justification on the assumptions made.

Thank you

Graham

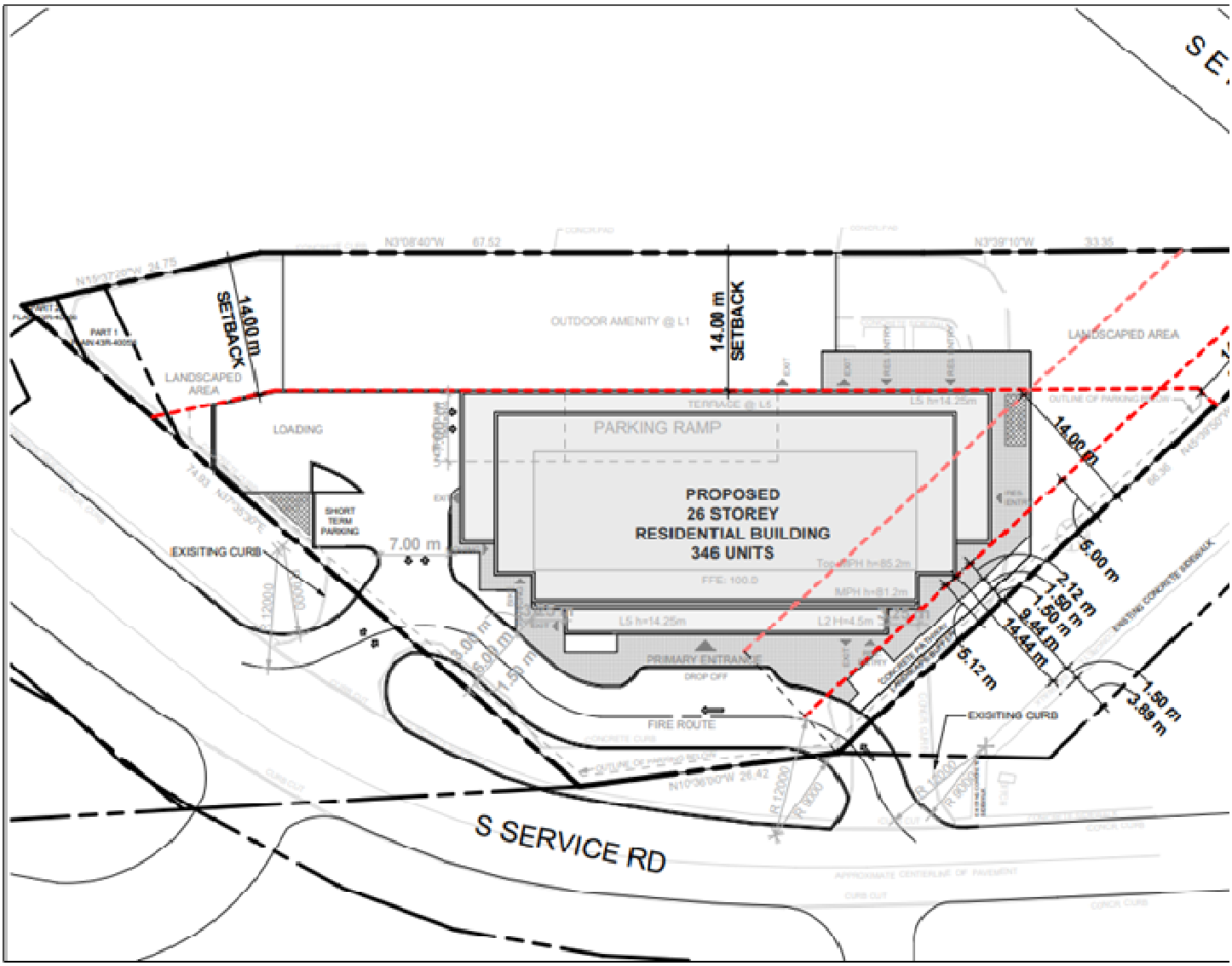
From: Raf Andrenacci <Raf.Andrenacci@ghd.com>
Sent: September 1, 2022 1:15 PM
To: Lawrence, Morgan (MTO) <Morgan.Lawrence@ontario.ca>
Subject: Terms of Reference - 49 South Service Road

Hi Morgan,

I contacted Mark White regarding our Terms of Reference for the site at 49 South Service Road in Mississauga. He has let me know that he is no longer with the Corridor Management office and to contact you to assign a staff member in the interim. Please find below the Terms of Reference:

GHD Inc. has been retained to prepare a Transportation Impact Study for the proposed redevelopment of the property municipally known as 49 South Service Road in the City of Mississauga to residential uses consisting of a 26-storey residential building with 365 dwelling units.

Access to the subject site is proposed via one single full-moves driveway onto South Service Road and one inbound driveway from South Service Road. Both driveways are proposed to be located across from existing driveways on South Service Road.



In order to properly scope this project, we ask that the City and MTO review and provide comments on the following scope and confirm if there are any additional items required as part of the study.

Study intersections

- Hurontario Street and South Service Road/QEW Eastbound Off-Ramp
- Hurontario Street and QEW Westbound Off-Ramp/QEW Westbound On-Ramp
- South Service Road and the proposed site access/1599 Hurontario Street site access
- South Service Road and the proposed site access/60 South Service Road site access

Traffic Data

Updated traffic counts at the existing study intersections will be undertaken during the a.m. and p.m. peak hours.

Study Peak Hours

Weekday a.m. and p.m. peak hours

Study Horizon Year

2022 (existing), 2024 (build-out), 2029 (five years pos build-out), 2034 (ten years post-build-out)

Background Growth Rate
GHD will consult with Tyler from the City of Mississauga to determine the growth rates to be used along Hurontario Street, MTO to be consulted about growth rates to be used for the QEW on-ramp/off-ramps.

Background Development Traffic
Future background traffic volumes will include other developments (under construction or planned). GHD has reviewed the City's development application portal and determined that the site at 1575 Hurontario Street is the only proposed development in close proximity to the site that would generate additional traffic along the study intersections. City to confirm if there are any additional developments to include.

Trip Generation
Will be completed using rates published by the ITE Trip Generation 11th Edition, Land Use Code 222 (multifamily housing, high-rise).

The directional distribution of traffic approaching and departing the site will be determined based on TTS 2016 data, existing local patterns and first principles.

The analysis will Identify the transportation system requirements and other measures required to ensure the acceptable operation of the study intersections, including auxiliary turning lanes and other transportation infrastructure improvements.

Modal splits to be confirmed with City staff.

TAC, MTO and City guidelines will be reviewed in order to complete an access management

Review for the site access that reviews corner clearance, driveway spacing, auxiliary lanes, corner radii, and clear throat distance.

Existing TDM opportunities will be identified and future TDM opportunities will be recommended for the site.

The parking supply will be reviewed in accordance with the City's Zoning By-law. If there is a parking deficiency, a parking assessment will be completed with the Terms of Reference agreed upon with the City of Mississauga.

If the above scope is acceptable to the City and MTO, it will form the basis of our scope of work.

Thank you,
Raf

Appendix B

Traffic Data

Ontario

INTERSECTION LAYOUT SHEET

Date: April 28, 2016 Day: Thursday Request # 905 Observer(s) Video

Gretch Code (LHRS O/S): 1101500000 Ramp # 61, 38, 96

Hwy # QEW Location HURONTARIO ST (NORTH RAMPS)

Reg/Mun Peel Town/City Mississauga

Comments

Segment 1 - AM or PM (Please Circle ONE) Weather Sunny

DATASETS

For office use only:

Edit File:

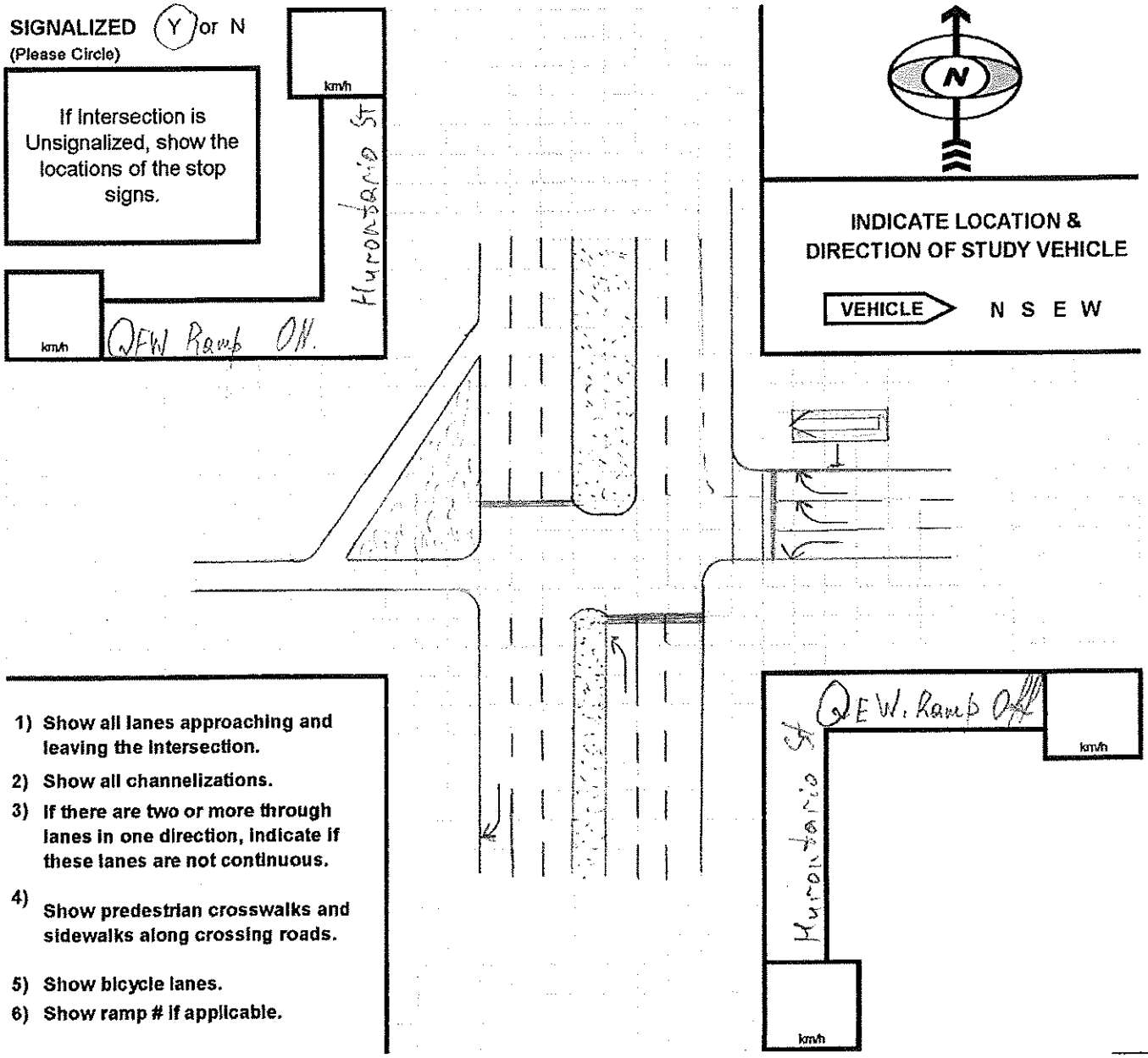
AM Peak:

PM Peak:

Processed by:

SIGNALIZED (Y) or N
(Please Circle)

If Intersection is Unsignalized, show the locations of the stop signs.



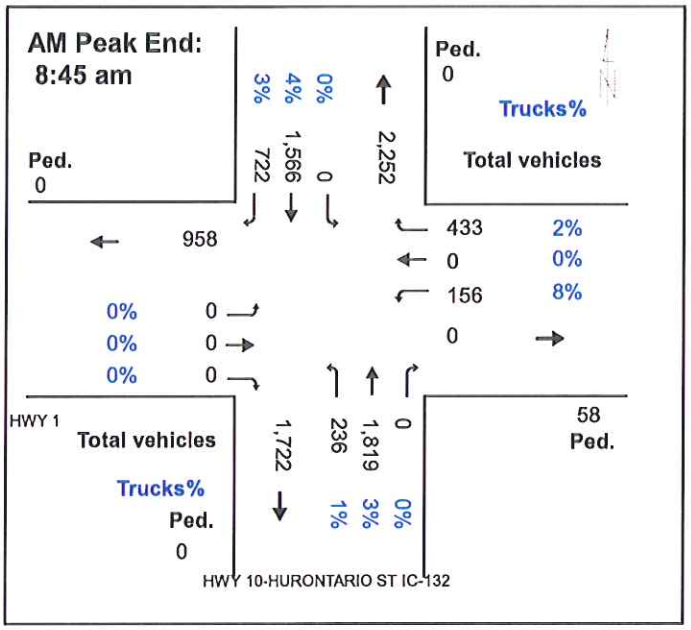
1) Show all lanes approaching and leaving the intersection.
2) Show all channelizations.
3) If there are two or more through lanes in one direction, indicate if these lanes are not continuous.
4) Show predestrian crosswalks and sidewalks along crossing roads.
5) Show bicycle lanes.
6) Show ramp # if applicable.

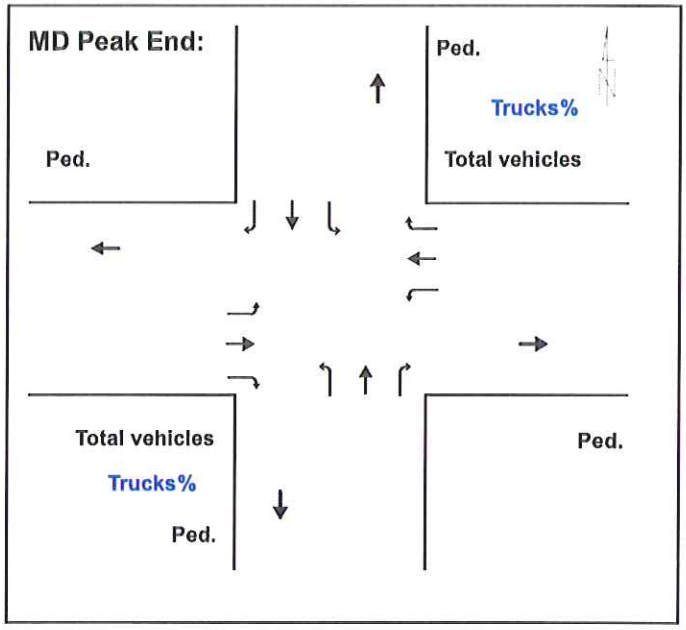
Ontario

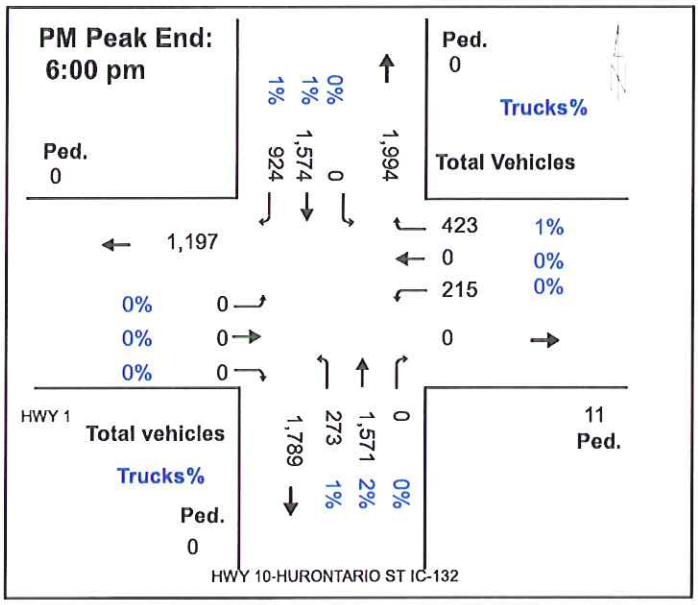
HWY 1 @ HWY 10-HURONTARIO ST IC-132

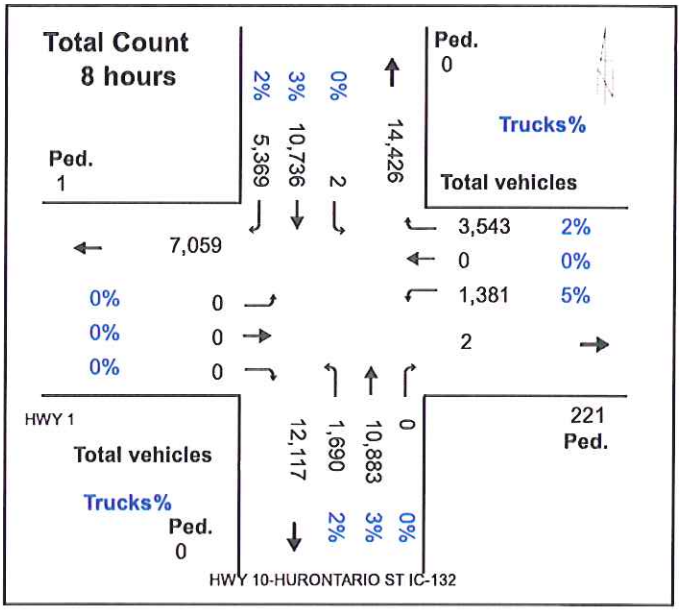
Central

Intersection ID:101500000(--N--) **Count Day: Thursday** **Count Date: 28-Apr-2016**









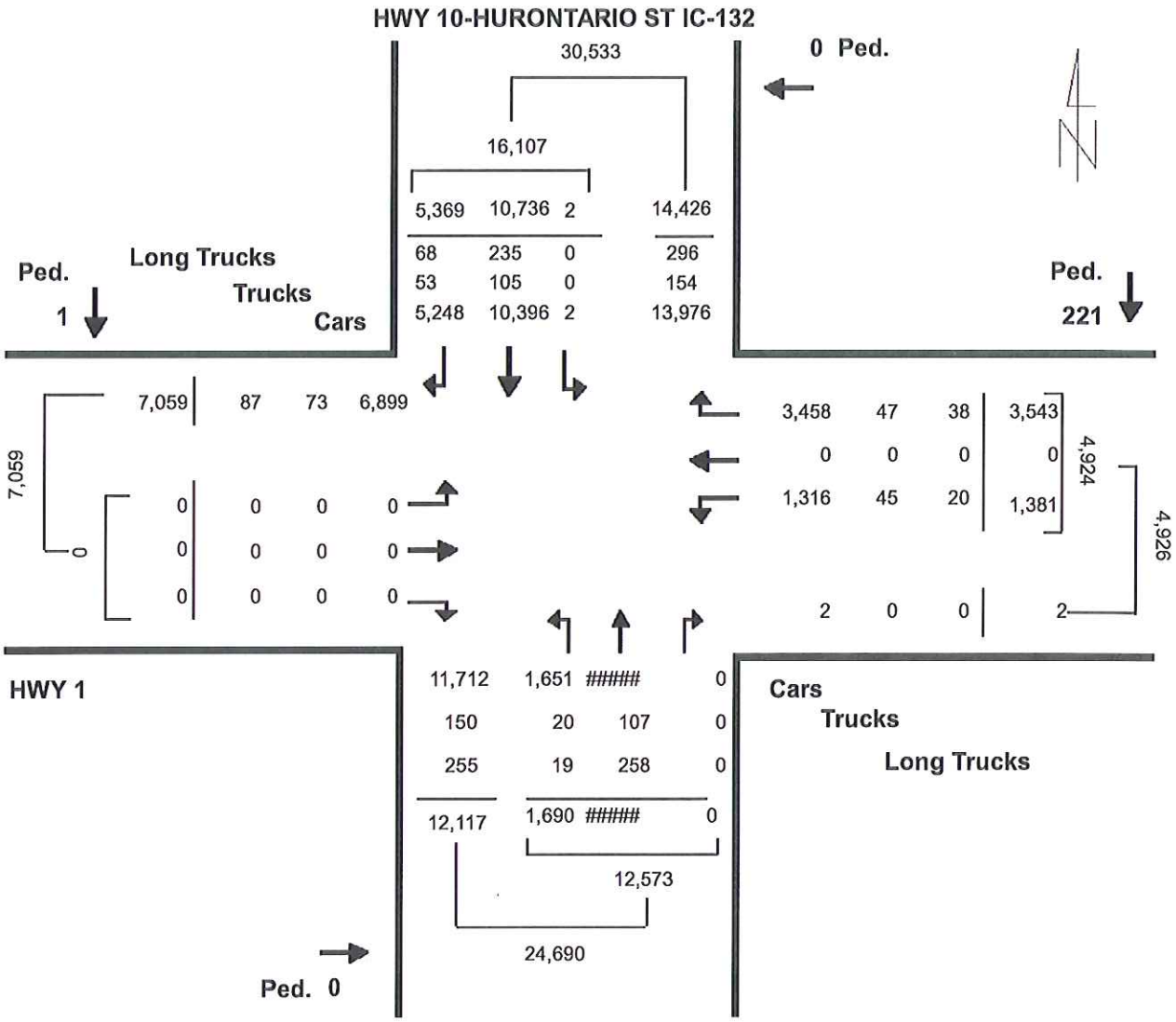
Traffic Engineering Software

COUNT TOTAL

HWY 1 @ HWY 10-HURONTARIO ST IC-132

Central

Intersection ID:101500000(--N--) **Date: 28-Apr-2016**



15 MIN REPORT

Intersection ID:101500000(--N--) **HWY 1 @ HWY 10-HURONTARIO ST IC-132** **Municipality: Central** **Date: 28-Apr-2016**

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period1																																								
6:15	0	128	33	0	1	4	0	2	1	0	9	0	46	0	0	1	1	0	0	0	18	230	0	1	1	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	487
6:30	0	162	50	0	1	0	0	5	0	0	15	0	78	0	0	2	1	0	1	0	23	202	0	0	6	0	1	13	0	0	0	0	0	0	0	0	0	0	0	0	0	560
6:45	0	199	68	0	1	0	0	7	2	0	11	0	86	2	0	3	0	0	4	0	30	210	0	1	4	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	642
7:00	0	189	93	0	3	2	0	4	2	0	27	0	112	0	0	4	1	0	2	0	27	150	0	0	1	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	624
7:15	0	297	111	0	3	1	0	10	2	0	29	0	138	1	0	3	0	0	2	1	34	245	0	1	2	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	886
7:30	0	298	138	0	3	2	0	10	5	0	32	0	120	1	0	0	0	0	0	2	45	254	0	1	3	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	1	922
7:45	0	266	166	0	3	2	0	9	5	0	28	0	93	1	0	0	2	0	1	5	77	365	0	2	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	1034
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9:15	0	284	121	0	5	2	0	6	4	0	60	0	102	2	0	1	0	0	1	7	35	367	0	0	2	0	1	14	0	0	0	0	0	0	0	0	0	0	0	0	0	1014
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Period2																																									
14:15	0	290	155	0	2	3	0	8	2	0	52	0	130	0	0	0	1	0	2	8	36	323	0	1	2	0	2	10	0	0	0	0	0	0	0	0	0	0	0	0	0	1027
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15:30	0	372	224	0	4	0	0	11	3	0	42	0	120	0	0	2	2	0	1	11	48	324	0	1	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1173
15:45	0	391	225	0	2	0	0	7	1	0	41	0	121	0	0	3	0	0	0	8	51	368	0	0	0	0	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	1232
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17:45	0	362	242	0	1	2	0	6	0	0	56	0	81	0	0	1	0	0	1	2	64	360	0	0	4	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1185
18:00	0	390	190	0	0	0	0	2	0	0	51	0	140	0	0	1	0	0	0	1	61	378	0	0	2	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1223

Ontario

INTERSECTION LAYOUT SHEET

Date: April 28, 2016 Day: Thursday Request # 906 Observer(s) Video

Gretch Code (LHRS O/S): 2101500000 Ramp # 51

Hwy # QEW Location HURONTARIO ST (SOUTH RAMPS)

Reg/Muh Peel Town/City Mississauga

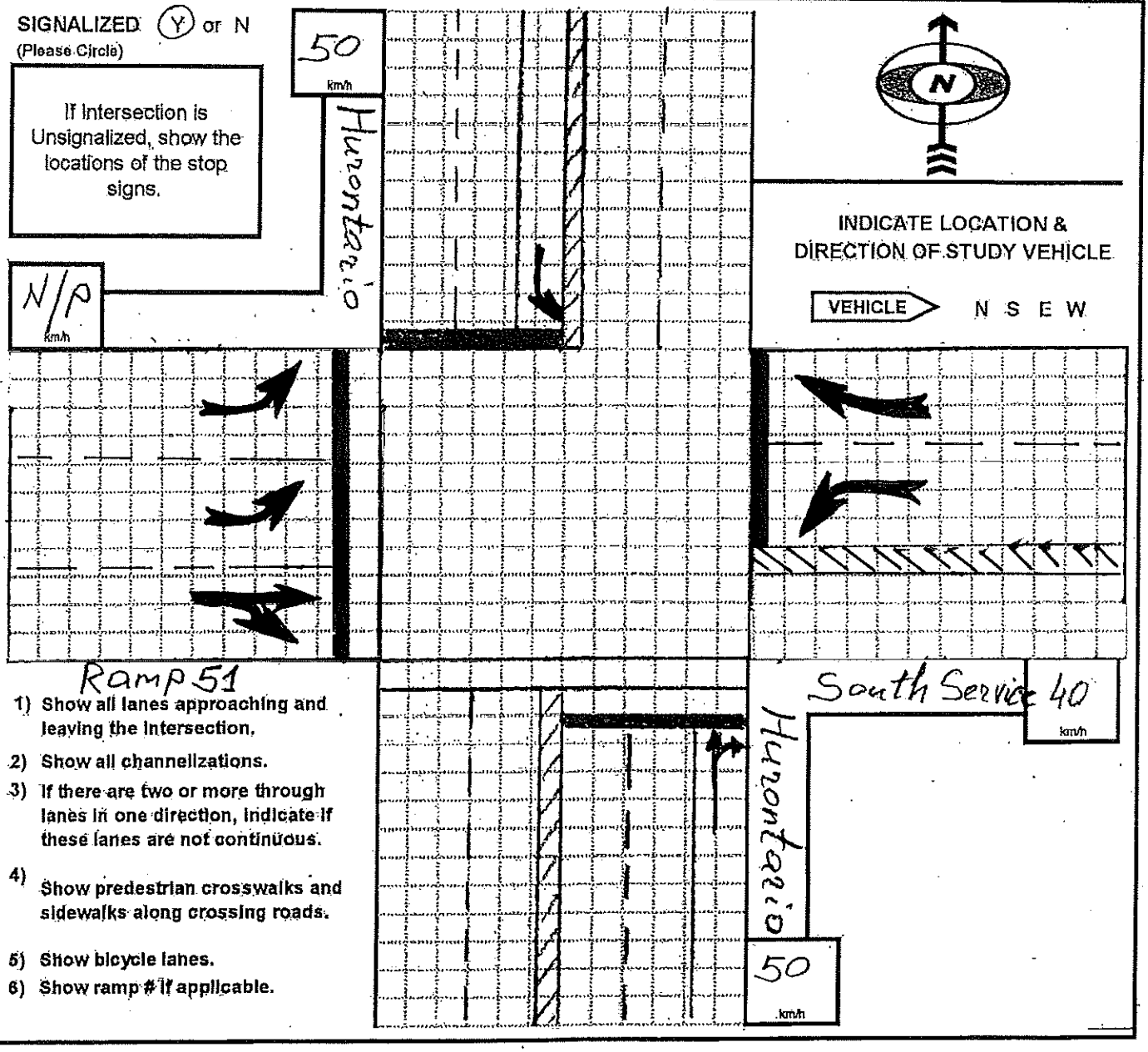
Comments

Segment 1 - (AM) or (PM) (Please Circle ONE) Weather Sunny

DATASETS
For office use only:
Edit File:
AM Peak:
PM Peak:
Processed by:

SIGNALIZED (Y) or N
(Please Circle)

If intersection is Unsignalized, show the locations of the stop signs.



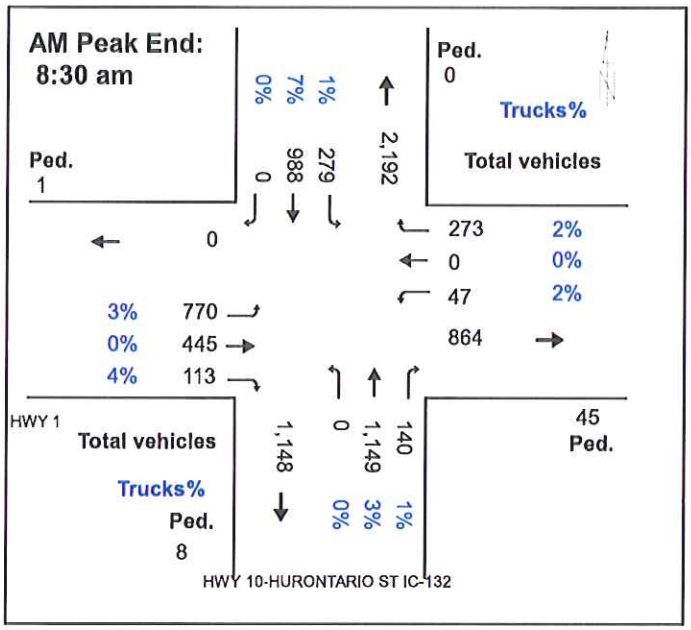
1) Show all lanes approaching and leaving the intersection.
2) Show all channelizations.
3) If there are two or more through lanes in one direction, indicate if these lanes are not continuous.
4) Show predestrian crosswalks and sidewalks along crossing roads.
5) Show bicycle lanes.
6) Show ramp # if applicable.

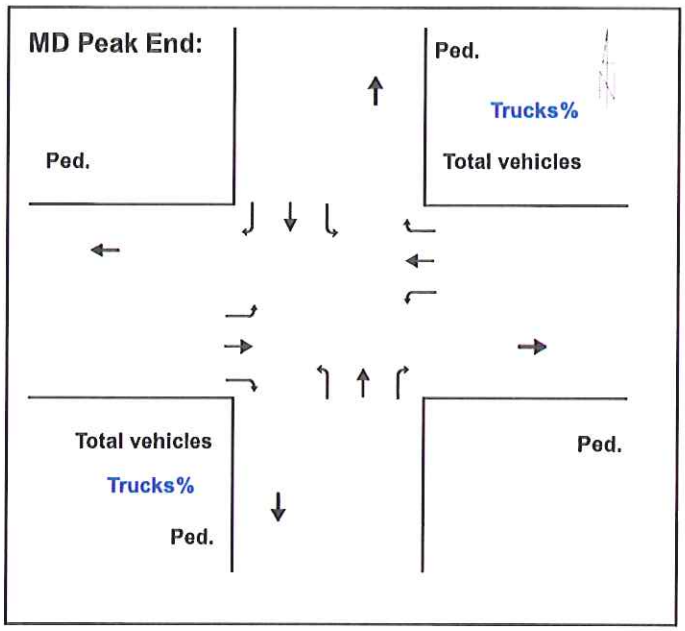
Ontario

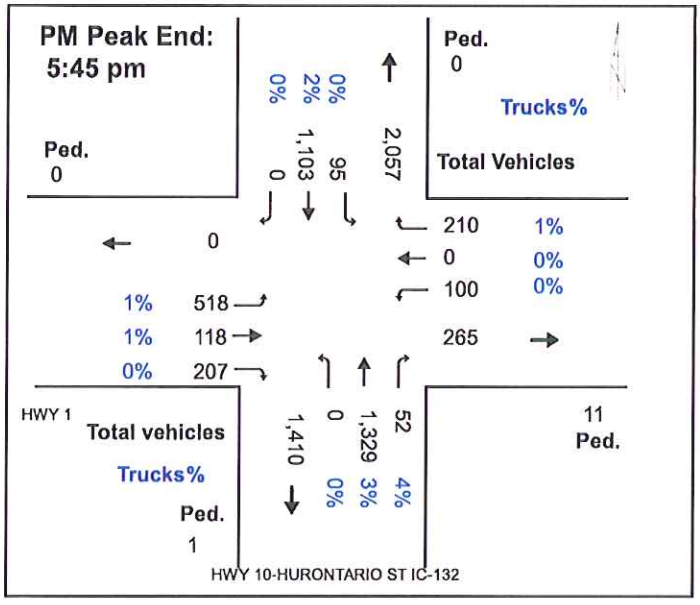
HWY 1 @ HWY 10-HURONTARIO ST IC-132

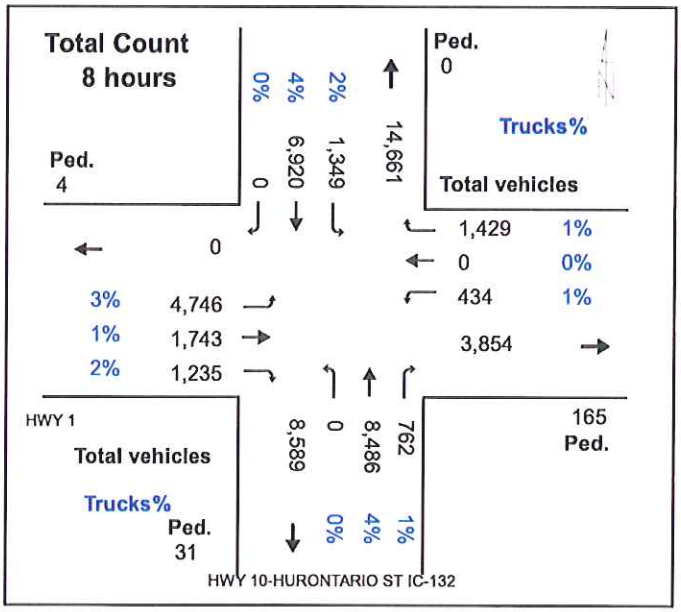
Central

Intersection ID:101500000(--S--) **Count Day: Thursday** **Count Date: 28-Apr-2016**









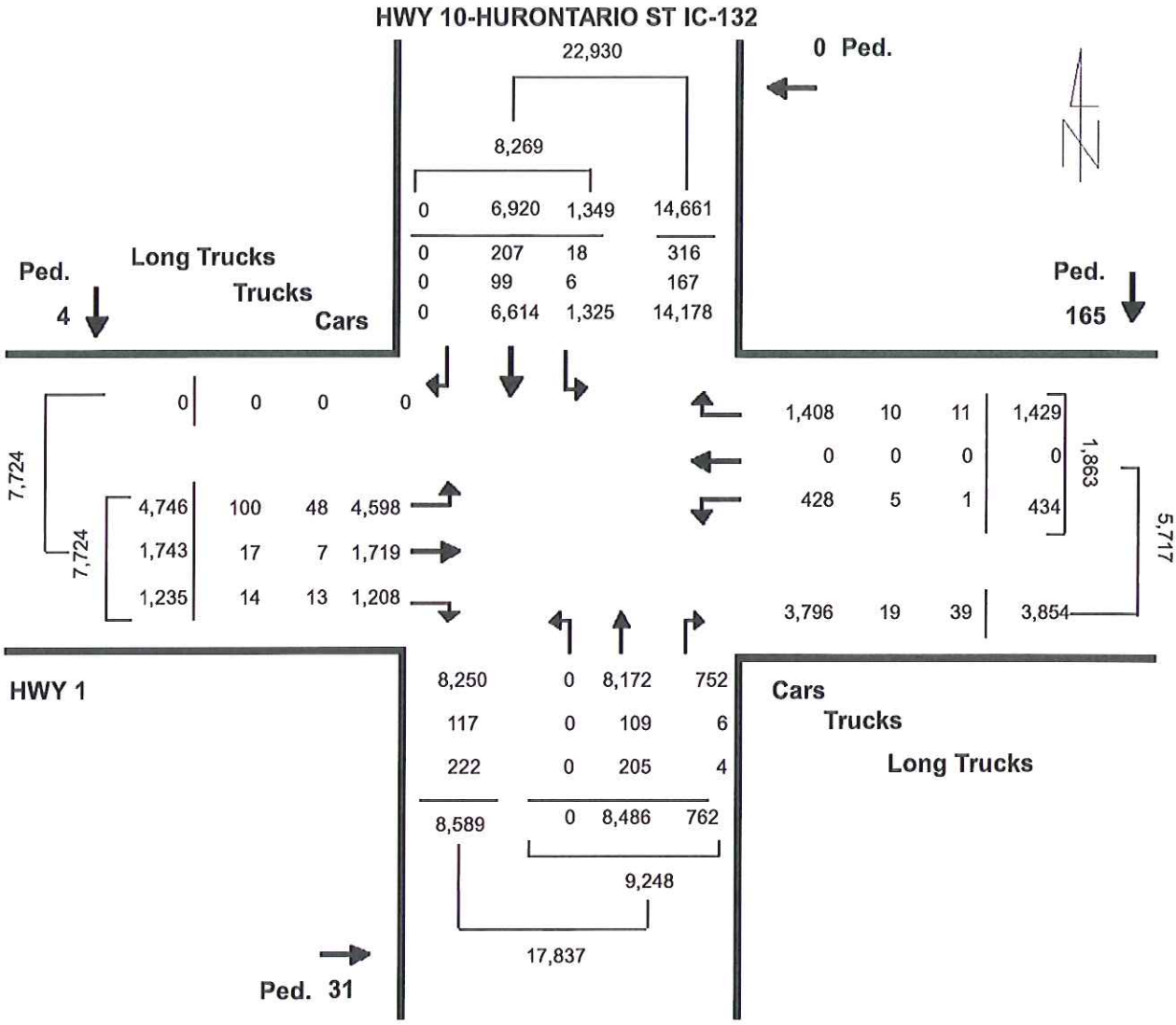
Traffic Engineering Software

COUNT TOTAL

HWY 1 @ HWY 10-HURONTARIO ST IC-132

Central

Intersection ID:101500000(--S--) **Date: 28-Apr-2016**



15 MIN REPORT

Intersection ID:101500000(--S--) **HWY 1 @ HWY 10-HURONTARIO ST IC-132** **Municipality: Central** **Date: 28-Apr-2016**

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period1																																								
6:15	78	70	0	0	1	0	3	0	0	0	2	0	24	0	0	1	0	0	0	1	0	90	54	0	0	0	0	3	0	1	150	92	43	1	0	0	9	1	1	0	625
6:30	72	113	0	0	0	0	0	6	0	0	2	0	10	0	0	0	0	0	0	0	0	103	52	0	0	1	0	2	0	0	134	83	33	4	1	0	10	2	0	0	628
6:45	64	105	0	1	2	0	0	8	0	0	4	0	38	1	0	0	1	0	0	1	0	135	33	0	3	0	0	2	0	0	145	64	22	3	0	0	11	0	0	0	643
7:00	30	126	0	0	3	0	0	6	0	0	1	0	29	0	0	0	0	0	0	0	0	199	14	0	1	0	0	6	0	0	128	22	17	4	0	0	7	1	0	0	594
7:15	43	152	0	1	2	0	0	9	0	0	7	0	18	0	0	2	0	0	1	1	0	201	30	0	0	0	0	5	0	0	121	53	17	1	0	0	0	1	0	0	665
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9:00	34	209	0	0	3	0	1	4	0	0	9	0	46	0	0	1	0	0	0	3	0	265	30	0	3	0	0	12	0	0	172	97	34	2	1	1	4	2	0	0	933
9:15	50	233	0	1	5	0	2	3	0	0	7	0	43	0	0	0	0	0	0	3	0	254	32	0	4	0	0	9	0	0	147	87	32	0	1	0	5	1	0	0	919
9:30	48	200	0	0	4	0	0	6	0	0	12	0	34	0	0	0	0	0	0	3	0	267	40	0	5	0	0	4	0	1	139	87	23	2	0	0	5	1	1	0	882
9:45	44	187	0	1	10	0	1	5	0	0	8	0	38	0	0	1	0	0	0	2	0	214	28	0	5	0	0	8	0	1	168	99	23	1	0	0	6	1	0	0	851
10:00	40	191	0	0	4	0	2	7	0	0	3	0	25	0	0	0	0	0	0	3	0	214	30	0	3	0	0	6	0	1	103	59	15	0	1	0	2	1	0	0	710
Period2																																								
14:15	37	186	0	0	3	0	1	5	0	0	11	0	28	0	0	1	0	0	0	4	0	208	14	0	2	0	0	6	1	0	191	46	24	2	1	1	9	1	0	0	782
14:30	36	206	0	0	2	0	3	6	0	0	10	0	24	0	0	0	0	0	1	4	0	267	11	0	4	1	0	7	0	0	118	7	37	1	0	1	3	0	3	1	753
14:45	38	219	0	0	1	0	0	6	0	0	23	0	53	0	0	0	0	0	1	5	0	235	15	0	5	0	0	5	0	7	129	7	36	6	0	2	1	1	0	0	795
15:00	27	255	0	0	3	0	1	13	0	0	16	0	40	0	0	0	0	0	0	10	0	338	14	0	8	0	0	13	0	1	108	12	48	1	0	0	2	1	1	0	912
15:15	42	249	0	1	3	0	1	11	0	0	18	0	41	0	0	0	0	0	0	29	0	313	11	0	6	0	0	8	0	1	107	9	42	1	0	0	1	0	0	0	894
15:30	24	252	0	0	2	0	0	3	0	0	26	0	49	0	0	0	0	0	0	8	0	219	14	0	6	0	0	4	0	2	137	21	50	0	0	0	0	0	0	0	817
15:45	23	225	0	0	2	0	1	7	0	0	14	0	54	0	0	0	0	0	0	8	0	277	27	0	1	1	0	18	0	1	144	19	51	0	0	0	1	0	0	0	874
16:00	26	251	0	0	3	0	0	6	0	0	18	0	55	0	0	0	0	0	0	1	0	343	10	0	7	0	0	8	0	2	106	21	73	0	0	2	1	1	0	0	934
16:15	35	216	0	1	2	0	0	8	0	0	15	0	66	0	0	0	0	0	0	2	0	265	15	0	3	0	0	4	0	1	145	16	56	2	0	2	2	0	0	0	856
16:30	29	253	0	0	2	0	0	9	0	0	14	0	29	2	0	1	0	0	0	6	0	290	8	0	4	1	0	9	0	1	144	19	49	1	0	1	0	0	1	0	873
16:45	27	228	0	0	3	0	0	2	0	0	17	0	49	1	0	0	0	0	1	5	0	249	15	0	2	0	0	7	1	2	138	33	50	1	0	1	1	0	2	0	835
17:00	19	258	0	0	2	0	0	6	0	0	25	0	46	0	0	0	0	0	0	1	0	327	13	0	3	1	0	8	0	1	122	24	49	2	0	0	0	0	0	0	907
17:15	22	273	0	0	0	0	0	2	0	0	29	0	67	0	0	1	0	0	0	1	0	311	8	0	3	0	0	7	0	0	131	24	48	1	0	0	0	1	0	0	929
17:30	31	268	0	0	2	0	0	3	0	0	24	0	48	0	0	0	0	0	0	8	0	369	20	0	5	0	0	4	0	0	125	43	49	2	0	0	0	0	0	0	1001
17:45	23	286	0	0	0	0	0	3	0	0	22	0	47	0	0	1	0	0	0	1	0	283	9	0	4	1	0	5	0	0	135	26	61	0	0	0	0	0	0	0	907
18:00	23	273	0	0	0	0	0	2	0	0	21	0	35	0	0	0	0	0	0	2	0	303	14	0	0	0	0	6	0	0	149	25	53	0	0	0	1	0	0	2	909

Turning Movement Count - Details Report

Location..... HURONTARIO ST / SOUTH SERVICE RD @ QUEEN ELIZABETH WAY

Municipality..... Mississauga

Road 1 QUEEN ELIZABETH WAY **Road 2** HURONTARIO ST / SOUTH SERVICE RD

Count Date..... Thursday, April 05, 2018

		North Approach					South Approach					East Approach					West Approach				
Time Period		LT	TH	RT	Heavy	TOT	LT	TH	RT	Heavy	TOT	LT	TH	RT	Heavy	TOT	LT	TH	RT	Heavy	TOT
07:00	07:15	39	159	0	10	198	0	238	2	9	240	6	0	16	2	22	104	4	25	5	133
07:15	07:30	32	182	0	10	214	0	270	8	9	278	2	0	20	1	22	110	69	28	10	207
07:30	07:45	51	273	0	19	324	0	314	6	13	320	12	0	42	1	54	138	47	24	3	209
07:45	08:00	88	258	0	24	346	0	350	12	16	362	4	0	48	4	52	159	50	62	4	271
08:00	08:15	72	296	0	20	368	0	321	15	7	336	29	0	105	4	134	184	56	58	8	298
08:15	08:30	96	376	0	29	472	0	431	19	9	450	47	0	106	5	153	146	38	43	6	227
08:30	08:45	46	316	0	15	362	0	422	8	24	430	12	0	93	3	105	222	23	68	8	313
08:45	09:00	27	313	0	11	340	0	431	11	17	442	10	0	45	3	55	208	20	49	12	277
11:00	11:15	10	180	0	11	190	0	198	4	23	202	3	0	33	0	36	117	8	34	9	159
11:15	11:30	20	155	0	9	175	0	266	10	20	276	3	0	22	1	25	90	4	34	7	128
11:30	11:45	12	223	0	13	235	0	230	7	12	237	7	0	34	0	41	120	7	39	4	166
11:45	12:00	19	176	0	10	195	0	252	13	17	265	6	0	23	2	29	101	10	43	7	154
12:00	12:15	19	187	0	14	206	0	259	3	13	262	10	0	33	1	43	106	9	29	10	144
12:15	12:30	17	170	0	7	187	0	216	13	12	229	7	0	22	0	29	115	4	43	7	162
12:30	12:45	20	190	0	16	210	0	254	6	16	260	5	0	30	1	35	88	5	54	6	147
12:45	13:00	25	189	0	12	214	0	212	10	11	222	7	0	30	0	37	109	4	41	9	154
13:00	13:15	21	172	0	5	193	0	227	8	7	235	7	0	28	1	35	104	13	38	8	155
13:15	13:30	24	209	0	13	233	0	247	9	18	256	5	0	19	3	24	113	9	31	14	153
13:30	13:45	20	206	0	11	226	0	199	3	16	202	7	0	32	0	39	100	9	43	8	152
13:45	14:00	30	178	0	8	208	0	244	10	12	254	8	0	29	1	37	87	7	27	6	121
15:00	15:15	31	286	0	13	317	0	310	9	22	319	17	0	49	1	66	144	10	40	4	194
15:15	15:30	40	239	0	5	279	0	273	5	7	278	22	0	97	4	119	106	22	72	10	200
15:30	15:45	28	225	0	7	253	0	363	9	25	372	47	0	61	2	108	151	10	65	5	226
15:45	16:00	46	280	0	9	326	0	357	5	21	362	12	0	41	3	53	142	22	69	6	233
16:00	16:15	17	229	0	7	246	0	266	7	18	273	17	0	41	2	58	149	31	45	10	225
16:15	16:30	45	303	0	9	348	0	313	6	16	319	24	0	57	0	81	102	29	38	3	169
16:30	16:45	24	248	0	11	272	0	286	11	13	297	10	0	49	3	59	132	27	35	8	194
16:45	17:00	39	371	0	6	410	0	363	11	13	374	45	0	53	1	98	125	21	45	2	191
17:00	17:15	22	332	0	8	354	0	428	11	6	439	19	0	39	1	58	173	19	44	5	236
17:15	17:30	41	344	0	8	385	0	440	13	12	453	28	0	46	1	74	132	20	26	3	178
17:30	17:45	37	277	0	5	314	0	211	13	5	224	25	0	62	1	87	99	24	32	3	155
17:45	18:00	29	208	0	5	237	0	329	12	8	341	13	0	36	0	49	132	45	38	3	215
Total	.....	1087	7750	0	360	8837	0	9520	289	447	9809	476	0	1441	52	1917	4108	676	1362	213	6146

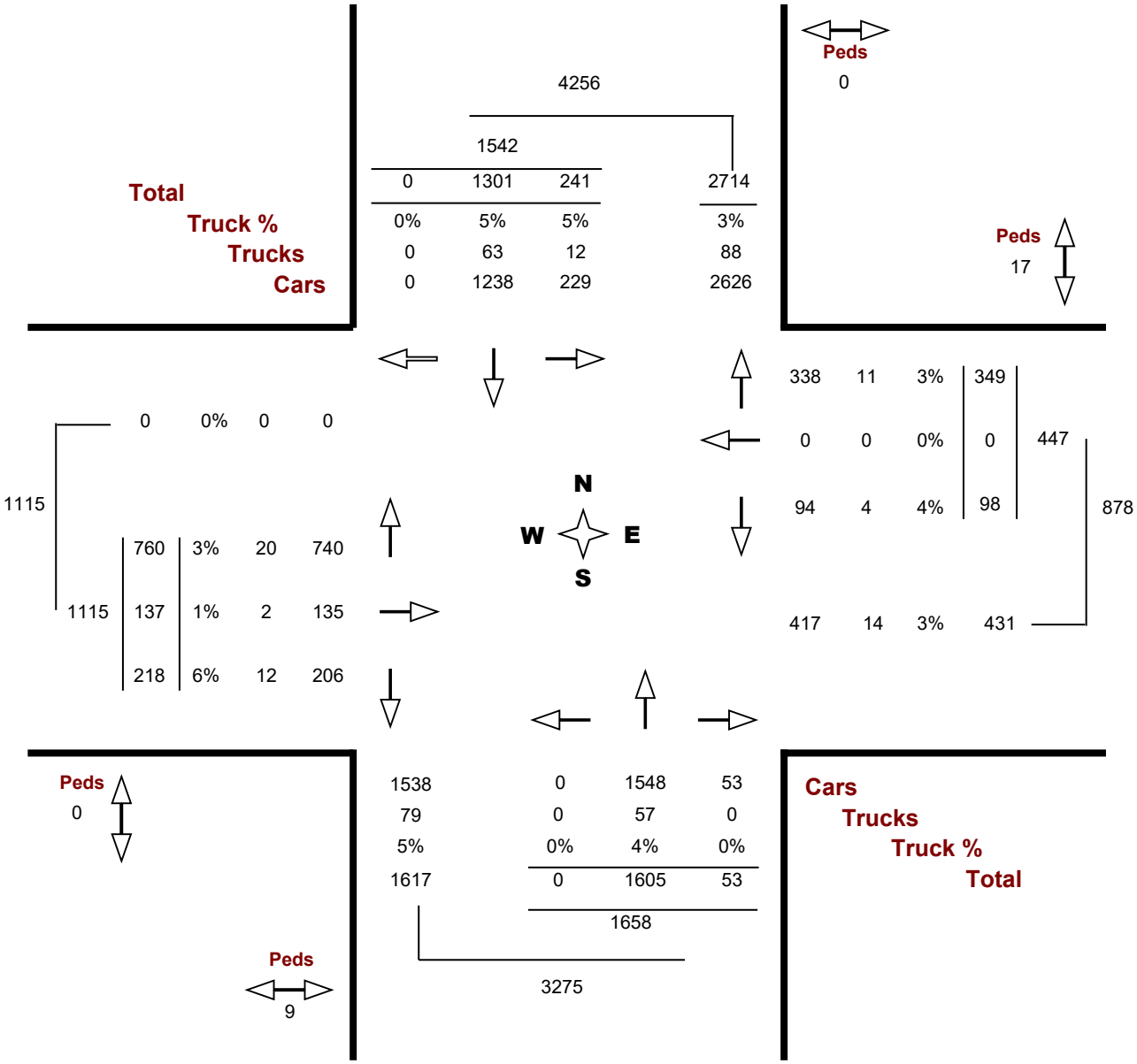
Turning Movements Report - AM Period

Location..... HURONTARIO ST / SOUTH SERVICE RD @ QUEEN ELIZABETH WAY

Municipality..... Mississauga **GeoID.....** 1060212

Count Date..... Thursday, 05 April, 2018 **Peak Hour.....** 08:00 AM — 09:00 AM

Road 1 QUEEN ELIZABETH WAY **Road 2** HURONTARIO ST / SOUTH SERVICE RD



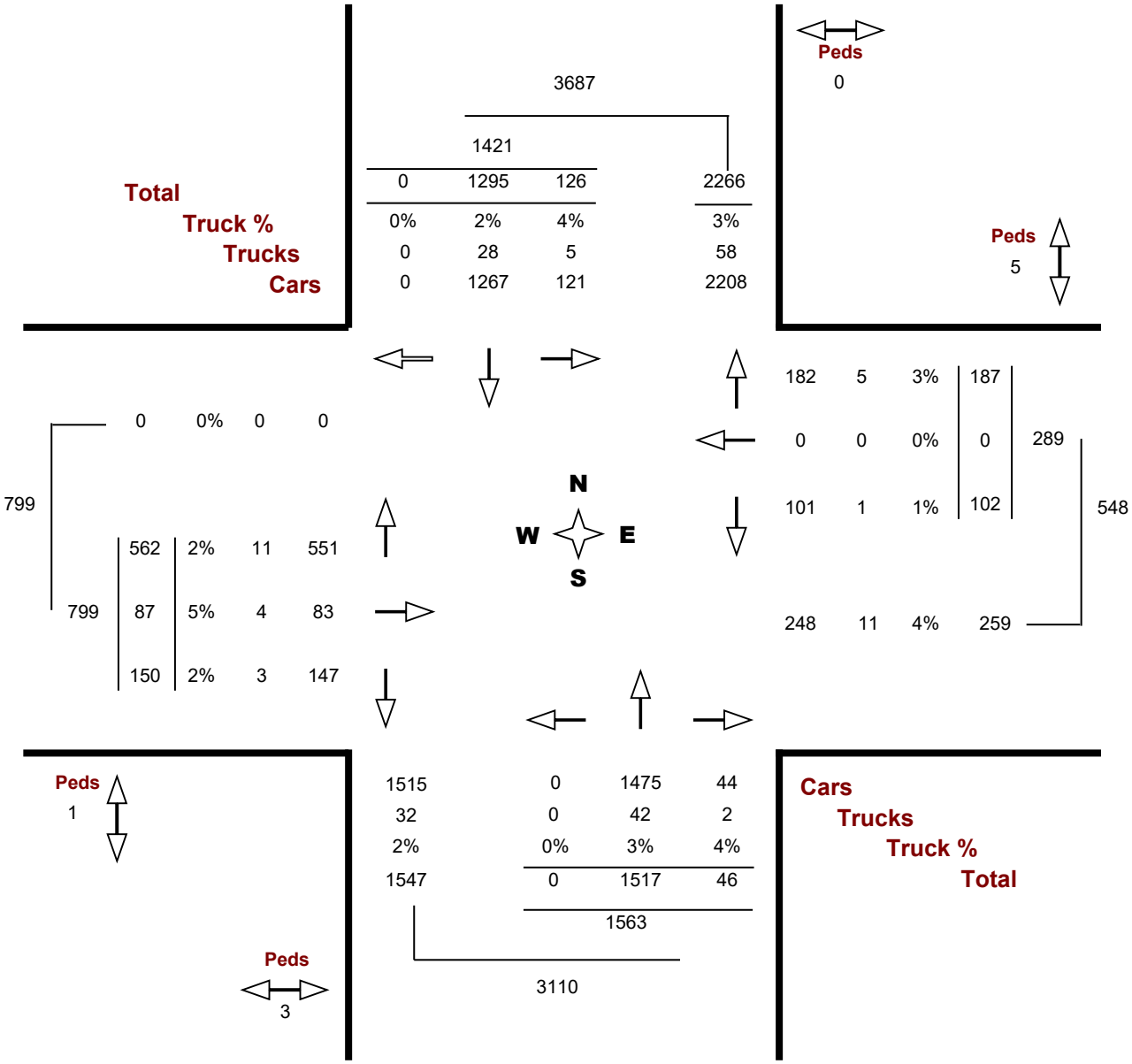
Turning Movements Report - PM Period

Location..... HURONTARIO ST / SOUTH SERVICE RD @ QUEEN ELIZABETH WAY

Municipality..... Mississauga **GeoID.....** 1060212

Count Date..... Thursday, 05 April, 2018 **Peak Hour.....** 04:30 PM — 05:30 PM

Road 1 QUEEN ELIZABETH WAY **Road 2** HURONTARIO ST / SOUTH SERVICE RD



Spectrum

Turning Movement Count
Location Name: SOUTH SERVICE RD & 49 SOUTH SERVICE RD / 60 SOUTH SERVICE RD SITE ACCESS
Date: Tue, Sep 20, 2022 Deployment Lead:

GHD
UNIT 1 705 MILLCREEK DRIVE
MISSISSAUGA ONTARIO, L5N 5M4
CANADA

Turning Movement Count (4 . SOUTH SERVICE RD & 49 SOUTH SERVICE RD / 60 SOUTH SERVICE RD SITE ACCESS)

Start Time	N Approach 49 SOUTH SERVICE RD						E Approach SOUTH SERVICE RD						S Approach 60 SOUTH SERVICE RD SITE ACCESS						W Approach SOUTH SERVICE RD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	0	0	0	0	0	0	0	46	0	0	0	46	0	0	0	0	0	0	1	56	0	0	0	57	103	
07:15:00	0	0	0	0	2	0	0	62	0	0	2	62	0	0	0	0	3	0	2	37	0	0	1	39	101	
07:30:00	0	0	0	0	0	0	0	60	1	0	3	61	0	0	0	0	3	0	7	38	1	0	0	46	107	
07:45:00	0	0	0	0	1	0	0	94	4	0	11	98	0	0	0	0	8	0	5	28	0	0	1	33	131	442
08:00:00	0	0	0	0	8	0	0	64	12	0	55	76	0	0	0	0	54	0	12	24	0	0	7	36	112	451
08:15:00	0	0	0	0	4	0	0	129	23	0	26	152	0	0	0	0	25	0	28	33	0	0	4	61	213	563
08:30:00	0	0	0	0	4	0	0	135	3	0	6	138	0	0	0	0	4	0	11	25	0	0	2	36	174	630
08:45:00	0	0	1	0	0	1	0	96	2	0	0	98	0	0	0	0	0	0	3	21	0	0	0	24	123	622
BREAK																										
16:00:00	0	0	0	0	2	0	0	44	0	0	1	44	0	0	0	0	5	0	0	50	0	0	2	50	94	
16:15:00	0	0	0	0	1	0	0	33	0	0	1	33	0	0	0	0	3	0	2	36	0	0	0	38	71	
16:30:00	1	0	0	0	0	1	0	34	1	0	3	35	0	0	0	0	4	0	0	37	0	0	0	37	73	
16:45:00	0	0	0	0	2	0	0	36	0	0	3	36	0	0	0	0	1	0	1	40	0	0	1	41	77	315
17:00:00	0	1	0	0	0	1	0	45	1	0	3	46	0	0	1	0	4	1	0	41	0	0	1	41	89	310
17:15:00	0	0	0	0	2	0	0	42	0	0	2	42	0	0	0	0	2	0	0	50	0	0	0	50	92	331
17:30:00	0	0	0	0	0	0	2	40	0	0	3	42	0	0	0	0	6	0	0	63	0	0	0	63	105	363
17:45:00	0	0	0	0	0	0	0	29	0	0	4	29	0	0	0	0	5	0	0	40	0	0	0	40	69	355
Grand Total	1	1	1	0	26	3	2	989	47	0	123	1038	0	0	1	0	127	1	72	619	1	0	19	692	**1734**	-
Approach%	33.3%	33.3%	33.3%	0%		-	0.2%	95.3%	4.5%	0%		-	0%	0%	100%	0%		-	10.4%	89.5%	0.1%	0%		-	**-**	-
Totals %	0.1%	0.1%	0.1%	0%		0.2%	0.1%	57%	2.7%	0%		59.9%	0%	0%	0.1%	0%		0.1%	4.2%	35.7%	0.1%	0%		39.9%	**-**	-
Heavy	0	0	0	0		-	0	27	4	0		-	0	0	0	0		-	7	10	0	0		-	**-**	-
Heavy %	0%	0%	0%	0%		-	0%	2.7%	8.5%	0%		-	0%	0%	0%	0%		-	9.7%	1.6%	0%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: SOUTH SERVICE RD & 49 SOUTH SERVICE RD / 60 SOUTH SERVICE RD SITE ACCESS
Date: Tue, Sep 20, 2022 Deployment Lead:

GHD
UNIT 1 705 MILLCREEK DRIVE
MISSISSAUGA ONTARIO, L5N 5M4
CANADA

Peak Hour: 07:45 AM - 08:45 AM Weather: Clear Sky (15.65 °C)

Start Time	N Approach 49 SOUTH SERVICE RD						E Approach SOUTH SERVICE RD						S Approach 60 SOUTH SERVICE RD SITE ACCESS						W Approach SOUTH SERVICE RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	0	0	0	0	1	0	0	94	4	0	11	98	0	0	0	0	8	0	5	28	0	0	1	33	131
08:00:00	0	0	0	0	8	0	0	64	12	0	55	76	0	0	0	0	54	0	12	24	0	0	7	36	112
08:15:00	0	0	0	0	4	0	0	129	23	0	26	152	0	0	0	0	25	0	28	33	0	0	4	61	213
08:30:00	0	0	0	0	4	0	0	135	3	0	6	138	0	0	0	0	4	0	11	25	0	0	2	36	174
Grand Total	0	0	0	0	17	0	0	422	42	0	98	464	0	0	0	0	91	0	56	110	0	0	14	166	**630**
Approach%	0%	0%	0%	0%		-	0%	90.9%	9.1%	0%		-	0%	0%	0%	0%		-	33.7%	66.3%	0%	0%		-	**-**
Totals %	0%	0%	0%	0%		0%	0%	67%	6.7%	0%		73.7%	0%	0%	0%	0%		0%	8.9%	17.5%	0%	0%		26.3%	**-**
PHF	0	0	0	0		0	0	0.78	0.46	0		0.76	0	0	0	0		0	0.5	0.83	0	0		0.68	**-**
Heavy	0	0	0	0		0	0	9	3	0		12	0	0	0	0		0	5	2	0	0		7	**-**
Heavy %	0%	0%	0%	0%		0%	0%	2.1%	7.1%	0%		2.6%	0%	0%	0%	0%		0%	8.9%	1.8%	0%	0%		4.2%	**-**
Lights	0	0	0	0		0	0	413	39	0		452	0	0	0	0		0	51	107	0	0		158	**-**
Lights %	0%	0%	0%	0%		0%	0%	97.9%	92.9%	0%		97.4%	0%	0%	0%	0%		0%	91.1%	97.3%	0%	0%		95.2%	**-**
Single-Unit Trucks	0	0	0	0		0	0	4	0	0		4	0	0	0	0		0	1	0	0	0		1	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.9%	0%	0%		0.9%	0%	0%	0%	0%		0%	1.8%	0%	0%	0%		0.6%	**-**
Buses	0	0	0	0		0	0	5	3	0		8	0	0	0	0		0	4	2	0	0		6	**-**
Buses %	0%	0%	0%	0%		0%	0%	1.2%	7.1%	0%		1.7%	0%	0%	0%	0%		0%	7.1%	1.8%	0%	0%		3.6%	**-**
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	1	0	0		1	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.9%	0%	0%		0.6%	**-**
Pedestrians	-	-	-	-	14	-	-	-	-	-	61	-	-	-	-	-	63	-	-	-	-	-	12	-	**-**
Pedestrians%	-	-	-	-	6.4%		-	-	-	-	27.7%		-	-	-	-	28.6%		-	-	-	-	5.5%		**-**
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	37	-	-	-	-	-	28	-	-	-	-	-	2	-	**-**
Bicycles on Crosswalk%	-	-	-	-	1.4%		-	-	-	-	16.8%		-	-	-	-	12.7%		-	-	-	-	0.9%		**-**

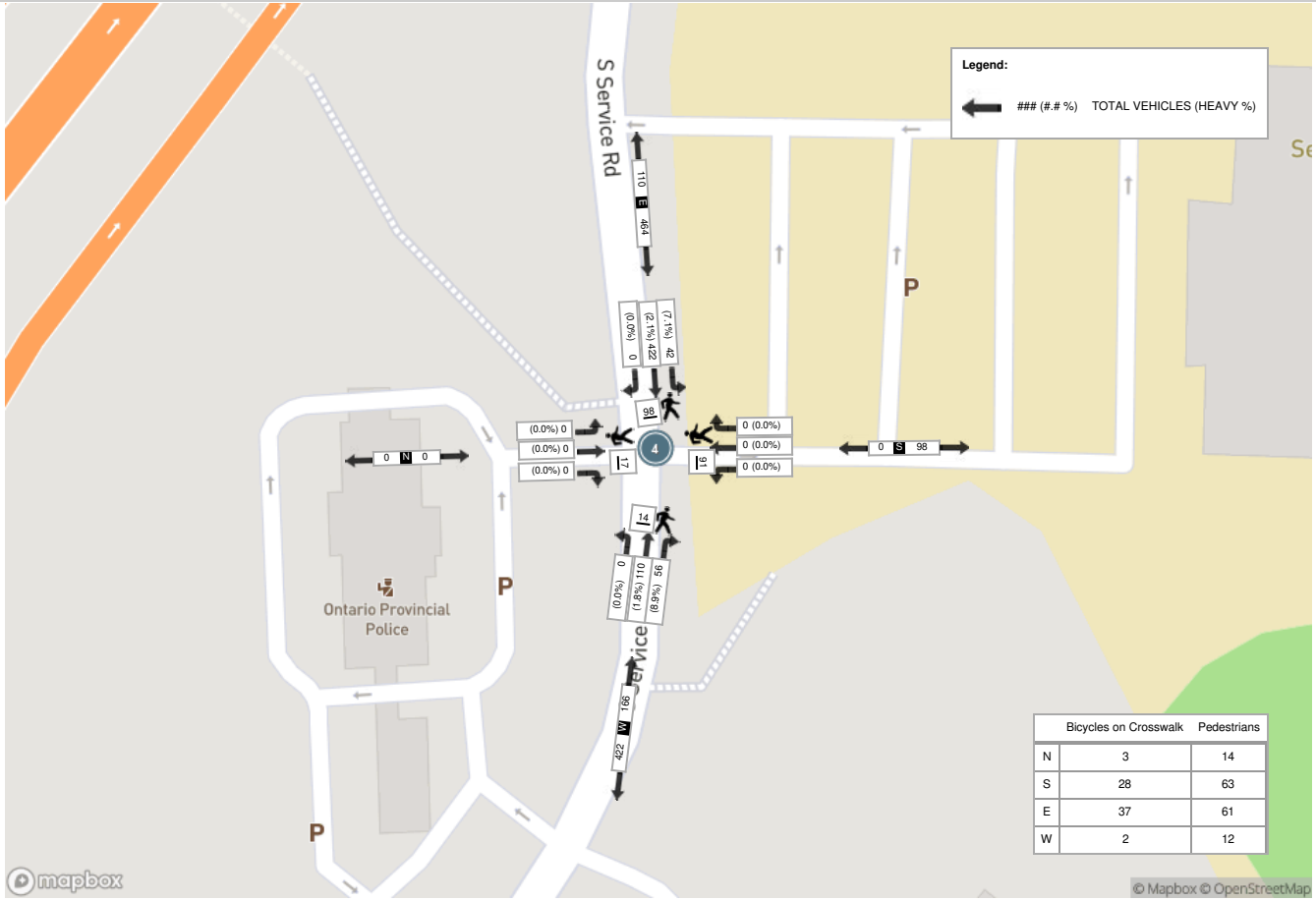
GHD
UNIT 1 705 MILLCREEK DRIVE
MISSISSAUGA ONTARIO, L5N 5M4
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Broken Clouds (25.64 °C)

Start Time	N Approach 49 SOUTH SERVICE RD						E Approach SOUTH SERVICE RD						S Approach 60 SOUTH SERVICE RD SITE ACCESS						W Approach SOUTH SERVICE RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	0	0	0	0	2	0	0	36	0	0	3	36	0	0	0	0	1	0	1	40	0	0	1	41	77
17:00:00	0	1	0	0	0	1	0	45	1	0	3	46	0	0	1	0	4	1	0	41	0	0	1	41	89
17:15:00	0	0	0	0	2	0	0	42	0	0	2	42	0	0	0	0	2	0	0	50	0	0	0	50	92
17:30:00	0	0	0	0	0	0	2	40	0	0	3	42	0	0	0	0	6	0	0	63	0	0	0	63	105
Grand Total	0	1	0	0	4	1	2	163	1	0	11	166	0	0	1	0	13	1	1	194	0	0	2	195	**363**
Approach%	0%	100%	0%	0%		-	1.2%	98.2%	0.6%	0%		-	0%	0%	100%	0%		-	0.5%	99.5%	0%	0%		-	**-**
Totals %	0%	0.3%	0%	0%		0.3%	0.6%	44.9%	0.3%	0%		45.7%	0%	0%	0.3%	0%		0.3%	0.3%	53.4%	0%	0%		53.7%	**-**
PHF	0	0.25	0	0		0.25	0.25	0.91	0.25	0		0.9	0	0	0.25	0		0.25	0.25	0.77	0	0		0.77	**-**
Heavy	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	**-**
Heavy %	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.6%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	**-**
Lights	0	1	0	0		1	0	162	1	0		163	0	0	1	0		1	1	191	0	0		192	**-**
Lights %	0%	100%	0%	0%		100%	0%	99.4%	100%	0%		98.2%	0%	0%	100%	0%		100%	100%	98.5%	0%	0%		98.5%	**-**
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	**-**
Buses	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	**-**
Buses %	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.6%	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	**-**
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	2	0	0	0		2	0	0	0	0		0	0	2	0	0		2	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	100%	0%	0%	0%		1.2%	0%	0%	0%	0%		0%	0%	1%	0%	0%		1%	**-**
Pedestrians	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	6.7%		-	-	-	-	6.7%		-	-	-	-	13.3%		-	-	-	-	6.7%		**-**
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	9	-	-	-	-	-	9	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	6.7%		-	-	-	-	30%		-	-	-	-	30%		-	-	-	-	0%		**-**

GHD
UNIT 1 705 MILLCREEK DRIVE
MISSISSAUGA ONTARIO, L5N 5M4
CANADA

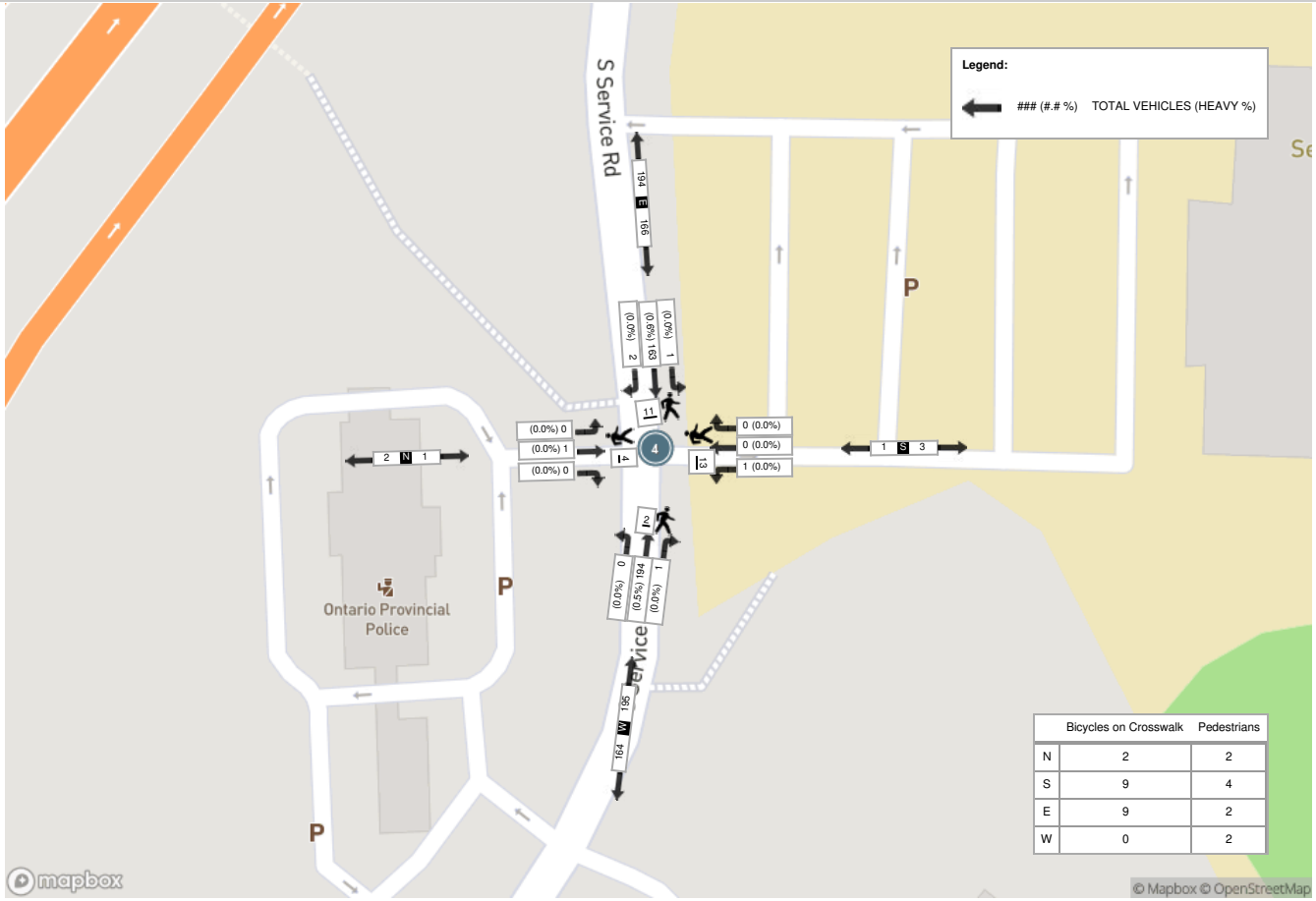
Peak Hour: 07:45 AM - 08:45 AM **Weather: Clear Sky (15.65 °C)**



	Bicycles on Crosswalk	Pedestrians
N	3	14
S	28	63
E	37	61
W	2	12

GHD
UNIT 1 705 MILLCREEK DRIVE
MISSISSAUGA ONTARIO, L5N 5M4
CANADA

Peak Hour: 04:45 PM - 05:45 PM **Weather: Broken Clouds (25.64 °C)**



	Bicycles on Crosswalk	Pedestrians
N	2	2
S	9	4
E	9	2
W	0	2

GHD
UNIT 1 705 MILLCREEK DRIVE
MISSISSAUGA ONTARIO, L5N 5M4
CANADA

Turning Movement Count (3 . SOUTH SERVICE RD & 49 SOUTH SERVICE RD / 1599 HURONTARIO ST SITE ACCESS)

Start Time	N Approach 49 SOUTH SERVICE RD						E Approach SOUTH SERVICE RD						S Approach 1599 HURONTARIO ST SITE ACCESS						W Approach SOUTH SERVICE RD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	0	0	0	0	0	0	0	45	1	0	0	46	1	0	1	0	0	2	1	56	0	0	0	57	105	
07:15:00	0	0	0	0	0	0	0	59	3	0	0	62	0	0	1	0	4	1	3	40	1	0	0	44	107	
07:30:00	1	0	0	0	1	1	0	61	1	0	0	62	0	0	0	0	4	0	6	47	0	1	1	54	117	
07:45:00	0	0	0	0	0	0	0	86	9	0	0	95	1	0	4	0	7	5	9	32	0	0	0	41	141	470
08:00:00	0	0	0	0	0	0	1	61	8	0	0	70	0	0	2	0	52	2	6	38	0	0	0	44	116	481
08:15:00	0	0	0	0	0	0	0	116	10	0	0	126	0	0	0	0	35	0	3	63	0	0	0	66	192	566
08:30:00	0	0	0	0	0	0	0	127	6	0	0	133	1	0	0	0	8	1	2	36	0	0	0	38	172	621
08:45:00	0	0	0	0	0	0	0	95	1	0	0	96	0	0	0	0	0	0	2	24	0	0	0	26	122	602
BREAK																										
16:00:00	1	0	0	0	0	1	0	45	0	0	0	45	1	0	3	0	4	4	2	49	0	0	0	51	101	
16:15:00	0	0	0	0	0	0	0	32	1	0	0	33	3	0	6	0	3	9	2	35	0	0	0	37	79	
16:30:00	0	0	0	0	0	0	0	33	1	0	0	34	3	0	13	0	3	16	2	35	0	0	0	37	87	
16:45:00	0	0	0	0	0	0	0	36	1	0	0	37	1	0	1	0	2	2	1	40	0	0	0	41	80	347
17:00:00	2	0	0	0	0	2	1	46	1	0	1	48	0	0	6	0	4	6	0	42	0	0	0	42	98	344
17:15:00	0	0	0	0	0	0	0	41	2	0	0	43	2	0	2	0	4	4	0	50	0	0	0	50	97	362
17:30:00	0	0	0	0	0	0	0	40	0	0	0	40	0	0	2	0	5	2	2	62	0	0	0	64	106	381
17:45:00	0	0	0	0	0	0	0	30	0	0	0	30	0	0	4	0	3	4	1	41	0	0	0	42	76	377
Grand Total	4	0	0	0	1	4	2	953	45	0	1	1000	13	0	45	0	138	58	42	690	1	1	1	734	**1796**	-
Approach%	100%	0%	0%	0%		-	0.2%	95.3%	4.5%	0%		-	22.4%	0%	77.6%	0%		-	5.7%	94%	0.1%	0.1%		-	**-**	-
Totals %	0.2%	0%	0%	0%		0.2%	0.1%	53.1%	2.5%	0%		55.7%	0.7%	0%	2.5%	0%		3.2%	2.3%	38.4%	0.1%	0.1%		40.9%	**-**	-
Heavy	0	0	0	0		-	0	26	1	0		-	0	0	1	0		-	1	18	1	0		-	**-**	-
Heavy %	0%	0%	0%	0%		-	0%	2.7%	2.2%	0%		-	0%	0%	2.2%	0%		-	2.4%	2.6%	100%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

GHD
UNIT 1 705 MILLCREEK DRIVE
MISSISSAUGA ONTARIO, L5N 5M4
CANADA

Peak Hour: 07:45 AM - 08:45 AM Weather: Clear Sky (15.65 °C)

Start Time	N Approach 49 SOUTH SERVICE RD						E Approach SOUTH SERVICE RD						S Approach 1599 HURONTARIO ST SITE ACCESS						W Approach SOUTH SERVICE RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	0	0	0	0	0	0	0	86	9	0	0	95	1	0	4	0	7	5	9	32	0	0	0	41	141
08:00:00	0	0	0	0	0	0	1	61	8	0	0	70	0	0	2	0	52	2	6	38	0	0	0	44	116
08:15:00	0	0	0	0	0	0	0	116	10	0	0	126	0	0	0	0	35	0	3	63	0	0	0	66	192
08:30:00	0	0	0	0	0	0	0	127	6	0	0	133	1	0	0	0	8	1	2	36	0	0	0	38	172
Grand Total	0	0	0	0	0	0	1	390	33	0	0	424	2	0	6	0	102	8	20	169	0	0	0	189	**621**
Approach%	0%	0%	0%	0%		-	0.2%	92%	7.8%	0%		-	25%	0%	75%	0%		-	10.6%	89.4%	0%	0%		-	**-**
Totals %	0%	0%	0%	0%		0%	0.2%	62.8%	5.3%	0%		68.3%	0.3%	0%	1%	0%		1.3%	3.2%	27.2%	0%	0%		30.4%	**-**
PHF	0	0	0	0		0	0.25	0.77	0.83	0		0.8	0.5	0	0.38	0		0.4	0.56	0.67	0	0		0.72	**-**
Heavy	0	0	0	0		0	0	8	1	0		9	0	0	0	0		0	0	7	0	0		7	**-**
Heavy %	0%	0%	0%	0%		0%	0%	2.1%	3%	0%		2.1%	0%	0%	0%	0%		0%	0%	4.1%	0%	0%		3.7%	**-**
Lights	0	0	0	0		0	1	380	20	0		401	2	0	6	0		8	20	157	0	0		177	**-**
Lights %	0%	0%	0%	0%		0%	100%	97.4%	60.6%	0%		94.6%	100%	0%	100%	0%		100%	100%	92.9%	0%	0%		93.7%	**-**
Single-Unit Trucks	0	0	0	0		0	0	3	1	0		4	0	0	0	0		0	0	1	0	0		1	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.8%	3%	0%		0.9%	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.5%	**-**
Buses	0	0	0	0		0	0	5	0	0		5	0	0	0	0		0	0	6	0	0		6	**-**
Buses %	0%	0%	0%	0%		0%	0%	1.3%	0%	0%		1.2%	0%	0%	0%	0%		0%	0%	3.6%	0%	0%		3.2%	**-**
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	2	12	0		14	0	0	0	0		0	0	5	0	0		5	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0.5%	36.4%	0%		3.3%	0%	0%	0%	0%		0%	0%	3%	0%	0%		2.6%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	67	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	65.7%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	35	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	34.3%		-	-	-	-	0%		**-**

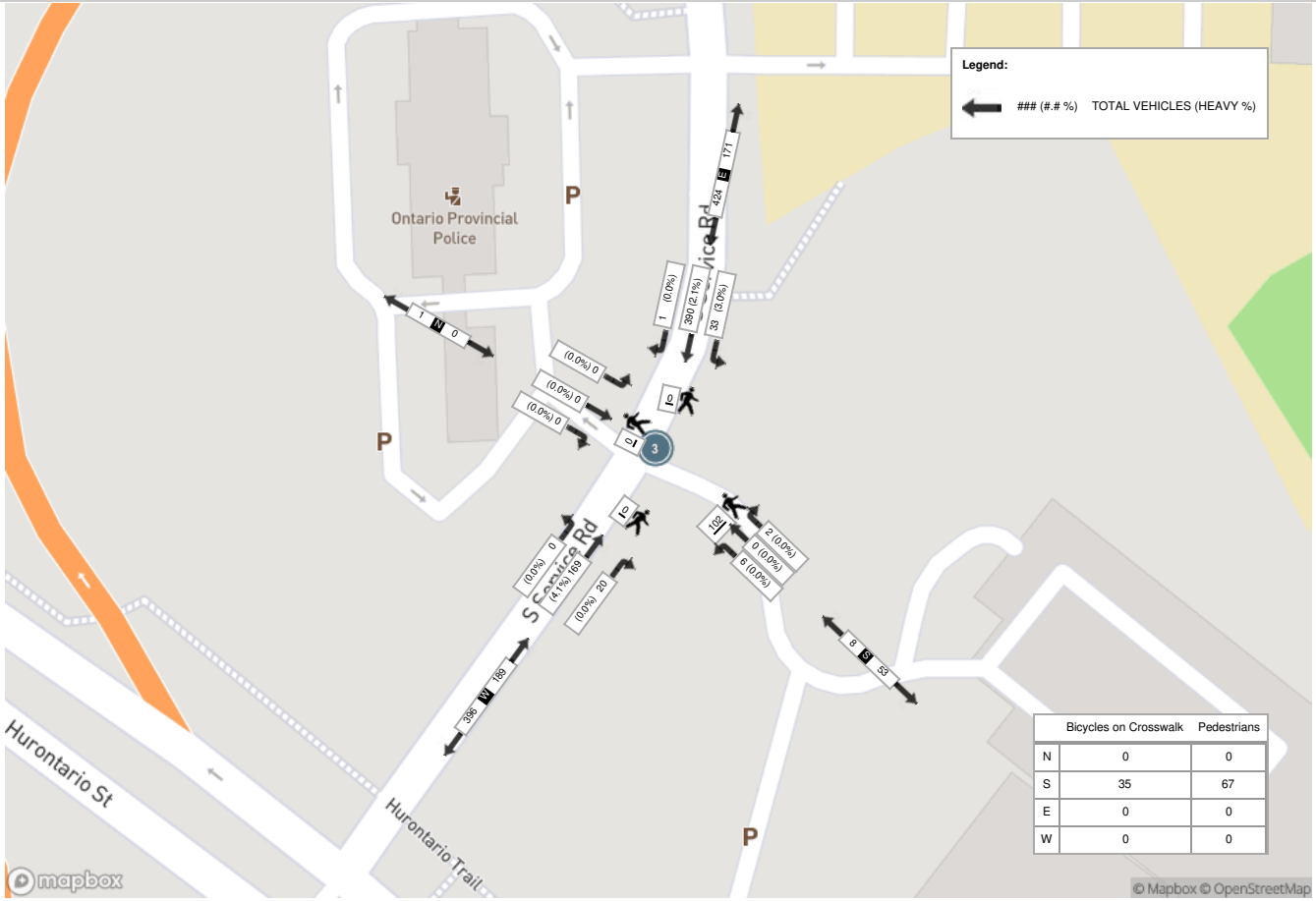
GHD
UNIT 1 705 MILLCREEK DRIVE
MISSISSAUGA ONTARIO, L5N 5M4
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Broken Clouds (25.64 °C)

Start Time	N Approach 49 SOUTH SERVICE RD						E Approach SOUTH SERVICE RD						S Approach 1599 HURONTARIO ST SITE ACCESS						W Approach SOUTH SERVICE RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	0	0	0	0	0	0	0	36	1	0	0	37	1	0	1	0	2	2	1	40	0	0	0	41	80
17:00:00	2	0	0	0	0	2	1	46	1	0	1	48	0	0	6	0	4	6	0	42	0	0	0	42	98
17:15:00	0	0	0	0	0	0	0	41	2	0	0	43	2	0	2	0	4	4	0	50	0	0	0	50	97
17:30:00	0	0	0	0	0	0	0	40	0	0	0	40	0	0	2	0	5	2	2	62	0	0	0	64	106
Grand Total	2	0	0	0	0	2	1	163	4	0	1	168	3	0	11	0	15	14	3	194	0	0	0	197	**381**
Approach%	100%	0%	0%	0%		-	0.6%	97%	2.4%	0%		-	21.4%	0%	78.6%	0%		-	1.5%	98.5%	0%	0%		-	**-**
Totals %	0.5%	0%	0%	0%		0.5%	0.3%	42.8%	1%	0%		44.1%	0.8%	0%	2.9%	0%		3.7%	0.8%	50.9%	0%	0%		51.7%	**-**
PHF	0.25	0	0	0		0.25	0.25	0.89	0.5	0		0.88	0.38	0	0.46	0		0.58	0.38	0.78	0	0		0.77	**-**
Heavy	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	**-**
Heavy %	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.6%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	**-**
Lights	0	0	0	0		0	1	159	4	0		164	3	0	11	0		14	3	188	0	0		191	**-**
Lights %	0%	0%	0%	0%		0%	100%	97.5%	100%	0%		97.6%	100%	0%	100%	0%		100%	100%	96.9%	0%	0%		97%	**-**
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	**-**
Buses	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	**-**
Buses %	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.6%	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	**-**
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	2	0	0	0		2	0	3	0	0		3	0	0	0	0		0	0	5	0	0		5	**-**
Bicycles on Road %	100%	0%	0%	0%		100%	0%	1.8%	0%	0%		1.8%	0%	0%	0%	0%		0%	0%	2.6%	0%	0%		2.5%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	6	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	6.3%		-	-	-	-	37.5%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	9	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	56.3%		-	-	-	-	0%		**-**

GHD
UNIT 1 705 MILLCREEK DRIVE
MISSISSAUGA ONTARIO, L5N 5M4
CANADA

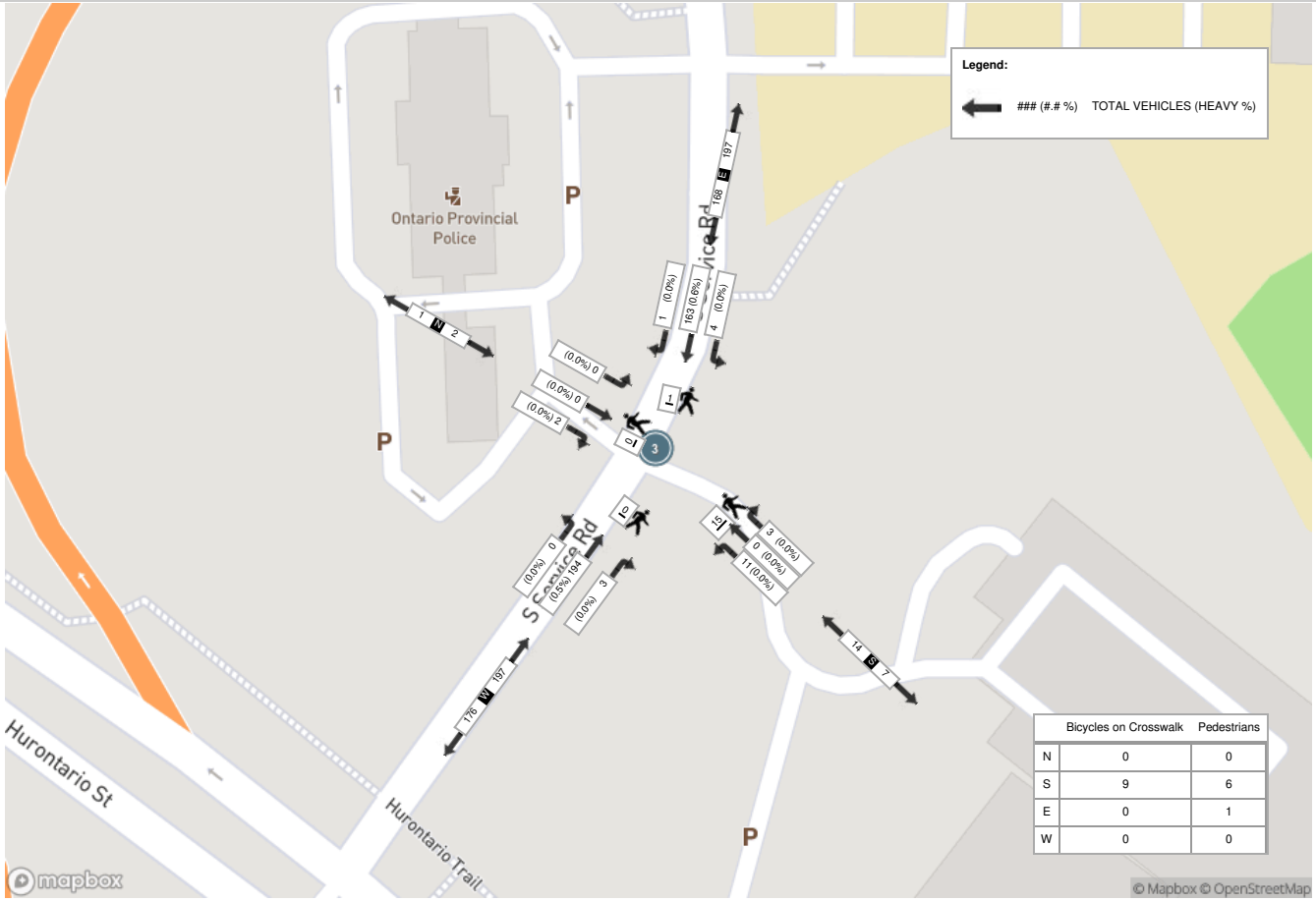
Peak Hour: 07:45 AM - 08:45 AM **Weather: Clear Sky (15.65 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	35	67
E	0	0
W	0	0

GHD
UNIT 1 705 MILLCREEK DRIVE
MISSISSAUGA ONTARIO, L5N 5M4
CANADA

Peak Hour: 04:45 PM - 05:45 PM **Weather: Broken Clouds (25.64 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	9	6
E	0	1
W	0	0

Spectrum

Turning Movement Count
Location Name: SOUTH SERVICE RD & CRESTVIEW AVE
Date: Tue, Sep 20, 2022 Deployment Lead:

GHD
UNIT 1 705 MILLCREEK DRIVE
MISSISSAUGA ONTARIO, L5N 5M4
CANADA

Turning Movement Count (5 . SOUTH SERVICE RD & CRESTVIEW AVE)

Start Time	E Approach SOUTH SERVICE RD					S Approach CRESTVIEW AVE					W Approach SOUTH SERVICE RD					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
07:00:00	37	2	0	0	39	7	6	0	0	13	2	53	0	0	55	107	
07:15:00	59	5	0	0	64	7	6	0	1	13	1	33	0	0	34	111	
07:30:00	48	10	0	0	58	12	9	0	0	21	3	36	0	0	39	118	
07:45:00	87	6	0	0	93	12	11	0	2	23	7	26	0	0	33	149	485
08:00:00	55	20	0	0	75	27	10	0	4	37	10	25	0	0	35	147	525
08:15:00	100	31	0	0	131	23	40	0	1	63	20	40	0	0	60	254	668
08:30:00	115	32	0	0	147	34	41	0	0	75	8	26	0	0	34	256	806
08:45:00	123	48	0	0	171	17	19	0	0	36	11	21	0	0	32	239	896
BREAK																	
16:00:00	31	12	0	0	43	11	13	0	0	24	13	35	0	0	48	115	
16:15:00	27	14	0	0	41	4	5	0	2	9	5	40	0	0	45	95	
16:30:00	35	17	0	0	52	8	9	0	1	17	9	24	0	0	33	102	
16:45:00	29	12	0	0	41	7	11	0	1	18	8	46	0	0	54	113	425
17:00:00	35	11	0	0	46	9	10	0	1	19	11	33	0	0	44	109	419
17:15:00	33	7	0	0	40	4	6	0	0	10	13	37	1	0	51	101	425
17:30:00	39	11	0	0	50	7	6	0	1	13	15	58	0	0	73	136	459
17:45:00	20	16	0	0	36	8	5	0	1	13	6	37	0	0	43	92	438
Grand Total	873	254	0	0	1127	197	207	0	15	404	142	570	1	0	713	**2244**	-
Approach%	77.5%	22.5%	0%		-	48.8%	51.2%	0%		-	19.9%	79.9%	0.1%		-	**-**	-
Totals %	38.9%	11.3%	0%		50.2%	8.8%	9.2%	0%		18%	6.3%	25.4%	0%		31.8%	**-**	-
Heavy	22	9	0		-	5	3	0		-	4	7	0		-	**-**	-
Heavy %	2.5%	3.5%	0%		-	2.5%	1.4%	0%		-	2.8%	1.2%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

GHD
UNIT 1 705 MILLCREEK DRIVE
MISSISSAUGA ONTARIO, L5N 5M4
CANADA

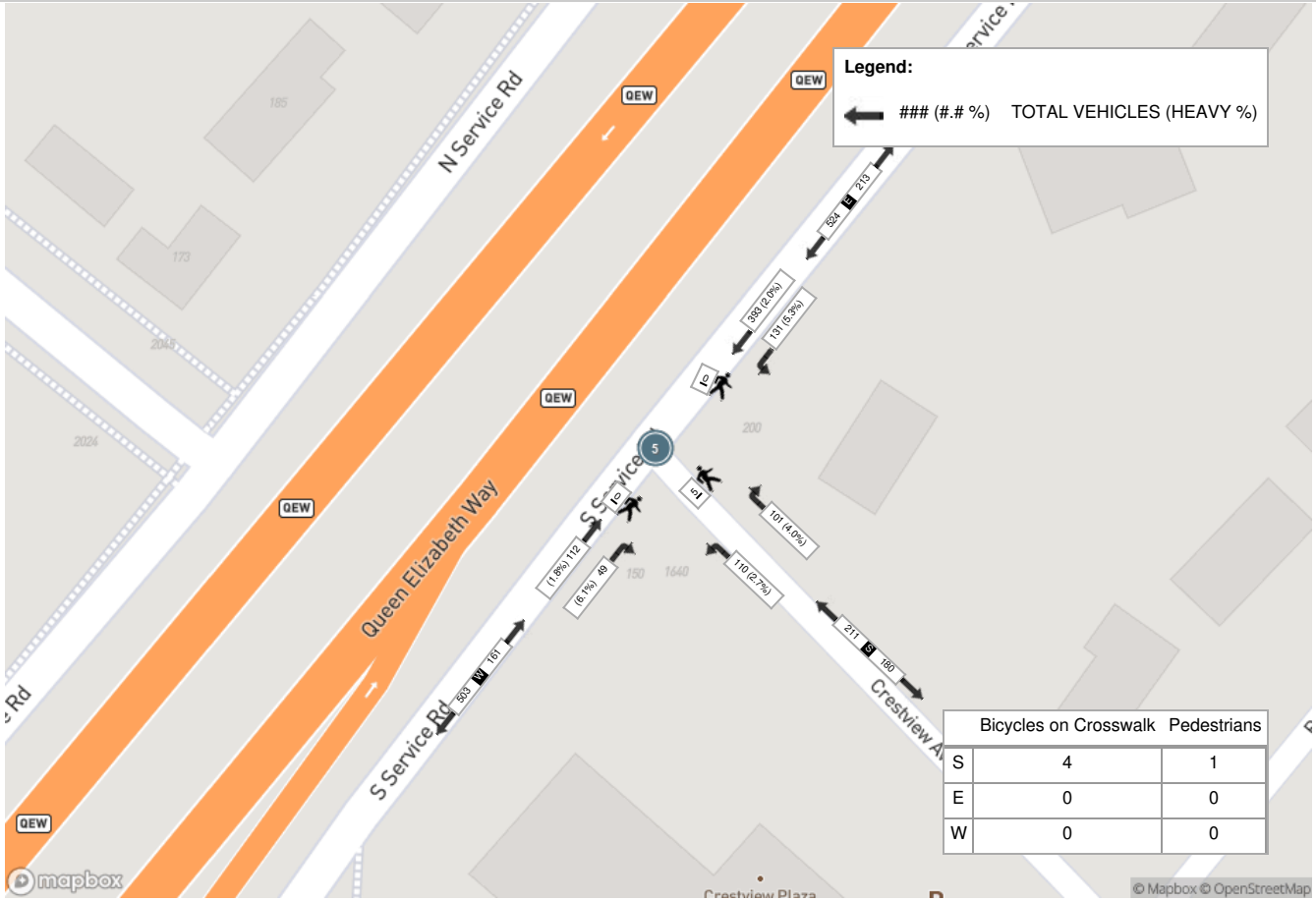
Peak Hour: 08:00 AM - 09:00 AM Weather: Clear Sky (15.65 °C)

Start Time	E Approach SOUTH SERVICE RD					S Approach CRESTVIEW AVE					W Approach SOUTH SERVICE RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
08:00:00	55	20	0	0	75	27	10	0	4	37	10	25	0	0	35	147
08:15:00	100	31	0	0	131	23	40	0	1	63	20	40	0	0	60	254
08:30:00	115	32	0	0	147	34	41	0	0	75	8	26	0	0	34	256
08:45:00	123	48	0	0	171	17	19	0	0	36	11	21	0	0	32	239
Grand Total	393	131	0	0	524	101	110	0	5	211	49	112	0	0	161	**896**
Approach%	75%	25%	0%		-	47.9%	52.1%	0%		-	30.4%	69.6%	0%		-	**-**
Totals %	43.9%	14.6%	0%		58.5%	11.3%	12.3%	0%		23.5%	5.5%	12.5%	0%		18%	**-**
PHF	0.8	0.68	0		0.77	0.74	0.67	0		0.7	0.61	0.7	0		0.67	**-**
Heavy	8	7	0		15	4	3	0		7	3	2	0		5	**-**
Heavy %	2%	5.3%	0%		2.9%	4%	2.7%	0%		3.3%	6.1%	1.8%	0%		3.1%	**-**
Lights	385	124	0		509	97	107	0		204	43	110	0		153	**-**
Lights %	98%	94.7%	0%		97.1%	96%	97.3%	0%		96.7%	87.8%	98.2%	0%		95%	**-**
Single-Unit Trucks	4	1	0		5	1	0	0		1	0	0	0		0	**-**
Single-Unit Trucks %	1%	0.8%	0%		1%	1%	0%	0%		0.5%	0%	0%	0%		0%	**-**
Buses	4	6	0		10	3	3	0		6	3	2	0		5	**-**
Buses %	1%	4.6%	0%		1.9%	3%	2.7%	0%		2.8%	6.1%	1.8%	0%		3.1%	**-**
Articulated Trucks	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%	**-**
Bicycles on Road	0	0	0		0	0	0	0		0	3	0	0		3	**-**
Bicycles on Road %	0%	0%	0%		0%	0%	0%	0%		0%	6.1%	0%	0%		1.9%	**-**
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	20%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	4	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	80%		-	-	-	0%		**-**

Peak Hour: 04:45 PM - 05:45 PM Weather: Broken Clouds (25.64 °C)

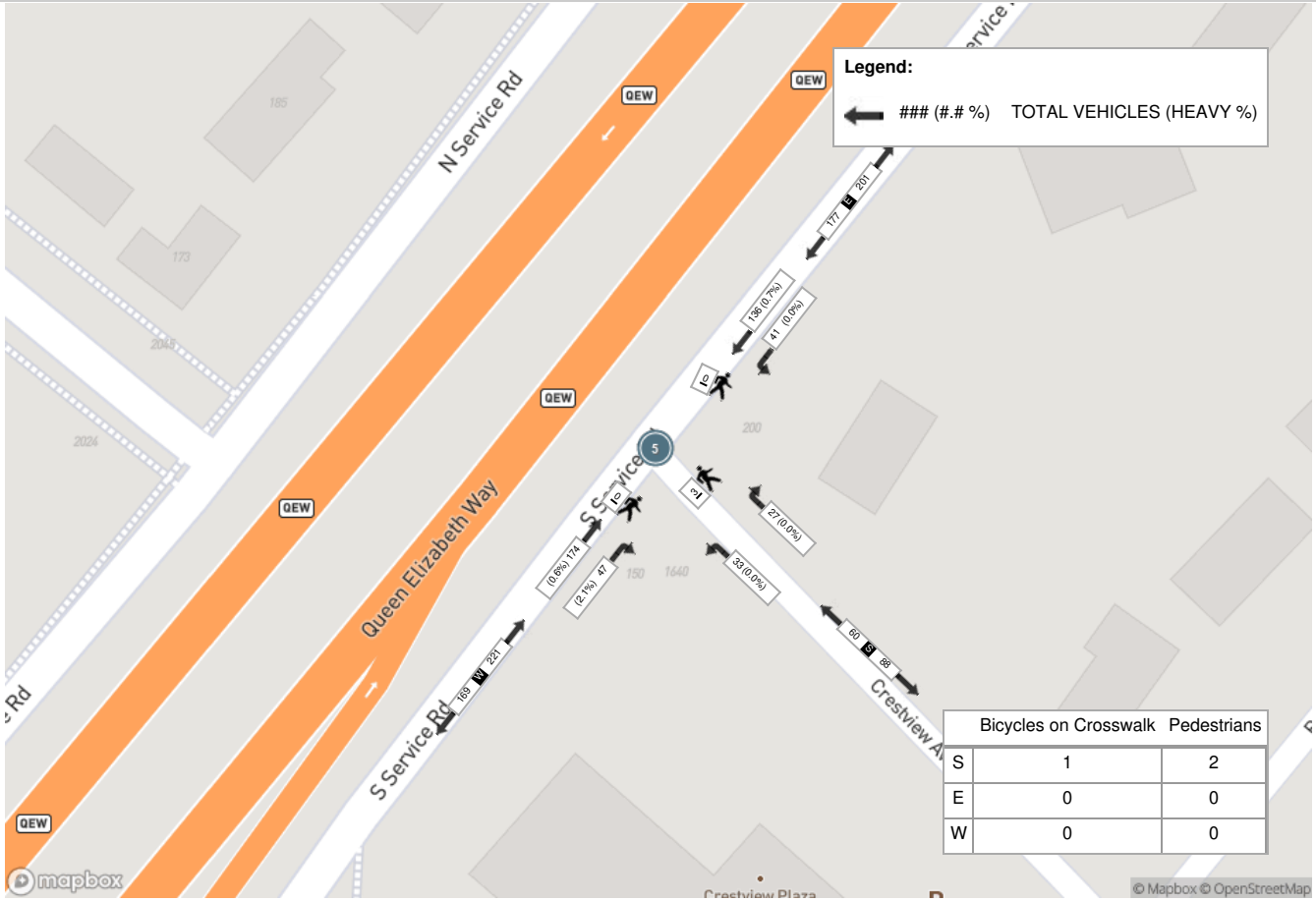
Start Time	E Approach SOUTH SERVICE RD					S Approach CRESTVIEW AVE					W Approach SOUTH SERVICE RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
16:45:00	29	12	0	0	41	7	11	0	1	18	8	46	0	0	54	113
17:00:00	35	11	0	0	46	9	10	0	1	19	11	33	0	0	44	109
17:15:00	33	7	0	0	40	4	6	0	0	10	13	37	1	0	51	101
17:30:00	39	11	0	0	50	7	6	0	1	13	15	58	0	0	73	136
Grand Total	136	41	0	0	177	27	33	0	3	60	47	174	1	0	222	**459**
Approach%	76.8%	23.2%	0%		-	45%	55%	0%		-	21.2%	78.4%	0.5%		-	**-**
Totals %	29.6%	8.9%	0%		38.6%	5.9%	7.2%	0%		13.1%	10.2%	37.9%	0.2%		48.4%	**-**
PHF	0.87	0.85	0		0.89	0.75	0.75	0		0.79	0.78	0.75	0.25		0.76	**-**
Heavy	1	0	0		1	0	0	0		0	1	1	0		2	**-**
Heavy %	0.7%	0%	0%		0.6%	0%	0%	0%		0%	2.1%	0.6%	0%		0.9%	**-**
Lights	135	41	0		176	27	33	0		60	46	173	1		220	**-**
Lights %	99.3%	100%	0%		99.4%	100%	100%	0%		100%	97.9%	99.4%	100%		99.1%	**-**
Single-Unit Trucks	0	0	0		0	0	0	0		0	1	1	0		2	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	2.1%	0.6%	0%		0.9%	**-**
Buses	1	0	0		1	0	0	0		0	0	0	0		0	**-**
Buses %	0.7%	0%	0%		0.6%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Articulated Trucks	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%	**-**
Bicycles on Road	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%	**-**
Pedestrians	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	66.7%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	33.3%		-	-	-	0%		**-**

Peak Hour: 08:00 AM - 09:00 AM Weather: Clear Sky (15.65 °C)



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

Peak Hour: 04:45 PM - 05:45 PM Weather: Broken Clouds (25.64 °C)



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

Appendix C

2016 Transportation Tomorrow Survey

AM Inbound

Tue Sep 06 2022 12:11:32 GMT-0400 (Eastern Daylight Time) - Run Time: 2358ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: 2006 GTA zone of destination - gta06_dest

RowG:
ColG:(3632,3647,3648,3652,3653,3657,3659)
TblG:

Filters:
Start time of trip - start_time In 600-900
and
Type of dwelling unit - dwell_type In 2,
and
Trip purpose of destination - purp_dest In H,

Trip 2016
Table:

,1		N	S	E	W	N Trips	S Trips	E Trips	W Trips
PD 1 of Toronto					1	0	0	0	0
PD 2 of Toronto					1	0	0	0	0
PD 4 of Toronto					1	0	0	0	0
PD 5 of Toronto					1	0	0	0	0
PD 6 of Toronto					1	0	0	0	0
PD 7 of Toront	36				1	0	0	36	0
PD 8 of Toront	74				1	0	0	74	0
PD 9 of Toronto					1	0	0	0	0
PD 10 of Toro	11				1	0	0	11	0
PD 11 of Toronto					1	0	0	0	0
PD 13 of Toronto					1	0	0	0	0
PD 16 of Toronto					1	0	0	0	0
Richmond Hill					1	0	0	0	0
Pickering					1	0	0	0	0
Markham					1	0	0	0	0
Vaughan					1	0	0	0	0
Brampton					1	0	0	0	0
Mississauga	524	0.333333	0.333333		0.333333	174.6667	174.6667	0	174.6667
Milton					1	0	0	0	0
Oakville					1	0	0	0	0
Burlington					1	0	0	0	0
External									
TOTAL	**645**					174.6667	174.6667	121	174.6667
						27%	27%	19%	27%

AM Outbound

Tue Sep 06 2022 12:14:18 GMT-0400 (Eastern Daylight Time) - Run Time: 2660ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: 2006 GTA zone of origin - gta06_orig

RowG:
ColG:(3632,3647,3648,3652,3653,3657,3659)
TblG:

Filters:
Start time of trip - start_time In 600-900
and
Type of dwelling unit - dwell_type In 2,
and
Trip purpose of origin - purp_orig In H,

Trip 2016
Table:

,1		N	S	E	W	N Trips	S Trips	E Trips	W Trips
PD 1 of Toront	384				1	0	0	384	0
PD 2 of Toront	85				1	0	0	85	0
PD 4 of Toront	65				1	0	0	65	0
PD 5 of Toront	12				1	0	0	12	0
PD 6 of Toront	55				1	0	0	55	0
PD 7 of Toront	122				1	0	0	122	0
PD 8 of Toront	352				1	0	0	352	0
PD 9 of Toront	262				1	0	0	262	0
PD 10 of Toro	25				1	0	0	25	0
PD 11 of Toro	20				1	0	0	20	0
PD 13 of Toro	16				1	0	0	16	0
PD 16 of Toronto					1	0	0	0	0
Richmond Hill	15				1	0	0	15	0
Pickering					1	0	0	0	0
Markham	28				1	0	0	28	0
Vaughan	128				1	0	0	128	0
Brampton	190				0.5	0.5	0	95	95
Mississauga	4552	0.333333	0.333333		0.333333	1517.333	1517.333	0	1517.333
Milton	25				1	0	0	0	25
Oakville	141				1	0	0	0	141
Burlington	240				1	0	0	0	240
External									
TOTAL	**6717**					1517.333	1517.333	1664	2018.333
						23%	23%	25%	30%

PM Inbound

Tue Sep 06 2022 12:13:20 GMT-0400 (Eastern Daylight Time) - Run Time: 2722ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: 2006 GTA zone of destination - gta06_dest

RowG:
ColG:(3632,3647,3648,3652,3653,3657,3659)
TblG:

Filters:
Start time of trip - start_time In 1600-1900
and
Type of dwelling unit - dwell_type In 2,
and
Trip purpose of destination - purp_dest In H,

Trip 2016
Table:

,1		N	S	E	W	N Trips	S Trips	E Trips	W Trips
PD 1 of Toront	214				1	0	0	214	0
PD 2 of Toront	85				1	0	0	85	0
PD 4 of Toront	15				1	0	0	15	0
PD 5 of Toront	12				1	0	0	12	0
PD 6 of Toront	55				1	0	0	55	0
PD 7 of Toront	92				1	0	0	92	0
PD 8 of Toront	321				1	0	0	321	0
PD 9 of Toront	262				1	0	0	262	0
PD 10 of Toro	136				1	0	0	136	0
PD 11 of Toro	20				1	0	0	20	0
PD 13 of Toro	37				1	0	0	37	0
PD 16 of Toro	12				1	0	0	12	0
Richmond Hill					1	0	0	0	0
Pickering	10				1	0	0	10	0
Markham					1	0	0	0	0
Vaughan	128				1	0	0	128	0
Brampton	104				1	0	0	104	0
Mississauga	3026	0.333333	0.333333		0.333333	1008.667	1008.667	0	1008.667
Milton	25				1	0	0	0	25
Oakville	113				1	0	0	0	113
Burlington	251				1	0	0	0	251
External									
TOTAL	**4918**					1008.667	1008.667	1503	1397.667
						21%	21%	31%	28%

PM Outbound

Tue Sep 06 2022 12:13:59 GMT-0400 (Eastern Daylight Time) - Run Time: 2567ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: 2006 GTA zone of origin - gta06_orig

RowG:
ColG:(3632,3647,3648,3652,3653,3657,3659)
TblG:

Filters:
Start time of trip - start_time In 1600-1900
and
Type of dwelling unit - dwell_type In 2,
and
Trip purpose of origin - purp_orig In H,

Trip 2016
Table:

,1		N	S	E	W	N Trips	S Trips	E Trips	W Trips
PD 1 of Toront	41				1	0	0	41	0
PD 2 of Toronto					1	0	0	0	0
PD 4 of Toronto					1	0	0	0	0
PD 5 of Toronto					1	0	0	0	0
PD 6 of Toronto					1	0	0	0	0
PD 7 of Toront	36				1	0	0	36	0
PD 8 of Toront	32				1	0	0	32	0
PD 9 of Toront	20				1	0	0	20	0
PD 10 of Toronto					1	0	0	0	0
PD 11 of Toronto					1	0	0	0	0
PD 13 of Toronto					1	0	0	0	0
PD 16 of Toronto					1	0	0	0	0
Richmond Hill					1	0	0	0	0
Pickering					1	0	0	0	0
Markham					1	0	0	0	0
Vaughan					1	0	0	0	0
Brampton				0.5	0.5	0	0	0	0
Mississauga	869	0.333333	0.333333		0.333333	289.6667	289.6667	0	289.6667
Milton					1	0	0	0	0
Oakville					1	0	0	0	0
Burlington	9				1	0	0	0	9
External									
TOTAL	**1007**					289.6667	289.6667	129	298.6667
						29%	29%	13%	30%

TOTAL - TTS

		North	South	East	West	
AM	Inbound	27%	27%	19%	27%	100%
	Outbound	23%	23%	25%	30%	100%
PM	Inbound	21%	21%	31%	28%	100%
	Outbound	29%	29%	13%	30%	100%

TOTAL - Adjusted

		North (Hu	South (Hu	East (QEW	West (QE\	East (SSR)	South (Crestview)	
AM	Inbound	25%	20%	20%	25%	5%	5%	100%
	Outbound	20%	20%	25%	25%	5%	5%	100%
PM	Inbound	20%	20%	25%	25%	5%	5%	100%
	Outbound	25%	30%	10%	25%	5%	5%	100%

Fri Oct 07 2022 08:28:36 GMT-0400 (Eastern Daylight Time) - Run Time: 2570ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Primary travel mode of trip - mode_prime
Column: 2006 GTA zone of destination - gta06_dest

RowG:
ColG:(3632,3647,3648,3652,3653,3657,3659)
TblG:

Filters:
Start time of trip - start_time In 600-900
and
Trip purpose of destination - purp_dest In H,
and
Type of dwelling unit - dwell_type In 2

Trip 2016
Table:

,1

Transit excludir	25	4%
Cycle		0%
Auto driver	577	89%
GO rail only	13	2%
Joint GO rail and local transit		0%
Other		0%
Auto passenge	31	5%
Taxi passenger		0%
Walk		0%
Sum	**646**	

Fri Oct 07 2022 08:29:57 GMT-0400 (Eastern Daylight Time) -

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Primary travel mode of trip - mode_prime
Column: 2006 GTA zone of origin - gta06_orig

RowG:
ColG:(3632,3647,3648,3652,3653,3657,3659)
TblG:

Filters:
Start time of trip - start_time In 600-900
and
Trip purpose of origin - purp_orig In H,
and
Type of dwelling unit - dwell_type In 2

Trip 2016
Table:

,1

Transit excludir	1434	22%
Cycle	35	1%
Auto driver	3532	53%
GO rail only	110	2%
Joint GO rail ar	207	3%
Other	26	0%
Auto passenge	766	12%
Taxi passenger	20	0%
Walk	482	7%
Sum	**6612**	

Fri Oct 07 2022 08:29:10 GMT-0400 (Eastern Daylight Time) - Run Time: 2544

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Primary travel mode of trip - mode_prime
Column: 2006 GTA zone of destination - gta06_dest

RowG:
ColG:(3632,3647,3648,3652,3653,3657,3659)
TblG:

Filters:
Start time of trip - start_time In 1600-1900
and
Trip purpose of destination - purp_dest In H,
and
Type of dwelling unit - dwell_type In 2

Trip 2016
Table:

,1

Transit excludir	1193	24%
Cycle		0%
Auto driver	2957	60%
GO rail only	71	1%
Joint GO rail ar	264	5%
Other		0%
Auto passenge	290	6%
Taxi passenger	13	0%
Walk	143	3%
Sum	**4931**	

Fri Oct 07 2022 08:29:39 GMT-0400 (Eastern Daylight Time) - Run Time: 2274ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Primary travel mode of trip - mode_prime
Column: 2006 GTA zone of origin - gta06_orig

RowG:
ColG:(3632,3647,3648,3652,3653,3657,3659)
TblG:

Filters:
Start time of trip - start_time In 1600-1900
and
Trip purpose of origin - purp_orig In H,
and
Type of dwelling unit - dwell_type In 2

Trip 2016
Table:

,1

Transit excludir	57	6%
Cycle		0%
Auto driver	725	72%
GO rail only		0%
Joint GO rail ar	41	4%
Other		0%
Auto passenge	184	18%
Taxi passenger		0%
Walk		0%
Sum	**1007**	

Existing

Transportation Mode	Percentage Split AM in	Percentage Split AM out	Percentage Split PM in	Percentage Split PM out
Transit	6%	26%	31%	10%
Auto driver	89%	53%	60%	72%
Auto passenger	5%	12%	6%	18%
Active Transportation	0%	8%	3%	0%
TOTAL	100%	100%	100%	100%

Existing

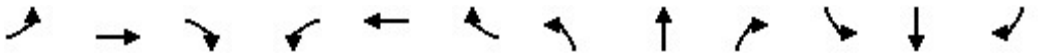
Transportation Mode	Percentage Split AM in	Percentage Split AM out	Percentage Split PM in	Percentage Split PM out
Non-Auto drive	6%	35%	34%	10%
Auto driver	94%	65%	66%	90%
TOTAL	100%	100%	100%	100%

2024-2034 (Assumes ITE accounts for 5% modal split, and takes into account the shift of 5% from auto to other modal splits)

Transportation Mode	Percentage Split AM in	Percentage Split AM out	Percentage Split PM in	Percentage Split PM out
Non-Auto drive	6%	35%	34%	10%
Auto driver	94%	60%	61%	85%
TOTAL	100%	95%	95%	95%

Appendix D

Synchro Outputs

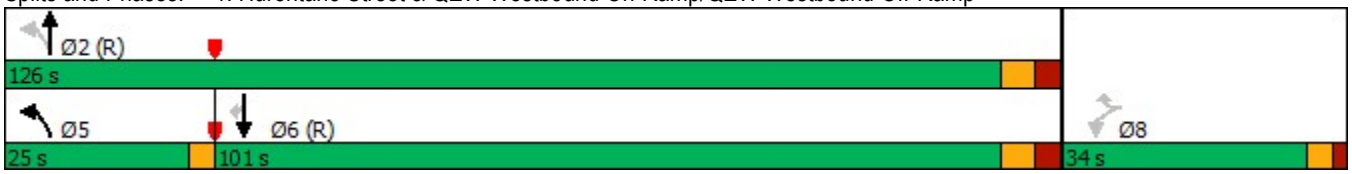


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	175	0	487	281	2171	0	0	1869	862
Future Volume (vph)	0	0	0	175	0	487	281	2171	0	0	1869	862
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.91	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	5043	1585
Flt Permitted				0.950			0.054					
Satd. Flow (perm)	0	0	0	1690	0	2818	103	3544	0	0	5043	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						427
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	188	0	524	302	2334	0	0	2010	927
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	188	0	524	302	2334	0	0	2010	927
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Perm
Protected Phases							5	2			6	
Permitted Phases				8		8	2					6
Detector Phase				8		8	5	2			6	6
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	8.0
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	27.5
Total Split (s)				34.0		34.0	25.0	126.0			101.0	101.0
Total Split (%)				21.3%		21.3%	15.6%	78.8%			63.1%	63.1%
Maximum Green (s)				29.0		29.0	22.0	118.5			93.5	93.5
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	4.0
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	3.5
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	7.5
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Recall Mode				None		None	None	C-Max			C-Max	C-Max
Walk Time (s)								8.0			8.0	8.0
Flash Dont Walk (s)								12.0			12.0	12.0
Pedestrian Calls (#/hr)								0			0	0
Act Effct Green (s)				28.7		28.7	123.3	118.8			93.7	93.7
Actuated g/C Ratio				0.18		0.18	0.77	0.74			0.59	0.59
v/c Ratio				0.62		0.96	0.96	0.89			0.68	0.84
Control Delay				70.4		87.0	75.8	8.0			24.4	22.0
Queue Delay				75.7		0.0	0.0	17.2			0.6	0.0
Total Delay				146.1		87.0	75.8	25.2			25.0	22.0
LOS				F		F	E	C			C	C
Approach Delay					102.6			31.0			24.1	
Approach LOS					F			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 25 (16%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 35.9		Intersection LOS: D	
Intersection Capacity Utilization 87.5%		ICU Level of Service E	
Analysis Period (min) 15			

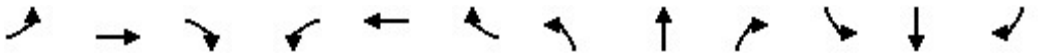
Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp



Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	188	524	302	2334	2010	927
v/c Ratio	0.62	0.96	0.96	0.89	0.68	0.84
Control Delay	70.4	87.0	75.8	8.0	24.4	22.0
Queue Delay	75.7	0.0	0.0	17.2	0.6	0.0
Total Delay	146.1	87.0	75.8	25.2	25.0	22.0
Queue Length 50th (m)	55.8	86.7	75.3	61.2	156.4	140.9
Queue Length 95th (m)	83.3	#125.9	m68.2	m48.2	171.7	219.2
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	306	552	314	2630	2952	1104
Starvation Cap Reductn	0	0	0	361	0	0
Spillback Cap Reductn	204	0	0	0	511	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.84	0.95	0.96	1.03	0.82	0.84

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	175	0	487	281	2171	0	0	1869	862
Future Volume (vph)	0	0	0	175	0	487	281	2171	0	0	1869	862
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	7.5
Lane Util. Factor				1.00		0.88	1.00	0.95			0.91	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			5043	1585
Flt Permitted				0.95		1.00	0.05	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	102	3544			5043	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	188	0	524	302	2334	0	0	2010	927
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	177
Lane Group Flow (vph)	0	0	0	188	0	482	302	2334	0	0	2010	750
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Perm
Protected Phases							5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				28.7		28.7	118.8	118.8			93.7	93.7
Effective Green, g (s)				28.7		28.7	118.8	118.8			93.7	93.7
Actuated g/C Ratio				0.18		0.18	0.74	0.74			0.59	0.59
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	7.5
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				303		505	311	2631			2953	928
v/s Ratio Prot							c0.13	0.66			0.40	
v/s Ratio Perm				0.11		c0.17	c0.59					0.47
v/c Ratio				0.62		0.95	0.97	0.89			0.68	0.81
Uniform Delay, d1				60.6		65.0	52.3	15.5			22.8	26.1
Progression Factor				1.00		1.00	1.51	0.46			1.00	1.00
Incremental Delay, d2				3.9		28.7	9.6	0.5			1.3	7.5
Delay (s)				64.5		93.7	88.7	7.7			24.1	33.6
Level of Service				E		F	F	A			C	C
Approach Delay (s)		0.0			86.0			16.9			27.1	
Approach LOS		A			F			B			C	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

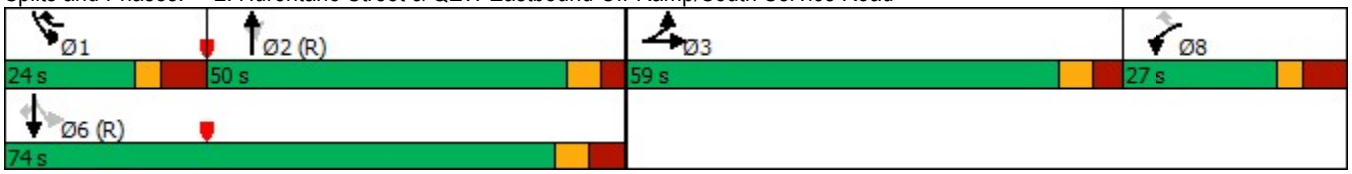
Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	822	148	235	99	356	1275	531	59	271	1464	0
Future Volume (vph)	822	148	235	99	356	1275	531	59	271	1464	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00			0.94				
Frt		0.908			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1655	0	1755	1585	3510	1604	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.080		
Satd. Flow (perm)	3437	1655	0	1747	1585	3510	1503	0	146	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		53					147				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	903	163	258	109	391	1401	577	65	298	1609	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	903	421	0	109	391	1401	642	0	298	1609	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	58.5	58.5		13.5	13.5	38.0	38.0		13.5	39.5	39.5
Total Split (s)	59.0	59.0		27.0	24.0	50.0	50.0		24.0	74.0	74.0
Total Split (%)	36.9%	36.9%		16.9%	15.0%	31.3%	31.3%		15.0%	46.3%	46.3%
Maximum Green (s)	51.5	51.5		18.5	15.5	43.0	43.0		15.5	65.5	65.5
Yellow Time (s)	4.0	4.0		3.0	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		5.5	5.5	3.0	3.0		5.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)	15.0	15.0				9.0	9.0			9.0	9.0
Flash Dont Walk (s)	36.0	36.0				22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)	0	0				0	0			0	0
Act Effct Green (s)	49.1	49.1		14.7	44.9	43.0	43.0		71.6	71.6	
Actuated g/C Ratio	0.31	0.31		0.09	0.28	0.27	0.27		0.45	0.45	
v/c Ratio	0.86	0.77		0.68	0.88	1.49	1.26		1.06	1.03	
Control Delay	61.0	54.1		90.3	76.7	263.9	166.6		118.8	102.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	26.4	
Total Delay	61.0	54.1		90.3	76.7	263.9	166.6		118.8	128.5	
LOS	E	D		F	E	F	F		F	F	
Approach Delay		58.8				233.4				127.0	
Approach LOS		E				F				F	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.49
Intersection Signal Delay: 144.9 Intersection LOS: F
Intersection Capacity Utilization 106.6% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	903	421	109	391	1401	642	298	1609
v/c Ratio	0.86	0.77	0.68	0.88	1.49	1.26	1.06	1.03
Control Delay	61.0	54.1	90.3	76.7	263.9	166.6	118.8	102.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.4
Total Delay	61.0	54.1	90.3	76.7	263.9	166.6	118.8	128.5
Queue Length 50th (m)	136.6	105.9	34.0	122.1	~322.2	~219.3	~99.6	~306.5
Queue Length 95th (m)	162.4	147.8	54.2	#184.8	#364.9	#295.4	#174.2	#362.5
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	1106	568	202	444	943	511	280	1556
Starvation Cap Reductn	0	0	0	0	0	0	0	165
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.74	0.54	0.88	1.49	1.26	1.06	1.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	822	148	235	99	356	1275	531	59	271	1464	0
Future Volume (vph)	822	148	235	99	356	1275	531	59	271	1464	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1656		1755	1585	3510	1503		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.08	1.00	
Satd. Flow (perm)	3437	1656		1755	1585	3510	1503		146	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	903	163	258	109	391	1401	577	65	298	1609	0
RTOR Reduction (vph)	0	37	0	0	0	0	107	0	0	0	0
Lane Group Flow (vph)	903	384	0	109	391	1401	535	0	298	1609	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Actuated Green, G (s)	49.1	49.1		14.7	36.3	43.1	43.1		71.7	71.7	
Effective Green, g (s)	49.1	49.1		14.7	36.3	43.1	43.1		71.7	71.7	
Actuated g/C Ratio	0.31	0.31		0.09	0.23	0.27	0.27		0.45	0.45	
Clearance Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1054	508		161	443	945	404		280	1557	
v/s Ratio Prot	c0.26	0.23		0.06	c0.12	c0.40			0.14	c0.46	
v/s Ratio Perm					0.13		0.36		0.33		
v/c Ratio	0.86	0.76		0.68	0.88	1.48	1.32		1.06	1.03	
Uniform Delay, d1	52.1	50.1		70.4	59.8	58.5	58.5		52.7	44.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		1.35	1.83	
Incremental Delay, d2	7.0	6.3		10.7	18.3	222.8	161.9		64.0	28.7	
Delay (s)	59.1	56.4		81.1	78.1	281.3	220.3		135.0	109.6	
Level of Service	E	E		F	E	F	F		F	F	
Approach Delay (s)		58.3				262.1				113.6	
Approach LOS		E				F				F	

Intersection Summary			
HCM 2000 Control Delay	150.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	106.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

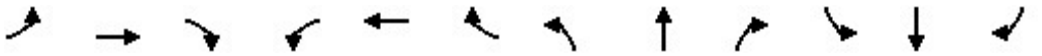
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	112	49	131	393	110	101
Future Volume (vph)	112	49	131	393	110	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.959				0.935	
Flt Protected				0.988	0.975	
Satd. Flow (prot)	1785	0	0	1847	1692	0
Flt Permitted				0.988	0.975	
Satd. Flow (perm)	1785	0	0	1847	1692	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	127	56	149	447	125	115
Shared Lane Traffic (%)						
Lane Group Flow (vph)	183	0	0	596	240	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	112	49	131	393	110	101
Future Volume (Veh/h)	112	49	131	393	110	101
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	127	56	149	447	125	115
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			188		905	160
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			188		905	160
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		54	87
cM capacity (veh/h)			1362		271	876

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	183	596	240
Volume Left	0	149	125
Volume Right	56	0	115
cSH	1700	1362	405
Volume to Capacity	0.11	0.11	0.59
Queue Length 95th (m)	0.0	2.8	28.1
Control Delay (s)	0.0	2.9	26.0
Lane LOS		A	D
Approach Delay (s)	0.0	2.9	26.0
Approach LOS			D

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

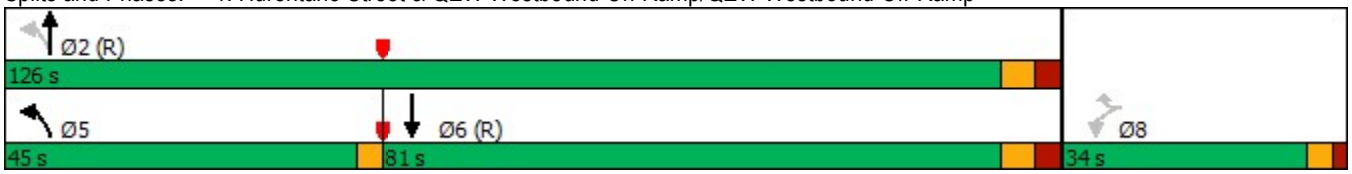


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	256	0	476	325	1875	0	0	1879	1103
Future Volume (vph)	0	0	0	256	0	476	325	1875	0	0	1879	1103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.91	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	5043	1585
Flt Permitted				0.950			0.045					
Satd. Flow (perm)	0	0	0	1690	0	2818	86	3544	0	0	5043	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						226
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	275	0	512	349	2016	0	0	2020	1186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	275	0	512	349	2016	0	0	2020	1186
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				34.0		34.0	45.0	126.0			81.0	
Total Split (%)				21.3%		21.3%	28.1%	78.8%			50.6%	
Maximum Green (s)				29.0		29.0	42.0	118.5			73.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				28.4		28.4	123.6	119.1			85.3	160.0
Actuated g/C Ratio				0.18		0.18	0.77	0.74			0.53	1.00
v/c Ratio				0.92		0.94	0.88	0.76			0.75	0.75
Control Delay				98.6		85.1	74.3	13.8			32.6	3.3
Queue Delay				0.0		0.0	0.0	1.1			0.1	0.0
Total Delay				98.6		85.1	74.3	14.9			32.7	3.3
LOS				F		F	E	B			C	A
Approach Delay					89.8			23.7			21.8	
Approach LOS					F			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 152 (95%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 30.9		Intersection LOS: C	
Intersection Capacity Utilization 81.4%		ICU Level of Service D	
Analysis Period (min) 15			

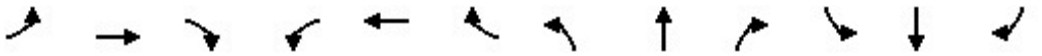
Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp



Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	275	512	349	2016	2020	1186
v/c Ratio	0.92	0.94	0.88	0.76	0.75	0.75
Control Delay	98.6	85.1	74.3	13.8	32.6	3.3
Queue Delay	0.0	0.0	0.0	1.1	0.1	0.0
Total Delay	98.6	85.1	74.3	14.9	32.7	3.3
Queue Length 50th (m)	86.7	84.0	97.1	101.2	180.8	0.0
Queue Length 95th (m)	#138.9	#121.0	m104.0	m112.6	227.6	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	306	552	517	2637	2689	1585
Starvation Cap Reductn	0	0	0	358	0	0
Spillback Cap Reductn	0	0	0	0	53	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.93	0.68	0.88	0.77	0.75

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	256	0	476	325	1875	0	0	1879	1103
Future Volume (vph)	0	0	0	256	0	476	325	1875	0	0	1879	1103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.91	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			5043	1585
Flt Permitted				0.95		1.00	0.05	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	86	3544			5043	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	275	0	512	349	2016	0	0	2020	1186
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	275	0	470	349	2016	0	0	2020	1186
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				28.4		28.4	119.1	119.1			85.3	160.0
Effective Green, g (s)				28.4		28.4	119.1	119.1			85.3	160.0
Actuated g/C Ratio				0.18		0.18	0.74	0.74			0.53	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				299		500	395	2638			2688	1585
v/s Ratio Prot							c0.17	0.57			0.40	
v/s Ratio Perm				0.16		c0.17	c0.49					0.75
v/c Ratio				0.92		0.94	0.88	0.76			0.75	0.75
Uniform Delay, d1				64.7		65.0	52.5	12.1			29.1	0.0
Progression Factor				1.00		1.00	1.29	1.02			1.00	1.00
Incremental Delay, d2				31.5		26.0	10.7	1.0			2.0	3.3
Delay (s)				96.2		91.0	78.3	13.4			31.1	3.3
Level of Service				F		F	E	B			C	A
Approach Delay (s)		0.0			92.8			22.9			20.8	
Approach LOS		A			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

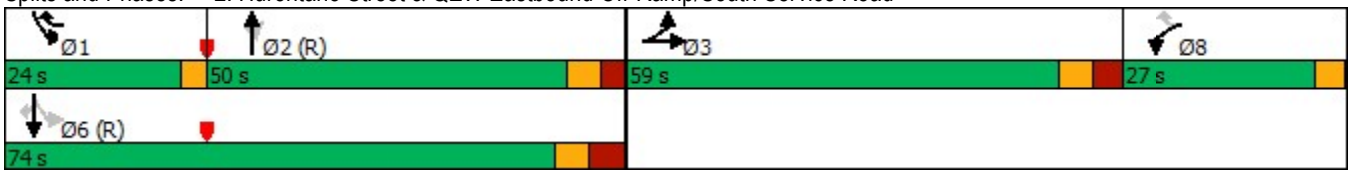
Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	528	120	211	102	214	1495	37	58	106	1241	0
Future Volume (vph)	528	120	211	102	214	1495	37	58	106	1241	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		0.99			0.94				
Frt		0.904			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1645	0	1755	1585	3510	1620	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.054		
Satd. Flow (perm)	3437	1645	0	1746	1585	3510	1518	0	99	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		58					78				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	580	132	232	112	235	1643	40	64	116	1364	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	580	364	0	112	235	1643	104	0	116	1364	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	58.5	58.5		9.0	11.5	38.0	38.0		11.5	39.5	39.5
Total Split (s)	59.0	59.0		27.0	24.0	50.0	50.0		24.0	74.0	74.0
Total Split (%)	36.9%	36.9%		16.9%	15.0%	31.3%	31.3%		15.0%	46.3%	46.3%
Maximum Green (s)	51.5	51.5		23.0	21.0	43.0	43.0		21.0	65.5	65.5
Yellow Time (s)	4.0	4.0		3.5	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		0.5	0.0	3.0	3.0		0.0	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)	15.0	15.0				9.0	9.0			9.0	9.0
Flash Dont Walk (s)	36.0	36.0				22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)	0	0				0	0			0	0
Act Effct Green (s)	39.6	39.6		15.5	30.7	72.3	72.3		90.4	84.9	
Actuated g/C Ratio	0.25	0.25		0.10	0.19	0.45	0.45		0.56	0.53	
v/c Ratio	0.68	0.81		0.66	0.78	1.04	0.14		0.68	0.74	
Control Delay	58.0	60.7		87.4	77.9	74.2	11.5		70.0	31.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.1	
Total Delay	58.0	60.7		87.4	77.9	74.2	11.5		70.0	31.5	
LOS	E	E		F	E	E	B		E	C	
Approach Delay		59.1				70.4				34.5	
Approach LOS		E				E				C	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 57.1 Intersection LOS: E
Intersection Capacity Utilization 97.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	580	364	112	235	1643	104	116	1364
v/c Ratio	0.68	0.81	0.66	0.78	1.04	0.14	0.68	0.74
Control Delay	58.0	60.7	87.4	77.9	74.2	11.5	70.0	31.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	58.0	60.7	87.4	77.9	74.2	11.5	70.0	31.5
Queue Length 50th (m)	86.8	93.9	35.0	72.3	~292.4	4.5	29.1	100.8
Queue Length 95th (m)	96.4	120.6	54.8	95.4	#422.7	20.7	m43.2	#201.9
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	1106	568	252	401	1585	728	271	1845
Starvation Cap Reductn	0	0	0	0	0	0	0	55
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.64	0.44	0.59	1.04	0.14	0.43	0.76

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	528	120	211	102	214	1495	37	58	106	1241	0
Future Volume (vph)	528	120	211	102	214	1495	37	58	106	1241	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1646		1755	1585	3510	1518		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.05	1.00	
Satd. Flow (perm)	3437	1646		1755	1585	3510	1518		99	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	580	132	232	112	235	1643	40	64	116	1364	0
RTOR Reduction (vph)	0	44	0	0	0	0	43	0	0	0	0
Lane Group Flow (vph)	580	320	0	112	235	1643	61	0	116	1364	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Actuated Green, G (s)	39.6	39.6		15.5	26.7	72.2	72.2		84.9	84.9	
Effective Green, g (s)	39.6	39.6		15.5	26.7	72.2	72.2		84.9	84.9	
Actuated g/C Ratio	0.25	0.25		0.10	0.17	0.45	0.45		0.53	0.53	
Clearance Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	850	407		170	264	1583	684		167	1844	
v/s Ratio Prot	0.17	c0.19		0.06	c0.06	c0.47			0.05	0.39	
v/s Ratio Perm					0.09		0.04		0.32		
v/c Ratio	0.68	0.79		0.66	0.89	1.04	0.09		0.69	0.74	
Uniform Delay, d1	54.5	56.3		69.7	65.2	43.9	25.1		40.4	29.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		1.82	0.94	
Incremental Delay, d2	2.3	9.7		8.9	28.8	33.1	0.3		7.5	1.7	
Delay (s)	56.8	65.9		78.6	94.0	77.0	25.4		81.2	29.0	
Level of Service	E	E		E	F	E	C		F	C	
Approach Delay (s)		60.3				73.9				33.1	
Approach LOS		E				E				C	

Intersection Summary			
HCM 2000 Control Delay	58.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

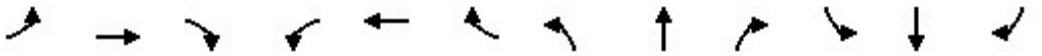
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	174	47	41	136	33	27
Future Volume (vph)	174	47	41	136	33	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.971				0.939	
Flt Protected				0.989	0.973	
Satd. Flow (prot)	1814	0	0	1850	1697	0
Flt Permitted				0.989	0.973	
Satd. Flow (perm)	1814	0	0	1850	1697	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	198	53	47	155	38	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	251	0	0	202	69	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	174	47	41	136	33	27
Future Volume (Veh/h)	174	47	41	136	33	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	198	53	47	155	38	31
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			256		478	230
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			256		478	230
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		93	96
cM capacity (veh/h)			1286		522	801

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	251	202	69
Volume Left	0	47	38
Volume Right	53	0	31
cSH	1700	1286	619
Volume to Capacity	0.15	0.04	0.11
Queue Length 95th (m)	0.0	0.9	2.8
Control Delay (s)	0.0	2.1	11.5
Lane LOS		A	B
Approach Delay (s)	0.0	2.1	11.5
Approach LOS			B

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

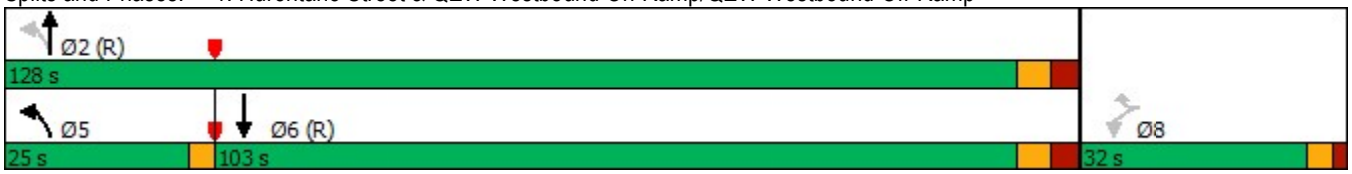


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	182	0	507	285	2199	0	0	1890	870
Future Volume (vph)	0	0	0	182	0	507	285	2199	0	0	1890	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	3510	1585
Flt Permitted				0.950			0.041					
Satd. Flow (perm)	0	0	0	1690	0	2818	78	3544	0	0	3510	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						123
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	196	0	545	306	2365	0	0	2032	935
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	196	0	545	306	2365	0	0	2032	935
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				32.0		32.0	25.0	128.0			103.0	
Total Split (%)				20.0%		20.0%	15.6%	80.0%			64.4%	
Maximum Green (s)				27.0		27.0	22.0	120.5			95.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				27.0		27.0	125.0	120.5			95.5	160.0
Actuated g/C Ratio				0.17		0.17	0.78	0.75			0.60	1.00
v/c Ratio				0.69		1.05	1.03	0.89			0.97	0.59
Control Delay				76.1		110.6	87.3	6.4			44.7	1.6
Queue Delay				76.1		0.0	0.0	16.0			10.6	0.0
Total Delay				152.2		110.6	87.3	22.4			55.2	1.6
LOS				F		F	F	C			E	A
Approach Delay					121.6			29.8			38.3	
Approach LOS					F			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 25 (16%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 44.4		Intersection LOS: D	
Intersection Capacity Utilization 91.0%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp



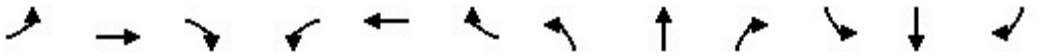
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	196	545	306	2365	2032	935
v/c Ratio	0.69	1.05	1.03	0.89	0.97	0.59
Control Delay	76.1	110.6	87.3	6.4	44.7	1.6
Queue Delay	76.1	0.0	0.0	16.0	10.6	0.0
Total Delay	152.2	110.6	87.3	22.4	55.2	1.6
Queue Length 50th (m)	59.4	~99.0	~85.1	68.6	313.9	0.0
Queue Length 95th (m)	88.1	#140.3	m78.4	m78.6	#380.9	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	285	517	298	2669	2095	1585
Starvation Cap Reductn	0	0	0	362	0	0
Spillback Cap Reductn	190	0	0	0	102	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.06	1.05	1.03	1.03	1.02	0.59

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	182	0	507	285	2199	0	0	1890	870
Future Volume (vph)	0	0	0	182	0	507	285	2199	0	0	1890	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			3510	1585
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	77	3544			3510	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	196	0	545	306	2365	0	0	2032	935
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	196	0	503	306	2365	0	0	2032	935
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				27.0		27.0	120.5	120.5			95.5	160.0
Effective Green, g (s)				27.0		27.0	120.5	120.5			95.5	160.0
Actuated g/C Ratio				0.17		0.17	0.75	0.75			0.60	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				285		475	295	2669			2095	1585
v/s Ratio Prot							c0.14	0.67			0.58	
v/s Ratio Perm				0.12		c0.18	c0.63					0.59
v/c Ratio				0.69		1.06	1.04	0.89			0.97	0.59
Uniform Delay, d1				62.5		66.5	60.1	14.7			30.9	0.0
Progression Factor				1.00		1.00	1.33	0.39			1.00	1.00
Incremental Delay, d2				6.7		57.5	26.5	0.5			13.7	1.6
Delay (s)				69.3		124.0	106.5	6.1			44.6	1.6
Level of Service				E		F	F	A			D	A
Approach Delay (s)		0.0			109.5			17.6			31.1	
Approach LOS		A			F			B			C	

Intersection Summary			
HCM 2000 Control Delay	34.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

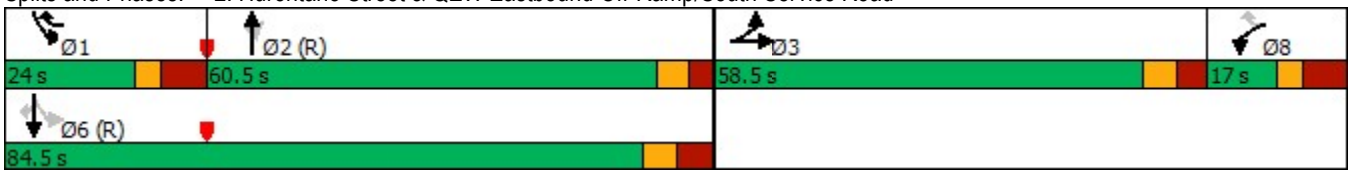
Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	855	154	246	99	356	1274	559	60	273	1480	0
Future Volume (vph)	855	154	246	99	356	1274	559	60	273	1480	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00			0.94				
Frt		0.908			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1655	0	1755	1585	3510	1604	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.066		
Satd. Flow (perm)	3437	1655	0	1747	1585	3510	1503	0	121	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		17					147				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	940	169	270	109	391	1400	608	66	300	1626	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	940	439	0	109	391	1400	674	0	300	1626	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	58.5	58.5		13.5	13.5	38.0	38.0		13.5	39.5	39.5
Total Split (s)	58.5	58.5		17.0	24.0	60.5	60.5		24.0	84.5	84.5
Total Split (%)	36.6%	36.6%		10.6%	15.0%	37.8%	37.8%		15.0%	52.8%	52.8%
Maximum Green (s)	51.0	51.0		8.5	15.5	53.5	53.5		15.5	76.0	76.0
Yellow Time (s)	4.0	4.0		3.0	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		5.5	5.5	3.0	3.0		5.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)	15.0	15.0				9.0	9.0			9.0	9.0
Flash Dont Walk (s)	36.0	36.0				22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)	0	0				0	0			0	0
Act Effct Green (s)	49.7	49.7		9.8	33.8	53.5	53.5		76.0	76.0	
Actuated g/C Ratio	0.31	0.31		0.06	0.21	0.33	0.33		0.48	0.48	
v/c Ratio	0.88	0.84		1.01	1.17	1.19	1.12		1.40	0.98	
Control Delay	62.9	64.1		160.3	156.3	141.2	113.0		228.7	73.1	
Queue Delay	0.0	0.0		0.0	0.0	0.3	0.0		0.0	39.7	
Total Delay	62.9	64.1		160.3	156.3	141.5	113.0		228.7	112.7	
LOS	E	E		F	F	F	F		F	F	
Approach Delay		63.3				132.2				130.8	
Approach LOS		E				F				F	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.40
Intersection Signal Delay: 117.7 Intersection LOS: F
Intersection Capacity Utilization 107.4% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	940	439	109	391	1400	674	300	1626
v/c Ratio	0.88	0.84	1.01	1.17	1.19	1.12	1.40	0.98
Control Delay	62.9	64.1	160.3	156.3	141.2	113.0	228.7	73.1
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0	39.7
Total Delay	62.9	64.1	160.3	156.3	141.5	113.0	228.7	112.7
Queue Length 50th (m)	145.1	124.7	~41.1	~151.6	~282.0	~213.9	~113.2	263.8
Queue Length 95th (m)	172.1	#170.9	#82.0	#217.5	#324.6	#290.6 m	#124.4 m	#293.7
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	1095	539	108	334	1173	600	214	1651
Starvation Cap Reductn	0	0	0	0	0	0	0	202
Spillback Cap Reductn	0	0	0	0	80	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.81	1.01	1.17	1.28	1.12	1.40	1.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	855	154	246	99	356	1274	559	60	273	1480	0
Future Volume (vph)	855	154	246	99	356	1274	559	60	273	1480	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1655		1755	1585	3510	1503		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.07	1.00	
Satd. Flow (perm)	3437	1655		1755	1585	3510	1503		121	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	940	169	270	109	391	1400	608	66	300	1626	0
RTOR Reduction (vph)	0	12	0	0	0	0	98	0	0	0	0
Lane Group Flow (vph)	940	427	0	109	391	1400	576	0	300	1626	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Actuated Green, G (s)	49.7	49.7		9.8	25.3	53.5	53.5		76.0	76.0	
Effective Green, g (s)	49.7	49.7		9.8	25.3	53.5	53.5		76.0	76.0	
Actuated g/C Ratio	0.31	0.31		0.06	0.16	0.33	0.33		0.48	0.48	
Clearance Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1067	514		107	334	1173	502		214	1651	
v/s Ratio Prot	c0.27	0.26		0.06	c0.11	0.40			c0.14	0.47	
v/s Ratio Perm					0.13		0.38		c0.53		
v/c Ratio	0.88	0.83		1.02	1.17	1.19	1.15		1.40	0.98	
Uniform Delay, d1	52.3	51.3		75.1	67.3	53.2	53.2		52.2	41.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		1.13	1.57	
Incremental Delay, d2	8.7	11.0		92.1	104.1	95.7	87.6		190.1	9.7	
Delay (s)	61.0	62.2		167.2	171.4	148.9	140.9		249.1	74.8	
Level of Service	E	E		F	F	F	F		F	E	
Approach Delay (s)		61.4				146.3				102.0	
Approach LOS		E				F				F	

Intersection Summary			
HCM 2000 Control Delay	113.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	107.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

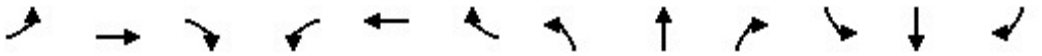
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	112	49	131	393	111	102
Future Volume (vph)	112	49	131	393	111	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.959				0.935	
Flt Protected				0.988	0.975	
Satd. Flow (prot)	1785	0	0	1847	1692	0
Flt Permitted				0.988	0.975	
Satd. Flow (perm)	1785	0	0	1847	1692	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	127	56	149	447	126	116
Shared Lane Traffic (%)						
Lane Group Flow (vph)	183	0	0	596	242	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	112	49	131	393	111	102
Future Volume (Veh/h)	112	49	131	393	111	102
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	127	56	149	447	126	116
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			188		905	160
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			188		905	160
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		54	87
cM capacity (veh/h)			1362		271	876

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	183	596	242
Volume Left	0	149	126
Volume Right	56	0	116
cSH	1700	1362	405
Volume to Capacity	0.11	0.11	0.60
Queue Length 95th (m)	0.0	2.8	28.5
Control Delay (s)	0.0	2.9	26.2
Lane LOS		A	D
Approach Delay (s)	0.0	2.9	26.2
Approach LOS			D

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

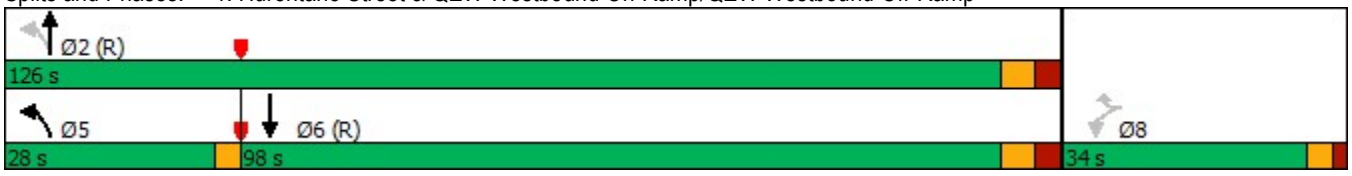


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	267	0	495	330	1898	0	0	1903	1114
Future Volume (vph)	0	0	0	267	0	495	330	1898	0	0	1903	1114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	3510	1585
Flt Permitted				0.950			0.043					
Satd. Flow (perm)	0	0	0	1690	0	2818	82	3544	0	0	3510	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						157
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	287	0	532	355	2041	0	0	2046	1198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	287	0	532	355	2041	0	0	2046	1198
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				34.0		34.0	28.0	126.0			98.0	
Total Split (%)				21.3%		21.3%	17.5%	78.8%			61.3%	
Maximum Green (s)				29.0		29.0	25.0	118.5			90.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				29.0		29.0	123.0	118.5			90.5	160.0
Actuated g/C Ratio				0.18		0.18	0.77	0.74			0.57	1.00
v/c Ratio				0.94		0.97	1.07	0.78			1.03	0.76
Control Delay				101.8		88.4	117.2	15.4			62.7	3.4
Queue Delay				0.0		0.0	0.0	5.4			0.0	0.0
Total Delay				101.8		88.4	117.2	20.7			62.7	3.4
LOS				F		F	F	C			E	A
Approach Delay					93.1			35.0			40.8	
Approach LOS					F			D			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 152 (95%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.07	
Intersection Signal Delay: 45.3	Intersection LOS: D
Intersection Capacity Utilization 98.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp

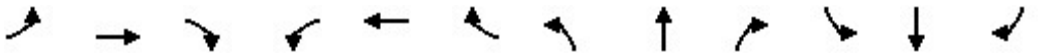


Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	287	532	355	2041	2046	1198
v/c Ratio	0.94	0.97	1.07	0.78	1.03	0.76
Control Delay	101.8	88.4	117.2	15.4	62.7	3.4
Queue Delay	0.0	0.0	0.0	5.4	0.0	0.0
Total Delay	101.8	88.4	117.2	20.7	62.7	3.4
Queue Length 50th (m)	91.2	88.4	~107.6	189.9	~365.2	0.0
Queue Length 95th (m)	#147.5	#128.9	#172.3	216.8	#404.4	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	306	552	332	2625	1985	1585
Starvation Cap Reductn	0	0	0	526	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.96	1.07	0.97	1.03	0.76

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	267	0	495	330	1898	0	0	1903	1114
Future Volume (vph)	0	0	0	267	0	495	330	1898	0	0	1903	1114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			3510	1585
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	81	3544			3510	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	287	0	532	355	2041	0	0	2046	1198
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	287	0	490	355	2041	0	0	2046	1198
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				29.0		29.0	118.5	118.5			90.5	160.0
Effective Green, g (s)				29.0		29.0	118.5	118.5			90.5	160.0
Actuated g/C Ratio				0.18		0.18	0.74	0.74			0.57	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				306		510	329	2624			1985	1585
v/s Ratio Prot							c0.17	0.58			0.58	
v/s Ratio Perm				0.17		c0.17	c0.63					0.76
v/c Ratio				0.94		0.96	1.08	0.78			1.03	0.76
Uniform Delay, d1				64.6		64.9	59.4	12.7			34.8	0.0
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				35.0		30.1	72.3	2.3			28.6	3.4
Delay (s)				99.6		95.0	131.7	15.0			63.3	3.4
Level of Service				F		F	F	B			E	A
Approach Delay (s)		0.0			96.6			32.3			41.2	
Approach LOS		A			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	44.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

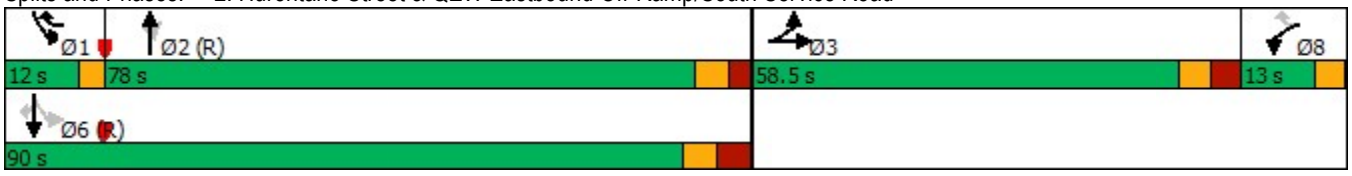
Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	549	125	221	106	222	1456	60	59	107	1260	0
Future Volume (vph)	549	125	221	106	222	1456	60	59	107	1260	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		0.99			0.94				
Frt		0.904			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1645	0	1755	1585	3510	1617	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.055		
Satd. Flow (perm)	3437	1645	0	1746	1585	3510	1514	0	101	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		31					78				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	603	137	243	116	244	1600	65	65	118	1385	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	603	380	0	116	244	1600	130	0	118	1385	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	58.5	58.5		9.0	11.5	38.0	38.0		11.5	39.5	39.5
Total Split (s)	58.5	58.5		13.0	12.0	78.0	78.0		12.0	90.0	90.0
Total Split (%)	36.2%	36.2%		8.0%	7.4%	48.3%	48.3%		7.4%	55.7%	55.7%
Maximum Green (s)	51.0	51.0		9.0	9.0	71.0	71.0		9.0	81.5	81.5
Yellow Time (s)	4.0	4.0		3.5	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		0.5	0.0	3.0	3.0		0.0	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)	15.0	15.0				9.0	9.0			9.0	9.0
Flash Dont Walk (s)	36.0	36.0				22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)	0	0				0	0			0	0
Act Effct Green (s)	42.3	42.3		16.1	30.7	71.0	71.0		88.6	83.1	
Actuated g/C Ratio	0.26	0.26		0.10	0.19	0.44	0.44		0.55	0.51	
v/c Ratio	0.67	0.84		0.67	0.81	1.04	0.18		0.73	0.77	
Control Delay	56.5	67.6		87.2	82.9	76.8	12.1		55.8	35.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	2.3	
Total Delay	56.5	67.6		87.2	82.9	76.8	12.1		55.8	38.0	
LOS	E	E		F	F	E	B		E	D	
Approach Delay		60.8				71.9				39.4	
Approach LOS		E				E				D	

Intersection Summary

Area Type: Other
Cycle Length: 161.5
Actuated Cycle Length: 161.5
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 59.8 Intersection LOS: E
Intersection Capacity Utilization 97.2% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	603	380	116	244	1600	130	118	1385
v/c Ratio	0.67	0.84	0.67	0.81	1.04	0.18	0.73	0.77
Control Delay	56.5	67.6	87.2	82.9	76.8	12.1	55.8	35.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3
Total Delay	56.5	67.6	87.2	82.9	76.8	12.1	55.8	38.0
Queue Length 50th (m)	89.1	106.8	36.5	76.7	~290.0	9.6	21.3	189.3
Queue Length 95th (m)	102.6	138.5	#87.2	#147.1	#332.0	23.3	#56.3	218.9
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	1085	540	174	301	1543	709	162	1789
Starvation Cap Reductn	0	0	0	0	0	0	0	267
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.70	0.67	0.81	1.04	0.18	0.73	0.91

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	549	125	221	106	222	1456	60	59	107	1260	0
Future Volume (vph)	549	125	221	106	222	1456	60	59	107	1260	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1645		1755	1585	3510	1514		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.06	1.00	
Satd. Flow (perm)	3437	1645		1755	1585	3510	1514		101	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	603	137	243	116	244	1600	65	65	118	1385	0
RTOR Reduction (vph)	0	23	0	0	0	0	44	0	0	0	0
Lane Group Flow (vph)	603	357	0	116	244	1600	86	0	118	1385	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Actuated Green, G (s)	42.3	42.3		16.1	26.7	71.0	71.0		83.1	83.1	
Effective Green, g (s)	42.3	42.3		16.1	26.7	71.0	71.0		83.1	83.1	
Actuated g/C Ratio	0.26	0.26		0.10	0.17	0.44	0.44		0.51	0.51	
Clearance Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	900	430		174	262	1543	665		159	1788	
v/s Ratio Prot	0.18	c0.22		0.07	c0.06	c0.46			0.05	0.40	
v/s Ratio Perm					0.09		0.06		0.33		
v/c Ratio	0.67	0.83		0.67	0.93	1.04	0.13		0.74	0.77	
Uniform Delay, d1	53.4	56.2		70.1	66.5	45.2	26.9		41.4	31.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	12.8		9.3	37.4	33.1	0.4		16.9	3.3	
Delay (s)	55.3	69.0		79.4	103.9	78.3	27.3		58.3	35.0	
Level of Service	E	E		E	F	E	C		E	C	
Approach Delay (s)		60.6				74.5				36.8	
Approach LOS		E				E				D	

Intersection Summary			
HCM 2000 Control Delay	60.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	161.5	Sum of lost time (s)	21.5
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

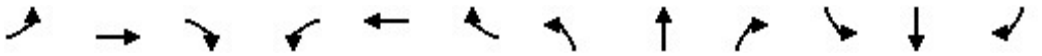
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	181	48	42	141	33	27
Future Volume (vph)	181	48	42	141	33	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.972				0.939	
Flt Protected				0.989	0.973	
Satd. Flow (prot)	1816	0	0	1850	1697	0
Flt Permitted				0.989	0.973	
Satd. Flow (perm)	1816	0	0	1850	1697	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	206	55	48	160	38	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	261	0	0	208	69	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.9%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	181	48	42	141	33	27
Future Volume (Veh/h)	181	48	42	141	33	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	206	55	48	160	38	31
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			266		494	238
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			266		494	238
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		93	96
cM capacity (veh/h)			1275		510	792

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	261	208	69
Volume Left	0	48	38
Volume Right	55	0	31
cSH	1700	1275	607
Volume to Capacity	0.15	0.04	0.11
Queue Length 95th (m)	0.0	0.9	2.9
Control Delay (s)	0.0	2.1	11.7
Lane LOS		A	B
Approach Delay (s)	0.0	2.1	11.7
Approach LOS			B

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	35.9%	ICU Level of Service	A
Analysis Period (min)	15		

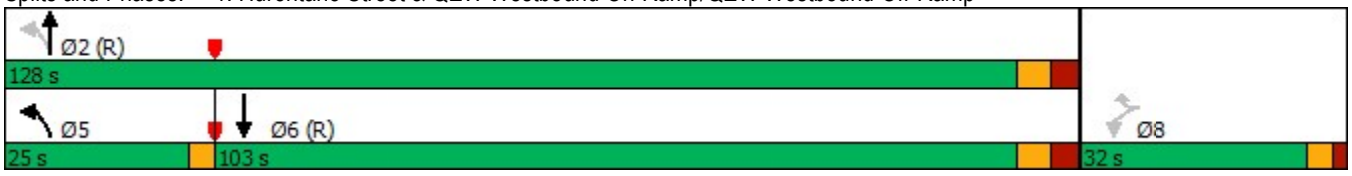


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	188	0	507	296	2207	0	0	1898	870
Future Volume (vph)	0	0	0	188	0	507	296	2207	0	0	1898	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	3510	1585
Flt Permitted				0.950			0.041					
Satd. Flow (perm)	0	0	0	1690	0	2818	78	3544	0	0	3510	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						123
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	202	0	545	318	2373	0	0	2041	935
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	202	0	545	318	2373	0	0	2041	935
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				32.0		32.0	25.0	128.0			103.0	
Total Split (%)				20.0%		20.0%	15.6%	80.0%			64.4%	
Maximum Green (s)				27.0		27.0	22.0	120.5			95.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				27.0		27.0	125.0	120.5			95.5	160.0
Actuated g/C Ratio				0.17		0.17	0.78	0.75			0.60	1.00
v/c Ratio				0.71		1.05	1.07	0.89			0.97	0.59
Control Delay				77.4		110.6	99.2	6.7			45.5	1.6
Queue Delay				75.7		0.0	0.0	18.5			15.1	0.0
Total Delay				153.1		110.6	99.2	25.2			60.7	1.6
LOS				F		F	F	C			E	A
Approach Delay					122.1			34.0			42.1	
Approach LOS					F			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 25 (16%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 48.0		Intersection LOS: D	
Intersection Capacity Utilization 92.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp



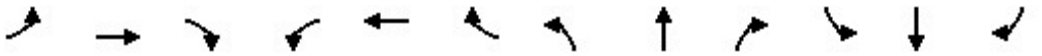
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	202	545	318	2373	2041	935
v/c Ratio	0.71	1.05	1.07	0.89	0.97	0.59
Control Delay	77.4	110.6	99.2	6.7	45.5	1.6
Queue Delay	75.7	0.0	0.0	18.5	15.1	0.0
Total Delay	153.1	110.6	99.2	25.2	60.7	1.6
Queue Length 50th (m)	61.5	~99.0	~93.2	72.0	317.1	0.0
Queue Length 95th (m)	90.8	#140.3	m#80.4	m78.4	#384.0	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	285	517	298	2669	2095	1585
Starvation Cap Reductn	0	0	0	371	0	0
Spillback Cap Reductn	190	0	0	0	122	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.13	1.05	1.07	1.03	1.03	0.59

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	188	0	507	296	2207	0	0	1898	870
Future Volume (vph)	0	0	0	188	0	507	296	2207	0	0	1898	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			3510	1585
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	77	3544			3510	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	202	0	545	318	2373	0	0	2041	935
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	202	0	503	318	2373	0	0	2041	935
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				27.0		27.0	120.5	120.5			95.5	160.0
Effective Green, g (s)				27.0		27.0	120.5	120.5			95.5	160.0
Actuated g/C Ratio				0.17		0.17	0.75	0.75			0.60	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				285		475	295	2669			2095	1585
v/s Ratio Prot							c0.15	0.67			0.58	
v/s Ratio Perm				0.12		c0.18	c0.66					0.59
v/c Ratio				0.71		1.06	1.08	0.89			0.97	0.59
Uniform Delay, d1				62.8		66.5	60.2	14.8			31.1	0.0
Progression Factor				1.00		1.00	1.33	0.40			1.00	1.00
Incremental Delay, d2				7.8		57.5	41.5	0.5			14.5	1.6
Delay (s)				70.6		124.0	121.3	6.4			45.5	1.6
Level of Service				E		F	F	A			D	A
Approach Delay (s)		0.0			109.6			20.0			31.7	
Approach LOS		A			F			B			C	

Intersection Summary			
HCM 2000 Control Delay	35.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

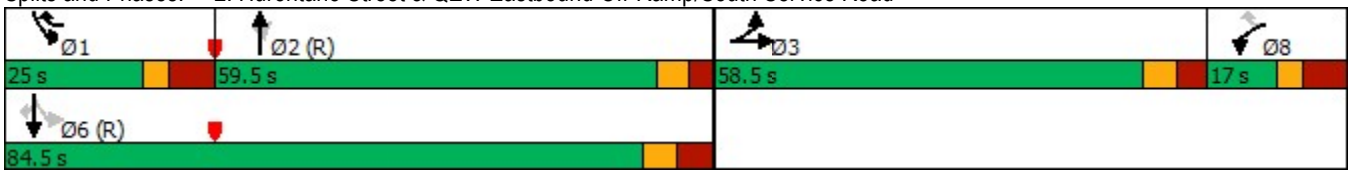
c Critical Lane Group

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	855	162	246	107	385	1275	558	66	287	1480	0
Future Volume (vph)	855	162	246	107	385	1275	558	66	287	1480	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00			0.94				
Frt		0.910			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1660	0	1755	1585	3510	1604	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.067		
Satd. Flow (perm)	3437	1660	0	1747	1585	3510	1503	0	123	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		15					147				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	940	178	270	118	423	1401	607	73	315	1626	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	940	448	0	118	423	1401	680	0	315	1626	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	58.5	58.5		13.5	13.5	38.0	38.0		13.5	39.5	39.5
Total Split (s)	58.5	58.5		17.0	25.0	59.5	59.5		25.0	84.5	84.5
Total Split (%)	36.6%	36.6%		10.6%	15.6%	37.2%	37.2%		15.6%	52.8%	52.8%
Maximum Green (s)	51.0	51.0		8.5	16.5	52.5	52.5		16.5	76.0	76.0
Yellow Time (s)	4.0	4.0		3.0	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		5.5	5.5	3.0	3.0		5.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)	15.0	15.0				9.0	9.0			9.0	9.0
Flash Dont Walk (s)	36.0	36.0				22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)	0	0				0	0			0	0
Act Effct Green (s)	49.7	49.7		9.8	34.8	52.5	52.5		76.0	76.0	
Actuated g/C Ratio	0.31	0.31		0.06	0.22	0.33	0.33		0.48	0.48	
v/c Ratio	0.88	0.85		1.09	1.23	1.22	1.15		1.41	0.98	
Control Delay	62.9	66.1		179.4	175.6	150.9	123.1		229.6	73.3	
Queue Delay	0.0	0.0		0.0	0.0	0.4	0.0		0.0	39.7	
Total Delay	62.9	66.1		179.4	175.6	151.3	123.1		229.6	113.0	
LOS	E	E		F	F	F	F		F	F	
Approach Delay		63.9				142.1				131.9	
Approach LOS		E				F				F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.41			
Intersection Signal Delay: 123.7		Intersection LOS: F	
Intersection Capacity Utilization 108.7%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	940	448	118	423	1401	680	315	1626
v/c Ratio	0.88	0.85	1.09	1.23	1.22	1.15	1.41	0.98
Control Delay	62.9	66.1	179.4	175.6	150.9	123.1	229.6	73.3
Queue Delay	0.0	0.0	0.0	0.0	0.4	0.0	0.0	39.7
Total Delay	62.9	66.1	179.4	175.6	151.3	123.1	229.6	113.0
Queue Length 50th (m)	145.1	128.7	~47.0	~169.4	~286.1	~220.4	~119.5	266.9
Queue Length 95th (m)	172.1	#182.7	#89.9	#236.6	#328.7	#297.1 m	#130.8 m	#280.0
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	1095	539	108	344	1151	591	224	1651
Starvation Cap Reductn	0	0	0	0	0	0	0	219
Spillback Cap Reductn	0	0	0	0	106	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.83	1.09	1.23	1.34	1.15	1.41	1.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	855	162	246	107	385	1275	558	66	287	1480	0
Future Volume (vph)	855	162	246	107	385	1275	558	66	287	1480	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1659		1755	1585	3510	1503		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.07	1.00	
Satd. Flow (perm)	3437	1659		1755	1585	3510	1503		123	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	940	178	270	118	423	1401	607	73	315	1626	0
RTOR Reduction (vph)	0	10	0	0	0	0	99	0	0	0	0
Lane Group Flow (vph)	940	438	0	118	423	1401	581	0	315	1626	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Actuated Green, G (s)	49.7	49.7		9.8	26.3	52.5	52.5		76.0	76.0	
Effective Green, g (s)	49.7	49.7		9.8	26.3	52.5	52.5		76.0	76.0	
Actuated g/C Ratio	0.31	0.31		0.06	0.16	0.33	0.33		0.48	0.48	
Clearance Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1067	515		107	344	1151	493		224	1651	
v/s Ratio Prot	c0.27	0.26		0.07	c0.13	0.40			c0.14	0.47	
v/s Ratio Perm					0.14		0.39		c0.52		
v/c Ratio	0.88	0.85		1.10	1.23	1.22	1.18		1.41	0.98	
Uniform Delay, d1	52.3	51.7		75.1	66.8	53.8	53.8		52.5	41.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		1.10	1.58	
Incremental Delay, d2	8.7	12.4		117.4	126.3	105.8	99.9		191.4	9.5	
Delay (s)	61.0	64.1		192.5	193.1	159.6	153.7		249.2	75.1	
Level of Service	E	E		F	F	F	F		F	E	
Approach Delay (s)		62.0				157.7				103.3	
Approach LOS		E				F				F	

Intersection Summary			
HCM 2000 Control Delay	120.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	108.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	114	51	131	395	113	102
Future Volume (vph)	114	51	131	395	113	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.958				0.936	
Flt Protected				0.988	0.974	
Satd. Flow (prot)	1783	0	0	1847	1693	0
Flt Permitted				0.988	0.974	
Satd. Flow (perm)	1783	0	0	1847	1693	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	130	58	149	449	128	116
Shared Lane Traffic (%)						
Lane Group Flow (vph)	188	0	0	598	244	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	114	51	131	395	113	102
Future Volume (Veh/h)	114	51	131	395	113	102
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	130	58	149	449	128	116
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			193		911	164
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			193		911	164
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		52	87
cM capacity (veh/h)			1357		269	872

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	188	598	244
Volume Left	0	149	128
Volume Right	58	0	116
cSH	1700	1357	400
Volume to Capacity	0.11	0.11	0.61
Queue Length 95th (m)	0.0	2.8	29.7
Control Delay (s)	0.0	2.9	27.0
Lane LOS		A	D
Approach Delay (s)	0.0	2.9	27.0
Approach LOS			D

Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	172	20	33	390	3	6	0	2	4	0	38
Future Volume (vph)	25	172	20	33	390	3	6	0	2	4	0	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.987			0.999			0.970			0.878	
Flt Protected		0.994			0.996			0.963			0.995	
Satd. Flow (prot)	0	1827	0	0	3558	0	0	1795	0	0	1678	0
Flt Permitted		0.994			0.996			0.963			0.995	
Satd. Flow (perm)	0	1827	0	0	3558	0	0	1795	0	0	1678	0
Link Speed (k/h)		50			50			48			48	
Link Distance (m)		86.0			62.6			50.6			46.8	
Travel Time (s)		6.2			4.5			3.8			3.5	
Confl. Peds. (#/hr)			102	102								
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	4%	0%	3%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	31	212	25	41	481	4	7	0	2	5	0	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	268	0	0	526	0	0	9	0	0	52	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

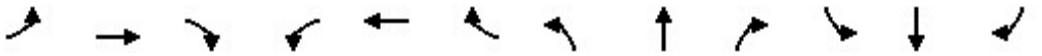
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	172	20	33	390	3	6	0	2	4	0	38
Future Volume (Veh/h)	25	172	20	33	390	3	6	0	2	4	0	38
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	31	212	25	41	481	4	7	0	2	5	0	47
Pedestrians								102				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.2				
Percent Blockage								9				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		86										
pX, platoon unblocked												
vC, conflicting volume	485			339			758	956	326	854	966	242
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	485			339			758	956	326	854	966	242
tC, single (s)	4.1			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			97	100	100	98	100	94
cM capacity (veh/h)	1088			1104			228	222	616	226	219	764

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	268	282	244	9	52
Volume Left	31	41	0	7	5
Volume Right	25	0	4	2	47
cSH	1088	1104	1700	265	622
Volume to Capacity	0.03	0.04	0.14	0.03	0.08
Queue Length 95th (m)	0.7	0.9	0.0	0.8	2.1
Control Delay (s)	1.2	1.5	0.0	19.1	11.3
Lane LOS	A	A		C	B
Approach Delay (s)	1.2	0.8		19.1	11.3
Approach LOS				C	B

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	38.5%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	114	56	42	425	1	0	0	0	0	0	0
Future Volume (vph)	3	114	56	42	425	1	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.956										
Flt Protected		0.999			0.996							
Satd. Flow (prot)	0	1811	0	0	1868	0	0	1921	0	0	1921	0
Flt Permitted		0.999			0.996							
Satd. Flow (perm)	0	1811	0	0	1868	0	0	1921	0	0	1921	0
Link Speed (k/h)		50			50			48			48	
Link Distance (m)		62.6			480.9			31.3			35.0	
Travel Time (s)		4.5			34.6			2.3			2.6	
Confl. Peds. (#/hr)	17		91	91		17	14		98	98		14
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles (%)	0%	2%	0%	7%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	4	154	76	57	574	1	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	234	0	0	632	0	0	0	0	0	0	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

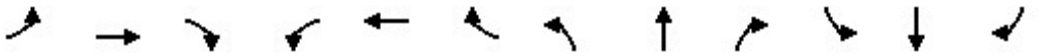
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	114	56	42	425	1	0	0	0	0	0	0
Future Volume (Veh/h)	3	114	56	42	425	1	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	4	154	76	57	574	1	0	0	0	0	0	0
Pedestrians		14			98			91			17	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		1			8			8			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		149										
pX, platoon unblocked												
vC, conflicting volume	592			321			994	997	381	1004	1034	606
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	592			321			994	997	381	1004	1034	606
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			100	100	100	100	100	100
cM capacity (veh/h)	979			1117			184	211	566	179	201	488

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	234	632	0	0
Volume Left	4	57	0	0
Volume Right	76	1	0	0
cSH	979	1117	1700	1700
Volume to Capacity	0.00	0.05	0.00	0.00
Queue Length 95th (m)	0.1	1.2	0.0	0.0
Control Delay (s)	0.2	1.3	0.0	0.0
Lane LOS	A	A	A	A
Approach Delay (s)	0.2	1.3	0.0	0.0
Approach LOS			A	A

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	60.9%	ICU Level of Service	B	
Analysis Period (min)	15			

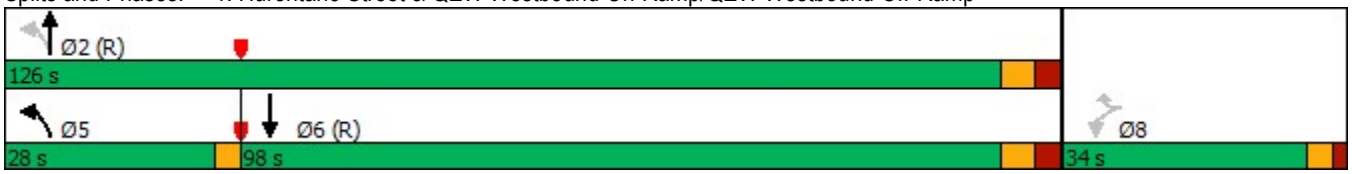


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	278	0	495	342	1910	0	0	1911	1114
Future Volume (vph)	0	0	0	278	0	495	342	1910	0	0	1911	1114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	3510	1585
Flt Permitted				0.950			0.043					
Satd. Flow (perm)	0	0	0	1690	0	2818	82	3544	0	0	3510	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						156
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	299	0	532	368	2054	0	0	2055	1198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	299	0	532	368	2054	0	0	2055	1198
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				34.0		34.0	28.0	126.0			98.0	
Total Split (%)				21.3%		21.3%	17.5%	78.8%			61.3%	
Maximum Green (s)				29.0		29.0	25.0	118.5			90.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				29.0		29.0	123.0	118.5			90.5	160.0
Actuated g/C Ratio				0.18		0.18	0.77	0.74			0.57	1.00
v/c Ratio				0.98		0.96	1.11	0.78			1.04	0.76
Control Delay				109.8		88.2	129.2	15.6			64.1	3.4
Queue Delay				0.0		0.0	0.0	5.9			0.0	0.0
Total Delay				109.8		88.2	129.2	21.4			64.1	3.4
LOS				F		F	F	C			E	A
Approach Delay					96.0			37.8			41.7	
Approach LOS					F			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 152 (95%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 47.2		Intersection LOS: D	
Intersection Capacity Utilization 100.1%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp

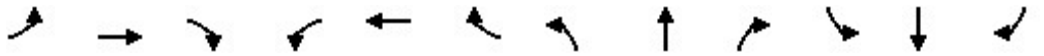


Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	299	532	368	2054	2055	1198
v/c Ratio	0.98	0.96	1.11	0.78	1.04	0.76
Control Delay	109.8	88.2	129.2	15.6	64.1	3.4
Queue Delay	0.0	0.0	0.0	5.9	0.0	0.0
Total Delay	109.8	88.2	129.2	21.4	64.1	3.4
Queue Length 50th (m)	95.9	88.4	~116.2	192.9	~368.3	0.0
Queue Length 95th (m)	#156.7	#128.9	#181.6	220.2	#407.5	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	306	552	332	2624	1985	1585
Starvation Cap Reductn	0	0	0	521	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.96	1.11	0.98	1.04	0.76

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	278	0	495	342	1910	0	0	1911	1114
Future Volume (vph)	0	0	0	278	0	495	342	1910	0	0	1911	1114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			3510	1585
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	81	3544			3510	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	299	0	532	368	2054	0	0	2055	1198
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	299	0	490	368	2054	0	0	2055	1198
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				29.0		29.0	118.5	118.5			90.5	160.0
Effective Green, g (s)				29.0		29.0	118.5	118.5			90.5	160.0
Actuated g/C Ratio				0.18		0.18	0.74	0.74			0.57	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				306		510	329	2624			1985	1585
v/s Ratio Prot							c0.17	0.58			0.59	
v/s Ratio Perm				c0.18		0.17	c0.65					0.76
v/c Ratio				0.98		0.96	1.12	0.78			1.04	0.76
Uniform Delay, d1				65.2		64.9	59.4	12.8			34.8	0.0
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				44.7		30.1	85.5	2.4			30.0	3.4
Delay (s)				109.9		95.0	144.9	15.2			64.7	3.4
Level of Service				F		F	F	B			E	A
Approach Delay (s)		0.0			100.4			34.9			42.1	
Approach LOS		A			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	46.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		

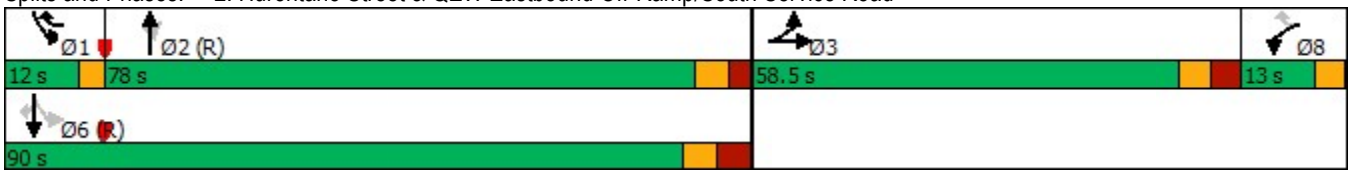
c Critical Lane Group

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	549	136	221	120	250	1457	59	67	126	1260	0
Future Volume (vph)	549	136	221	120	250	1457	59	67	126	1260	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00			0.94				
Frt		0.907			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1653	0	1755	1585	3510	1618	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.055		
Satd. Flow (perm)	3437	1653	0	1746	1585	3510	1515	0	101	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		28					78				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	603	149	243	132	275	1601	64	74	138	1385	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	603	392	0	132	275	1601	138	0	138	1385	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	58.5	58.5		9.0	11.5	38.0	38.0		11.5	39.5	39.5
Total Split (s)	58.5	58.5		13.0	12.0	78.0	78.0		12.0	90.0	90.0
Total Split (%)	36.2%	36.2%		8.0%	7.4%	48.3%	48.3%		7.4%	55.7%	55.7%
Maximum Green (s)	51.0	51.0		9.0	9.0	71.0	71.0		9.0	81.5	81.5
Yellow Time (s)	4.0	4.0		3.5	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		0.5	0.0	3.0	3.0		0.0	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)	15.0	15.0				9.0	9.0			9.0	9.0
Flash Dont Walk (s)	36.0	36.0				22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)	0	0				0	0			0	0
Act Effct Green (s)	43.2	43.2		16.8	29.8	71.0	71.0		87.0	81.5	
Actuated g/C Ratio	0.27	0.27		0.10	0.18	0.44	0.44		0.54	0.50	
v/c Ratio	0.66	0.85		0.73	0.94	1.04	0.19		0.95	0.79	
Control Delay	55.5	68.5		90.1	102.9	77.0	12.8		97.8	37.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	3.2	
Total Delay	55.5	68.5		90.1	102.9	77.0	12.8		97.8	40.3	
LOS	E	E		F	F	E	B		F	D	
Approach Delay		60.6				71.9				45.5	
Approach LOS		E				E				D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 161.5			
Actuated Cycle Length: 161.5			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 63.2		Intersection LOS: E	
Intersection Capacity Utilization 99.4%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	603	392	132	275	1601	138	138	1385
v/c Ratio	0.66	0.85	0.73	0.94	1.04	0.19	0.95	0.79
Control Delay	55.5	68.5	90.1	102.9	77.0	12.8	97.8	37.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
Total Delay	55.5	68.5	90.1	102.9	77.0	12.8	97.8	40.3
Queue Length 50th (m)	88.2	111.3	42.2	89.3	~290.4	11.1	28.3	189.3
Queue Length 95th (m)	102.6	144.9	#99.9	#170.3	#332.4	25.3	#72.5	218.9
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	1085	541	182	292	1543	709	145	1754
Starvation Cap Reductn	0	0	0	0	0	0	0	267
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.72	0.73	0.94	1.04	0.19	0.95	0.93

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	549	136	221	120	250	1457	59	67	126	1260	0
Future Volume (vph)	549	136	221	120	250	1457	59	67	126	1260	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1653		1755	1585	3510	1515		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.06	1.00	
Satd. Flow (perm)	3437	1653		1755	1585	3510	1515		101	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	603	149	243	132	275	1601	64	74	138	1385	0
RTOR Reduction (vph)	0	21	0	0	0	0	44	0	0	0	0
Lane Group Flow (vph)	603	371	0	132	275	1601	94	0	138	1385	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Actuated Green, G (s)	43.2	43.2		16.8	25.8	71.0	71.0		81.5	81.5	
Effective Green, g (s)	43.2	43.2		16.8	25.8	71.0	71.0		81.5	81.5	
Actuated g/C Ratio	0.27	0.27		0.10	0.16	0.44	0.44		0.50	0.50	
Clearance Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	919	442		182	253	1543	666		142	1754	
v/s Ratio Prot	0.18	c0.22		0.08	c0.06	c0.46			0.05	0.40	
v/s Ratio Perm					0.11		0.06		0.44		
v/c Ratio	0.66	0.84		0.73	1.09	1.04	0.14		0.97	0.79	
Uniform Delay, d1	52.6	55.9		70.1	67.8	45.2	27.0		47.7	32.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	13.4		13.4	81.7	33.3	0.4		66.6	3.7	
Delay (s)	54.3	69.3		83.5	149.6	78.5	27.5		114.3	36.6	
Level of Service	D	E		F	F	E	C		F	D	
Approach Delay (s)		60.2				74.5				43.7	
Approach LOS		E				E				D	

Intersection Summary			
HCM 2000 Control Delay	66.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	161.5	Sum of lost time (s)	21.5
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	183	50	42	143	35	27
Future Volume (vph)	183	50	42	143	35	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.971				0.941	
Flt Protected				0.989	0.973	
Satd. Flow (prot)	1814	0	0	1850	1701	0
Flt Permitted				0.989	0.973	
Satd. Flow (perm)	1814	0	0	1850	1701	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	208	57	48	163	40	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	265	0	0	211	71	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.3%		ICU Level of Service A	
Analysis Period (min) 15			

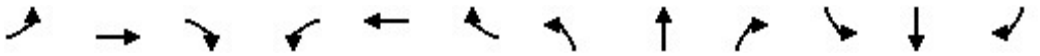
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	183	50	42	143	35	27
Future Volume (Veh/h)	183	50	42	143	35	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	208	57	48	163	40	31
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			270		500	242
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			270		500	242
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		92	96
cM capacity (veh/h)			1271		506	789

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	265	211	71
Volume Left	0	48	40
Volume Right	57	0	31
cSH	1700	1271	600
Volume to Capacity	0.16	0.04	0.12
Queue Length 95th (m)	0.0	0.9	3.0
Control Delay (s)	0.0	2.1	11.8
Lane LOS		A	B
Approach Delay (s)	0.0	2.1	11.8
Approach LOS			B

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	204	3	4	169	3	11	0	3	5	0	41
Future Volume (vph)	35	204	3	4	169	3	11	0	3	5	0	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.998			0.997			0.970			0.879	
Flt Protected		0.993			0.999			0.963			0.995	
Satd. Flow (prot)	0	1842	0	0	3565	0	0	1795	0	0	1680	0
Flt Permitted		0.993			0.999			0.963			0.995	
Satd. Flow (perm)	0	1842	0	0	3565	0	0	1795	0	0	1680	0
Link Speed (k/h)		50			50			48			48	
Link Distance (m)		86.0			62.6			50.6			46.8	
Travel Time (s)		6.2			4.5			3.8			3.5	
Confl. Peds. (#/hr)			102	102								
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	4%	0%	3%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	43	252	4	5	209	4	14	0	4	6	0	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	299	0	0	218	0	0	18	0	0	57	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.9%		ICU Level of Service A	
Analysis Period (min) 15			



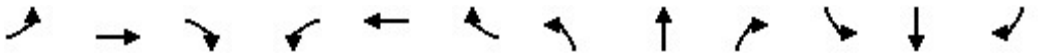
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	204	3	4	169	3	11	0	3	5	0	41
Future Volume (Veh/h)	35	204	3	4	169	3	11	0	3	5	0	41
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	43	252	4	5	209	4	14	0	4	6	0	51
Pedestrians								102				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.2				
Percent Blockage								9				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		86										
pX, platoon unblocked				0.97			0.97	0.97	0.97	0.97	0.97	
vC, conflicting volume	213			358			608	665	356	565	665	106
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	213			320			578	637	318	534	637	106
tC, single (s)	4.1			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			95	100	99	98	100	95
cM capacity (veh/h)	1369			1086			306	338	604	378	338	934

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	299	110	108	18	57
Volume Left	43	5	0	14	6
Volume Right	4	0	4	4	51
cSH	1369	1086	1700	344	809
Volume to Capacity	0.03	0.00	0.06	0.05	0.07
Queue Length 95th (m)	0.7	0.1	0.0	1.3	1.7
Control Delay (s)	1.4	0.4	0.0	16.1	9.8
Lane LOS	A	A		C	A
Approach Delay (s)	1.4	0.2		16.1	9.8
Approach LOS				C	A

Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	31.9%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	206	1	1	172	1	1	0	0	0	0	0
Future Volume (vph)	3	206	1	1	172	1	1	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.999							
Flt Protected		0.999						0.950				
Satd. Flow (prot)	0	1882	0	0	1881	0	0	1825	0	0	1921	0
Flt Permitted		0.999						0.950				
Satd. Flow (perm)	0	1882	0	0	1881	0	0	1825	0	0	1921	0
Link Speed (k/h)		50			50			48			48	
Link Distance (m)		62.6			480.9			31.3			35.0	
Travel Time (s)		4.5			34.6			2.3			2.6	
Confl. Peds. (#/hr)	17		91	91		17	14		98	98		14
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles (%)	0%	2%	0%	7%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	4	278	1	1	232	1	1	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	283	0	0	234	0	0	1	0	0	0	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.9%		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)	3	206	1	1	172	1	1	0	0	0	0	0
Future Volume (Veh/h)	3	206	1	1	172	1	1	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	4	278	1	1	232	1	1	0	0	0	0	0
Pedestrians		14			98			91			17	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		1			8			8			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		149										
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99	
vC, conflicting volume	250			370			626	630	468	636	630	264
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	250			364			621	625	462	631	625	264
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1308			1071			338	364	507	330	364	759

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	283	234	1	0
Volume Left	4	1	1	0
Volume Right	1	1	0	0
cSH	1308	1071	338	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.1	0.0	0.1	0.0
Control Delay (s)	0.1	0.0	15.7	0.0
Lane LOS	A	A	C	A
Approach Delay (s)	0.1	0.0	15.7	0.0
Approach LOS			C	A

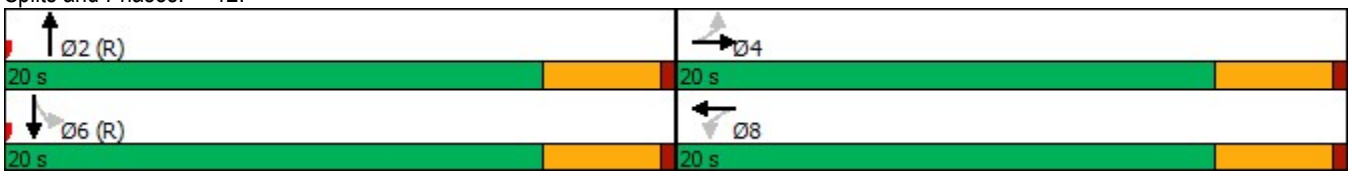
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	32.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	1883	0	0	1883	0	0	3579	0	0	1883	0
Flt Permitted												
Satd. Flow (perm)	0	1883	0	0	1883	0	0	3579	0	0	1883	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		44.1			57.1			99.9			122.8	
Travel Time (s)		3.3			4.3			7.5			9.2	
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)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8						6		
Minimum Split (s)	20.0	20.0		20.0	20.0			20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0			20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%			50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0			16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5			3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5			0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)												
Actuated g/C Ratio												
v/c Ratio												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay												
Queue Delay												
Total Delay												
LOS												
Approach Delay												
Approach LOS												

Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 40			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Pretimed			
Maximum v/c Ratio: 0.00			
Intersection Signal Delay: 0.0		Intersection LOS: A	
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12:

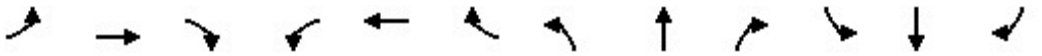


Lane Group
Lane Group Flow (vph)
v/c Ratio
Control Delay
Queue Delay
Total Delay
Queue Length 50th (m)
Queue Length 95th (m)
Internal Link Dist (m)
Turn Bay Length (m)
Base Capacity (vph)
Starvation Cap Reductn
Spillback Cap Reductn
Storage Cap Reductn
Reduced v/c Ratio

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8						6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

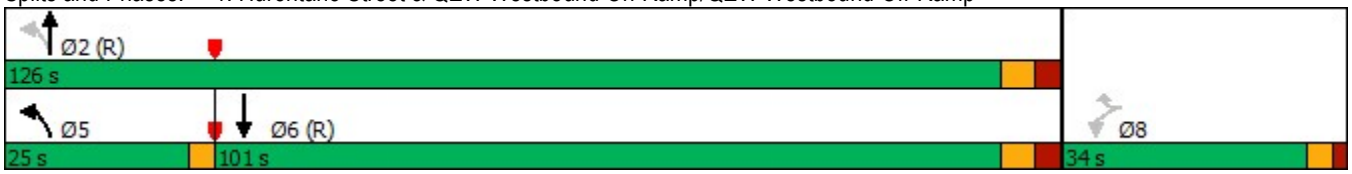


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	202	0	560	292	2255	0	0	1937	892
Future Volume (vph)	0	0	0	202	0	560	292	2255	0	0	1937	892
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	3510	1585
Flt Permitted				0.950			0.041					
Satd. Flow (perm)	0	0	0	1690	0	2818	78	3544	0	0	3510	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						123
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	217	0	602	314	2425	0	0	2083	959
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	217	0	602	314	2425	0	0	2083	959
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				34.0		34.0	25.0	126.0			101.0	
Total Split (%)				21.3%		21.3%	15.6%	78.8%			63.1%	
Maximum Green (s)				29.0		29.0	22.0	118.5			93.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				29.0		29.0	123.0	118.5			93.5	160.0
Actuated g/C Ratio				0.18		0.18	0.77	0.74			0.58	1.00
v/c Ratio				0.71		1.09	1.06	0.92			1.02	0.61
Control Delay				75.4		119.2	95.4	8.8			56.7	1.7
Queue Delay				74.2		0.0	0.0	31.5			24.1	0.0
Total Delay				149.6		119.2	95.4	40.4			80.8	1.7
LOS				F		F	F	D			F	A
Approach Delay					127.3			46.7			55.9	
Approach LOS					F			D			E	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 25 (16%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 60.9	Intersection LOS: E
Intersection Capacity Utilization 93.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp



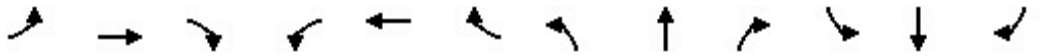
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	217	602	314	2425	2083	959
v/c Ratio	0.71	1.09	1.06	0.92	1.02	0.61
Control Delay	75.4	119.2	95.4	8.8	56.7	1.7
Queue Delay	74.2	0.0	0.0	31.5	24.1	0.0
Total Delay	149.6	119.2	95.4	40.4	80.8	1.7
Queue Length 50th (m)	65.7	~114.1	~91.2	84.5	~366.6	0.0
Queue Length 95th (m)	95.9	#156.6	m77.4	m84.3	#405.5	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	306	552	297	2624	2051	1585
Starvation Cap Reductn	0	0	0	353	0	0
Spillback Cap Reductn	204	0	0	0	121	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.13	1.09	1.06	1.07	1.08	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	202	0	560	292	2255	0	0	1937	892
Future Volume (vph)	0	0	0	202	0	560	292	2255	0	0	1937	892
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			3510	1585
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	79	3544			3510	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	217	0	602	314	2425	0	0	2083	959
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	217	0	560	314	2425	0	0	2083	959
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				29.0		29.0	118.5	118.5			93.5	160.0
Effective Green, g (s)				29.0		29.0	118.5	118.5			93.5	160.0
Actuated g/C Ratio				0.18		0.18	0.74	0.74			0.58	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				306		510	296	2624			2051	1585
v/s Ratio Prot							c0.15	0.68			0.59	
v/s Ratio Perm				0.13		c0.20	c0.64					0.60
v/c Ratio				0.71		1.10	1.06	0.92			1.02	0.61
Uniform Delay, d1				61.5		65.5	60.2	17.1			33.2	0.0
Progression Factor				1.00		1.00	1.31	0.44			1.00	1.00
Incremental Delay, d2				7.3		69.5	34.9	0.7			23.8	1.7
Delay (s)				68.9		135.0	113.8	8.3			57.1	1.7
Level of Service				E		F	F	A			E	A
Approach Delay (s)		0.0			117.4			20.4			39.6	
Approach LOS		A			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

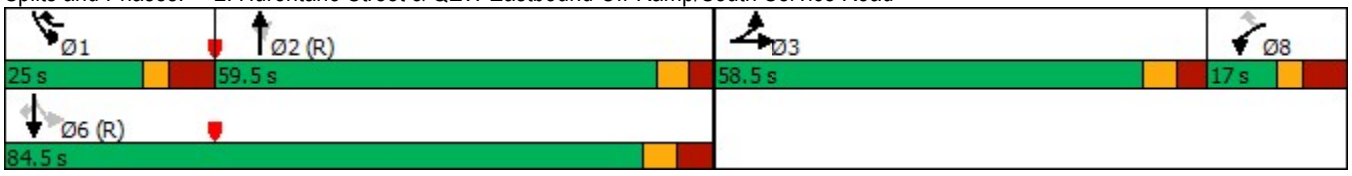
Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	944	170	272	99	356	1247	632	62	280	1518	0
Future Volume (vph)	944	170	272	99	356	1247	632	62	280	1518	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00			0.94				
Frt		0.908			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1655	0	1755	1585	3510	1604	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.067		
Satd. Flow (perm)	3437	1655	0	1747	1585	3510	1503	0	123	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		16					147				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	1037	187	299	109	391	1370	687	68	308	1668	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	1037	486	0	109	391	1370	755	0	308	1668	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	58.5	58.5		13.5	13.5	38.0	38.0		13.5	39.5	39.5
Total Split (s)	58.5	58.5		17.0	25.0	59.5	59.5		25.0	84.5	84.5
Total Split (%)	36.6%	36.6%		10.6%	15.6%	37.2%	37.2%		15.6%	52.8%	52.8%
Maximum Green (s)	51.0	51.0		8.5	16.5	52.5	52.5		16.5	76.0	76.0
Yellow Time (s)	4.0	4.0		3.0	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		5.5	5.5	3.0	3.0		5.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)	15.0	15.0				9.0	9.0			9.0	9.0
Flash Dont Walk (s)	36.0	36.0				22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)	0	0				0	0			0	0
Act Effct Green (s)	51.0	51.0		8.5	33.5	52.5	52.5		76.0	76.0	
Actuated g/C Ratio	0.32	0.32		0.05	0.21	0.33	0.33		0.48	0.48	
v/c Ratio	0.95	0.90		1.17	1.18	1.19	1.28		1.38	1.01	
Control Delay	70.1	71.6		207.1	160.7	140.4	172.5		214.7	77.2	
Queue Delay	0.0	0.0		0.0	0.0	0.6	0.0		0.0	34.1	
Total Delay	70.1	71.6		207.1	160.7	141.1	172.5		214.7	111.3	
LOS	E	E		F	F	F	F		F	F	
Approach Delay		70.6				152.2				127.4	
Approach LOS		E				F				F	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.38
Intersection Signal Delay: 125.4 Intersection LOS: F
Intersection Capacity Utilization 108.9% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1037	486	109	391	1370	755	308	1668
v/c Ratio	0.95	0.90	1.17	1.18	1.19	1.28	1.38	1.01
Control Delay	70.1	71.6	207.1	160.7	140.4	172.5	214.7	77.2
Queue Delay	0.0	0.0	0.0	0.0	0.6	0.0	0.0	34.1
Total Delay	70.1	71.6	207.1	160.7	141.1	172.5	214.7	111.3
Queue Length 50th (m)	166.3	144.4	~41.1	~148.3	~275.3	~270.4	~114.9	~277.0
Queue Length 95th (m)	#207.5	#209.5	#82.0	#214.2	#318.0	#348.5	m#118.6	m#272.8
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	1095	538	93	331	1151	591	224	1651
Starvation Cap Reductn	0	0	0	0	0	0	0	219
Spillback Cap Reductn	0	0	0	0	151	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.90	1.17	1.18	1.37	1.28	1.38	1.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	944	170	272	99	356	1247	632	62	280	1518	0
Future Volume (vph)	944	170	272	99	356	1247	632	62	280	1518	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1655		1755	1585	3510	1503		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.07	1.00	
Satd. Flow (perm)	3437	1655		1755	1585	3510	1503		123	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1037	187	299	109	391	1370	687	68	308	1668	0
RTOR Reduction (vph)	0	11	0	0	0	0	99	0	0	0	0
Lane Group Flow (vph)	1037	475	0	109	391	1370	656	0	308	1668	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Actuated Green, G (s)	51.0	51.0		8.5	25.0	52.5	52.5		76.0	76.0	
Effective Green, g (s)	51.0	51.0		8.5	25.0	52.5	52.5		76.0	76.0	
Actuated g/C Ratio	0.32	0.32		0.05	0.16	0.33	0.33		0.48	0.48	
Clearance Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1095	527		93	331	1151	493		224	1651	
v/s Ratio Prot	c0.30	0.29		0.06	c0.12	0.39			c0.14	0.48	
v/s Ratio Perm					0.13		0.44		c0.51		
v/c Ratio	0.95	0.90		1.17	1.18	1.19	1.33		1.38	1.01	
Uniform Delay, d1	53.2	52.1		75.8	67.5	53.8	53.8		52.5	42.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		1.10	1.58	
Incremental Delay, d2	15.9	18.5		146.9	108.3	94.5	162.5		175.8	13.7	
Delay (s)	69.1	70.6		222.7	175.8	148.2	216.2		233.7	80.0	
Level of Service	E	E		F	F	F	F		F	F	
Approach Delay (s)		69.6				172.4				104.0	
Approach LOS		E				F				F	

Intersection Summary			
HCM 2000 Control Delay	125.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	108.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

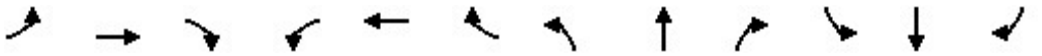
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	112	49	131	393	113	104
Future Volume (vph)	112	49	131	393	113	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.959				0.935	
Flt Protected				0.988	0.975	
Satd. Flow (prot)	1785	0	0	1847	1692	0
Flt Permitted				0.988	0.975	
Satd. Flow (perm)	1785	0	0	1847	1692	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	127	56	149	447	128	118
Shared Lane Traffic (%)						
Lane Group Flow (vph)	183	0	0	596	246	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	112	49	131	393	113	104
Future Volume (Veh/h)	112	49	131	393	113	104
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	127	56	149	447	128	118
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			188		905	160
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			188		905	160
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		53	87
cM capacity (veh/h)			1362		271	876

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	183	596	246
Volume Left	0	149	128
Volume Right	56	0	118
cSH	1700	1362	405
Volume to Capacity	0.11	0.11	0.61
Queue Length 95th (m)	0.0	2.8	29.5
Control Delay (s)	0.0	2.9	26.7
Lane LOS		A	D
Approach Delay (s)	0.0	2.9	26.7
Approach LOS			D

Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

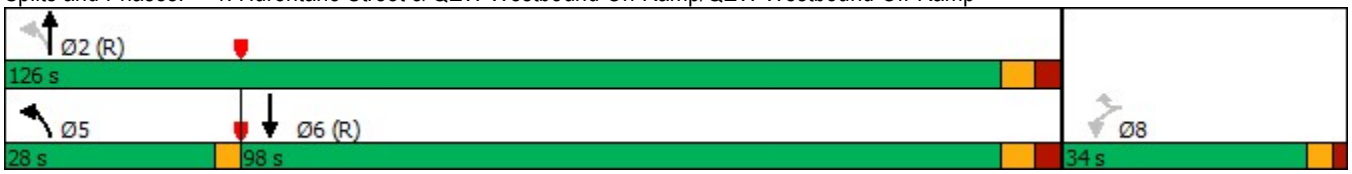


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	295	0	547	338	1946	0	0	1951	1142
Future Volume (vph)	0	0	0	295	0	547	338	1946	0	0	1951	1142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	3510	1585
Flt Permitted				0.950			0.043					
Satd. Flow (perm)	0	0	0	1690	0	2818	82	3544	0	0	3510	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						157
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	317	0	588	363	2092	0	0	2098	1228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	317	0	588	363	2092	0	0	2098	1228
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				34.0		34.0	28.0	126.0			98.0	
Total Split (%)				21.3%		21.3%	17.5%	78.8%			61.3%	
Maximum Green (s)				29.0		29.0	25.0	118.5			90.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				29.0		29.0	123.0	118.5			90.5	160.0
Actuated g/C Ratio				0.18		0.18	0.77	0.74			0.57	1.00
v/c Ratio				1.04		1.07	1.09	0.80			1.06	0.77
Control Delay				122.8		111.9	124.6	16.1			71.2	3.8
Queue Delay				0.0		0.0	0.0	7.4			0.0	0.0
Total Delay				122.8		111.9	124.6	23.6			71.2	3.8
LOS				F		F	F	C			E	A
Approach Delay					115.8			38.5			46.3	
Approach LOS					F			D			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 152 (95%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 52.8	Intersection LOS: D
Intersection Capacity Utilization 101.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp

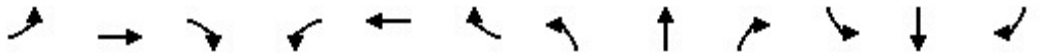


Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	317	588	363	2092	2098	1228
v/c Ratio	1.04	1.07	1.09	0.80	1.06	0.77
Control Delay	122.8	111.9	124.6	16.1	71.2	3.8
Queue Delay	0.0	0.0	0.0	7.4	0.0	0.0
Total Delay	122.8	111.9	124.6	23.6	71.2	3.8
Queue Length 50th (m)	~108.0	~108.8	~112.9	201.4	~383.3	0.0
Queue Length 95th (m)	#169.2	#150.9	#178.3	230.0	#422.1	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	306	552	332	2624	1985	1585
Starvation Cap Reductn	0	0	0	506	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.04	1.07	1.09	0.99	1.06	0.77

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	295	0	547	338	1946	0	0	1951	1142
Future Volume (vph)	0	0	0	295	0	547	338	1946	0	0	1951	1142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			3510	1585
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	81	3544			3510	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	317	0	588	363	2092	0	0	2098	1228
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	317	0	546	363	2092	0	0	2098	1228
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				29.0		29.0	118.5	118.5			90.5	160.0
Effective Green, g (s)				29.0		29.0	118.5	118.5			90.5	160.0
Actuated g/C Ratio				0.18		0.18	0.74	0.74			0.57	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				306		510	329	2624			1985	1585
v/s Ratio Prot							c0.17	0.59			0.60	
v/s Ratio Perm				0.19		c0.19	c0.64					0.77
v/c Ratio				1.04		1.07	1.10	0.80			1.06	0.77
Uniform Delay, d1				65.5		65.5	59.4	13.1			34.8	0.0
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				61.1		60.2	80.3	2.6			37.2	3.8
Delay (s)				126.6		125.7	139.7	15.8			72.0	3.8
Level of Service				F		F	F	B			E	A
Approach Delay (s)		0.0			126.0			34.1			46.8	
Approach LOS		A			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	52.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

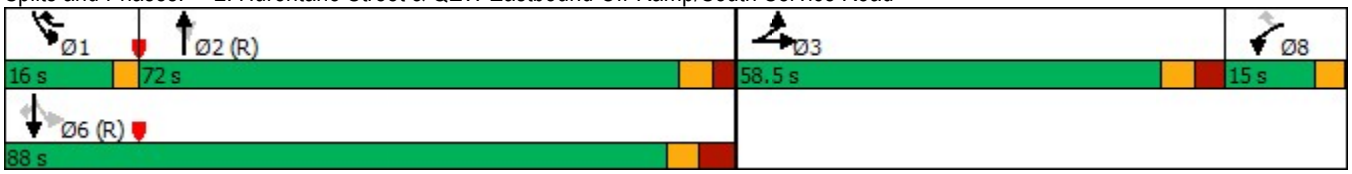
Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	607	138	244	117	246	1432	122	61	110	1292	0
Future Volume (vph)	607	138	244	117	246	1432	122	61	110	1292	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00			0.94				
Frt		0.904			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1645	0	1755	1585	3510	1612	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.060		
Satd. Flow (perm)	3437	1645	0	1746	1585	3510	1509	0	110	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		30					78				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	667	152	268	129	270	1574	133	67	121	1420	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	667	420	0	129	270	1574	200	0	121	1420	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	58.5	58.5		9.0	11.5	38.0	38.0		11.5	39.5	39.5
Total Split (s)	58.5	58.5		15.0	16.0	72.0	72.0		16.0	88.0	88.0
Total Split (%)	36.2%	36.2%		9.3%	9.9%	44.6%	44.6%		9.9%	54.5%	54.5%
Maximum Green (s)	51.0	51.0		11.0	13.0	65.0	65.0		13.0	79.5	79.5
Yellow Time (s)	4.0	4.0		3.5	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		0.5	0.0	3.0	3.0		0.0	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)	15.0	15.0				9.0	9.0			9.0	9.0
Flash Dont Walk (s)	36.0	36.0				22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)	0	0				0	0			0	0
Act Effct Green (s)	45.5	45.5		15.3	32.7	65.8	65.8		86.3	80.8	
Actuated g/C Ratio	0.28	0.28		0.09	0.20	0.41	0.41		0.53	0.50	
v/c Ratio	0.69	0.87		0.78	0.84	1.10	0.30		0.62	0.82	
Control Delay	55.2	69.1		99.1	84.4	100.7	20.8		45.2	39.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	3.9	
Total Delay	55.2	69.1		99.1	84.4	100.7	20.8		45.2	43.2	
LOS	E	E		F	F	F	C		D	D	
Approach Delay		60.6				91.7				43.3	
Approach LOS		E				F				D	

Intersection Summary

Area Type: Other
Cycle Length: 161.5
Actuated Cycle Length: 161.5
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 68.9 Intersection LOS: E
Intersection Capacity Utilization 98.8% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	667	420	129	270	1574	200	121	1420
v/c Ratio	0.69	0.87	0.78	0.84	1.10	0.30	0.62	0.82
Control Delay	55.2	69.1	99.1	84.4	100.7	20.8	45.2	39.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9
Total Delay	55.2	69.1	99.1	84.4	100.7	20.8	45.2	43.2
Queue Length 50th (m)	96.8	118.4	41.6	85.5	~303.7	25.7	21.2	202.8
Queue Length 95th (m)	114.9	157.9	#90.0	#146.8	#345.7	45.9	43.6	234.1
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	1085	540	165	321	1429	660	194	1738
Starvation Cap Reductn	0	0	0	0	0	0	0	238
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.78	0.78	0.84	1.10	0.30	0.62	0.95

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	607	138	244	117	246	1432	122	61	110	1292	0
Future Volume (vph)	607	138	244	117	246	1432	122	61	110	1292	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1646		1755	1585	3510	1509		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.06	1.00	
Satd. Flow (perm)	3437	1646		1755	1585	3510	1509		109	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	667	152	268	129	270	1574	133	67	121	1420	0
RTOR Reduction (vph)	0	22	0	0	0	0	46	0	0	0	0
Lane Group Flow (vph)	667	398	0	129	270	1574	154	0	121	1420	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Actuated Green, G (s)	45.5	45.5		15.3	28.8	65.7	65.7		80.7	80.7	
Effective Green, g (s)	45.5	45.5		15.3	28.8	65.7	65.7		80.7	80.7	
Actuated g/C Ratio	0.28	0.28		0.09	0.18	0.41	0.41		0.50	0.50	
Clearance Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	968	463		166	282	1427	613		190	1736	
v/s Ratio Prot	0.19	c0.24		0.07	c0.08	c0.45			0.05	0.41	
v/s Ratio Perm					0.09		0.10		0.26		
v/c Ratio	0.69	0.86		0.78	0.96	1.10	0.25		0.64	0.82	
Uniform Delay, d1	51.7	55.0		71.4	65.7	47.9	31.6		38.6	34.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	15.0		20.1	41.6	57.3	1.0		6.8	4.4	
Delay (s)	53.8	70.0		91.5	107.4	105.2	32.6		45.4	38.6	
Level of Service	D	E		F	F	F	C		D	D	
Approach Delay (s)		60.0				97.0				39.1	
Approach LOS		E				F				D	

Intersection Summary			
HCM 2000 Control Delay	70.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	161.5	Sum of lost time (s)	21.5
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

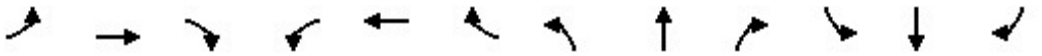
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	199	53	47	156	34	27
Future Volume (vph)	199	53	47	156	34	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.972				0.940	
Flt Protected				0.989	0.973	
Satd. Flow (prot)	1816	0	0	1850	1699	0
Flt Permitted				0.989	0.973	
Satd. Flow (perm)	1816	0	0	1850	1699	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	226	60	53	177	39	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	286	0	0	230	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	199	53	47	156	34	27
Future Volume (Veh/h)	199	53	47	156	34	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	226	60	53	177	39	31
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			291		544	261
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			291		544	261
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		92	96
cM capacity (veh/h)			1248		475	769

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	286	230	70
Volume Left	0	53	39
Volume Right	60	0	31
cSH	1700	1248	572
Volume to Capacity	0.17	0.04	0.12
Queue Length 95th (m)	0.0	1.0	3.2
Control Delay (s)	0.0	2.1	12.2
Lane LOS		A	B
Approach Delay (s)	0.0	2.1	12.2
Approach LOS			B

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		

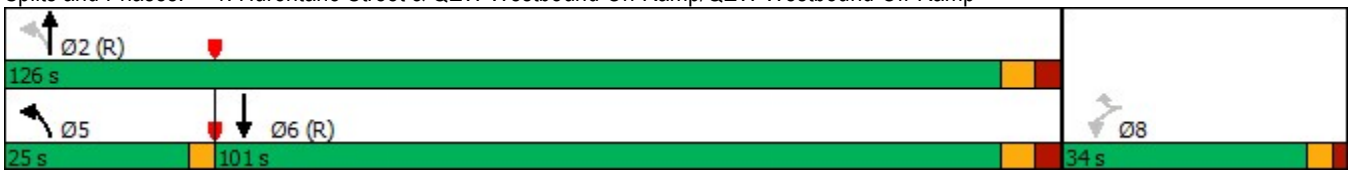


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	208	0	560	303	2263	0	0	1945	892
Future Volume (vph)	0	0	0	208	0	560	303	2263	0	0	1945	892
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	3510	1585
Flt Permitted				0.950			0.041					
Satd. Flow (perm)	0	0	0	1690	0	2818	78	3544	0	0	3510	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						123
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	224	0	602	326	2433	0	0	2091	959
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	224	0	602	326	2433	0	0	2091	959
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				34.0		34.0	25.0	126.0			101.0	
Total Split (%)				21.3%		21.3%	15.6%	78.8%			63.1%	
Maximum Green (s)				29.0		29.0	22.0	118.5			93.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				29.0		29.0	123.0	118.5			93.5	160.0
Actuated g/C Ratio				0.18		0.18	0.77	0.74			0.58	1.00
v/c Ratio				0.73		1.09	1.10	0.93			1.02	0.61
Control Delay				76.8		119.2	108.7	9.4			57.7	1.7
Queue Delay				73.8		0.0	0.0	34.5			23.9	0.0
Total Delay				150.6		119.2	108.7	43.9			81.7	1.7
LOS				F		F	F	D			F	A
Approach Delay					127.7			51.5			56.5	
Approach LOS					F			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 25 (16%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 63.3		Intersection LOS: E	
Intersection Capacity Utilization 95.0%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp



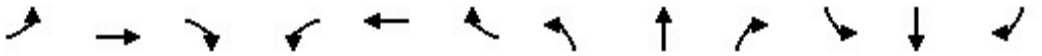
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	224	602	326	2433	2091	959
v/c Ratio	0.73	1.09	1.10	0.93	1.02	0.61
Control Delay	76.8	119.2	108.7	9.4	57.7	1.7
Queue Delay	73.8	0.0	0.0	34.5	23.9	0.0
Total Delay	150.6	119.2	108.7	43.9	81.7	1.7
Queue Length 50th (m)	68.2	~114.1	~99.2	89.0	~369.4	0.0
Queue Length 95th (m)	#99.3	#156.6	m80.1	m87.1	#408.3	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	306	552	297	2624	2051	1585
Starvation Cap Reductn	0	0	0	361	0	0
Spillback Cap Reductn	204	0	0	0	118	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.20	1.09	1.10	1.08	1.08	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	208	0	560	303	2263	0	0	1945	892
Future Volume (vph)	0	0	0	208	0	560	303	2263	0	0	1945	892
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			3510	1585
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	79	3544			3510	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	224	0	602	326	2433	0	0	2091	959
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	224	0	560	326	2433	0	0	2091	959
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				29.0		29.0	118.5	118.5			93.5	160.0
Effective Green, g (s)				29.0		29.0	118.5	118.5			93.5	160.0
Actuated g/C Ratio				0.18		0.18	0.74	0.74			0.58	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				306		510	296	2624			2051	1585
v/s Ratio Prot							c0.15	0.69			0.60	
v/s Ratio Perm				0.13		c0.20	c0.67					0.60
v/c Ratio				0.73		1.10	1.10	0.93			1.02	0.61
Uniform Delay, d1				61.8		65.5	60.2	17.2			33.2	0.0
Progression Factor				1.00		1.00	1.29	0.47			1.00	1.00
Incremental Delay, d2				8.7		69.5	50.9	0.8			24.9	1.7
Delay (s)				70.6		135.0	128.9	8.8			58.2	1.7
Level of Service				E		F	F	A			E	A
Approach Delay (s)		0.0			117.5			23.0			40.4	
Approach LOS		A			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

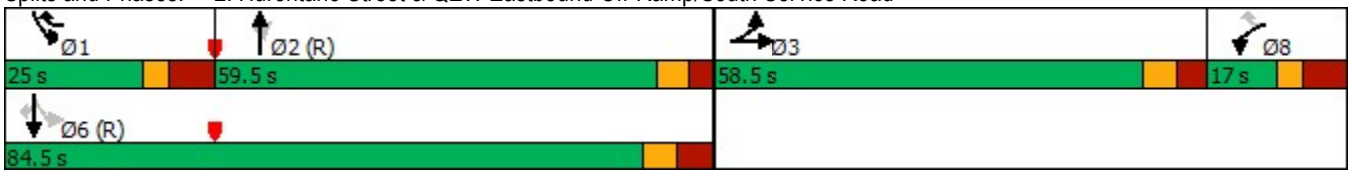
Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	945	178	272	107	385	1248	631	68	294	1518	0
Future Volume (vph)	945	178	272	107	385	1248	631	68	294	1518	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00			0.94				
Frt		0.909			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1658	0	1755	1585	3510	1604	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.067		
Satd. Flow (perm)	3437	1658	0	1747	1585	3510	1503	0	123	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		14					147				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	1038	196	299	118	423	1371	686	75	323	1668	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	1038	495	0	118	423	1371	761	0	323	1668	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	58.5	58.5		13.5	13.5	38.0	38.0		13.5	39.5	39.5
Total Split (s)	58.5	58.5		17.0	25.0	59.5	59.5		25.0	84.5	84.5
Total Split (%)	36.6%	36.6%		10.6%	15.6%	37.2%	37.2%		15.6%	52.8%	52.8%
Maximum Green (s)	51.0	51.0		8.5	16.5	52.5	52.5		16.5	76.0	76.0
Yellow Time (s)	4.0	4.0		3.0	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		5.5	5.5	3.0	3.0		5.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)	15.0	15.0				9.0	9.0			9.0	9.0
Flash Dont Walk (s)	36.0	36.0				22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)	0	0				0	0			0	0
Act Effct Green (s)	51.0	51.0		8.5	33.5	52.5	52.5		76.0	76.0	
Actuated g/C Ratio	0.32	0.32		0.05	0.21	0.33	0.33		0.48	0.48	
v/c Ratio	0.95	0.92		1.27	1.28	1.19	1.29		1.44	1.01	
Control Delay	70.2	74.3		237.8	195.1	140.8	176.6		242.3	76.8	
Queue Delay	0.0	0.0		0.0	0.0	0.7	0.0		0.0	34.1	
Total Delay	70.2	74.3		237.8	195.1	141.5	176.6		242.3	110.9	
LOS	E	E		F	F	F	F		F	F	
Approach Delay		71.5				154.0				132.2	
Approach LOS		E				F				F	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.44
Intersection Signal Delay: 131.0 Intersection LOS: F
Intersection Capacity Utilization 110.2% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1038	495	118	423	1371	761	323	1668
v/c Ratio	0.95	0.92	1.27	1.28	1.19	1.29	1.44	1.01
Control Delay	70.2	74.3	237.8	195.1	140.8	176.6	242.3	76.8
Queue Delay	0.0	0.0	0.0	0.0	0.7	0.0	0.0	34.1
Total Delay	70.2	74.3	237.8	195.1	141.5	176.6	242.3	110.9
Queue Length 50th (m)	166.6	148.9	~47.0	~169.4	~275.7	~274.5	~125.1	~277.1
Queue Length 95th (m)	#207.9	#216.7	#89.9	#236.6	#318.3	#352.5 m	#127.3 m	#271.2
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	1095	538	93	331	1151	591	224	1651
Starvation Cap Reductn	0	0	0	0	0	0	0	220
Spillback Cap Reductn	0	0	0	0	169	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.92	1.27	1.28	1.40	1.29	1.44	1.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	945	178	272	107	385	1248	631	68	294	1518	0
Future Volume (vph)	945	178	272	107	385	1248	631	68	294	1518	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1659		1755	1585	3510	1503		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.07	1.00	
Satd. Flow (perm)	3437	1659		1755	1585	3510	1503		123	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1038	196	299	118	423	1371	686	75	323	1668	0
RTOR Reduction (vph)	0	10	0	0	0	0	99	0	0	0	0
Lane Group Flow (vph)	1038	485	0	118	423	1371	662	0	323	1668	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Actuated Green, G (s)	51.0	51.0		8.5	25.0	52.5	52.5		76.0	76.0	
Effective Green, g (s)	51.0	51.0		8.5	25.0	52.5	52.5		76.0	76.0	
Actuated g/C Ratio	0.32	0.32		0.05	0.16	0.33	0.33		0.48	0.48	
Clearance Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1095	528		93	331	1151	493		224	1651	
v/s Ratio Prot	c0.30	0.29		0.07	c0.13	0.39			c0.15	0.48	
v/s Ratio Perm					0.14		0.44		c0.53		
v/c Ratio	0.95	0.92		1.27	1.28	1.19	1.34		1.44	1.01	
Uniform Delay, d1	53.2	52.5		75.8	67.5	53.8	53.8		52.5	42.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		1.10	1.57	
Incremental Delay, d2	16.1	21.1		181.8	146.4	94.8	167.6		205.0	13.5	
Delay (s)	69.3	73.6		257.5	213.9	148.6	221.4		262.5	79.6	
Level of Service	E	E		F	F	F	F		F	E	
Approach Delay (s)		70.7				174.6				109.3	
Approach LOS		E				F				F	

Intersection Summary			
HCM 2000 Control Delay	132.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	110.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	114	51	131	395	115	104
Future Volume (vph)	114	51	131	395	115	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.958				0.936	
Flt Protected				0.988	0.974	
Satd. Flow (prot)	1783	0	0	1847	1693	0
Flt Permitted				0.988	0.974	
Satd. Flow (perm)	1783	0	0	1847	1693	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	130	58	149	449	131	118
Shared Lane Traffic (%)						
Lane Group Flow (vph)	188	0	0	598	249	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

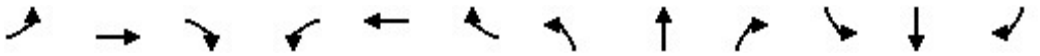
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	114	51	131	395	115	104
Future Volume (Veh/h)	114	51	131	395	115	104
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	130	58	149	449	131	118
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			193		911	164
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			193		911	164
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		51	86
cM capacity (veh/h)			1357		269	872

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	188	598	249
Volume Left	0	149	131
Volume Right	58	0	118
cSH	1700	1357	400
Volume to Capacity	0.11	0.11	0.62
Queue Length 95th (m)	0.0	2.8	31.0
Control Delay (s)	0.0	2.9	27.8
Lane LOS		A	D
Approach Delay (s)	0.0	2.9	27.8
Approach LOS			D

Intersection Summary			
Average Delay	8.3		
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	172	20	33	390	3	6	0	2	4	0	38
Future Volume (vph)	25	172	20	33	390	3	6	0	2	4	0	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.987			0.999			0.970			0.878	
Flt Protected		0.994			0.996			0.963			0.995	
Satd. Flow (prot)	0	1827	0	0	3558	0	0	1795	0	0	1678	0
Flt Permitted		0.994			0.996			0.963			0.995	
Satd. Flow (perm)	0	1827	0	0	3558	0	0	1795	0	0	1678	0
Link Speed (k/h)		50			50			48			48	
Link Distance (m)		86.0			62.6			50.6			46.8	
Travel Time (s)		6.2			4.5			3.8			3.5	
Confl. Peds. (#/hr)			102	102								
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	4%	0%	3%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	31	212	25	41	481	4	7	0	2	5	0	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	268	0	0	526	0	0	9	0	0	52	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			



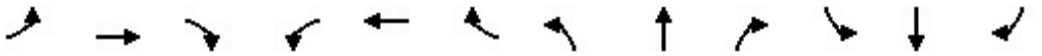
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	172	20	33	390	3	6	0	2	4	0	38
Future Volume (Veh/h)	25	172	20	33	390	3	6	0	2	4	0	38
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	31	212	25	41	481	4	7	0	2	5	0	47
Pedestrians								102				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.2				
Percent Blockage								9				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		86										
pX, platoon unblocked												
vC, conflicting volume	485			339			758	956	326	854	966	242
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	485			339			758	956	326	854	966	242
tC, single (s)	4.1			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			97	100	100	98	100	94
cM capacity (veh/h)	1088			1104			228	222	616	226	219	764

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	268	282	244	9	52
Volume Left	31	41	0	7	5
Volume Right	25	0	4	2	47
cSH	1088	1104	1700	265	622
Volume to Capacity	0.03	0.04	0.14	0.03	0.08
Queue Length 95th (m)	0.7	0.9	0.0	0.8	2.1
Control Delay (s)	1.2	1.5	0.0	19.1	11.3
Lane LOS	A	A		C	B
Approach Delay (s)	1.2	0.8		19.1	11.3
Approach LOS				C	B

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	38.5%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	114	56	42	425	1	0	0	0	0	0	0
Future Volume (vph)	3	114	56	42	425	1	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.956										
Flt Protected		0.999			0.996							
Satd. Flow (prot)	0	1811	0	0	1868	0	0	1921	0	0	1921	0
Flt Permitted		0.999			0.996							
Satd. Flow (perm)	0	1811	0	0	1868	0	0	1921	0	0	1921	0
Link Speed (k/h)		50			50			48			48	
Link Distance (m)		62.6			480.9			31.3			35.0	
Travel Time (s)		4.5			34.6			2.3			2.6	
Confl. Peds. (#/hr)	17		91	91		17	14		98	98		14
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles (%)	0%	2%	0%	7%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	4	154	76	57	574	1	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	234	0	0	632	0	0	0	0	0	0	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

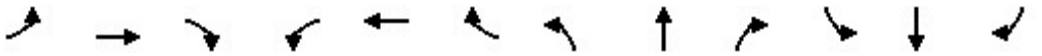
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.9%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	114	56	42	425	1	0	0	0	0	0	0
Future Volume (Veh/h)	3	114	56	42	425	1	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	4	154	76	57	574	1	0	0	0	0	0	0
Pedestrians		14			98			91			17	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		1			8			8			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		149										
pX, platoon unblocked												
vC, conflicting volume	592			321			994	997	381	1004	1034	606
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	592			321			994	997	381	1004	1034	606
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			100	100	100	100	100	100
cM capacity (veh/h)	979			1117			184	211	566	179	201	488

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	234	632	0	0
Volume Left	4	57	0	0
Volume Right	76	1	0	0
cSH	979	1117	1700	1700
Volume to Capacity	0.00	0.05	0.00	0.00
Queue Length 95th (m)	0.1	1.2	0.0	0.0
Control Delay (s)	0.2	1.3	0.0	0.0
Lane LOS	A	A	A	A
Approach Delay (s)	0.2	1.3	0.0	0.0
Approach LOS			A	A

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	60.9%	ICU Level of Service	B	
Analysis Period (min)	15			

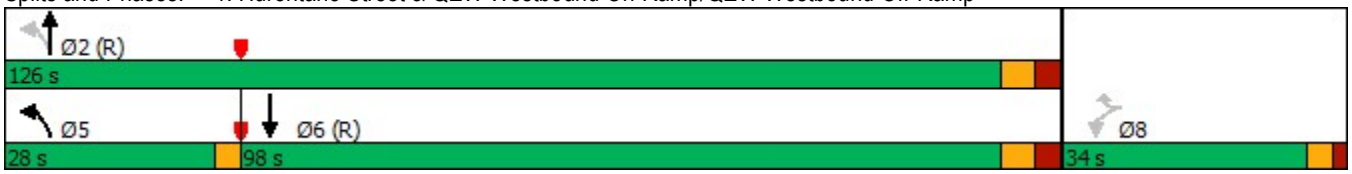


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	306	0	547	350	1958	0	0	1959	1142
Future Volume (vph)	0	0	0	306	0	547	350	1958	0	0	1959	1142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	3510	1585
Flt Permitted				0.950			0.043					
Satd. Flow (perm)	0	0	0	1690	0	2818	82	3544	0	0	3510	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						156
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	329	0	588	376	2105	0	0	2106	1228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	329	0	588	376	2105	0	0	2106	1228
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				34.0		34.0	28.0	126.0			98.0	
Total Split (%)				21.3%		21.3%	17.5%	78.8%			61.3%	
Maximum Green (s)				29.0		29.0	25.0	118.5			90.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				29.0		29.0	123.0	118.5			90.5	160.0
Actuated g/C Ratio				0.18		0.18	0.77	0.74			0.57	1.00
v/c Ratio				1.08		1.07	1.13	0.80			1.06	0.77
Control Delay				132.4		111.9	136.8	16.4			72.6	3.8
Queue Delay				0.0		0.0	0.0	8.1			0.0	0.0
Total Delay				132.4		111.9	136.8	24.4			72.6	3.8
LOS				F		F	F	C			E	A
Approach Delay					119.3			41.5			47.2	
Approach LOS					F			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 152 (95%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 54.9		Intersection LOS: D	
Intersection Capacity Utilization 103.4%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp

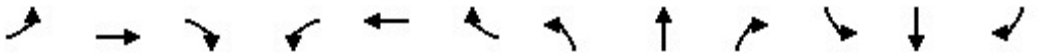


Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	329	588	376	2105	2106	1228
v/c Ratio	1.08	1.07	1.13	0.80	1.06	0.77
Control Delay	132.4	111.9	136.8	16.4	72.6	3.8
Queue Delay	0.0	0.0	0.0	8.1	0.0	0.0
Total Delay	132.4	111.9	136.8	24.4	72.6	3.8
Queue Length 50th (m)	~115.9	~108.8	~121.6	204.7	~386.1	0.0
Queue Length 95th (m)	#178.5	#150.9	#187.0	233.8	#424.8	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	306	552	332	2624	1985	1585
Starvation Cap Reductn	0	0	0	501	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.08	1.07	1.13	0.99	1.06	0.77

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	306	0	547	350	1958	0	0	1959	1142
Future Volume (vph)	0	0	0	306	0	547	350	1958	0	0	1959	1142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			3510	1585
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	81	3544			3510	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	329	0	588	376	2105	0	0	2106	1228
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	329	0	546	376	2105	0	0	2106	1228
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				29.0		29.0	118.5	118.5			90.5	160.0
Effective Green, g (s)				29.0		29.0	118.5	118.5			90.5	160.0
Actuated g/C Ratio				0.18		0.18	0.74	0.74			0.57	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				306		510	329	2624			1985	1585
v/s Ratio Prot							c0.18	0.59			0.60	
v/s Ratio Perm				c0.19		0.19	c0.66					0.77
v/c Ratio				1.08		1.07	1.14	0.80			1.06	0.77
Uniform Delay, d1				65.5		65.5	59.4	13.3			34.8	0.0
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				72.9		60.2	94.2	2.7			38.6	3.8
Delay (s)				138.4		125.7	153.5	16.0			73.4	3.8
Level of Service				F		F	F	B			E	A
Approach Delay (s)		0.0			130.3			36.8			47.7	
Approach LOS		A			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	55.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

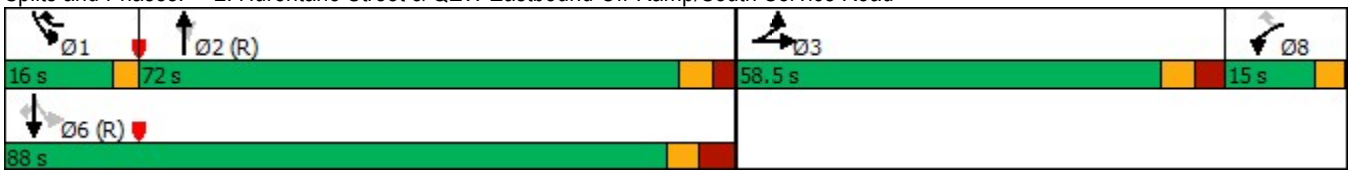
Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	607	149	244	131	274	1433	121	69	129	1292	0
Future Volume (vph)	607	149	244	131	274	1433	121	69	129	1292	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00			0.94				
Frt		0.907			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1653	0	1755	1585	3510	1612	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.060		
Satd. Flow (perm)	3437	1653	0	1747	1585	3510	1510	0	110	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		27					78				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	667	164	268	144	301	1575	132	76	142	1420	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	667	432	0	144	301	1575	208	0	142	1420	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	58.5	58.5		9.0	11.5	38.0	38.0		11.5	39.5	39.5
Total Split (s)	58.5	58.5		15.0	16.0	72.0	72.0		16.0	88.0	88.0
Total Split (%)	36.2%	36.2%		9.3%	9.9%	44.6%	44.6%		9.9%	54.5%	54.5%
Maximum Green (s)	51.0	51.0		11.0	13.0	65.0	65.0		13.0	79.5	79.5
Yellow Time (s)	4.0	4.0		3.5	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		0.5	0.0	3.0	3.0		0.0	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)	15.0	15.0				9.0	9.0			9.0	9.0
Flash Dont Walk (s)	36.0	36.0				22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)	0	0				0	0			0	0
Act Effct Green (s)	46.3	46.3		15.7	32.7	65.0	65.0		85.0	79.5	
Actuated g/C Ratio	0.29	0.29		0.10	0.20	0.40	0.40		0.53	0.49	
v/c Ratio	0.68	0.88		0.85	0.94	1.12	0.32		0.76	0.83	
Control Delay	54.3	70.2		107.0	99.2	106.4	21.5		58.9	40.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	5.4	
Total Delay	54.3	70.2		107.0	99.2	106.4	21.5		58.9	45.9	
LOS	D	E		F	F	F	C		E	D	
Approach Delay		60.5				96.5				47.1	
Approach LOS		E				F				D	

Intersection Summary

Area Type: Other
Cycle Length: 161.5
Actuated Cycle Length: 161.5
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 73.1 Intersection LOS: E
Intersection Capacity Utilization 101.1% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	667	432	144	301	1575	208	142	1420
v/c Ratio	0.68	0.88	0.85	0.94	1.12	0.32	0.76	0.83
Control Delay	54.3	70.2	107.0	99.2	106.4	21.5	58.9	40.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4
Total Delay	54.3	70.2	107.0	99.2	106.4	21.5	58.9	45.9
Queue Length 50th (m)	95.5	122.4	~50.3	~103.6	~304.1	27.7	28.3	202.8
Queue Length 95th (m)	114.9	164.8	#101.9	#169.4	#346.1	48.4	#61.7	234.1
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	1085	540	170	320	1412	654	188	1711
Starvation Cap Reductn	0	0	0	0	0	0	0	238
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.80	0.85	0.94	1.12	0.32	0.76	0.96

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	607	149	244	131	274	1433	121	69	129	1292	0
Future Volume (vph)	607	149	244	131	274	1433	121	69	129	1292	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1653		1755	1585	3510	1510		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.06	1.00	
Satd. Flow (perm)	3437	1653		1755	1585	3510	1510		110	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	667	164	268	144	301	1575	132	76	142	1420	0
RTOR Reduction (vph)	0	19	0	0	0	0	47	0	0	0	0
Lane Group Flow (vph)	667	413	0	144	301	1575	161	0	142	1420	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Actuated Green, G (s)	46.3	46.3		15.7	28.7	65.0	65.0		79.5	79.5	
Effective Green, g (s)	46.3	46.3		15.7	28.7	65.0	65.0		79.5	79.5	
Actuated g/C Ratio	0.29	0.29		0.10	0.18	0.40	0.40		0.49	0.49	
Clearance Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	985	473		170	281	1412	607		185	1711	
v/s Ratio Prot	0.19	c0.25		0.08	c0.09	c0.45			0.06	0.41	
v/s Ratio Perm					0.10		0.11		0.32		
v/c Ratio	0.68	0.87		0.85	1.07	1.12	0.27		0.77	0.83	
Uniform Delay, d1	51.0	54.8		71.7	66.4	48.2	32.3		44.1	35.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	16.1		30.3	73.8	62.2	1.1		17.2	4.8	
Delay (s)	52.8	70.9		102.0	140.2	110.5	33.4		61.3	40.0	
Level of Service	D	E		F	F	F	C		E	D	
Approach Delay (s)		59.9				101.5				42.0	
Approach LOS		E				F				D	

Intersection Summary			
HCM 2000 Control Delay	75.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	161.5	Sum of lost time (s)	21.5
Intersection Capacity Utilization	101.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	201	55	47	158	36	27
Future Volume (vph)	201	55	47	158	36	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.971				0.942	
Flt Protected				0.989	0.972	
Satd. Flow (prot)	1813	0	0	1850	1701	0
Flt Permitted				0.989	0.972	
Satd. Flow (perm)	1813	0	0	1850	1701	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	228	63	53	180	41	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	291	0	0	233	72	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

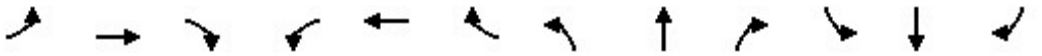
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	201	55	47	158	36	27
Future Volume (Veh/h)	201	55	47	158	36	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	228	63	53	180	41	31
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			296		550	264
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			296		550	264
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		91	96
cM capacity (veh/h)			1243		471	766

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	291	233	72
Volume Left	0	53	41
Volume Right	63	0	31
cSH	1700	1243	565
Volume to Capacity	0.17	0.04	0.13
Queue Length 95th (m)	0.0	1.0	3.3
Control Delay (s)	0.0	2.1	12.3
Lane LOS		A	B
Approach Delay (s)	0.0	2.1	12.3
Approach LOS			B

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	225	3	4	187	3	11	0	3	5	0	41
Future Volume (vph)	35	225	3	4	187	3	11	0	3	5	0	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.998			0.997			0.970			0.879	
Flt Protected		0.993			0.999			0.963			0.995	
Satd. Flow (prot)	0	1841	0	0	3565	0	0	1795	0	0	1680	0
Flt Permitted		0.993			0.999			0.963			0.995	
Satd. Flow (perm)	0	1841	0	0	3565	0	0	1795	0	0	1680	0
Link Speed (k/h)		50			50			48			48	
Link Distance (m)		86.0			62.6			50.6			46.8	
Travel Time (s)		6.2			4.5			3.8			3.5	
Confl. Peds. (#/hr)			102	102								
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	4%	0%	3%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	43	278	4	5	231	4	14	0	4	6	0	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	325	0	0	240	0	0	18	0	0	57	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

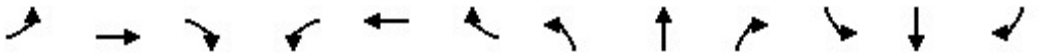
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	225	3	4	187	3	11	0	3	5	0	41
Future Volume (Veh/h)	35	225	3	4	187	3	11	0	3	5	0	41
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	43	278	4	5	231	4	14	0	4	6	0	51
Pedestrians								102				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.2				
Percent Blockage								9				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		86										
pX, platoon unblocked				0.96			0.96	0.96	0.96	0.96	0.96	
vC, conflicting volume	235			384			644	713	382	613	713	118
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	235			342			613	684	340	580	684	118
tC, single (s)	4.1			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			95	100	99	98	100	94
cM capacity (veh/h)	1344			1061			287	317	582	349	317	919

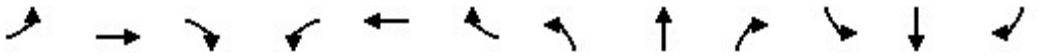
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	325	120	120	18	57
Volume Left	43	5	0	14	6
Volume Right	4	0	4	4	51
cSH	1344	1061	1700	324	784
Volume to Capacity	0.03	0.00	0.07	0.06	0.07
Queue Length 95th (m)	0.8	0.1	0.0	1.3	1.8
Control Delay (s)	1.3	0.4	0.0	16.8	10.0
Lane LOS	A	A		C	A
Approach Delay (s)	1.3	0.2		16.8	10.0
Approach LOS				C	A

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	33.1%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	227	1	1	190	1	1	0	0	0	0	0
Future Volume (vph)	3	227	1	1	190	1	1	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.999							
Flt Protected		0.999						0.950				
Satd. Flow (prot)	0	1882	0	0	1881	0	0	1825	0	0	1921	0
Flt Permitted		0.999						0.950				
Satd. Flow (perm)	0	1882	0	0	1881	0	0	1825	0	0	1921	0
Link Speed (k/h)		50			50			48			48	
Link Distance (m)		62.6			480.9			31.3			35.0	
Travel Time (s)		4.5			34.6			2.3			2.6	
Confl. Peds. (#/hr)	17		91	91		17	14		98	98		14
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles (%)	0%	2%	0%	7%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	4	307	1	1	257	1	1	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	312	0	0	259	0	0	1	0	0	0	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

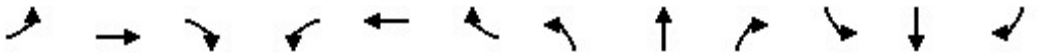
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	227	1	1	190	1	1	0	0	0	0	0
Future Volume (Veh/h)	3	227	1	1	190	1	1	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	4	307	1	1	257	1	1	0	0	0	0	0
Pedestrians		14			98			91			17	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		1			8			8			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		149										
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99	
vC, conflicting volume	275			399			680	684	496	690	684	288
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	275			384			669	672	483	679	672	288
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1281			1044			312	339	490	304	339	735

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	312	259	1	0
Volume Left	4	1	1	0
Volume Right	1	1	0	0
cSH	1281	1044	312	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.1	0.0	0.1	0.0
Control Delay (s)	0.1	0.0	16.6	0.0
Lane LOS	A	A	C	A
Approach Delay (s)	0.1	0.0	16.6	0.0
Approach LOS			C	A

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	33.7%	ICU Level of Service	A	
Analysis Period (min)	15			

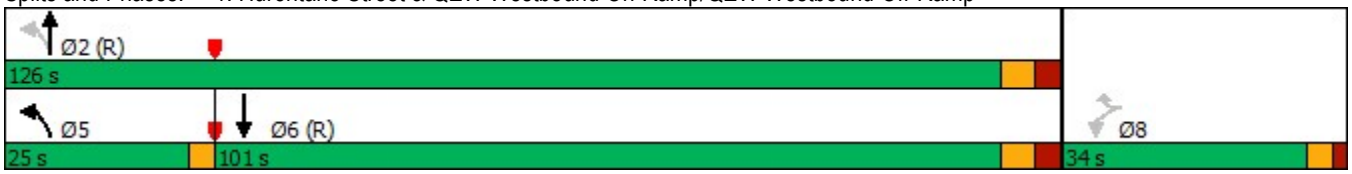


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	213	0	591	304	2346	0	0	2016	929
Future Volume (vph)	0	0	0	213	0	591	304	2346	0	0	2016	929
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	3510	1585
Flt Permitted				0.950			0.041					
Satd. Flow (perm)	0	0	0	1690	0	2818	78	3544	0	0	3510	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						123
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	229	0	635	327	2523	0	0	2168	999
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	229	0	635	327	2523	0	0	2168	999
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				34.0		34.0	25.0	126.0			101.0	
Total Split (%)				21.3%		21.3%	15.6%	78.8%			63.1%	
Maximum Green (s)				29.0		29.0	22.0	118.5			93.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				29.0		29.0	123.0	118.5			93.5	160.0
Actuated g/C Ratio				0.18		0.18	0.77	0.74			0.58	1.00
v/c Ratio				0.75		1.15	1.10	0.96			1.06	0.63
Control Delay				78.0		138.4	108.7	12.7			69.6	1.9
Queue Delay				71.9		0.0	0.0	43.3			9.8	0.0
Total Delay				149.9		138.4	108.7	56.1			79.4	1.9
LOS				F		F	F	E			E	A
Approach Delay					141.5			62.1			54.9	
Approach LOS					F			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 25 (16%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 68.8		Intersection LOS: E	
Intersection Capacity Utilization 97.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp



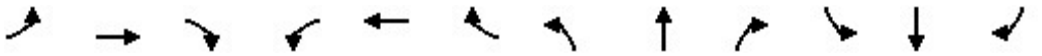
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	229	635	327	2523	2168	999
v/c Ratio	0.75	1.15	1.10	0.96	1.06	0.63
Control Delay	78.0	138.4	108.7	12.7	69.6	1.9
Queue Delay	71.9	0.0	0.0	43.3	9.8	0.0
Total Delay	149.9	138.4	108.7	56.1	79.4	1.9
Queue Length 50th (m)	69.9	~126.7	~100.6	175.3	~396.1	0.0
Queue Length 95th (m)	#104.7	#169.8	m77.1	m79.2	#434.3	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	306	552	297	2624	2051	1585
Starvation Cap Reductn	0	0	0	349	0	0
Spillback Cap Reductn	197	0	0	0	45	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.10	1.15	1.10	1.11	1.08	0.63

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	213	0	591	304	2346	0	0	2016	929
Future Volume (vph)	0	0	0	213	0	591	304	2346	0	0	2016	929
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			3510	1585
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	79	3544			3510	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	229	0	635	327	2523	0	0	2168	999
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	229	0	593	327	2523	0	0	2168	999
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				29.0		29.0	118.5	118.5			93.5	160.0
Effective Green, g (s)				29.0		29.0	118.5	118.5			93.5	160.0
Actuated g/C Ratio				0.18		0.18	0.74	0.74			0.58	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				306		510	296	2624			2051	1585
v/s Ratio Prot							c0.15	0.71			0.62	
v/s Ratio Perm				0.14		c0.21	c0.67					0.63
v/c Ratio				0.75		1.16	1.10	0.96			1.06	0.63
Uniform Delay, d1				62.0		65.5	60.2	18.7			33.2	0.0
Progression Factor				1.00		1.00	1.26	0.57			1.00	1.00
Incremental Delay, d2				9.6		93.3	52.3	1.4			37.0	1.9
Delay (s)				71.7		158.8	128.5	12.0			70.2	1.9
Level of Service				E		F	F	B			E	A
Approach Delay (s)		0.0			135.7			25.4			48.7	
Approach LOS		A			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	49.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		

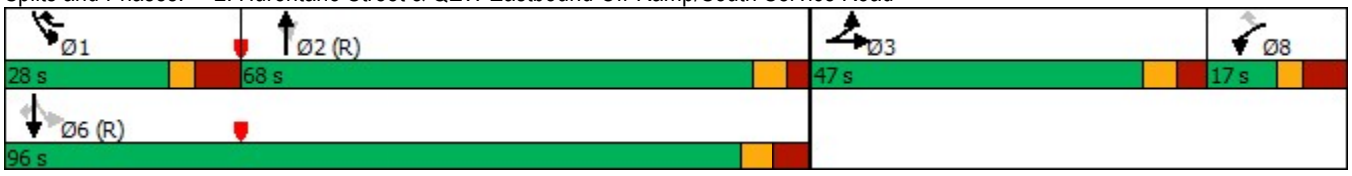
c Critical Lane Group

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	997	179	287	99	356	1298	657	64	292	1579	0
Future Volume (vph)	997	179	287	99	356	1298	657	64	292	1579	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		0.98			0.94				
Frt		0.908			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1653	0	1755	1585	3510	1604	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.059		
Satd. Flow (perm)	3437	1653	0	1711	1585	3510	1503	0	108	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		20					147				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	1096	197	315	109	391	1426	714	70	321	1735	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	1096	512	0	109	391	1426	784	0	321	1735	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases				8	8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	14.5	14.5		13.5	13.5	38.0	38.0		13.5	39.5	39.5
Total Split (s)	47.0	47.0		17.0	28.0	68.0	68.0		28.0	96.0	96.0
Total Split (%)	29.4%	29.4%		10.6%	17.5%	42.5%	42.5%		17.5%	60.0%	60.0%
Maximum Green (s)	39.5	39.5		8.5	19.5	61.0	61.0		19.5	87.5	87.5
Yellow Time (s)	4.0	4.0		3.0	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		5.5	5.5	3.0	3.0		5.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)						9.0	9.0			9.0	9.0
Flash Dont Walk (s)						22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)						0	0			0	0
Act Effct Green (s)	39.5	39.5		8.5	36.5	61.0	61.0		87.5	87.5	
Actuated g/C Ratio	0.25	0.25		0.05	0.23	0.38	0.38		0.55	0.55	
v/c Ratio	1.29	1.21		1.17	1.08	1.07	1.18		1.25	0.91	
Control Delay	186.9	162.4		207.9	127.5	90.9	132.2		154.5	52.5	
Queue Delay	0.0	0.0		0.0	0.0	14.4	0.0		0.0	45.7	
Total Delay	186.9	162.4		207.9	127.5	105.3	132.2		154.5	98.2	
LOS	F	F		F	F	F	F		F	F	
Approach Delay		179.1				114.8				107.0	
Approach LOS		F				F				F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.29			
Intersection Signal Delay: 130.9		Intersection LOS: F	
Intersection Capacity Utilization 108.5%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1096	512	109	391	1426	784	321	1735
v/c Ratio	1.29	1.21	1.17	1.08	1.07	1.18	1.25	0.91
Control Delay	186.9	162.4	207.9	127.5	90.9	132.2	154.5	52.5
Queue Delay	0.0	0.0	0.0	0.0	14.4	0.0	0.0	45.7
Total Delay	186.9	162.4	207.9	127.5	105.3	132.2	154.5	98.2
Queue Length 50th (m)	~228.1	~193.6	~41.1	~138.5	~262.4	~268.1	~112.4	259.5
Queue Length 95th (m)	#269.9	#265.7	#82.0	#204.4	#305.1	#346.8	m#109.0	m248.4
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	848	423	93	361	1338	663	257	1900
Starvation Cap Reductn	0	0	0	0	0	0	0	334
Spillback Cap Reductn	0	0	0	0	128	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.29	1.21	1.17	1.08	1.18	1.18	1.25	1.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	997	179	287	99	356	1298	657	64	292	1579	0
Future Volume (vph)	997	179	287	99	356	1298	657	64	292	1579	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1652		1755	1585	3510	1503		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.06	1.00	
Satd. Flow (perm)	3437	1652		1755	1585	3510	1503		108	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1096	197	315	109	391	1426	714	70	321	1735	0
RTOR Reduction (vph)	0	15	0	0	0	0	91	0	0	0	0
Lane Group Flow (vph)	1096	497	0	109	391	1426	693	0	321	1735	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases				8	8		2		6		6
Actuated Green, G (s)	39.5	39.5		8.5	28.0	61.0	61.0		87.5	87.5	
Effective Green, g (s)	39.5	39.5		8.5	28.0	61.0	61.0		87.5	87.5	
Actuated g/C Ratio	0.25	0.25		0.05	0.18	0.38	0.38		0.55	0.55	
Clearance Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	848	407		93	361	1338	573		257	1900	
v/s Ratio Prot	c0.32	0.30		0.06	c0.13	0.41			c0.15	0.50	
v/s Ratio Perm					0.11		0.46		c0.53		
v/c Ratio	1.29	1.22		1.17	1.08	1.07	1.21		1.25	0.91	
Uniform Delay, d1	60.2	60.2		75.8	66.0	49.5	49.5		55.2	32.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		0.95	1.57	
Incremental Delay, d2	140.4	119.7		146.9	71.4	44.2	109.8		115.1	0.9	
Delay (s)	200.6	180.0		222.7	137.4	93.7	159.3		167.7	52.3	
Level of Service	F	F		F	F	F	F		F	D	
Approach Delay (s)		194.1				117.0				70.3	
Approach LOS		F				F				E	

Intersection Summary			
HCM 2000 Control Delay	124.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	108.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

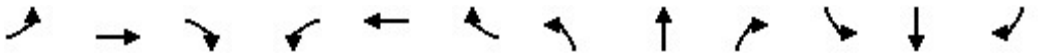
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	112	49	131	393	116	107
Future Volume (vph)	112	49	131	393	116	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.959				0.935	
Flt Protected				0.988	0.975	
Satd. Flow (prot)	1785	0	0	1847	1692	0
Flt Permitted				0.988	0.975	
Satd. Flow (perm)	1785	0	0	1847	1692	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	127	56	149	447	132	122
Shared Lane Traffic (%)						
Lane Group Flow (vph)	183	0	0	596	254	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.6%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	112	49	131	393	116	107
Future Volume (Veh/h)	112	49	131	393	116	107
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	127	56	149	447	132	122
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			188		905	160
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			188		905	160
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		51	86
cM capacity (veh/h)			1362		271	876

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	183	596	254
Volume Left	0	149	132
Volume Right	56	0	122
cSH	1700	1362	406
Volume to Capacity	0.11	0.11	0.63
Queue Length 95th (m)	0.0	2.8	31.4
Control Delay (s)	0.0	2.9	27.6
Lane LOS		A	D
Approach Delay (s)	0.0	2.9	27.6
Approach LOS			D

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

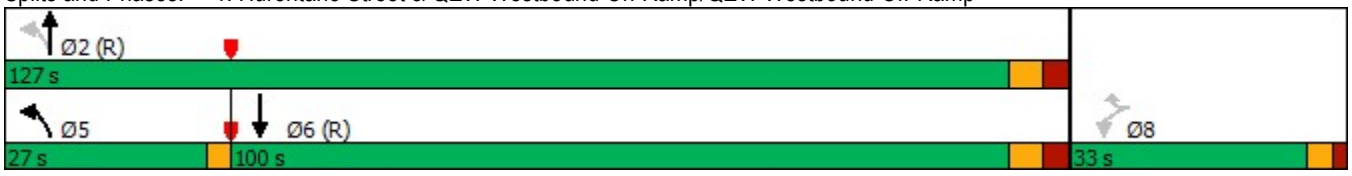


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	312	0	577	357	2055	0	0	2061	1153
Future Volume (vph)	0	0	0	312	0	577	357	2055	0	0	2061	1153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	3510	1585
Flt Permitted				0.950			0.042					
Satd. Flow (perm)	0	0	0	1690	0	2818	80	3544	0	0	3510	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						150
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	335	0	620	384	2210	0	0	2216	1240
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	335	0	620	384	2210	0	0	2216	1240
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				33.0		33.0	27.0	127.0			100.0	
Total Split (%)				20.6%		20.6%	16.9%	79.4%			62.5%	
Maximum Green (s)				28.0		28.0	24.0	119.5			92.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				28.0		28.0	124.0	119.5			92.5	160.0
Actuated g/C Ratio				0.18		0.18	0.78	0.75			0.58	1.00
v/c Ratio				1.14		1.16	1.20	0.84			1.09	0.78
Control Delay				150.9		142.0	159.3	17.4			83.0	3.9
Queue Delay				0.0		0.0	0.0	13.6			0.0	0.0
Total Delay				150.9		142.0	159.3	31.0			83.0	3.9
LOS				F		F	F	C			F	A
Approach Delay					145.1			50.0			54.6	
Approach LOS					F			D			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 152 (95%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 65.2	Intersection LOS: E
Intersection Capacity Utilization 107.0%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp

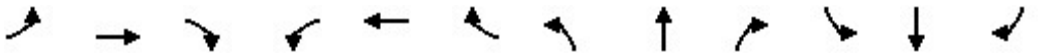


Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	335	620	384	2210	2216	1240
v/c Ratio	1.14	1.16	1.20	0.84	1.09	0.78
Control Delay	150.9	142.0	159.3	17.4	83.0	3.9
Queue Delay	0.0	0.0	0.0	13.6	0.0	0.0
Total Delay	150.9	142.0	159.3	31.0	83.0	3.9
Queue Length 50th (m)	~123.3	~124.2	~130.9	225.0	~416.6	0.0
Queue Length 95th (m)	#185.9	#167.1	#196.9	257.5	#454.4	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	295	535	321	2646	2029	1585
Starvation Cap Reductn	0	0	0	469	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.14	1.16	1.20	1.02	1.09	0.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	312	0	577	357	2055	0	0	2061	1153
Future Volume (vph)	0	0	0	312	0	577	357	2055	0	0	2061	1153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			3510	1585
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	80	3544			3510	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	335	0	620	384	2210	0	0	2216	1240
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	335	0	578	384	2210	0	0	2216	1240
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				28.0		28.0	119.5	119.5			92.5	160.0
Effective Green, g (s)				28.0		28.0	119.5	119.5			92.5	160.0
Actuated g/C Ratio				0.18		0.18	0.75	0.75			0.58	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				295		493	318	2646			2029	1585
v/s Ratio Prot							c0.18	0.62			0.63	
v/s Ratio Perm				0.20		c0.21	c0.72					0.78
v/c Ratio				1.14		1.17	1.21	0.84			1.09	0.78
Uniform Delay, d1				66.0		66.0	59.8	13.6			33.8	0.0
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				94.1		97.3	119.2	3.3			50.2	3.9
Delay (s)				160.1		163.3	179.0	16.9			83.9	3.9
Level of Service				F		F	F	B			F	A
Approach Delay (s)		0.0			162.2			40.9			55.2	
Approach LOS		A			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	64.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	107.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

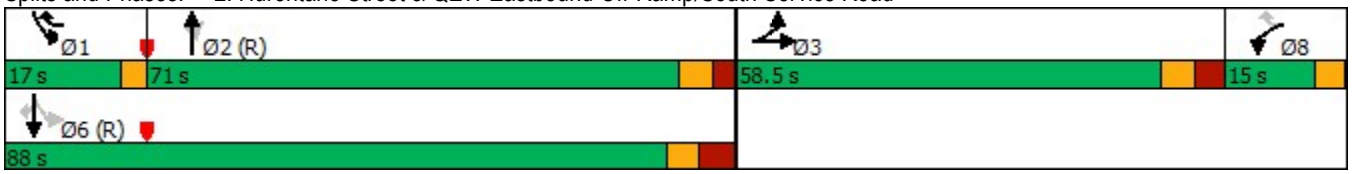
Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	641	146	258	125	263	1508	133	64	116	1364	0
Future Volume (vph)	641	146	258	125	263	1508	133	64	116	1364	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00			0.94				
Frt		0.904			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1645	0	1755	1585	3510	1611	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.061		
Satd. Flow (perm)	3437	1645	0	1747	1585	3510	1509	0	112	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		24					78				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	704	160	284	137	289	1657	145	70	127	1499	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	704	444	0	137	289	1657	215	0	127	1499	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	58.5	58.5		9.0	11.5	38.0	38.0		11.5	39.5	39.5
Total Split (s)	58.5	58.5		15.0	17.0	71.0	71.0		17.0	88.0	88.0
Total Split (%)	36.2%	36.2%		9.3%	10.5%	44.0%	44.0%		10.5%	54.5%	54.5%
Maximum Green (s)	51.0	51.0		11.0	14.0	64.0	64.0		14.0	79.5	79.5
Yellow Time (s)	4.0	4.0		3.5	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		0.5	0.0	3.0	3.0		0.0	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)	15.0	15.0				9.0	9.0			9.0	9.0
Flash Dont Walk (s)	36.0	36.0				22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)	0	0				0	0			0	0
Act Effct Green (s)	47.5	47.5		14.5	32.5	64.0	64.0		85.0	79.5	
Actuated g/C Ratio	0.29	0.29		0.09	0.20	0.40	0.40		0.53	0.49	
v/c Ratio	0.70	0.89		0.87	0.91	1.19	0.33		0.64	0.88	
Control Delay	54.3	71.2		114.4	94.2	136.2	22.6		46.3	43.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	13.2	
Total Delay	54.3	71.2		114.4	94.2	136.2	22.6		46.3	56.9	
LOS	D	E		F	F	F	C		D	E	
Approach Delay		60.8				123.2				56.1	
Approach LOS		E				F				E	

Intersection Summary

Area Type: Other
Cycle Length: 161.5
Actuated Cycle Length: 161.5
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.19
Intersection Signal Delay: 85.7 Intersection LOS: F
Intersection Capacity Utilization 102.7% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	704	444	137	289	1657	215	127	1499
v/c Ratio	0.70	0.89	0.87	0.91	1.19	0.33	0.64	0.88
Control Delay	54.3	71.2	114.4	94.2	136.2	22.6	46.3	43.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2
Total Delay	54.3	71.2	114.4	94.2	136.2	22.6	46.3	56.9
Queue Length 50th (m)	100.7	126.5	~51.4	~97.6	~336.6	29.7	22.8	222.6
Queue Length 95th (m)	122.2	#180.1	#96.6	#157.5	#378.3	51.2	46.3	256.2
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	1085	535	157	318	1390	645	199	1711
Starvation Cap Reductn	0	0	0	0	0	0	0	227
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.83	0.87	0.91	1.19	0.33	0.64	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	641	146	258	125	263	1508	133	64	116	1364	0
Future Volume (vph)	641	146	258	125	263	1508	133	64	116	1364	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1645		1755	1585	3510	1509		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.06	1.00	
Satd. Flow (perm)	3437	1645		1755	1585	3510	1509		112	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	704	160	284	137	289	1657	145	70	127	1499	0
RTOR Reduction (vph)	0	17	0	0	0	0	47	0	0	0	0
Lane Group Flow (vph)	704	427	0	137	289	1657	168	0	127	1499	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Actuated Green, G (s)	47.5	47.5		14.5	28.5	64.0	64.0		79.5	79.5	
Effective Green, g (s)	47.5	47.5		14.5	28.5	64.0	64.0		79.5	79.5	
Actuated g/C Ratio	0.29	0.29		0.09	0.18	0.40	0.40		0.49	0.49	
Clearance Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1010	483		157	279	1390	597		196	1711	
v/s Ratio Prot	0.20	c0.26		0.08	c0.09	c0.47			0.06	0.43	
v/s Ratio Perm					0.09		0.11		0.26		
v/c Ratio	0.70	0.88		0.87	1.04	1.19	0.28		0.65	0.88	
Uniform Delay, d1	50.6	54.4		72.6	66.5	48.8	33.1		39.4	36.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	17.3		37.6	63.5	93.8	1.2		7.2	6.6	
Delay (s)	52.7	71.6		110.2	130.0	142.6	34.3		46.5	43.2	
Level of Service	D	E		F	F	F	C		D	D	
Approach Delay (s)		60.0				130.2				43.5	
Approach LOS		E				F				D	

Intersection Summary			
HCM 2000 Control Delay	86.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	161.5	Sum of lost time (s)	21.5
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

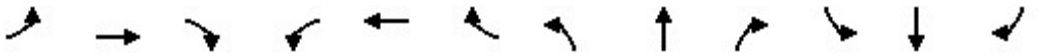
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	214	57	50	167	35	28
Future Volume (vph)	214	57	50	167	35	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.972				0.940	
Flt Protected				0.989	0.973	
Satd. Flow (prot)	1816	0	0	1850	1699	0
Flt Permitted				0.989	0.973	
Satd. Flow (perm)	1816	0	0	1850	1699	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	243	65	57	190	40	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	308	0	0	247	72	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	214	57	50	167	35	28
Future Volume (Veh/h)	214	57	50	167	35	28
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	243	65	57	190	40	32
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			313		584	280
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			313		584	280
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		91	96
cM capacity (veh/h)			1225		448	750

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	308	247	72
Volume Left	0	57	40
Volume Right	65	0	32
cSH	1700	1225	546
Volume to Capacity	0.18	0.05	0.13
Queue Length 95th (m)	0.0	1.1	3.4
Control Delay (s)	0.0	2.2	12.6
Lane LOS		A	B
Approach Delay (s)	0.0	2.2	12.6
Approach LOS			B

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

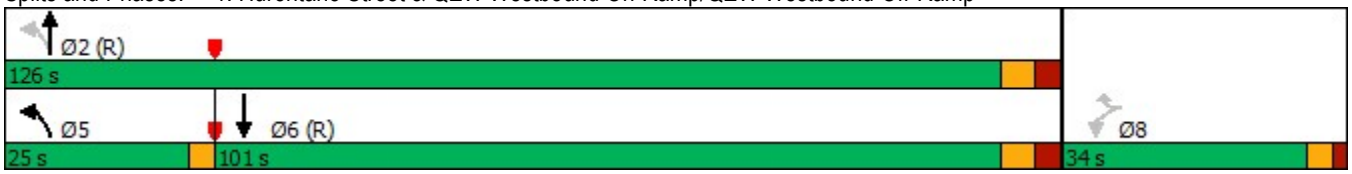


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	219	0	591	315	2354	0	0	2024	929
Future Volume (vph)	0	0	0	219	0	591	315	2354	0	0	2024	929
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	3510	1585
Flt Permitted				0.950			0.041					
Satd. Flow (perm)	0	0	0	1690	0	2818	78	3544	0	0	3510	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						123
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	235	0	635	339	2531	0	0	2176	999
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	235	0	635	339	2531	0	0	2176	999
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				34.0		34.0	25.0	126.0			101.0	
Total Split (%)				21.3%		21.3%	15.6%	78.8%			63.1%	
Maximum Green (s)				29.0		29.0	22.0	118.5			93.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				29.0		29.0	123.0	118.5			93.5	160.0
Actuated g/C Ratio				0.18		0.18	0.77	0.74			0.58	1.00
v/c Ratio				0.77		1.15	1.14	0.96			1.06	0.63
Control Delay				79.5		138.4	123.5	13.2			71.0	1.9
Queue Delay				70.9		0.0	0.0	43.1			9.7	0.0
Total Delay				150.4		138.4	123.5	56.3			80.6	1.9
LOS				F		F	F	E			F	A
Approach Delay					141.7			64.2			55.9	
Approach LOS					F			E			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 25 (16%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 70.1		Intersection LOS: E	
Intersection Capacity Utilization 98.4%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp



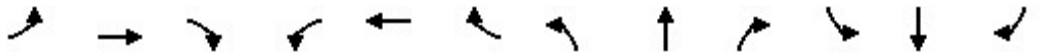
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	235	635	339	2531	2176	999
v/c Ratio	0.77	1.15	1.14	0.96	1.06	0.63
Control Delay	79.5	138.4	123.5	13.2	71.0	1.9
Queue Delay	70.9	0.0	0.0	43.1	9.7	0.0
Total Delay	150.4	138.4	123.5	56.3	80.6	1.9
Queue Length 50th (m)	72.0	~126.7	~108.4	203.2	~398.9	0.0
Queue Length 95th (m)	#109.9	#169.8	m79.1	m78.3	#437.1	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	306	552	297	2624	2051	1585
Starvation Cap Reductn	0	0	0	357	0	0
Spillback Cap Reductn	195	0	0	0	44	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.12	1.15	1.14	1.12	1.08	0.63

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	219	0	591	315	2354	0	0	2024	929
Future Volume (vph)	0	0	0	219	0	591	315	2354	0	0	2024	929
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			3510	1585
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	79	3544			3510	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	235	0	635	339	2531	0	0	2176	999
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	235	0	593	339	2531	0	0	2176	999
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				29.0		29.0	118.5	118.5			93.5	160.0
Effective Green, g (s)				29.0		29.0	118.5	118.5			93.5	160.0
Actuated g/C Ratio				0.18		0.18	0.74	0.74			0.58	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				306		510	296	2624			2051	1585
v/s Ratio Prot							c0.16	0.71			0.62	
v/s Ratio Perm				0.14		c0.21	c0.69					0.63
v/c Ratio				0.77		1.16	1.15	0.96			1.06	0.63
Uniform Delay, d1				62.3		65.5	60.2	18.8			33.2	0.0
Progression Factor				1.00		1.00	1.25	0.58			1.00	1.00
Incremental Delay, d2				11.0		93.3	69.4	1.5			38.4	1.9
Delay (s)				73.3		158.8	144.9	12.5			71.6	1.9
Level of Service				E		F	F	B			E	A
Approach Delay (s)		0.0			135.7			28.1			49.7	
Approach LOS		A			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	51.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

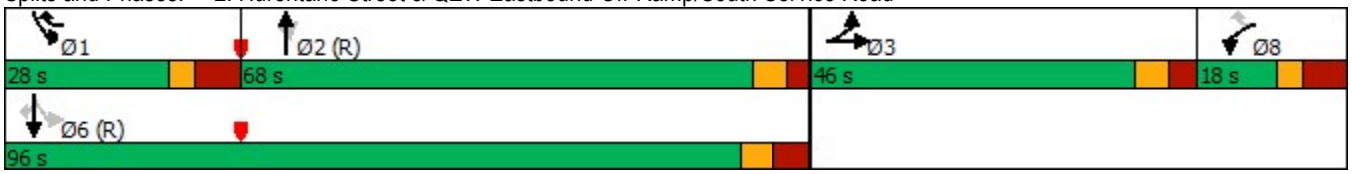
Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	997	187	287	107	385	1299	656	70	306	1579	0
Future Volume (vph)	997	187	287	107	385	1299	656	70	306	1579	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		0.98			0.94				
Frt		0.909			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1655	0	1755	1585	3510	1604	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.059		
Satd. Flow (perm)	3437	1655	0	1716	1585	3510	1503	0	108	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		21					147				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	1096	205	315	118	423	1427	713	77	336	1735	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	1096	520	0	118	423	1427	790	0	336	1735	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases				8	8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	14.5	14.5		13.5	13.5	38.0	38.0		13.5	39.5	39.5
Total Split (s)	46.0	46.0		18.0	28.0	68.0	68.0		28.0	96.0	96.0
Total Split (%)	28.8%	28.8%		11.3%	17.5%	42.5%	42.5%		17.5%	60.0%	60.0%
Maximum Green (s)	38.5	38.5		9.5	19.5	61.0	61.0		19.5	87.5	87.5
Yellow Time (s)	4.0	4.0		3.0	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		5.5	5.5	3.0	3.0		5.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)						9.0	9.0			9.0	9.0
Flash Dont Walk (s)						22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)						0	0			0	0
Act Effct Green (s)	38.5	38.5		9.5	37.5	61.0	61.0		87.5	87.5	
Actuated g/C Ratio	0.24	0.24		0.06	0.23	0.38	0.38		0.55	0.55	
v/c Ratio	1.33	1.26		1.13	1.14	1.07	1.19		1.31	0.91	
Control Delay	200.4	179.7		192.0	143.6	91.2	135.7		178.9	52.4	
Queue Delay	0.0	0.0		0.0	0.0	14.1	0.0		0.0	45.7	
Total Delay	200.4	179.7		192.0	143.6	105.3	135.7		178.9	98.1	
LOS	F	F		F	F	F	F		F	F	
Approach Delay		193.8				116.1				111.2	
Approach LOS		F				F				F	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.33
Intersection Signal Delay: 137.2 Intersection LOS: F
Intersection Capacity Utilization 109.7% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1096	520	118	423	1427	790	336	1735
v/c Ratio	1.33	1.26	1.13	1.14	1.07	1.19	1.31	0.91
Control Delay	200.4	179.7	192.0	143.6	91.2	135.7	178.9	52.4
Queue Delay	0.0	0.0	0.0	0.0	14.1	0.0	0.0	45.7
Total Delay	200.4	179.7	192.0	143.6	105.3	135.7	178.9	98.1
Queue Length 50th (m)	~231.8	~201.7	~43.4	~156.3	~262.8	~272.1	~122.5	259.6
Queue Length 95th (m)	#273.5	#273.7	#86.3	#223.5	#305.4	#350.8	m#117.7	m247.9
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	827	414	104	371	1338	663	257	1900
Starvation Cap Reductn	0	0	0	0	0	0	0	335
Spillback Cap Reductn	0	0	0	0	137	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.33	1.26	1.13	1.14	1.19	1.19	1.31	1.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	997	187	287	107	385	1299	656	70	306	1579	0
Future Volume (vph)	997	187	287	107	385	1299	656	70	306	1579	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1656		1755	1585	3510	1503		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.06	1.00	
Satd. Flow (perm)	3437	1656		1755	1585	3510	1503		108	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1096	205	315	118	423	1427	713	77	336	1735	0
RTOR Reduction (vph)	0	16	0	0	0	0	91	0	0	0	0
Lane Group Flow (vph)	1096	504	0	118	423	1427	699	0	336	1735	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases				8	8		2		6		6
Actuated Green, G (s)	38.5	38.5		9.5	29.0	61.0	61.0		87.5	87.5	
Effective Green, g (s)	38.5	38.5		9.5	29.0	61.0	61.0		87.5	87.5	
Actuated g/C Ratio	0.24	0.24		0.06	0.18	0.38	0.38		0.55	0.55	
Clearance Time (s)	7.5	7.5		8.5	8.5	7.0	7.0		8.5	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	827	398		104	371	1338	573		257	1900	
v/s Ratio Prot	c0.32	0.30		0.07	c0.14	0.41			c0.16	0.50	
v/s Ratio Perm					0.13		0.47		c0.56		
v/c Ratio	1.33	1.27		1.13	1.14	1.07	1.22		1.31	0.91	
Uniform Delay, d1	60.8	60.8		75.2	65.5	49.5	49.5		55.2	32.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		0.95	1.56	
Incremental Delay, d2	154.8	138.5		129.1	90.6	44.5	114.1		141.0	0.9	
Delay (s)	215.5	199.3		204.3	156.1	94.0	163.6		193.2	52.2	
Level of Service	F	F		F	F	F	F		F	D	
Approach Delay (s)		210.3				118.8				75.0	
Approach LOS		F				F				E	

Intersection Summary			
HCM 2000 Control Delay	131.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	109.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	114	51	131	395	118	107
Future Volume (vph)	114	51	131	395	118	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.958				0.936	
Flt Protected				0.988	0.974	
Satd. Flow (prot)	1783	0	0	1847	1693	0
Flt Permitted				0.988	0.974	
Satd. Flow (perm)	1783	0	0	1847	1693	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	130	58	149	449	134	122
Shared Lane Traffic (%)						
Lane Group Flow (vph)	188	0	0	598	256	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

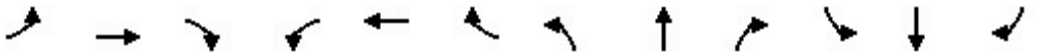
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	114	51	131	395	118	107
Future Volume (Veh/h)	114	51	131	395	118	107
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	130	58	149	449	134	122
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			193		911	164
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			193		911	164
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		50	86
cM capacity (veh/h)			1357		269	872

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	188	598	256
Volume Left	0	149	134
Volume Right	58	0	122
cSH	1700	1357	401
Volume to Capacity	0.11	0.11	0.64
Queue Length 95th (m)	0.0	2.8	32.6
Control Delay (s)	0.0	2.9	28.5
Lane LOS		A	D
Approach Delay (s)	0.0	2.9	28.5
Approach LOS			D

Intersection Summary			
Average Delay	8.7		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	172	20	33	390	3	6	0	2	4	0	38
Future Volume (vph)	25	172	20	33	390	3	6	0	2	4	0	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.987			0.999			0.970			0.878	
Flt Protected		0.994			0.996			0.963			0.995	
Satd. Flow (prot)	0	1827	0	0	3558	0	0	1795	0	0	1678	0
Flt Permitted		0.994			0.996			0.963			0.995	
Satd. Flow (perm)	0	1827	0	0	3558	0	0	1795	0	0	1678	0
Link Speed (k/h)		50			50			48			48	
Link Distance (m)		86.0			62.6			50.6			46.8	
Travel Time (s)		6.2			4.5			3.8			3.5	
Confl. Peds. (#/hr)			102	102								
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	4%	0%	3%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	31	212	25	41	481	4	7	0	2	5	0	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	268	0	0	526	0	0	9	0	0	52	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			



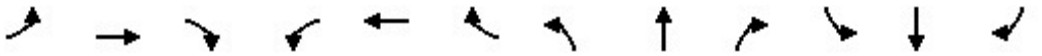
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	172	20	33	390	3	6	0	2	4	0	38
Future Volume (Veh/h)	25	172	20	33	390	3	6	0	2	4	0	38
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	31	212	25	41	481	4	7	0	2	5	0	47
Pedestrians								102				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.2				
Percent Blockage								9				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		86										
pX, platoon unblocked												
vC, conflicting volume	485			339			758	956	326	854	966	242
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	485			339			758	956	326	854	966	242
tC, single (s)	4.1			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			97	100	100	98	100	94
cM capacity (veh/h)	1088			1104			228	222	616	226	219	764

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	268	282	244	9	52
Volume Left	31	41	0	7	5
Volume Right	25	0	4	2	47
cSH	1088	1104	1700	265	622
Volume to Capacity	0.03	0.04	0.14	0.03	0.08
Queue Length 95th (m)	0.7	0.9	0.0	0.8	2.1
Control Delay (s)	1.2	1.5	0.0	19.1	11.3
Lane LOS	A	A		C	B
Approach Delay (s)	1.2	0.8		19.1	11.3
Approach LOS				C	B

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	38.5%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	114	56	42	425	1	0	0	0	0	0	0
Future Volume (vph)	3	114	56	42	425	1	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.956										
Flt Protected		0.999			0.996							
Satd. Flow (prot)	0	1811	0	0	1868	0	0	1921	0	0	1921	0
Flt Permitted		0.999			0.996							
Satd. Flow (perm)	0	1811	0	0	1868	0	0	1921	0	0	1921	0
Link Speed (k/h)		50			50			48			48	
Link Distance (m)		62.6			480.9			31.3			35.0	
Travel Time (s)		4.5			34.6			2.3			2.6	
Confl. Peds. (#/hr)	17		91	91		17	14		98	98		14
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles (%)	0%	2%	0%	7%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	4	154	76	57	574	1	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	234	0	0	632	0	0	0	0	0	0	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

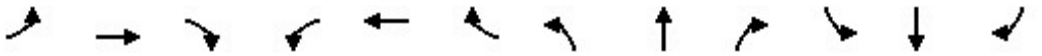
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.9%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	114	56	42	425	1	0	0	0	0	0	0
Future Volume (Veh/h)	3	114	56	42	425	1	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	4	154	76	57	574	1	0	0	0	0	0	0
Pedestrians		14			98			91			17	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		1			8			8			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		149										
pX, platoon unblocked												
vC, conflicting volume	592			321			994	997	381	1004	1034	606
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	592			321			994	997	381	1004	1034	606
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			100	100	100	100	100	100
cM capacity (veh/h)	979			1117			184	211	566	179	201	488

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	234	632	0	0
Volume Left	4	57	0	0
Volume Right	76	1	0	0
cSH	979	1117	1700	1700
Volume to Capacity	0.00	0.05	0.00	0.00
Queue Length 95th (m)	0.1	1.2	0.0	0.0
Control Delay (s)	0.2	1.3	0.0	0.0
Lane LOS	A	A	A	A
Approach Delay (s)	0.2	1.3	0.0	0.0
Approach LOS			A	A

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	60.9%	ICU Level of Service	B	
Analysis Period (min)	15			

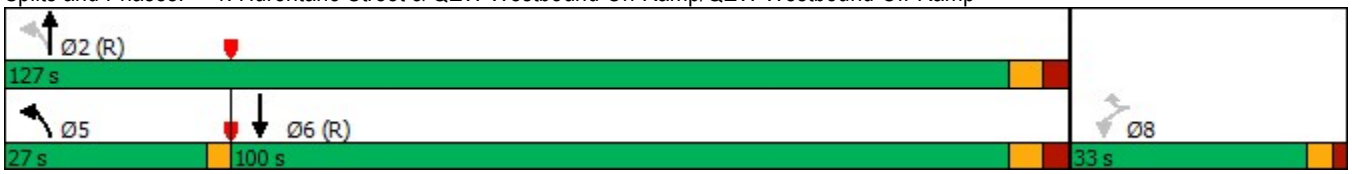


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	323	0	577	369	2067	0	0	2069	1153
Future Volume (vph)	0	0	0	323	0	577	369	2067	0	0	2069	1153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		0.0	0.0		40.0
Storage Lanes	0		0	1		2	1		0	0		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1690	0	2818	1807	3544	0	0	3510	1585
Flt Permitted				0.950			0.042					
Satd. Flow (perm)	0	0	0	1690	0	2818	80	3544	0	0	3510	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						149
Link Speed (k/h)		48			48			50			50	
Link Distance (m)		177.1			255.1			250.8			186.0	
Travel Time (s)		13.3			19.1			18.1			13.4	
Confl. Peds. (#/hr)									58	58		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Adj. Flow (vph)	0	0	0	347	0	620	397	2223	0	0	2225	1240
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	347	0	620	397	2223	0	0	2225	1240
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1		1	1	2			2	1
Detector Template				Left		Right	Left	Thru			Thru	Right
Leading Detector (m)				6.1		6.1	6.1	30.5			30.5	6.1
Trailing Detector (m)				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
Detector 1 Size(m)				6.1		6.1	6.1	1.8			1.8	6.1
Detector 1 Type				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
Detector 1 Queue (s)				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
Detector 2 Position(m)								28.7			28.7	
Detector 2 Size(m)								1.8			1.8	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Detector Phase				8		8	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0		8.0	5.0	8.0			8.0	
Minimum Split (s)				21.0		21.0	9.0	27.5			27.5	
Total Split (s)				33.0		33.0	27.0	127.0			100.0	
Total Split (%)				20.6%		20.6%	16.9%	79.4%			62.5%	
Maximum Green (s)				28.0		28.0	24.0	119.5			92.5	
Yellow Time (s)				3.0		3.0	3.0	4.0			4.0	
All-Red Time (s)				2.0		2.0	0.0	3.5			3.5	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.0		5.0	3.0	7.5			7.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Recall Mode				None		None	None	C-Max			C-Max	
Walk Time (s)								8.0			8.0	
Flash Dont Walk (s)								12.0			12.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				28.0		28.0	124.0	119.5			92.5	160.0
Actuated g/C Ratio				0.18		0.18	0.78	0.75			0.58	1.00
v/c Ratio				1.18		1.16	1.24	0.84			1.10	0.78
Control Delay				163.8		142.0	173.9	17.7			84.7	3.9
Queue Delay				0.0		0.0	0.0	14.6			0.0	0.0
Total Delay				163.8		142.0	173.9	32.3			84.7	3.9
LOS				F		F	F	C			F	A
Approach Delay					149.8			53.7			55.8	
Approach LOS					F			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 152 (95%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.24			
Intersection Signal Delay: 67.9		Intersection LOS: E	
Intersection Capacity Utilization 108.4%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & QEW Westbound On-Ramp/QEW Westbound Off-Ramp

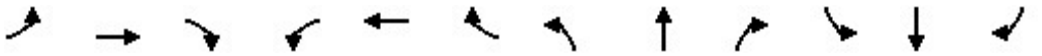


Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	347	620	397	2223	2225	1240
v/c Ratio	1.18	1.16	1.24	0.84	1.10	0.78
Control Delay	163.8	142.0	173.9	17.7	84.7	3.9
Queue Delay	0.0	0.0	0.0	14.6	0.0	0.0
Total Delay	163.8	142.0	173.9	32.3	84.7	3.9
Queue Length 50th (m)	~131.2	~124.2	~139.6	228.8	~419.7	0.0
Queue Length 95th (m)	#194.5	#167.1	#206.3	261.5	#457.5	0.0
Internal Link Dist (m)				226.8	162.0	
Turn Bay Length (m)			100.0			40.0
Base Capacity (vph)	295	535	321	2646	2029	1585
Starvation Cap Reductn	0	0	0	464	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.18	1.16	1.24	1.02	1.10	0.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	323	0	577	369	2067	0	0	2069	1153
Future Volume (vph)	0	0	0	323	0	577	369	2067	0	0	2069	1153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0	3.0	7.5			7.5	4.0
Lane Util. Factor				1.00		0.88	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1690		2818	1807	3544			3510	1585
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1690		2818	80	3544			3510	1585
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	347	0	620	397	2223	0	0	2225	1240
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	347	0	578	397	2223	0	0	2225	1240
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	8%	0%	2%	1%	3%	0%	0%	4%	3%
Turn Type				Perm		Perm	pm+pt	NA			NA	Free
Protected Phases							5	2			6	
Permitted Phases				8		8	2					Free
Actuated Green, G (s)				28.0		28.0	119.5	119.5			92.5	160.0
Effective Green, g (s)				28.0		28.0	119.5	119.5			92.5	160.0
Actuated g/C Ratio				0.18		0.18	0.75	0.75			0.58	1.00
Clearance Time (s)				5.0		5.0	3.0	7.5			7.5	
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				295		493	318	2646			2029	1585
v/s Ratio Prot							c0.19	0.63			0.63	
v/s Ratio Perm				c0.21		0.21	c0.75					0.78
v/c Ratio				1.18		1.17	1.25	0.84			1.10	0.78
Uniform Delay, d1				66.0		66.0	59.8	13.8			33.8	0.0
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				109.0		97.3	135.3	3.4			51.9	3.9
Delay (s)				175.0		163.3	195.1	17.2			85.7	3.9
Level of Service				F		F	F	B			F	A
Approach Delay (s)		0.0			167.5			44.1			56.4	
Approach LOS		A			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	67.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	108.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

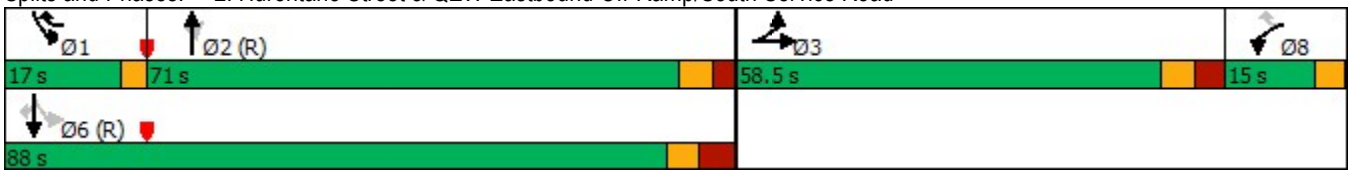
Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	641	157	258	139	291	1515	132	72	135	1364	0
Future Volume (vph)	641	157	258	139	291	1515	132	72	135	1364	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)			75.0	0.0	0.0		35.0		35.0		0.0
Storage Lanes			0	1	1		1		1		1
Taper Length (m)				2.5					2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00			0.94				
Frt		0.907			0.850		0.850				
Flt Protected	0.950			0.950					0.950		
Satd. Flow (prot)	3437	1653	0	1755	1585	3510	1612	0	1738	3476	1921
Flt Permitted	0.950			0.950					0.061		
Satd. Flow (perm)	3437	1653	0	1747	1585	3510	1510	0	112	3476	1921
Right Turn on Red			Yes					Yes			Yes
Satd. Flow (RTOR)		22					78				
Link Speed (k/h)		50				50				50	
Link Distance (m)		238.9				294.1				250.8	
Travel Time (s)		17.2				21.2				18.1	
Confl. Peds. (#/hr)			9	9				17	17		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Adj. Flow (vph)	704	173	284	153	320	1665	143	79	148	1499	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	704	457	0	153	320	1665	222	0	148	1499	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(m)		7.4				3.7				3.7	
Link Offset(m)		0.0				0.0				0.0	
Crosswalk Width(m)		1.6				1.6				1.6	
Two way Left Turn Lane											
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24	14		14	14	24		14
Number of Detectors	1	2		1	1	2	1		1	2	1
Detector Template	Left	Thru		Left	Right	Thru	Right		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	6.1	30.5	6.1		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		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	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	6.1	1.8	6.1		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0
Detector 2 Position(m)		28.7				28.7				28.7	
Detector 2 Size(m)		1.8				1.8				1.8	
Detector 2 Type		Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel											
Detector 2 Extend (s)		0.0				0.0				0.0	

Lane Group	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Detector Phase	3	3		8	1	2	2		1	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0		5.0	5.0	8.0	8.0		5.0	8.0	8.0
Minimum Split (s)	58.5	58.5		9.0	11.5	38.0	38.0		11.5	39.5	39.5
Total Split (s)	58.5	58.5		15.0	17.0	71.0	71.0		17.0	88.0	88.0
Total Split (%)	36.2%	36.2%		9.3%	10.5%	44.0%	44.0%		10.5%	54.5%	54.5%
Maximum Green (s)	51.0	51.0		11.0	14.0	64.0	64.0		14.0	79.5	79.5
Yellow Time (s)	4.0	4.0		3.5	3.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	3.5	3.5		0.5	0.0	3.0	3.0		0.0	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	8.5
Lead/Lag					Lead	Lag	Lag		Lead		
Lead-Lag Optimize?					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	C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)	15.0	15.0				9.0	9.0			9.0	9.0
Flash Dont Walk (s)	36.0	36.0				22.0	22.0			22.0	22.0
Pedestrian Calls (#/hr)	0	0				0	0			0	0
Act Effct Green (s)	48.1	48.1		13.9	31.9	64.0	64.0		85.0	79.5	
Actuated g/C Ratio	0.30	0.30		0.09	0.20	0.40	0.40		0.53	0.49	
v/c Ratio	0.69	0.90		1.01	1.02	1.20	0.34		0.74	0.88	
Control Delay	53.7	73.1		145.5	118.3	138.5	23.2		57.4	43.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	13.2	
Total Delay	53.7	73.1		145.5	118.3	138.5	23.2		57.4	56.9	
LOS	D	E		F	F	F	C		E	E	
Approach Delay		61.3				124.9				57.0	
Approach LOS		E				F				E	

Intersection Summary

Area Type: Other
Cycle Length: 161.5
Actuated Cycle Length: 161.5
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.20
Intersection Signal Delay: 89.2 Intersection LOS: F
Intersection Capacity Utilization 105.1% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 2: Hurontario Street & QEW Eastbound Off-Ramp/South Service Road



Lane Group	EBL2	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	704	457	153	320	1665	222	148	1499
v/c Ratio	0.69	0.90	1.01	1.02	1.20	0.34	0.74	0.88
Control Delay	53.7	73.1	145.5	118.3	138.5	23.2	57.4	43.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2
Total Delay	53.7	73.1	145.5	118.3	138.5	23.2	57.4	56.9
Queue Length 50th (m)	100.7	132.2	~62.0	~118.2	~339.4	31.5	30.0	222.6
Queue Length 95th (m)	122.2	#189.6	#109.3	#180.1	#381.1	53.4	#61.9	256.2
Internal Link Dist (m)		214.9			270.1			226.8
Turn Bay Length (m)						35.0	35.0	
Base Capacity (vph)	1085	537	151	313	1390	645	199	1711
Starvation Cap Reductn	0	0	0	0	0	0	0	227
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.85	1.01	1.02	1.20	0.34	0.74	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL2	EBT	EBR	WBL	WBR	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	641	157	258	139	291	1515	132	72	135	1364	0
Future Volume (vph)	641	157	258	139	291	1515	132	72	135	1364	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Lane Util. Factor	0.97	1.00		1.00	1.00	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.94		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.85	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3437	1652		1755	1585	3510	1510		1738	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00		0.06	1.00	
Satd. Flow (perm)	3437	1652		1755	1585	3510	1510		112	3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.91
Adj. Flow (vph)	704	173	284	153	320	1665	143	79	148	1499	0
RTOR Reduction (vph)	0	15	0	0	0	0	47	0	0	0	0
Lane Group Flow (vph)	704	442	0	153	320	1665	175	0	148	1499	0
Confl. Peds. (#/hr)			9	9				17	17		
Heavy Vehicles (%)	3%	1%	6%	4%	3%	4%	2%	0%	5%	5%	0%
Turn Type	Split	NA		Prot	pm+ov	NA	Perm		pm+pt	NA	Perm
Protected Phases	3	3		8	1	2			1	6	
Permitted Phases					8		2		6		6
Actuated Green, G (s)	48.1	48.1		13.9	27.9	64.0	64.0		79.5	79.5	
Effective Green, g (s)	48.1	48.1		13.9	27.9	64.0	64.0		79.5	79.5	
Actuated g/C Ratio	0.30	0.30		0.09	0.17	0.40	0.40		0.49	0.49	
Clearance Time (s)	7.5	7.5		4.0	3.0	7.0	7.0		3.0	8.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1023	492		151	273	1390	598		196	1711	
v/s Ratio Prot	0.20	c0.27		0.09	c0.10	c0.47			0.07	0.43	
v/s Ratio Perm					0.10		0.12		0.31		
v/c Ratio	0.69	0.90		1.01	1.17	1.20	0.29		0.76	0.88	
Uniform Delay, d1	50.1	54.3		73.8	66.8	48.8	33.3		44.4	36.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	18.8		76.8	109.3	96.3	1.2		15.2	6.6	
Delay (s)	52.0	73.1		150.6	176.1	145.0	34.5		59.6	43.2	
Level of Service	D	E		F	F	F	C		E	D	
Approach Delay (s)		60.3				132.0				44.7	
Approach LOS		E				F				D	

Intersection Summary			
HCM 2000 Control Delay	91.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	161.5	Sum of lost time (s)	21.5
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

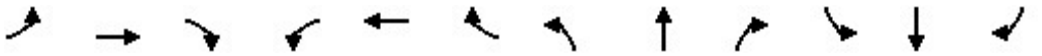
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	216	59	50	169	37	28
Future Volume (vph)	216	59	50	169	37	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.971				0.942	
Flt Protected				0.989	0.972	
Satd. Flow (prot)	1814	0	0	1850	1701	0
Flt Permitted				0.989	0.972	
Satd. Flow (perm)	1814	0	0	1850	1701	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	480.9			101.6	95.6	
Travel Time (s)	34.6			7.3	6.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	6%	5%	2%	3%	4%
Adj. Flow (vph)	245	67	57	192	42	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	312	0	0	249	74	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	216	59	50	169	37	28
Future Volume (Veh/h)	216	59	50	169	37	28
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	245	67	57	192	42	32
Pedestrians					5	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			317		590	284
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			317		590	284
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		91	96
cM capacity (veh/h)			1221		445	747

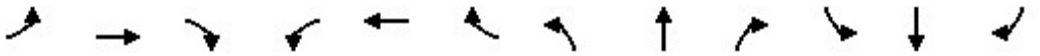
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	312	249	74
Volume Left	0	57	42
Volume Right	67	0	32
cSH	1700	1221	539
Volume to Capacity	0.18	0.05	0.14
Queue Length 95th (m)	0.0	1.1	3.6
Control Delay (s)	0.0	2.2	12.7
Lane LOS		A	B
Approach Delay (s)	0.0	2.2	12.7
Approach LOS			B

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	241	3	4	200	3	11	0	3	5	0	41
Future Volume (vph)	35	241	3	4	200	3	11	0	3	5	0	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.998			0.998			0.970			0.879	
Flt Protected		0.994			0.999			0.963			0.995	
Satd. Flow (prot)	0	1842	0	0	3568	0	0	1795	0	0	1680	0
Flt Permitted		0.994			0.999			0.963			0.995	
Satd. Flow (perm)	0	1842	0	0	3568	0	0	1795	0	0	1680	0
Link Speed (k/h)		50			50			48			48	
Link Distance (m)		86.0			62.6			50.6			46.8	
Travel Time (s)		6.2			4.5			3.8			3.5	
Confl. Peds. (#/hr)			102	102								
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	4%	0%	3%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	43	298	4	5	247	4	14	0	4	6	0	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	345	0	0	256	0	0	18	0	0	57	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.3%		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)	35	241	3	4	200	3	11	0	3	5	0	41
Future Volume (Veh/h)	35	241	3	4	200	3	11	0	3	5	0	41
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	43	298	4	5	247	4	14	0	4	6	0	51
Pedestrians								102				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.2				
Percent Blockage								9				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		86										
pX, platoon unblocked				0.96			0.96	0.96	0.96	0.96	0.96	
vC, conflicting volume	251			404			672	749	402	649	749	126
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	251			360			639	719	358	615	719	126
tC, single (s)	4.1			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			95	100	99	98	100	94
cM capacity (veh/h)	1326			1042			274	302	565	329	302	908

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	345	128	128	18	57
Volume Left	43	5	0	14	6
Volume Right	4	0	4	4	51
cSH	1326	1042	1700	309	766
Volume to Capacity	0.03	0.00	0.07	0.06	0.07
Queue Length 95th (m)	0.8	0.1	0.0	1.4	1.8
Control Delay (s)	1.2	0.4	0.0	17.4	10.1
Lane LOS	A	A		C	B
Approach Delay (s)	1.2	0.2		17.4	10.1
Approach LOS				C	B

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	34.3%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	243	1	1	203	1	1	0	0	0	0	0
Future Volume (vph)	3	243	1	1	203	1	1	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt												
Flt Protected		0.999						0.950				
Satd. Flow (prot)	0	1882	0	0	1883	0	0	1825	0	0	1921	0
Flt Permitted		0.999						0.950				
Satd. Flow (perm)	0	1882	0	0	1883	0	0	1825	0	0	1921	0
Link Speed (k/h)		50			50			48			48	
Link Distance (m)		62.6			480.9			31.3			35.0	
Travel Time (s)		4.5			34.6			2.3			2.6	
Confl. Peds. (#/hr)	17		91	91		17	14		98	98		14
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles (%)	0%	2%	0%	7%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	4	328	1	1	274	1	1	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	333	0	0	276	0	0	1	0	0	0	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.6%		ICU Level of Service A	
Analysis Period (min) 15			

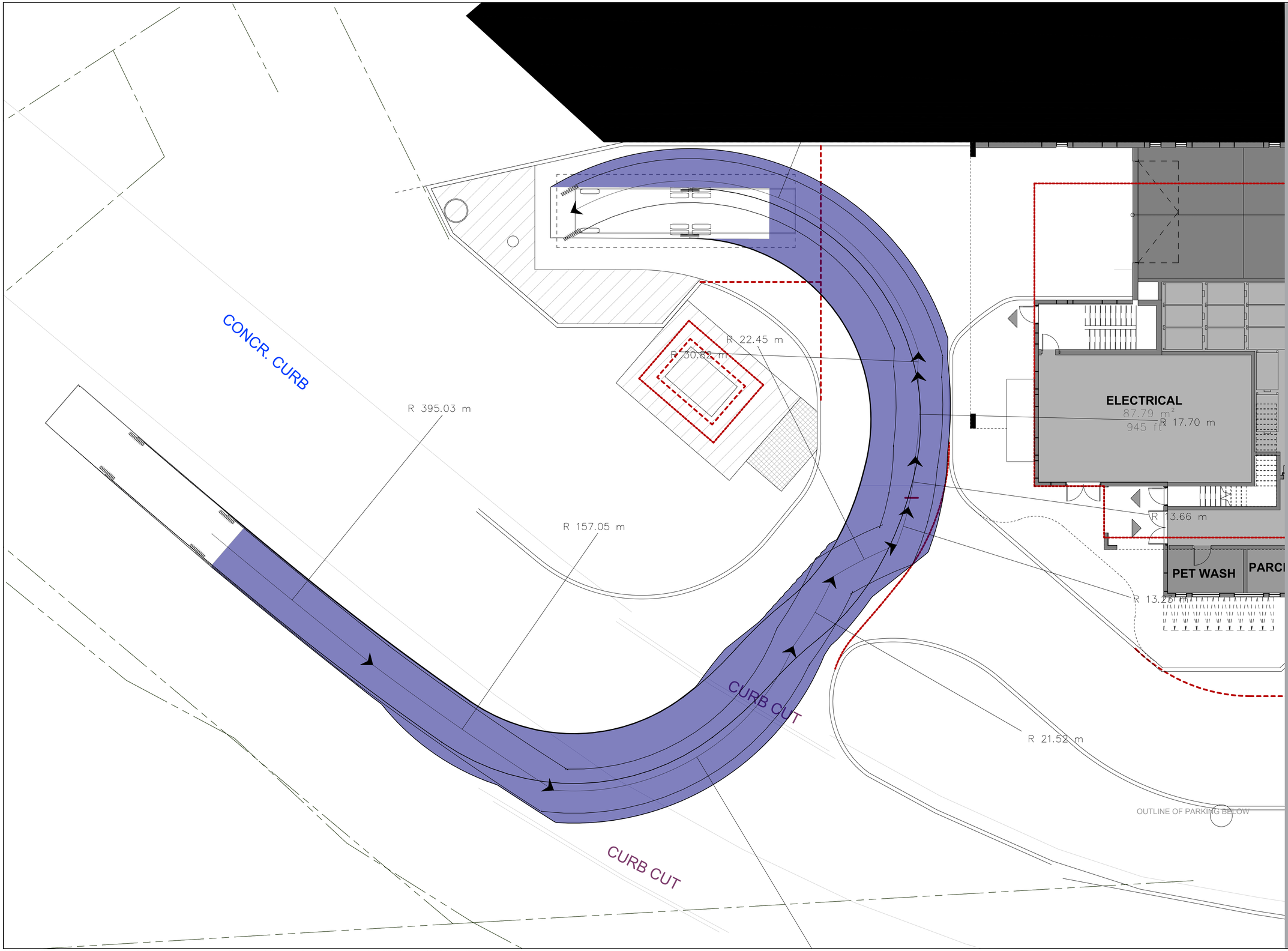
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	243	1	1	203	1	1	0	0	0	0	0
Future Volume (Veh/h)	3	243	1	1	203	1	1	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	4	328	1	1	274	1	1	0	0	0	0	0
Pedestrians		14			98			91			17	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		1			8			8			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		149										
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	292			420			718	722	518	728	722	306
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	292			400			704	707	499	714	707	306
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1263			1025			294	322	477	287	322	720

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	333	276	1	0
Volume Left	4	1	1	0
Volume Right	1	1	0	0
cSH	1263	1025	294	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.1	0.0	0.1	0.0
Control Delay (s)	0.1	0.0	17.3	0.0
Lane LOS	A	A	C	A
Approach Delay (s)	0.1	0.0	17.3	0.0
Approach LOS			C	A

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	34.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Appendix E

Vehicle Swept Path Assessment



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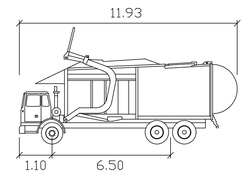


Peel Garbage Front

meters

Width	: 2.77
Track	: 2.70
Lock to Lock Time	6.0
Steering Angle	: 30.0

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	10/13/22

Author	R.A	Designer	R.A
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client

EDENSHAW SSR DEVELOPMENTS LIMITED

Project

49 SOUTH SERVICE ROAD

Date October 13, 2022

Scale NTS

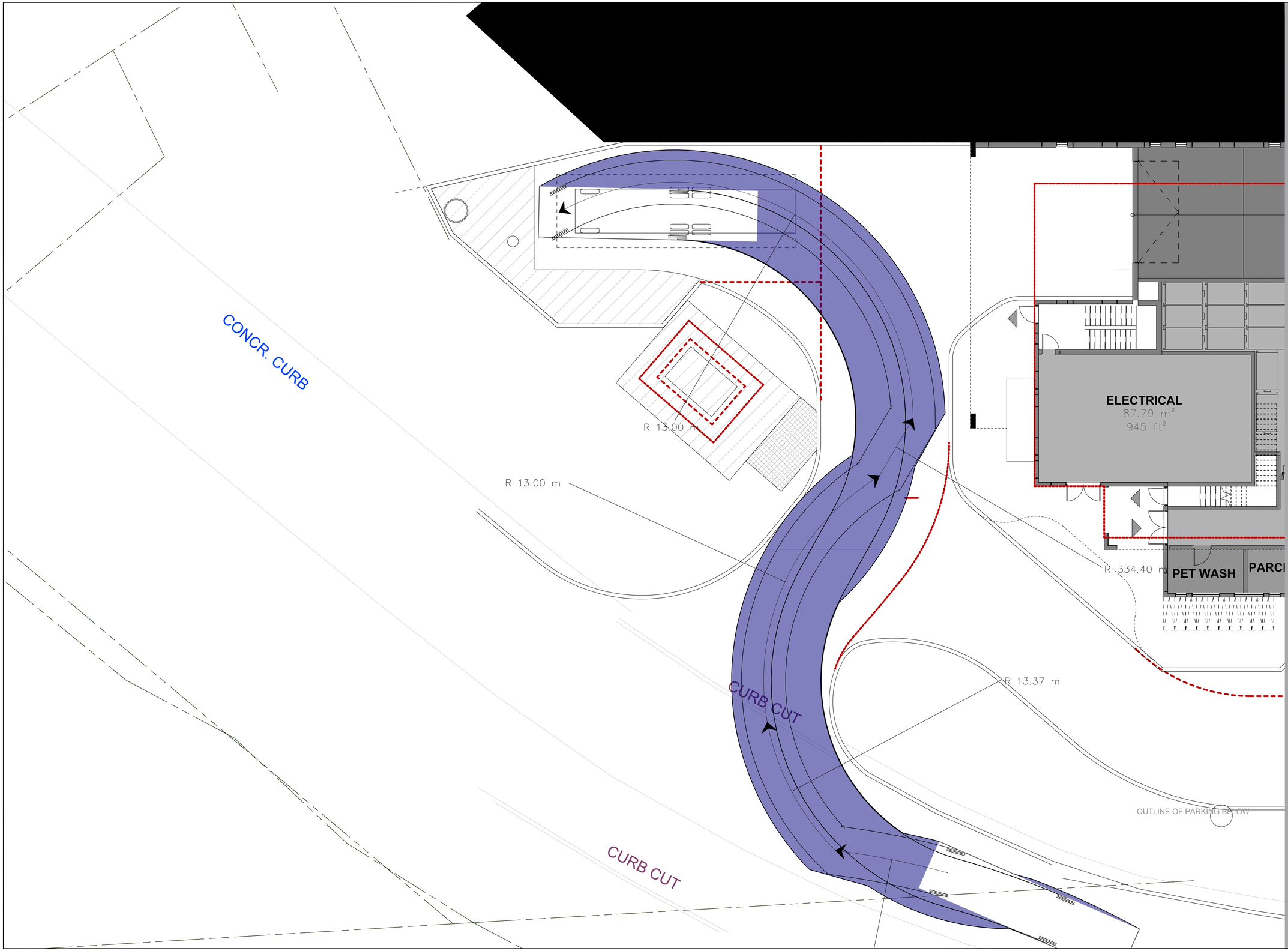
Project No. 12595172

Title

VEHICLE MANEUVERING DIAGRAM - WASTE COLLECTION (INBOUND - WEST)

Size ANSI D

Sheet No. AT-101



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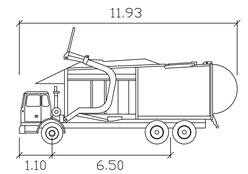


Peel Garbage Front
meters

Width	: 2.77
Track	: 2.70
Lock to Lock Time	6.0
Steering Angle	: 30.0

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	10/13/22

Author	R.A	Designer	R.A
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
EDENSHAW SSR DEVELOPMENTS LIMITED

Project
49 SOUTH SERVICE ROAD

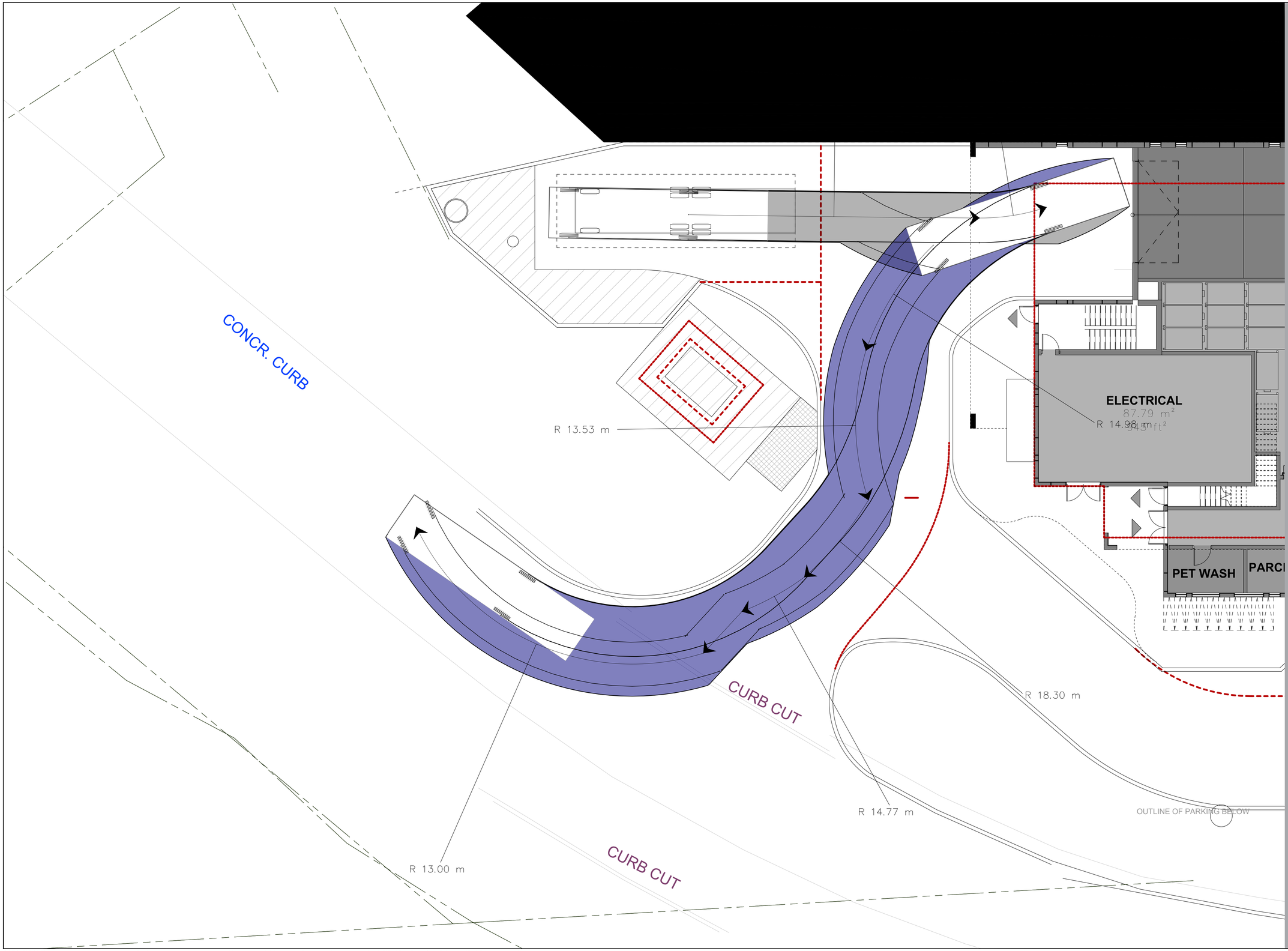
Date October 13, 2022
Scale NTS

Project No. 12595172

Title
VEHICLE MANEUVERING DIAGRAM - WASTE COLLECTION (INBOUND - EAST)

Size ANSI D

Sheet No. AT-102



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PROVINCE OF ONTARIO

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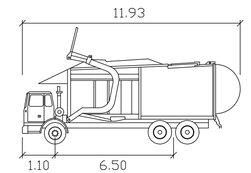
0 25mm



Peel Garbage Front

meters

Width	: 2.77
Track	: 2.70
Lock to Lock Time	6.0
Steering Angle	: 30.0

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	10/13/22

Author	R.A	Designer	R.A
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client

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Project

49 SOUTH SERVICE ROAD

Date October 13, 2022

Scale NTS

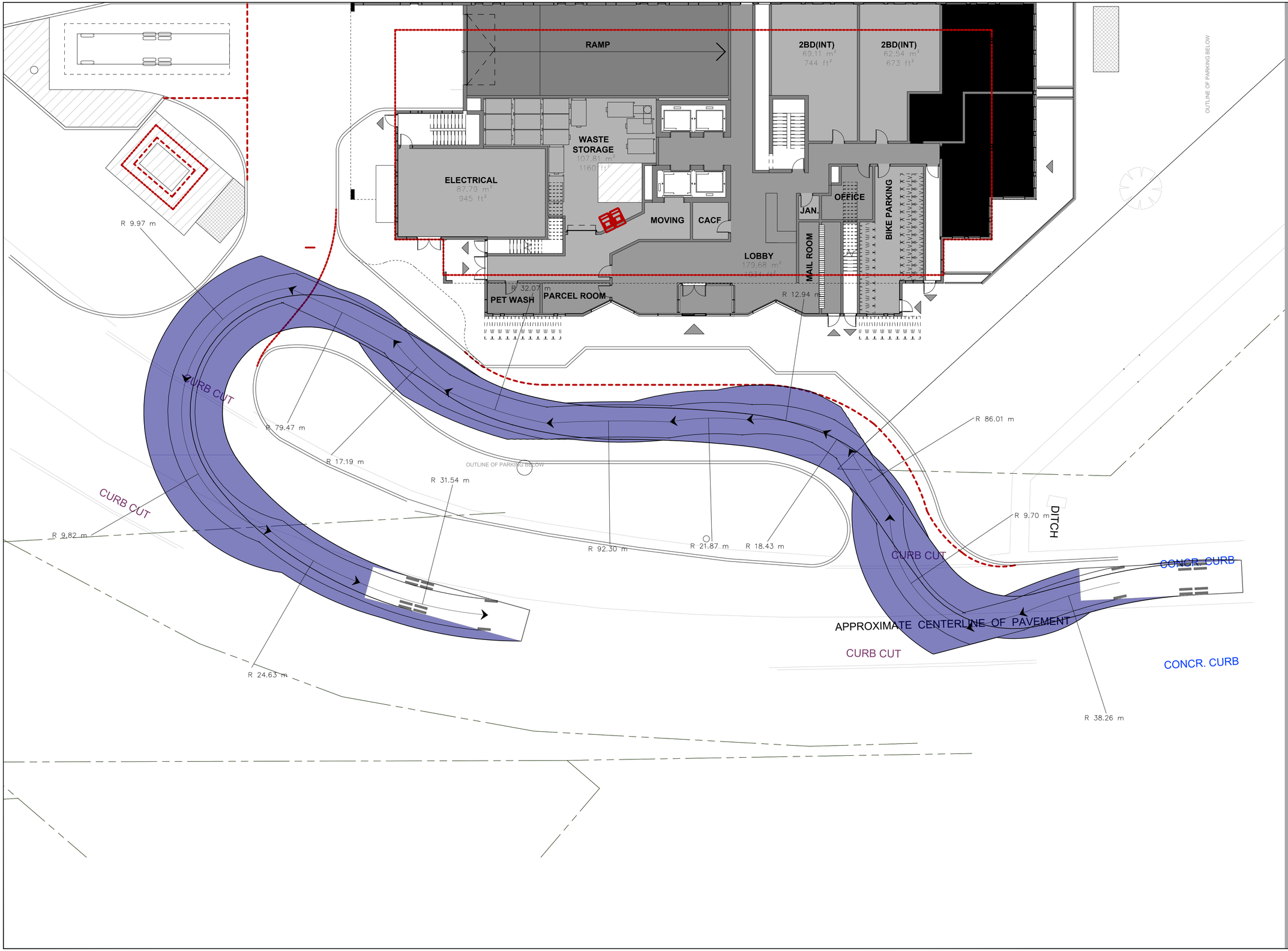
Project No. 12595172

Title

VEHICLE MANEUVERING DIAGRAM - WASTE COLLECTION (OUTBOUND)

Size ANSI D

Sheet No. AT-103



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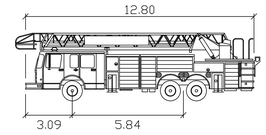

Aerial Fire

	meters
Width	: 2.54
Track	: 2.54
Lock to Lock Time	: 6.0
Steering Angle	: 37.0

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	10/13/22

Author	R.A	Designer	R.A
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

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49 SOUTH SERVICE ROAD

Date	Scale
October 13, 2022	NTS

Project No.
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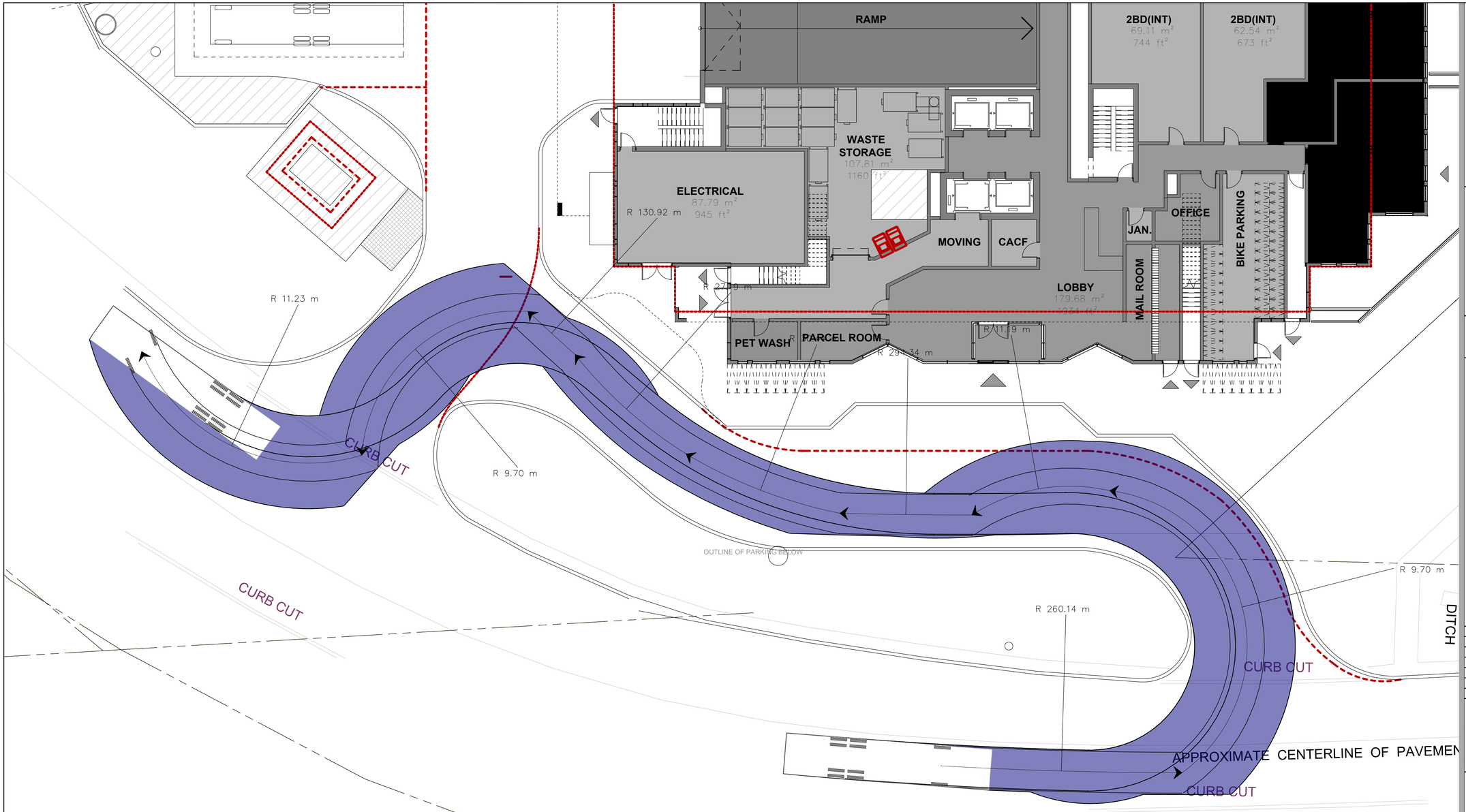
Title

VEHICLE MANEUVERING DIAGRAM - EMERGENCY VEHICLE (EAST)

Size
ANSI D

Sheet No.
AT-104

Plot Date: 14 October 2022 - 8:10 AM Plotted By: Raf Andrenacci Path and Filename: N:\CA\Mississauga\Projects\Legacy\SernasTransTech\Projects\2022\49 South Service Road TIS\Drawings\49 South Service Road AT_V2.dwg



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Oct. 13, 2022
W.C. MARIA
PROVINCE OF ONTARIO

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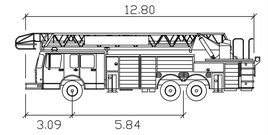

Aerial Fire

	meters
Width	: 2.54
Track	: 2.54
Lock to Lock Time	: 6.0
Steering Angle	: 37.0

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	10/13/22

Author	R.A	Designer	R.A
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

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Project
49 SOUTH SERVICE ROAD

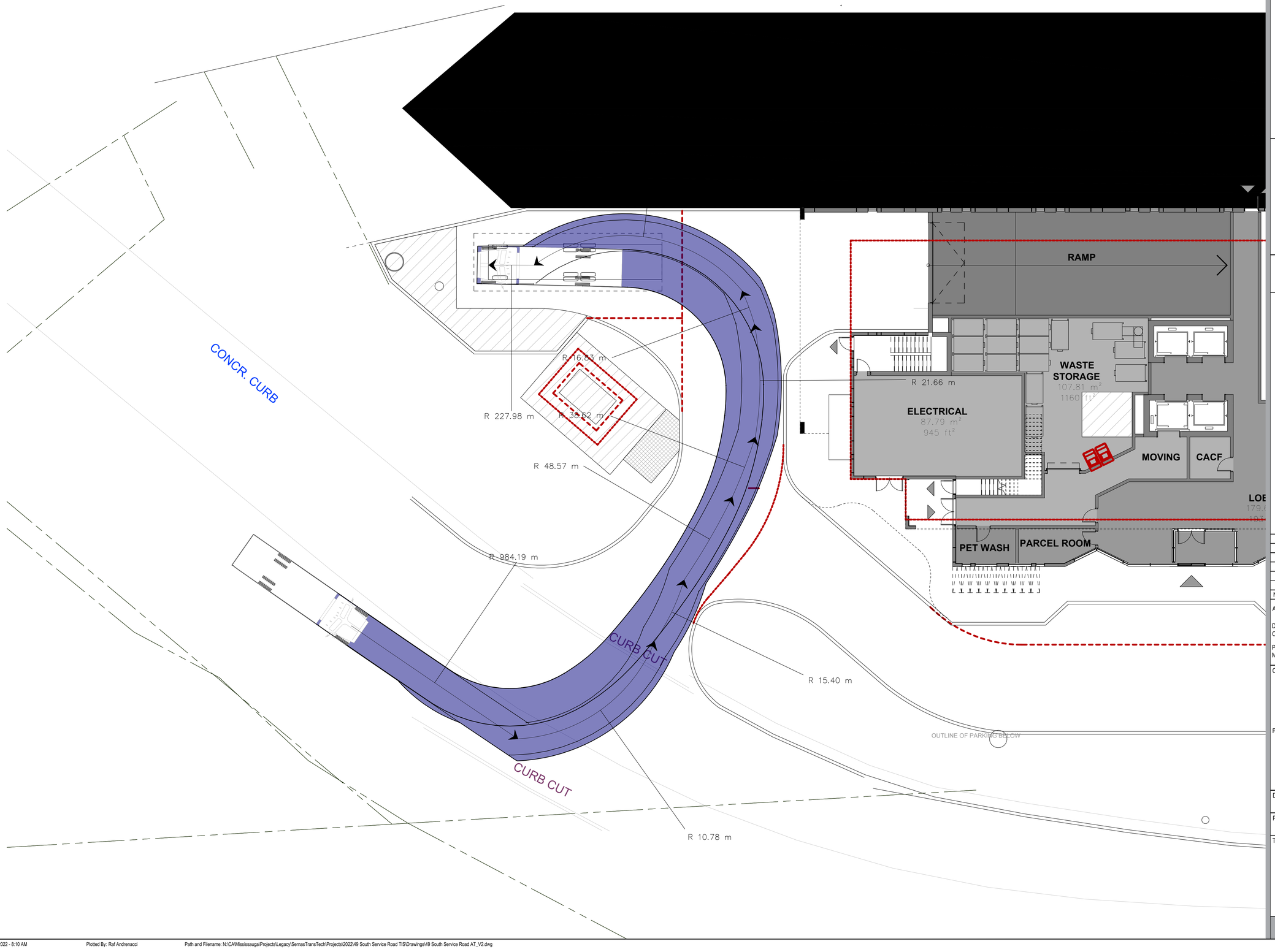
Date October 13, 2022
Scale NTS

Project No. 12595172

Title
VEHICLE MANEUVERING DIAGRAM - EMERGENCY VEHICLE (WEST)

Size ANSI D

Sheet No. AT-105



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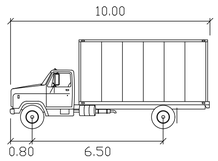
Oct. 13, 2022
W.C. MARIA
PROVINCE OF ONTARIO

Bar is 25mm on original size sheet
0 25mm



MSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	6.0
Steering Angle	: 40.2

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	10/13/22

Author	R.A	Designer	R.A
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

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Project
49 SOUTH SERVICE ROAD

Date October 13, 2022
Scale NTS

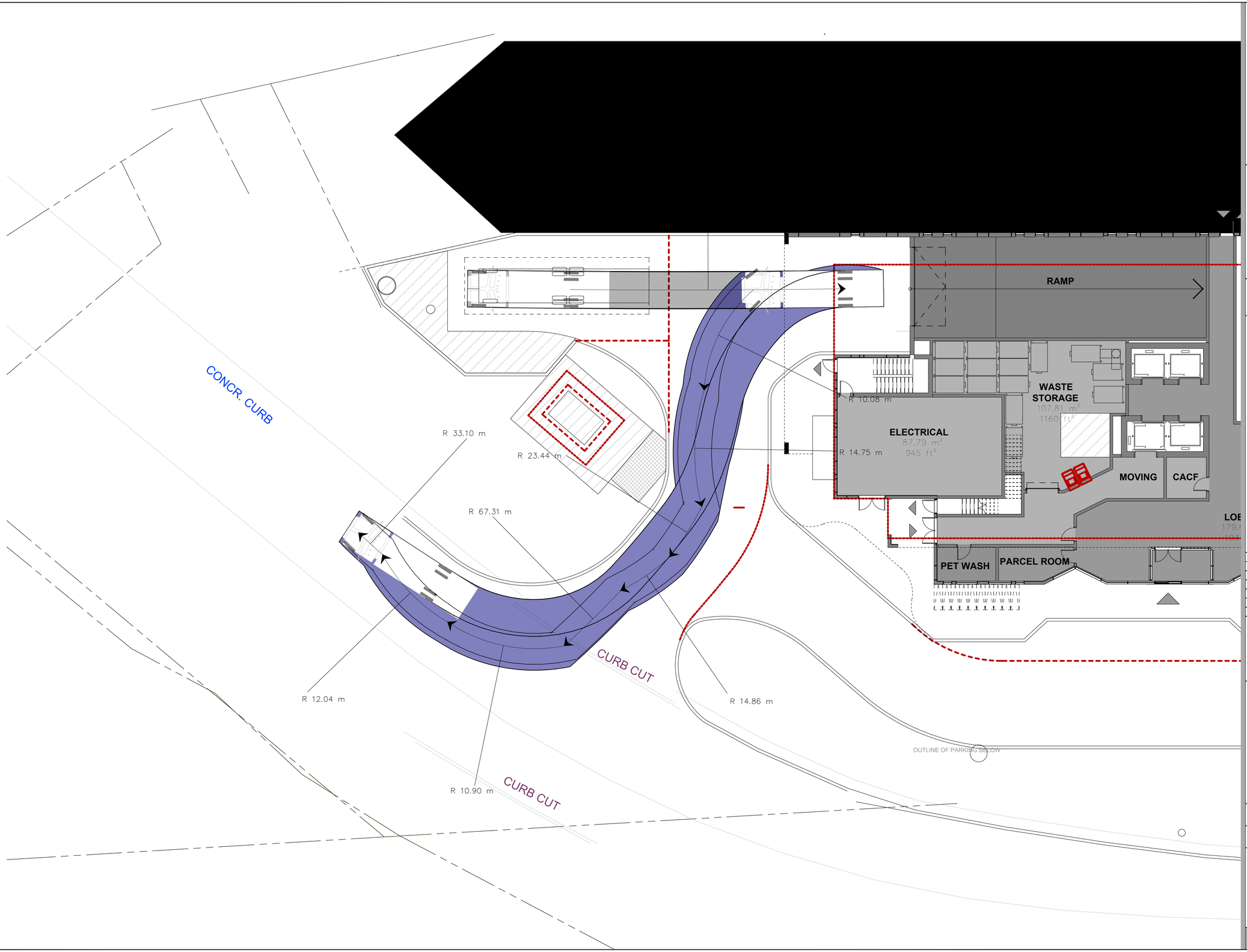
Project No. 12595172

Title
VEHICLE MANEUVERING DIAGRAM - MSU TRUCK (INBOUND)

Size ANSI D

Sheet No. AT-106

Plot Date: 14 October 2022 - 8:10 AM Plotted By: Raf Andrenacci Path and Filename: N:\CA\Mississauga\Projects\Legacy\SernasTransTech\Projects\2022\49 South Service Road TIS\Drawings\49 South Service Road AT_V2.dwg



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Oct. 13, 2022
W.C. MARIA
PROVINCE OF ONTARIO

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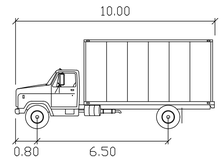

MSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	6.0
Steering Angle	: 40.2

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	10/13/22

Author	R.A	Designer	R.A
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
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Project
49 SOUTH SERVICE ROAD

Date	Scale
October 13, 2022	NTS

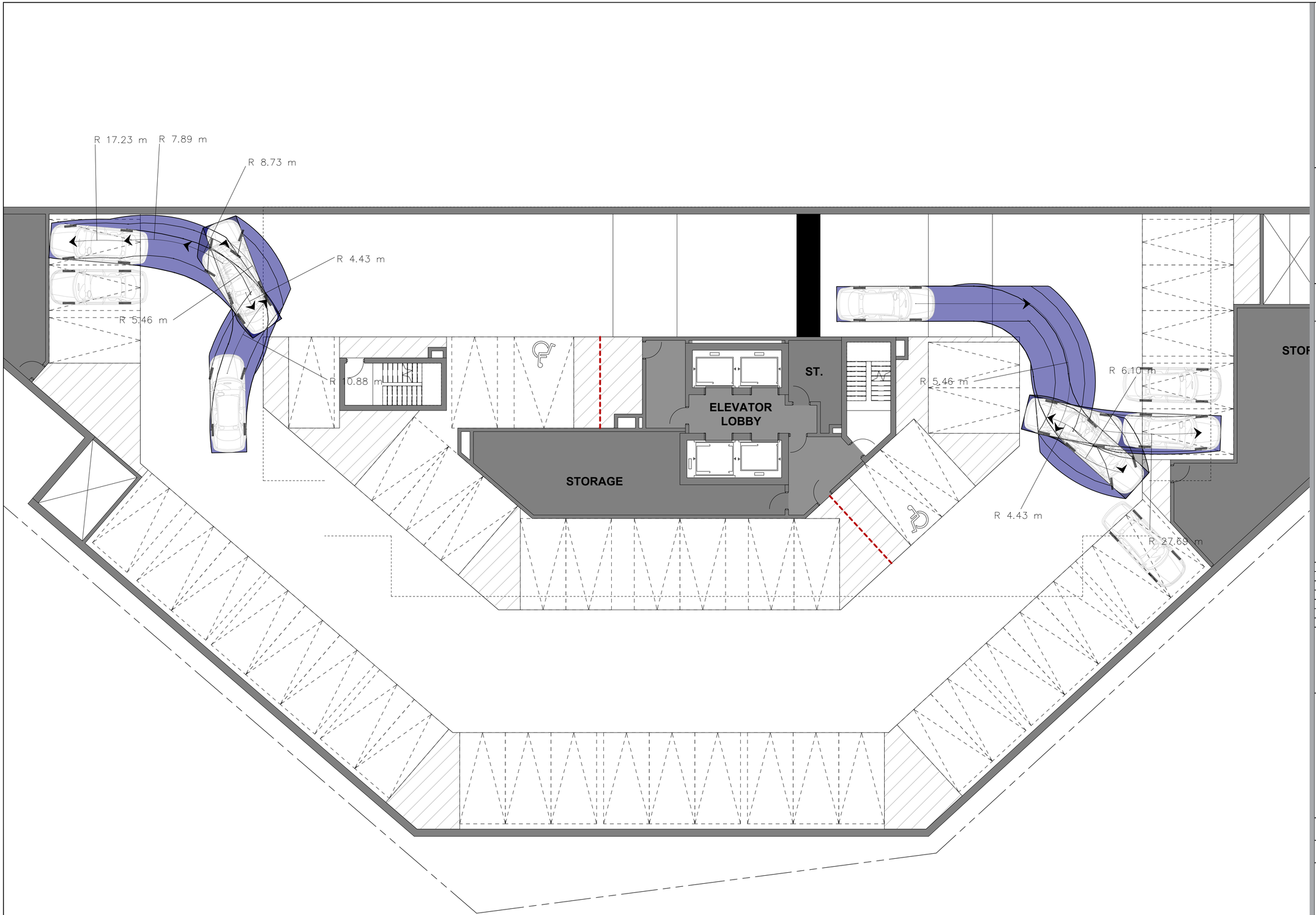
Project No.
12595172

Title
VEHICLE MANEUVERING DIAGRAM - MSU TRUCK (OUTBOUND)

Size
ANSI D

Sheet No.
AT-107

Plot Date: 14 October 2022 - 8:10 AM Plotted By: Raf Andrenacci Path and Filename: N:\CA\Mississauga\Projects\Legacy\SernasTransTech\Projects\2022\49 South Service Road TIS\Drawings\49 South Service Road AT_V2.dwg



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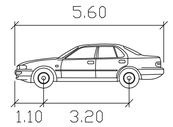
PROVINCE OF ONTARIO

Bar is 25mm on original size sheet
0 25mm



P

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Width	: 2.00
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	10/13/22

Author	R.A	Designer	R.A
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client

EDENSHAW SSR DEVELOPMENTS LIMITED

Project

49 SOUTH SERVICE ROAD

Date	Scale
October 13, 2022	NTS

Project No.
12595172

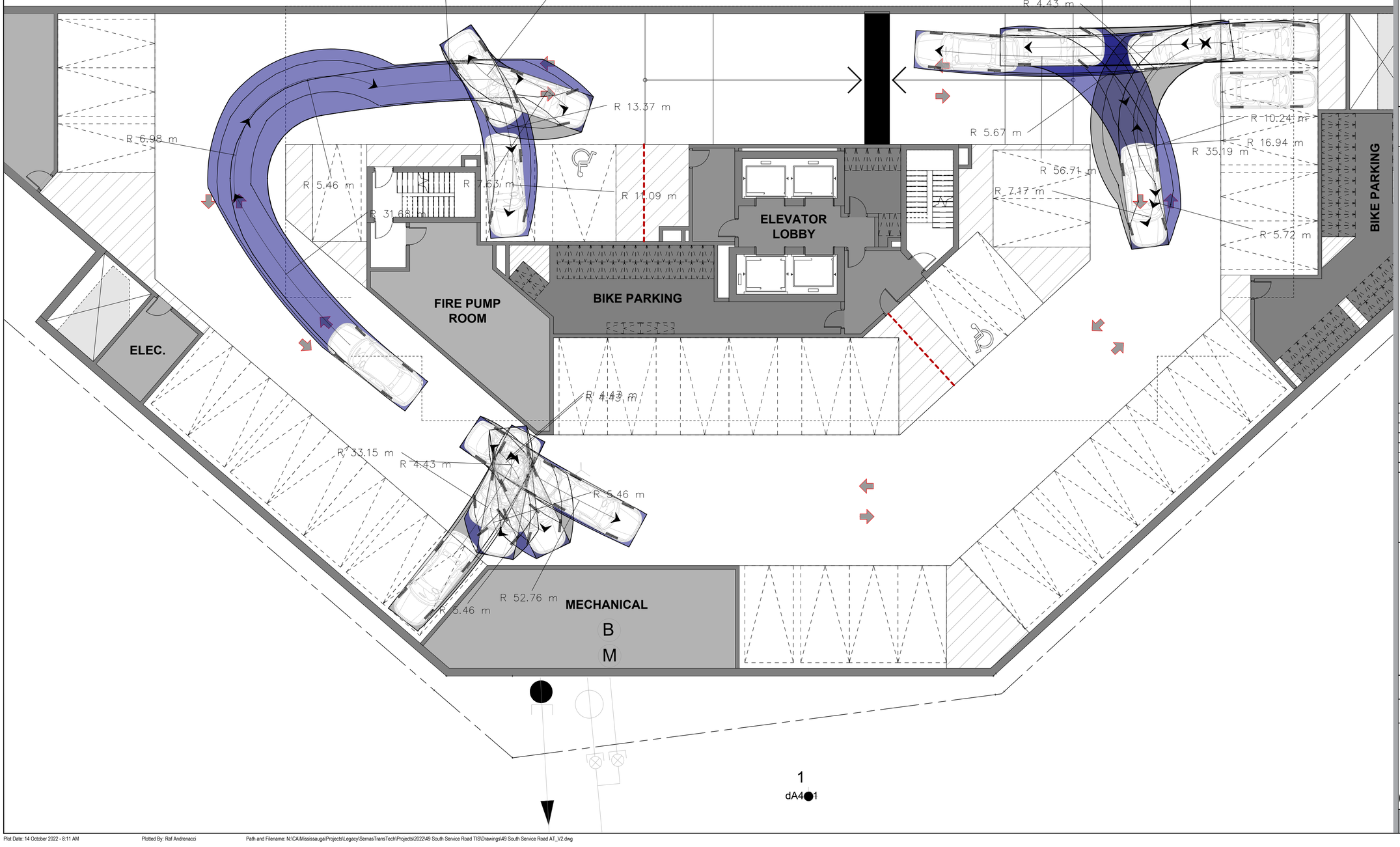
Title

VEHICLE MANEUVERING DIAGRAM - PASSENGER CAR (UNDERGROUND PARKING)

Size
ANSI D

Sheet No.
AT-108

1
dA4.01



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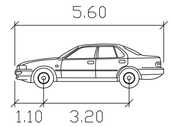

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