

Final Report

Transportation Impact Study – Pinnacle Uptown: Hurontario and Eglinton (Phase 4 Part 2 and Phase 5)



Prepared for Pinnacle International
by IBI Group

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1 Introduction

IBI Group has been retained by Pinnacle International to undertake a transportation impact study for the site intensification of the Pinnacle Lands, specifically regarding the future development of five condominium buildings scheduled under Phase 4 Part 2 and Phase 5 of Pinnacle Uptown. Situated in the City of Mississauga, the subject lands for Phase 4 Part 2 are located at the northwest corner of the Watergarden Drive / Hurontario Street intersection, while the Phase 5 lands are located at the southwest corner.

This March 29, 2019 report is an updated version of the June 1, 2018 *Traffic Impact Study – Pinnacle Uptown: Hurontario and Eglinton (Phase 4 Part 2 and Phase 5)* report that was prepared by IBI Group. This March 30, 2019 report takes into consideration the City of Mississauga's comments provided to IBI Group on October 17, 2018, found in **Appendix J**. In addition, the site statistics have changed since the June 1, 2018 report, reflective in this March 29, 2019 report.

A total of 1,969 units had been approved for Phases 2, 3, 4, and 5 of the Pinnacle Uptown development under previous development approvals. Currently, Phases 2, 3, and 4 (Part 1) have been built or are currently being built, totally 1,014 units with 233 sq. m. of retail as part of Phase 4 (Part 1). Pinnacle is seeking to amend the previous approval to permit 2,040 residential units within the Phase 4 Part 2 and Phase 5 developments. This amendment would allow for an increase of 1,085 units over the existing permissions. The proposed non-residential aspect of the site consists of 3,900 sq. m. of gross floor area (GFA) for retail uses and 7,574 sq. m. of GFA for office use.

The phases and subject lands involved in this study are presented in **Exhibit 1-1** and **Exhibit 1-2**, respectively. The proposed modifications include:

- Phase 4 Part 2: Two condominium towers on Block 16 and part of Block 2 (45 storeys and 32 storeys); and
- Phase 5: Three condominium towers on Block 17 and part of Block 1 (30 storeys, 40 storeys, and 50 storeys).

Exhibit 1-1: Development Block Diagram

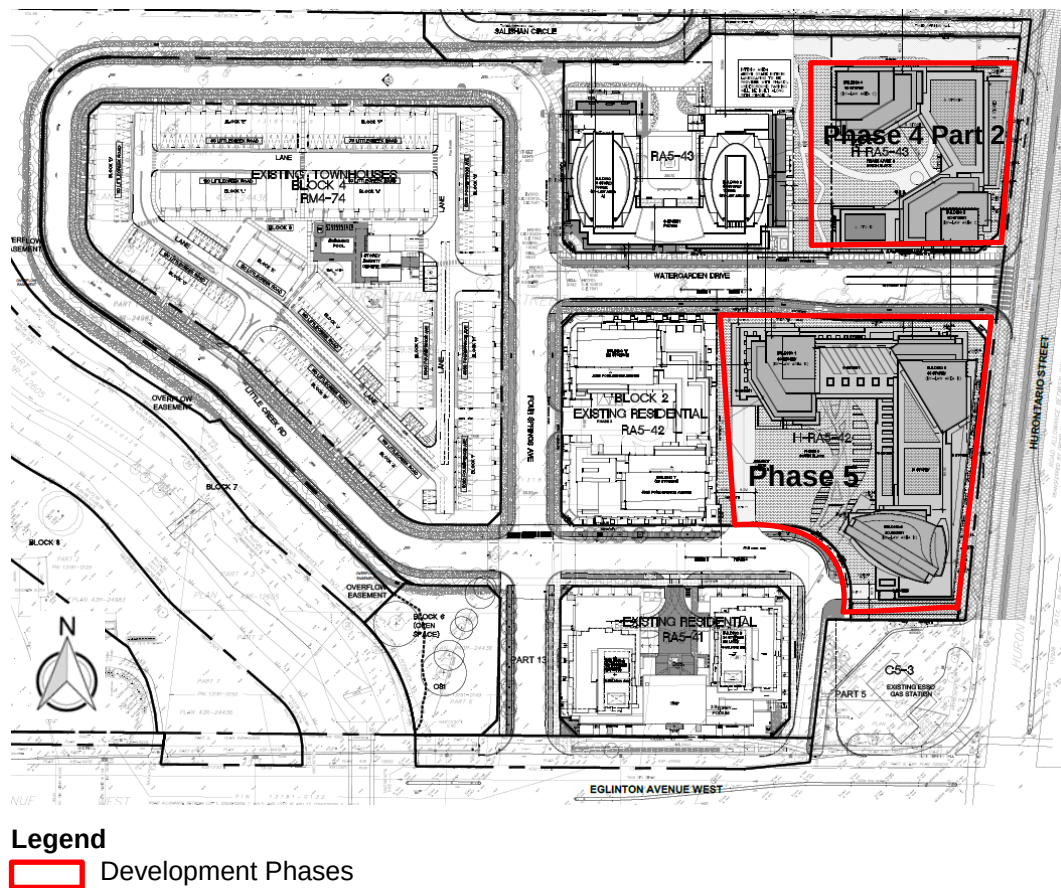


Exhibit 1-2: Aerial View of Subject Lands



Legend

-  Pinnacle Landholding  Development Phases

An initial traffic assessment was completed in 2007 by IBI Group for the subject lands. The purpose of this report is to:

- Review current traffic operations since a significant portion of the units have been completed;
- Assess future traffic operations with the proposed additional residential units.
- Examine transit service in the area due to the upcoming Hurontario LRT scheduled for 2022; and
- Parking requirements for the proposed development phases.

This report adheres to the terms of reference developed by IBI Group and discussed with the City of Mississauga and Region of Peel staff sent on September 28, 2017. This correspondence is presented in **Appendix A**.

1.1 Study Area

The Pinnacle lands are located northwest of the Hurontario Street / Eglinton Avenue West intersection in the City of Mississauga, as illustrated below in **Exhibit 1-3**. The site is located approximately 1.5 km north of the Mississauga City Centre within the Hurontario corridor which is planned for higher order transit (i.e. Hurontario LRT), projected for completion by 2022.

There are residential areas to the north and south of the subject lands. In the west is open space, including a portion of Cooksville Creek, which is proposed for park land. Neighbourhood commercial uses and vacant land currently occupy the lands directly to the east of the site.

The study area intersections were determined through consultation with the City of Mississauga and the Region of Peel, and consists of the following locations:

- Hurontario Street & Ceremonial Drive / Nahani Way (signalized);
- Hurontario Street & Watergarden Drive / Armdale Road (signalized);
- Hurontario Street & Eglinton Avenue West (signalized);
- Eglinton Avenue West & Four Springs Avenue / Plaza Entrance (signalized);
- Eglinton Avenue West & Kingsbridge Garden Circle / Fairwind Drive (signalized);
- Little Creek Road and Four Springs Avenue (unsignalized); and
- Watergarden Drive and Four Springs Avenue (unsignalized).

Exhibit 1-3: Development Study Area



1.2 Analysis Periods

Based on the proposed development's residential land use, the following analysis periods were used in this study:

- AM Peak Period – 7:00 a.m. to 9:00 a.m. on a typical weekday; and
- PM Peak Period – 4:00 p.m. to 6:00 p.m. on a typical weekday.

1.3 Proposed Development

Phase 4 Part 2 of Pinnacle Uptown is proposing to construct two condominium towers, of 45 storeys and 32 storeys high, with 435 and 317 units, respectively. Vehicle access to both buildings will be provided from Four Springs Avenue and from Watergarden Drive. The proposed non-residential aspect consists of 953 sq. m. of GFA for retail uses and 2,031 sq. m. of GFA for office use.

Phase 5 of Pinnacle Uptown consists of three condominium towers of 30, 40, and 50 storeys, with 363, 413, and 512 units, respectively. The main access to the three towers will be connected to Little Creek Road. The proposed non-residential aspect consists of 2,947 sq. m. of GFA for retail uses and 5,543 sq. m. of GFA for office use.

A table of development site statistics, outlining the existing, approved, and proposed number of dwelling units and commercial GFA is provided in **Exhibit 1-4**.

Exhibit 1-4: Development Site Statistics

Land Use	Development Status		
	Existing	Approved	Proposed*
Residential (dwelling units)	1,014	1,969	3,054
Retail GFA (sq. m.)	233		3,900
Office GFA (sq. m.)	-		7,574

**Including existing built (1,014 existing units + 2,040 proposed units)*

The proposed site plan for Phase 4, Part 2 is illustrated in **Exhibit 1-5**. The proposed site plan for Phase 5 is presented in **Exhibit 1-6**.

1.3.1 Proposed Parking Supply

At the start of this study, Pinnacle Uptown was proposing a parking supply of 1,066 spaces for Phase 4 Part 2 and 1,393 spaces for Phase 5. At the time of submission of this TIS, Pinnacle Uptown has updated their proposed parking supply to reflect the results of this TIS, specifically the results of the parking analysis in **Section 6**. Consequently, the new proposed parking supply (as recommended in **Section 6**) is 651 spaces for Phase 4 Part 2 and 1,261 spaces for Phase 5.

Exhibit 1-5: Proposed Site Plan – Phase 4, Part 2

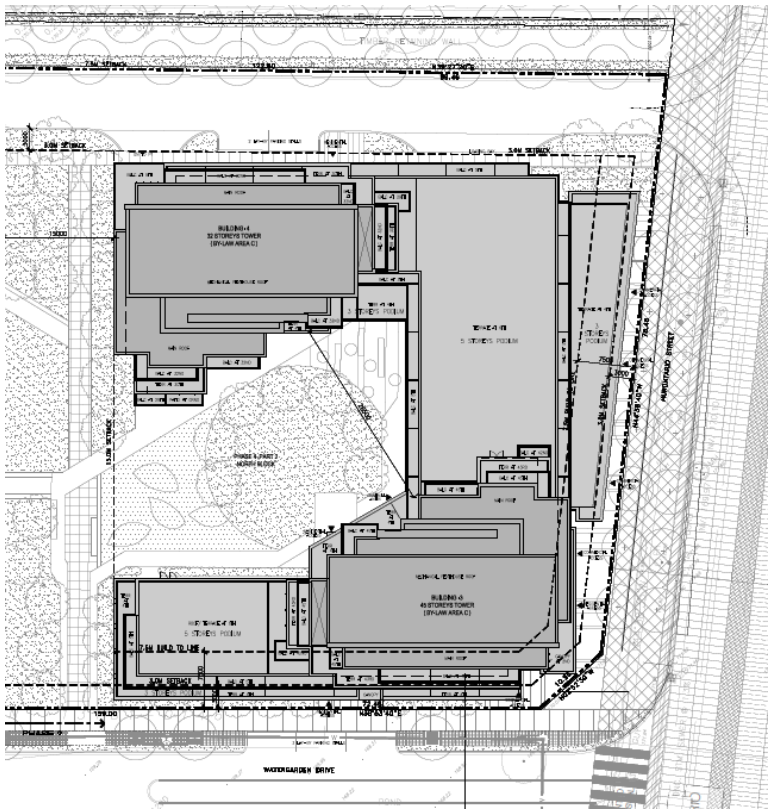
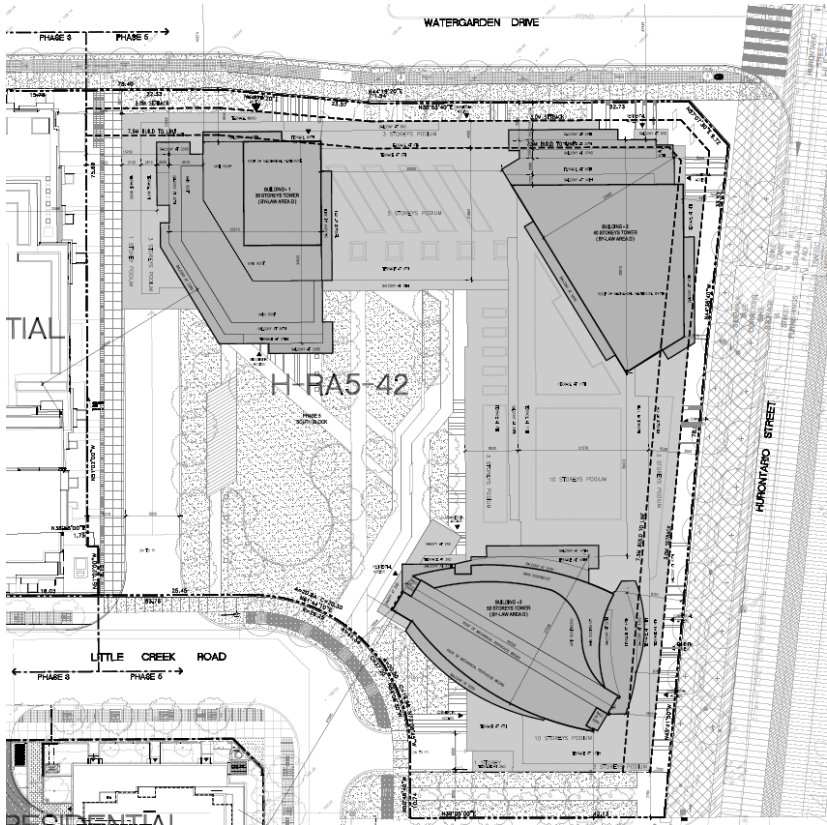


Exhibit 1-6: Proposed Site Plan - Phase 5



2 2017 Existing Conditions

This section documents the transportation network in the study area in 2017, including existing roadways, traffic control measures, intersection performance, walking and cycling facilities, and transit service.

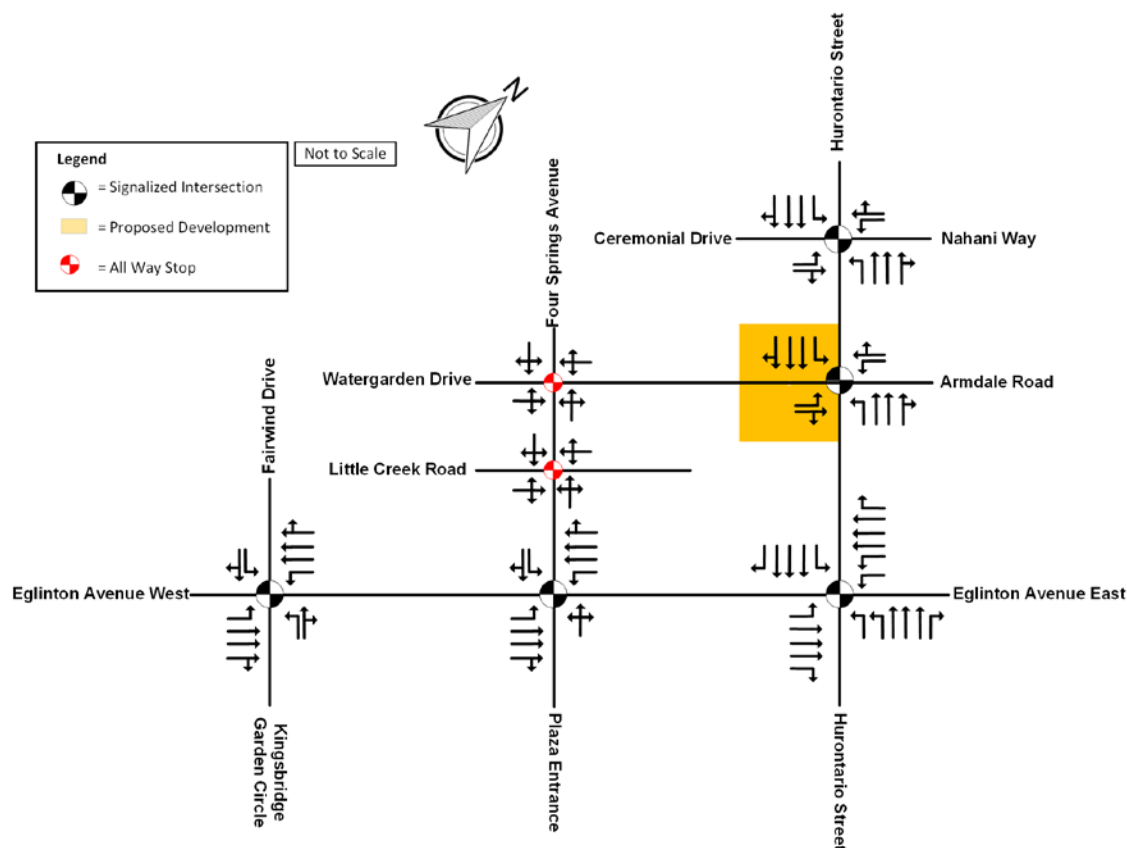
2.1 Existing Road Network

Study area roadways include the following facilities:

- **Hurontario Street** is a six-lane, north-south major arterial corridor. There are three signalized intersections within the study area on Hurontario Street. Sidewalks are provided on both sides of the street, as well as MiWay and Züm bus stops. A raised center median is found along Hurontario Street to restrict left turns from commercial accesses. The posted speed limit is 60 km/h throughout the study area.
- **Eglinton Avenue West** is a six-lane, east-west municipal road which connects the west side of Mississauga to Toronto. Posted speed limit signs of 60 km/h is in effect. Eglinton Avenue West is served by MiWay Route 35 and Route 87 bus service, with bus stops and sidewalks on both sides of the street.
- **Watergarden Drive** is a two-lane east-west local road which serves as an eastern access to the subject site from Hurontario Street. There are no sidewalk provisions and posted speed limit signs were not observed on Watergarden Drive; therefore, the municipal default speed limit of 50 km/h was assumed to be in effect on Watergarden Drive.
- **Little Creek Road** is a two-lane east-west local road which serves as an eastern access to the subject site from Hurontario Street. There are no sidewalk provisions and posted speed limit signs were not observed on Little Creek Road; therefore, the municipal default speed limit of 50 km/h was assumed to be in effect on Little Creek Road.
- **Four Springs Avenue** is a two-lane north-south local road connecting the subject site to Eglinton Avenue West. This road provides the south access to the site, with sidewalks on the east side of the street. Speed limits are unposted; therefore, an assumption of 50 km/h was utilized.
- **Ceremonial Drive / Nahani Way** is a two-lane east-west local road which intersects with Hurontario Street and provides access to residential neighbourhoods and schools. Sidewalks are found on both sides of the street with a posted speed limit of 50 km/h.
- **Fairwind Drive / Kingsbridge Garden Circle** is a two-lane, north-south local roadway which intersects with Eglinton Avenue West and leads to residential neighbourhoods and schools. Sidewalks are found on both sides of Kingsbridge Garden Circle and the west side of Fairwind Drive. The posted speed limit is 50 km/h on this road.

Lane configurations for study area roadways are illustrated in **Exhibit 2-1**.

Exhibit 2-1: Existing Study Area Lane Configurations



2.2 Existing Transit / Active Transportation Network

A total of five bus routes operate along Hurontario Street and Eglinton Avenue West within the study area. **Exhibit 2-2** illustrates the bus stop locations within the immediate study area, and **Exhibit 2-3** presents the service frequency obtained from the MiWay and Brampton Transit website. As noted, transit service is frequent and accessible during the weekday peak hours.

Additionally, the study area is located approximately 1.5 km north of the Mississauga City Centre Transit Terminal. MiWay local and express routes are accessible at this terminal, along with Brampton Transit Züm Express. Furthermore, GO Transit regional bus service is available at the transit terminal, offering connections to Toronto and Southwestern Ontario.

Exhibit 2-2: Existing Transit Network

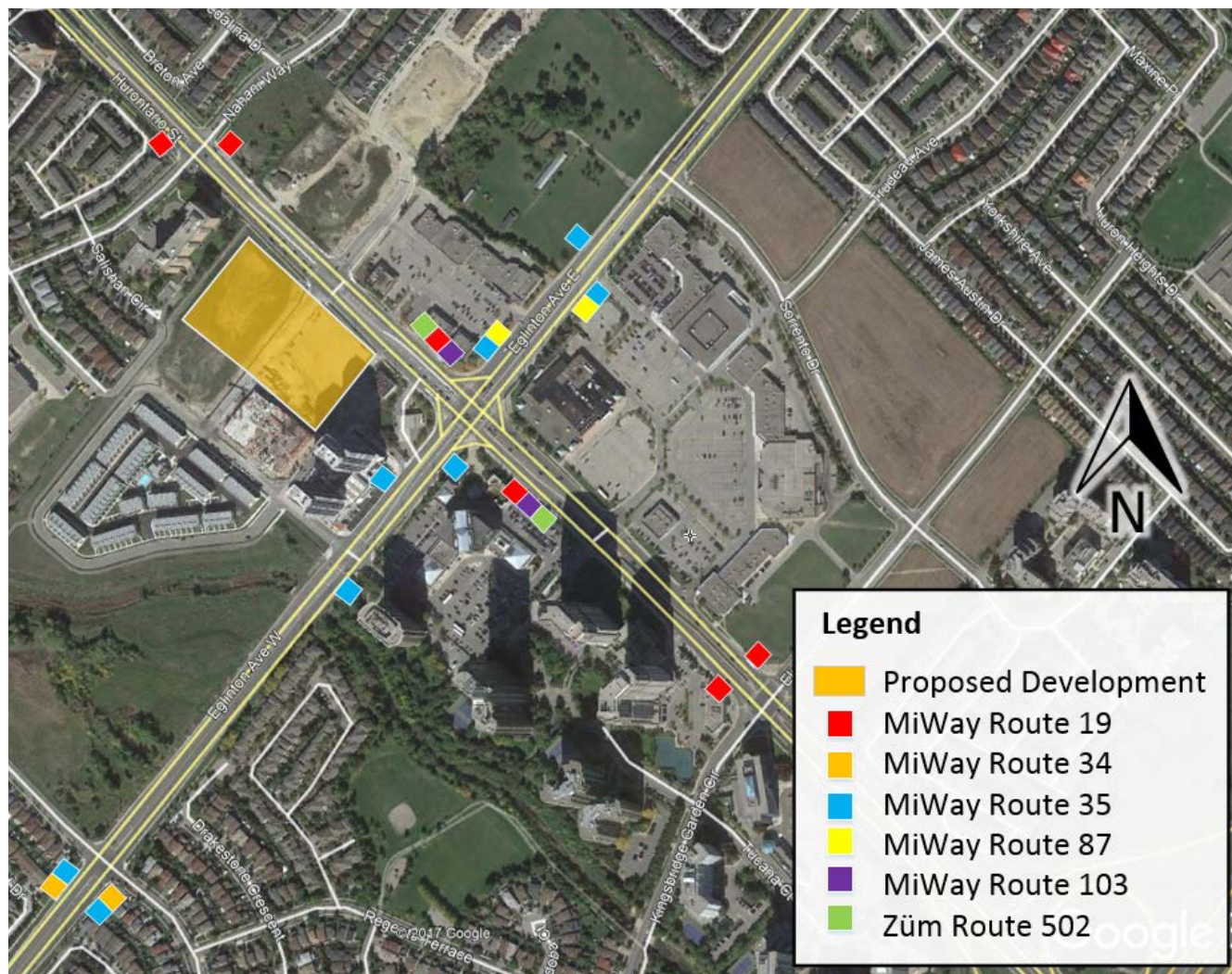


Exhibit 2-3: Existing Transit Peak Hour Frequencies

Route	Weekday Peak Headway (minutes)	
	AM	PM
MiWay - Route 19 (Hurontario)	5	5
MiWay - Route 34 (Credit Valley)	22	23
MiWay - Route 35 (Eglinton)	9	5
MiWay - Route 87 (Meadowvale-Skymark)	20	20
MiWay - Route 103 (Hurontario Express)	9	10
Brampton Transit Züm - Route 502 (Main)	7	8

2.3 Turning Movement Counts

Turning movement counts for the existing study area intersections were collected by Ontario Traffic Inc. (OTI) on October 12, 2017 and the data is provided in **Appendix B**. The survey's study hours were chosen to coincide with weekday AM and PM typical peak period traffic activity on the adjacent roads, and were confirmed with the City of Mississauga.

IBI Group used the turning movement counts to establish a 2017 existing traffic conditions Synchro model.

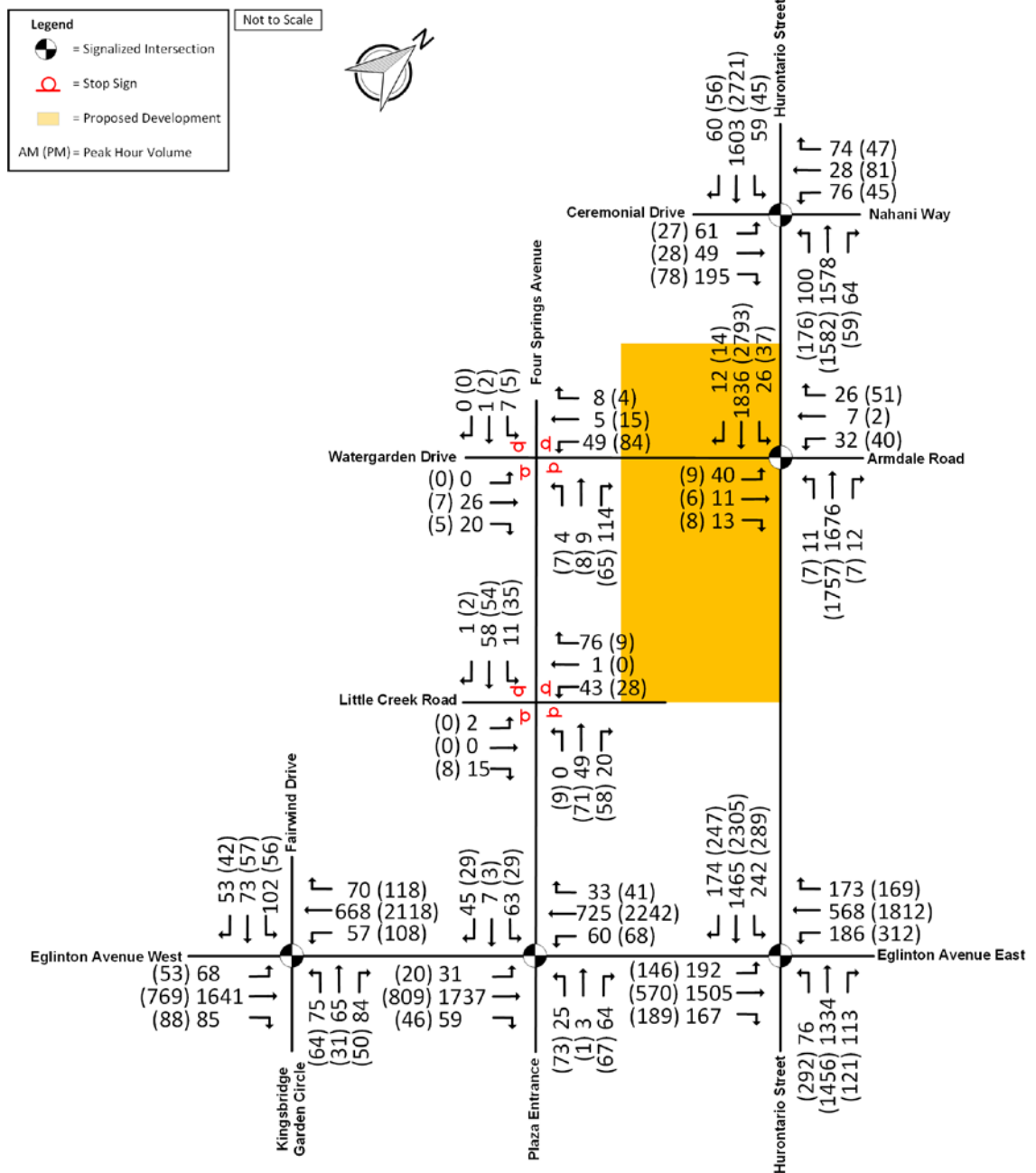
In response to comments received by the City of Mississauga staff on October 17, 2018, turning movement counts for the following unsignalized intersections were collected by Horizon Data Services Ltd. (HDSL) on October 30, 2018:

- Little Creek Road and Four Springs Avenue; and
- Watergarden Drive and Four Springs Avenue.

The new traffic data, also provided in **Appendix B**, was directly used, along with the 2017 counts to establish the updated 2017 existing traffic conditions Synchro model, without making any changes to the volumes. This is a conservative approach taken since Phase 3 of the development has since been fully occupied at the time of the October 17, 2018 counts.

Exhibit 2-4 illustrates the weekday AM and PM peak hour traffic volumes for the study area intersections.

Exhibit 2-4: Existing Conditions Traffic Volumes



NOTE: The arrows in this diagram do not represent the lane configuration. They are only meant to illustrate the turning movement. Not to scale.

2.4 Signal Timing Plans

Signal timing plans for signalized study area intersections were provided by the City of Mississauga, and are presented in **Appendix C**. All intersections operate using a semi-actuated, coordinated mode of control during both peak periods, with Hurontario Street and Eglinton Avenue assigned as the main streets.

2.5 2017 Existing Conditions Analysis

Using the turning movement counts described in **Section 2.3** and the signal timings described in **Section 2.4**, study area intersections were analyzed using the software package Synchro 9.1, which is based on the *Highway Capacity Manual* methodology. Based on the **City of Mississauga Traffic Impact Study Guidelines**, the criteria for identifying critical signalized intersections or movements are as follows:

- Volume to capacity (V/C) ratio exceeds 0.85 for overall intersections operations, through movements, or shared through/turning movements;
- V/C ratio exceeds 0.90 for exclusive movements; or
- 95th percentile queues which exceed available storage.

Exhibit 2-5 details existing traffic operations at the signalized intersections for the AM and PM peak hours. Synchro outputs are found in **Appendix D**. Note that for the analysis of the existing conditions, the peak hour factors (PHF) were calculated for each approach and carried forward to the future background and future total analysis. Queue lengths reported in this study represent the 95th percentile length.

Exhibit 2-5: Existing Traffic Operations - Signalized Intersections

Intersection	Intersection			Critical Movement					
	LOS	Delay	V/C Ratio	Movement	LOS	Delay (s)	V/C Ratio	95th % Queue (m)	Storage Capacity (m)
AM Peak Period									
Ceremonial Dr./Nahani Way & Hurontario St	C	23.2	0.85	EBL	E	56.4	0.29	31	66
				EBTR	E	77.2	0.81	102	-
				WBL	F	100	0.83	44	27
				WBTR	E	56.9	0.34	41	-
				NBL	E	79.2	0.86	76	60
Watergarden Dr./Armdale Rd. & Hurontario St.	A	9.7	0.48	EBL	F	84.4	0.60	26	63
				EBTR	E	71.3	0.13	12	-
				WBL	E	77.1	0.51	22	32
				WBTR	E	71.2	0.12	11	-
Hurontario St. & Eglinton Ave.	E	64.3	1.08	EBT	F	92.4	1.05	252	-
				EBR	E	59.2	0.21	38	100
				WBL	E	78.6	0.71	45	150
				NBL	E	74.4	0.47	22	100
				SBL	F	125	1.10	136	100
				SBR	F	82.0	0.15	43	100
Plaza Entrance/Four Spring Ave. & Eglinton Ave. W	B	13.5	0.52	NBT	F	82.0	0.70	41	-
				SBL	F	89.1	0.71	38	33
				SBTR	E	64.8	0.08	15	-
Kingsbridge Garden Circle/Fairwind Dr. & Eglinton Ave. W	C	23.1	0.67	NBL	E	76.5	0.68	39	16
				NBT	E	71.0	0.69	63	-
				SBL	F	156	1.03	55	35
				SBTR	E	64.2	0.53	51	-
PM Peak Period									
Ceremonial Dr./Nahani Way & Hurontario St	C	26.5	0.85	EBL	E	67.3	0.31	19	66
				EBTR	E	65.4	0.21	28	-
				WBL	E	68.6	0.42	27	27
				WBTR	E	79.3	0.70	58	-
				NBL	F	80.2	0.62	75	60
				SBT	C	31.3	0.92	390	-
Watergarden Dr./Armdale Rd. & Hurontario St.	A	8.8	0.69	EBL	E	70.0	0.12	9	63
				EBTR	E	69.8	0.12	11	-
				WBL	E	75.8	0.52	25	32
				WBTR	E	73.4	0.42	23	-
Hurontario St. & Eglinton Ave.	F	128	1.25	EBL	E	72.0	0.81	71	100
				EBR	F	91.8	0.14	26	100
				WBL	F	179	1.16	95	150
				WBTR	F	156	1.21	300	-
				NBL	F	82.7	0.82	68	100
				NBTR	E	65.3	0.95	208	-
				SBL	F	101	1.06	153	100
Plaza Entrance/Four Spring Ave. & Eglinton Ave. W	C	27.2	0.66	SBTR	F	>180	1.32	414	-
				NBTR	F	82.4	0.79	58	-
				SBL	E	59.9	0.20	19	33
Kingsbridge Garden Circle/Fairwind Dr. & Eglinton Ave. W	C	20.6	0.80	SBTR	E	58.8	0.12	18	-
				EBL	E	67.0	0.81	21	84
				NBL	F	102	0.79	37	16
				NBTR	E	67.4	0.33	26	-
				SBL	E	72.5	0.55	32	35
				SBTR	E	76.9	0.66	49	-

Under existing traffic condition, there are a number of signalized movements in the study area observed to operate with capacity constraints. It is also noted that due to the 160 second cycle length in effect for all signalized intersections in the study area, that long delays were observed for the majority of movements (i.e. LOS 'E' and 'F') despite operations that are within capacity (i.e. V/C ratio). Both unsignalized intersections within the study area operate well within capacity and with minimal delay.

During the AM peak hour, the following observations are noted at the signalized intersections:

- Hurontario Street & Ceremonial Drive / Nahani Way is approaching capacity overall (V/C ratio of 0.85). With regards to specific movements, the northbound left turn movement is approaching capacity (V/C ratio of 0.86), with a queue storage spillover of up to three car lengths for this movement as well as the westbound left turn movement;
- Hurontario Street & Eglinton Avenue West is operating over capacity overall, due to high eastbound through and southbound left turn volumes (V/C ratio greater than 1.00 for both). The southbound left turn queue is observed to spillover past the storage lane by up to approximately six car lengths;
- Eglinton Avenue West & Kingsbridge Garden Circle / Fairwind Drive is operating with acceptable LOS overall; however, there are individual constraints for the southbound left turn movement (V/C ratio of 1.03). Queue storage spillover of up to three car lengths is observed for this movement and up to four car lengths spillover for the northbound left turn movement.

During the PM peak hour, the following observations are noted at the signalized intersections:

- Hurontario Street & Ceremonial Drive / Nahani Way is approaching capacity overall (V/C ratio of 0.85). Individually, the southbound through movement is experiencing some congestion (V/C ratio of 0.92), and there is queue spillover of up to three car lengths for the northbound left turn movement.
- Hurontario Street & Eglinton Ave West is operating with overall capacity constraints (V/C ratio of 1.25). The westbound left turn, westbound through/right turn, northbound through/right turn, southbound left turn, and southbound through/right turn movements are noted to operate with V/C ratios of 0.95 or higher. Also, the southbound left queue is exceeding storage capacity by up to eight car lengths;
- Eglinton Avenue West & Kingsbridge Garden Circle / Fairwind Drive is operating with acceptable overall LOS 'C', with no capacity constraints observed. However, northbound left turn movement spillover of up to approximately three car lengths is observed.

3 2022 Future Background Conditions

This section discusses the development horizon year, growth rate, anticipated future road network improvements, other development related traffic in the study area, and future traffic conditions without subject site trips (i.e. Pinnacle Uptown Phase 4 Part 2 and Phase 5 site traffic).

3.1 Horizon Year and Growth Rate

Upon consultation with the City of Mississauga and as per Mississauga TIS guidelines, a five year horizon (2022) from the date of the TIS report was selected and incorporated for the future background and future total analysis.

Eglinton Avenue annual growth rates were obtained from City staff, summarized in **Exhibit 3-1**. These growth rates were applied to the through movements at study area intersections on Eglinton Avenue West.

Exhibit 3-1: Eglinton Avenue West Annual Growth Rate

Eglinton Avenue West		
Peak Period	Direction of Travel	
	Eastbound	Westbound
AM Peak	0.0%	0.5%
PM Peak	2.0%	0.0%

No annual growth rate was provided by City staff for Hurontario Street due to the proposed Hurontario LRT (light rail transit) corridor scheduled for completion by 2022. Thus, a conservative assumed annual growth rate of 0% was applied to the north and south directions of the study intersections along Hurontario Street. This is based on the assumption that vehicular traffic in the area, as well as existing site trips associated with the occupied Phases 1 and 2 of the Pinnacle Lands will remain identical to existing conditions despite planned significant improvements to transit infrastructure to be located within walking distance.

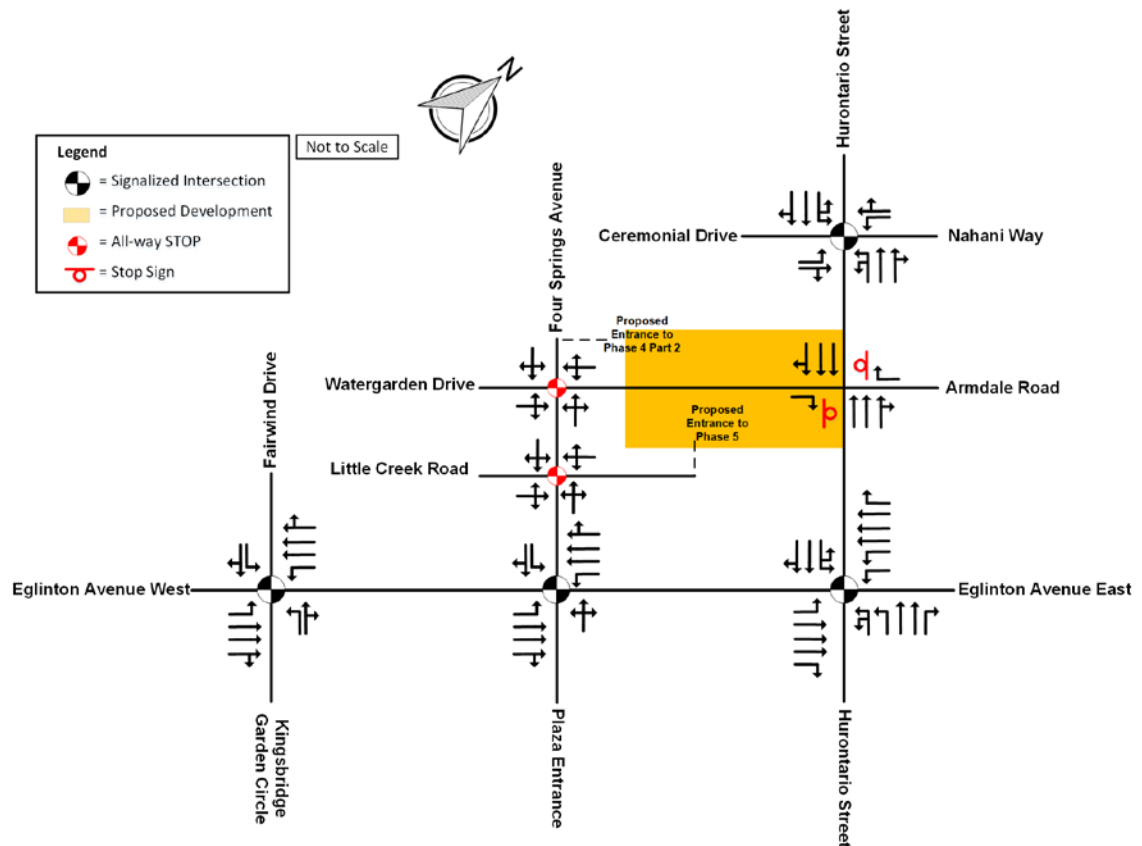
3.2 Future Transportation Network Improvements

Based on a review of the **City of Mississauga Official Plan**, the 2012 **Peel Long Range Transportation Plan**, and the 2008 **Metrolinx 'The Big Move'**, a LRT corridor will be built on Hurontario Street by late 2022. The LRT will connect Mississauga and Brampton from Port Credit to Brampton Terminal.

Understanding that there are unconfirmed lane reconfigurations for the study area's Hurontario intersections, and an absence of documentation regarding the LRT's impact on vehicle traffic volumes, mode choice, and travel behaviour. For the purposes of this TIS report, the Hurontario LRT will be included as part of the future background and future total traffic conditions. It is currently expected that the LRT will operate in a dedicated right-of-way, and the existing six lane Hurontario Street cross section will be reduced.

Lane configurations for future study area roadways, when the Hurontario LRT is full constructed, are illustrated in **Exhibit 3-2**.

Exhibit 3-2: Future Study Area Lane Configurations



As mentioned above, future background and future total conditions will take into consideration the Hurontario LRT project. The following Metrolinx project documents were referenced when creating the Synchro model:

- Appendix B.12, Preliminary System Operations Plan¹;
- Appendix A.1, LRT Infrastructure Design²; and
- Appendix C.8, Public Information Centre (PIC) Materials³.

Based on these documents, a future north-south cross section of two through lanes, one shared right turn lane, and one protected left turn / U-turn lane will be used for the Hurontario corridor intersections. Amber and all-red phases were adjusted to accommodate LRT vehicles, while the cycle lengths were unchanged.

The existing full movement signalized intersection with Watergarden Drive will be removed. Subject site traffic previously making outbound eastbound left turns at Watergarden Drive will instead turn right to make southbound U-turns at the Eglinton Avenue intersection. Similarly, subject site traffic previously making inbound northbound left turns will instead make northbound U-turns at the downstream Ceremonial Drive / Nahani Way intersection.

¹ Metrolinx, Appendix B.12; June 2014.

http://www.metrolinx.com/en/docs/pdf/hurontario_epr/Appendix_B12_Preliminary_System_Operations_Plan.pdf.

² Metrolinx, Appendix A.1; June 2014. http://www.metrolinx.com/en/docs/pdf/hurontario_epr/Appendix_A1_LRT_Infrastructure_Design.pdf.

³ Metrolinx, Appendix C.8; June 2014, http://www.metrolinx.com/en/docs/pdf/hurontario_epr/Appendix_C8_June_2014.pdf.

As per the Metrolinx documents, a target transit level of 22% is set for the 2031 horizon year for the City of Mississauga. The current transit level is 11%. As part of this analysis, it was assumed that a 20% overall reduction in automobile traffic for the corridors within the study area and for the site will be achieved for 2022, to assess potential improvements for traffic operations.

3.2.1 Operational Assessment Adjustments

The following updates were made to the operational assessment of future conditions as a result of the future Hurontario LRT:

- Added Advanced turning signal heads for the eastbound left turn movement into the site at the intersection of Plaza Entrance / Four Spring Avenue and Eglinton Avenue West.
- Updated signal timings for the entire study area to account for the future Hurontario LRT operations. This entailed updating the signal timings to not be more than 140 seconds and then optimizing all phase lengths, as well as restricting left-turn movements at specific intersections, as well as accounting for U-Turn movements at other intersections.
- Redistributed site trips for various movements to better reflect trip distribution and trip assignment when the future LRT is constructed.

3.3 Background Developments

Discussions with City of Mississauga and Peel Region Staff identified no background developments in the study area up to the horizon year 2022. With regards to the Pinnacle Lands, the following preceding phases are noted:

- Phase 1 (Crystal at Pinnacle Uptown);
- Phase 2 (The Marquee Townhomes on the Park);
- Phase 3 (Amber at Pinnacle Uptown); and
- Phase 4 Part 1 (Perla at Pinnacle Uptown).

It is noted that Phase 1 and 2 are completed, and are assumed to be fully occupied. Therefore, the TMC data collected for this study contains site trips related to these phases.

At the time when turning movement counts were conducted in 2017, Phase 3 was under construction, and units in Phase 4 Part 1 were not yet occupied. Consequently, both Phase 3 and Phase 4 Part 1 were treated as background developments. During the new turning movement counts conducted in 2018 for the two unsignalized intersections within the study area, Phase 3 was fully occupied but Phase 4 Part 1 was not yet occupied. Consequently, only Phase 4 Part 1 background site trips were applied to the two unsignalized internal intersections. To assess trips associated with these phases, trip generation estimates were calculated, summarized in **Exhibit 3-3** (for both scenarios) and **Exhibit 3-4** (for Phase 4 Part 1 only). It is expected that a portion of trips will be made by drivers passing by the study area to visit the Retail component of the site. Accounting for these travel behaviours, a total of 303 and 374 new trips are expected at the Pinnacle Lands for the background phases (Phase 3 and Phase 4 Part 1) during the weekday AM and PM peak hours, respectively.

Exhibit 3-3: Background Trip Generation Summary (Phase 3 and Phase 4 Part 1)

Land Use		Unit	Weekday AM Peak Hour			Weekday PM Peak Hour		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Phase 3& Phase 4 Part 1	Residential Condominium / Townhouse, 914 Units* (ITE Code 230)	Trips/Unit	0.06	0.28	0.34	0.28	0.14	0.42
		%	17%	83%	100%	67%	33%	100%
		Gross Trips	48	255	303	244	125	369
		Internal Trips	-	-	-	-	-	-
Phase 4 Part 1	Specialty Retail, 2,508 sq.ft. (ITE Code 826)	Trips/1000 sq.ft.	-	-	-	1.19	1.52	2.71
		%	-	-	-	44%	56%	100%
		Gross Trips	-	-	-	3	4	7
		Internal Trips	-	-	-	0	0	0
		Pass-by Trips	-	-	-	1	1	2
Total New Site Trips			48	255	303	246	128	374

*Note: The residential trip rates were calculated using the fitted curve equation identified in ITE's Trip Generation Manual.

Exhibit 3-4: Background Trip Generation Summary (Phase 4 Part 1)

Land Use		Unit	Weekday AM Peak Hour			Weekday PM Peak Hour		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Phase 4 Part 1	Residential Condominium / Townhouse, 468 Units* (ITE Code 230)	Trips/Unit	0.06	0.28	0.34	0.28	0.14	0.42
		%	17%	83%	100%	67%	33%	100%
		Gross Trips	28	149	177	141	72	213
		Internal Trips	-	-	-	-	-	-
	Specialty Retail 2,508 sq.ft. (ITE Code 826)	Trips/1000 sq.ft.	-	-	-	1.19	1.52	2.71
		%	-	-	-	44%	56%	100%
		Gross Trips	-	-	-	3	4	7
		Internal Trips	-	-	-	0	0	0
		Pass-by Trips	-	-	-	1	1	2
Total New Site Trips			48	255	303	246	128	374

*Note: The residential trip rates were calculated using the fitted curve equation identified in ITE's Trip Generation Manual.

3.4 2022 Future Background Analysis

To provide a basis for comparison with existing conditions, the 2022 future background traffic operation analysis will consist of corridor traffic growth as discussed in **Section 3.1**.

Exhibit 3-5 illustrates 2022 future background traffic volumes into the study area during the weekday AM and PM peak hours.

Exhibit 3-5: 2022 Future Background Conditions Traffic Volumes

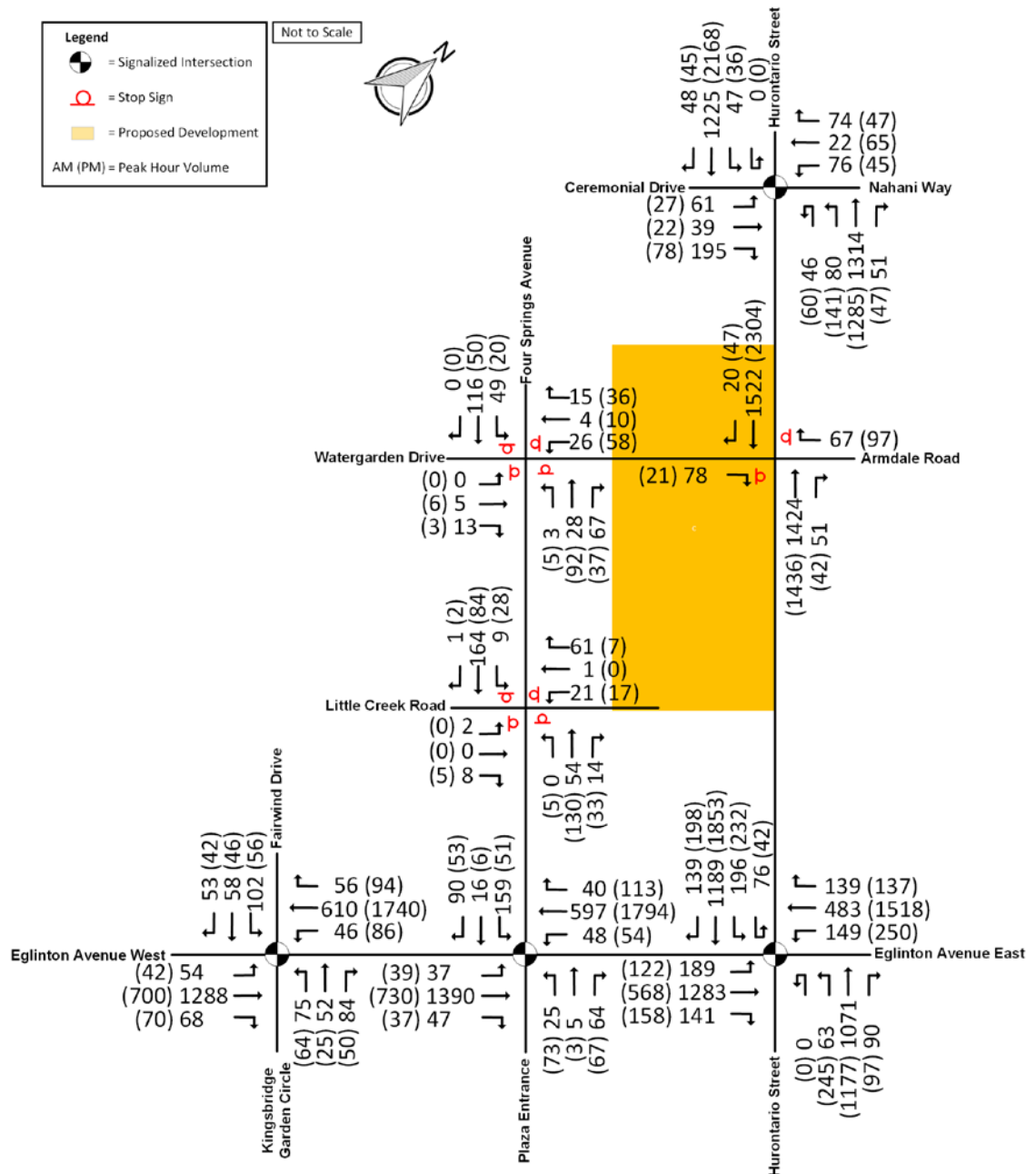


Exhibit 3-6 summarizes the signalized intersection operations in the study area during the AM and PM peak hours. Future background synchro reports are provided in **Appendix E**.

Exhibit 3-6: 2022 Future Background Conditions Traffic Operations - Signalized Intersection Summary

Intersection	Intersection			Critical Movement					
	LOS	Delay	V/C Ratio	Movement	LOS	Delay (s)	V/C Ratio	95th % Queue (m)	Storage Capacity (m)
AM Peak Period									
Ceremonial Dr./Nahani Way & Hurontario St.	D	48	0.93	EBTR	E	68.4	0.79	87	-
				WBL	E	71.4	0.72	38	27
				NBL	E	62.8	0.61	40	90
				NBTR	C	25.7	0.89	98	-
				SBL	E	64.7	0.43	28	120
				SBTR	E	63.9	1.00	274	-
Hurontario St. & Eglinton Ave.	F	240	1.41	EBT	D	51.8	0.88	156	-
				WBL	F	>180	>1.50	55	150
				NBL	F	80.2	0.67	22	100
				NBT	F	118	1.12	236	-
				SBL	F	>180	>1.50	176	130
				SBT	F	>180	1.49	297	-
Plaza Entrance/Four Spring Ave. & Eglinton Ave. W	B	16.8	0.59	SBL	D	35.0	0.63	41	33
Kingsbridge Garden Circle/Fairwind Dr. & Eglinton Ave. W	B	15.3	0.51	NBL	D	48.2	0.54	29	16
				SBL	E	71.1	0.80	39	35
PM Peak Period									
Ceremonial Dr./Nahani Way & Hurontario St	F	225	1.28	EBL	E	59.2	0.25	17	66
				EBTR	E	64.0	0.56	42	-
				WBL	E	61.2	0.42	25	27
				WBTR	E	67.2	0.63	45	-
				SBL	E	66.8	0.42	23	120
				SBTR	F	>180	>1.50	573	-
Hurontario St. & Eglinton Ave.	F	414	1.97	EBL	F	>180	1.28	70	100
				WBL	F	>180	>1.50	91	150
				WBT	E	64.4	0.98	194	-
				NBL	F	>180	>1.50	91	100
				NBT	F	159	1.22	269	-
				SBL	F	>180	>1.50	98	130
				SBT	F	>180	>1.50	257	-
Kingsbridge Garden Circle/Fairwind Dr. & Eglinton Ave. W	B	10.5	0.51	NBL	D	54.2	0.58	27	16

During the AM peak hour traffic conditions, the following is anticipated:

- Hurontario Street & Ceremonial Drive / Nahani Way is anticipated to be approaching capacity overall (V/C ratio of 0.93). With regards to specific movements, the northbound through/right turn movement is anticipated to be approaching capacity (V/C ratio of 0.89) and the southbound through/right turn movement is anticipated to be at capacity (V/C ratio of 1.00). There is an anticipated queue storage spillover of up to two car lengths for the westbound left turn movement; and
- Hurontario Street & Eglinton Avenue West is anticipated to operate over capacity overall (V/C ratio of 1.41 overall). Nearly all individual movements are anticipated to operate above capacity. There is an anticipated queue spillover of up to seven car lengths for the southbound left turn movement.

During the PM peak hour, the following observations are noted at the signalized intersections:

- Hurontario Street & Ceremonial Drive / Nahani Way is anticipated to operate above capacity overall (V/C ratio of 1.28). With regards to specific movements, the southbound through/right turn movement is anticipated to be well over capacity (V/C ratio of more than 1.50); and
- Hurontario Street & Eglinton Avenue West is anticipated to operate over capacity overall (V/C ratio of 1.97 overall). Nearly all individual movements are anticipated to operate above capacity.

Both unsignalized intersections within the study area are anticipated to continue to operate well within capacity and with minimal delay during the AM and PM peak hours.

4 2022 Future Total Conditions

This section of the report analyzes the impact of the proposed development on the future background traffic conditions.

4.1 Site Access

Vehicular traffic is proposed to access the developments via the Hurontario Street / Watergarden Drive intersection and the Eglinton Avenue West / Four Springs Avenue intersection. The five towers that compose the subject site, contained within the Phase 4 Part 2 and Phase 5 development schedule, will be served by internal roads connected to Four Springs Avenue and Watergarden Drive.

As noted in **Section 3.2**, an eastbound left turn restriction at the existing signalized Watergarden Drive / Hurontario Street intersection is anticipated when the Hurontario LRT is constructed. This restriction will cause outbound site traffic to turn right and perform a southbound U-turn at the Eglinton Avenue / Hurontario Street intersection, or to exit via the Four Springs Avenue / Eglinton Avenue West intersection.

Similarly, site traffic previously making inbound northbound left turns will instead make northbound U-turns at the downstream Ceremonial Drive / Nahani Way intersection or enter via the Four Springs Avenue / Eglinton Avenue West intersection.

For the purposes of the traffic operations sensitivity analysis, it was assumed that all affected vehicles will complete the U-turn movement. These route changes are due to the installation of the Hurontario LRT centre median and the removal of existing full movement signalized operations at the Watergarden Drive / Hurontario Street intersection.

4.2 Trip Generation

The gross trips anticipated to be generated by the subject site are examined in this section. The net trips generated are then assigned and distributed to the study area road network.

4.2.1 Trip Reductions Related to Parking Reductions

IBI Group has previously used The Region of Waterloo Parking Management Worksheet to calculate parking supply reductions based on whether or not the development is located in an urban growth centre, intensification corridor, or other area of the city, pedestrian and cyclist orientation of the development, public transportation access, and trip reduction incentives.

In the absence of a comparable municipal or regional resource, this Region of Waterloo worksheet is a suitable resource to utilize for this project to calculate parking reduction based on specific TDM measures. It is also suitable to calculate a reduction in trips, recognizing that the Pinnacle project is also located within an intensification corridor and within the Uptown Major Node Area.

This process assumes that reducing the number of parking spaces for a development would cause a shift of the number of trips made by single-occupancy vehicle (SOV) to trips made by another sustainable form of transportation, calculating the TDM impacts on the parking supply can also justify a reduction in the number of trips made by SOV.

After completing the Parking Reduction Worksheet, found in **Appendix F**, the recommended TDM measures would contribute to an estimated 28% reduction in parking supply in an intensification corridor, within 800m of a rapid transit corridor.

It is noted that a parking reduction is not the same as a reduction in trips generated, but can be used to estimate the number of trips that could potentially be reduced as a result of the implemented TDM measures. To be conservative, a 25% reduction factor was applied to site trips generated by residential and office uses. Due to higher turnover rates for retail uses, this TDM reduction factor was not applied to the retail uses on site, although some benefits would likely be recognized by vehicles destined to those uses.

4.2.2 Trip Generation

The trip generation rates were obtained from the publication *Trip Generation Manual - 9th Edition*. Land Use Code (LUC) 230 (Residential Condominium / Townhouse), LUC 826 (Specialty Retail), and LUC 710 (General Office) were used. **Exhibit 4-1** summarizes the breakdown of the trips generated. A 25% TDM reduction factor in residential and office trips, outlined in **Section 4.2.1**, has also been accounted for. Based on a total of 2,040 residential units, 7,574 sq. m. (81,525 sq. ft.), and 3,900 sq. m. (41,977 sq. ft.) of retail GFA, the site is anticipated to produce a total of 589 and 747 new vehicle trips during the weekday AM peak hour and weekday PM peak hour, respectively.

From the gross trips, a portion is attributed to internal trips (i.e. between the residential and on-site shopping uses). Pass-by (i.e. drivers passing by the site) trip reductions were also applied, based on the retail uses anticipated to occupy the commercial space. It should also be noted that the retail space is assumed to not generate any trips during the weekday AM peak hour, as this is reflective of a typical specialty retail business hours.

Exhibit 4-1: Site Trip Generation Summary

Land Use		Unit	Weekday AM Peak Hour			Weekday PM Peak Hour		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Phase 4 Part 2 & Phase 5	Residential Condominium 2,040 Units* (LUC 230)	Trips/Unit	0.05	0.27	0.32	0.26	0.13	0.39
		%	17%	83%	100%	67%	33%	100%
		Gross Trips	112	546	658	538	265	803
		Internal Trips (7%)	-	-	-	-9	-4	-13
	General Office 81,525 sq. ft. (LUC 710)	Trips/Unit	1.37	0.19	1.56	0.25	1.24	1.49
		%	88%	12%	100%	17%	83%	100%
		Gross Trips	112	15	127	21	101	122
		Internal Trips (7%)	-	-	-	-1	-3	-4
	Specialty Retail 41,977 sq. ft. (LUC 826)	Trips/Unit	-	-	-	1.19	1.52	2.71
		%	-	-	-	44%	56%	100%
		Gross Trips	-	-	-	50	64	114
		Internal Trips	-	-	-	-5	-9	-14
		Pass-by Trips (26%)	-	-	-	-15	-14	-29
	Parking Reduction (25% to residential and office trips)		-57	-139	-196	-140	-92	-232
	Total New Site Trips		167	422	589	439	308	747

*Note: The residential trip rates were calculated using the fitted curve equation identified in ITE's Trip Generation Manual.

4.2.3 Trip Distribution and Assignment

To distribute the trips forecasted to be generated by the subject site, the existing traffic patterns during the weekday AM and PM peak hours were analyzed using the adjacent road network and the following intersections:

- Hurontario Street & Watergarden Drive / Armdale Road;

- Hurontario Street & Eglinton Avenue West; and
- Eglinton Avenue West & Four Springs Avenue / Plaza Entrance.

Using this method, **Exhibit 4-2** summarizes the trip distribution to apply to the new subject site trips based on the logical travel patterns.

Exhibit 4-2: Site Trip Distribution

Origin / Destination	AM Peak Hour		PM Peak Hour	
	Inbound	Outbound	Inbound	Outbound
To/ From North: via Watergarden & Hurontario	12%	22%	16%	10%
To/ From South: via Watergarden & Hurontario	10%	6%	7%	9%
To/ From East: via Watergarden & Hurontario & Eglinton	2%	1%	1%	1%
To/ From East: via Watergarden/Armdale Road	7%	6%	2%	7%
To/ From South: via Four Springs & Eglinton & Hurontario	4%	3%	7%	9%
To/ From East: via Four Springs & Eglinton	30%	32%	42%	26%
To/ From South: via Four Springs / Plaza Entrance	3%	4%	1%	4%
To/ From West: via Four Springs & Eglinton	32%	25%	24%	35%
Total	100%	100%	100%	100%

Pass-by trip assignment for the PM peak hour is presented in **Exhibit 4-3**. The assignment of site traffic, including adjustments made to account for pass-by traffic in the PM peak hour, is presented in **Exhibit 4-4**.

Exhibit 4-3: Pass-by Trips

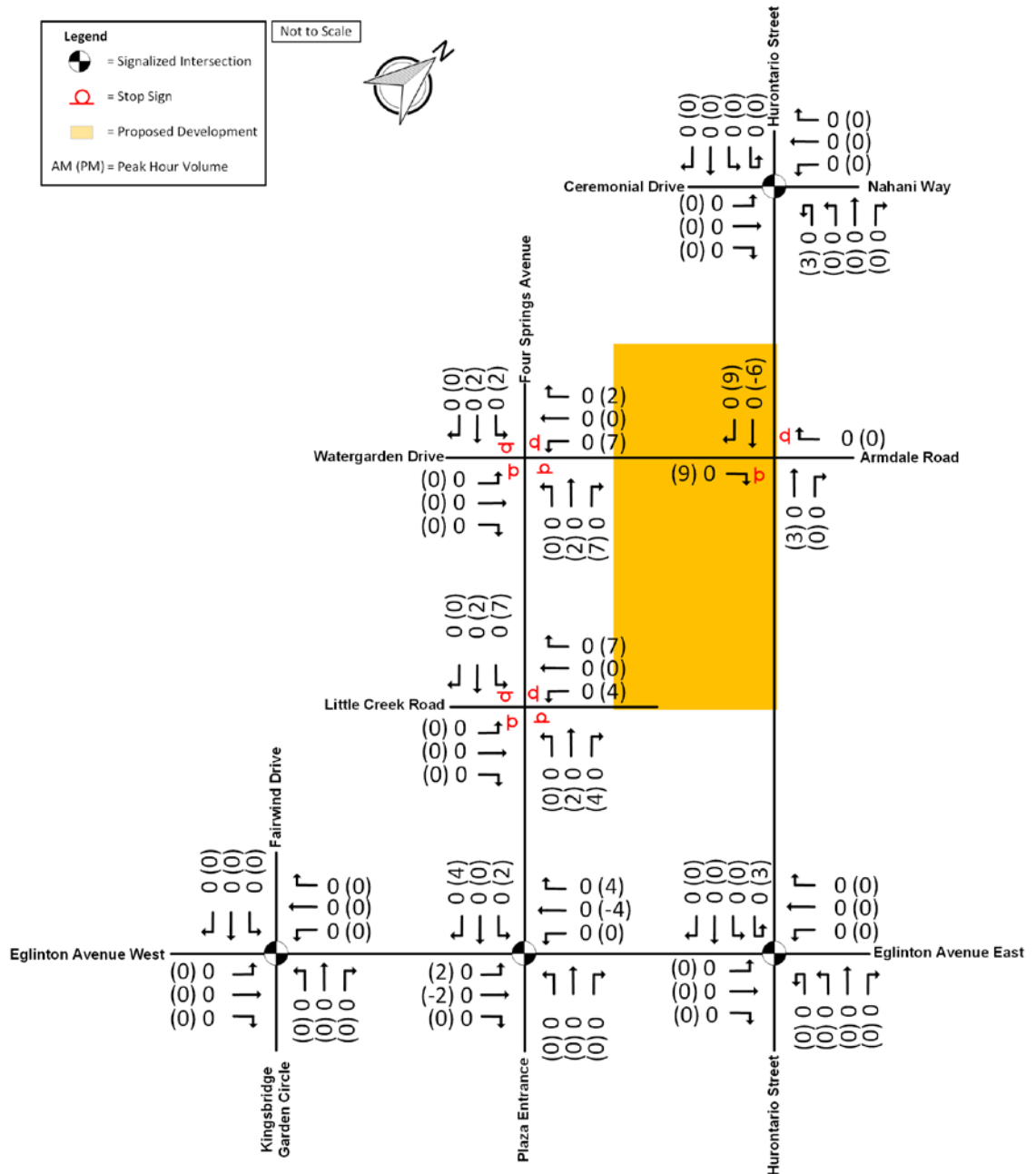
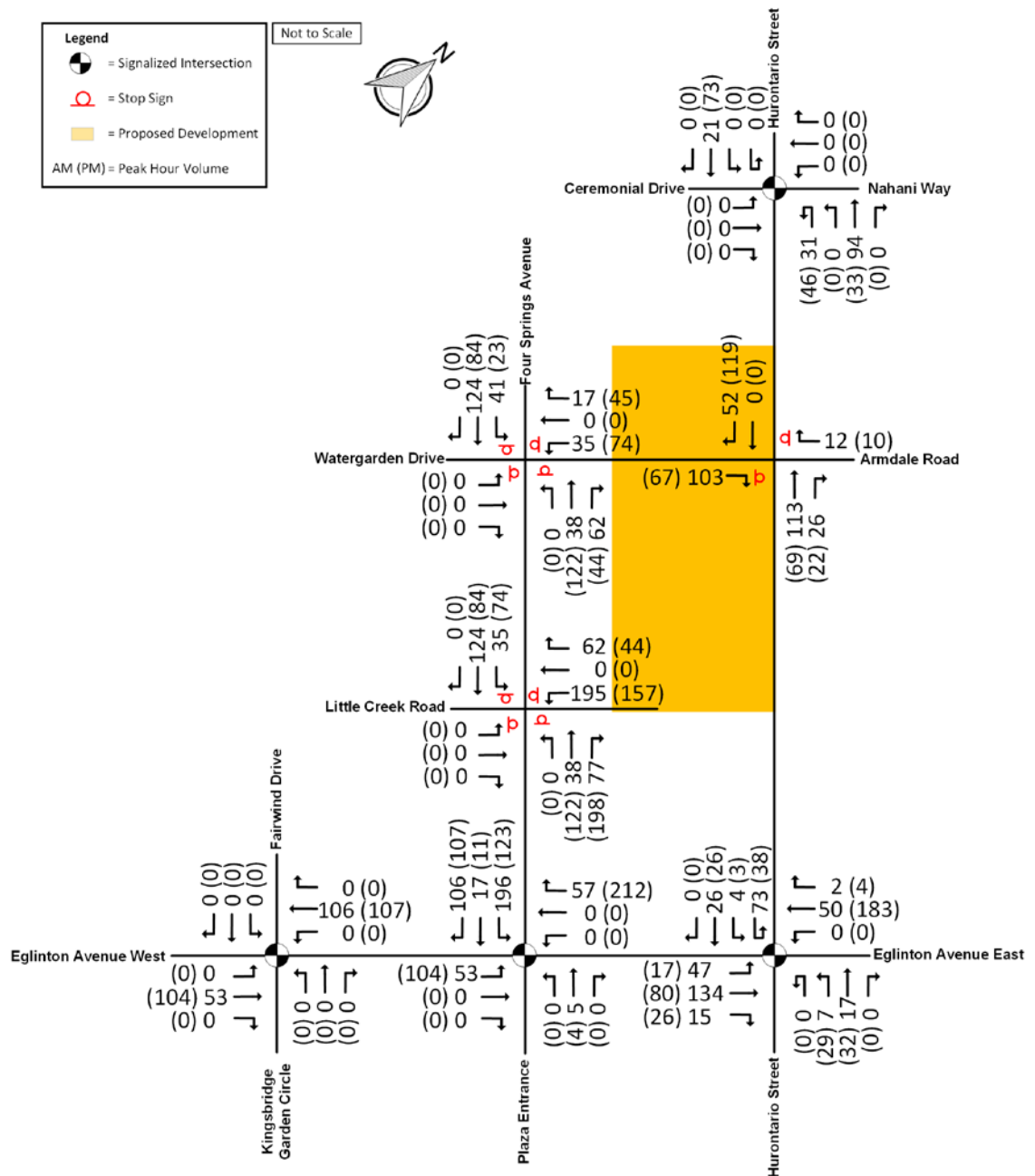


Exhibit 4-4: New Site Traffic Volumes

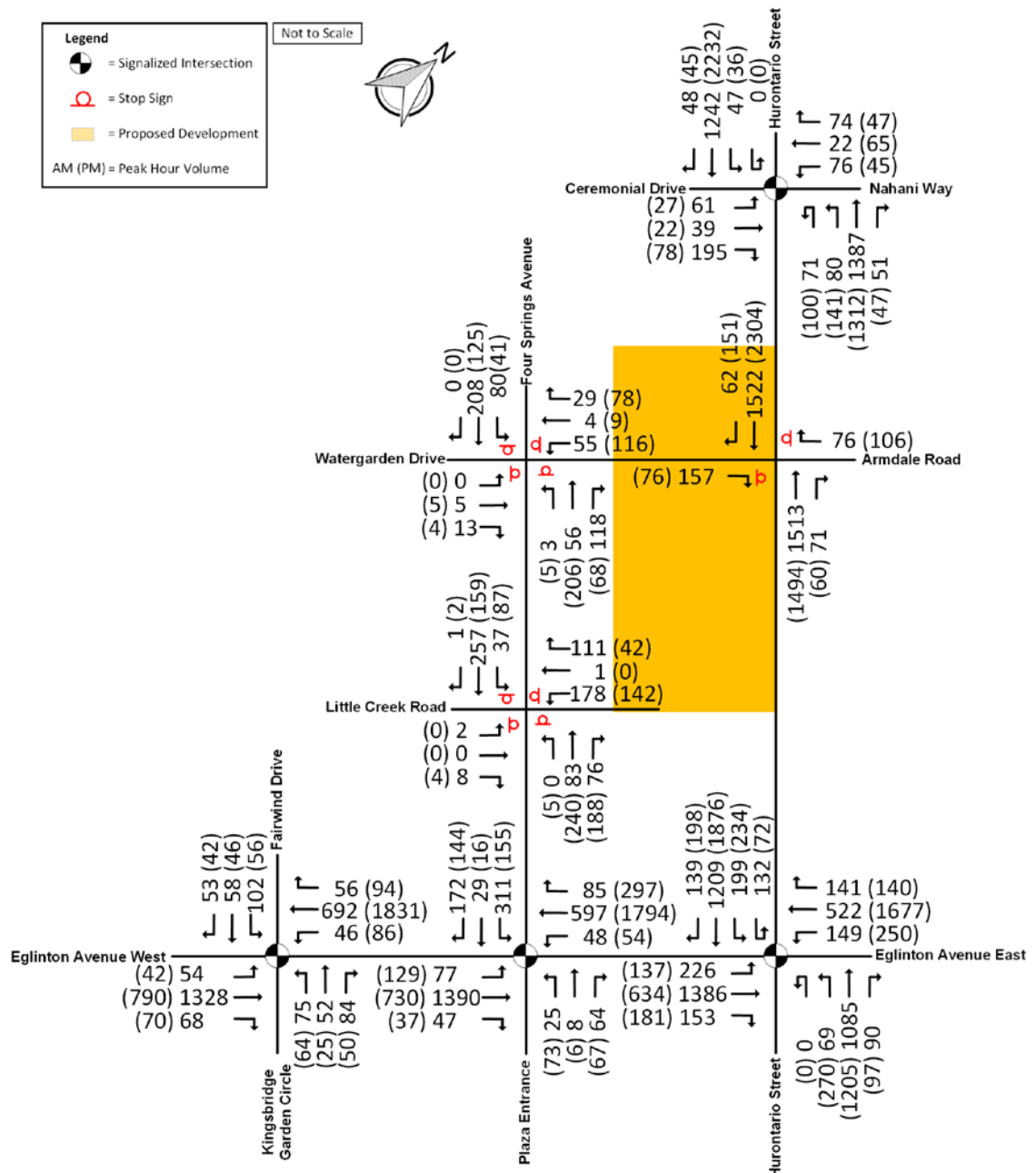


4.3 2022 Future Total Conditions Analysis

New trips resulting from the construction of the proposed development were added to the future background conditions scenario, producing the 2022 future total traffic volumes illustrated in **Exhibit 4-5**.

As mentioned in **Section 3.2**, the Metrolinx documents identify a target transit level of 22% for the 2031 horizon year for the City of Mississauga. The current transit level is 11%. As part of this analysis, it was assumed that a 20% overall reduction in automobile traffic for the corridors within the study area and for the site will be achieved for 2022, to assess potential improvements for traffic operations.

Exhibit 4-5: 2022 Future Total Conditions Traffic Volumes



Using these 2022 future total traffic volumes, a traffic operations analysis was conducted to determine future intersection performance with the impact of the proposed development. The results of this analysis are presented in **Exhibit 4-6**. Future total synchro reports are provided in **Appendix G**.

Exhibit 4-6: 2022 Future Total Conditions Traffic Operations - Signalized Intersection Summary

Intersection	Intersection			Critical Movement					
	LOS	Delay	V/C Ratio	Movement	LOS	Delay (s)	V/C Ratio	95th % Queue (m)	Storage Capacity (m)
AM Peak Period									
Ceremonial Dr./Nahani Way & Hurontario St.	E	60.5	0.98	EBTR	E	68.1	0.80	88	-
				WBL	E	67.7	0.69	37	27
				NBL	E	62.6	0.60	44	90
				NBTR	C	25.2	0.94	107	-
				SBL	E	64.9	0.44	28	120
				SBTR	F	98.3	1.10	280	-
Hurontario St. & Eglinton Ave.	F	317	1.51	EBL	E	67.1	0.88	89	100
				EBT	E	58.0	0.94	181	-
				WBL	F	>180	>1.50	55	150
				NBL	F	99.5	0.79	25	100
				NBT	F	124	1.14	240	-
				SBL	F	>180	>1.50	204	130
				SBT	F	>180	>1.50	279	-
Plaza Entrance/Four Spring Ave. & Eglinton Ave. W	C	22.8	0.75	SBL	D	39.5	0.82	88	33
Kingsbridge Garden Circle/Fairwind Dr. & Eglinton Ave. W	B	15.0	0.52	NBL	D	48.2	0.54	29	16
				SBL	E	71.1	0.80	39	35
PM Peak Period									
Ceremonial Dr./Nahani Way & Hurontario St	F	247	1.33	EBL	E	59.1	0.25	17	66
				EBTR	E	66.4	0.61	45	-
				WBL	E	61.1	0.41	25	27
				WBTR	E	66.9	0.62	45	-
				NBL	E	56.2	0.62	64	90
				SBL	E	66.8	0.42	23	120
				SBTR	F	>180	>1.50	594	-
Hurontario St. & Eglinton Ave.	F	445	2.09	EBL	F	>180	1.43	81	100
				WBL	F	>180	>1.50	91	150
				WBT	F	95.1	1.08	229	-
				NBL	F	>180	>1.50	100	100
				NBT	F	171	1.25	278	-
				SBL	F	>180	>1.50	111	130
				SBT	F	>180	>1.50	258	-
Plaza Entrance/Four Spring Ave. & Eglinton Ave. W	C	26.3	0.83	WBTR	C	30.4	0.94	191	-
				SBL	D	40.9	0.72	41	33

During the AM peak hour, the following operations are anticipated:

- Hurontario Street & Ceremonial Drive / Nahani Way is anticipated to increase in demand overall from V/C ratio of 0.93 under future background conditions to V/C ratio of 0.98 under future total conditions. With regards to specific movements, the northbound through/right turn movement is anticipated to continue to approach capacity (V/C ratio of 0.94) and the southbound through/right turn movement is anticipated to operate above capacity (V/C ratio of 1.10). There is an anticipated queue storage spillover of up to two car lengths for the westbound left turn movement; and
- Hurontario Street & Eglinton Avenue West is anticipated to continue to operate over capacity overall (V/C ratio of 1.51 overall), similar to future background conditions. Nearly all individual movements are anticipated to continue to operate above capacity, similar to future background conditions. There is an anticipated queue spillover of up to eleven car lengths for the southbound left turn movement.

During the PM peak hour, the following observations are anticipated:

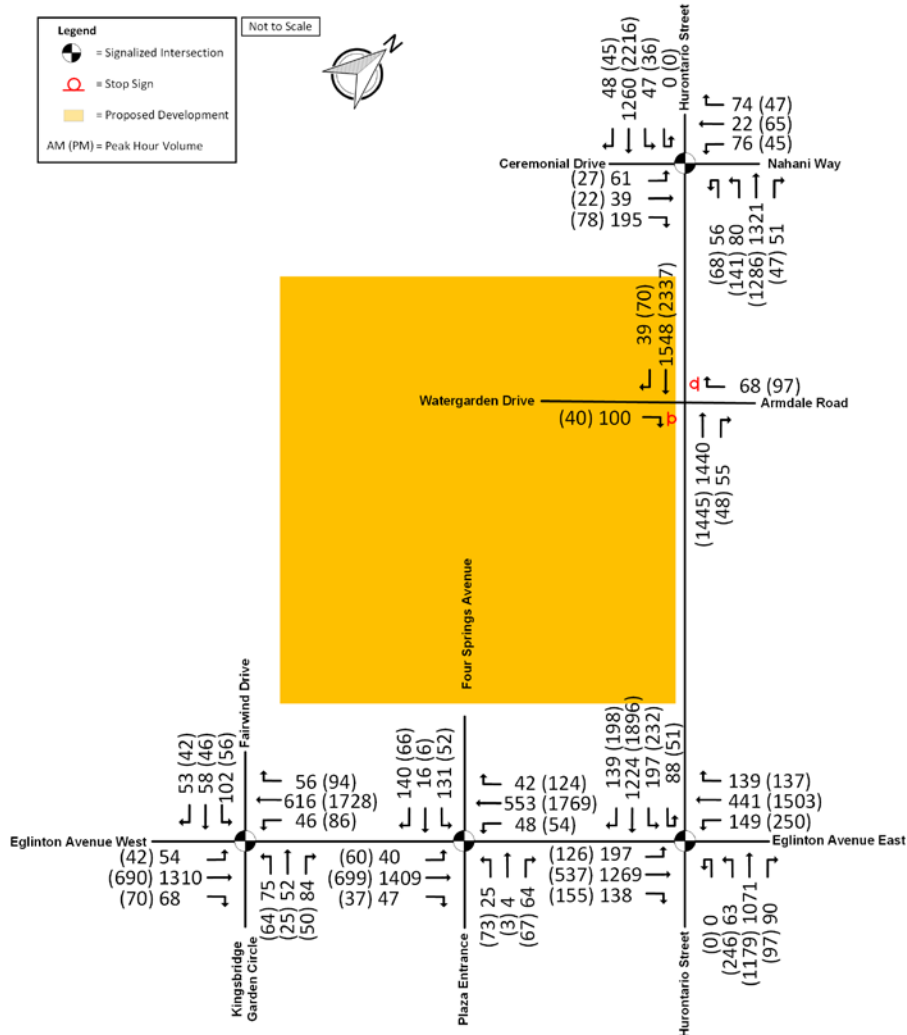
- Hurontario Street & Ceremonial Drive / Nahani Way is anticipated to increase in demand overall from V/C ratio of 1.28 under future background conditions to V/C ratio of 1.33 under future total conditions. With regards to specific movements, the southbound through/right turn movement is anticipated to continue to operate well over capacity (V/C ratio of more than 1.50); and
- Hurontario Street & Eglinton Avenue West is anticipated to operate over capacity overall (V/C ratio of 2.09 overall) with nearly all individual movements continuing to operate above capacity.

Both unsignalized intersections within the study area are anticipated to continue to operate well within capacity and with minimal delay during the AM and PM peak hours.

5 As-Of-Right Comparison

According to the Mississauga Official Plan, a combined total of 1,969 dwelling units are permitted on the subject lands. The proposed amendment to the official plan would include 3,054 dwelling units and of 2,947 sq. m. of GFA for retail uses and 5,543 sq. m. of GFA for office use. The As-Of-Right (AOR) traffic volumes are illustrated in **Exhibit 5-1**.

Exhibit 5-1: AOR Traffic Volumes



The comparison of future traffic operations for the AOR scenario to the proposed amendment was assessed and the results are presented in **Exhibit 5-1** and **Exhibit 5-2** for the weekday AM and PM peak hours, respectively. Synchro output reports for the AOR scenario are provided in **Appendix H**.

For the purpose of this comparison, any volume to capacity (v/c) ratio at the intersection of Hurontario Street and Eglinton Avenue or along Hurontario Street (northbound or southbound) that is above 1.50 has been considered null, since it is assumed that background traffic will naturally divert to adjacent road networks as a result of congestion more than 50% of capacity.

Furthermore, a threshold of 25% difference between the v/c ratio for the AOR and the amendment was considered for any movements operating above capacity.

Exhibit 5-2: AOR Comparison (AM Peak Hour)

Intersection	Movement	AS-OF-RIGHT		PROPOSED AMENDMENT		Change In v/c
		LOS	v/c	LOS	v/c	
Ceremonial Drive/Nahani Way & Hurontario St	EBL	D	0.28	D	0.28	0.00
	EBT	E	0.80	E	0.80	0.00
	WBL	E	0.70	E	0.69	-0.01
	WBT	D	0.14	D	0.14	0.00
	NBL	E	0.60	E	0.60	0.00
	NBT	C	0.89	C	0.94	0.05
	SBL	E	0.43	E	0.44	0.01
	SBT	F	1.06	F	1.10	0.04
	Overall	E	0.96	E	0.98	0.02
Watergarden Drive/Armdale Road & Hurontario St (Unsignalized)	EBR	B	0.20	B	0.30	0.10
	WBR	B	0.12	B	0.14	0.02
Hurontario St & Eglinton Ave E	EBL	D	0.70	E	0.88	0.18
	EBT	D	0.87	E	0.94	0.07
	EBR	C	0.10	C	0.12	0.02
	WBL	F	>1.50	F	>1.50	N/A
	WBT	D	0.29	D	0.34	0.05
	WBR	C	0.10	C	0.11	0.01
	NBL	F	0.67	F	0.79	0.12
	NBT	F	1.12	F	1.14	0.02
	NBR	D	0.07	D	0.07	0.00
	SBL	F	>1.50	F	>1.50	N/A
	SBT	F	>1.50	F	>1.50	N/A
	Overall	F	1.43	F	1.51	0.08
Plaza Entrance/Foursprings Avenue & Eglinton Ave W	EBL	A	0.09	B	0.25	0.16
	EBT	A	0.49	C	0.73	0.24
	WBL	B	0.35	B	0.33	-0.02
	WBT	B	0.24	B	0.36	0.12
	NBT	C	0.45	C	0.16	-0.29
	SBL	D	0.59	D	0.82	0.23
	SBT	C	0.16	C	0.18	0.02
	Overall	B	0.55	C	0.75	0.20
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	EBL	A	0.12	A	0.14	0.02
	EBT	A	0.44	A	0.46	0.02
	WBL	B	0.29	B	0.31	0.02
	WBT	A	0.22	A	0.22	0.00
	NBL	D	0.56	D	0.54	-0.02
	NBT	D	0.59	D	0.61	0.02
	SBL	F	0.84	E	0.80	-0.04
	SBT	D	0.43	D	0.41	-0.02
	Overall	B	0.54	B	0.52	-0.02

Exhibit 5-3: AOR Comparison (PM Peak Hour)

Intersection	Movement	AS-OF-RIGHT		PROPOSED AMENDMENT		Change In v/c
		LOS	v/c	LOS	v/c	
Ceremonial Drive/Nahani Way & Hurontario St	EBL	E	0.25	E	0.25	0.00
	EBT	E	0.58	E	0.61	0.03
	WBL	E	0.42	E	0.41	-0.01
	WBT	E	0.63	E	0.62	-0.01
	NBL	D	0.55	E	0.62	0.07
	NBT	C	0.72	C	0.74	0.02
	SBL	E	0.42	E	0.42	0.00
	SBT	F	>1.50	F	>1.50	N/A
	Overall	F	1.30	F	1.33	0.03
Watergarden Drive/Armdale Road &	EBR	B	0.12	C	0.25	0.13
	WBR	B	0.18	B	0.21	0.03
Hurontario St & Eglinton Ave E	EBL	F	1.32	F	1.43	0.11
	EBT	D	0.37	D	0.43	0.06
	EBR	C	0.11	C	0.13	0.02
	WBL	F	>1.50	F	>1.50	N/A
	WBT	E	0.97	F	1.08	0.11
	WBR	C	0.11	C	0.11	0.00
	NBL	F	>1.50	F	>1.50	N/A
	NBT	F	1.23	F	1.25	0.02
	NBR	D	0.07	D	0.07	0.00
	SBL	F	>1.50	F	>1.50	N/A
	SBT	F	>1.50	F	>1.50	N/A
	Overall	F	2.02	F	2.09	0.07
Plaza Entrance/Foursprings Avenue & Eglinton Ave W	EBL	B	0.32	B	0.55	0.23
	EBT	A	0.24	B	0.33	0.09
	WBL	B	0.17	A	0.15	-0.02
	WBT	B	0.75	C	0.94	0.19
	NBT	D	0.63	C	0.58	-0.05
	SBL	C	0.29	D	0.72	0.43
	SBT	C	0.07	C	0.19	0.12
	Overall	B	0.69	C	0.83	0.14
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	EBL	B	0.40	B	0.46	0.06
	EBT	A	0.24	A	0.27	0.03
	WBL	A	0.21	A	0.24	0.03
	WBT	A	0.50	A	0.53	0.03
	NBL	D	0.58	D	0.58	0.00
	NBT	D	0.20	D	0.20	0.00
	SBL	D	0.47	D	0.47	0.00
	SBT	D	0.51	D	0.52	0.01
	Overall	B	0.51	B	0.53	0.02

As observed in the tables, all movements operating above capacity fall within the threshold of 25% difference between the v/c ratio for the AOR and the amendment. Any movements operating above a v/c of 1.50 when the proposed amendment to the Official Plan is considered, are also operating above v/c of 1.50 for the AOR. Furthermore, these movements are likely made by background traffic travelling along Eglinton Avenue East and/or Hurontario Street. As previously mentioned, it is unrealistic to assume that these drivers will continue to travel along the corridor after full-buildout of both the subject land and the Hurontario LRT. Rather, it is assumed that these drivers will naturally divert to other collector or arterial roads adjacent to the study area.

Since it is assumed that the majority of local traffic will use the two access points into and out of the subject lands, it is important to ensure that all movements into and out of the subject lands will operate within capacity. As observed in the tables, all movements at the intersection of Watergarden Drive/Armdale Road and Hurontario Street and at the intersection of Plaza Entrance/Four Springs Avenue and Eglinton Avenue West will continue to operate below capacity during the AM peak hour and PM peak hour when the proposed amendment to the Official Plan is considered.

5.1 Queuing Analysis

As requested by the City of Mississauga staff, a queue length summary was prepared for future total conditions of both the AOR scenario and the proposed amendment scenario, summarized in **Appendix I**.

5.1.1 Queue Length Summary - AM Peak Period

At the intersection of Eglinton Avenue and Hurontario Street, queues related to the southbound through movement are anticipated to extend to the intersection of Ceremonial Drive / Nahani Way and Hurontario Street in the future total scenario. The queue length related to the southbound through movement is anticipated to be approximately 17 meters longer in the future total scenario than in the AOR scenario, and both are anticipated to extend beyond the intersection of Hurontario Street at Watergarden Drive / Armdale Road. Queues related to the northbound through movement are anticipated to extend beyond the Plaza Entrances (Mississauga Marketplace) along Hurontario Street in both future total and AOR scenarios. Queues related to the eastbound through movement are anticipated to extend to the intersection of Plaza Entrance/Four Springs Avenue and Eglinton Avenue West in the future total scenario. The queue length related to the eastbound through movement is anticipated to be approximately 28 meters longer in the future total scenario than in the as-of-right scenario.

No significant queues are anticipated to occur in both the future total and as-of-right scenarios for all other study area intersections.

5.1.2 Queue Length Summary - PM Peak Period

At the intersection of Ceremonial Drive / Nahani Way and Hurontario Street, queues related to the southbound through movement are anticipated to extend beyond the intersection of Glenn Hawthorne Boulevard / Trailwood Drive and Hurontario Street in both future total and AOR scenarios.

At the intersection of Eglinton Avenue and Hurontario Street, queues related to the southbound through movement are anticipated to extend beyond the intersection of Ceremonial Drive / Nahani Way and Hurontario Street in both future total AOR scenarios. Queues related to the northbound through movement are anticipated to extend beyond the Plaza Entrances (Mississauga Marketplace) along Hurontario Street.

At the intersection of Plaza Entrance/Four Springs Avenue and Eglinton Avenue West, queues related to the westbound through movement are anticipated to extend to the intersection of Eglinton Avenue and Hurontario Street in the future total scenario. The queue length related to the westbound through movement is anticipated to be approximately 42 meters longer in the future total scenario than in the AOR scenario.

No significant queues are anticipated to occur in both the future total and as-of-right scenarios for all other study area intersections.

6 Parking Analysis

It is understood that the Mississauga Zoning By-law in effect for the Pinnacle lands is RA5-42 and 43. These By-laws apply to the Subject Site's residential, visitor, and non-residential parking provisions. The accessible parking supply is governed by Table 3.1.3.1 of the City's "Part 3 Parking, Loading, and Stacking Lane Regulations (July 31, 2016)".

The proposed parking provisions and City requirements for Phase 4 Part 2 and Phase 5 of the subject site are summarized in **Exhibit 6-1**.

Exhibit 6-1: Subject Site Parking Requirements

Parking Use	Size (units or size/100 sq. m.)	Zoning By-law (RA5-42 / 43)	Required Supply
Phase 4 Part 2			
Resident	458	1.1 spaces / 1 bedroom	504
	292	1.1 spaces / 2 bedroom	322
	2	1.2 spaces / 3 bedroom	3
Visitor	752	Greater of 0.15 spaces / unit, or	129
Commercial	29.8	4.3 spaces / 100 sq. m GFA non-residential	
Accessible	-	1 space + 3% of the greater of visitor or commercial spaces (As per Part 3 Parking Regulations Table 3.1.3.1 (July 31, 2016))	5
Total			963
Phase 5			
Resident	873	1.1 spaces / 1 bedroom	961
	339	1.1 spaces / 2 bedroom	373
	76	1.2 spaces / 3 bedroom	91
Visitor	1288	Greater of 0.15 spaces / unit, or	365
Commercial	84.9	4.3 spaces / 100 sq. m GFA non-residential	
Accessible	-	2 space + 2% of commercial spaces (As per Part 3 Parking Regulations Table 3.1.3.1 (July 31, 2016))	10
Total			1,800

According to City of Mississauga's Zoning By-law, a combined total of 2,763 parking spaces are required for the proposed developments (Phase 4 Part 2 and Phase 5), of which:

- 2,254 residential parking spaces are required;
- 494 commercial/visitor spaces are required; and
- 15 accessible spaces are required.

A combined total of 2,459 parking spaces were originally proposed. Of which, a total of 1,950 residential parking spaces were proposed, resulting in a residential parking rate of 0.96 space / unit. This rate was calculated under the assumption that the parking by-law requirements for the non-residential uses would be met.

As discussed in **Section 4.2.1**, the recommended TDM measures would contribute to an estimated 28% reduction in parking supply in an intensification corridor, within 800m of a rapid transit corridor.

The 28% reduction to the proposed residential parking would result in a new residential parking supply of 1,403 spaces (0.69 spaces / unit).

It is considered common practice for a municipality to require less parking spaces for developments within a special policy area within a rapid transit corridor. In the City of Toronto, the majority of the downtown core is part of Policy Area 1, which is comparable to the subject lands located within proximity of the anticipated Hurontario LRT corridor. The City of Toronto's zoning by-law (569-2013) requirements for this policy area is reduced by nearly 34%, as illustrated in **Exhibit 6-2**.

Exhibit 6-2: City of Toronto Zoning By-Law Comparison

City of Toronto Zoning By-law 569-2013		
Parking Use	General Parking Requirements	Policy Area 1 Requirements
Resident	0.8 spaces / bachelor	0.3 spaces / 1 bedroom
	0.9 spaces / 1 bedroom	0.5 spaces / 1 bedroom
	1.0 spaces / 2 bedroom	0.8 spaces / 2 bedroom
	1.2 spaces / 3 bedroom	1.0 spaces / 3 bedroom
Average	0.98 spaces / unit	0.65 spaces / unit

Based on the proximity to rapid transit, and a comparable example in Toronto, a residential parking reduction to 1,403 spaces, to aid with transportation demand management measures, is an appropriate approach for this area. As noted earlier, this supply was calculated under the assumption that the parking by-law requirements for the non-residential uses would be met.

6.1.1 Updated Parking Supply

At the time of submission of this TIS, Pinnacle Uptown has updated their proposed parking supply to reflect the results of this TIS, specifically the results of the parking analysis in **Section 6**. Consequently, the new proposed parking supply (as recommended in **Section 6**) is 651 spaces for Phase 4 Part 2 and 1,261 spaces for Phase 5. A summary of the proposed parking supply is shown in **Exhibit 6-3**.

Exhibit 6-3: New Proposed Parking Supply

Proposed Parking Supply			
Development Phase	Parking Use	Proposed Supply	Total Proposed Supply
Phase 4 Part 2	Residential	517	651
	Visitor / Non-Res	129	
	Accessible	5	
Phase 5	Residential	886	1,261
	Visitor / Non-Res	365	
	Accessible	10	

7 Transportation Demand Management

A following section outlines the Transportation Demand Management (TDM) Plan for the proposed Phase 4 Part 1 and Phase 5 developments.

7.1 Existing TDM Measures

The following subsection outlines the existing TDM measures in place within the study area.

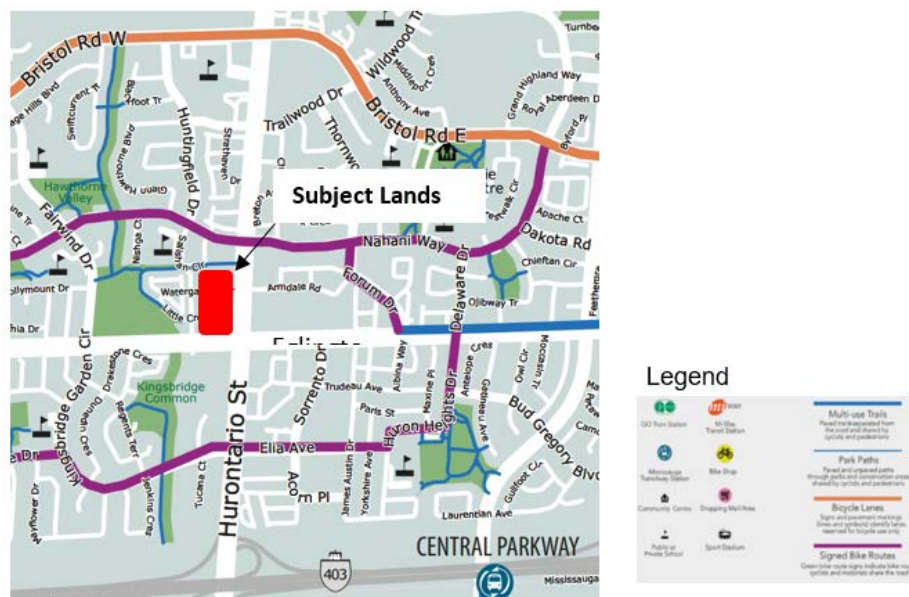
7.1.1 Active Transportation

The subject lands are in close proximity to the following existing active transportation facilities:

- An east-west bike route on Nahani Way/Ceremonial Drive, which is approximately 175 meters north of the site area intersection of Hurontario Street and Watergarden Drive. The cycling facilities on Nahani Way/Ceremonial Drive are planned for an upgrade in the 2018 Cycling Mater Plan for the City of Mississauga.
- An east-west shared on-street bike routes on Elia Avenue approximately 600 meters south of the site location.
- Beginning 600 meters east of the site location there is a multi-use trail along Eglinton Avenue East at the intersection of Eglinton Avenue and Forum Drive. The trail is paved and separated from the road and shared by cyclists and pedestrians.
- A multi-use trail is located along the northern boundary of the site area and runs parallel to Watergarden Drive. This trail connects Hurontario Street to Fairwind Drive as well as to the Cooksville Creek Trail.

These cycling facilities are illustrated in **Exhibit 7-1**.

Exhibit 7-1: Existing Cycling Facilities

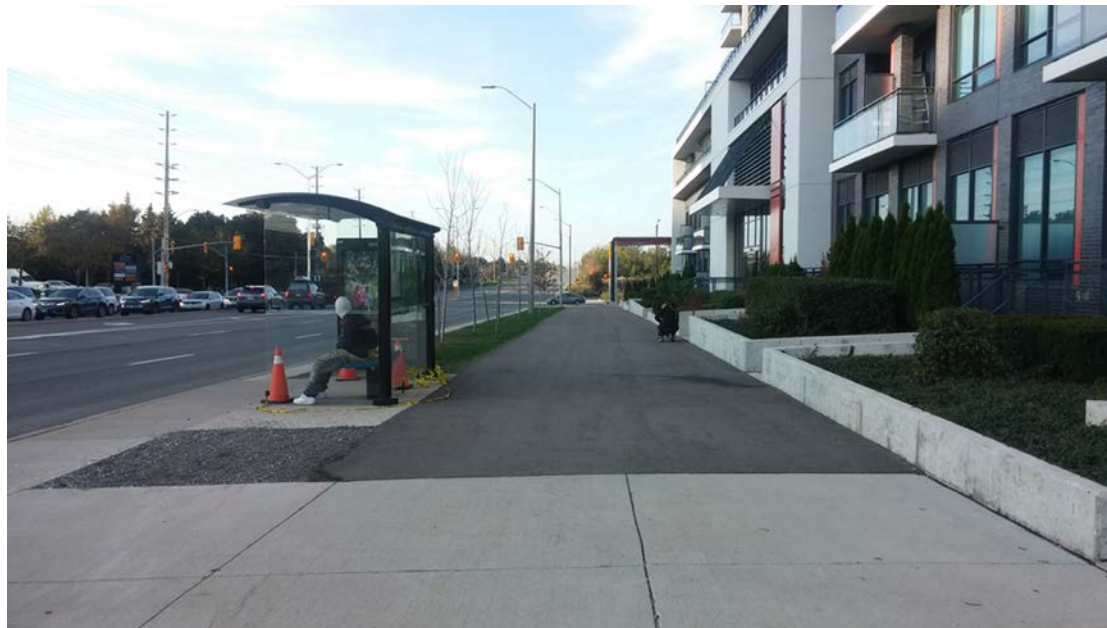


Source: Mississauga Cycling Map

Adjacent to the westbound vehicle lanes of Eglinton Avenue West there is a paved multi-use sidewalk as seen in **Exhibit 7-2**. The sidewalks on the north side of Eglinton Avenue West provide a convenient pedestrian connection to the transit stop while maintaining enough right-of-

way (ROW) to allow for cyclist and pedestrians to share the space while not conflicting with transit riders.

Exhibit 7-2: Photograph of Sidewalk Adjacent to Eglinton Avenue West



At the intersection of Hurontario Street and Eglinton Avenue, enhanced pedestrian crossing treatments have been installed as shown in **Exhibit 7-3**. The contrast between the treatment and the pavement provides enhanced visibility, which serves to increase awareness for drivers' potential conflicts with pedestrians.

Exhibit 7-3: Photograph of Pedestrian Crossing Treatment at Hurontario Street and Eglinton Avenue



7.1.2 Public Transit

As discussed in **Section 2.2**, a total of five bus routes operate along Hurontario Street and Eglinton Avenue West within the study area. Transit service is frequent and accessible during the weekday peak hours.

Additionally, the study area is located approximately 1.5 km north of the Mississauga City Centre Transit Terminal. MiWay local and express routes are accessible at this terminal, along with Brampton Transit Züm Express. Furthermore, GO Transit regional bus service is available at the transit terminal, offering connections to Toronto and Southwestern Ontario.

7.2 Proposed On-Site TDM Measures

The following subsection addresses the proposed on-site TDM measures at the proposed developments.

7.2.1 Walking

The extension of the multi-use path on the north boundary of the site plan area will provide access to the Cooksville Creek Trail, which is a paved pathway for cyclists and pedestrians. The Cooksville Creek Trail is a major pedestrian route that links to other pedestrian facilities nearby.

As seen in **Exhibit 7-4** and **Exhibit 7-5**, there are multiple residential pedestrian entrances facing Watergarden Drive, which will provide pedestrian access to the multi-use trail. There are separate entrances for the difference uses of the site. There are also multiple entrances to the commercial units facing Hurontario Street, adjacent to pedestrian facilities.

Exhibit 7-4: Phase 4 Part 2 Access Point Locations

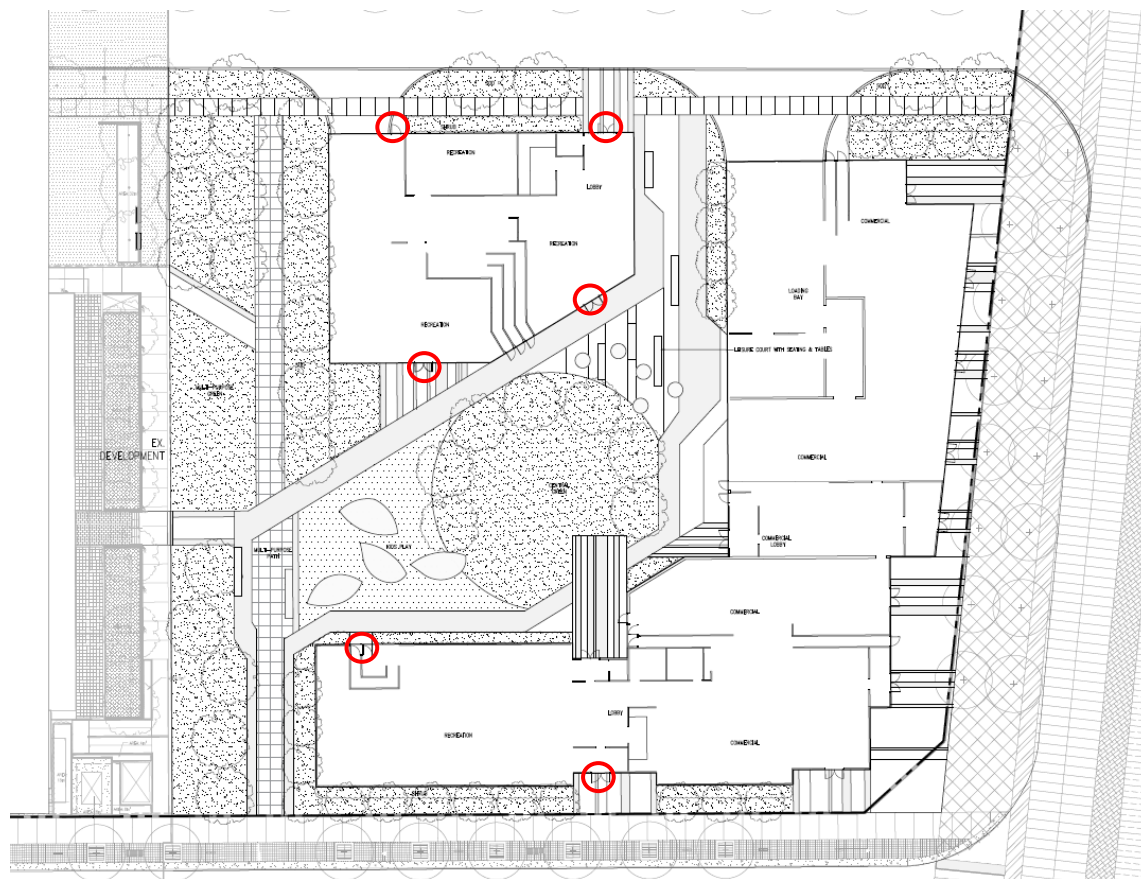
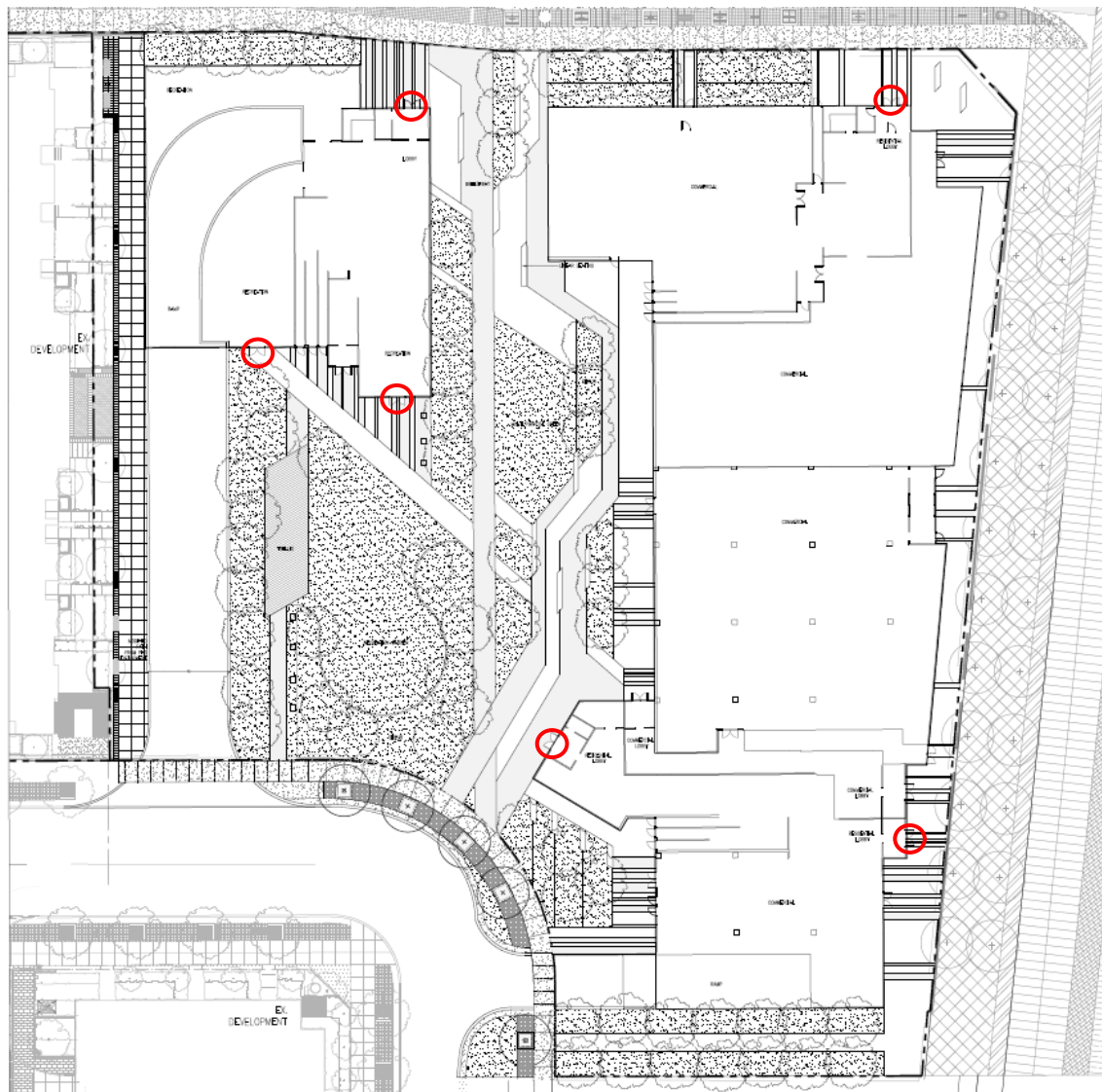


Exhibit 7-5: Phase 5 Access Point Locations



Landscaping around the site location will have pedestrian walkways that connect each building and provide connections to transit stops and cycling facilities. The pedestrian and cycling facilities will be separated from vehicle traffic with wide boulevards with trees and planters to provide a pleasant pedestrian experience as shown in **Exhibit 7-6** and **Exhibit 7-7**

Exhibit 7-6: North Side Landscape Plan depicting pedestrian and cycling facilities

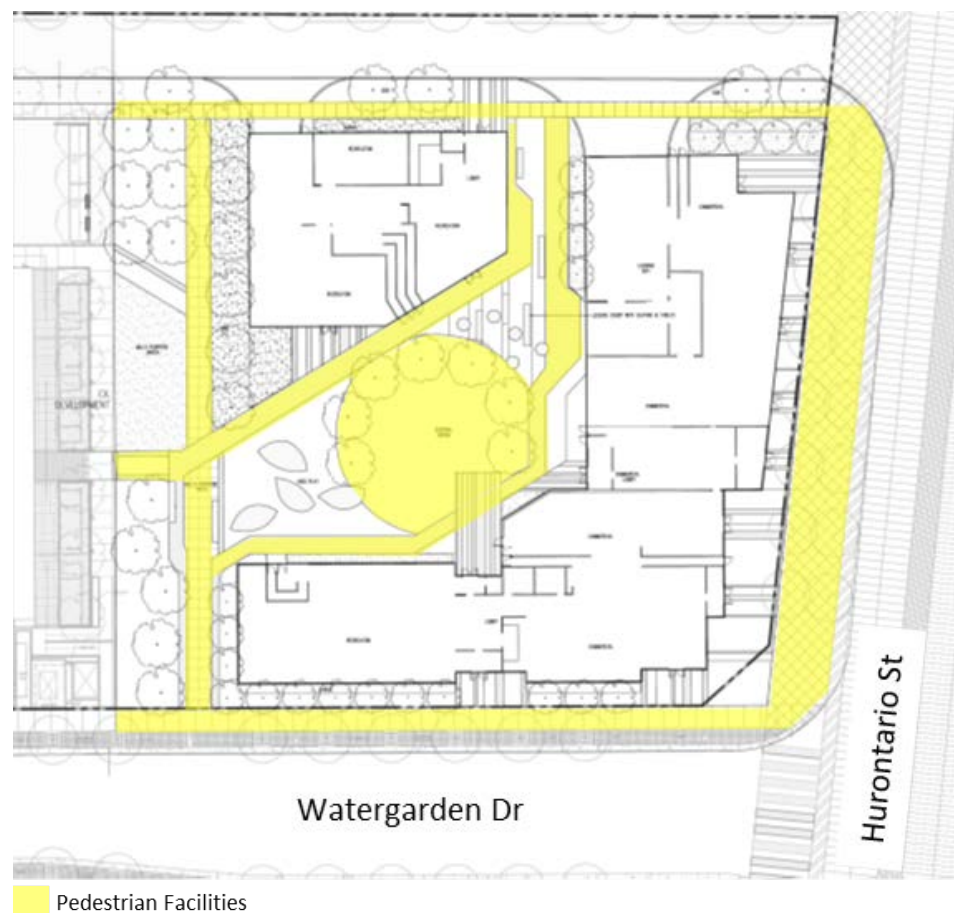
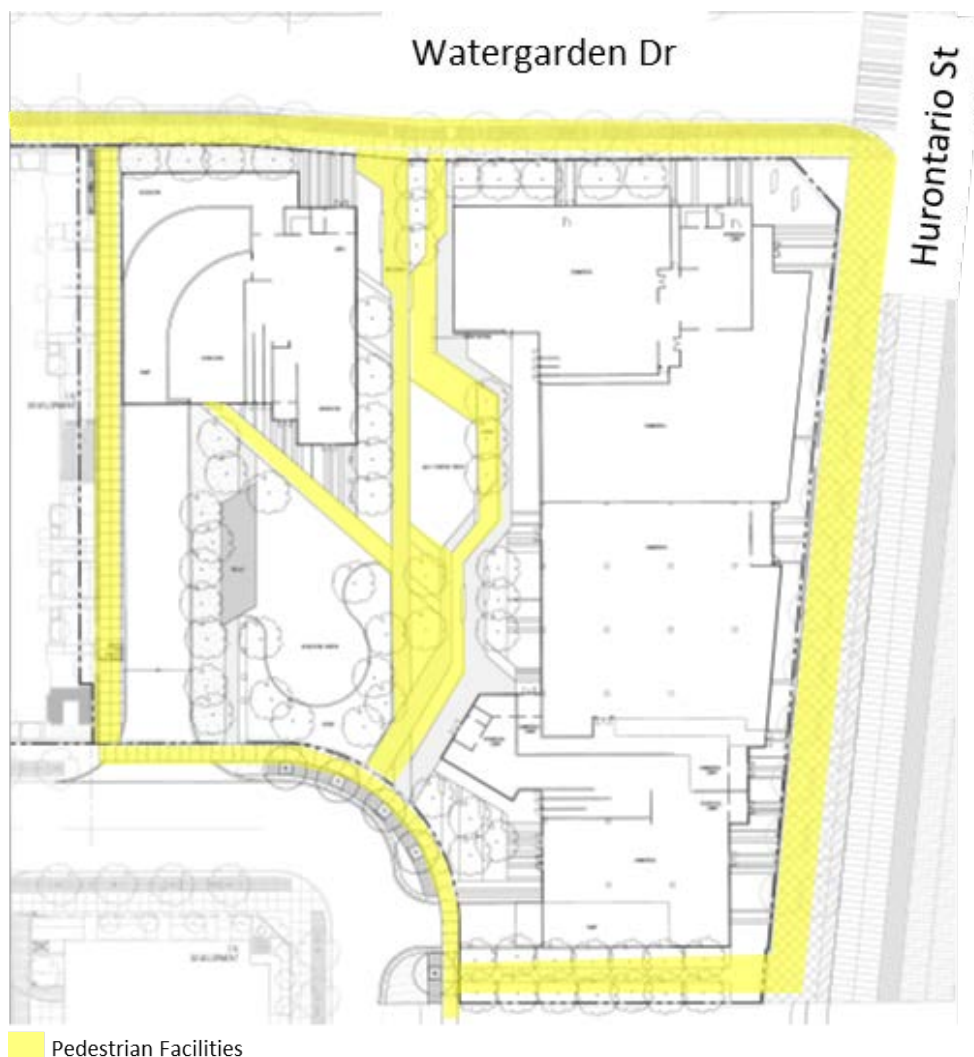


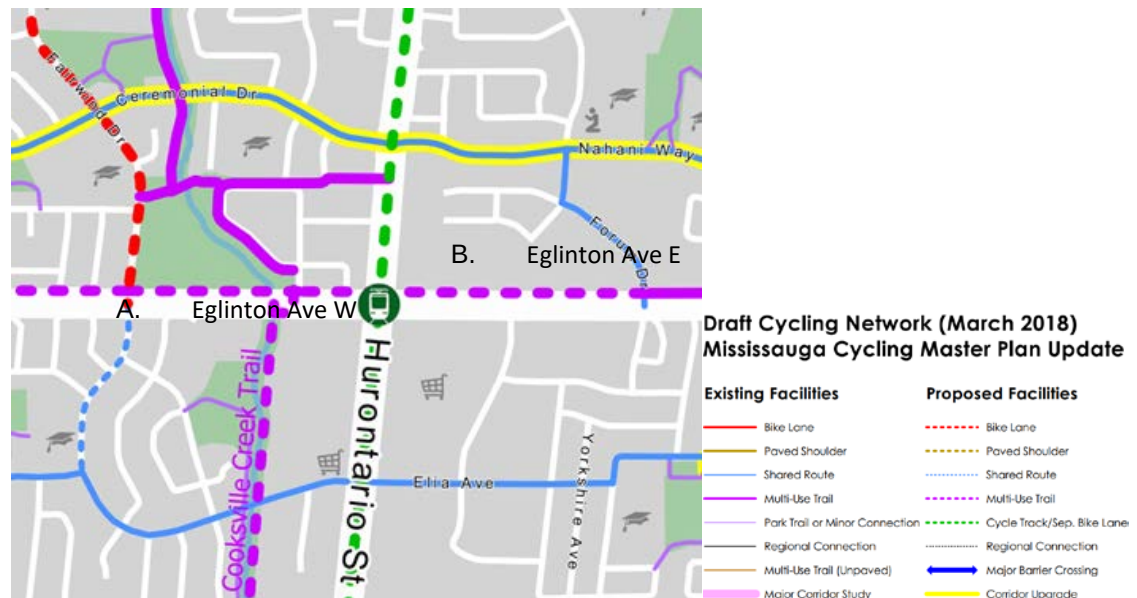
Exhibit 7-7: South Side Landscape Plan Depicting Pedestrian and Cycling Facilities



7.2.2 Cycling

The subject lands are located on the proposed north-south on-road bike lanes on Hurontario Street and the proposed east-west boulevard bike lanes on Eglinton Avenue within the City of Mississauga 2018 Cycling Master Plan. The approved Hurontario-Main Street Corridor Master Plan includes provision for cycling facilities along the proposed LRT corridor shown in **Exhibit 7-8**. The treatment will include a cycle track along Hurontario Street, which is a separated cycling facility. A cycle track will allow for cyclist of all ages and abilities to feel comfortable while using this facility.

Exhibit 7-8: City of Mississauga Existing and Proposed Cycling Routes



Source: Mississauga Cycling Map

According to the comments received from the City of Mississauga staff comments provided to IBI Group on October 17, 2018, found in **Appendix J**, it is recommended that:

- The owner agrees to provide the purchaser/ tenant of each condominium dwelling unit with one (1) PRESTO - transit smart card loaded with a minimum value of \$25.00 (twenty-five dollars).
- The owner agrees to provide accessible, secure, and weather protected long-term (indoor) bicycle parking spaces, as well as accessible short-term (outdoor) bicycle parking spaces located adjacent to the main entrances.
 - Recommended bike parking rates are as follows:
 - Residential unit: 0.8 spaces per unit for in-door parking; minimum 6 spaces for visitors.
 - Business office: 0.5 per 500 sq meter (GFA) for indoor parking; 0.5 per 500 sq meter (GFA) for outdoor parking.
 - Retail: 0.5 per 500 sq meter (GFA) for indoor parking; 1.0 per 500 sq meter (GFA) for outdoor parking.

The recommended bicycle parking supply is summarized in **Exhibit 7-9**.

Exhibit 7-9: City of Mississauga Recommended Bicycle Parking Supply

CATEGORY		RECOMMENDED BIKE PARKING RATE
Residential	Long-term spaces	0.8 spaces per unit for in-door parking = 1,632 spaces
	Short-term spaces	Minimum 6 spaces.
Business Office	Long-term spaces	0.5 per 500 sq meter (GFA) for indoor parking = 8 spaces
	Short-term spaces	0.5 per 500 sq meter (GFA) for outdoor parking = 8 spaces
Retail	Long-term spaces	0.5 per 500 sq meter (GFA) for indoor parking = 4 spaces
	Short-term spaces	1.0 per 500 sq meter (GFA) for outdoor parking = 8 spaces
TOTAL		Short term: 22 spaces Long term: 1,644 spaces

The recommended bike parking is 1,644 long-term spaces and 44 short-term spaces. However, it is not common practice in Ontario to create a bike room with 1,644 bicycle spaces. It is recommended that each unit have a storage locker that could be used to store a bike if the tenant chooses.

The north and south blocks of the proposed development will each meet the City of Mississauga's requirements for short term bicycle parking. Long-term bike parking is available in the indoor bike room with a capacity of 50 spaces located at grade. In addition, each unit will be sold with a storage locker in the parkade should residents choose to store their bicycles in their lockers. Depending on the underground parking garage level, the location of the storage lockers may vary.

Furthermore, as recommended by the City of Mississauga staff, the tenants of each condominium dwelling unit will be provided with one (1) PRESTO – transit smart card loaded with a minimum value of \$25.00 (twenty-five dollars).

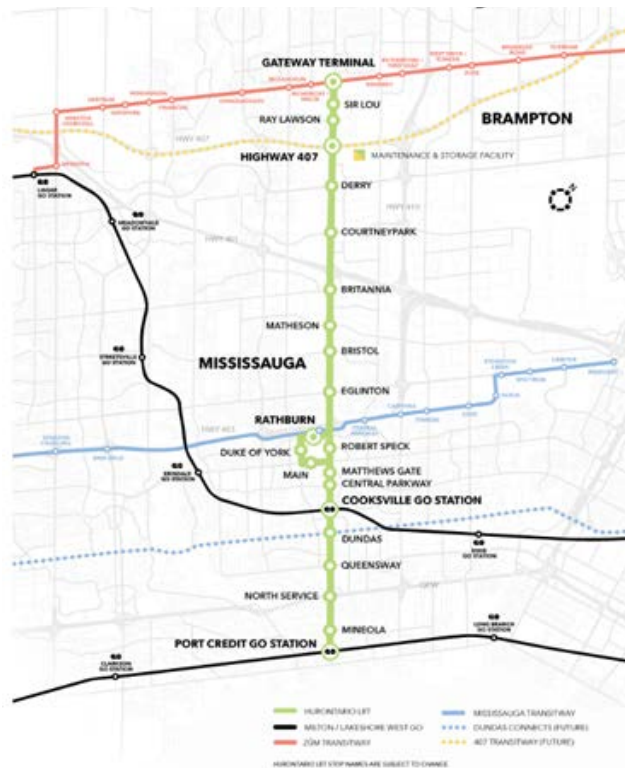
7.2.3 Parking

As discussed in **Section 4.2.1**, as a TDM approach, a 28% reduction in parking supply has been calculated as a result of the subject site being located in an intensification corridor, within 800m of a rapid transit corridor. This can encourage residents and visitors to choose an alternative mode of transportation and lower auto ownership rates.

7.2.4 Transit

The proposed development is located adjacent to the proposed Hurontario LRT corridor. The Hurontario LRT system will be built adjacent to the site on Hurontario Street by late 2022. The LRT system will connect Mississauga and Brampton from Port Credit to Brampton Terminal. The LRT stops are shown in **Exhibit 7-10**. When the planned Hurontario LRT is completed, a corresponding reduced dependence on automobile usage is anticipated, resulting in a lower automobile mode share for the adjacent road network and the subject lands. A concept of the completed LRT project at the site location in front of the completed Pinnacle project on Hurontario Street is show in **Exhibit 7-11**.

Exhibit 7-10: Future LRT Stop Locations



Source: Metrolinx

Exhibit 7-11: Three-Dimensional Perspective View of Hurontario Street



CONCEPT ONLY NOT COORDINATED WITH
LANDSCAPE PLANS



7.2.5 Wayfinding and Travel Planning

Information will be made available to tenants about a suite of transportation options in the area, including bike maps, bus route maps and bus schedules. This information will be made available in the administrative office of the apartment building, and can also be included in welcome packages for new building tenants.

8 Conclusions

This section summarizes the key findings of this transportation impact study and parking analysis.

8.1 Transportation Impact Study Findings

8.1.1 2017 Existing Conditions

- Under existing traffic conditions, there are a number of signalized movements in the study area observed to operate with capacity constraints.
- The intersection of Hurontario Street and Eglinton Avenue West is currently operating beyond capacity during the weekday AM and PM peak hours.

8.1.2 2022 Future Background Conditions

- As per the Metrolinx documents, a target transit level of 22% is set for the 2031 horizon year for the City of Mississauga. The current transit level is 11%. As part of this analysis, it was assumed that a 20% overall reduction in automobile traffic for the corridors within the study area and for the site will be achieved for 2022, to assess potential improvements for traffic operations.
- The intersection of Ceremonial Drive/Nahani Way and Hurontario Street is anticipated to approach capacity during the AM peak period and operate beyond capacity during the PM peak hour.
- During both peak traffic hours, the Eglinton Avenue / Hurontario Street intersection is expected to operate beyond capacity. It is noted that this intersection is already operating over capacity under existing conditions.

8.1.3 Trip Generation

- Based on a total of 2,040 residential units, 2,947 sq. m. of GFA for retail uses, and 5,543 sq. m. of GFA for office use, the site is anticipated to produce a total of 589 and 747 new vehicle trips during the weekday AM peak hour and weekday PM peak hour, respectively.
- In addition to trip reductions as a result of pass-by and internal site interaction, the above trips include a trip reduction of 25% based on specific TDM measures. The process assumes that reducing the number of parking spaces for the development by the calculated 28% will cause a shift of trips made by single-occupancy vehicles (SOV) to trips made by another sustainable form of transportation.

8.1.4 2022 Future Total Conditions

- The 20% overall reduction in automobile traffic for the corridors within the study area was carried over from future background conditions into future total conditions and also applied to the site trips generated.
- Overall, congested operations continue to be anticipated throughout the study area during the weekday AM and PM peak hours.
- When compared to the traffic operations for the as-of-right (AOR) scenario, all movements operating above capacity fall within a threshold of 25% difference between the v/c ratio for the AOR and the amendment. Any movements operating above a v/c of 1.50 when the proposed amendment to the Official Plan is considered, are also operating above v/c of 1.50

for the AOR. Furthermore, these movements are likely made by background traffic travelling along Eglinton Avenue East and/or Hurontario Street.

- All movements at the intersection of Watergarden Drive/Armdale Road and Hurontario Street and at the intersection of Plaza Entrance/Foursprings Avenue and Eglinton Avenue West will continue to operate below capacity during the AM peak hour and PM peak hour when the proposed amendment to the Official Plan is considered.

8.1.5 Parking Analysis Findings

- According to the City of Mississauga's Zoning By-law, a combined total of 2,763 parking spaces are required for the proposed developments (Phase 4 Part 2 and Phase 5).
- Based on the proximity to rapid transit, and comparing parking requirements within a similar rapid transit corridor in Toronto, a reduced parking rate is appropriate for this area.
- Based on the findings of this parking assessment, a reduced residential parking supply of 1,403 spaces, to aid with transportation demand management measures, is recommended. This supply was calculated under the assumption that the parking by-law requirements for the non-residential uses would be met.
- It is understood that at the time of submission of this TIS, Pinnacle Uptown has updated their proposed parking supply to reflect the recommended reduced residential parking supply of 1,403 spaces, while meeting the parking by-law requirements for non-residential.

8.1.6 Transportation Demand Management

- The Pinnacle project is well suited to serve pedestrians, cyclists, and transit users.

Appendix A – Terms of Reference Correspondence



IBI GROUP
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Toronto ON M4V 2Y7 Canada
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ibigroup.com

September 26, 2017

Mr. Giancarlo Tedesco
Traffic Planning Technologist
City of Mississauga
300 City Centre Drive, Suite 800
Mississauga, ON L5B 3C1

Dear Mr. Tedesco:

**TERMS OF REFERENCE FOR TRAFFIC IMPACT STUDY UPDATE
PINNACLE UPTOWN, NORTHWEST CORNER OF EGLINTON AVE W / HURONTARIO ST,
CITY OF MISSISSAUGA, ON**

This letter provides our Terms of Reference for an update to the IBI Group December 2007 Traffic Impact Study, regarding the lands located northwest of the Eglinton Avenue West / Hurontario Street intersection. The site is approved for 1,000 units as per the previous development application.

The purpose of the TIS update is to review current traffic operations at the subject site since a significant portion of the units have been completed, as well as to estimate operations in the future with background growth from the adjacent road network. The review of current traffic operations will also serve to compare findings in the previous TIS, as a planned connection to provide access to Ceremonial Drive was not completed. The site's location is illustrated below in **Exhibit 1**.

Exhibit 1: Context Map



Source: Google Maps

Mr. Giancarlo Tedesco – September 26, 2017

The framework of the TIS update will be based on the most recent Mississauga TIS guidelines. The following outlines the proposed Terms of Reference.

Transportation Impact Study Update - Scope

The format and contents of the TIS update is presented below. As some internal street connections proposed in the original TIS were ultimately not constructed, the study area has been reduced.

1. Study Area & Traffic Data

The study area will include an analysis of the following intersections:

- 1) Hurontario Street / Ceremonial Drive / Nahani Way;
- 2) Hurontario Street / Watergarden Drive;
- 3) Hurontario Street / Eglinton Avenue West;
- 4) Eglinton Avenue West / Foursprings Avenue; and
- 5) Eglinton Avenue West / Kingsbridge Garden Circle / Fairwind Drive.

The studied intersections are illustrated below in **Exhibit 2**.

Exhibit 2: Study Area Intersections



Mr. Giancarlo Tedesco – September 26, 2017

2. 2017 Existing Conditions

Turning movement counts during the 7:00-9:00 AM peak hour and 4:00-6:00 PM peak hours will be collected for the identified intersections to better determine the most current traffic operations in the study area.

Signal timing plans for signalized intersections in the study area will be obtained from the City.

The Synchro (version 9) software will be used to assess intersection operations during the AM and PM peak hours. Vehicle delays, volume to capacity (V/C) ratios for the overall intersection and individual critical movements will be summarized.

3. 2022 Background Traffic Conditions

As per Mississauga TIS guidelines, a five year horizon from the date of the TIS update will be used for the 2022 background traffic conditions analysis. Annual traffic growth for the adjacent road network will be obtained from the City. Road network improvements and other area development information will be identified in consultation with City staff. The weekday AM and PM peak hours will be analyzed using the Synchro software.

4. Transit Considerations

Existing transit service area will be identified in the TIS update. Transit trips based on the most recent modal split, derived using 2011 Transportation Tomorrow Survey Data and other applicable documents published by the City will be discussed.

5. Site Traffic Generation

The methodology used in the 2007 TIS will be applied in the TIS update, using the most recent reference data. Therefore, trip generation will be conducted using the most recent ITE Trip Generation Manual (9th edition) rates and existing unit statistics (i.e. 1,000 units as per the previously approved development application).

Site trips determined via turning movement counts mentioned in Task 2 will be compared to ITE trip generation estimates. Consultation with the client to determine current occupancy levels will be undertaken to derive an actual trip generation rate (i.e. trips/unit). Trips derived via the ITE rate and site surveys will be summarized and discussed. The applicability of an ITE based automobile trip reduction based on the modal split obtained in Task 4 will be reviewed.

6. Trip Assignment

Trip assignment determined via existing site traffic patterns will be documented and summarized in this Task. Any additional site traffic attributed to incomplete occupancy of the subject site will be assigned accordingly and added to the study area road network.

7. 2022 Total Traffic Conditions

The site traffic volumes associated with full occupancy will be combined with 2022 background traffic volumes to determine 2022 total traffic volumes for the study area intersections. Intersection operation analysis will be undertaken for the weekday AM and PM peak hours.

Mr. Giancarlo Tedesco – September 26, 2017

8. Safety Analysis

As access to the subject site is provided via two access points connected to major roadways, the safety analysis will involve collision data collection from the City and an analysis of the five-year collision history in the study area. Mitigation measures to reduce hazards for all road users will be discussed in this Task.

Should you have any comments with our methodology or have any concerns, please contact me at 416-596-1930.

Yours truly,

IBI Group



Hugo Chan, P.Eng.
Transportation Engineer
416-596-1930 ext. 63421
Hugo.chan@ibigroup.com

Hugo Chan

From: Kol, Rani <rani.kol@peelregion.ca>
Sent: Tuesday, October 03, 2017 8:30 AM
To: Hugo Chan; giancarlo.tedesco@mississauga.ca
Subject: RE: Terms of reference for TIS update - Pinnacle Uptown (Eglinton W / Hurontario)

Hugo,

We offer no comments. In addition, Hurontario is a Municipal road, not a Regional Road. Therefore, I am not able to provide you growth rates.

Regards,

Rani Kol

Technical Analyst, Traffic Development & Permits
Transportation Division, Public Works

Tel: (905) 791-7800 ext. 7858
Fax: (905) 791-1442

Hugo Chan

From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: Tuesday, October 31, 2017 2:29 PM
To: Hugo Chan
Subject: RE: Have Hurontario as well? RE: Eglinton Ave W - traffic growth rate request

Hello Hugo,

I was in contact with Giancarlo Tedesco and he had informed me that the review of the terms of reference remained ongoing and that additional horizon information would be necessary to capture the LRT. At this point I was asked to withhold any further growth rate information until then.

If you have any questions please contact Giancarlo.tedesco@mississauga.ca

Regards,

Tyler

Appendix B – Turning Movement Counts

Morning Peak Diagram		Specified Period From: 7:00:00 To: 9:00:00	One Hour Peak From: 7:45:00 To: 8:45:00
Municipality: Mississauga Site #: 1729100001 Intersection: Hurontario St & Ceremonial Dr-Nar TFR File #: 2 Count date: 12-Oct-17		Weather conditions: Person(s) who counted:	
** Signalized Intersection **		Major Road: Hurontario St runs N/S	

North Leg Total: 3304 North Entering: 1651 North Peds: 11 Peds Cross: $\bowtie$	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>6</td><td>82</td><td>1</td><td>89</td></tr> <tr><td>Cars</td><td>54</td><td>1450</td><td>58</td><td>1562</td></tr> <tr><td>Totals</td><td>60</td><td>1532</td><td>59</td><td></td></tr> </table>	Heavys	0	0	0	0	Trucks	6	82	1	89	Cars	54	1450	58	1562	Totals	60	1532	59		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Trucks</td><td>59</td></tr> <tr><td>Cars</td><td>1594</td></tr> <tr><td>Totals</td><td>1653</td></tr> </table>	Heavys	0	Trucks	59	Cars	1594	Totals	1653	East Leg Total: 350 East Entering: 178 East Peds: 16 Peds Cross: $\bowtie$
Heavys	0	0	0	0																											
Trucks	6	82	1	89																											
Cars	54	1450	58	1562																											
Totals	60	1532	59																												
Heavys	0																														
Trucks	59																														
Cars	1594																														
Totals	1653																														

Heavys	Trucks	Cars	Totals
4	10	178	192

Ceremonial Dr

Heavys	Trucks	Cars	Totals
0	1	60	61
0	0	49	49
0	2	193	195
0	3	302	

Hurontario St

Hurontario St

Cars	Trucks	Heavys	Totals
73	1	0	74
28	0	0	28
76	0	0	76
177	1	0	

Nahani Way

Cars	Trucks	Heavys	Totals
171	1	0	172

Peds Cross: $\bowtie$ West Peds: 27 West Entering: 305 West Leg Total: 497	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>1719</td></tr> <tr><td>Trucks</td><td>84</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Totals</td><td>1803</td></tr> </table>	Cars	1719	Trucks	84	Heavys	0	Totals	1803	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>96</td><td>1461</td><td>64</td><td>1621</td></tr> <tr><td>Trucks</td><td>4</td><td>57</td><td>0</td><td>61</td></tr> <tr><td>Heavys</td><td>4</td><td>0</td><td>0</td><td>4</td></tr> <tr><td>Totals</td><td>104</td><td>1518</td><td>64</td><td></td></tr> </table>	Cars	96	1461	64	1621	Trucks	4	57	0	61	Heavys	4	0	0	4	Totals	104	1518	64		Peds Cross: $\bowtie$ South Peds: 13 South Entering: 1686 South Leg Total: 3489
Cars	1719																														
Trucks	84																														
Heavys	0																														
Totals	1803																														
Cars	96	1461	64	1621																											
Trucks	4	57	0	61																											
Heavys	4	0	0	4																											
Totals	104	1518	64																												

Comments

Afternoon Peak Diagram		Specified Period From: 16:00:00 To: 18:00:00	One Hour Peak From: 17:00:00 To: 18:00:00
Municipality: Mississauga Site #: 1729100001 Intersection: Hurontario St & Ceremonial Dr-Nar TFR File #: 2 Count date: 12-Oct-17		Weather conditions: Person(s) who counted:	
** Signalized Intersection **		Major Road: Hurontario St runs N/S	

North Leg Total: 4313 North Entering: 2664 North Peds: 24 Peds Cross: ⚡	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td><td>46</td><td>0</td><td>46</td></tr> <tr><td>Cars</td><td>56</td><td>2517</td><td>45</td><td>2618</td></tr> <tr><td>Totals</td><td>56</td><td>2563</td><td>45</td><td></td></tr> </table>	Heavys	0	0	0	0	Trucks	0	46	0	46	Cars	56	2517	45	2618	Totals	56	2563	45		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Trucks</td><td>56</td></tr> <tr><td>Cars</td><td>1593</td></tr> <tr><td>Totals</td><td>1649</td></tr> </table>	Heavys	0	Trucks	56	Cars	1593	Totals	1649	East Leg Total: 305 East Entering: 173 East Peds: 34 Peds Cross: ⚡
Heavys	0	0	0	0																											
Trucks	0	46	0	46																											
Cars	56	2517	45	2618																											
Totals	56	2563	45																												
Heavys	0																														
Trucks	56																														
Cars	1593																														
Totals	1649																														

Heavys	Trucks	Cars	Totals
0	0	313	313

Ceremonial Dr

Heavys	Trucks	Cars	Totals
0	0	27	27
0	0	28	28
0	0	78	78
0	0	133	

Hurontario St

Hurontario St

Cars	Trucks	Heavys	Totals
47	0	0	47
81	0	0	81
45	0	0	45
173	0	0	

Nahani Way

Cars	Trucks	Heavys	Totals
132	0	0	132

Peds Cross: ⚡ West Peds: 13 West Entering: 133 West Leg Total: 446	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>2640</td></tr> <tr><td>Trucks</td><td>46</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Totals</td><td>2686</td></tr> </table>	Cars	2640	Trucks	46	Heavys	0	Totals	2686	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>176</td><td>1519</td><td>59</td><td>1754</td></tr> <tr><td>Trucks</td><td>0</td><td>56</td><td>0</td><td>56</td></tr> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Totals</td><td>176</td><td>1575</td><td>59</td><td></td></tr> </table>	Cars	176	1519	59	1754	Trucks	0	56	0	56	Heavys	0	0	0	0	Totals	176	1575	59		Peds Cross: ⚡ South Peds: 17 South Entering: 1810 South Leg Total: 4496
Cars	2640																														
Trucks	46																														
Heavys	0																														
Totals	2686																														
Cars	176	1519	59	1754																											
Trucks	0	56	0	56																											
Heavys	0	0	0	0																											
Totals	176	1575	59																												

Comments

Total Count Diagram

Municipality: Mississauga
Site #: 1729100001
Intersection: Hurontario St & Ceremonial Dr-Nar
TFR File #: 2
Count date: 12-Oct-17

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Leg Total: 13430
 North Entering: 7288
 North Peds: 60
 Peds Cross: $\bowtie$

	Heavys	Trucks	Cars	Totals
0	0	0	0	0
10	270	3	283	
165	6674	166	7005	
Totals	175	6944	169	



	Heavys	Trucks	Cars	Totals
1	233	5908	6142	

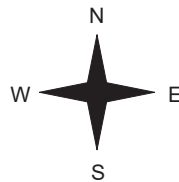
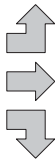
East Leg Total: 1108
 East Entering: 605
 East Peds: 84
 Peds Cross: $\bowtie$

Heavys	Trucks	Cars	Totals
5	19	748	772



Ceremonial Dr

Heavys	Trucks	Cars	Totals
0	2	163	165
0	1	123	124
0	8	482	490
0	11	768	



Hurontario St



Cars	Trucks	Heavys	Totals
200	7	1	208
164	3	1	168
224	4	1	229
588	14	3	

Nahani Way



Cars	Trucks	Heavys	Totals
492	11	0	503

Peds Cross: $\bowtie$
 West Peds: 80
 West Entering: 779
 West Leg Total: 1551

Cars	Trucks	Heavys	Totals
7380	282	1	7663



Cars	Trucks	Heavys	Totals
419	6	4	429
5545	224	0	5769
203	7	0	210
6167	237	4	

Peds Cross: $\bowtie$
 South Peds: 59
 South Entering: 6408
 South Leg Total: 14071

Comments

Traffic Count Summary

Intersection: Hurontario St & Ceremonial Dr-Na

Count Date: 12-Oct-17

Municipality: Mississauga

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	2	0	2	0	4	7:00:00	0	2	0	2	0
8:00:00	29	1053	23	1105	13	2466	8:00:00	55	1269	37	1361	7
9:00:00	60	1578	66	1704	11	3330	9:00:00	89	1483	54	1626	15
16:00:00	1	12	1	14	0	39	16:00:00	2	22	1	25	0
17:00:00	34	1736	29	1799	12	3383	17:00:00	107	1418	59	1584	20
18:00:00	45	2563	56	2664	24	4474	18:00:00	176	1575	59	1810	17

Calculated Values for Traffic Crossing Major Street

Hours Ending:	0:00	0:00	7:00	8:00	9:00	16:00	17:00	18:00
Crossing Values:	0	0	1	151	212	3	146	191

Count Date: 12-Oct-17 **Site #:** 1729100001

[illegible]

Count Date: 12-Oct-17 Site #: 1729100001

[illegible]

Count Date: 12-Oct-17 **Site #:** 1729100001

[illegible]

Count Date: 12-Oct-17 Site #: 1729100001

[illegible]

Morning Peak Diagram		Specified Period From: 7:00:00 To: 9:00:00	One Hour Peak From: 8:00:00 To: 9:00:00
Municipality: Mississauga Site #: 1729100002 Intersection: Hurontario St & Watergarden Dr TFR File #: 5 Count date: 12-Oct-17		Weather conditions: Person(s) who counted:	
** Signalized Intersection **		Major Road: Hurontario St runs N/S	

North Leg Total: 3460 North Entering: 1847 North Peds: 4 Peds Cross: $\bowtie$	<table style="width: 100%;"> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>1</td><td>84</td><td>2</td><td>87</td></tr> <tr><td>Cars</td><td>11</td><td>1725</td><td>24</td><td>1760</td></tr> <tr><td>Totals</td><td>12</td><td>1809</td><td>26</td><td></td></tr> </table>	Heavys	0	0	0	0	Trucks	1	84	2	87	Cars	11	1725	24	1760	Totals	12	1809	26		<table style="width: 100%;"> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Trucks</td><td>71</td></tr> <tr><td>Cars</td><td>1542</td></tr> <tr><td>Totals</td><td>1613</td></tr> </table>	Heavys	0	Trucks	71	Cars	1542	Totals	1613	East Leg Total: 114 East Entering: 65 East Peds: 23 Peds Cross: $\bowtie$
Heavys	0	0	0	0																											
Trucks	1	84	2	87																											
Cars	11	1725	24	1760																											
Totals	12	1809	26																												
Heavys	0																														
Trucks	71																														
Cars	1542																														
Totals	1613																														

Heavys	Trucks	Cars	Totals
0	1	29	30

Hurontario St

Watergarden Dr

N
W — S — E

Hurontario St

Cars	Trucks	Heavys	Totals
24	2	0	26
7	0	0	7
30	2	0	32
61	4	0	

Heavys Trucks Cars Totals 0 1 39 40 0 0 11 11 0 0 13 13 0 1 63	<table style="width: 100%;"> <tr><td>Cars</td><td>1768</td></tr> <tr><td>Trucks</td><td>86</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Totals</td><td>1854</td></tr> </table>	Cars	1768	Trucks	86	Heavys	0	Totals	1854	<table style="width: 100%;"> <tr><td>Cars</td><td>11</td><td>1479</td><td>10</td><td>1500</td></tr> <tr><td>Trucks</td><td>0</td><td>68</td><td>2</td><td>70</td></tr> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Totals</td><td>11</td><td>1547</td><td>12</td><td></td></tr> </table>	Cars	11	1479	10	1500	Trucks	0	68	2	70	Heavys	0	0	0	0	Totals	11	1547	12		Peds Cross: $\bowtie$ South Peds: 0 South Entering: 1570 South Leg Total: 3424
Cars	1768																														
Trucks	86																														
Heavys	0																														
Totals	1854																														
Cars	11	1479	10	1500																											
Trucks	0	68	2	70																											
Heavys	0	0	0	0																											
Totals	11	1547	12																												

Comments

Afternoon Peak Diagram		Specified Period From: 16:00:00 To: 18:00:00	One Hour Peak From: 17:00:00 To: 18:00:00
Municipality: Mississauga Site #: 1729100002 Intersection: Hurontario St & Watergarden Dr TFR File #: 5 Count date: 12-Oct-17		Weather conditions: Person(s) who counted:	
** Signalized Intersection **		Major Road: Hurontario St runs N/S	

North Leg Total: 4531 North Entering: 2714 North Peds: 22 Peds Cross: $\bowtie$	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 2px;">Heavys</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">1</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">1</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">Trucks</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">46</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">46</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">Cars</td> <td style="padding: 2px;">14</td> <td style="padding: 2px;">2616</td> <td style="padding: 2px;">37</td> <td style="padding: 2px;">2667</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">Totals</td> <td style="padding: 2px;">14</td> <td style="padding: 2px;">2663</td> <td style="padding: 2px;">37</td> <td style="padding: 2px;"></td> </tr> </table>	Heavys	0	1	0	1	Trucks	0	46	0	46	Cars	14	2616	37	2667	Totals	14	2663	37		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 2px;">Heavys</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">Trucks</td> <td style="padding: 2px;">56</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">Cars</td> <td style="padding: 2px;">1761</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">Totals</td> <td style="padding: 2px;">1817</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> </table>	Heavys	0			Trucks	56			Cars	1761			Totals	1817			East Leg Total: 143 East Entering: 93 East Peds: 45 Peds Cross: $\bowtie$
Heavys	0	1	0	1																																			
Trucks	0	46	0	46																																			
Cars	14	2616	37	2667																																			
Totals	14	2663	37																																				
Heavys	0																																						
Trucks	56																																						
Cars	1761																																						
Totals	1817																																						

Hurontario St

Watergarden Dr

N
W — S — E

Hurontario St

Watergarden Dr

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 2px;">Heavys</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">Trucks</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">Cars</td> <td style="padding: 2px;">23</td> <td style="padding: 2px;">Totals</td> <td style="padding: 2px;">23</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">23</td> <td style="padding: 2px;">23</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> </table>	Heavys	0	Trucks	0	Cars	23	Totals	23	0	0	0	0	23	23			<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 2px;">Cars</td> <td style="padding: 2px;">51</td> <td style="border-right: 1px solid black; padding: 2px;">Trucks</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">Heavys</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">Totals</td> <td style="padding: 2px;">51</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">2</td> <td style="padding: 2px;">2</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">2</td> <td style="padding: 2px;">2</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">40</td> <td style="padding: 2px;">40</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">40</td> <td style="padding: 2px;">40</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">93</td> <td style="padding: 2px;">93</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> </table>	Cars	51	Trucks	0	Heavys	0	Totals	51	2	2	0	0	0	0	2	2	40	40	0	0	0	0	40	40	93	93	0	0	0	0			<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 2px;">Heavys</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">Trucks</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">Cars</td> <td style="padding: 2px;">9</td> <td style="padding: 2px;">Totals</td> <td style="padding: 2px;">9</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; 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border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 2px;">Cars</td> <td style="padding: 2px;">50</td> <td style="border-right: 1px solid black; padding: 2px;">Trucks</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">Heavys</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">Totals</td> <td style="padding: 2px;">50</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">50</td> <td style="padding: 2px;">50</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">50</td> <td style="padding: 2px;">50</td> </tr> </table>	Cars	50	Trucks	0	Heavys	0	Totals	50	50	50	0	0	0	0	50	50
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Peds Cross: $\bowtie$ West Peds: 14 West Entering: 23 West Leg Total: 46	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 2px;">Cars</td> <td style="padding: 2px;">2664</td> <td style="border-right: 1px solid black; padding: 2px;">Trucks</td> <td style="padding: 2px;">46</td> <td style="border-right: 1px solid black; padding: 2px;">Heavys</td> <td style="padding: 2px;">1</td> <td style="padding: 2px;">Totals</td> <td style="padding: 2px;">2711</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">7</td> <td style="padding: 2px;">7</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">7</td> <td style="padding: 2px;">7</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">1701</td> <td style="padding: 2px;">1701</td> <td style="border-right: 1px solid black; padding: 2px;">56</td> <td style="padding: 2px;">56</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">1715</td> <td style="padding: 2px;">1715</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">7</td> <td style="padding: 2px;">7</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="border-right: 1px solid black; padding: 2px;">0</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">1757</td> <td style="padding: 2px;">1757</td> </tr> </table>	Cars	2664	Trucks	46	Heavys	1	Totals	2711	7	7	0	0	0	0	7	7	1701	1701	56	56	0	0	1715	1715	7	7	0	0	0	0	1757	1757	Peds Cross: $\bowtie$ South Peds: 4 South Entering: 1771 South Leg Total: 4482																																																																	
Cars	2664	Trucks	46	Heavys	1	Totals	2711																																																																																												
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7	7	0	0	0	0	1757	1757																																																																																												

Comments

Total Count Diagram

Municipality: Mississauga
Site #: 1729100002
Intersection: Hurontario St & Watergarden Dr
TFR File #: 5
Count date: 12-Oct-17

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Leg Total: 14141
 North Entering: 7745
 North Peds: 39
 Peds Cross: $\nlessgtr$

	Heavys	0	1	0	1
Trucks	2	275	3	280	
Cars	59	7242	163	7464	
Totals	61	7518	166		

Heavys 0
 Trucks 239
 Cars 6157
 Totals 6396

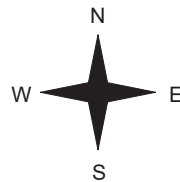
East Leg Total: 596
 East Entering: 306
 East Peds: 117
 Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
0	5	121	126



Watergarden Dr

Heavys	Trucks	Cars	Totals
0	5	88	93
0	0	30	30
0	0	62	62
0	5	180	



Hurontario St



Cars	Trucks	Heavys	Totals
138	2	0	140
20	0	0	20
141	5	0	146
299	7	0	

Watergarden Dr



Cars	Trucks	Heavys	Totals
282	8	0	290

Peds Cross: $\nlessgtr$
 West Peds: 62
 West Entering: 185
 West Leg Total: 311

Cars	7445
Trucks	280
Heavys	1
Totals	7726



Cars	42	5931	89	6062
Trucks	3	232	5	240
Heavys	0	0	0	0
Totals	45	6163	94	

Peds Cross: $\nlessgtr$
 South Peds: 28
 South Entering: 6302
 South Leg Total: 14028

Comments

Traffic Count Summary

Intersection: Hurontario St & Watergarden Dr

Count Date: 12-Oct-17

Municipality: Mississauga

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	3	0	3	0	18	7:00:00	1	14	0	15	0
8:00:00	31	1234	8	1273	0	2600	8:00:00	10	1309	8	1327	7
9:00:00	26	1809	12	1847	4	3417	9:00:00	11	1547	12	1570	0
16:00:00	0	14	0	14	0	26	16:00:00	0	12	0	12	0
17:00:00	72	1795	27	1894	13	3501	17:00:00	16	1524	67	1607	17
18:00:00	37	2663	14	2714	22	4485	18:00:00	7	1757	7	1771	4
</												

Calculated Values for Traffic Crossing Major Street

Hours Ending:	0:00	0:00	7:00	8:00	9:00	16:00	17:00	18:00
Crossing Values:	0	0	0	49	87	1	125	81

Count Date: 12-Oct-17 Site #: 1729100002

[illegible]

Count Date: 12-Oct-17 Site #: 1729100002

[illegible]

Count Date: 12-Oct-17 Site #: 1729100002

[illegible]

Count Date: 12-Oct-17 Site #: 1729100002

[illegible]

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Mississauga

Site #: 1729100003

Intersection: Hurontario St & Eglinton Ave W

TFR File #: 16

Count date: 12-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Leg Total: 3581

North Entering: 1881

North Peds: 79

Peds Cross: $\times$

Heavys	0	0	0	0
Trucks	7	73	6	86
Cars	167	1392	236	1795
Totals	174	1465	242	



Heavys	1
Trucks	73
Cars	1626
Totals	1700

East Leg Total: 2776

East Entering: 927

East Peds: 71

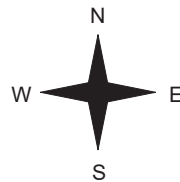
Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
0	27	791	818



Eglinton Ave W

Heavys	Trucks	Cars	Totals
0	7	185	192
0	24	1470	1494
0	8	159	167
0	39	1814	



Hurontario St



Cars	Trucks	Heavys	Totals
162	11	0	173
554	14	0	568
177	9	0	186
893	34	0	

Eglinton Ave W



Cars	Trucks	Heavys	Totals
1815	34	0	1849

Peds Cross: $\times$

West Peds: 52

West Entering: 1853

West Leg Total: 2671

Cars	1728	Cars	70	1279	109	1458
Trucks	90	Trucks	6	55	4	65
Heavys	0	Heavys	0	1	0	1
Totals	1818	Totals	76	1335	113	



Peds Cross: $\times$

South Peds: 63

South Entering: 1524

South Leg Total: 3342

Comments

Afternoon Peak Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 17:00:00

To: 18:00:00

Municipality: Mississauga

Site #: 1729100003

Intersection: Hurontario St & Eglinton Ave W

TFR File #: 16

Count date: 12-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Leg Total: 4602

North Entering: 2841

North Peds: 151

Peds Cross: $\nlessgtr$

Heavys	0	0	0	0
Trucks	2	41	3	46
Cars	245	2264	286	2795
Totals	247	2305	289	

Heavys	1
Trucks	58
Cars	1702
Totals	1761

East Leg Total: 3274

East Entering: 2294

East Peds: 89

Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
1	27	2324	2352

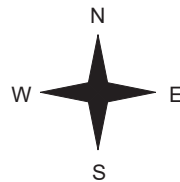


Eglinton Ave W

Heavys	Trucks	Cars	Totals
0	0	146	146
0	12	558	570
0	0	189	189
0	12	893	



Hurontario St



Cars	Trucks	Heavys	Totals
161	8	0	169
1791	21	1	1813
305	7	0	312
2257	36	1	

Eglinton Ave W



Cars	Trucks	Heavys	Totals
963	17	0	980

Peds Cross: $\nlessgtr$

West Peds: 57

West Entering: 905

West Leg Total: 3257

Cars	2758
Trucks	48
Heavys	0
Totals	2806



Cars	288	1395	119	1802
Trucks	4	50	2	56
Heavys	0	1	0	1
Totals	292	1446	121	

Peds Cross: $\nlessgtr$

South Peds: 70

South Entering: 1859

South Leg Total: 4665

Comments

Total Count Diagram

Municipality: Mississauga
Site #: 1729100003
Intersection: Hurontario St & Eglinton Ave W
TFR File #: 16
Count date: 12-Oct-17

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Leg Total: 14403
 North Entering: 8018
 North Peds: 447
 Peds Cross: $\nlessgtr$

	0	0	0	0
Heavys	0	0	0	0
Trucks	19	242	20	281
Cars	668	6151	918	7737
Totals	687	6393	938	

Heavys 4
 Trucks 254
 Cars 6127
 Totals 6385

East Leg Total: 11298
 East Entering: 6017
 East Peds: 323
 Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
2	105	5806	5913

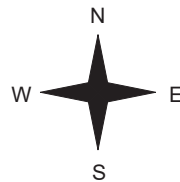


Eglinton Ave W

Heavys	Trucks	Cars	Totals
0	20	595	615
0	77	3849	3926
0	12	539	551
0	109	4983	



Hurontario St



Hurontario St

Cars	Trucks	Heavys	Totals
566	29	0	595
4447	62	2	4511
884	27	0	911
5897	118	2	

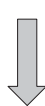
Eglinton Ave W



Cars	Trucks	Heavys	Totals
5172	109	0	5281

Peds Cross: $\nlessgtr$
 West Peds: 204
 West Entering: 5092
 West Leg Total: 11005

Cars	Trucks	Heavys	Totals
7574	281	0	7855



Cars	Trucks	Heavys	Totals
691	24	0	715
4966	205	4	5175
405	12	0	417
6062	241	4	

Peds Cross: $\nlessgtr$
 South Peds: 196
 South Entering: 6307
 South Leg Total: 14162

Comments

Traffic Count Summary

Intersection: Hurontario St & Eglinton Ave W

Count Date: 12-Oct-17

Municipality: Mississauga

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	1	0	1	0	1	7:00:00	0	0	0	0	0
8:00:00	212	1050	78	1340	79	2620	8:00:00	54	1139	87	1280	24
9:00:00	242	1465	174	1881	79	3405	9:00:00	76	1335	113	1524	63
16:00:00	10	3	1	14	2	14	16:00:00	0	0	0	0	0
17:00:00	185	1569	187	1941	136	3585	17:00:00	293	1255	96	1644	39
18:00:00	289	2305	247	2841	151	4696	18:00:00	292	1442	121	1855	70
						</						

Calculated Values for Traffic Crossing Major Street

Hours Ending:	7:00	8:00	9:00	16:00	17:00	17:00	18:00	18:00
Crossing Values:	1	1616	2014	4	2341	2341	2492	2492

Count Date: 12-Oct-17 Site #: 1729100003

[illegible]

Count Date: 12-Oct-17 Site #: 1729100003

[illegible]

Count Date: 12-Oct-17 Site #: 1729100003

[illegible]

Count Date: 12-Oct-17 Site #: 1729100003

[illegible]

Morning Peak Diagram		Specified Period From: 7:00:00 To: 9:00:00	One Hour Peak From: 8:00:00 To: 9:00:00
Municipality: Mississauga Site #: 1729100004 Intersection: Eglinton Ave W & Foursprings Ave- TFR File #: 3 Count date: 12-Oct-17		Weather conditions: Person(s) who counted:	
** Signalized Intersection **		Major Road: Eglinton Ave W runs W/E	

North Leg Total: 182 North Entering: 115 North Peds: 3 Peds Cross: ⌵	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Cars</td><td>45</td><td>7</td><td>63</td><td>115</td></tr> <tr><td>Totals</td><td>45</td><td>7</td><td>63</td><td></td></tr> </table>	Heavys	0	0	0	0	Trucks	0	0	0	0	Cars	45	7	63	115	Totals	45	7	63		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Trucks</td><td>5</td></tr> <tr><td>Cars</td><td>62</td></tr> <tr><td>Totals</td><td>67</td></tr> </table>	Heavys	0	Trucks	5	Cars	62	Totals	67	East Leg Total: 2626 East Entering: 772 East Peds: 22 Peds Cross: ⌵
Heavys	0	0	0	0																											
Trucks	0	0	0	0																											
Cars	45	7	63	115																											
Totals	45	7	63																												
Heavys	0																														
Trucks	5																														
Cars	62																														
Totals	67																														

Heavys	Trucks	Cars	Totals
2	26	720	748

Foursprings Ave

Cars	Trucks	Heavys	Totals
30	3	0	33
651	25	2	678
60	0	1	61
741	28	3	

Heavys	Trucks	Cars	Totals
0	2	29	31
4	39	1684	1727
0	0	59	59
4	41	1772	

Eglinton Ave W

Cars	Trucks	Heavys	Totals
1811	39	4	1854

Peds Cross: ⌵ West Peds: 12 West Entering: 1817 West Leg Total: 2565	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>126</td></tr> <tr><td>Trucks</td><td>0</td></tr> <tr><td>Heavys</td><td>1</td></tr> <tr><td>Totals</td><td>127</td></tr> </table>	Cars	126	Trucks	0	Heavys	1	Totals	127	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>24</td><td>3</td><td>64</td><td>91</td></tr> <tr><td>Trucks</td><td>1</td><td>0</td><td>0</td><td>1</td></tr> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Totals</td><td>25</td><td>3</td><td>64</td><td></td></tr> </table>	Cars	24	3	64	91	Trucks	1	0	0	1	Heavys	0	0	0	0	Totals	25	3	64		Peds Cross: ⌵ South Peds: 6 South Entering: 92 South Leg Total: 219
Cars	126																														
Trucks	0																														
Heavys	1																														
Totals	127																														
Cars	24	3	64	91																											
Trucks	1	0	0	1																											
Heavys	0	0	0	0																											
Totals	25	3	64																												

Comments

Afternoon Peak Diagram		Specified Period From: 16:00:00 To: 18:00:00	One Hour Peak From: 16:30:00 To: 17:30:00
Municipality: Mississauga Site #: 1729100004 Intersection: Eglinton Ave W & Foursprings Ave- TFR File #: 3 Count date: 12-Oct-17		Weather conditions: Person(s) who counted:	
** Signalized Intersection **		Major Road: Eglinton Ave W runs W/E	

North Leg Total: 123 North Entering: 61 North Peds: 4 Peds Cross: ⚡	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Cars</td><td>29</td><td>3</td><td>29</td><td>61</td></tr> <tr><td>Totals</td><td>29</td><td>3</td><td>29</td><td></td></tr> </table>	Heavys	0	0	0	0	Trucks	0	0	0	0	Cars	29	3	29	61	Totals	29	3	29		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td></tr> <tr><td>Cars</td><td>62</td></tr> <tr><td>Totals</td><td>62</td></tr> </table>	Heavys	0	Trucks	0	Cars	62	Totals	62	East Leg Total: 3181 East Entering: 2350 East Peds: 19 Peds Cross: ⚡
Heavys	0	0	0	0																											
Trucks	0	0	0	0																											
Cars	29	3	29	61																											
Totals	29	3	29																												
Heavys	0																														
Trucks	0																														
Cars	62																														
Totals	62																														

Heavys	Trucks	Cars	Totals
0	24	2319	2343

Foursprings Ave

Eglinton Ave W

Cars	Trucks	Heavys	Totals
41	0	0	41
2218	23	0	2241
68	0	0	68
2327	23	0	

Heavys	Trucks	Cars	Totals
0	0	20	20
0	15	720	735
0	1	45	46
0	16	785	

Plaza Driveway

Eglinton Ave W

Cars	Trucks	Heavys	Totals
815	16	0	831

Peds Cross: ⚡ West Peds: 5 West Entering: 801 West Leg Total: 3144	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>116</td></tr> <tr><td>Trucks</td><td>1</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Totals</td><td>117</td></tr> </table>	Cars	116	Trucks	1	Heavys	0	Totals	117	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>72</td><td>1</td><td>66</td><td>139</td></tr> <tr><td>Trucks</td><td>1</td><td>0</td><td>1</td><td>2</td></tr> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Totals</td><td>73</td><td>1</td><td>67</td><td></td></tr> </table>	Cars	72	1	66	139	Trucks	1	0	1	2	Heavys	0	0	0	0	Totals	73	1	67		Peds Cross: ⚡ South Peds: 10 South Entering: 141 South Leg Total: 258
Cars	116																														
Trucks	1																														
Heavys	0																														
Totals	117																														
Cars	72	1	66	139																											
Trucks	1	0	1	2																											
Heavys	0	0	0	0																											
Totals	73	1	67																												

Comments

Total Count Diagram

Municipality: Mississauga
Site #: 1729100004
Intersection: Eglinton Ave W & Foursprings Ave-
TFR File #: 3
Count date: 12-Oct-17

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Eglinton Ave W runs W/E

North Leg Total: 546
 North Entering: 314
 North Peds: 17
 Peds Cross: $\bowtie$

	Heavys	Trucks	Cars	Totals
0	0	0	0	0
2	0	2	4	6
126	14	170	310	
Totals	128	14	172	

	Heavys	Trucks	Cars	Totals
0	0	9	223	232

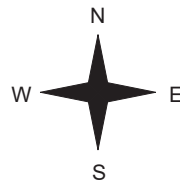
East Leg Total: 10798
 East Entering: 5702
 East Peds: 90
 Peds Cross: $\bowtie$

Heavys	Trucks	Cars	Totals
2	104	5548	5654



Eglinton Ave W

Heavys	Trucks	Cars	Totals
0	3	83	86
4	103	4547	4654
0	1	192	193
4	107	4822	



Foursprings Ave



Cars	Trucks	Heavys	Totals
132	6	0	138
5232	99	2	5333
229	1	1	231
5593	106	3	

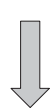
Eglinton Ave W



Cars	Trucks	Heavys	Totals
4985	107	4	5096

Peds Cross: $\bowtie$
 West Peds: 23
 West Entering: 4933
 West Leg Total: 10587

	Cars	Trucks	Heavys	Totals
435	2	1	438	



Plaza Driveway

	Cars	Trucks	Heavys	Totals
190	3	0	193	
8	0	0	8	
268	2	0	270	

Peds Cross: $\bowtie$
 South Peds: 33
 South Entering: 471
 South Leg Total: 909

Comments

Traffic Count Summary

Intersection: Eglinton Ave W & Foursprings Ave

Count Date: 12-Oct-17

Municipality: Mississauga

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	3	7:00:00	0	0	3	3	0
8:00:00	52	2	25	79	6	169	8:00:00	25	3	62	90	10
9:00:00	63	7	45	115	3	207	9:00:00	25	3	64	92	6
16:00:00	0	0	0	0	0	2	16:00:00	0	0	2	2	0
17:00:00	33	4	33	70	4	211	17:00:00	79	1	61	141	8
18:00:00	24	1	25	50	4	193	18:00:00	64	1	78	143	9

Calculated Values for Traffic Crossing Major Street

Hours Ending:	0:00	0:00	7:00	8:00	9:00	16:00	17:00	18:00
Crossing Values:	0	0	0	110	129	0	142	112

Count Date: 12-Oct-17 Site #: 1729100004

[illegible]

Count Date: 12-Oct-17 Site #: 1729100004

[illegible]

Count Date: 12-Oct-17 Site #: 1729100004

[illegible]

Count Date: 12-Oct-17 Site #: 1729100004

[illegible]

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Mississauga

Site #: 1729100005

Intersection: Eglinton Ave W & Kingsbridge Garden Circle

TFR File #: 6

Count date: 12-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Eglinton Ave W runs W/E

North Leg Total: 431

North Entering: 228

North Peds: 2

Peds Cross: $\times$

	Heavys	Trucks	Cars	Totals
0	0	0	0	0
5	1	0	6	222
48	72	102		
Totals	53	73	102	



Heavys 0

Trucks 6

Cars 197

Totals 203

East Leg Total: 2578

East Entering: 751

East Peds: 3

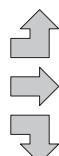
Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
1	33	718	752

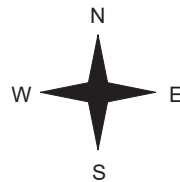


Eglinton Ave W

Heavys	Trucks	Cars	Totals
0	2	66	68
0	39	1602	1641
0	10	75	85
0	51	1743	



Kingsbridge Garden Circle



Fairwind Dr



Cars	Trucks	Heavys	Totals
68	2	0	70
601	22	1	624
55	2	0	57
724	26	1	

Eglinton Ave W



Cars	Trucks	Heavys	Totals
1786	41	0	1827

Peds Cross: $\times$

West Peds: 6

West Entering: 1794

West Leg Total: 2546

Cars	Trucks	Heavys	Totals
202	13	0	215
69	6	0	75
63	2	0	65
82	2	0	84
214	10	0	



Peds Cross: $\times$

South Peds: 11

South Entering: 224

South Leg Total: 439

Comments

Afternoon Peak Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 16:45:00

To: 17:45:00

Municipality: Mississauga

Site #: 1729100005

Intersection: Eglinton Ave W & Kingsbridge Gar

TFR File #: 6

Count date: 12-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Eglinton Ave W runs W/E

North Leg Total: 360

North Entering: 155

North Peds: 5

Peds Cross: 

Heavys	0	0	0	0
Trucks	0	2	0	2
Cars	42	55	56	153
Totals	42	57	56	



Heavys 3

Trucks 3

Cars 199

Totals 205

East Leg Total: 3125

East Entering: 2296

East Peds: 3

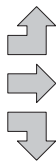
Peds Cross: 

Heavys	Trucks	Cars	Totals
0	26	2150	2176

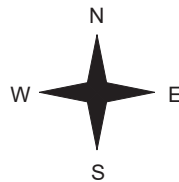


Eglinton Ave W

Heavys	Trucks	Cars	Totals
3	1	52	56
0	16	707	723
0	4	84	88
3	21	843	



Kingsbridge Garden Circle



Fairwind Dr



Cars	Trucks	Heavys	Totals
117	1	0	118
2048	22	0	2070
107	1	0	108
2272	24	0	

Eglinton Ave W



Cars	Trucks	Heavys	Totals
812	17	0	829

Peds Cross: 

West Peds: 13

West Entering: 867

West Leg Total: 3043

Cars	246
Trucks	7
Heavys	0
Totals	253



Cars	60	30	49	139
Trucks	4	1	1	6
Heavys	0	0	0	0
Totals	64	31	50	

Peds Cross: 

South Peds: 18

South Entering: 145

South Leg Total: 398

Comments

Total Count Diagram

Municipality: Mississauga
Site #: 1729100005
Intersection: Eglinton Ave W & Kingsbridge Garden Circle
TFR File #: 6
Count date: 12-Oct-17

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Eglinton Ave W runs W/E

North Leg Total: 1342
 North Entering: 634
 North Peds: 16
 Peds Cross: $\nlessgtr$

	Heavys	Trucks	Cars	Totals
0	0	0	0	0
8	6	1	15	
163	187	269	619	
Totals	171	193	270	

	Heavys	Trucks	Cars	Totals
3	17	688	708	

East Leg Total: 10629
 East Entering: 5648
 East Peds: 15
 Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
1	115	5327	5443

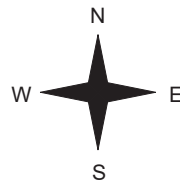


Eglinton Ave W

Heavys	Trucks	Cars	Totals
3	5	207	215
1	105	4353	4459
0	25	277	302
4	135	4837	



Fairwind Dr



Cars	Trucks	Heavys	Totals
297	7	0	304
4952	92	1	5045
295	4	0	299
5544	103	1	

Eglinton Ave W



Cars	Trucks	Heavys	Totals
4868	112	1	4981

Peds Cross: $\nlessgtr$
 West Peds: 62
 West Entering: 4976
 West Leg Total: 10419

	Cars	Trucks	Heavys	Totals
759	35	0	794	
212	15	0	227	
184	5	0	189	
246	6	0	252	
642	26	0		

Peds Cross: $\nlessgtr$
 South Peds: 73
 South Entering: 668
 South Leg Total: 1462

Comments

Traffic Count Summary

Intersection: Eglinton Ave W & Kingsbridge Ga

Count Date: 12-Oct-17

Municipality: Mississauga

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	70	21	26	117	3	286	8:00:00	36	70	63	169	14
9:00:00	102	73	53	228	2	452	9:00:00	75	65	84	224	11
16:00:00	0	0	0	0	0	3	16:00:00	3	0	0	3	0
17:00:00	45	46	46	137	4	256	17:00:00	45	20	54	119	28
18:00:00	50	53	46	149	7	302	18:00:00	68	34	51	153	20

Calculated Values for Traffic Crossing Major Street

Hours Ending:	0:00	0:00	7:00	8:00	9:00	16:00	17:00	18:00
Crossing Values:	0	0	0	202	259	3	162	187

Count Date: 12-Oct-17 Site #: 1729100005

[illegible]

Count Date: 12-Oct-17 Site #: 1729100005

[illegible]

Count Date: 12-Oct-17 Site #: 1729100005

[illegible]

Count Date: 12-Oct-17 Site #: 1729100005

[illegible]

HORIZON DATA SERVICES LTD

318 Simonston Boulevard
Thornhill, ON L3T4T5

"We allways count....not estimate"

File Name : Four Springs Ave at Little Creek Rd

Site Code : 00000000

Start Date : 2018-10-30

Page No : 1

Groups Printed- Autos - Heavies - Buses - Cyclists																						
	Four Springs Ave Southbound					Little Creek Rd Westbound					Four Springs Ave Northbound					Little Creek Rd Eastbound						
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total	
07:00 AM	0	7	0	2	9	5	1	15	4	25	3	7	0	5	15	2	0	0	2	4	53	
07:15 AM	0	10	2	0	12	2	0	11	3	16	5	8	1	4	18	1	0	0	3	4	50	
07:30 AM	0	10	1	4	15	3	1	16	2	22	2	8	1	2	13	0	0	0	1	1	51	
07:45 AM	1	17	2	2	22	8	0	21	4	33	5	8	0	2	15	2	0	0	2	4	74	
Total	1	44	5	8	58	18	2	63	13	96	15	31	2	13	61	5	0	0	8	13	228	
08:00 AM	1	19	3	0	23	12	0	19	3	34	2	6	0	1	9	1	0	0	1	2	68	
08:15 AM	0	9	6	2	17	12	0	18	4	34	3	11	0	5	19	5	0	0	4	9	79	
08:30 AM	0	12	1	1	14	10	0	22	13	45	7	14	0	6	27	5	0	1	4	10	96	
08:45 AM	0	15	1	3	19	7	1	17	5	30	5	11	0	5	21	3	0	1	7	11	81	
Total	1	55	11	6	73	41	1	76	25	143	17	42	0	17	76	14	0	2	16	32	324	
04:00 PM	1	9	6	1	17	5	0	8	5	18	15	11	5	5	36	1	0	1	3	5	76	
04:15 PM	0	10	4	0	14	2	0	4	4	10	9	10	2	3	24	2	0	0	1	3	51	
04:30 PM	0	13	6	1	20	5	0	11	10	26	13	8	2	5	28	0	0	0	6	6	80	
04:45 PM	2	4	3	2	11	1	0	4	5	10	18	21	0	11	50	2	0	0	4	6	77	
Total	3	36	19	4	62	13	0	27	24	64	55	50	9	24	138	5	0	1	14	20	284	
05:00 PM	0	13	7	4	24	2	0	8	4	14	17	15	0	6	38	4	0	0	2	6	82	
05:15 PM	2	12	8	2	24	4	0	9	10	23	11	14	4	8	37	0	0	0	4	4	88	
05:30 PM	1	12	8	1	22	1	0	4	3	8	17	24	3	10	54	3	0	0	11	14	98	
05:45 PM	0	15	12	5	32	2	0	7	6	15	13	18	2	3	36	1	0	0	3	4	87	
Total	3	52	35	12	102	9	0	28	23	60	58	71	9	27	165	8	0	0	20	28	355	
Grand Total	8	187	70	30	295	81	3	194	85	363	145	194	20	81	440	32	0	3	58	93	1191	
Apprch %	2.7	63.4	23.7	10.2		22.3	0.8	53.4	23.4		33	44.1	4.5	18.4		34.4	0	3.2	62.4			
Total %	0.7	15.7	5.9	2.5	24.8	6.8	0.3	16.3	7.1	30.5	12.2	16.3	1.7	6.8	36.9	2.7	0	0.3	4.9	7.8		
Autos	7	176	68	30	281	81	3	190	85	359	141	186	20	81	428	26	0	2	58	86	1154	
% Autos	87.5	94.1	97.1	100	95.3	100	100	97.9	100	98.9	97.2	95.9	100	100	97.3	81.2	0	66.7	100	92.5	96.9	
Heavies	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6	0	1	0	7	13	
% Heavies	0	1.6	0	0	1	0	0	0	0	0	0	1.5	0	0	0.7	18.8	0	33.3	0	7.5	1.1	
Buses	0	8	2	0	10	0	0	4	0	4	4	5	0	0	9	0	0	0	0	0	23	
% Buses	0	4.3	2.9	0	3.4	0	0	2.1	0	1.1	2.8	2.6	0	0	2	0	0	0	0	0	1.9	
Cyclists	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
% Cyclists	12.5	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	

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318 Simonston Boulevard
Thornhill, ON L3T4T5

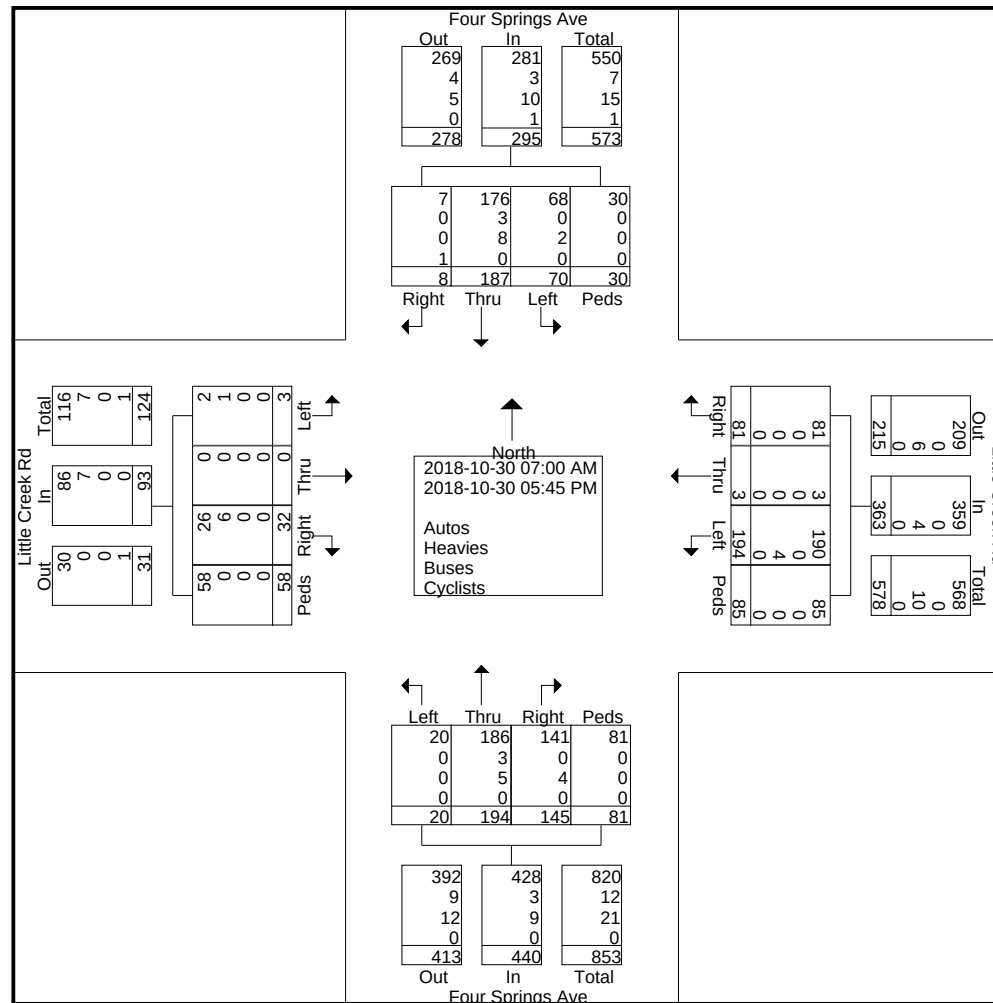
"We allways count....not estimate"

File Name : Four Springs Ave at Little Creek Rd

Site Code : 00000000

Start Date : 2018-10-30

Page No : 2



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318 Simonston Boulevard
Thornhill, ON L3T4T5

"We allways count....not estimate"

File Name : Four Springs Ave at Little Creek Rd

Site Code : 00000000

Start Date : 2018-10-30

Page No : 3

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318 Simonston Boulevard
Thornhill, ON L3T4T5

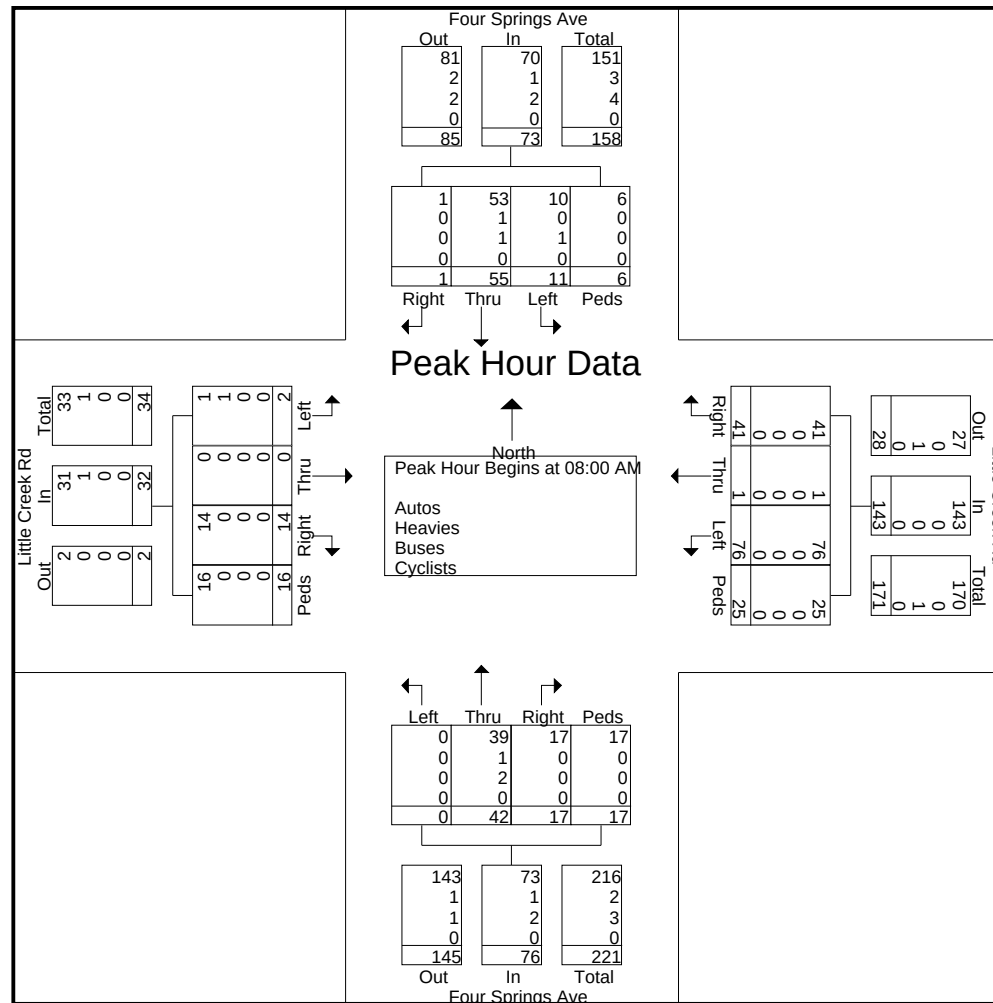
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File Name : Four Springs Ave at Little Creek Rd

Site Code : 00000000

Start Date : 2018-10-30

Page No : 4



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318 Simonston Boulevard
Thornhill, ON L3T4T5

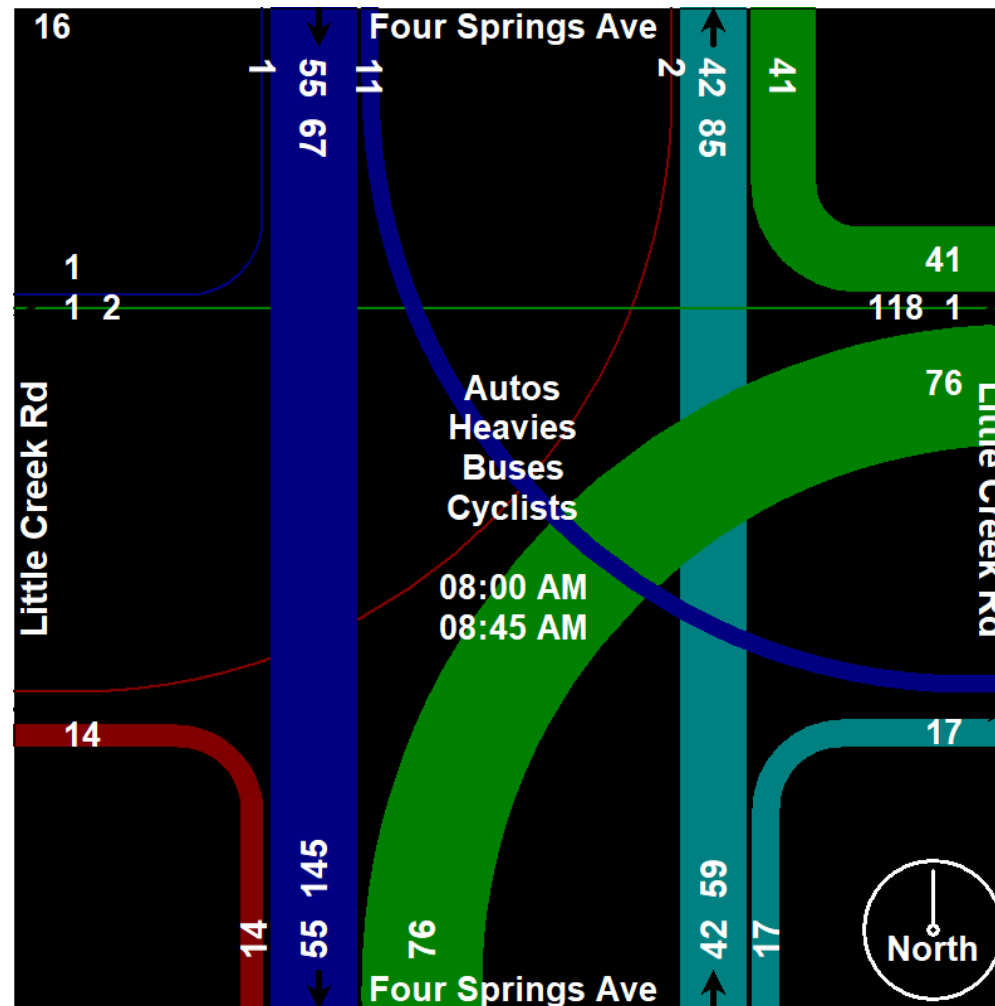
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File Name : Four Springs Ave at Little Creek Rd

Site Code : 00000000

Start Date : 2018-10-30

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318 Simonston Boulevard
Thornhill, ON L3T4T5

"We allways count....not estimate"

File Name : Four Springs Ave at Little Creek Rd

Site Code : 00000000

Start Date : 2018-10-30

Page No : 6

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318 Simonston Boulevard
Thornhill, ON L3T4T5

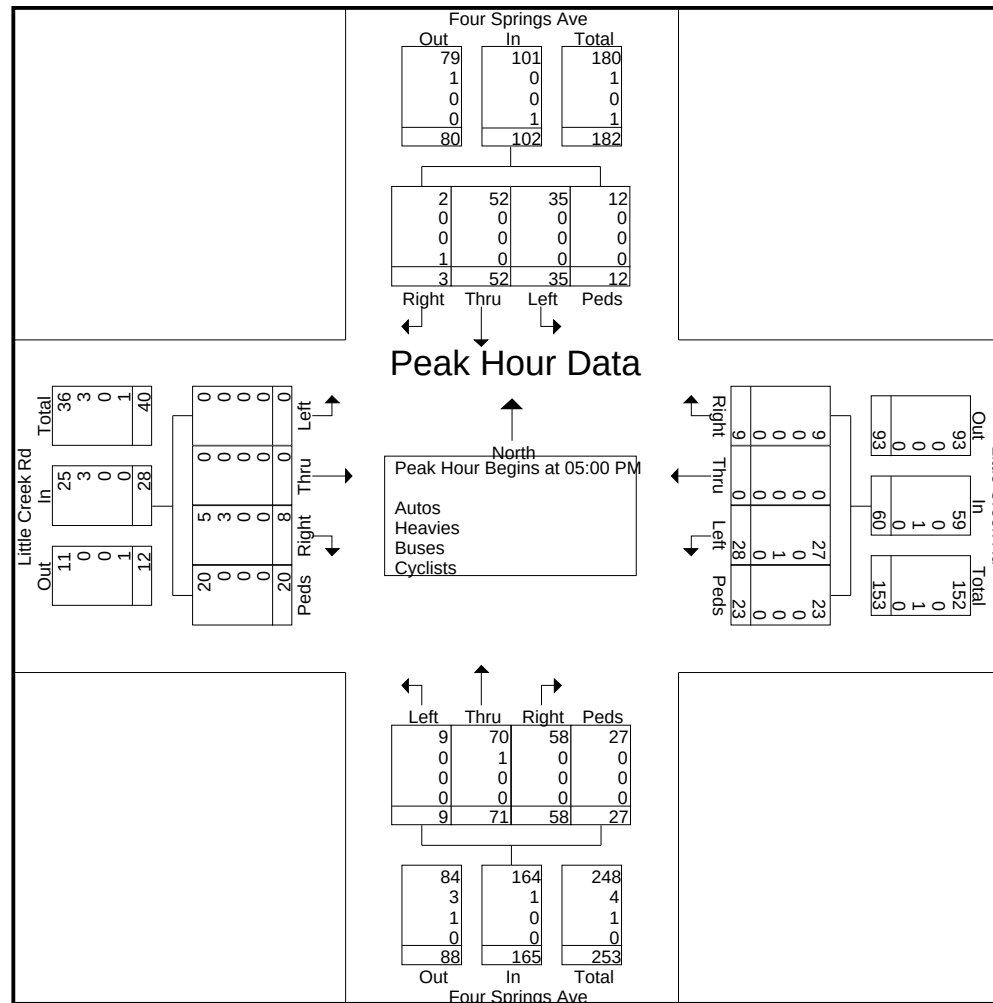
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File Name : Four Springs Ave at Little Creek Rd

Site Code : 00000000

Start Date : 2018-10-30

Page No : 7



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318 Simonston Boulevard
Thornhill, ON L3T4T5

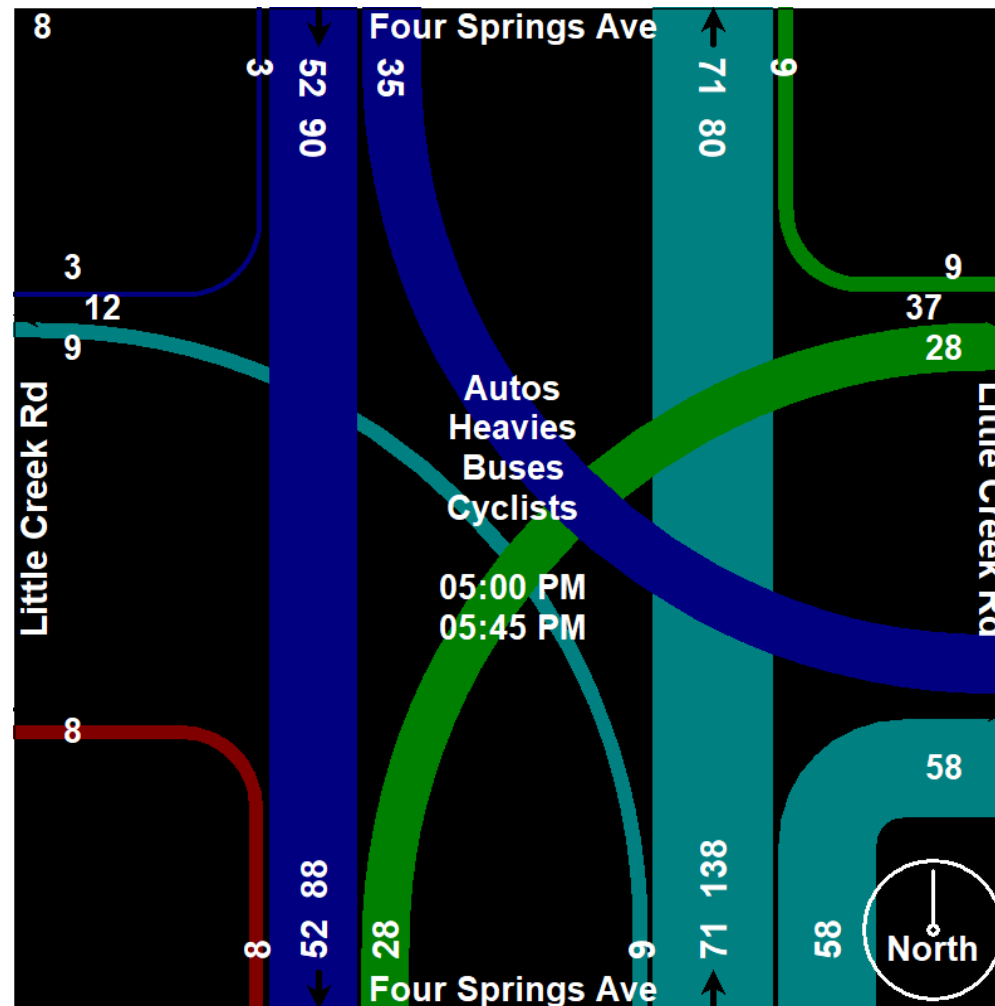
"We always count....not estimate"

File Name : Four Springs Ave at Little Creek Rd

Site Code : 00000000

Start Date : 2018-10-30

Page No : 8



HORIZON DATA SERVICES LTD

318 Simonston Boulevard
Thornhill, ON L3T4T5

"We allways count....not estimate"

File Name : Four Springs Ave at Water Garden Ave

Site Code : 00000000

Start Date : 2018-10-30

Page No : 1

Groups Printed- Autos - Heavies - Buses - Cyclists																						
	Four Springs Ave Southbound					Water Garden Ave Westbound					Four Springs Ave Northbound					Access Eastbound						
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	0	1	0	1	14	1	0	1	16	1	4	0	4	9	26	
07:15 AM	0	0	0	0	0	0	1	2	1	4	15	0	0	1	16	2	2	0	3	7	27	
07:30 AM	0	0	1	0	1	0	0	4	0	4	14	0	0	0	14	0	2	0	1	3	22	
07:45 AM	0	0	1	0	1	0	0	4	0	4	17	1	0	4	22	3	9	0	5	17	44	
Total	0	0	2	0	2	0	1	11	1	13	60	2	0	6	68	6	17	0	13	36	119	
08:00 AM	0	0	0	0	0	1	1	9	0	11	32	1	0	3	36	2	6	0	8	16	63	
08:15 AM	0	0	1	0	1	2	1	6	0	9	26	1	0	4	31	1	8	0	7	16	57	
08:30 AM	0	0	3	2	5	3	0	3	2	8	30	4	2	6	42	3	9	0	14	26	81	
08:45 AM	0	1	3	2	6	2	3	6	1	12	19	3	2	20	44	1	3	0	28	32	94	
Total	0	1	7	4	12	8	5	24	3	40	107	9	4	33	153	7	26	0	57	90	295	
04:00 PM	0	2	0	1	3	1	2	17	1	21	10	1	1	4	16	0	2	0	3	5	45	
04:15 PM	0	0	1	0	1	1	3	10	0	14	3	0	4	0	7	0	1	0	2	3	25	
04:30 PM	0	0	0	0	0	1	1	19	2	23	9	0	1	2	12	1	1	0	10	12	47	
04:45 PM	0	0	0	0	0	1	3	10	2	16	5	1	4	8	18	0	3	0	2	5	39	
Total	0	2	1	1	4	4	9	56	5	74	27	2	10	14	53	1	7	0	17	25	156	
05:00 PM	0	0	1	0	1	0	3	19	1	23	10	0	1	8	19	2	5	0	1	8	51	
05:15 PM	0	2	1	0	3	1	4	18	2	25	10	1	1	7	19	1	1	0	8	10	57	
05:30 PM	0	0	0	1	1	0	5	22	2	29	6	2	0	4	12	2	1	0	8	11	53	
05:45 PM	0	1	3	0	4	3	3	25	0	31	8	1	1	2	12	0	0	0	6	6	53	
Total	0	3	5	1	9	4	15	84	5	108	34	4	3	21	62	5	7	0	23	35	214	
Grand Total	0	6	15	6	27	16	30	175	14	235	228	17	17	74	336	19	57	0	110	186	784	
Apprch %	0	22.2	55.6	22.2		6.8	12.8	74.5	6		67.9	5.1	5.1	22		10.2	30.6	0	59.1			
Total %	0	0.8	1.9	0.8	3.4	2	3.8	22.3	1.8	30	29.1	2.2	2.2	9.4	42.9	2.4	7.3	0	14	23.7		
Autos	0	5	15	6	26	10	30	165	14	219	220	16	17	74	327	19	57	0	110	186	758	
% Autos	0	83.3	100	100	96.3	62.5	100	94.3	100	93.2	96.5	94.1	100	100	97.3	100	100	0	100	100	96.7	
Heavies	0	0	0	0	0	6	0	0	0	6	1	1	0	0	2	0	0	0	0	0	8	
% Heavies	0	0	0	0	0	37.5	0	0	0	2.6	0.4	5.9	0	0	0.6	0	0	0	0	0	1	
Buses	0	0	0	0	0	0	0	10	0	10	7	0	0	0	7	0	0	0	0	0	17	
% Buses	0	0	0	0	0	0	0	5.7	0	4.3	3.1	0	0	0	2.1	0	0	0	0	0	2.2	
Cyclists	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
% Cyclists	0	16.7	0	0	3.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	

HORIZON DATA SERVICES LTD

318 Simonston Boulevard
Thornhill, ON L3T4T5

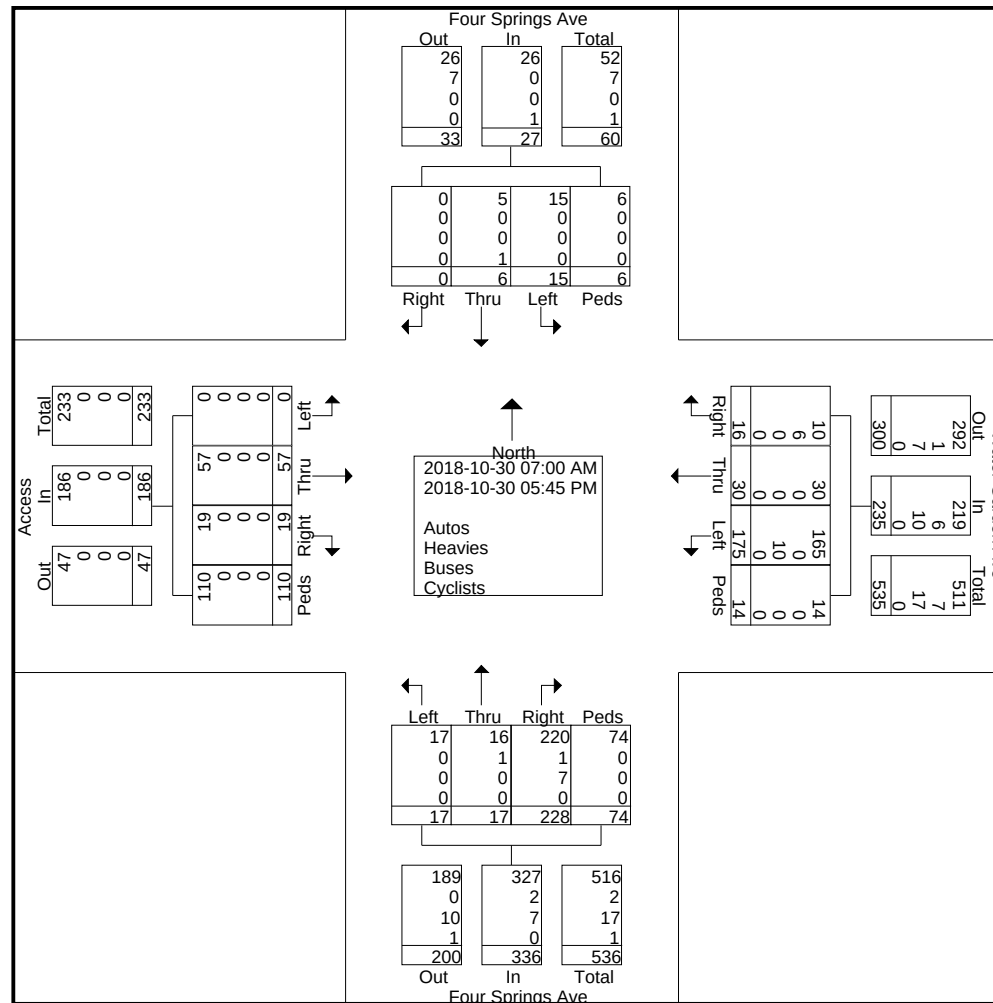
"We allways count....not estimate"

File Name : Four Springs Ave at Water Garden Ave

Site Code : 00000000

Start Date : 2018-10-30

Page No : 2



HORIZON DATA SERVICES LTD

318 Simonston Boulevard
Thornhill, ON L3T4T5

"We allways count....not estimate"

File Name : Four Springs Ave at Water Garden Ave

Site Code : 00000000

Start Date : 2018-10-30

Page No : 3

[illegible]

HORIZON DATA SERVICES LTD

318 Simonston Boulevard
Thornhill, ON L3T4T5

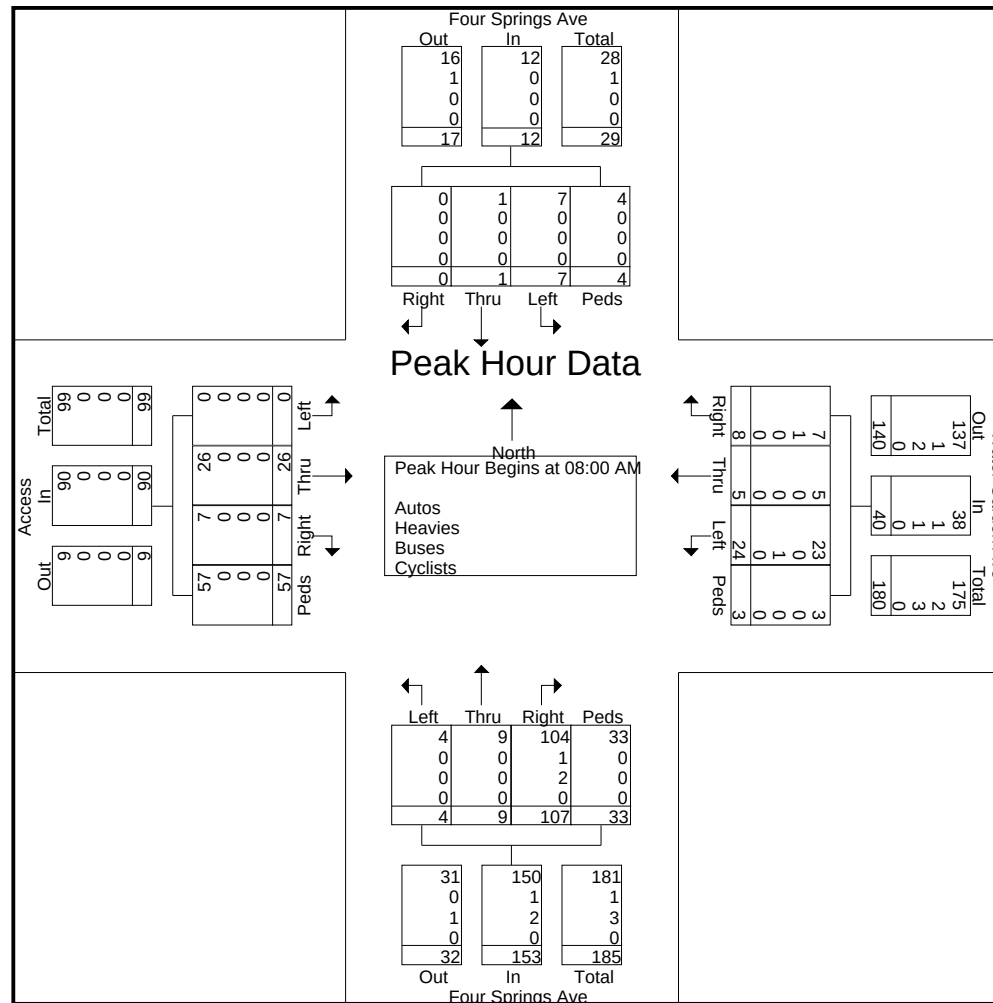
"We allways count....not estimate"

File Name : Four Springs Ave at Water Garden Ave

Site Code : 00000000

Start Date : 2018-10-30

Page No : 4



HORIZON DATA SERVICES LTD

318 Simonston Boulevard
Thornhill, ON L3T4T5

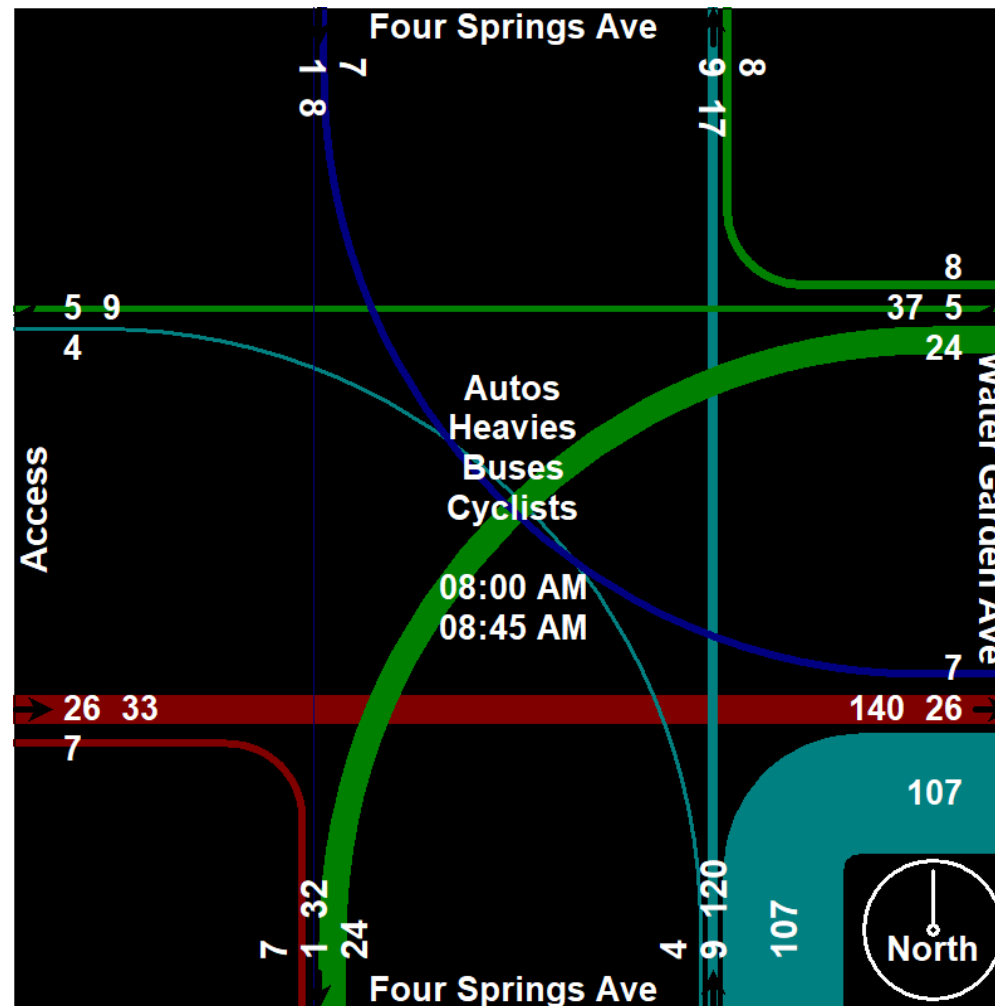
"We allways count....not estimate"

File Name : Four Springs Ave at Water Garden Ave

Site Code : 00000000

Start Date : 2018-10-30

Page No : 5



HORIZON DATA SERVICES LTD

318 Simonston Boulevard
Thornhill, ON L3T4T5

"We allways count....not estimate"

File Name : Four Springs Ave at Water Garden Ave

Site Code : 00000000

Start Date : 2018-10-30

Page No : 6

[illegible]

HORIZON DATA SERVICES LTD

318 Simonston Boulevard
Thornhill, ON L3T4T5

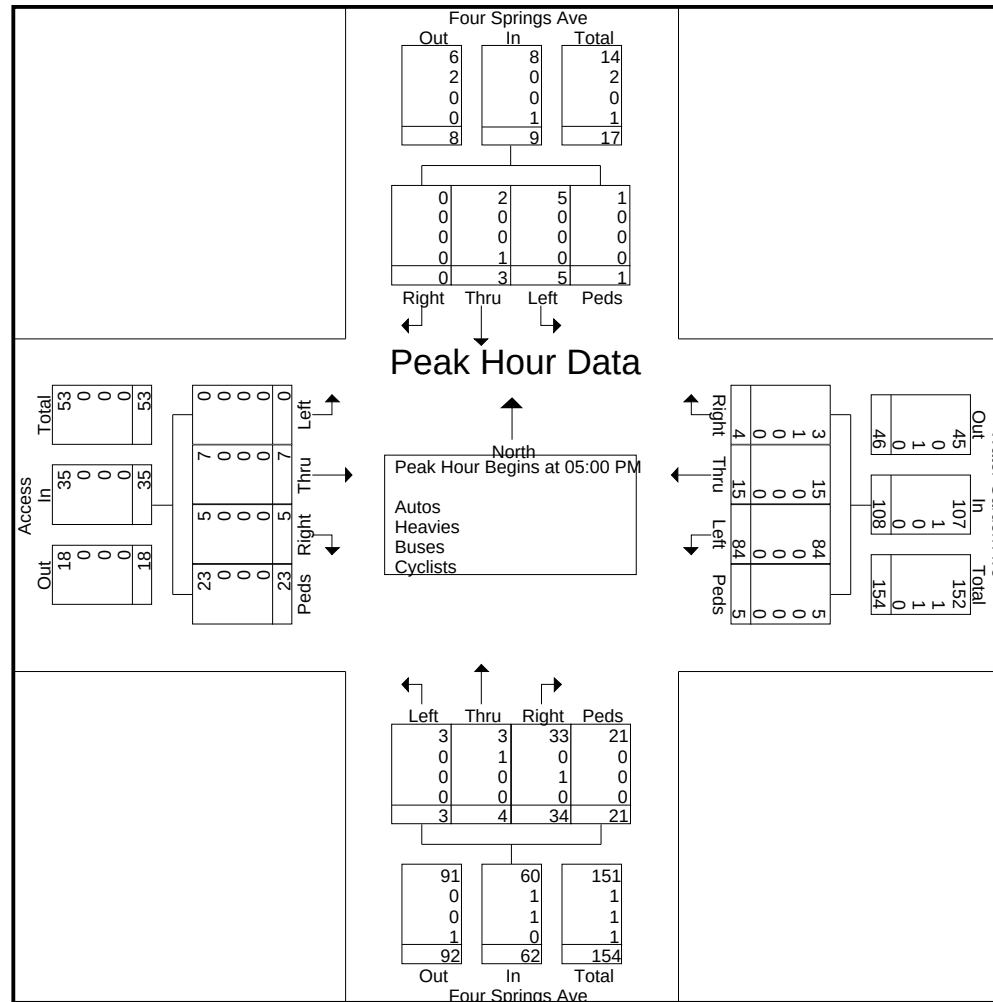
"We allways count....not estimate"

File Name : Four Springs Ave at Water Garden Ave

Site Code : 00000000

Start Date : 2018-10-30

Page No : 7



HORIZON DATA SERVICES LTD

318 Simonston Boulevard
Thornhill, ON L3T4T5

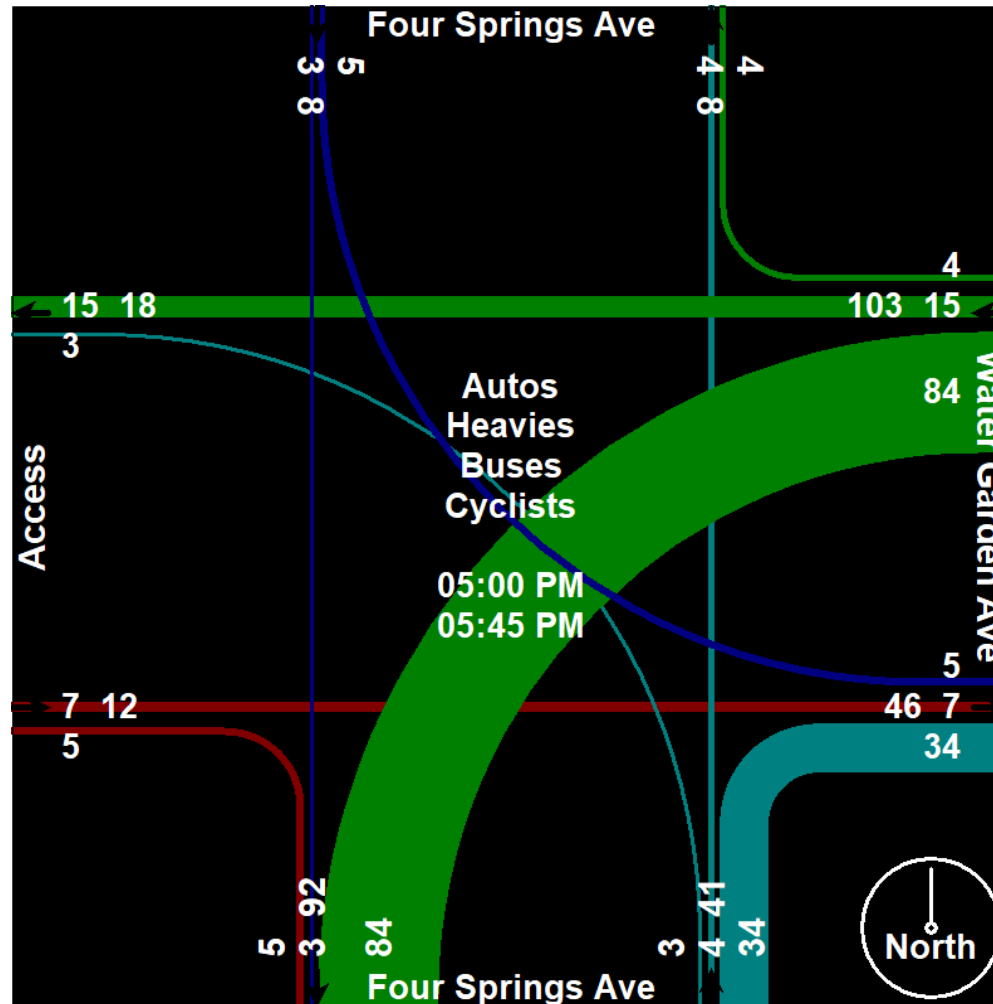
"We allways count....not estimate"

File Name : Four Springs Ave at Water Garden Ave

Site Code : 00000000

Start Date : 2018-10-30

Page No : 8



Appendix C – Signal Timing Plans

?? SHOW TIMING REPORT,ACT1-3,I371

SCHEDULED DATA		SELECTION PLANS				IN USE		ALTERNATES				
INT	TIME	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC
1052			LEN	NO.	NO.	FUNC	ISEC		LEN	NO.	NO.	FUNC
371	00:00	/	/	/	/	/	/	LO	101	2	2	2
371	06:00	1/1	/	/	/	1/1	/	CC	160	1	1	1

LOCATION: EGLINTON@KINGSBRIDGE INTERSECTION NO.: 371
DATE: 11-OCT-2017 TIME: 06:00
SCHEDULE: 1 SPEC. FUNC.: 1 - Y 2 - N 3
- N

MAIN ST.: EGLINTON AVE
NO. OF PH: 2

CONTROLLER TYPE: S4
CONTROL MODE: CC

2.	EW	- Walk	=	86 seconds
	EGLINTON AVE	- FL. Don't Walk	=	12 seconds
		- Amber	=	4 seconds
		- All Red	=	3 seconds
4.	NS	- Walk	=	15 seconds
	KINGSBRIDGE GDN	- FL. Don't Walk	=	21 seconds
		- Sd. Don't Walk	=	11 seconds
		- Maximum	=	47 seconds
		- Amber	=	4 seconds
		- All Red	=	4 seconds

Total Cycle Length = 160 seconds

SCHEDULED DATA		SELECTION PLANS				IN USE		ALTERNATES				
INT	TIME	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC
1052			LEN	NO.	NO.	FUNC	ISEC		LEN	NO.	NO.	FUNC
371	09:30	1/1	/	/	/	1/1	/	CC	160	2	2	2

LOCATION: EGLINTON@KINGSBRIDGE INTERSECTION NO.: 371
DATE: 11-OCT-2017 TIME: 09:30
SCHEDULE: 1 SPEC. FUNC.: 1 - Y 2 - N 3
- N

MAIN ST.: EGLINTON AVE
NO. OF PH: 2

CONTROLLER TYPE: S4
CONTROL MODE: CC

2.	EW	- Walk	=	81 seconds
	EGLINTON AVE	- FL. Don't Walk	=	12 seconds
		- Amber	=	4 seconds
		- All Red	=	3 seconds

4. NS
KINGSBRIDGE GDN

- Walk = 15 seconds
- FL. Don't Walk = 21 seconds
- Sd. Don't Walk = 16 seconds
- Maximum = 52 seconds
- Amber = 4 seconds
- All Red = 4 seconds

Total Cycle Length = 160 seconds

SCHEDULED DATA													
INT TIME		SELECTION PLANS				IN USE		ALTERNATES					
	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC		
DUP													
		LEN	NO.	NO.	FUNC	ISEC		LEN	NO.	NO.	FUNC		
ISEC													
371 15:00	1/1	/	/	/	1/1	/	CC	160	3	3	3		
1052													

LOCATION: EGLINTON@KINGSBRIDGE
DATE: 11-OCT-2017
SCHEDULE: 1

INTERSECTION NO.: 371
TIME: 15:00
SPEC. FUNC.: 1 - Y 2 - N 3

- N

MAIN ST.: EGLINTON AVE
NO. OF PH: 2

CONTROLLER TYPE: S4
CONTROL MODE: CC

2. EW
EGLINTON AVE

- Walk = 86 seconds
- FL. Don't Walk = 12 seconds
- Amber = 4 seconds
- All Red = 3 seconds

4. NS
KINGSBRIDGE GDN

- Walk = 15 seconds
- FL. Don't Walk = 21 seconds
- Sd. Don't Walk = 11 seconds
- Maximum = 47 seconds
- Amber = 4 seconds
- All Red = 4 seconds

Total Cycle Length = 160 seconds

SCHEDULED DATA													
INT TIME		SELECTION PLANS				IN USE		ALTERNATES					
	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC		
DUP													
		LEN	NO.	NO.	FUNC	ISEC		LEN	NO.	NO.	FUNC		
ISEC													
371 19:30	1/1	/	/	/	1/1	/	CC	160	2	2	2		
1052													

LOCATION: EGLINTON@KINGSBRIDGE
DATE: 11-OCT-2017
SCHEDULE: 1

INTERSECTION NO.: 371
TIME: 19:30
SPEC. FUNC.: 1 - Y 2 - N 3

- N

MAIN ST.: EGLINTON AVE
NO. OF PH: 2

CONTROLLER TYPE: S4
CONTROL MODE: CC

2.	EW	- Walk	=	81 seconds
	EGLINTON AVE	- FL. Don't Walk	=	12 seconds
		- Amber	=	4 seconds
		- All Red	=	3 seconds
4.	NS	- Walk	=	15 seconds
	KINGSBRIDGE GDN	- FL. Don't Walk	=	21 seconds
		- Sd. Don't Walk	=	16 seconds
		- Maximum	=	52 seconds
		- Amber	=	4 seconds
		- All Red	=	4 seconds

Total Cycle Length = 160 seconds

SCHEDULED DATA		SELECTION PLANS				IN USE		ALTERNATES				
INT	TIME	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC
DUP												
ISEC												
			LEN	NO.	NO.	FUNC	ISEC		LEN	NO.	NO.	FUNC
371	00:00	/	/	/	/	/	/	L0	101	2	2	2
371	07:00	1/1	/	/	/	1/1	/	CC	160	2	2	2
1052												

LOCATION:	EGLINTON@KINGSBRIDGE	INTERSECTION NO.:	371
DATE:	11-OCT-2017	TIME:	07:00
SCHEDULE:	2	SPEC. FUNC.:	1 - Y 2 - N 3
- N			

MAIN ST.: EGLINTON AVE
NO. OF PH: 2

CONTROLLER TYPE: S4
CONTROL MODE: CC

2.	EW	- Walk	=	81 seconds
	EGLINTON AVE	- FL. Don't Walk	=	12 seconds
		- Amber	=	4 seconds
		- All Red	=	3 seconds
4.	NS	- Walk	=	15 seconds
	KINGSBRIDGE GDN	- FL. Don't Walk	=	21 seconds
		- Sd. Don't Walk	=	16 seconds
		- Maximum	=	52 seconds
		- Amber	=	4 seconds
		- All Red	=	4 seconds

Total Cycle Length = 160 seconds

SCHEDULED DATA		SELECTION PLANS				IN USE		ALTERNATES				
INT	TIME	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC
DUP												

ISEC	LEN	NO.	NO.	FUNC	ISEC	LEN	NO.	NO.	FUNC
371 00:00	/	/	/	/	/	LO	101	2	2
371 08:00	1/1	/	/	/	1/1	CC	160	2	2

1052

LOCATION: EGLINTON@KINGSBRIDGE INTERSECTION NO.: 371
 DATE: 11-OCT-2017 TIME: 08:00
 SCHEDULE: 3 SPEC. FUNC.: 1 - Y 2 - N 3
 - N

MAIN ST.: EGLINTON AVE CONTROLLER TYPE: S4
 NO. OF PH: 2 CONTROL MODE: CC

2. EW - Walk = 81 seconds
 EGLINTON AVE - FL. Don't Walk = 12 seconds
 - Amber = 4 seconds
 - All Red = 3 seconds

4. NS - Walk = 15 seconds
 KINGSBRIDGE GDN - FL. Don't Walk = 21 seconds
 - Sd. Don't Walk = 16 seconds
 - Maximum = 52 seconds
 - Amber = 4 seconds
 - All Red = 4 seconds

Total Cycle Length = 160 seconds

SCHEDULED DATA
 INT TIME SELECTION PLANS IN USE ALTERNATES
 MODE CYC OFF SPLT SPEC DUP MODE CYC OFF SPLT SPEC
 DUP

ISEC	LEN	NO.	NO.	FUNC	ISEC	LEN	NO.	NO.	FUNC
371 23:00	/	/	/	/	/	LO	101	2	2

1052

?? SHOW CDT371

CYCLE DEFINITION TABLE: 371

PHASE	DIR	VEH MIN	PED MIN	PED CLEAR	AMBER	ALL RED	COMM DELAY	SPECIAL FEATURE	STREET NAME
1	WBL						1		EGLINTON AVE
2	EW		9	12	4	3	1	C	EGLINTON AVE
3	SBL						1		KINGSBRIDGE GDN
4	NS		15	21	4	4	1		KINGSBRIDGE GDN
5							1		
6							1		
7							1		
8							1		

VALID SPECIAL FUNCTIONS(Y/N)

1	2	3	1&2	1&3	2&3	ALL
Y	Y	Y	Y	Y	Y	Y

?? SHOW DINTREP,ACT1-3,I371

DAILY INTERSECTION REPORT FOR ACT SCH 1 (MON TUE WED THU FRI)
 INT TIME SELECTION PLANS IN USE ALTERNATES

DUP	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC					
		LEN	NO.	NO.	FUNC	ISEC		LEN	NO.	NO.	FUNC					
ISEC																
371 00:00	/	/	/	/	/	/	LO	101	2	2	2					
371 06:00	1/1	/	/	/	1/1	/	CC	160	1	1	1					
1052																
371 09:30	1/1	/	/	/	1/1	/	CC	160	2	2	2					
1052																
371 15:00	1/1	/	/	/	1/1	/	CC	160	3	3	3					
1052																
371 19:30	1/1	/	/	/	1/1	/	CC	160	2	2	2					
1052																
DAILY INTERSECTION REPORT FOR ACT SCH 2 (SAT)																
371 00:00	/	/	/	/	/	/	LO	101	2	2	2					
371 07:00	1/1	/	/	/	1/1	/	CC	160	2	2	2					
1052																
DAILY INTERSECTION REPORT FOR ACT SCH 3 (SUN HOL)																
371 00:00	/	/	/	/	/	/	LO	101	2	2	2					
371 08:00	1/1	/	/	/	1/1	/	CC	160	2	2	2					
1052																
371 23:00	/	/	/	/	/	/	LO	101	2	2	2					
1052																
?? SHOW SPL1-3,I371																
SPLIT TABLE																
INTERSECTION 371 EGLINTON@KINGSBRIDGE																
TABLE (SPLIT) PHASE NUMBER (MAX SPLIT) PHASE NUMBER																
NO.	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
	WBL	EW	SBL	NS												
1		66		34						0		0				
2		63		37						0		0				
3		66		34						0		0				
?? SHOW SPF1-3,I371																
SPECIAL FUNCTIONS																
INTERSECTION 371 EGLINTON@KINGSBRIDGE																
SPECIAL IN(Y)/OUT(N)																
FUNCTION	#	1	2	3												
		NA	PED	CAL												
1		Y	N	N												
2		Y	N	N												
3		Y	N	N												
?? SHOW OFF1-3,I371																
OFFSET TABLE																
INTERSECTION 371 EGLINTON@KINGSBRIDGE																
OFFSET #		OFFSET %														
1		59														
2		99														
3		23														
??																

SCHEDULED DATA			SELECTION PLANS					IN USE					ALTERNATES			
INT	TIME	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC				
DUP			LEN	NO.	NO.	FUNC	ISEC		LEN	NO.	NO.	FUNC				
ISEC																
746	00:00	/	/	/	/	/	/	LO	101	2	2	2				
746	06:00	1/1	/	/	/	1/1	/	CC	160	1	1	1				
1052																

LOCATION:	EGLINTON@TIM HORTONS	INTERSECTION NO.:	746
DATE:	11-OCT-2017	TIME:	06:00
SCHEDULE:	1	SPEC. FUNC.:	1 - Y 2 - N 3
- Y			

MAIN ST.: EGLINTON AVE
NO. OF PH: 2

CONTROLLER TYPE: S4
CONTROL MODE: CC

2.	EW	- Walk	=	96 seconds
	EGLINTON AVE	- FL. Don't Walk	=	10 seconds
		- Amber	=	4 seconds
		- All Red	=	3 seconds
4.	NS	- Walk	=	12 seconds
	TIM HORTONS/ACC	- FL. Don't Walk	=	16 seconds
		- Sd. Don't Walk	=	11 seconds
		- Maximum	=	39 seconds
		- Amber	=	4 seconds
		- All Red	=	4 seconds

Total Cycle Length = 160 seconds

[illegible]

LOCATION:	EGLINTON@TIM HORTONS	INTERSECTION NO.:	746
DATE:	11-OCT-2017	TIME:	09:30
SCHEDULE:	1	SPEC. FUNC.:	1 - Y 2 - N 3
- N			

MAIN ST.: EGLINTON AVE
NO. OF PH: 2

CONTROLLER TYPE: S4
CONTROL MODE: CC

2.	EW	- Walk	=	87 seconds
	EGLINTON AVE	- FL. Don't Walk	=	10 seconds
		- Amber	=	4 seconds
		- All Red	=	3 seconds

4. NS
TIM HORTONS/ACC

- Walk = 12 seconds
- FL. Don't Walk = 16 seconds
- Sd. Don't Walk = 20 seconds
- Maximum = 48 seconds
- Amber = 4 seconds
- All Red = 4 seconds

Total Cycle Length = 160 seconds

SCHEDULED DATA													
INT	TIME	MODE	SELECTION PLANS			IN USE		ALTERNATES					
			CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC	
DUP													
			LEN	NO.	NO.	FUNC	ISEC		LEN	NO.	NO.	FUNC	
ISEC													
746	15:00	1/1	/	/	/	1/1	/	CC	160	3	3	3	
1052													

LOCATION: EGLINTON@TIM HORTONS
DATE: 11-OCT-2017
SCHEDULE: 1

INTERSECTION NO.: 746
TIME: 15:00
SPEC. FUNC.: 1 - Y 2 - N 3

- N

MAIN ST.: EGLINTON AVE
NO. OF PH: 2

CONTROLLER TYPE: S4
CONTROL MODE: CC

2. EW
EGLINTON AVE

- Walk = 96 seconds
- FL. Don't Walk = 10 seconds
- Amber = 4 seconds
- All Red = 3 seconds

4. NS
TIM HORTONS/ACC

- Walk = 12 seconds
- FL. Don't Walk = 16 seconds
- Sd. Don't Walk = 11 seconds
- Maximum = 39 seconds
- Amber = 4 seconds
- All Red = 4 seconds

Total Cycle Length = 160 seconds

SCHEDULED DATA													
INT	TIME	MODE	SELECTION PLANS			IN USE		ALTERNATES					
			CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC	
DUP													
			LEN	NO.	NO.	FUNC	ISEC		LEN	NO.	NO.	FUNC	
ISEC													
746	19:30	1/1	/	/	/	1/1	/	CC	160	2	2	2	
1052													

LOCATION: EGLINTON@TIM HORTONS
DATE: 11-OCT-2017
SCHEDULE: 1

INTERSECTION NO.: 746
TIME: 19:30
SPEC. FUNC.: 1 - Y 2 - N 3

- N

MAIN ST.: EGLINTON AVE
NO. OF PH: 2

CONTROLLER TYPE: S4
CONTROL MODE: CC

2.	EW	- Walk	=	87 seconds
	EGLINTON AVE	- FL. Don't Walk	=	10 seconds
		- Amber	=	4 seconds
		- All Red	=	3 seconds
4.	NS	- Walk	=	12 seconds
	TIM HORTONS/ACC	- FL. Don't Walk	=	16 seconds
		- Sd. Don't Walk	=	20 seconds
		- Maximum	=	48 seconds
		- Amber	=	4 seconds
		- All Red	=	4 seconds

Total Cycle Length = 160 seconds

SCHEDULED DATA		SELECTION PLANS				IN USE		ALTERNATES				
INT	TIME	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC
DUP												
			LEN	NO.	NO.	FUNC	ISEC					
ISEC												
746	00:00	/	/	/	/	/	/	LO	101	2	2	2
746	07:00	1/1	/	/	/	1/1	/	CC	160	2	2	2
1052												

LOCATION:	EGLINTON@TIM HORTONS	INTERSECTION NO.:	746
DATE:	11-OCT-2017	TIME:	07:00
SCHEDULE:	2	SPEC. FUNC.:	1 - Y 2 - N 3
- N			

MAIN ST.: EGLINTON AVE
NO. OF PH: 2

CONTROLLER TYPE: S4
CONTROL MODE: CC

2.	EW	- Walk	=	87 seconds
	EGLINTON AVE	- FL. Don't Walk	=	10 seconds
		- Amber	=	4 seconds
		- All Red	=	3 seconds
4.	NS	- Walk	=	12 seconds
	TIM HORTONS/ACC	- FL. Don't Walk	=	16 seconds
		- Sd. Don't Walk	=	20 seconds
		- Maximum	=	48 seconds
		- Amber	=	4 seconds
		- All Red	=	4 seconds

Total Cycle Length = 160 seconds

SCHEDULED DATA		SELECTION PLANS				IN USE		ALTERNATES				
INT	TIME	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC
DUP												

ISEC	LEN	NO.	NO.	FUNC	ISEC	LEN	NO.	NO.	FUNC
746 00:00	/	/	/	/	/	LO	101	2	2 2
746 08:00	1/1	/	/	/	1/1	CC	160	2	2 2

1052

LOCATION: EGLINTON@TIM HORTONS INTERSECTION NO.: 746
DATE: 11-OCT-2017 TIME: 08:00
SCHEDULE: 3 SPEC. FUNC.: 1 - Y 2 - N 3
- N

MAIN ST.: EGLINTON AVE CONTROLLER TYPE: S4
NO. OF PH: 2 CONTROL MODE: CC

2. EW - Walk = 87 seconds
EGLINTON AVE - FL. Don't Walk = 10 seconds
- Amber = 4 seconds
- All Red = 3 seconds

4. NS - Walk = 12 seconds
TIM HORTONS/ACC - FL. Don't Walk = 16 seconds
- Sd. Don't Walk = 20 seconds
- Maximum = 48 seconds
- Amber = 4 seconds
- All Red = 4 seconds

Total Cycle Length = 160 seconds

SCHEDULED DATA		SELECTION PLANS				IN USE		ALTERNATES				
INT	TIME	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC
DUP												
ISEC			LEN	NO.	NO.	FUNC	ISEC		LEN	NO.	NO.	FUNC
746 23:00	/	/	/	/	/	/	/	LO	101	2	2	2

1052

?? SHOW CDT746

CYCLE DEFINITION TABLE: 746

PHASE	DIR	VEH MIN	PED MIN	PED CLEAR	AMBER	ALL RED	COMM DELAY	SPECIAL FEATURE	STREET NAME
1							1		
2	EW		8	10	4	3	1	C	EGLINTON AVE
3							1		
4	NS		12	16	4	4	1		TIM HORTONS/ACC
5							1		
6							1		
7							1		
8							1		

VALID SPECIAL FUNCTIONS(Y/N)

1	2	3	1&2	1&3	2&3	ALL
Y	Y	Y	Y	Y	Y	Y

?? SHOW DINTREP,ACT1-3,I746

DAILY INTERSECTION REPORT FOR ACT SCH 1 (MON TUE WED THU FRI)
INT TIME SELECTION PLANS IN USE ALTERNATES

DUP	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE	CYC	OFF	SPLT	SPEC
		LEN	NO.	NO.	FUNC			LEN	NO.	NO.	FUNC
ISEC											
746 00:00	/	/	/	/	/	/	LO	101	2	2	2
746 06:00	1/1	/	/	/	1/1	/	CC	160	1	1	1
1052											
746 09:30	1/1	/	/	/	1/1	/	CC	160	2	2	2
1052											
746 15:00	1/1	/	/	/	1/1	/	CC	160	3	3	3
1052											
746 19:30	1/1	/	/	/	1/1	/	CC	160	2	2	2
1052											
DAILY INTERSECTION REPORT FOR ACT SCH 2 (SAT)											
746 00:00	/	/	/	/	/	/	LO	101	2	2	2
746 07:00	1/1	/	/	/	1/1	/	CC	160	2	2	2
1052											
DAILY INTERSECTION REPORT FOR ACT SCH 3 (SUN HOL)											
746 00:00	/	/	/	/	/	/	LO	101	2	2	2
746 08:00	1/1	/	/	/	1/1	/	CC	160	2	2	2
1052											
746 23:00	/	/	/	/	/	/	LO	101	2	2	2
1052											

?? SHOW SPL1-3,I746

SPLIT TABLE

INTERSECTION 746 EGLINTON@TIM HORTONS							
TABLE (SPLIT) PHASE NUMBER (MAX SPLIT) PHASE NUMBER							
NO.	1	2	3	4	5	6	7
		EW		NS			
1		71		29			
2		65		35			
3		71		29			

?? SHOW SPF1-3,I746

SPECIAL FUNCTIONS

INTERSECTION 746 EGLINTON@TIM HORTONS			
SPECIAL IN(Y)/OUT(N)			
FUNCTION	#	1	2
		NA	PED
1		Y	N
2		Y	N
3		Y	N

?? SHOW OFF1-3,I746

OFFSET TABLE

INTERSECTION 746 EGLINTON@TIM HORTONS	
OFFSET #	OFFSET %
1	14
2	57
3	30

??

Time Generated: 2017-10-11 17:36:11

Signal ID: 2801

Location: HURONTARIO STREET N at Eglinton Avenue West

Phase	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	14	0	15	0	14	0	15
Ped Clear	Sec	0	20	0	22	0	20	0	22
Min Green	Sec	5	8	5	8	5	8	5	8
Passage	Sec	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Maximum 1	Sec	20	33	15	32	15	33	15	32
Maximum 2	Sec	20	33	15	32	15	33	15	32
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	2.0	3.0	0.0	3.0	0.0	3.0	2.0	3.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	phaseNotOn	phaseNotOn	phaseNotOn	redClear	phaseNotOn	phaseNotOn
[P2] Options	Bit	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
		Non Lock Det	Non-Actuated 1 Max Veh Recall Ped Recall Dual Entry Act Rest In Walk	Non Lock Det	Non Lock Det	Non Lock Det	Non-Actuated 1 Max Veh Recall Ped Recall Dual Entry Act Rest In Walk	Non Lock Det	Non Lock Det

Coord Pattern	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	160	160	160	0	0	0	0	0
Offset	Sec	114	26	142	0	0	0	0	0
Split	Split	1	2	3	0	0	0	0	0
Sequence	Sequence	1	1	1	0	0	0	0	0

Coord Split	Units	1	2	3	4	5	6	7	8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	21	67	18	54	22	66	18	54
Split 1 - Coord	Enum	false	true	false	false	false	true	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	21	62	18	59	21	62	18	59
Split 2 - Coord	Enum	false	true	false	false	false	true	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	27	59	16	58	22	64	19	55
Split 3 - Coord	Enum	false	true	false	false	false	true	false	false

TB Schedule	Units	1	2	3	4	5	7	8	
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J-----	-F-----	J-----	-F-----	--A-----
Day of Week	Bit	-MTWTF-	S-----	-----S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	12345678901234	12345678901234	12345678901234	-2-----	-----0-	-2-----	-----0-	-----4-
Day Plan	Number	567890012345679 1	567890012345679 3	567890012345679 2	3	3	3	3	3
TB Schedule	Units	9	10	11	12	13	15	16	
Month	Bit	---M----	---J---	---A---	---S---	---O--	-----D	-----D	-----D
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	-----2-	-3-----	-7-----	-4-----	-----9-	-----	-----	-----
Day Plan	Number	3	3	3	3	3	5 3	6 3	7 3

TB Dayplan	Units	1	2	3	4	5	6	7	8
Plan 1 Hour	Hour	0	6	9	15	19	0	0	0
Plan 1 Minute	Min	0	0	30	0	30	0	0	0
Plan 1 Action	Number	8	1	2	3	2	0	0	0
Plan 2 Hour	Hour	0	7	0	0	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	8	2	0	0	0	0	0	0
Plan 3 Hour	Hour	0	8	23	0	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	2	8	0	0	0	0	0

TB Action	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Pattern 7	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

Signal Timing Report

Time Generated: 2017-10-11 18:34:29

Region: Mississauga

Signal ID: 3617

Location: HURONTARIO STREET N at Ceremonial Drive/ Nahani Way

Phase	Units	1	2	3	4	5	7	8
Walk	Sec	0	9	0	16	0	0	0
Ped Clear	Sec	0	12	0	23	0	0	0
Min Green	Sec	5	8	0	8	0	0	0
Passage	Sec	2.0	3.0	0.0	3.0	0.0	0.0	0.0
Maximum 1	Sec	10	30	0	20	0	0	0
Maximum 2	Sec	10	30	0	20	0	0	0
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	4.0	4.0
Red Clearance	Sec	0.0	2.5	0.0	4.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	other	phaseNotOn	other	other	other
[P2] Options	Bit	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Act Rest In Walk	0	Enabled Non Lock Det	0	0	0

Coord Pattern	Units	1	2	3	4	5	7	8
Cycle Time	Sec	160	160	160	0	0	0	0
Offset	Sec	101	158	117	0	0	0	0
Split	Split	1	2	3	4	5	6	7
Sequence	Sequence	1	1	1	1	1	1	1

Coord Split	Units	1	2	3	4	5	7	8
Split 1 - Mode	Enum	phaseOmitted	none	none	none	none	none	none
Split 1 - Time	Sec	0	102	0	58	0	0	0
Split 1 - Coord	Enum	false	true	false	false	false	false	false
Split 2 - Mode	Enum	phaseOmitted	none	none	none	none	none	none
Split 2 - Time	Sec	0	98	0	62	0	0	0
Split 2 - Coord	Enum	false	true	false	false	false	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none
Split 3 - Time	Sec	13	90	0	57	0	0	0
Split 3 - Coord	Enum	false	true	false	false	false	false	false

TB Schedule	Units	1	2	3	4	5	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J-----	-F-----	J-----	-F-----
Day of Week	Bit	-MTWTF-	S-----	-----S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	123456789012345	123456789012345	12345678901234	-2-----	-2-----0---	-2-----	-2-----0---
Day Plan	Number	1	3	2	3	3	3	3
TB Schedule	Units	9	10	11	12	13	15	16
Month	Bit	---M-----	---J----	---A---	---S---	---O--	-----D	-----D
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	-----2---	-----3-----	-----7-----	-----4-----	-----9-----	-----	-----
Day Plan	Number	3	3	3	3	3	3	3

TB Dayplan	Units	1	2	3	4	5	7	8
Plan 1 Hour	Hour	0	6	9	15	19	0	0
Plan 1 Minute	Min	0	0	30	0	30	0	0
Plan 1 Action	Number	8	1	2	3	2	0	0
Plan 2 Hour	Hour	0	7	0	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0
Plan 2 Action	Number	8	2	0	0	0	0	0
Plan 3 Hour	Hour	0	8	23	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0
Plan 3 Action	Number	8	2	8	0	0	0	0

TB Action	Units	1	2	3	4	5	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Pattern 7
Aux. Functions	Bit	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	Special Func 1

Signal ID: 3625 **Location:** HURONTARIO STREET N at Watergarden Drive

Signal ID: 3625

Location: HURONTARIO STREET N at Watergarden Drive

TB Action	Units	1	2	3	4	5		7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Pattern 7	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

INT No.: **371**LOCATION: **Eglinton Avenue @ Kingsbridge Garden Circle/Fairwind Drive**

SCHEDULED DATA

Mode	Cycle Length	OFF No.	Split No.	Spec Func	DUP ISEC
L0	101	2	2	2	1052

PHASING DATA

PHASE	MIN	MAX	WALK	DON'T WALK	AMBER	ALL-RED
2. E/W Eglinton	62	N/A	50	12	4	2.5
4. N/S Kingsbridge/ Fairwind	8	30	15	21	4	4

* ALL VALUES IN SECONDS

INT No.: 746

LOCATION: Eglinton Avenue @ Tim Horton's/Private Access

SCHEDULED DATA

Mode	Cycle Length	OFF No.	Split No.	Spec Func	DUP ISEC
L0	101	2	2	2	1052

PHASING DATA

PHASE	MIN	MAX	WALK	DON'T WALK	AMBER	ALL-RED
2. E/W Eglinton	30	N/A	20	10	4	3
4. N/S Tim Horton's/ Private Access	8	30	12	16	4	4

* ALL VALUES IN SECONDS

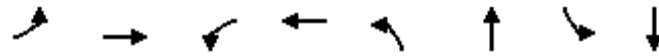
Appendix D – Existing Conditions Synchro Reports

Queues

AM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

Existing Conditions



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	265	92	123	108	1766	65	1828
v/c Ratio	0.29	0.82	0.83	0.37	0.86	0.49	0.47	0.51
Control Delay	56.7	77.6	109.2	48.1	86.7	18.7	25.4	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	56.7	77.6	109.2	48.1	86.7	18.8	25.4	11.2
Queue Length 50th (m)	18.3	77.2	28.5	28.5	35.7	196.5	8.0	86.3
Queue Length 95th (m)	30.7	102.3	43.5	40.6	#76.0	214.4	29.3	121.7
Internal Link Dist (m)		115.8		151.2		161.8		155.1
Turn Bay Length (m)	66.0		26.8		60.0		90.0	
Base Capacity (vph)	378	524	185	535	125	3641	139	3560
Starvation Cap Reductn	0	0	0	0	0	411	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.51	0.50	0.23	0.86	0.55	0.47	0.51

Intersection Summary

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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

AM Peak Period
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	49	195	76	28	74	100	1578	64	59	1603	60
Future Volume (vph)	61	49	195	76	28	74	100	1578	64	59	1603	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88		1.00	0.89		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1640		1809	1669		1747	5052		1802	4938	
Flt Permitted	0.64	1.00		0.31	1.00		0.09	1.00		0.10	1.00	
Satd. Flow (perm)	1211	1640		593	1669		174	5052		194	4938	
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.83	0.83	0.93	0.93	0.93	0.91	0.91	0.91
Adj. Flow (vph)	66	53	212	92	34	89	108	1697	69	65	1762	66
RTOR Reduction (vph)	0	14	0	0	17	0	0	2	0	0	2	0
Lane Group Flow (vph)	66	251	0	92	106	0	108	1764	0	65	1826	0
Confl. Peds. (#/hr)	11		13	13		11	27		16	16		27
Heavy Vehicles (%)	1%	0%	1%	0%	0%	1%	4%	3%	0%	1%	5%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	30.2	30.2		30.2	30.2		115.3	115.3		115.3	115.3	
Effective Green, g (s)	30.2	30.2		30.2	30.2		115.3	115.3		115.3	115.3	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.72	0.72		0.72	0.72	
Clearance Time (s)	8.0	8.0		8.0	8.0		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	228	309		111	315		125	3640		139	3558	
v/s Ratio Prot		0.15			0.06			0.35			0.37	
v/s Ratio Perm	0.05			0.16			0.62			0.33		
v/c Ratio	0.29	0.81		0.83	0.34		0.86	0.48		0.47	0.51	
Uniform Delay, d1	55.7	62.2		62.4	56.2		16.5	9.6		9.4	9.9	
Progression Factor	1.00	1.00		1.00	1.00		1.89	1.77		1.00	1.00	
Incremental Delay, d2	0.7	15.0		37.6	0.6		48.0	0.4		10.9	0.5	
Delay (s)	56.4	77.2		100.0	56.9		79.2	17.4		20.3	10.4	
Level of Service	E	E		F	E		E	B		C	B	
Approach Delay (s)		73.0			75.3			21.0			10.8	
Approach LOS		E			E			C			B	
Intersection Summary												
HCM 2000 Control Delay			23.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			14.5		
Intersection Capacity Utilization			91.5%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

Queues
2: Watergarden Dr/Armdale Road

AM Peak Period
Existing Conditions

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	31	43	44	12	1777	28	2009
v/c Ratio	0.52	0.21	0.44	0.30	0.08	0.41	0.16	0.46
Control Delay	88.5	41.6	83.5	31.7	11.4	12.7	3.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	88.5	41.6	83.5	31.7	11.4	13.1	3.6	2.2
Queue Length 50th (m)	16.3	4.2	13.4	3.0	1.7	119.9	1.1	34.6
Queue Length 95th (m)	25.6	11.9	21.5	11.0	m2.9	145.8	m2.1	32.6
Internal Link Dist (m)		187.8		92.9		183.5		161.8
Turn Bay Length (m)	63.1		32.1		55.0		70.0	
Base Capacity (vph)	272	366	267	343	144	4331	176	4335
Starvation Cap Reductn	0	0	0	0	0	1679	0	314
Spillback Cap Reductn	0	0	0	1	0	333	0	226
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.08	0.16	0.13	0.08	0.67	0.16	0.50

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

2: Watergarden Dr/Armdale Road

AM Peak Period
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	11	13	32	7	26	11	1676	12	26	1836	12
Future Volume (vph)	40	11	13	32	7	26	11	1676	12	26	1836	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.92		1.00	0.88		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1778	1763		1722	1579		1820	5029		1694	5034	
Flt Permitted	0.73	1.00		0.74	1.00		0.09	1.00		0.11	1.00	
Satd. Flow (perm)	1364	1763		1336	1579		166	5029		203	5034	
Peak-hour factor, PHF	0.77	0.77	0.77	0.74	0.74	0.74	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	52	14	17	43	9	35	12	1764	13	28	1996	13
RTOR Reduction (vph)	0	16	0	0	32	0	0	0	0	0	0	0
Lane Group Flow (vph)	52	15	0	43	12	0	12	1777	0	28	2009	0
Confl. Peds. (#/hr)	4					4	16		23	23		16
Heavy Vehicles (%)	2%	0%	0%	6%	0%	7%	0%	4%	16%	7%	4%	8%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	10.2	10.2		10.2	10.2		134.8	134.8		134.8	134.8	
Effective Green, g (s)	10.2	10.2		10.2	10.2		134.8	134.8		134.8	134.8	
Actuated g/C Ratio	0.06	0.06		0.06	0.06		0.84	0.84		0.84	0.84	
Clearance Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	86	112		85	100		139	4236		171	4241	
v/s Ratio Prot		0.01			0.01			0.35			c0.40	
v/s Ratio Perm	c0.04			0.03			0.07			0.14		
v/c Ratio	0.60	0.13		0.51	0.12		0.09	0.42		0.16	0.47	
Uniform Delay, d1	72.9	70.7		72.5	70.7		2.1	3.1		2.3	3.3	
Progression Factor	1.00	1.00		1.00	1.00		3.26	3.85		0.56	0.52	
Incremental Delay, d2	11.4	0.5		4.7	0.5		0.8	0.2		1.8	0.3	
Delay (s)	84.4	71.3		77.1	71.2		7.8	12.0		3.1	2.1	
Level of Service	F	E		E	E		A	B		A	A	
Approach Delay (s)		79.5			74.1			12.0			2.1	
Approach LOS		E			E			B			A	
Intersection Summary												
HCM 2000 Control Delay			9.7				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			15.0		
Intersection Capacity Utilization			58.8%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

Queues
3: Hurontario St & Eglinton Ave E

AM Peak Period
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	213	1672	186	196	598	182	82	1434	122	263	1592	189
v/c Ratio	0.65	1.05	0.35	0.71	0.39	0.34	0.47	0.77	0.21	1.09	0.73	0.26
Control Delay	43.2	89.4	20.1	85.7	45.9	7.1	82.3	48.0	10.5	118.3	51.8	18.1
Queue Delay	0.0	19.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0
Total Delay	43.2	109.0	20.1	85.7	45.9	7.1	82.3	48.0	10.5	118.3	54.9	18.1
Queue Length 50th (m)	40.6	~214.6	12.3	31.7	55.9	0.0	13.3	147.3	5.5	~76.8	185.2	18.3
Queue Length 95th (m)	70.3	#251.5	37.8	45.2	68.1	18.3	22.4	165.2	19.9	#135.9	207.4	42.5
Internal Link Dist (m)		163.7			348.9			293.8			183.5	
Turn Bay Length (m)	100.0		100.0	150.0		125.0	100.0			100.0		100.0
Base Capacity (vph)	331	1589	531	319	1520	532	392	1859	580	241	2194	718
Starvation Cap Reductn	0	98	0	0	0	0	0	0	0	0	485	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	1.12	0.35	0.61	0.39	0.34	0.21	0.77	0.21	1.09	0.93	0.26

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

AM Peak Period
Existing Conditions

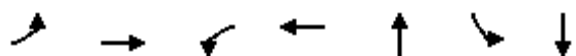
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	1505	167	186	568	173	76	1334	113	242	1465	174
Future Volume (vph)	192	1505	167	186	568	173	76	1334	113	242	1465	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00	0.89	1.00	1.00	0.89	1.00	1.00	0.92
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	5193	1426	3404	5142	1367	3309	5043	1411	1789	5043	1438
Flt Permitted	0.33	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	604	5193	1426	3404	5142	1367	3309	5043	1411	125	5043	1438
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	213	1672	186	196	598	182	82	1434	122	263	1592	189
RTOR Reduction (vph)	0	0	95	0	0	128	0	0	60	0	0	93
Lane Group Flow (vph)	213	1672	91	196	598	54	82	1434	62	263	1592	96
Confl. Peds. (#/hr)	79		63	63		79	52		71	71		52
Heavy Vehicles (%)	3%	1%	4%	4%	2%	6%	7%	4%	3%	2%	4%	4%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2	6		6
Actuated Green, G (s)	61.7	49.0	49.0	13.0	47.3	47.3	8.4	59.0	59.0	81.0	69.6	69.6
Effective Green, g (s)	61.7	49.0	49.0	13.0	47.3	47.3	8.4	59.0	59.0	81.0	69.6	69.6
Actuated g/C Ratio	0.39	0.31	0.31	0.08	0.30	0.30	0.05	0.37	0.37	0.51	0.43	0.43
Clearance Time (s)	5.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	324	1590	436	276	1520	404	173	1859	520	240	2193	625
v/s Ratio Prot	0.05	c0.32		c0.06	0.12		0.02	0.28		c0.12	0.32	
v/s Ratio Perm	0.20		0.06			0.04			0.04	c0.44		0.07
v/c Ratio	0.66	1.05	0.21	0.71	0.39	0.13	0.47	0.77	0.12	1.10	0.73	0.15
Uniform Delay, d1	35.5	55.5	41.1	71.7	44.9	41.3	73.7	44.6	33.3	50.8	37.3	27.4
Progression Factor	1.06	1.01	1.43	1.00	1.00	1.00	1.00	1.00	1.00	0.83	1.32	2.98
Incremental Delay, d2	3.3	36.4	0.2	7.0	0.2	0.2	0.7	3.2	0.5	83.4	1.9	0.5
Delay (s)	40.7	92.4	59.2	78.6	45.1	41.5	74.4	47.7	33.8	125.4	51.1	82.0
Level of Service	D	F	E	E	D	D	E	D	C	F	D	F
Approach Delay (s)		84.1			51.1			48.0			63.5	
Approach LOS		F			D			D			E	
Intersection Summary												
HCM 2000 Control Delay			64.3									HCM 2000 Level of Service E
HCM 2000 Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			160.0									Sum of lost time (s) 24.0
Intersection Capacity Utilization			101.8%									ICU Level of Service G
Analysis Period (min)			15									
c Critical Lane Group												

Queues

AM Peak Period

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

Existing Conditions



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	34	1996	65	824	126	72	59
v/c Ratio	0.07	0.49	0.50	0.20	0.73	0.71	0.27
Control Delay	6.6	7.4	54.3	7.9	80.2	101.9	21.7
Queue Delay	0.0	0.1	0.0	0.0	0.1	0.1	0.0
Total Delay	6.6	7.5	54.3	7.9	80.2	102.0	21.7
Queue Length 50th (m)	1.7	54.5	16.5	28.5	33.0	22.5	2.3
Queue Length 95th (m)	m7.8	134.1	34.7	49.8	41.1	37.9	15.3
Internal Link Dist (m)		387.1		163.7	30.4		65.7
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	475	4098	129	4037	365	232	424
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	548	0	0	16	8	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.56	0.50	0.20	0.36	0.32	0.14

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

AM Peak Period
Existing Conditions

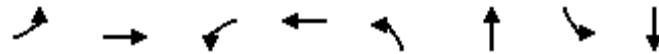
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰		↰	↰↰↰			↰↰		↰	↰	
Traffic Volume (vph)	31	1737	59	60	725	33	25	3	64	63	7	45
Future Volume (vph)	31	1737	59	60	725	33	25	3	64	63	7	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0			8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99		0.97	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1714	5112		1823	5038			1632		1776	1626	
Flt Permitted	0.33	1.00		0.08	1.00			0.89		0.52	1.00	
Satd. Flow (perm)	594	5112		162	5038			1470		980	1626	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.88	0.88	0.88
Adj. Flow (vph)	34	1930	66	65	788	36	34	4	88	72	8	51
RTOR Reduction (vph)	0	1	0	0	2	0	0	19	0	0	46	0
Lane Group Flow (vph)	34	1995	0	65	822	0	0	107	0	72	13	0
Confl. Peds. (#/hr)	3		6	6		3	12		22	22		12
Heavy Vehicles (%)	6%	2%	0%	0%	3%	9%	4%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	128.2	128.2		128.2	128.2			16.8		16.8	16.8	
Effective Green, g (s)	128.2	128.2		128.2	128.2			16.8		16.8	16.8	
Actuated g/C Ratio	0.80	0.80		0.80	0.80			0.11		0.11	0.11	
Clearance Time (s)	7.0	7.0		7.0	7.0			8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	475	4095		129	4036			154		102	170	
v/s Ratio Prot		0.39			0.16						0.01	
v/s Ratio Perm	0.06			c0.40				0.07		c0.07		
v/c Ratio	0.07	0.49		0.50	0.20			0.70		0.71	0.08	
Uniform Delay, d1	3.4	5.2		5.3	3.8			69.1		69.2	64.6	
Progression Factor	1.46	1.27		4.35	1.93			1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.4		12.8	0.1			12.8		19.9	0.2	
Delay (s)	5.1	6.9		35.9	7.4			82.0		89.1	64.8	
Level of Service	A	A		D	A			F		F	E	
Approach Delay (s)		6.9			9.5			82.0			78.2	
Approach LOS		A			A			F			E	
Intersection Summary												
HCM 2000 Control Delay			13.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			81.0%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Queues

AM Peak Period

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

Existing Conditions



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	81	2055	61	785	97	193	131	162
v/c Ratio	0.17	0.54	0.60	0.21	0.68	0.70	1.03	0.57
Control Delay	8.0	9.7	55.7	12.4	85.8	71.9	151.4	59.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	9.7	55.7	12.4	85.8	71.9	151.4	59.7
Queue Length 50th (m)	6.7	90.2	8.2	21.1	29.6	55.1	~44.2	41.5
Queue Length 95th (m)	14.9	115.3	#41.9	63.6	39.3	63.3	54.5	51.1
Internal Link Dist (m)		299.3		387.1		116.5		184.0
Turn Bay Length (m)	84.0		90.0		16.2		34.8	
Base Capacity (vph)	481	3808	102	3766	267	508	240	518
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.54	0.60	0.21	0.36	0.38	0.55	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

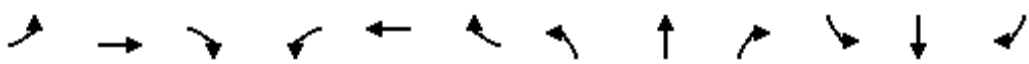
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

AM Peak Period
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	1641	85	57	668	70	75	65	84	102	73	53
Future Volume (vph)	68	1641	85	57	668	70	75	65	84	102	73	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1788	5073		1771	5014		1680	1701		1820	1711	
Flt Permitted	0.34	1.00		0.07	1.00		0.51	1.00		0.43	1.00	
Satd. Flow (perm)	642	5073		136	5014		910	1701		818	1711	
Peak-hour factor, PHF	0.84	0.84	0.84	0.94	0.94	0.94	0.77	0.77	0.77	0.78	0.78	0.78
Adj. Flow (vph)	81	1954	101	61	711	74	97	84	109	131	94	68
RTOR Reduction (vph)	0	2	0	0	5	0	0	11	0	0	19	0
Lane Group Flow (vph)	81	2053	0	61	780	0	97	182	0	131	143	0
Confl. Peds. (#/hr)	2		11	11		2	6		3	3		6
Heavy Vehicles (%)	2%	2%	11%	3%	3%	2%	8%	3%	2%	0%	1%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	120.0	120.0		120.0	120.0		25.0	25.0		25.0	25.0	
Effective Green, g (s)	120.0	120.0		120.0	120.0		25.0	25.0		25.0	25.0	
Actuated g/C Ratio	0.75	0.75		0.75	0.75		0.16	0.16		0.16	0.16	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	481	3804		102	3760		142	265		127	267	
v/s Ratio Prot		0.40			0.16			0.11			0.08	
v/s Ratio Perm	0.13			c0.45			0.11			c0.16		
v/c Ratio	0.17	0.54		0.60	0.21		0.68	0.69		1.03	0.53	
Uniform Delay, d1	5.7	8.4		9.1	5.9		63.8	63.8		67.5	62.1	
Progression Factor	1.00	1.00		2.06	1.93		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.6		23.0	0.1		12.7	7.2		88.5	2.1	
Delay (s)	6.5	9.0		41.7	11.6		76.5	71.0		156.0	64.2	
Level of Service	A	A		D	B		E	E		F	E	
Approach Delay (s)		8.9			13.7			72.8			105.2	
Approach LOS		A			B			E			F	
Intersection Summary												
HCM 2000 Control Delay			23.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			93.8%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 6: Four Spring Ave & Little Creek Rd

AM Peak Period
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	0	15	43	1	76	0	49	20	11	58	1
Future Volume (vph)	2	0	15	43	1	76	0	49	20	11	58	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	16	47	1	83	0	53	22	12	63	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	18	131	75	76								
Volume Left (vph)	2	47	0	12								
Volume Right (vph)	16	83	22	1								
Hadj (s)	-0.42	-0.31	-0.09	0.09								
Departure Headway (s)	4.0	4.0	4.2	4.4								
Degree Utilization, x	0.02	0.14	0.09	0.09								
Capacity (veh/h)	863	877	817	789								
Control Delay (s)	7.0	7.6	7.6	7.8								
Approach Delay (s)	7.0	7.6	7.6	7.8								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.6								
Level of Service				A								
Intersection Capacity Utilization				32.5%	ICU Level of Service	A						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

7: Four Spring Ave & Watergarden Dr

AM Peak Period
Existing Conditions

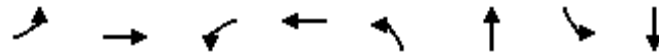
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	26	20	49	5	8	4	9	114	7	1	0
Future Volume (vph)	0	26	20	49	5	8	4	9	114	7	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	28	22	53	5	9	4	10	124	8	1	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	50	67	138	9								
Volume Left (vph)	0	53	4	8								
Volume Right (vph)	22	9	124	0								
Hadj (s)	-0.26	0.16	-0.50	0.18								
Departure Headway (s)	4.0	4.4	3.7	4.5								
Degree Utilization, x	0.06	0.08	0.14	0.01								
Capacity (veh/h)	861	789	945	775								
Control Delay (s)	7.2	7.8	7.3	7.5								
Approach Delay (s)	7.2	7.8	7.3	7.5								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.4								
Level of Service				A								
Intersection Capacity Utilization				29.2%	ICU Level of Service	A						
Analysis Period (min)				15								

Queues

PM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

Existing Conditions



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	115	54	155	189	1764	49	3052
v/c Ratio	0.31	0.44	0.42	0.72	0.61	0.44	0.33	0.93
Control Delay	71.8	25.4	74.6	78.2	68.9	3.7	22.6	32.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.8	25.4	74.6	78.2	68.9	3.8	22.6	32.0
Queue Length 50th (m)	8.7	8.8	16.3	42.6	46.6	62.0	6.6	289.8
Queue Length 95th (m)	18.9	27.6	27.3	58.4	74.7	60.3	19.9	#389.5
Internal Link Dist (m)		115.8		151.2		161.8		155.1
Turn Bay Length (m)	66.0		26.8		60.0		90.0	
Base Capacity (vph)	262	569	356	560	308	4029	148	3298
Starvation Cap Reductn	0	0	0	0	0	472	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.20	0.15	0.28	0.61	0.50	0.33	0.93

Intersection Summary

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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

PM Peak Period
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	28	78	45	81	47	176	1582	59	45	2721	56
Future Volume (vph)	27	28	78	45	81	47	176	1582	59	45	2721	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0		3.0	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.98	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.89		1.00	0.94		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1785	1667		1793	1788		1825	5043		1805	5171	
Flt Permitted	0.46	1.00		0.62	1.00		0.04	1.00		0.12	1.00	
Satd. Flow (perm)	859	1667		1165	1788		73	5043		232	5171	
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.83	0.83	0.93	0.93	0.93	0.91	0.91	0.91
Adj. Flow (vph)	29	30	85	54	98	57	189	1701	63	49	2990	62
RTOR Reduction (vph)	0	76	0	0	17	0	0	1	0	0	1	0
Lane Group Flow (vph)	29	39	0	54	138	0	189	1763	0	49	3051	0
Confl. Peds. (#/hr)	24		17	17		24	13		34	34		13
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	17.7	17.7		17.7	17.7		127.8	127.8		102.1	102.1	
Effective Green, g (s)	17.7	17.7		17.7	17.7		127.8	127.8		102.1	102.1	
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.80	0.80		0.64	0.64	
Clearance Time (s)	8.0	8.0		8.0	8.0		3.0	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	95	184		128	197		306	4028		148	3299	
v/s Ratio Prot		0.02			c0.08		c0.09	0.35			c0.59	
v/s Ratio Perm	0.03			0.05			0.40			0.21		
v/c Ratio	0.31	0.21		0.42	0.70		0.62	0.44		0.33	0.92	
Uniform Delay, d1	65.5	64.8		66.4	68.6		52.4	5.0		13.3	25.6	
Progression Factor	1.00	1.00		1.00	1.00		1.47	0.64		1.00	1.00	
Incremental Delay, d2	1.8	0.6		2.2	10.7		3.4	0.3		5.9	5.7	
Delay (s)	67.3	65.4		68.6	79.3		80.2	3.5		19.2	31.3	
Level of Service	E	E		E	E		F	A		B	C	
Approach Delay (s)		65.8			76.6			10.9			31.1	
Approach LOS		E			E			B			C	
Intersection Summary												
HCM 2000 Control Delay			26.5				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			17.5		
Intersection Capacity Utilization			105.8%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

Queues
2: Watergarden Dr/Armdale Road

PM Peak Period
Existing Conditions

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	18	54	72	7	1856	40	3051
v/c Ratio	0.12	0.14	0.52	0.52	0.15	0.44	0.24	0.71
Control Delay	70.1	61.4	88.0	59.0	19.7	17.0	1.6	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.7	0.0	46.9
Total Delay	70.1	61.4	88.0	59.0	19.7	17.7	1.6	48.2
Queue Length 50th (m)	3.6	4.6	16.9	14.3	1.3	145.7	0.1	1.5
Queue Length 95th (m)	8.9	10.7	25.2	23.3	m1.7	m161.0	m0.2	3.7
Internal Link Dist (m)		187.8		92.9		183.5		161.8
Turn Bay Length (m)	63.1		32.1		55.0		70.0	
Base Capacity (vph)	264	351	284	335	48	4233	164	4319
Starvation Cap Reductn	0	0	0	0	0	1840	0	494
Spillback Cap Reductn	0	0	0	0	0	0	0	1760
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.05	0.19	0.21	0.15	0.78	0.24	1.19

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

2: Watergarden Dr/Armdale Road

PM Peak Period
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	9	6	8	40	2	51	7	1757	7	37	2793	14
Future Volume (vph)	9	6	8	40	2	51	7	1757	7	37	2793	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	0.96		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.97	1.00		0.99	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.92		1.00	0.86		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1767	1743		1814	1572		1825	5086		1805	5187	
Flt Permitted	0.71	1.00		0.75	1.00		0.03	1.00		0.10	1.00	
Satd. Flow (perm)	1321	1743		1424	1572		58	5086		196	5187	
Peak-hour factor, PHF	0.77	0.77	0.77	0.74	0.74	0.74	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	12	8	10	54	3	69	7	1849	7	40	3036	15
RTOR Reduction (vph)	0	3	0	0	24	0	0	0	0	0	0	0
Lane Group Flow (vph)	12	15	0	54	48	0	7	1856	0	40	3051	0
Confl. Peds. (#/hr)	22		4	4		22	14		45	45		14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	11.7	11.7		11.7	11.7		133.3	133.3		133.3	133.3	
Effective Green, g (s)	11.7	11.7		11.7	11.7		133.3	133.3		133.3	133.3	
Actuated g/C Ratio	0.07	0.07		0.07	0.07		0.83	0.83		0.83	0.83	
Clearance Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	96	127		104	114		48	4237		163	4321	
v/s Ratio Prot		0.01			0.03			0.36			c0.59	
v/s Ratio Perm	0.01			c0.04			0.12			0.20		
v/c Ratio	0.12	0.12		0.52	0.42		0.15	0.44		0.25	0.71	
Uniform Delay, d1	69.4	69.3		71.4	70.9		2.5	3.5		2.8	5.4	
Progression Factor	1.00	1.00		1.00	1.00		4.08	4.56		0.04	0.14	
Incremental Delay, d2	0.6	0.4		4.3	2.5		2.9	0.1		1.5	0.4	
Delay (s)	70.0	69.8		75.8	73.4		13.2	16.1		1.6	1.2	
Level of Service	E	E		E	E		B	B		A	A	
Approach Delay (s)		69.8			74.4			16.1			1.2	
Approach LOS		E			E			B			A	
Intersection Summary												
HCM 2000 Control Delay	8.8			HCM 2000 Level of Service			A					
HCM 2000 Volume to Capacity ratio	0.69											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)			15.0					
Intersection Capacity Utilization	84.0%			ICU Level of Service			E					
Analysis Period (min)	15											
c Critical Lane Group												

Queues
3: Hurontario St & Eglinton Ave E

PM Peak Period
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	162	633	210	328	1907	178	314	1566	130	314	2505	268
v/c Ratio	0.80	0.39	0.34	1.16	1.21	0.37	0.82	0.95	0.25	1.06	1.32	0.42
Control Delay	73.0	44.8	12.5	166.1	147.6	12.8	87.5	65.2	16.6	95.3	185.4	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	64.9	0.0	0.0	0.0	0.4	0.9
Total Delay	73.0	44.8	12.5	166.1	147.7	12.8	152.4	65.2	16.6	95.3	185.7	22.6
Queue Length 50th (m)	38.4	63.2	8.5	~63.5	~272.2	8.1	50.7	178.4	10.5	~90.8	~386.7	53.0
Queue Length 95th (m)	#71.1	60.1	25.7	#95.4	#300.2	28.9	67.6	#207.6	27.4	#152.9	#413.9	70.7
Internal Link Dist (m)		163.7			348.9			293.8			183.5	
Turn Bay Length (m)	100.0		100.0	150.0		125.0	100.0			100.0		100.0
Base Capacity (vph)	209	1639	610	282	1575	479	416	1654	510	297	1900	634
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	216	0
Spillback Cap Reductn	0	0	0	0	57	0	252	0	0	0	0	165
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.39	0.34	1.16	1.26	0.37	1.91	0.95	0.25	1.06	1.49	0.57

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

PM Peak Period
Existing Conditions

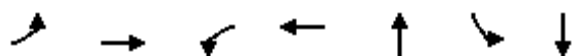
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	570	189	312	1812	169	292	1456	121	289	2305	247
Future Volume (vph)	146	570	189	312	1812	169	292	1456	121	289	2305	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.90	1.00	1.00	0.80	1.00	1.00	0.86	1.00	1.00	0.91
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	5142	1468	3471	5193	1250	3506	5092	1398	1807	5193	1485
Flt Permitted	0.08	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	151	5142	1468	3471	5193	1250	3506	5092	1398	133	5193	1485
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	162	633	210	328	1907	178	314	1566	130	314	2505	268
RTOR Reduction (vph)	0	0	143	0	0	100	0	0	56	0	0	91
Lane Group Flow (vph)	162	633	67	328	1907	78	314	1566	74	314	2505	177
Confl. Peds. (#/hr)	151		70	70		151	57		89	89		57
Heavy Vehicles (%)	0%	2%	0%	2%	1%	4%	1%	3%	1%	1%	1%	0%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2	6		6
Actuated Green, G (s)	64.4	51.0	51.0	13.0	48.6	48.6	17.4	52.0	52.0	79.0	58.6	58.6
Effective Green, g (s)	64.4	51.0	51.0	13.0	48.6	48.6	17.4	52.0	52.0	79.0	58.6	58.6
Actuated g/C Ratio	0.40	0.32	0.32	0.08	0.30	0.30	0.11	0.32	0.32	0.49	0.37	0.37
Clearance Time (s)	5.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	200	1639	467	282	1577	379	381	1654	454	295	1901	543
v/s Ratio Prot	0.07	0.12		c0.09	c0.37		0.09	0.31		c0.15	c0.48	
v/s Ratio Perm	0.26		0.05			0.06			0.05	0.38		0.12
v/c Ratio	0.81	0.39	0.14	1.16	1.21	0.21	0.82	0.95	0.16	1.06	1.32	0.33
Uniform Delay, d1	41.2	42.3	38.9	73.5	55.7	41.4	69.8	52.7	38.5	53.4	50.7	36.5
Progression Factor	1.26	1.04	2.36	1.00	1.00	1.00	1.00	1.00	1.00	0.73	0.97	1.17
Incremental Delay, d2	20.0	0.1	0.1	105.2	100.4	0.3	12.9	12.7	0.8	62.2	145.7	1.1
Delay (s)	72.0	44.1	91.8	178.7	156.1	41.7	82.7	65.3	39.3	101.1	195.1	43.7
Level of Service	E	D	F	F	F	D	F	E	D	F	F	D
Approach Delay (s)		58.6			150.7			66.3			172.4	
Approach LOS		E			F			E			F	
Intersection Summary												
HCM 2000 Control Delay			127.8									
HCM 2000 Volume to Capacity ratio			1.25									
Actuated Cycle Length (s)			160.0									
Intersection Capacity Utilization			115.1%									
Analysis Period (min)			15									
c Critical Lane Group												

Queues

PM Peak Period

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

Existing Conditions



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	22	950	74	2482	193	33	36
v/c Ratio	0.38	0.25	0.18	0.64	0.81	0.20	0.14
Control Delay	34.8	5.7	18.6	33.5	80.0	59.0	47.7
Queue Delay	0.0	0.0	0.0	28.1	0.0	0.0	0.0
Total Delay	34.8	5.7	18.6	61.5	80.0	59.0	47.7
Queue Length 50th (m)	1.9	26.1	14.2	219.6	52.2	9.3	8.1
Queue Length 95th (m)	12.5	38.3	m15.4	m194.5	57.5	18.7	17.5
Internal Link Dist (m)		387.1		163.7	30.4		65.7
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	58	3835	405	3902	357	256	391
Starvation Cap Reductn	0	0	0	1548	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.25	0.18	1.05	0.54	0.13	0.09

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

PM Peak Period
Existing Conditions

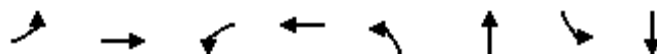
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	809	46	68	2242	41	73	1	67	29	3	29
Future Volume (vph)	20	809	46	68	2242	41	73	1	67	29	3	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0			8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00		0.98	1.00	
Frt	1.00	0.99		1.00	1.00			0.94		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1825	5083		1805	5176			1691		1790	1626	
Flt Permitted	0.04	1.00		0.28	1.00			0.82		0.57	1.00	
Satd. Flow (perm)	78	5083		538	5176			1419		1082	1626	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.88	0.88	0.88
Adj. Flow (vph)	22	899	51	74	2437	45	100	1	92	33	3	33
RTOR Reduction (vph)	0	3	0	0	1	0	0	23	0	0	6	0
Lane Group Flow (vph)	22	947	0	74	2481	0	0	170	0	33	30	0
Confl. Peds. (#/hr)	4		10	10		4	5		19	19		5
Heavy Vehicles (%)	0%	2%	2%	0%	1%	0%	1%	0%	1%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	120.6	120.6		120.6	120.6			24.4		24.4	24.4	
Effective Green, g (s)	120.6	120.6		120.6	120.6			24.4		24.4	24.4	
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.15		0.15	0.15	
Clearance Time (s)	7.0	7.0		7.0	7.0			8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	58	3831		405	3901			216		165	247	
v/s Ratio Prot		0.19			c0.48						0.02	
v/s Ratio Perm	0.28			0.14				c0.12		0.03		
v/c Ratio	0.38	0.25		0.18	0.64			0.79		0.20	0.12	
Uniform Delay, d1	6.8	6.0		5.6	9.3			65.3		59.3	58.5	
Progression Factor	1.18	0.88		2.62	3.29			1.00		1.00	1.00	
Incremental Delay, d2	17.5	0.2		0.1	0.1			17.1		0.6	0.2	
Delay (s)	25.5	5.4		14.8	30.7			82.4		59.9	58.8	
Level of Service	C	A		B	C			F		E	E	
Approach Delay (s)		5.8			30.3			82.4			59.3	
Approach LOS		A			C			F			E	
Intersection Summary												
HCM 2000 Control Delay			27.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				15.0		
Intersection Capacity Utilization			88.3%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

PM Peak Period

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

Existing Conditions



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	1020	115	2379	83	105	72	127
v/c Ratio	0.82	0.25	0.28	0.58	0.79	0.47	0.55	0.67
Control Delay	80.2	4.3	12.0	18.8	112.8	40.5	82.1	81.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.2	4.3	12.0	18.8	112.8	40.5	82.1	81.2
Queue Length 50th (m)	9.7	24.6	0.0	214.2	26.3	15.9	22.2	37.5
Queue Length 95th (m)	#21.3	33.6	40.7	229.2	37.1	26.3	32.4	48.8
Internal Link Dist (m)		299.3		387.1		116.5		184.0
Turn Bay Length (m)	84.0		90.0		16.2		34.8	
Base Capacity (vph)	77	4034	406	4124	294	531	367	517
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.25	0.28	0.58	0.28	0.20	0.20	0.25

Intersection Summary

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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

PM Peak Period
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	769	88	108	2118	118	64	31	50	56	57	42
Future Volume (vph)	53	769	88	108	2118	118	64	31	50	56	57	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.91		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1807	5030		1815	5147		1698	1685		1819	1746	
Flt Permitted	0.05	1.00		0.27	1.00		0.56	1.00		0.65	1.00	
Satd. Flow (perm)	98	5030		508	5147		1003	1685		1252	1746	
Peak-hour factor, PHF	0.84	0.84	0.84	0.94	0.94	0.94	0.77	0.77	0.77	0.78	0.78	0.78
Adj. Flow (vph)	63	915	105	115	2253	126	83	40	65	72	73	54
RTOR Reduction (vph)	0	5	0	0	2	0	0	47	0	0	6	0
Lane Group Flow (vph)	63	1015	0	115	2377	0	83	58	0	72	121	0
Confl. Peds. (#/hr)	5		18	18		5	13		3	3		13
Heavy Vehicles (%)	1%	2%	4%	0%	1%	0%	6%	3%	2%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	128.1	128.1		128.1	128.1		16.9	16.9		16.9	16.9	
Effective Green, g (s)	128.1	128.1		128.1	128.1		16.9	16.9		16.9	16.9	
Actuated g/C Ratio	0.80	0.80		0.80	0.80		0.11	0.11		0.11	0.11	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	78	4027		406	4120		105	177		132	184	
v/s Ratio Prot		0.20			0.46			0.03			0.07	
v/s Ratio Perm	c0.64			0.23			c0.08			0.06		
v/c Ratio	0.81	0.25		0.28	0.58		0.79	0.33		0.55	0.66	
Uniform Delay, d1	9.0	4.0		4.1	5.9		69.8	66.3		67.9	68.8	
Progression Factor	1.00	1.00		2.09	2.89		1.00	1.00		1.00	1.00	
Incremental Delay, d2	58.0	0.2		1.4	0.5		32.1	1.1		4.5	8.2	
Delay (s)	67.0	4.1		10.0	17.5		101.9	67.4		72.5	76.9	
Level of Service	E	A		A	B		F	E		E	E	
Approach Delay (s)		7.8			17.2			82.7			75.3	
Approach LOS		A			B			F			E	
Intersection Summary												
HCM 2000 Control Delay	20.6			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.80											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)			15.0					
Intersection Capacity Utilization	119.1%			ICU Level of Service			H					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 6: Four Spring Ave & Little Creek Rd

PM Peak Period
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	8	28	0	9	9	71	58	35	54	2
Future Volume (vph)	0	0	8	28	0	9	9	71	58	35	54	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
Hourly flow rate (vph)	0	0	9	30	0	10	10	77	63	38	59	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	9	40	150	99								
Volume Left (vph)	0	30	10	38								
Volume Right (vph)	9	10	63	2								
Hadj (s)	0.03	0.04	-0.23	0.06								
Departure Headway (s)	4.5	4.5	3.9	4.2								
Degree Utilization, x	0.01	0.05	0.16	0.12								
Capacity (veh/h)	751	750	903	835								
Control Delay (s)	7.6	7.7	7.6	7.8								
Approach Delay (s)	7.6	7.7	7.6	7.8								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	7.7											
Level of Service	A											
Intersection Capacity Utilization	33.1%			ICU Level of Service			A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

7: Four Spring Ave & Watergarden Dr

PM Peak Period
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	7	5	84	15	4	7	8	65	5	2	0
Future Volume (vph)	0	7	5	84	15	4	7	8	65	5	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	8	5	91	16	4	8	9	71	5	2	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	13	111	88	7								
Volume Left (vph)	0	91	8	5								
Volume Right (vph)	5	4	71	0								
Hadj (s)	-0.23	0.16	-0.40	0.14								
Departure Headway (s)	4.0	4.3	3.8	4.4								
Degree Utilization, x	0.01	0.13	0.09	0.01								
Capacity (veh/h)	874	824	912	787								
Control Delay (s)	7.0	7.9	7.2	7.4								
Approach Delay (s)	7.0	7.9	7.2	7.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.5								
Level of Service				A								
Intersection Capacity Utilization				27.7%	ICU Level of Service	A						
Analysis Period (min)				15								

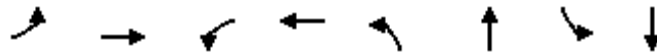
Appendix E – Future Background Conditions Synchro Reports

Queues

1: Ceremonial Drive/Nahani Way & Hurontario St

AM Peak Period

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	254	92	116	136	1468	52	1399
v/c Ratio	0.28	0.81	0.72	0.31	0.61	0.89	0.43	1.00
Control Delay	50.3	68.3	82.4	15.9	64.0	27.3	73.4	64.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.3	68.3	82.4	15.9	64.0	27.3	73.4	64.1
Queue Length 50th (m)	15.9	62.3	24.2	6.3	38.4	100.7	13.9	~215.0
Queue Length 95th (m)	28.1	86.5	37.8	18.2	m39.7	m97.8	28.2	#273.8
Internal Link Dist (m)		115.8		151.2		161.8		155.1
Turn Bay Length (m)	66.0		26.8		90.0		120.0	
Base Capacity (vph)	357	470	196	525	224	1656	120	1402
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.54	0.47	0.22	0.61	0.89	0.43	1.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

AM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	61	39	195	76	22	74	46	80	1314	51	47	1225
Future Volume (vph)	61	39	195	76	22	74	46	80	1314	51	47	1225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.5	3.5	3.0	3.5
Total Lost time (s)	9.0	9.0		9.0	9.0			12.0	16.0		12.0	16.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.98		1.00	0.98			1.00	1.00		1.00	1.00
Flpb, ped/bikes	0.99	1.00		0.99	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.87		1.00	0.88			1.00	0.99		1.00	0.99
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1787	1629		1808	1655			1643	3441		1668	3361
Flt Permitted	0.68	1.00		0.37	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1284	1629		705	1655			1643	3441		1668	3361
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.93	0.93	0.93	0.91	0.91
Adj. Flow (vph)	66	42	212	92	27	89	50	86	1413	55	52	1346
RTOR Reduction (vph)	0	19	0	0	73	0	0	0	2	0	0	2
Lane Group Flow (vph)	66	235	0	92	43	0	0	136	1466	0	52	1397
Confl. Peds. (#/hr)	11		13	13		11		27		16	16	
Heavy Vehicles (%)	1%	0%	1%	0%	0%	1%	0%	4%	3%	0%	1%	5%
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)	25.5	25.5		25.5	25.5			19.1	67.4		10.1	58.4
Effective Green, g (s)	25.5	25.5		25.5	25.5			19.1	67.4		10.1	58.4
Actuated g/C Ratio	0.18	0.18		0.18	0.18			0.14	0.48		0.07	0.42
Clearance Time (s)	9.0	9.0		9.0	9.0			12.0	16.0		12.0	16.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	233	296		128	301			224	1656		120	1402
v/s Ratio Prot		c0.14			0.03			c0.08	c0.43		0.03	c0.42
v/s Ratio Perm	0.05			0.13								
v/c Ratio	0.28	0.79		0.72	0.14			0.61	0.89		0.43	1.00
Uniform Delay, d1	49.4	54.7		53.9	48.1			56.9	32.8		62.2	40.7
Progression Factor	1.00	1.00		1.00	1.00			1.10	0.76		1.00	1.00
Incremental Delay, d2	0.7	13.6		17.5	0.2			0.4	0.7		2.5	23.2
Delay (s)	50.0	68.4		71.4	48.3			62.8	25.7		64.7	63.9
Level of Service	D	E		E	D			E	C		E	E
Approach Delay (s)		64.6			58.5				28.8			64.0
Approach LOS		E			E				C			E
Intersection Summary												
HCM 2000 Control Delay			48.0			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			37.0			
Intersection Capacity Utilization			107.7%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

AM Peak Period
Future Background

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	48
Future Volume (vph)	48
Ideal Flow (vphpl)	1900
Lane Width	3.5
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	53
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	27
Heavy Vehicles (%)	10%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (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)	
Approach LOS	
Intersection Summary	

HCM Unsignalized Intersection Capacity Analysis

2: Watergarden Dr/Armdale Road

AM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (veh/h)	0	0	78	0	0	67	0	1424	51	0	1522	20
Future Volume (Veh/h)	0	0	78	0	0	67	0	1424	51	0	1522	20
Sign Control	Stop				Stop				Free		Free	
Grade	0%				0%				0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.74	0.74	0.74	0.95	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	101	0	0	91	0	1499	54	0	1654	22
Pedestrians	16				23						4	
Lane Width (m)	3.7				3.7						3.7	
Walking Speed (m/s)	1.1				1.1						1.1	
Percent Blockage	2				2						0	
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)							208			186		
pX, platoon unblocked	0.74	0.74	0.60	0.74	0.74	0.72	0.60				0.72	
vC, conflicting volume	2526	3257	854	2477	3241	804	1692				1576	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	623	1613	0	557	1592	0	806				1009	
tC, single (s)	7.5	6.5	6.9	7.6	6.5	7.0	4.1				4.2	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2				2.3	
p0 queue free %	100	100	84	100	100	88	100				100	
cM capacity (veh/h)	229	75	640	239	77	744	486				457	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	101	91	999	554	1103	573						
Volume Left	0	0	0	0	0	0						
Volume Right	101	91	0	54	0	22						
cSH	640	744	1700	1700	1700	1700						
Volume to Capacity	0.16	0.12	0.59	0.33	0.65	0.34						
Queue Length 95th (m)	4.2	3.2	0.0	0.0	0.0	0.0						
Control Delay (s)	11.7	10.5	0.0	0.0	0.0	0.0						
Lane LOS	B	B										
Approach Delay (s)	11.7	10.5	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			0.6									
Intersection Capacity Utilization			54.2%	ICU Level of Service					A			
Analysis Period (min)			15									

Queues
3: Hurontario St & Eglinton Ave E

AM Peak Period
Future Background

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	210	1426	157	157	508	146	68	1152	97	296	1443
v/c Ratio	0.71	0.88	0.24	1.62	0.32	0.23	0.67	1.12	0.17	5.58	1.49
Control Delay	49.8	53.2	0.9	360.5	37.4	0.9	97.7	113.7	0.6	2114.0	260.4
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	53.3	0.9	360.5	37.4	0.9	97.7	113.7	0.6	2114.0	260.4
Queue Length 50th (m)	38.7	136.7	0.0	~32.1	39.1	0.0	9.8	~193.2	0.0	~160.5	~286.1
Queue Length 95th (m)	58.2	156.1	0.0	#55.4	49.5	0.0	#22.4	#235.6	0.0 m	#176.3 m	#297.2
Internal Link Dist (m)		163.7			348.9			293.8			183.5
Turn Bay Length (m)	100.0		100.0	150.0		125.0	100.0			130.0	
Base Capacity (vph)	297	1635	647	97	1619	631	101	1025	570	53	969
Starvation Cap Reductn	0	10	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.88	0.24	1.62	0.31	0.23	0.67	1.12	0.17	5.58	1.49

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

AM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	189	1283	141	149	483	139	63	1071	90	76	196	1189
Future Volume (vph)	189	1283	141	149	483	139	63	1071	90	76	196	1189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.3
Total Lost time (s)	8.0	9.0	9.0	8.0	9.0	9.0	12.0	18.0	18.0		12.0	18.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.93	1.00	1.00	0.92	1.00	1.00	0.92		1.00	0.99
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.98
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1747	5193	1461	3404	5142	1411	3309	3510	1460		1661	3282
Flt Permitted	0.43	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	796	5193	1461	3404	5142	1411	3309	3510	1460		1661	3282
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	210	1426	157	157	508	146	68	1152	97	83	213	1292
RTOR Reduction (vph)	0	0	108	0	0	101	0	0	69	0	0	6
Lane Group Flow (vph)	210	1426	49	157	508	45	68	1152	28	0	296	1437
Confl. Peds. (#/hr)	79		63	63		79	52		71		71	
Heavy Vehicles (%)	3%	1%	4%	4%	2%	6%	7%	4%	3%	0%	2%	4%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases	4		4			8			2			
Actuated Green, G (s)	47.6	43.6	43.6	4.0	43.6	43.6	4.3	40.9	40.9		4.5	41.1
Effective Green, g (s)	47.6	43.6	43.6	4.0	43.6	43.6	4.3	40.9	40.9		4.5	41.1
Actuated g/C Ratio	0.34	0.31	0.31	0.03	0.31	0.31	0.03	0.29	0.29		0.03	0.29
Clearance Time (s)	8.0	9.0	9.0	8.0	9.0	9.0	12.0	18.0	18.0		12.0	18.0
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0		2.0	3.0
Lane Grp Cap (vph)	297	1617	454	97	1601	439	101	1025	426		53	963
v/s Ratio Prot	0.02	c0.27		c0.05	0.10		0.02	0.33			c0.18	c0.44
v/s Ratio Perm	0.22		0.03			0.03			0.02			
v/c Ratio	0.71	0.88	0.11	1.62	0.32	0.10	0.67	1.12	0.07		5.58	1.49
Uniform Delay, d1	38.8	45.8	34.3	68.0	36.8	34.3	67.2	49.5	35.8		67.8	49.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.06	1.09
Incremental Delay, d2	6.1	6.0	0.1	320.5	0.1	0.1	13.0	68.7	0.3		2083.7	224.1
Delay (s)	44.9	51.8	34.4	388.5	36.9	34.4	80.2	118.2	36.1		2155.4	278.1
Level of Service	D	D	C	F	D	C	F	F	D		F	F
Approach Delay (s)		49.5			104.5			110.2				597.7
Approach LOS		D			F			F				F
Intersection Summary												
HCM 2000 Control Delay	239.9			HCM 2000 Level of Service					F			
HCM 2000 Volume to Capacity ratio	1.41											
Actuated Cycle Length (s)	140.0			Sum of lost time (s)					47.0			
Intersection Capacity Utilization	136.8%			ICU Level of Service					H			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

AM Peak Period
Future Background

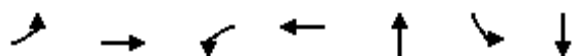
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	139
Future Volume (vph)	139
Ideal Flow (vphpl)	1900
Lane Width	3.3
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	151
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	52
Heavy Vehicles (%)	4%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (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)	
Approach LOS	
Intersection Summary	

Queues

AM Peak Period

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	41	1596	52	692	129	181	120
v/c Ratio	0.08	0.58	0.21	0.26	0.35	0.63	0.29
Control Delay	7.6	16.6	9.3	12.7	12.5	39.6	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	16.6	9.3	12.7	12.5	39.6	8.9
Queue Length 50th (m)	2.1	66.4	2.7	22.5	5.5	27.1	2.4
Queue Length 95th (m)	7.1	101.6	8.4	37.5	11.5	40.7	13.0
Internal Link Dist (m)		387.1		163.7	30.4		68.2
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	496	2747	245	2704	543	461	609
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.58	0.21	0.26	0.24	0.39	0.20
Intersection Summary							

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

AM Peak Period
Future Background

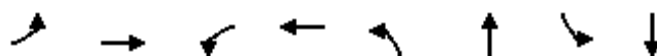
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰		↰	↰↰↰			↰↰		↰	↰	
Traffic Volume (vph)	37	1390	47	48	597	40	25	5	64	159	16	90
Future Volume (vph)	37	1390	47	48	597	40	25	5	64	159	16	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	7.0		4.5	7.0			8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1720	5114		1825	5018			1663		1795	1644	
Flt Permitted	0.38	1.00		0.10	1.00			0.87		0.74	1.00	
Satd. Flow (perm)	683	5114		198	5018			1471		1399	1644	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.88	0.88	0.88
Adj. Flow (vph)	41	1544	52	52	649	43	34	7	88	181	18	102
RTOR Reduction (vph)	0	3	0	0	7	0	0	70	0	0	81	0
Lane Group Flow (vph)	41	1593	0	52	685	0	0	59	0	181	39	0
Confl. Peds. (#/hr)	3		6	6		3	12		22	22		12
Heavy Vehicles (%)	6%	2%	0%	0%	3%	9%	4%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	47.9	43.8		48.1	43.9			17.5		17.5	17.5	
Effective Green, g (s)	47.9	43.8		48.1	43.9			17.5		17.5	17.5	
Actuated g/C Ratio	0.56	0.52		0.57	0.52			0.21		0.21	0.21	
Clearance Time (s)	4.5	7.0		4.5	7.0			8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	434	2635		192	2591			302		288	338	
v/s Ratio Prot	0.00	c0.31		c0.01	0.14						0.02	
v/s Ratio Perm	0.05			0.14				0.04		c0.13		
v/c Ratio	0.09	0.60		0.27	0.26			0.20		0.63	0.12	
Uniform Delay, d1	8.3	14.5		9.4	11.5			27.9		30.8	27.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.0		0.8	0.2			0.3		4.2	0.2	
Delay (s)	8.4	15.5		10.2	11.8			28.2		35.0	27.6	
Level of Service	A	B		B	B			C		D	C	
Approach Delay (s)		15.4			11.7			28.2			32.1	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			16.8			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			85.0			Sum of lost time (s)				19.5		
Intersection Capacity Utilization			67.0%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

AM Peak Period

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	1614	49	709	97	177	131	142
v/c Ratio	0.13	0.44	0.29	0.20	0.54	0.63	0.80	0.48
Control Delay	7.2	7.8	13.1	5.9	54.7	47.9	79.0	35.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.2	7.8	13.1	5.9	54.7	47.9	79.0	35.0
Queue Length 50th (m)	4.0	48.7	3.5	16.5	20.4	32.3	28.8	20.5
Queue Length 95th (m)	10.2	65.9	13.0	26.9	29.2	41.4	39.3	30.3
Internal Link Dist (m)		299.3		387.1		116.5		184.0
Turn Bay Length (m)	84.0		90.0		16.2		34.8	
Base Capacity (vph)	498	3628	170	3595	362	545	330	556
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.44	0.29	0.20	0.27	0.32	0.40	0.26

Intersection Summary

HCM Signalized Intersection Capacity Analysis

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

AM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	1288	68	46	610	56	75	52	84	102	58	53
Future Volume (vph)	54	1288	68	46	610	56	75	52	84	102	58	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.91		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1788	5073		1770	5022		1682	1688		1821	1687	
Flt Permitted	0.37	1.00		0.13	1.00		0.65	1.00		0.55	1.00	
Satd. Flow (perm)	697	5073		238	5022		1158	1688		1057	1687	
Peak-hour factor, PHF	0.84	0.84	0.84	0.94	0.94	0.94	0.77	0.77	0.77	0.78	0.78	0.78
Adj. Flow (vph)	64	1533	81	49	649	60	97	68	109	131	74	68
RTOR Reduction (vph)	0	3	0	0	6	0	0	21	0	0	35	0
Lane Group Flow (vph)	64	1611	0	49	703	0	97	156	0	131	107	0
Confl. Peds. (#/hr)	2		11	11		2	6		3	3		6
Heavy Vehicles (%)	2%	2%	11%	3%	3%	2%	8%	3%	2%	0%	1%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	82.2	82.2		82.2	82.2		17.8	17.8		17.8	17.8	
Effective Green, g (s)	82.2	82.2		82.2	82.2		17.8	17.8		17.8	17.8	
Actuated g/C Ratio	0.71	0.71		0.71	0.71		0.15	0.15		0.15	0.15	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	498	3626		170	3589		179	261		163	261	
v/s Ratio Prot		c0.32			0.14			0.09			0.06	
v/s Ratio Perm	0.09			0.21			0.08			c0.12		
v/c Ratio	0.13	0.44		0.29	0.20		0.54	0.60		0.80	0.41	
Uniform Delay, d1	5.2	6.9		5.9	5.4		44.8	45.3		46.9	43.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.4		4.2	0.1		3.3	3.6		24.1	1.0	
Delay (s)	5.7	7.3		10.1	5.6		48.2	48.9		71.1	44.9	
Level of Service	A	A		B	A		D	D		E	D	
Approach Delay (s)		7.2			5.9			48.6			57.4	
Approach LOS		A			A			D			E	
Intersection Summary												
HCM 2000 Control Delay	15.3			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.51											
Actuated Cycle Length (s)	115.0			Sum of lost time (s)			15.0					
Intersection Capacity Utilization	88.4%			ICU Level of Service			E					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 6: Four Spring Ave & Little Creek Rd

AM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	0	8	21	1	61	0	54	14	9	164	1
Future Volume (vph)	2	0	8	21	1	61	0	54	14	9	164	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	9	23	1	66	0	59	15	10	178	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	11	90	74	189								
Volume Left (vph)	2	23	0	10								
Volume Right (vph)	9	66	15	1								
Hadj (s)	-0.30	-0.39	-0.03	0.06								
Departure Headway (s)	4.3	4.1	4.3	4.3								
Degree Utilization, x	0.01	0.10	0.09	0.22								
Capacity (veh/h)	771	814	804	823								
Control Delay (s)	7.3	7.6	7.7	8.5								
Approach Delay (s)	7.3	7.6	7.7	8.5								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.1									
Level of Service			A									
Intersection Capacity Utilization			31.3%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: Four Spring Ave & Watergarden Dr

AM Peak Period
Future Background

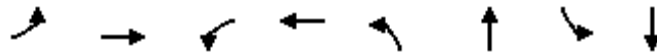
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	5	13	26	4	15	3	28	67	49	116	0
Future Volume (vph)	0	5	13	26	4	15	3	28	67	49	116	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	14	28	4	16	3	30	73	53	126	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	19	48	106	179								
Volume Left (vph)	0	28	3	53								
Volume Right (vph)	14	16	73	0								
Hadj (s)	-0.44	0.02	-0.38	0.06								
Departure Headway (s)	4.1	4.6	3.9	4.2								
Degree Utilization, x	0.02	0.06	0.11	0.21								
Capacity (veh/h)	800	733	902	836								
Control Delay (s)	7.2	7.8	7.3	8.3								
Approach Delay (s)	7.2	7.8	7.3	8.3								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.9								
Level of Service				A								
Intersection Capacity Utilization				32.2%	ICU Level of Service	A						
Analysis Period (min)				15								

Queues

1: Ceremonial Drive/Nahani Way & Hurontario St

PM Peak Period

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	109	54	135	217	1433	40	2431
v/c Ratio	0.25	0.60	0.42	0.67	0.54	0.70	0.37	1.75
Control Delay	61.3	62.7	67.0	64.3	56.9	23.9	71.3	369.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	62.7	67.0	64.3	56.9	23.9	71.3	369.4
Queue Length 50th (m)	7.5	24.4	14.3	29.5	61.5	91.2	10.8	~521.5
Queue Length 95th (m)	17.1	42.2	24.6	44.6	m55.0	m66.9	22.8	#573.0
Internal Link Dist (m)		115.8		151.2		161.8		155.1
Turn Bay Length (m)	66.0		26.8		90.0		120.0	
Base Capacity (vph)	320	473	361	511	405	2047	109	1388
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.23	0.15	0.26	0.54	0.70	0.37	1.75

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

PM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	27	22	78	45	65	47	60	141	1285	47	36	2168
Future Volume (vph)	27	22	78	45	65	47	60	141	1285	47	36	2168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.5	3.5	3.0	3.5
Total Lost time (s)	9.0	9.0		9.0	9.0			12.0	16.0		12.0	16.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.98		1.00	0.98			1.00	1.00		1.00	1.00
Flpb, ped/bikes	0.98	1.00		0.98	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.88		1.00	0.94			1.00	0.99		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1783	1654		1794	1769			1685	3435		1685	3520
Flt Permitted	0.61	1.00		0.69	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1151	1654		1296	1769			1685	3435		1685	3520
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.93	0.93	0.93	0.91	0.91
Adj. Flow (vph)	29	24	85	54	78	57	65	152	1382	51	40	2382
RTOR Reduction (vph)	0	16	0	0	23	0	0	0	1	0	0	1
Lane Group Flow (vph)	29	93	0	54	112	0	0	217	1432	0	40	2430
Confl. Peds. (#/hr)	24		17	17		24		13		34	34	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)	14.1	14.1		14.1	14.1			33.7	81.0		7.9	55.2
Effective Green, g (s)	14.1	14.1		14.1	14.1			33.7	81.0		7.9	55.2
Actuated g/C Ratio	0.10	0.10		0.10	0.10			0.24	0.58		0.06	0.39
Clearance Time (s)	9.0	9.0		9.0	9.0			12.0	16.0		12.0	16.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	115	166		130	178			405	1987		95	1387
v/s Ratio Prot		0.06			c0.06			c0.13	c0.42		0.02	c0.69
v/s Ratio Perm	0.03			0.04								
v/c Ratio	0.25	0.56		0.42	0.63			0.54	0.72		0.42	1.75
Uniform Delay, d1	58.1	60.0		59.1	60.4			46.3	21.3		63.8	42.4
Progression Factor	1.00	1.00		1.00	1.00			1.16	1.06		1.00	1.00
Incremental Delay, d2	1.2	4.0		2.1	6.7			0.1	0.2		3.0	341.3
Delay (s)	59.2	64.0		61.2	67.2			54.1	22.8		66.8	383.7
Level of Service	E	E		E	E			D	C		E	F
Approach Delay (s)		63.0			65.5				26.9			378.6
Approach LOS		E			E				C			F
Intersection Summary												
HCM 2000 Control Delay			225.0			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.28									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			37.0			
Intersection Capacity Utilization			123.8%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

PM Peak Period
Future Background

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	45
Future Volume (vph)	45
Ideal Flow (vphpl)	1900
Lane Width	3.5
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	49
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	13
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (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)	
Approach LOS	
Intersection Summary	

HCM Unsignalized Intersection Capacity Analysis

2: Watergarden Dr/Armdale Road

PM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (veh/h)	0	0	21	0	0	97	0	1436	42	0	2304	47
Future Volume (Veh/h)	0	0	21	0	0	97	0	1436	42	0	2304	47
Sign Control	Stop				Stop				Free			
Grade	0%				0%				0%			
Peak Hour Factor	0.77	0.77	0.77	0.74	0.74	0.74	0.95	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	27	0	0	131	0	1512	44	0	2504	51
Pedestrians	14				45				4		22	
Lane Width (m)	3.7				3.7				3.7		3.7	
Walking Speed (m/s)	1.1				1.1				1.1		1.1	
Percent Blockage	1				4				0		2	
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)							208			186		
pX, platoon unblocked	0.75	0.75	0.61	0.75	0.75	0.71	0.61				0.71	
vC, conflicting volume	3452	4144	1296	2862	4148	845	2569				1601	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1899	2816	216	1117	2820	0	2296				1043	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	94	100	100	82	100				100	
cM capacity (veh/h)	25	13	478	107	13	729	135				461	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	27	131	1008	548	1669	886						
Volume Left	0	0	0	0	0	0						
Volume Right	27	131	0	44	0	51						
cSH	478	729	1700	1700	1700	1700						
Volume to Capacity	0.06	0.18	0.59	0.32	0.98	0.52						
Queue Length 95th (m)	1.4	4.9	0.0	0.0	0.0	0.0						
Control Delay (s)	13.0	11.0	0.0	0.0	0.0	0.0						
Lane LOS	B	B										
Approach Delay (s)	13.0	11.0	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			76.5%	ICU Level of Service				D				
Analysis Period (min)			15									

Queues
3: Hurontario St & Eglinton Ave E

PM Peak Period
Future Background

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	136	631	176	263	1598	144	263	1266	104	298	2229
v/c Ratio	1.27	0.39	0.27	2.66	0.98	0.24	2.63	1.22	0.18	6.34	2.24
Control Delay	207.1	38.3	1.0	797.3	64.8	0.9	785.4	151.2	0.7	2417.1	585.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	207.1	38.3	1.0	797.3	64.8	0.9	785.4	151.2	0.7	2417.1	585.6
Queue Length 50th (m)	~32.2	50.0	0.0	~63.1	160.4	0.0	~63.0	~226.2	0.0	~161.6	~516.5
Queue Length 95th (m)	#70.2	61.7	0.0	#91.3	#193.6	0.0	#91.1	#268.8	0.0	m#98.2	m#257.1
Internal Link Dist (m)		163.7			348.9			293.8			183.5
Turn Bay Length (m)	100.0		100.0	150.0		125.0	100.0			130.0	
Base Capacity (vph)	107	1619	662	99	1635	607	100	1035	570	47	995
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.27	0.39	0.27	2.66	0.98	0.24	2.63	1.22	0.18	6.34	2.24

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

PM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	122	568	158	250	1518	137	245	1177	97	42	232	1853
Future Volume (vph)	122	568	158	250	1518	137	245	1177	97	42	232	1853
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.3
Total Lost time (s)	8.0	9.0	9.0	8.0	9.0	9.0	12.0	18.0	18.0		12.0	18.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.92	1.00	1.00	0.85	1.00	1.00	0.90		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.99
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1824	5142	1509	3471	5193	1335	3506	3544	1461		1671	3387
Flt Permitted	0.09	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	174	5142	1509	3471	5193	1335	3506	3544	1461		1671	3387
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	136	631	176	263	1598	144	263	1266	104	46	252	2014
RTOR Reduction (vph)	0	0	121	0	0	99	0	0	74	0	0	6
Lane Group Flow (vph)	136	631	55	263	1598	45	263	1266	30	0	298	2223
Confl. Peds. (#/hr)	151		70	70		151	57		89		89	
Heavy Vehicles (%)	0%	2%	0%	2%	1%	4%	1%	3%	1%	0%	1%	1%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases	4		4			8			2			
Actuated Green, G (s)	48.1	44.1	44.1	4.0	44.1	44.1	4.0	40.9	40.9		4.0	40.9
Effective Green, g (s)	48.1	44.1	44.1	4.0	44.1	44.1	4.0	40.9	40.9		4.0	40.9
Actuated g/C Ratio	0.34	0.32	0.32	0.03	0.32	0.32	0.03	0.29	0.29		0.03	0.29
Clearance Time (s)	8.0	9.0	9.0	8.0	9.0	9.0	12.0	18.0	18.0		12.0	18.0
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0		2.0	3.0
Lane Grp Cap (vph)	106	1619	475	99	1635	420	100	1035	426		47	989
v/s Ratio Prot	0.04	0.12		c0.08	0.31		0.08	0.36			c0.18	c0.66
v/s Ratio Perm	c0.40		0.04			0.03			0.02			
v/c Ratio	1.28	0.39	0.12	2.66	0.98	0.11	2.63	1.22	0.07		6.34	2.25
Uniform Delay, d1	45.5	37.4	34.1	68.0	47.5	34.0	68.0	49.5	35.8		68.0	49.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.08	1.27
Incremental Delay, d2	181.4	0.2	0.1	773.6	17.0	0.1	761.5	109.2	0.3		2407.3	561.9
Delay (s)	227.0	37.6	34.2	841.6	64.4	34.1	829.5	158.8	36.1		2480.6	624.6
Level of Service	F	D	C	F	E	C	F	F	D		F	F
Approach Delay (s)		64.3			164.2			259.0				843.5
Approach LOS		E			F			F				F
Intersection Summary												
HCM 2000 Control Delay			414.2	HCM 2000 Level of Service					F			
HCM 2000 Volume to Capacity ratio			1.97									
Actuated Cycle Length (s)			140.0	Sum of lost time (s)					47.0			
Intersection Capacity Utilization			148.4%	ICU Level of Service					H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

PM Peak Period
Future Background

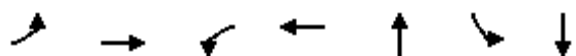
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	198
Future Volume (vph)	198
Ideal Flow (vphpl)	1900
Lane Width	3.3
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	215
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	57
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (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)	
Approach LOS	
Intersection Summary	

Queues

PM Peak Period

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	43	852	59	2073	196	58	67
v/c Ratio	0.19	0.30	0.12	0.70	0.69	0.29	0.20
Control Delay	7.8	12.2	6.4	17.0	35.2	32.4	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.8	12.2	6.4	17.0	35.2	32.4	10.5
Queue Length 50th (m)	1.9	26.5	2.7	90.2	21.4	8.3	1.0
Queue Length 95th (m)	6.4	43.3	8.1	#149.4	28.3	16.7	9.7
Internal Link Dist (m)		387.1		163.7	30.4		68.2
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	229	2797	472	2962	502	391	580
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.30	0.13	0.70	0.39	0.15	0.12

Intersection Summary

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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

PM Peak Period
Future Background

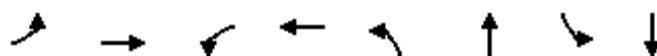
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	730	37	54	1794	113	73	3	67	51	6	53
Future Volume (vph)	39	730	37	54	1794	113	73	3	67	51	6	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	7.0		4.5	7.0			8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.99			0.94		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1825	5094		1822	5141			1710		1803	1639	
Flt Permitted	0.09	1.00		0.30	1.00			0.80		0.63	1.00	
Satd. Flow (perm)	168	5094		579	5141			1411		1189	1639	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.88	0.88	0.88
Adj. Flow (vph)	43	811	41	59	1950	123	100	4	92	58	7	60
RTOR Reduction (vph)	0	5	0	0	6	0	0	47	0	0	50	0
Lane Group Flow (vph)	43	847	0	59	2067	0	0	149	0	58	17	0
Confl. Peds. (#/hr)	4		10	10		4	5		19	19		5
Heavy Vehicles (%)	0%	2%	2%	0%	1%	0%	1%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	49.7	45.7		52.5	47.1			14.4		14.4	14.4	
Effective Green, g (s)	49.7	45.7		52.5	47.1			14.4		14.4	14.4	
Actuated g/C Ratio	0.58	0.54		0.62	0.55			0.17		0.17	0.17	
Clearance Time (s)	4.5	7.0		4.5	7.0			8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	176	2738		436	2848			239		201	277	
v/s Ratio Prot	c0.01	0.17		0.01	c0.40						0.01	
v/s Ratio Perm	0.13			0.07				c0.11		0.05		
v/c Ratio	0.24	0.31		0.14	0.73			0.63		0.29	0.06	
Uniform Delay, d1	10.1	10.9		6.5	14.1			32.8		30.8	29.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.3		0.1	1.7			5.0		0.8	0.1	
Delay (s)	10.8	11.2		6.6	15.8			37.8		31.6	29.7	
Level of Service	B	B		A	B			D		C	C	
Approach Delay (s)		11.2			15.5			37.8			30.6	
Approach LOS		B			B			D			C	
Intersection Summary												
HCM 2000 Control Delay			16.2			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			85.0			Sum of lost time (s)				19.5		
Intersection Capacity Utilization			76.7%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

PM Peak Period

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	50	916	91	1951	83	97	72	113
v/c Ratio	0.41	0.24	0.21	0.50	0.58	0.39	0.47	0.54
Control Delay	18.4	4.6	6.3	6.5	63.6	22.4	56.1	51.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	4.6	6.3	6.5	63.6	22.4	56.1	51.6
Queue Length 50th (m)	3.4	18.6	5.1	53.5	18.0	6.6	15.4	21.9
Queue Length 95th (m)	14.2	26.7	13.4	78.5	27.3	15.9	24.3	32.1
Internal Link Dist (m)		299.3		387.1		116.5		184.0
Turn Bay Length (m)	84.0		90.0		16.2		34.8	
Base Capacity (vph)	123	3805	430	3880	383	567	416	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.24	0.21	0.50	0.22	0.17	0.17	0.21

Intersection Summary

HCM Signalized Intersection Capacity Analysis

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

PM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	700	70	86	1740	94	64	25	50	56	46	42
Future Volume (vph)	42	700	70	86	1740	94	64	25	50	56	46	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1806	5046		1817	5149		1703	1672		1820	1736	
Flt Permitted	0.09	1.00		0.30	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	164	5046		572	5149		1227	1672		1330	1736	
Peak-hour factor, PHF	0.84	0.84	0.84	0.94	0.94	0.94	0.77	0.77	0.77	0.78	0.78	0.78
Adj. Flow (vph)	50	833	83	91	1851	100	83	32	65	72	59	54
RTOR Reduction (vph)	0	6	0	0	3	0	0	57	0	0	10	0
Lane Group Flow (vph)	50	910	0	91	1948	0	83	40	0	72	103	0
Confl. Peds. (#/hr)	5		18	18		5	13		3	3		13
Heavy Vehicles (%)	1%	2%	4%	0%	1%	0%	6%	3%	2%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	86.6	86.6		86.6	86.6		13.4	13.4		13.4	13.4	
Effective Green, g (s)	86.6	86.6		86.6	86.6		13.4	13.4		13.4	13.4	
Actuated g/C Ratio	0.75	0.75		0.75	0.75		0.12	0.12		0.12	0.12	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	123	3799		430	3877		142	194		154	202	
v/s Ratio Prot		0.18			c0.38			0.02			0.06	
v/s Ratio Perm	0.30			0.16			c0.07			0.05		
v/c Ratio	0.41	0.24		0.21	0.50		0.58	0.20		0.47	0.51	
Uniform Delay, d1	5.1	4.3		4.2	5.6		48.2	46.0		47.5	47.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.7	0.1		1.1	0.5		6.0	0.5		2.2	2.2	
Delay (s)	14.7	4.4		5.3	6.1		54.2	46.5		49.7	49.9	
Level of Service	B	A		A	A		D	D		D	D	
Approach Delay (s)		5.0			6.1			50.0			49.8	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM 2000 Control Delay	10.5			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.51											
Actuated Cycle Length (s)	115.0			Sum of lost time (s)			15.0					
Intersection Capacity Utilization	100.9%			ICU Level of Service			G					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 6: Four Spring Ave & Little Creek Rd

PM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	5	17	0	7	5	130	33	28	84	2
Future Volume (vph)	0	0	5	17	0	7	5	130	33	28	84	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
Hourly flow rate (vph)	0	0	5	18	0	8	5	141	36	30	91	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	5	26	182	123								
Volume Left (vph)	0	18	5	30								
Volume Right (vph)	5	8	36	2								
Hadj (s)	0.03	-0.01	-0.10	0.04								
Departure Headway (s)	4.6	4.5	4.0	4.2								
Degree Utilization, x	0.01	0.03	0.20	0.14								
Capacity (veh/h)	718	731	881	845								
Control Delay (s)	7.6	7.7	8.0	7.9								
Approach Delay (s)	7.6	7.7	8.0	7.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.9									
Level of Service			A									
Intersection Capacity Utilization			35.6%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 7: Four Spring Ave & Watergarden Dr

PM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	6	3	58	10	36	5	92	37	20	50	0
Future Volume (vph)	0	6	3	58	10	36	5	92	37	20	50	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	7	3	63	11	39	5	100	40	22	54	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	10	113	145	76								
Volume Left (vph)	0	63	5	22								
Volume Right (vph)	3	39	40	0								
Hadj (s)	-0.18	0.05	0.14	0.06								
Departure Headway (s)	4.4	4.5	4.4	4.4								
Degree Utilization, x	0.01	0.14	0.18	0.09								
Capacity (veh/h)	773	758	785	777								
Control Delay (s)	7.4	8.2	8.4	7.9								
Approach Delay (s)	7.4	8.2	8.4	7.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				8.2								
Level of Service				A								
Intersection Capacity Utilization				32.1%	ICU Level of Service	A						
Analysis Period (min)				15								

Appendix F – City of Waterloo Parking Reduction Worksheet



Parking Management Worksheet

Version 9/18/2013

Appendix I

Case Study: _____

Site Context: _____

Date: _____

Reduction Worksheet No: _____

"Urban Growth Centres - (UGC) area classification includes the Downtown / Uptown and RT Station Areas of Kitchener, Waterloo and Cambridge.

"Intensification Corridor" (IC) classification is applied to sites within 800 metres of the future CTC line

"Other" classification applies to all other sites

Please highlight the cell percentages applicable to your development under the appropriate classification. Please note that the Parking Management Worksheet and the Transportation Demand Management (TDM) Checklist are not designed for residential properties, but can be used for mixed-use developments. Local municipalities are the decision-making bodies with respect to consideration of parking reductions below Zoning By-law requirements.

TABLE A	Pedestrian and Cyclist Orientation			
In creating an environment that supports pedestrian and cycling activity, the public realm must be accessible, safe, and comfortable to encourage movement on the street and in the surrounding area(s). These facilities and features should encourage walking and cycling.				
	Features	UGC	IC	Other
A1	Development incorporates functional building entrances that are oriented to public space or to locations where pedestrians and transit users arrive from such as a street, square, park or plaza.	1%	1%	1%
A2	Continuous sidewalks (1.5m min. width) are provided along both sides of all adjacent public streets and pedestrian walkways (1.5m min width) are provided through large parking areas to link the building with the public street sidewalk system	0%	0%	1%
A3	Non-Residential: Development provides secure bike storage for 4% of the building occupants	2%	2%	1%
A4	Shower and change facilities provided on-site consistent with LEED requirements.	1%	1%	1%
A5	Provision of active uses at-grade along street frontages.	1%	1%	1%
	Category Maximum	4%	4%	4%
	Available Parking Reduction		2%	
TABLE B	Public Transportation Access			
The availability and proximity of convenient public transit service with direct pedestrian linkages to the building will provide viable travel options for employees, visitors and residents.				
	Features	UGC	IC	Other
B1	Bus shelters with seating are provided at the transit stop immediately adjacent to the development, in consultation with Transportation Planning at the Region of Waterloo	0%	0%	1%
B2	Information regarding public transit routes, schedules and fares are provided in an accessible and visible location on site and in adjacent bus stops	0%	0%	1%
B3a	Located in an UGC or within 800 m of a future Rapid Transit Station	24%	12%	0%
B3b	Located within 600m a transit route with 15 minute headways (or less) or is located in a designated mixed use corridor or node. Note: Points are awarded for either B3a, B3b or B3c only. Please choose whichever represents the highest order of transit.	-	-	3%
B3c	Located within 400 metres of a bus service with headways of 15 min to 30 min. Note: Points are awarded for either B3a, B3b or B3c only. Please choose whichever represents the highest order of transit.	-	-	1%
	Category Maximum	24%	12%	5%
	Available Parking Reduction		12%	
TABLE C	Parking			
Vehicle parking facilities can affect the character, travel mode and cost of a development. Reducing parking supply to match expected demand can have a positive influence on the selection of alternative travel modes.				
	Features	UGC	IC	Other
C1	Provides priority parking for carpooling/vanpooling participants equivalent to 5% of employee spaces	0%	0%	5%
C2	Commercial Uses: Provide car-share spaces equivalent to 2% of building occupants	2%	2%	0%
C3	Implements paid parking system on all or part of the site (e.g. parking permits, paid parking zones near main entrances)	2%	2%	1%
C4	Parking is not located on major street frontage.	0%	0%	1%
C5	25% to 50% of parking is located underground or in a structure	2%	1%	0%
C6	50% to 75% of parking is located underground or in a structure	4%	2%	0%
C7	75% of parking or more is located underground or in a structure	5%	3%	0%
	Category Maximum	6%	4%	6%
	Available Parking Reduction		3%	



Case Study:

0

Site Context:

0

Date:

1/0/1900

Worksheet No:

0

TABLE D	Trip Reduction Incentives			
A formal TDM plan will identify specific initiatives that will be initiated in order to encourage reduced single occupant vehicle travel.				
	Features	UGC	IC	Other
D1	The building owner/occupant will provide a ride matching service for car/vanpooling	0%	0%	1%
D2	The building owner/occupant will provide emergency ride home options	3%	2%	1%
D3	The building owner/occupant will provide subsidized transit passes for all occupants for a period of two years	10%	4%	2%
D4	The building owner/occupant agrees to charge for parking as a separate cost to occupants	10%	5%	2%
D5	The building owner/occupant agrees to provide reduced cost for users of car/van pool, bicycle, moped/motorcycle spaces	0%	0%	1%
D6	The development agrees to join Travelwise (TMA) that provides the same services outlined under items D1 and D2	9%	6%	4%
	Category Maximum	23%	11%	7%
	Available Parking Reduction		11%	

TABLE E	Parking Reduction Summary				
Please indicate the total reduction available based upon Tables A through D above.					
Category	Reduction Achieved	Maximum Achievable Reduction			Comments
		UGC	IC	Other	
Pedestrian & Cyclist Orientation	2%	4%	4%	4%	
Public Transit Access	12%	24%	12%	5%	
Parking	3%	6%	4%	6%	
Trip Reduction Incentives	11%	23%	11%	7%	
TOTAL	28%	57%	31%	22%	

TABLE F	TOTAL REDUCTION ACHIEVED	28%
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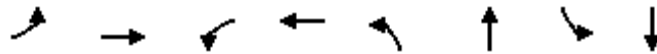
Appendix G – Future Total Conditions Synchro Reports

Queues

AM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

Future Total



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	254	92	116	163	1546	52	1418
v/c Ratio	0.28	0.81	0.69	0.31	0.60	0.94	0.44	1.09
Control Delay	49.8	69.6	78.1	15.7	64.4	27.0	73.8	95.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	69.6	78.1	15.7	64.4	27.0	73.8	95.5
Queue Length 50th (m)	15.9	64.0	24.0	6.3	45.0	125.8	13.9	~236.4
Queue Length 95th (m)	28.0	88.2	37.4	18.1	m43.9	m106.5	28.3	#279.7
Internal Link Dist (m)		115.8		151.2		161.8		155.1
Turn Bay Length (m)	66.0		26.8		90.0		120.0	
Base Capacity (vph)	357	465	199	525	272	1648	119	1295
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.55	0.46	0.22	0.60	0.94	0.44	1.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

AM Peak Period

Future Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	61	39	195	76	22	74	71	80	1387	51	47	1242
Future Volume (vph)	61	39	195	76	22	74	71	80	1387	51	47	1242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.5	3.5	3.0	3.5
Total Lost time (s)	9.0	9.0		9.0	9.0			12.0	16.0		12.0	16.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.98		1.00	0.98			1.00	1.00		1.00	1.00
Flpb, ped/bikes	0.99	1.00		0.99	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.87		1.00	0.88			1.00	0.99		1.00	0.99
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1787	1629		1808	1655			1650	3442		1668	3361
Flt Permitted	0.68	1.00		0.38	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1284	1629		717	1655			1650	3442		1668	3361
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.93	0.93	0.93	0.91	0.91
Adj. Flow (vph)	66	42	212	92	27	89	77	86	1491	55	52	1365
RTOR Reduction (vph)	0	13	0	0	72	0	0	0	2	0	0	2
Lane Group Flow (vph)	66	241	0	92	44	0	0	163	1544	0	52	1416
Confl. Peds. (#/hr)	11		13	13		11		27		16	16	
Heavy Vehicles (%)	1%	0%	1%	0%	0%	1%	0%	4%	3%	0%	1%	5%
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)	26.0	26.0		26.0	26.0			23.1	67.0		10.0	53.9
Effective Green, g (s)	26.0	26.0		26.0	26.0			23.1	67.0		10.0	53.9
Actuated g/C Ratio	0.19	0.19		0.19	0.19			0.17	0.48		0.07	0.38
Clearance Time (s)	9.0	9.0		9.0	9.0			12.0	16.0		12.0	16.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	238	302		133	307			272	1647		119	1293
v/s Ratio Prot		c0.15			0.03			c0.10	c0.45		0.03	c0.42
v/s Ratio Perm	0.05			0.13								
v/c Ratio	0.28	0.80		0.69	0.14			0.60	0.94		0.44	1.10
Uniform Delay, d1	48.9	54.5		53.3	47.7			54.2	34.5		62.3	43.0
Progression Factor	1.00	1.00		1.00	1.00			1.15	0.69		1.00	1.00
Incremental Delay, d2	0.6	13.6		14.4	0.2			0.3	1.4		2.6	55.3
Delay (s)	49.6	68.1		67.7	47.9			62.6	25.2		64.9	98.3
Level of Service	D	E		E	D			E	C		E	F
Approach Delay (s)		64.3			56.6				28.8			97.1
Approach LOS		E			E				C			F
Intersection Summary												
HCM 2000 Control Delay			60.5			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			37.0			
Intersection Capacity Utilization			109.6%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

AM Peak Period
Future Total

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	48
Future Volume (vph)	48
Ideal Flow (vphpl)	1900
Lane Width	3.5
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	53
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	27
Heavy Vehicles (%)	10%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (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)	
Approach LOS	
Intersection Summary	

HCM Unsignalized Intersection Capacity Analysis

2: Watergarden Dr/Armdale Road

AM Peak Period
Future Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	157	0	0	76	0	1513	71	0	1522	62
Future Volume (Veh/h)	0	0	157	0	0	76	0	1513	71	0	1522	62
Sign Control	Stop				Stop				Free			
Grade	0%				0%				0%			
Peak Hour Factor	0.77	0.77	0.77	0.74	0.74	0.74	0.95	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	204	0	0	103	0	1593	75	0	1654	67
Pedestrians	16				23						4	
Lane Width (m)	3.7				3.7						3.7	
Walking Speed (m/s)	1.1				1.1						1.1	
Percent Blockage	2				2						0	
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)							208			186		
pX, platoon unblocked	0.77	0.77	0.62	0.77	0.77	0.72	0.62				0.72	
vC, conflicting volume	2607	3394	876	2684	3390	861	1737				1691	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	816	1843	0	917	1838	10	977				1170	
tC, single (s)	7.5	6.5	6.9	7.6	6.5	7.0	4.1				4.2	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2				2.3	
p0 queue free %	100	100	70	100	100	86	100				100	
cM capacity (veh/h)	169	56	670	112	56	733	439				395	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	204	103	1062	606	1103	618						
Volume Left	0	0	0	0	0	0						
Volume Right	204	103	0	75	0	67						
cSH	670	733	1700	1700	1700	1700						
Volume to Capacity	0.30	0.14	0.62	0.36	0.65	0.36						
Queue Length 95th (m)	9.8	3.7	0.0	0.0	0.0	0.0						
Control Delay (s)	12.7	10.7	0.0	0.0	0.0	0.0						
Lane LOS	B	B										
Approach Delay (s)	12.7	10.7	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			60.5%	ICU Level of Service				B				
Analysis Period (min)			15									

Queues
3: Hurontario St & Eglinton Ave E

AM Peak Period
Future Total

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	251	1540	170	157	549	148	74	1167	97	359	1465
v/c Ratio	0.88	0.94	0.26	1.62	0.34	0.23	0.79	1.14	0.17	7.64	1.52
Control Delay	69.1	58.9	1.0	360.5	37.5	0.9	114.2	118.9	0.6	3015.9	274.6
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.1	59.3	1.0	360.5	37.5	0.9	114.2	118.9	0.6	3015.9	274.6
Queue Length 50th (m)	47.5	152.2	0.0	~32.1	42.7	0.0	10.7	~197.8	0.0	~197.7	~292.5
Queue Length 95th (m)	#89.4	#181.3	0.0	#55.4	53.5	0.0	#24.7	#240.1	0.0 m	#204.1 m	#278.7
Internal Link Dist (m)		163.7			348.9			293.8			183.5
Turn Bay Length (m)	100.0		100.0	150.0		125.0	100.0			130.0	
Base Capacity (vph)	286	1635	647	97	1619	631	94	1025	570	47	965
Starvation Cap Reductn	0	9	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.95	0.26	1.62	0.34	0.23	0.79	1.14	0.17	7.64	1.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

AM Peak Period

Future Total

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	
Lane Configurations													
Traffic Volume (vph)	226	1386	153	149	522	141	69	1085	90	132	199	1209	
Future Volume (vph)	226	1386	153	149	522	141	69	1085	90	132	199	1209	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.3	
Total Lost time (s)	8.0	9.0	9.0	8.0	9.0	9.0	12.0	18.0	18.0		12.0	18.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.93	1.00	1.00	0.92	1.00	1.00	0.92		1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	1750	5193	1461	3404	5142	1411	3309	3510	1460		1665	3283	
Flt Permitted	0.41	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	
Satd. Flow (perm)	748	5193	1461	3404	5142	1411	3309	3510	1460		1665	3283	
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92	
Adj. Flow (vph)	251	1540	170	157	549	148	74	1167	97	143	216	1314	
RTOR Reduction (vph)	0	0	116	0	0	101	0	0	69	0	0	6	
Lane Group Flow (vph)	251	1540	54	157	549	47	74	1167	28	0	359	1459	
Confl. Peds. (#/hr)	79		63	63		79	52		71		71		
Heavy Vehicles (%)	3%	1%	4%	4%	2%	6%	7%	4%	3%	0%	2%	4%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	1	6	
Permitted Phases	4		4			8			2				
Actuated Green, G (s)	48.1	44.1	44.1	4.0	44.1	44.1	4.0	40.9	40.9		4.0	40.9	
Effective Green, g (s)	48.1	44.1	44.1	4.0	44.1	44.1	4.0	40.9	40.9		4.0	40.9	
Actuated g/C Ratio	0.34	0.32	0.32	0.03	0.32	0.32	0.03	0.29	0.29		0.03	0.29	
Clearance Time (s)	8.0	9.0	9.0	8.0	9.0	9.0	12.0	18.0	18.0		12.0	18.0	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	285	1635	460	97	1619	444	94	1025	426		47	959	
v/s Ratio Prot	0.03	c0.30		c0.05	0.11		0.02	0.33			c0.22	c0.44	
v/s Ratio Perm	0.28		0.04			0.03			0.02				
v/c Ratio	0.88	0.94	0.12	1.62	0.34	0.11	0.79	1.14	0.07		7.64	1.52	
Uniform Delay, d1	42.2	46.7	34.1	68.0	36.8	34.0	67.6	49.5	35.8		68.0	49.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.01	1.19	
Incremental Delay, d2	25.0	11.3	0.1	320.5	0.1	0.1	31.9	74.4	0.3		3007.9	237.0	
Delay (s)	67.1	58.0	34.2	388.5	36.9	34.1	99.5	124.0	36.1		3076.9	296.2	
Level of Service	E	E	C	F	D	C	F	F	D		F	F	
Approach Delay (s)		57.1			101.1			116.3				843.5	
Approach LOS		E			F			F				F	
Intersection Summary													
HCM 2000 Control Delay			316.6									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.51										
Actuated Cycle Length (s)			140.0									Sum of lost time (s)	47.0
Intersection Capacity Utilization			142.2%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

AM Peak Period

Future Total

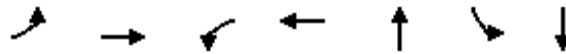
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	139
Future Volume (vph)	139
Ideal Flow (vphpl)	1900
Lane Width	3.3
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	151
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	52
Heavy Vehicles (%)	4%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (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)	
Approach LOS	
Intersection Summary	

Queues

AM Peak Period

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

Future Total



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	86	1596	52	741	133	353	228
v/c Ratio	0.23	0.70	0.25	0.35	0.26	0.82	0.36
Control Delay	11.7	22.1	13.0	17.7	9.8	44.4	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.7	22.1	13.0	17.7	9.8	44.4	6.6
Queue Length 50th (m)	6.6	83.2	3.9	30.0	5.0	50.9	3.6
Queue Length 95th (m)	13.5	101.6	9.0	39.8	11.5	#88.4	17.5
Internal Link Dist (m)		387.1		163.7	30.4		68.2
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	380	2296	211	2091	541	459	671
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.70	0.25	0.35	0.25	0.77	0.34

Intersection Summary

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

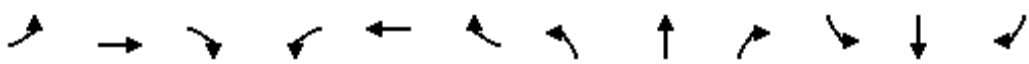
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

AM Peak Period

Future Total

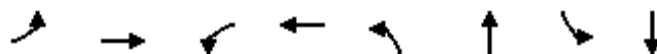
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	1390	47	48	597	85	25	8	64	311	29	172
Future Volume (vph)	77	1390	47	48	597	85	25	8	64	311	29	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	7.0		4.5	7.0			8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.98			0.91		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1721	5114		1825	4945			1671		1795	1642	
Flt Permitted	0.32	1.00		0.11	1.00			0.87		0.74	1.00	
Satd. Flow (perm)	588	5114		221	4945			1466		1394	1642	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.88	0.88	0.88
Adj. Flow (vph)	86	1544	52	52	649	92	34	11	88	353	33	195
RTOR Reduction (vph)	0	4	0	0	21	0	0	61	0	0	135	0
Lane Group Flow (vph)	86	1592	0	52	720	0	0	72	0	353	93	0
Confl. Peds. (#/hr)	3		6	6		3	12		22	22		12
Heavy Vehicles (%)	6%	2%	0%	0%	3%	9%	4%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.9	36.3		37.9	34.8			26.1		26.1	26.1	
Effective Green, g (s)	40.9	36.3		37.9	34.8			26.1		26.1	26.1	
Actuated g/C Ratio	0.48	0.43		0.45	0.41			0.31		0.31	0.31	
Clearance Time (s)	4.5	7.0		4.5	7.0			8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	344	2183		157	2024			450		428	504	
v/s Ratio Prot	c0.01	c0.31		0.01	0.15						0.06	
v/s Ratio Perm	0.11			0.14				0.05		c0.25		
v/c Ratio	0.25	0.73		0.33	0.36			0.16		0.82	0.18	
Uniform Delay, d1	12.1	20.3		14.9	17.4			21.5		27.3	21.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.4	2.2		1.2	0.5			0.2		12.2	0.2	
Delay (s)	12.5	22.4		16.2	17.8			21.6		39.5	21.8	
Level of Service	B	C		B	B			C		D	C	
Approach Delay (s)		21.9			17.7			21.6			32.6	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			22.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			85.0			Sum of lost time (s)				19.5		
Intersection Capacity Utilization			78.2%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

AM Peak Period

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

Future Total



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	1662	49	796	97	177	131	142
v/c Ratio	0.14	0.46	0.31	0.22	0.54	0.63	0.80	0.48
Control Delay	7.4	8.0	14.1	6.1	54.7	49.1	79.0	35.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.4	8.0	14.1	6.1	54.7	49.1	79.0	35.0
Queue Length 50th (m)	4.1	50.8	3.6	19.1	20.4	33.0	28.8	20.5
Queue Length 95th (m)	10.4	68.6	13.7	30.6	29.2	42.1	39.3	30.3
Internal Link Dist (m)		299.3		387.1		116.5		184.0
Turn Bay Length (m)	84.0		90.0		16.2		34.8	
Base Capacity (vph)	456	3633	160	3602	362	543	330	556
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.46	0.31	0.22	0.27	0.33	0.40	0.26
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

AM Peak Period
Future Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	1328	68	46	692	56	75	52	84	102	58	53
Future Volume (vph)	54	1328	68	46	692	56	75	52	84	102	58	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.91		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1788	5075		1770	5030		1682	1688		1821	1687	
Flt Permitted	0.34	1.00		0.12	1.00		0.65	1.00		0.55	1.00	
Satd. Flow (perm)	638	5075		224	5030		1158	1688		1057	1687	
Peak-hour factor, PHF	0.84	0.84	0.84	0.94	0.94	0.94	0.77	0.77	0.77	0.78	0.78	0.78
Adj. Flow (vph)	64	1581	81	49	736	60	97	68	109	131	74	68
RTOR Reduction (vph)	0	3	0	0	5	0	0	19	0	0	35	0
Lane Group Flow (vph)	64	1659	0	49	791	0	97	158	0	131	107	0
Confl. Peds. (#/hr)	2		11	11		2	6		3	3		6
Heavy Vehicles (%)	2%	2%	11%	3%	3%	2%	8%	3%	2%	0%	1%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	82.2	82.2		82.2	82.2		17.8	17.8		17.8	17.8	
Effective Green, g (s)	82.2	82.2		82.2	82.2		17.8	17.8		17.8	17.8	
Actuated g/C Ratio	0.71	0.71		0.71	0.71		0.15	0.15		0.15	0.15	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	456	3627		160	3595		179	261		163	261	
v/s Ratio Prot		c0.33			0.16			0.09			0.06	
v/s Ratio Perm	0.10			0.22			0.08			c0.12		
v/c Ratio	0.14	0.46		0.31	0.22		0.54	0.61		0.80	0.41	
Uniform Delay, d1	5.2	6.9		6.0	5.6		44.8	45.3		46.9	43.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.4		4.9	0.1		3.3	4.0		24.1	1.0	
Delay (s)	5.8	7.4		10.9	5.7		48.2	49.3		71.1	44.9	
Level of Service	A	A		B	A		D	D		E	D	
Approach Delay (s)		7.3			6.0			48.9			57.4	
Approach LOS		A			A			D			E	
Intersection Summary												
HCM 2000 Control Delay			15.0			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			115.0			Sum of lost time (s)				15.0		
Intersection Capacity Utilization			88.4%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 6: Four Spring Ave & Little Creek Rd

AM Peak Period
Future Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	0	8	178	1	111	0	83	76	37	257	1
Future Volume (vph)	2	0	8	178	1	111	0	83	76	37	257	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	9	193	1	121	0	90	83	40	279	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	11	315	173	320								
Volume Left (vph)	2	193	0	40								
Volume Right (vph)	9	121	83	1								
Hadj (s)	-0.30	-0.11	-0.23	0.09								
Departure Headway (s)	5.4	5.1	5.0	5.1								
Degree Utilization, x	0.02	0.44	0.24	0.46								
Capacity (veh/h)	564	663	664	667								
Control Delay (s)	8.5	12.1	9.6	12.3								
Approach Delay (s)	8.5	12.1	9.6	12.3								
Approach LOS	A	B	A	B								
Intersection Summary												
Delay			11.6									
Level of Service			B									
Intersection Capacity Utilization			61.2%	ICU Level of Service		B						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: Four Spring Ave & Watergarden Dr

AM Peak Period
Future Total

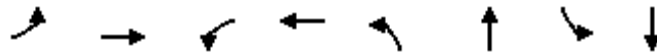
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	5	13	55	4	29	3	56	118	80	208	0
Future Volume (vph)	0	5	13	55	4	29	3	56	118	80	208	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	14	60	4	32	3	61	128	87	226	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	19	96	192	313								
Volume Left (vph)	0	60	3	87								
Volume Right (vph)	14	32	128	0								
Hadj (s)	-0.44	0.04	-0.37	0.06								
Departure Headway (s)	4.7	5.1	4.2	4.5								
Degree Utilization, x	0.02	0.14	0.22	0.39								
Capacity (veh/h)	667	640	824	778								
Control Delay (s)	7.9	8.9	8.4	10.3								
Approach Delay (s)	7.9	8.9	8.4	10.3								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			9.4									
Level of Service			A									
Intersection Capacity Utilization			48.2%	ICU Level of Service				A				
Analysis Period (min)			15									

Queues

PM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

Future Total



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	109	54	135	261	1462	40	2502
v/c Ratio	0.25	0.63	0.41	0.67	0.62	0.71	0.37	1.84
Control Delay	61.2	70.7	67.0	64.2	58.5	23.3	71.3	409.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	70.7	67.0	64.2	58.5	23.3	71.3	409.5
Queue Length 50th (m)	7.5	27.3	14.3	29.5	74.0	91.5	10.8	~555.8
Queue Length 95th (m)	17.1	45.0	24.6	44.6	m64.0	m65.5	22.8	#594.2
Internal Link Dist (m)		115.8		151.2		161.8		155.1
Turn Bay Length (m)	66.0		26.8		90.0		120.0	
Base Capacity (vph)	320	466	361	511	419	2046	109	1358
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.23	0.15	0.26	0.62	0.71	0.37	1.84

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

PM Peak Period

Future Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	27	22	78	45	65	47	100	141	1312	47	36	2232
Future Volume (vph)	27	22	78	45	65	47	100	141	1312	47	36	2232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.5	3.5	3.0	3.5
Total Lost time (s)	9.0	9.0		9.0	9.0			12.0	16.0		12.0	16.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.98		1.00	0.98			1.00	1.00		1.00	1.00
Flpb, ped/bikes	0.98	1.00		0.98	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.88		1.00	0.94			1.00	0.99		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1783	1654		1794	1769			1685	3435		1685	3521
Flt Permitted	0.61	1.00		0.69	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1152	1654		1296	1769			1685	3435		1685	3521
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.93	0.93	0.93	0.91	0.91
Adj. Flow (vph)	29	24	85	54	78	57	109	152	1411	51	40	2453
RTOR Reduction (vph)	0	7	0	0	23	0	0	0	1	0	0	1
Lane Group Flow (vph)	29	102	0	54	112	0	0	261	1461	0	40	2501
Confl. Peds. (#/hr)	24		17	17		24		13		34	34	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)	14.2	14.2		14.2	14.2			34.8	80.9		7.9	54.0
Effective Green, g (s)	14.2	14.2		14.2	14.2			34.8	80.9		7.9	54.0
Actuated g/C Ratio	0.10	0.10		0.10	0.10			0.25	0.58		0.06	0.39
Clearance Time (s)	9.0	9.0		9.0	9.0			12.0	16.0		12.0	16.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	116	167		131	179			418	1984		95	1358
v/s Ratio Prot		0.06			c0.06			c0.15	c0.43		0.02	c0.71
v/s Ratio Perm	0.03			0.04								
v/c Ratio	0.25	0.61		0.41	0.62			0.62	0.74		0.42	1.84
Uniform Delay, d1	58.0	60.2		59.0	60.3			46.8	21.7		63.8	43.0
Progression Factor	1.00	1.00		1.00	1.00			1.19	1.02		1.00	1.00
Incremental Delay, d2	1.1	6.2		2.1	6.6			0.3	0.2		3.0	381.6
Delay (s)	59.1	66.4		61.1	66.9			56.2	22.3		66.8	424.6
Level of Service	E	E		E	E			E	C		E	F
Approach Delay (s)		64.9			65.3				27.4			418.9
Approach LOS		E			E				C			F
Intersection Summary												
HCM 2000 Control Delay	246.8			HCM 2000 Level of Service					F			
HCM 2000 Volume to Capacity ratio	1.33											
Actuated Cycle Length (s)	140.0			Sum of lost time (s)					37.0			
Intersection Capacity Utilization	127.7%			ICU Level of Service					H			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

PM Peak Period
Future Total

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	45
Future Volume (vph)	45
Ideal Flow (vphpl)	1900
Lane Width	3.5
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	49
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	13
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (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)	
Approach LOS	
Intersection Summary	

HCM Unsignalized Intersection Capacity Analysis

2: Watergarden Dr/Armdale Road

PM Peak Period
Future Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	76	0	0	106	0	1494	60	0	2304	151
Future Volume (Veh/h)	0	0	76	0	0	106	0	1494	60	0	2304	151
Sign Control	Stop			Stop				Free			Free	
Grade	0%			0%				0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.74	0.74	0.74	0.95	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	99	0	0	143	0	1573	63	0	2504	164
Pedestrians	14			45				4			22	
Lane Width (m)	3.7			3.7				3.7			3.7	
Walking Speed (m/s)	1.1			1.1				1.1			1.1	
Percent Blockage	1			4				0			2	
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)							208			186		
pX, platoon unblocked	0.76	0.76	0.62	0.76	0.76	0.71	0.62				0.71	
vC, conflicting volume	3552	4281	1352	3004	4332	885	2682				1681	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2041	2996	346	1325	3063	41	2488				1155	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	75	100	100	79	100				100	
cM capacity (veh/h)	19	10	400	61	9	687	115				418	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	99	143	1049	587	1669	999						
Volume Left	0	0	0	0	0	0						
Volume Right	99	143	0	63	0	164						
cSH	400	687	1700	1700	1700	1700						
Volume to Capacity	0.25	0.21	0.62	0.35	0.98	0.59						
Queue Length 95th (m)	7.3	5.9	0.0	0.0	0.0	0.0						
Control Delay (s)	16.9	11.6	0.0	0.0	0.0	0.0						
Lane LOS	C	B										
Approach Delay (s)	16.9	11.6	0.0	0.0								
Approach LOS	C	B										
Intersection Summary												
Average Delay			0.7									
Intersection Capacity Utilization			81.4%	ICU Level of Service					D			
Analysis Period (min)			15									

Queues
3: Hurontario St & Eglinton Ave E

PM Peak Period
Future Total

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	152	704	201	263	1765	147	290	1296	104	332	2254
v/c Ratio	1.41	0.43	0.30	2.66	1.08	0.24	2.90	1.25	0.18	7.06	2.27
Control Delay	258.3	39.1	1.8	797.3	92.2	0.9	903.3	162.8	0.7	2741.5	596.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	258.3	39.1	1.8	797.3	92.2	0.9	903.3	162.8	0.7	2741.5	596.7
Queue Length 50th (m)	~40.0	56.7	0.0	~63.1	~199.3	0.0	~71.0	~235.3	0.0	~181.7	~523.5
Queue Length 95th (m)	#81.0	69.1	2.7	#91.3	#228.5	0.0	#100.3	#277.6	0.0 m	#111.1 m	#257.6
Internal Link Dist (m)		163.7			348.9			293.8			183.5
Turn Bay Length (m)	100.0		100.0	150.0		125.0	100.0			130.0	
Base Capacity (vph)	108	1619	662	99	1635	607	100	1035	570	47	995
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.41	0.43	0.30	2.66	1.08	0.24	2.90	1.25	0.18	7.06	2.27

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

PM Peak Period

Future Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations		  		 	  		 	 			 	 
Traffic Volume (vph)	137	634	181	250	1677	140	270	1205	97	72	234	1876
Future Volume (vph)	137	634	181	250	1677	140	270	1205	97	72	234	1876
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.3
Total Lost time (s)	8.0	9.0	9.0	8.0	9.0	9.0	12.0	18.0	18.0		12.0	18.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.92	1.00	1.00	0.85	1.00	1.00	0.90		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.99
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1825	5142	1509	3471	5193	1335	3506	3544	1461		1672	3387
Flt Permitted	0.09	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	174	5142	1509	3471	5193	1335	3506	3544	1461		1672	3387
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	152	704	201	263	1765	147	290	1296	104	78	254	2039
RTOR Reduction (vph)	0	0	138	0	0	101	0	0	74	0	0	6
Lane Group Flow (vph)	152	704	63	263	1765	46	290	1296	30	0	332	2248
Confl. Peds. (#/hr)	151		70	70		151	57		89		89	
Heavy Vehicles (%)	0%	2%	0%	2%	1%	4%	1%	3%	1%	0%	1%	1%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases	4		4			8			2			
Actuated Green, G (s)	48.1	44.1	44.1	4.0	44.1	44.1	4.0	40.9	40.9		4.0	40.9
Effective Green, g (s)	48.1	44.1	44.1	4.0	44.1	44.1	4.0	40.9	40.9		4.0	40.9
Actuated g/C Ratio	0.34	0.32	0.32	0.03	0.32	0.32	0.03	0.29	0.29		0.03	0.29
Clearance Time (s)	8.0	9.0	9.0	8.0	9.0	9.0	12.0	18.0	18.0		12.0	18.0
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0		2.0	3.0
Lane Grp Cap (vph)	106	1619	475	99	1635	420	100	1035	426		47	989
v/s Ratio Prot	0.04	0.14		c0.08	0.34		0.08	0.37			c0.20	c0.66
v/s Ratio Perm	c0.45		0.04			0.03			0.02			
v/c Ratio	1.43	0.43	0.13	2.66	1.08	0.11	2.90	1.25	0.07		7.06	2.27
Uniform Delay, d1	46.3	38.1	34.3	68.0	48.0	34.0	68.0	49.5	35.8		68.0	49.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.06	1.27
Incremental Delay, d2	240.8	0.2	0.1	773.6	47.1	0.1	881.6	121.5	0.3		2732.7	573.3
Delay (s)	287.1	38.2	34.4	841.6	95.1	34.1	949.6	171.1	36.1		2805.0	636.5
Level of Service	F	D	C	F	F	C	F	F	D		F	F
Approach Delay (s)		73.3			181.2			296.4				914.9
Approach LOS		E			F			F				F
Intersection Summary												
HCM 2000 Control Delay			444.6				HCM 2000 Level of Service		F			
HCM 2000 Volume to Capacity ratio			2.09									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)		47.0			
Intersection Capacity Utilization			150.6%				ICU Level of Service		H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

PM Peak Period
Future Total

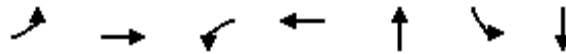
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	198
Future Volume (vph)	198
Ideal Flow (vphpl)	1900
Lane Width	3.3
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	215
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	57
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (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)	
Approach LOS	
Intersection Summary	

Queues

PM Peak Period

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

Future Total



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	143	852	59	2273	200	176	182
v/c Ratio	0.54	0.33	0.13	0.94	0.64	0.72	0.40
Control Delay	19.3	14.2	8.0	32.6	30.6	46.7	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.3	14.2	8.0	32.6	30.6	46.7	9.6
Queue Length 50th (m)	7.8	29.0	3.1	122.8	21.6	26.8	4.4
Queue Length 95th (m)	#29.6	47.0	9.2	#191.1	27.5	41.3	17.0
Internal Link Dist (m)		387.1		163.7	30.4		68.2
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	265	2612	445	2413	470	393	639
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.33	0.13	0.94	0.43	0.45	0.28

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

PM Peak Period
Future Total

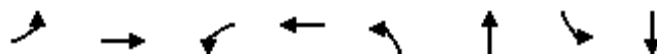
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰		↰	↰↰↰			↰↰		↰	↰	
Traffic Volume (vph)	129	730	37	54	1794	297	73	6	67	155	16	144
Future Volume (vph)	129	730	37	54	1794	297	73	6	67	155	16	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	7.0		4.5	7.0			8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.98			0.94		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1825	5094		1821	5068			1715		1803	1637	
Flt Permitted	0.09	1.00		0.32	1.00			0.75		0.63	1.00	
Satd. Flow (perm)	180	5094		613	5068			1318		1197	1637	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.88	0.88	0.88
Adj. Flow (vph)	143	811	41	59	1950	323	100	8	92	176	18	164
RTOR Reduction (vph)	0	5	0	0	23	0	0	43	0	0	118	0
Lane Group Flow (vph)	143	847	0	59	2250	0	0	157	0	176	64	0
Confl. Peds. (#/hr)	4		10	10		4	5		19	19		5
Heavy Vehicles (%)	0%	2%	2%	0%	1%	0%	1%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	50.5	42.6		45.5	40.1			17.5		17.5	17.5	
Effective Green, g (s)	50.5	42.6		45.5	40.1			17.5		17.5	17.5	
Actuated g/C Ratio	0.59	0.50		0.54	0.47			0.21		0.21	0.21	
Clearance Time (s)	4.5	7.0		4.5	7.0			8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	259	2552		404	2390			271		246	337	
v/s Ratio Prot	c0.05	0.17		0.01	c0.44						0.04	
v/s Ratio Perm	0.28			0.07				0.12		c0.15		
v/c Ratio	0.55	0.33		0.15	0.94			0.58		0.72	0.19	
Uniform Delay, d1	15.7	12.7		9.5	21.3			30.4		31.4	27.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	2.5	0.3		0.2	9.0			3.0		9.5	0.3	
Delay (s)	18.3	13.0		9.7	30.4			33.4		40.9	28.2	
Level of Service	B	B		A	C			C		D	C	
Approach Delay (s)		13.8			29.8			33.4			34.4	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			26.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			85.0			Sum of lost time (s)				19.5		
Intersection Capacity Utilization			99.5%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

PM Peak Period

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

Future Total



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	50	1023	91	2048	83	97	72	113
v/c Ratio	0.46	0.27	0.24	0.53	0.58	0.39	0.47	0.54
Control Delay	23.9	4.8	6.9	6.8	63.6	22.4	56.1	52.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	4.8	6.9	6.8	63.6	22.4	56.1	52.6
Queue Length 50th (m)	3.6	21.5	5.2	58.1	18.0	6.6	15.4	22.4
Queue Length 95th (m)	17.5	30.2	14.1	84.9	27.3	15.9	24.3	32.5
Internal Link Dist (m)		299.3		387.1		116.5		184.0
Turn Bay Length (m)	84.0		90.0		16.2		34.8	
Base Capacity (vph)	109	3814	383	3885	383	567	416	549
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.27	0.24	0.53	0.22	0.17	0.17	0.21

Intersection Summary

HCM Signalized Intersection Capacity Analysis

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

PM Peak Period
Future Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	42	790	70	86	1831	94	64	25	50	56	46	42
Future Volume (vph)	42	790	70	86	1831	94	64	25	50	56	46	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1807	5056		1818	5151		1703	1672		1820	1736	
Flt Permitted	0.08	1.00		0.27	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	145	5056		510	5151		1227	1672		1330	1736	
Peak-hour factor, PHF	0.84	0.84	0.84	0.94	0.94	0.94	0.77	0.77	0.77	0.78	0.78	0.78
Adj. Flow (vph)	50	940	83	91	1948	100	83	32	65	72	59	54
RTOR Reduction (vph)	0	5	0	0	3	0	0	57	0	0	8	0
Lane Group Flow (vph)	50	1018	0	91	2045	0	83	40	0	72	105	0
Confl. Peds. (#/hr)	5		18	18		5	13		3	3		13
Heavy Vehicles (%)	1%	2%	4%	0%	1%	0%	6%	3%	2%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	86.6	86.6		86.6	86.6		13.4	13.4		13.4	13.4	
Effective Green, g (s)	86.6	86.6		86.6	86.6		13.4	13.4		13.4	13.4	
Actuated g/C Ratio	0.75	0.75		0.75	0.75		0.12	0.12		0.12	0.12	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	109	3807		384	3878		142	194		154	202	
v/s Ratio Prot		0.20			c0.40			0.02			0.06	
v/s Ratio Perm	0.35			0.18			c0.07			0.05		
v/c Ratio	0.46	0.27		0.24	0.53		0.58	0.20		0.47	0.52	
Uniform Delay, d1	5.4	4.4		4.3	5.8		48.2	46.0		47.5	47.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.3	0.2		1.4	0.5		6.0	0.5		2.2	2.4	
Delay (s)	18.6	4.6		5.7	6.3		54.2	46.5		49.7	50.2	
Level of Service	B	A		A	A		D	D		D	D	
Approach Delay (s)		5.2			6.3			50.0			50.0	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM 2000 Control Delay	10.4			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.53											
Actuated Cycle Length (s)	115.0			Sum of lost time (s)			15.0					
Intersection Capacity Utilization	100.9%			ICU Level of Service			G					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 6: Four Spring Ave & Little Creek Rd

PM Peak Period
Future Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	4	142	0	42	5	240	188	87	159	2
Future Volume (vph)	0	0	4	142	0	42	5	240	188	87	159	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
Hourly flow rate (vph)	0	0	4	154	0	46	5	261	204	95	173	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	4	200	470	270								
Volume Left (vph)	0	154	5	95								
Volume Right (vph)	4	46	204	2								
Hadj (s)	0.03	0.06	-0.25	0.07								
Departure Headway (s)	6.2	5.7	4.7	5.2								
Degree Utilization, x	0.01	0.32	0.61	0.39								
Capacity (veh/h)	469	570	744	661								
Control Delay (s)	9.2	11.4	14.6	11.4								
Approach Delay (s)	9.2	11.4	14.6	11.4								
Approach LOS	A	B	B	B								
Intersection Summary												
Delay			13.0									
Level of Service			B									
Intersection Capacity Utilization			66.0%	ICU Level of Service		C						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 7: Four Spring Ave & Watergarden Dr

PM Peak Period
Future Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	5	4	116	9	78	5	206	68	41	125	0
Future Volume (vph)	0	5	4	116	9	78	5	206	68	41	125	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	4	126	10	85	5	224	74	45	136	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	9	221	303	181								
Volume Left (vph)	0	126	5	45								
Volume Right (vph)	4	85	74	0								
Hadj (s)	-0.27	0.05	0.18	0.05								
Departure Headway (s)	5.2	5.2	5.0	5.0								
Degree Utilization, x	0.01	0.32	0.42	0.25								
Capacity (veh/h)	592	643	698	678								
Control Delay (s)	8.3	10.6	11.5	9.7								
Approach Delay (s)	8.3	10.6	11.5	9.7								
Approach LOS	A	B	B	A								
Intersection Summary												
Delay				10.7								
Level of Service				B								
Intersection Capacity Utilization				55.0%	ICU Level of Service	B						
Analysis Period (min)				15								

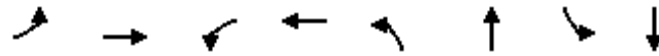
Appendix H – As-of-Right Synchro Reports

Queues

AM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

As-Of-Right



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	254	92	116	147	1475	52	1438
v/c Ratio	0.28	0.81	0.70	0.31	0.60	0.89	0.43	1.06
Control Delay	50.0	69.0	79.8	15.7	63.9	26.9	73.6	82.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	69.0	79.8	15.7	63.9	26.9	73.6	82.1
Queue Length 50th (m)	15.9	63.3	24.1	6.3	41.4	100.2	13.9	~234.0
Queue Length 95th (m)	28.0	87.5	37.6	18.1	m42.9	m99.2	28.3	#285.8
Internal Link Dist (m)		115.8		151.2		161.8		155.1
Turn Bay Length (m)	66.0		26.8		90.0		120.0	
Base Capacity (vph)	357	467	198	525	243	1650	120	1357
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.54	0.46	0.22	0.60	0.89	0.43	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

AM Peak Period

As-Of-Right

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	61	39	195	76	22	74	56	80	1321	51	47	1260
Future Volume (vph)	61	39	195	76	22	74	56	80	1321	51	47	1260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.5	3.5	3.0	3.5
Total Lost time (s)	9.0	9.0		9.0	9.0			12.0	16.0		12.0	16.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.98		1.00	0.98			1.00	1.00		1.00	1.00
Flpb, ped/bikes	0.99	1.00		0.99	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.87		1.00	0.88			1.00	0.99		1.00	0.99
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1787	1629		1808	1655			1646	3441		1668	3362
Flt Permitted	0.68	1.00		0.37	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1284	1629		712	1655			1646	3441		1668	3362
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.93	0.93	0.93	0.91	0.91
Adj. Flow (vph)	66	42	212	92	27	89	61	86	1420	55	52	1385
RTOR Reduction (vph)	0	15	0	0	73	0	0	0	2	0	0	2
Lane Group Flow (vph)	66	239	0	92	43	0	0	147	1473	0	52	1436
Confl. Peds. (#/hr)	11		13	13		11		27		16	16	
Heavy Vehicles (%)	1%	0%	1%	0%	0%	1%	0%	4%	3%	0%	1%	5%
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)	25.8	25.8		25.8	25.8			20.7	67.1		10.1	56.5
Effective Green, g (s)	25.8	25.8		25.8	25.8			20.7	67.1		10.1	56.5
Actuated g/C Ratio	0.18	0.18		0.18	0.18			0.15	0.48		0.07	0.40
Clearance Time (s)	9.0	9.0		9.0	9.0			12.0	16.0		12.0	16.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	236	300		131	304			243	1649		120	1356
v/s Ratio Prot		c0.15			0.03			c0.09	c0.43		0.03	c0.43
v/s Ratio Perm	0.05			0.13								
v/c Ratio	0.28	0.80		0.70	0.14			0.60	0.89		0.43	1.06
Uniform Delay, d1	49.1	54.6		53.5	47.8			55.8	33.2		62.2	41.8
Progression Factor	1.00	1.00		1.00	1.00			1.11	0.74		1.00	1.00
Incremental Delay, d2	0.7	13.5		15.7	0.2			0.4	0.8		2.5	41.8
Delay (s)	49.8	68.1		69.2	48.1			62.5	25.4		64.7	83.5
Level of Service	D	E		E	D			E	C		E	F
Approach Delay (s)		64.3			57.4				28.7			82.9
Approach LOS		E			E				C			F
Intersection Summary												
HCM 2000 Control Delay			55.7			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			37.0			
Intersection Capacity Utilization			109.2%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

AM Peak Period
As-Of-Right

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	48
Future Volume (vph)	48
Ideal Flow (vphpl)	1900
Lane Width	3.5
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	53
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	27
Heavy Vehicles (%)	10%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (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)	
Approach LOS	
Intersection Summary	

HCM Unsignalized Intersection Capacity Analysis

2: Watgarden Dr/Armdale Road

AM Peak Period
As-Of-Right

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (veh/h)	0	0	100	0	0	68	0	1440	55	0	1548	39
Future Volume (Veh/h)	0	0	100	0	0	68	0	1440	55	0	1548	39
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.77	0.77	0.77	0.74	0.74	0.74	0.95	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	130	0	0	92	0	1516	58	0	1683	42
Pedestrians	16			23						4		
Lane Width (m)	3.7			3.7						3.7		
Walking Speed (m/s)	1.1			1.1						1.1		
Percent Blockage	2			2						0		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)							208			186		
pX, platoon unblocked	0.75	0.75	0.61	0.75	0.75	0.72	0.61				0.72	
vC, conflicting volume	2574	3317	878	2540	3309	814	1741				1597	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	718	1711	0	672	1700	0	921				1039	
tC, single (s)	7.5	6.5	6.9	7.6	6.5	7.0	4.1				4.2	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2				2.3	
p0 queue free %	100	100	80	100	100	88	100				100	
cM capacity (veh/h)	198	66	650	190	67	744	447				445	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	130	92	1011	563	1122	603						
Volume Left	0	0	0	0	0	0						
Volume Right	130	92	0	58	0	42						
cSH	650	744	1700	1700	1700	1700						
Volume to Capacity	0.20	0.12	0.59	0.33	0.66	0.35						
Queue Length 95th (m)	5.6	3.2	0.0	0.0	0.0	0.0						
Control Delay (s)	11.9	10.5	0.0	0.0	0.0	0.0						
Lane LOS	B	B										
Approach Delay (s)	11.9	10.5	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			0.7									
Intersection Capacity Utilization			56.9%	ICU Level of Service					B			
Analysis Period (min)			15									

Queues
3: Hurontario St & Eglinton Ave E

AM Peak Period
As-Of-Right

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	219	1410	153	157	464	146	68	1152	97	310	1481
v/c Ratio	0.70	0.87	0.24	1.62	0.29	0.23	0.67	1.12	0.17	5.74	1.52
Control Delay	48.7	52.7	0.9	360.5	37.0	0.9	97.7	113.7	0.6	2181.2	276.0
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	52.8	0.9	360.5	37.0	0.9	97.7	113.7	0.6	2181.2	276.0
Queue Length 50th (m)	40.6	134.6	0.0	~32.1	35.4	0.0	9.8	~193.2	0.0	~169.4	~297.5
Queue Length 95th (m)	60.6	153.8	0.0	#55.4	45.4	0.0	#22.4	#235.6	0.0 m	#176.6 m	#289.7
Internal Link Dist (m)		163.7			348.9			293.8			183.5
Turn Bay Length (m)	100.0		100.0	150.0		125.0	100.0			130.0	
Base Capacity (vph)	315	1635	647	97	1619	631	101	1025	570	54	972
Starvation Cap Reductn	0	10	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.87	0.24	1.62	0.29	0.23	0.67	1.12	0.17	5.74	1.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

AM Peak Period

As-Of-Right

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations		  		 	  		 	 			 	 
Traffic Volume (vph)	197	1269	138	149	441	139	63	1071	90	88	197	1224
Future Volume (vph)	197	1269	138	149	441	139	63	1071	90	88	197	1224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.3
Total Lost time (s)	8.0	9.0	9.0	8.0	9.0	9.0	12.0	18.0	18.0		12.0	18.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.93	1.00	1.00	0.92	1.00	1.00	0.92		1.00	0.99
Flpb, ped/bikes	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.98
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1742	5193	1461	3404	5142	1411	3309	3510	1460		1662	3284
Flt Permitted	0.46	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	851	5193	1461	3404	5142	1411	3309	3510	1460		1662	3284
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	219	1410	153	157	464	146	68	1152	97	96	214	1330
RTOR Reduction (vph)	0	0	105	0	0	101	0	0	69	0	0	6
Lane Group Flow (vph)	219	1410	48	157	464	45	68	1152	28	0	310	1475
Confl. Peds. (#/hr)	79		63	63		79	52		71		71	
Heavy Vehicles (%)	3%	1%	4%	4%	2%	6%	7%	4%	3%	0%	2%	4%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases	4		4			8			2			
Actuated Green, G (s)	47.5	43.5	43.5	4.0	43.5	43.5	4.3	40.9	40.9		4.6	41.2
Effective Green, g (s)	47.5	43.5	43.5	4.0	43.5	43.5	4.3	40.9	40.9		4.6	41.2
Actuated g/C Ratio	0.34	0.31	0.31	0.03	0.31	0.31	0.03	0.29	0.29		0.03	0.29
Clearance Time (s)	8.0	9.0	9.0	8.0	9.0	9.0	12.0	18.0	18.0		12.0	18.0
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0		2.0	3.0
Lane Grp Cap (vph)	314	1613	453	97	1597	438	101	1025	426		54	966
v/s Ratio Prot	0.02	c0.27		c0.05	0.09		0.02	0.33			c0.19	c0.45
v/s Ratio Perm	0.22		0.03			0.03			0.02			
v/c Ratio	0.70	0.87	0.10	1.62	0.29	0.10	0.67	1.12	0.07		5.74	1.53
Uniform Delay, d1	38.5	45.7	34.4	68.0	36.6	34.4	67.2	49.5	35.8		67.7	49.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.04	1.15
Incremental Delay, d2	5.4	5.6	0.1	320.5	0.1	0.1	13.0	68.7	0.3		2151.2	239.3
Delay (s)	43.8	51.2	34.5	388.5	36.7	34.5	80.2	118.2	36.1		2221.6	295.9
Level of Service	D	D	C	F	D	C	F	F	D		F	F
Approach Delay (s)		48.9			108.3			110.2				629.2
Approach LOS		D			F			F				F
Intersection Summary												
HCM 2000 Control Delay			255.0									F
HCM 2000 Volume to Capacity ratio			1.43									
Actuated Cycle Length (s)			140.0						47.0			
Intersection Capacity Utilization			138.0%									H
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

AM Peak Period
As-Of-Right

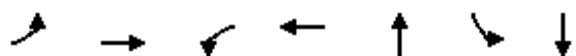
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	139
Future Volume (vph)	139
Ideal Flow (vphpl)	1900
Lane Width	3.3
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	151
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	52
Heavy Vehicles (%)	4%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (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)	
Approach LOS	
Intersection Summary	

Queues

AM Peak Period

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

As-Of-Right



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	44	1618	52	647	127	149	177
v/c Ratio	0.09	0.49	0.34	0.23	0.47	0.59	0.42
Control Delay	6.5	9.3	23.6	11.2	32.0	40.2	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	9.3	23.6	11.2	32.0	40.2	9.2
Queue Length 50th (m)	2.1	44.2	4.8	19.5	16.5	22.4	2.5
Queue Length 95th (m)	6.8	70.2	#19.4	32.7	22.5	35.4	15.7
Internal Link Dist (m)		387.1		163.7	30.4		68.2
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	517	3287	154	2822	479	462	642
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.49	0.34	0.23	0.27	0.32	0.28

Intersection Summary

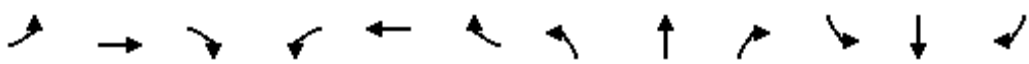
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

AM Peak Period
As-Of-Right

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰		↰	↰↰↰			↰↰		↰	↰	
Traffic Volume (vph)	40	1409	47	48	553	42	25	4	64	131	16	140
Future Volume (vph)	40	1409	47	48	553	42	25	4	64	131	16	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	7.0		7.0	7.0			8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1720	5115		1822	5007			1659		1795	1628	
Flt Permitted	0.36	1.00		0.14	1.00			0.85		0.74	1.00	
Satd. Flow (perm)	651	5115		274	5007			1429		1406	1628	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.88	0.88	0.88
Adj. Flow (vph)	44	1566	52	52	601	46	34	5	88	149	18	159
RTOR Reduction (vph)	0	3	0	0	8	0	0	11	0	0	130	0
Lane Group Flow (vph)	44	1615	0	52	639	0	0	116	0	149	47	0
Confl. Peds. (#/hr)	3		6	6		3	12		22	22		12
Heavy Vehicles (%)	6%	2%	0%	0%	3%	9%	4%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	54.6	54.6		46.0	46.0			15.4		15.4	15.4	
Effective Green, g (s)	54.6	54.6		46.0	46.0			15.4		15.4	15.4	
Actuated g/C Ratio	0.64	0.64		0.54	0.54			0.18		0.18	0.18	
Clearance Time (s)	4.5	7.0		7.0	7.0			8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	469	3285		148	2709			258		254	294	
v/s Ratio Prot	0.00	c0.32			0.13						0.03	
v/s Ratio Perm	0.06			0.19				0.08		c0.11		
v/c Ratio	0.09	0.49		0.35	0.24			0.45		0.59	0.16	
Uniform Delay, d1	5.7	7.9		11.0	10.3			31.0		31.9	29.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.5		6.4	0.2			1.2		3.4	0.3	
Delay (s)	5.8	8.5		17.5	10.5			32.2		35.3	29.6	
Level of Service	A	A		B	B			C		D	C	
Approach Delay (s)		8.4			11.0			32.2			32.2	
Approach LOS		A			B			C			C	

Intersection Summary

HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

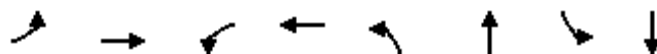
c Critical Lane Group

Queues

AM Peak Period

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

As-Of-Right



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	1641	49	715	97	177	131	142
v/c Ratio	0.12	0.45	0.29	0.22	0.56	0.62	0.84	0.49
Control Delay	5.7	7.9	18.8	10.0	60.3	49.7	89.9	39.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.7	7.9	18.8	10.0	60.3	49.7	89.9	39.7
Queue Length 50th (m)	3.6	52.7	5.0	24.6	22.4	34.4	31.7	23.6
Queue Length 95th (m)	8.7	70.4	17.0	38.4	31.4	43.5	42.6	33.4
Internal Link Dist (m)		299.3		387.1		116.5		184.0
Turn Bay Length (m)	84.0		90.0		16.2		34.8	
Base Capacity (vph)	547	3686	168	3279	321	506	291	511
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.45	0.29	0.22	0.30	0.35	0.45	0.28
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

AM Peak Period
As-Of-Right

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	1310	68	46	616	56	75	52	84	102	58	53
Future Volume (vph)	54	1310	68	46	616	56	75	52	84	102	58	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.91		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	5074		1770	5023		1681	1687		1821	1686	
Flt Permitted	0.35	1.00		0.14	1.00		0.63	1.00		0.53	1.00	
Satd. Flow (perm)	652	5074		260	5023		1115	1687		1011	1686	
Peak-hour factor, PHF	0.84	0.84	0.84	0.94	0.94	0.94	0.77	0.77	0.77	0.78	0.78	0.78
Adj. Flow (vph)	64	1560	81	49	655	60	97	68	109	131	74	68
RTOR Reduction (vph)	0	3	0	0	6	0	0	25	0	0	31	0
Lane Group Flow (vph)	64	1638	0	49	709	0	97	152	0	131	111	0
Confl. Peds. (#/hr)	2		11	11		2	6		3	3		6
Heavy Vehicles (%)	2%	2%	11%	3%	3%	2%	8%	3%	2%	0%	1%	9%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	90.7	90.7		80.6	80.6		19.3	19.3		19.3	19.3	
Effective Green, g (s)	90.7	90.7		80.6	80.6		19.3	19.3		19.3	19.3	
Actuated g/C Ratio	0.73	0.73		0.64	0.64		0.15	0.15		0.15	0.15	
Clearance Time (s)	4.5	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	524	3681		167	3238		172	260		156	260	
v/s Ratio Prot	0.01	c0.32			0.14			0.09			0.07	
v/s Ratio Perm	0.08			0.19			0.09			c0.13		
v/c Ratio	0.12	0.44		0.29	0.22		0.56	0.59		0.84	0.43	
Uniform Delay, d1	5.0	6.9		9.7	9.2		49.0	49.1		51.3	47.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.4		4.4	0.2		4.2	3.4		30.8	1.1	
Delay (s)	5.1	7.3		14.1	9.3		53.1	52.5		82.2	49.0	
Level of Service	A	A		B	A		D	D		F	D	
Approach Delay (s)		7.3			9.6			52.7			64.9	
Approach LOS		A			A			D			E	
Intersection Summary												
HCM 2000 Control Delay			17.2			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			125.0			Sum of lost time (s)			19.5			
Intersection Capacity Utilization			88.4%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 6: Four Spring Ave & Little Creek Rd

AM Peak Period
As-Of-Right

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
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
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	0	0	0								
Volume Left (vph)	0	0	0	0								
Volume Right (vph)	0	0	0	0								
Hadj (s)	0.00	0.00	0.00	0.00								
Departure Headway (s)	3.9	3.9	3.9	3.9								
Degree Utilization, x	0.00	0.00	0.00	0.00								
Capacity (veh/h)	917	917	917	917								
Control Delay (s)	6.9	6.9	6.9	6.9								
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				0.0								
Level of Service				A								
Intersection Capacity Utilization				23.3%	ICU Level of Service	A						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

7: Four Spring Ave & Watergarden Dr

AM Peak Period
As-Of-Right

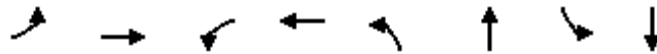
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	0	0	0								
Volume Left (vph)	0	0	0	0								
Volume Right (vph)	0	0	0	0								
Hadj (s)	0.00	0.00	0.00	0.00								
Departure Headway (s)	3.9	3.9	3.9	3.9								
Degree Utilization, x	0.00	0.00	0.00	0.00								
Capacity (veh/h)	917	917	917	917								
Control Delay (s)	6.9	6.9	6.9	6.9								
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				0.0								
Level of Service				A								
Intersection Capacity Utilization				28.5%	ICU Level of Service	A						
Analysis Period (min)				15								

Queues

PM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

As-Of-Right



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	109	54	135	226	1434	40	2484
v/c Ratio	0.25	0.61	0.42	0.67	0.55	0.70	0.37	1.81
Control Delay	61.3	65.1	67.0	64.3	57.3	23.5	71.3	393.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	65.1	67.0	64.3	57.3	23.5	71.3	393.0
Queue Length 50th (m)	7.5	25.3	14.3	29.5	64.1	90.1	10.8	~542.8
Queue Length 95th (m)	17.1	43.0	24.6	44.6	m56.8	m66.4	22.8	#588.9
Internal Link Dist (m)		115.8		151.2		161.8		155.1
Turn Bay Length (m)	66.0		26.8		90.0		120.0	
Base Capacity (vph)	320	471	361	511	411	2047	109	1376
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.23	0.15	0.26	0.55	0.70	0.37	1.81

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

PM Peak Period

As-Of-Right

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	27	22	78	45	65	47	68	141	1286	47	36	2216
Future Volume (vph)	27	22	78	45	65	47	68	141	1286	47	36	2216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.5	3.5	3.0	3.5
Total Lost time (s)	9.0	9.0		9.0	9.0			12.0	16.0		12.0	16.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.98		1.00	0.98			1.00	1.00		1.00	1.00
Flpb, ped/bikes	0.98	1.00		0.98	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.88		1.00	0.94			1.00	0.99		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1783	1654		1794	1769			1685	3435		1685	3520
Flt Permitted	0.61	1.00		0.69	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1151	1654		1296	1769			1685	3435		1685	3520
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.83	0.83	0.92	0.93	0.93	0.93	0.91	0.91
Adj. Flow (vph)	29	24	85	54	78	57	74	152	1383	51	40	2435
RTOR Reduction (vph)	0	13	0	0	23	0	0	0	1	0	0	1
Lane Group Flow (vph)	29	96	0	54	112	0	0	226	1433	0	40	2483
Confl. Peds. (#/hr)	24		17	17		24		13		34	34	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)	14.1	14.1		14.1	14.1			34.2	81.0		7.9	54.7
Effective Green, g (s)	14.1	14.1		14.1	14.1			34.2	81.0		7.9	54.7
Actuated g/C Ratio	0.10	0.10		0.10	0.10			0.24	0.58		0.06	0.39
Clearance Time (s)	9.0	9.0		9.0	9.0			12.0	16.0		12.0	16.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	115	166		130	178			411	1987		95	1375
v/s Ratio Prot		0.06			c0.06			c0.13	c0.42		0.02	c0.71
v/s Ratio Perm	0.03			0.04								
v/c Ratio	0.25	0.58		0.42	0.63			0.55	0.72		0.42	1.81
Uniform Delay, d1	58.1	60.1		59.1	60.4			46.2	21.3		63.8	42.6
Progression Factor	1.00	1.00		1.00	1.00			1.18	1.04		1.00	1.00
Incremental Delay, d2	1.2	4.8		2.1	6.7			0.1	0.2		3.0	365.5
Delay (s)	59.2	64.9		61.2	67.2			54.5	22.4		66.8	408.1
Level of Service	E	E		E	E			D	C		E	F
Approach Delay (s)		63.7			65.5				26.8			402.7
Approach LOS		E			E				C			F
Intersection Summary												
HCM 2000 Control Delay	239.9			HCM 2000 Level of Service					F			
HCM 2000 Volume to Capacity ratio	1.30											
Actuated Cycle Length (s)	140.0			Sum of lost time (s)					37.0			
Intersection Capacity Utilization	125.5%			ICU Level of Service					H			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

PM Peak Period

As-Of-Right

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	45
Future Volume (vph)	45
Ideal Flow (vphpl)	1900
Lane Width	3.5
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	49
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	13
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (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)	
Approach LOS	
Intersection Summary	

HCM Unsignalized Intersection Capacity Analysis

2: Watergarden Dr/Armdale Road

PM Peak Period
As-Of-Right

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (veh/h)	0	0	40	0	0	97	0	1445	48	0	2337	70
Future Volume (Veh/h)	0	0	40	0	0	97	0	1445	48	0	2337	70
Sign Control	Stop				Stop				Free			
Grade	0%				0%				0%			
Peak Hour Factor	0.77	0.77	0.77	0.74	0.74	0.74	0.95	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	52	0	0	131	0	1521	51	0	2540	76
Pedestrians	14				45				4		22	
Lane Width (m)	3.7				3.7				3.7		3.7	
Walking Speed (m/s)	1.1				1.1				1.1		1.1	
Percent Blockage	1				4				0		2	
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)							208			186		
pX, platoon unblocked	0.76	0.76	0.62	0.76	0.76	0.71	0.62				0.71	
vC, conflicting volume	3506	4209	1326	2918	4222	853	2630				1617	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1974	2901	282	1199	2918	0	2399				1065	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	88	100	100	82	100				100	
cM capacity (veh/h)	22	11	436	87	11	729	123				452	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	52	131	1014	558	1693	923						
Volume Left	0	0	0	0	0	0						
Volume Right	52	131	0	51	0	76						
cSH	436	729	1700	1700	1700	1700						
Volume to Capacity	0.12	0.18	0.60	0.33	1.00	0.54						
Queue Length 95th (m)	3.1	4.9	0.0	0.0	0.0	0.0						
Control Delay (s)	14.4	11.0	0.0	0.0	0.0	0.0						
Lane LOS	B	B										
Approach Delay (s)	14.4	11.0	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			78.1%	ICU Level of Service					D			
Analysis Period (min)			15									

Queues
3: Hurontario St & Eglinton Ave E

PM Peak Period
As-Of-Right

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	140	597	172	263	1582	144	265	1268	104	307	2276
v/c Ratio	1.31	0.37	0.26	2.66	0.97	0.24	2.65	1.23	0.18	6.53	2.29
Control Delay	220.9	38.0	1.0	797.3	62.9	0.9	794.1	152.0	0.7	2502.9	606.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	220.9	38.0	1.0	797.3	62.9	0.9	794.1	152.0	0.7	2502.9	606.3
Queue Length 50th (m)	~34.2	46.9	0.0	~63.1	158.2	0.0	~63.6	~226.8	0.0	~166.6	~530.2
Queue Length 95th (m)	#72.9	58.2	0.0	#91.3	#190.4	0.0	#92.0	#269.4	0.0 m	#100.2 m	#258.5
Internal Link Dist (m)		163.7			348.9			293.8			183.5
Turn Bay Length (m)	100.0		100.0	150.0		125.0	100.0			130.0	
Base Capacity (vph)	107	1619	662	99	1635	607	100	1035	570	47	995
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.37	0.26	2.66	0.97	0.24	2.65	1.23	0.18	6.53	2.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

PM Peak Period

As-Of-Right

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	126	537	155	250	1503	137	246	1179	97	51	232	1896
Future Volume (vph)	126	537	155	250	1503	137	246	1179	97	51	232	1896
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.3
Total Lost time (s)	8.0	9.0	9.0	8.0	9.0	9.0	12.0	18.0	18.0		12.0	18.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.92	1.00	1.00	0.85	1.00	1.00	0.90		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.99
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1824	5142	1509	3471	5193	1335	3506	3544	1461		1671	3388
Flt Permitted	0.09	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	174	5142	1509	3471	5193	1335	3506	3544	1461		1671	3388
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	140	597	172	263	1582	144	265	1268	104	55	252	2061
RTOR Reduction (vph)	0	0	118	0	0	99	0	0	74	0	0	6
Lane Group Flow (vph)	140	597	54	263	1582	45	265	1268	30	0	307	2270
Confl. Peds. (#/hr)	151		70	70		151	57		89		89	
Heavy Vehicles (%)	0%	2%	0%	2%	1%	4%	1%	3%	1%	0%	1%	1%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases	4		4			8			2			
Actuated Green, G (s)	48.1	44.1	44.1	4.0	44.1	44.1	4.0	40.9	40.9		4.0	40.9
Effective Green, g (s)	48.1	44.1	44.1	4.0	44.1	44.1	4.0	40.9	40.9		4.0	40.9
Actuated g/C Ratio	0.34	0.32	0.32	0.03	0.32	0.32	0.03	0.29	0.29		0.03	0.29
Clearance Time (s)	8.0	9.0	9.0	8.0	9.0	9.0	12.0	18.0	18.0		12.0	18.0
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0		2.0	3.0
Lane Grp Cap (vph)	106	1619	475	99	1635	420	100	1035	426		47	989
v/s Ratio Prot	0.04	0.12		c0.08	0.30		0.08	0.36			c0.18	c0.67
v/s Ratio Perm	c0.41		0.04			0.03			0.02			
v/c Ratio	1.32	0.37	0.11	2.66	0.97	0.11	2.65	1.23	0.07		6.53	2.30
Uniform Delay, d1	45.4	37.2	34.1	68.0	47.2	34.0	68.0	49.5	35.8		68.0	49.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.07	1.27
Incremental Delay, d2	195.9	0.1	0.1	773.6	15.1	0.1	770.4	110.0	0.3		2493.4	583.3
Delay (s)	241.2	37.3	34.2	841.6	62.4	34.1	838.4	159.6	36.1		2566.4	646.3
Level of Service	F	D	C	F	E	C	F	F	D		F	F
Approach Delay (s)		68.1			163.3			261.6				874.5
Approach LOS		E			F			F				F
Intersection Summary												
HCM 2000 Control Delay			431.9				HCM 2000 Level of Service		F			
HCM 2000 Volume to Capacity ratio			2.02									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)		47.0			
Intersection Capacity Utilization			149.8%				ICU Level of Service		H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

PM Peak Period
As-Of-Right

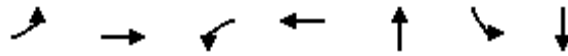
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	198
Future Volume (vph)	198
Ideal Flow (vphpl)	1900
Lane Width	3.3
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	215
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	57
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (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)	
Approach LOS	
Intersection Summary	

Queues

PM Peak Period

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

As-Of-Right



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	67	818	59	2058	196	59	82
v/c Ratio	0.28	0.25	0.17	0.73	0.69	0.29	0.24
Control Delay	8.8	6.8	15.0	18.8	35.5	32.5	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	6.8	15.0	18.8	35.5	32.5	9.8
Queue Length 50th (m)	3.1	17.2	4.7	90.0	21.4	8.5	1.0
Queue Length 95th (m)	9.0	29.3	14.5	#150.7	28.4	16.8	10.6
Internal Link Dist (m)		387.1		163.7	30.4		68.2
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	236	3332	344	2810	497	391	588
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.25	0.17	0.73	0.39	0.15	0.14

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Four Spring Ave & Eglinton Ave W

PM Peak Period
As-Of-Right

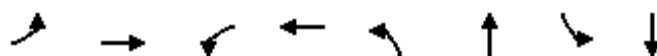
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	699	37	54	1769	124	73	3	67	52	6	66
Future Volume (vph)	60	699	37	54	1769	124	73	3	67	52	6	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	7.0		7.0	7.0			8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.99			0.94		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1825	5092		1811	5135			1710		1803	1633	
Flt Permitted	0.08	1.00		0.33	1.00			0.80		0.63	1.00	
Satd. Flow (perm)	154	5092		632	5135			1397		1189	1633	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.88	0.88	0.88
Adj. Flow (vph)	67	777	41	59	1923	135	100	4	92	59	7	75
RTOR Reduction (vph)	0	4	0	0	7	0	0	47	0	0	62	0
Lane Group Flow (vph)	67	814	0	59	2051	0	0	149	0	59	20	0
Confl. Peds. (#/hr)	4		10	10		4	5		19	19		5
Heavy Vehicles (%)	0%	2%	2%	0%	1%	0%	1%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	55.6	55.6		45.5	45.5			14.4		14.4	14.4	
Effective Green, g (s)	55.6	55.6		45.5	45.5			14.4		14.4	14.4	
Actuated g/C Ratio	0.65	0.65		0.54	0.54			0.17		0.17	0.17	
Clearance Time (s)	4.5	7.0		7.0	7.0			8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	210	3330		338	2748			236		201	276	
v/s Ratio Prot	0.02	c0.16			c0.40						0.01	
v/s Ratio Perm	0.19			0.09				c0.11		0.05		
v/c Ratio	0.32	0.24		0.17	0.75			0.63		0.29	0.07	
Uniform Delay, d1	10.3	6.1		10.1	15.3			32.8		30.9	29.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.2		1.1	1.9			5.5		0.8	0.1	
Delay (s)	11.2	6.2		11.2	17.2			38.3		31.7	29.8	
Level of Service	B	A		B	B			D		C	C	
Approach Delay (s)		6.6			17.0			38.3			30.6	
Approach LOS		A			B			D			C	
Intersection Summary												
HCM 2000 Control Delay			16.1			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			85.0			Sum of lost time (s)				19.5		
Intersection Capacity Utilization			81.7%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

PM Peak Period

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

As-Of-Right



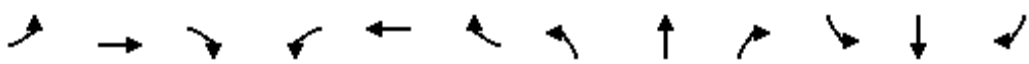
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	50	904	91	1938	83	97	72	113
v/c Ratio	0.40	0.24	0.21	0.50	0.58	0.39	0.47	0.54
Control Delay	17.8	4.6	6.3	6.5	63.6	22.4	56.1	51.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	4.6	6.3	6.5	63.6	22.4	56.1	51.6
Queue Length 50th (m)	3.4	18.2	5.1	53.0	18.0	6.6	15.4	21.9
Queue Length 95th (m)	13.8	26.2	13.4	77.7	27.3	15.9	24.3	32.1
Internal Link Dist (m)		299.3		387.1		116.5		184.0
Turn Bay Length (m)	84.0		90.0		16.2		34.8	
Base Capacity (vph)	125	3806	436	3880	383	567	416	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.24	0.21	0.50	0.22	0.17	0.17	0.21

Intersection Summary

HCM Signalized Intersection Capacity Analysis

5: Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W

PM Peak Period
As-Of-Right

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	690	70	86	1728	94	64	25	50	56	46	42
Future Volume (vph)	42	690	70	86	1728	94	64	25	50	56	46	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1806	5045		1816	5149		1703	1672		1820	1736	
Flt Permitted	0.09	1.00		0.30	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	167	5045		579	5149		1227	1672		1330	1736	
Peak-hour factor, PHF	0.84	0.84	0.84	0.94	0.94	0.94	0.77	0.77	0.77	0.78	0.78	0.78
Adj. Flow (vph)	50	821	83	91	1838	100	83	32	65	72	59	54
RTOR Reduction (vph)	0	6	0	0	3	0	0	57	0	0	10	0
Lane Group Flow (vph)	50	898	0	91	1935	0	83	40	0	72	103	0
Confl. Peds. (#/hr)	5		18	18		5	13		3	3		13
Heavy Vehicles (%)	1%	2%	4%	0%	1%	0%	6%	3%	2%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	86.6	86.6		86.6	86.6		13.4	13.4		13.4	13.4	
Effective Green, g (s)	86.6	86.6		86.6	86.6		13.4	13.4		13.4	13.4	
Actuated g/C Ratio	0.75	0.75		0.75	0.75		0.12	0.12		0.12	0.12	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	125	3799		436	3877		142	194		154	202	
v/s Ratio Prot		0.18			c0.38			0.02			0.06	
v/s Ratio Perm	0.30			0.16			c0.07			0.05		
v/c Ratio	0.40	0.24		0.21	0.50		0.58	0.20		0.47	0.51	
Uniform Delay, d1	5.0	4.3		4.2	5.6		48.2	46.0		47.5	47.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.3	0.1		1.1	0.5		6.0	0.5		2.2	2.2	
Delay (s)	14.3	4.4		5.2	6.1		54.2	46.5		49.7	49.9	
Level of Service	B	A		A	A		D	D		D	D	
Approach Delay (s)		4.9			6.0			50.0			49.8	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			10.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			115.0			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			100.9%			ICU Level of Service			G			
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 6: Four Spring Ave & Little Creek Rd

PM Peak Period
As-Of-Right

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
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
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	0	0	0								
Volume Left (vph)	0	0	0	0								
Volume Right (vph)	0	0	0	0								
Hadj (s)	0.00	0.00	0.00	0.00								
Departure Headway (s)	3.9	3.9	3.9	3.9								
Degree Utilization, x	0.00	0.00	0.00	0.00								
Capacity (veh/h)	917	917	917	917								
Control Delay (s)	6.9	6.9	6.9	6.9								
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				0.0								
Level of Service				A								
Intersection Capacity Utilization				24.6%	ICU Level of Service	A						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

7: Four Spring Ave & Watergarden Dr

PM Peak Period
As-Of-Right

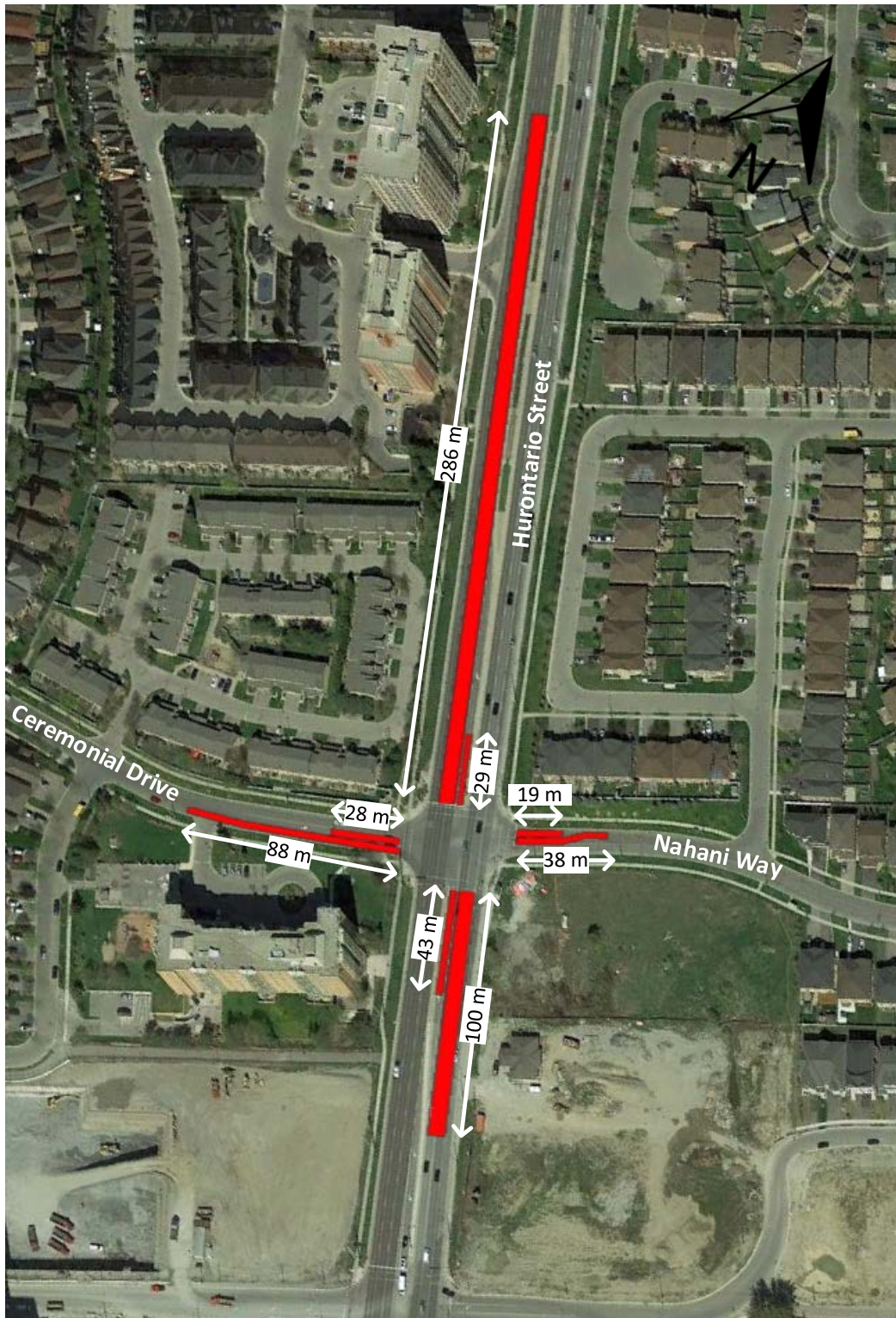
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	0	0	0								
Volume Left (vph)	0	0	0	0								
Volume Right (vph)	0	0	0	0								
Hadj (s)	0.00	0.00	0.00	0.00								
Departure Headway (s)	3.9	3.9	3.9	3.9								
Degree Utilization, x	0.00	0.00	0.00	0.00								
Capacity (veh/h)	917	917	917	917								
Control Delay (s)	6.9	6.9	6.9	6.9								
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				0.0								
Level of Service				A								
Intersection Capacity Utilization				23.7%	ICU Level of Service	A						
Analysis Period (min)				15								

Appendix I – Queuing Analysis

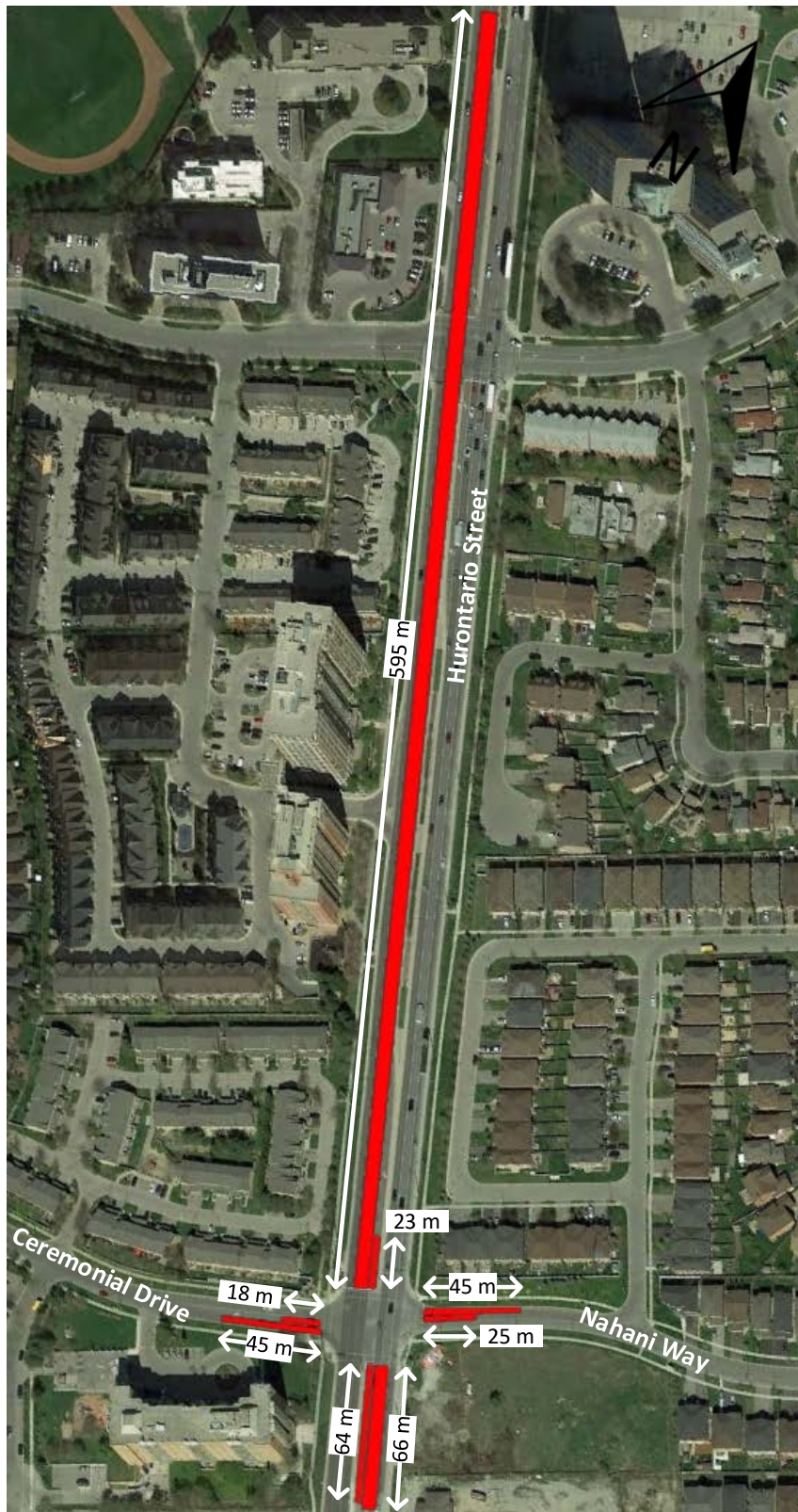
Future Total AM Peak Period – Hurontario Street at Ceremonial Drive / Nahani Way



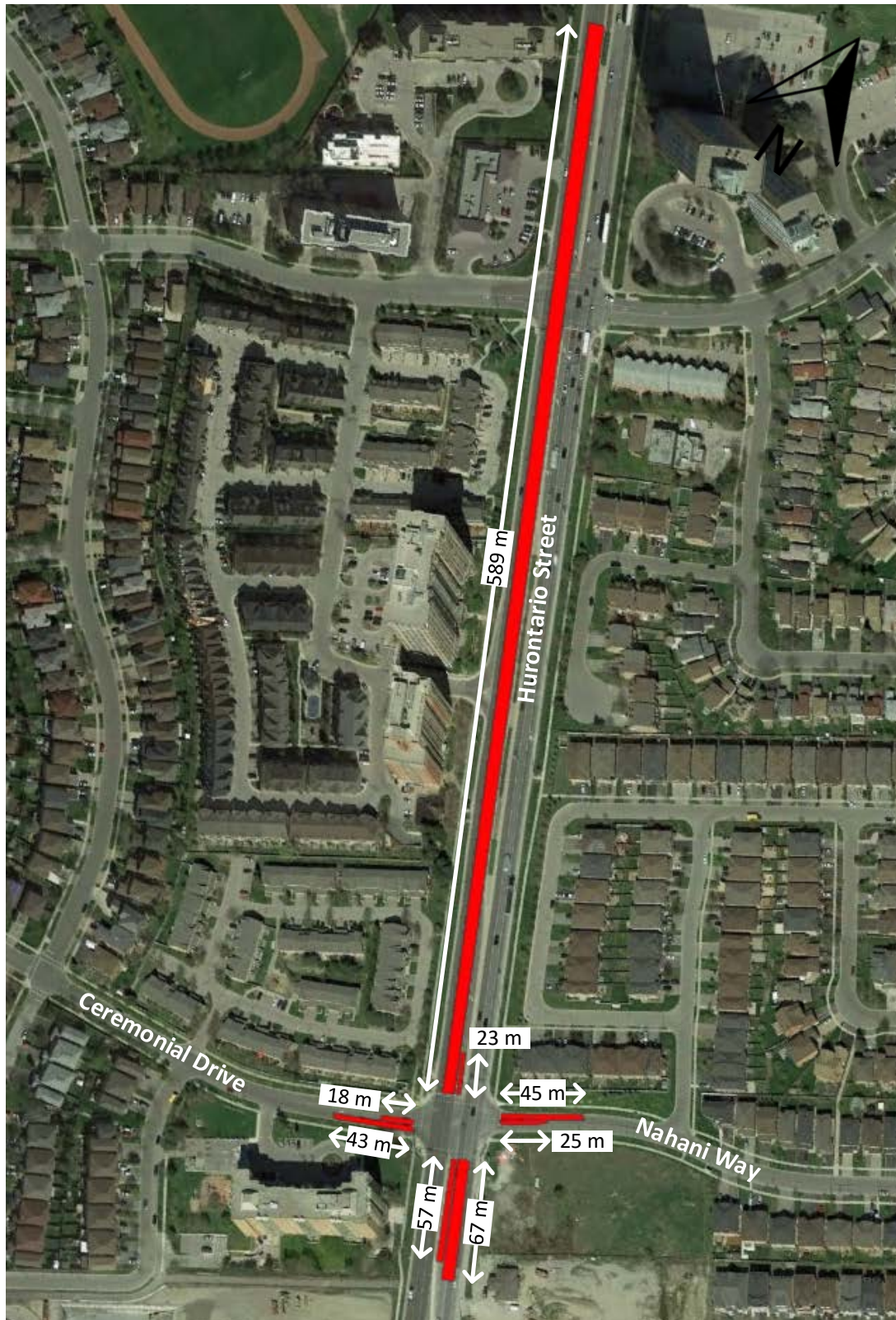
As-of-Right AM Peak Period – Hurontario Street at Ceremonial Drive / Nahani Way



Future Total PM Peak Period – Hurontario Street at Ceremonial Drive / Nahani Way



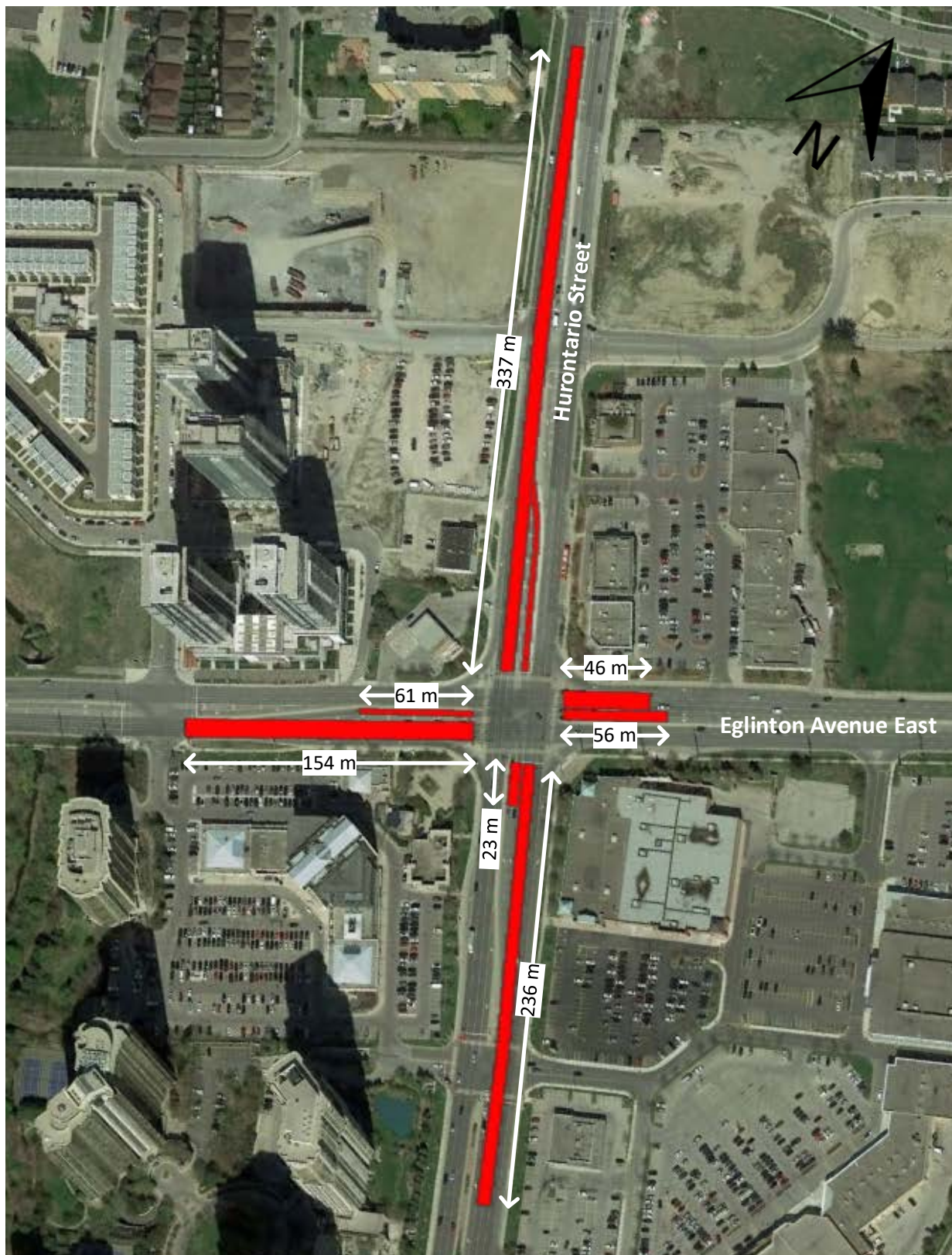
As-of-Right PM Peak Period – Hurontario Street at Ceremonial Drive / Nahani Way



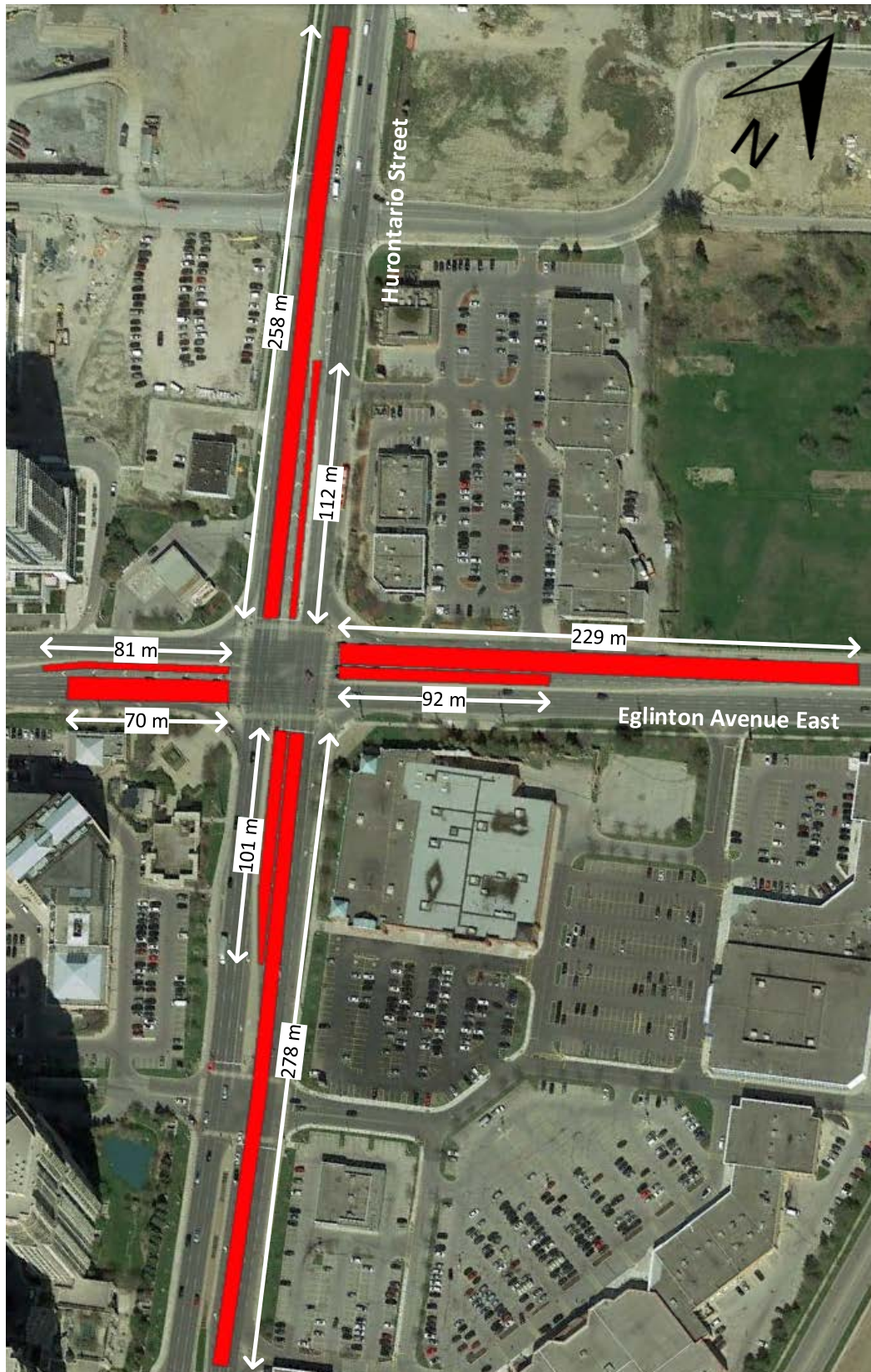
Future Total AM Peak Period – Hurontario Street at Eglinton Avenue East



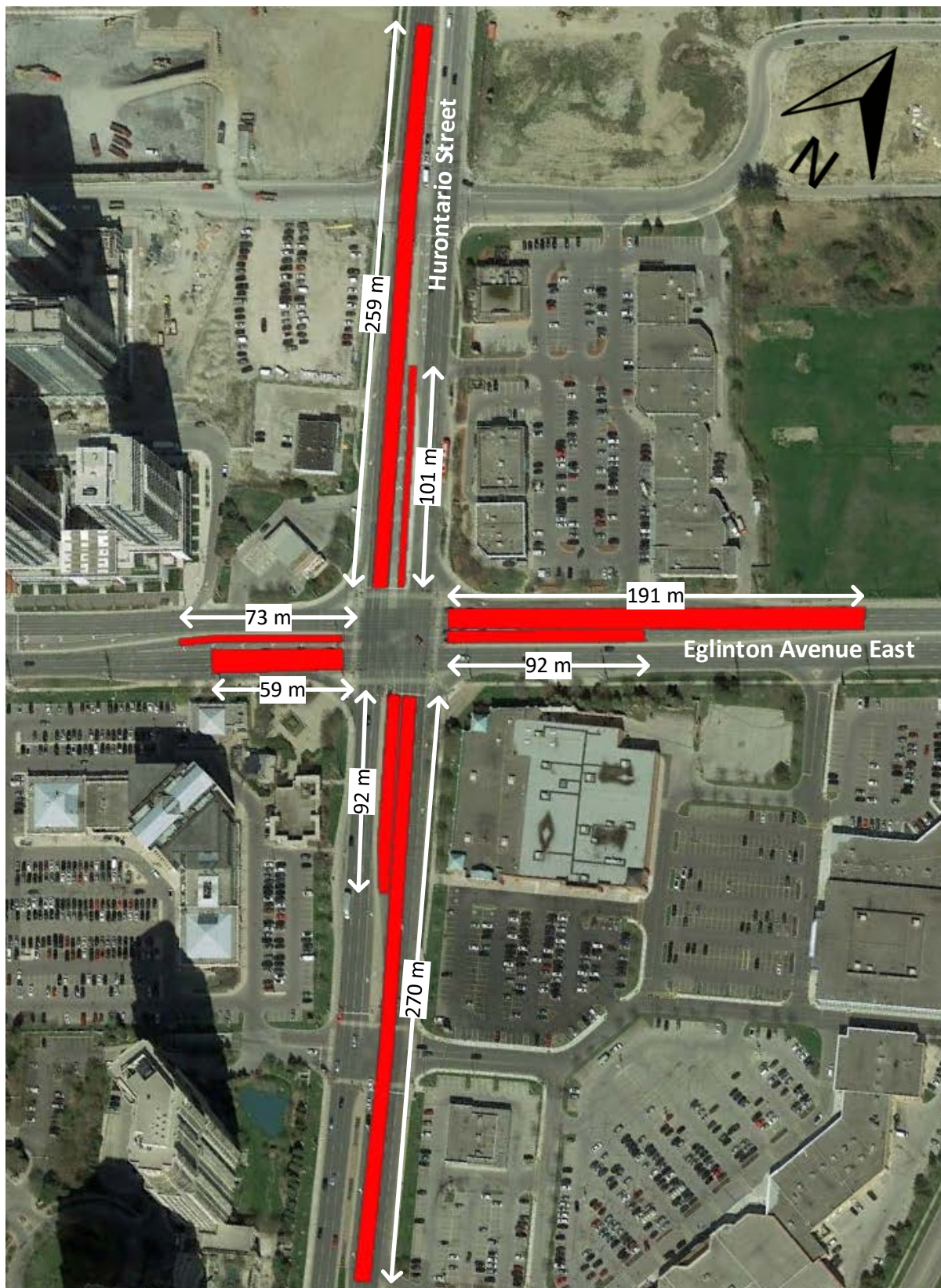
As-of-Right AM Peak Period - Hurontario Street at Eglinton Avenue East



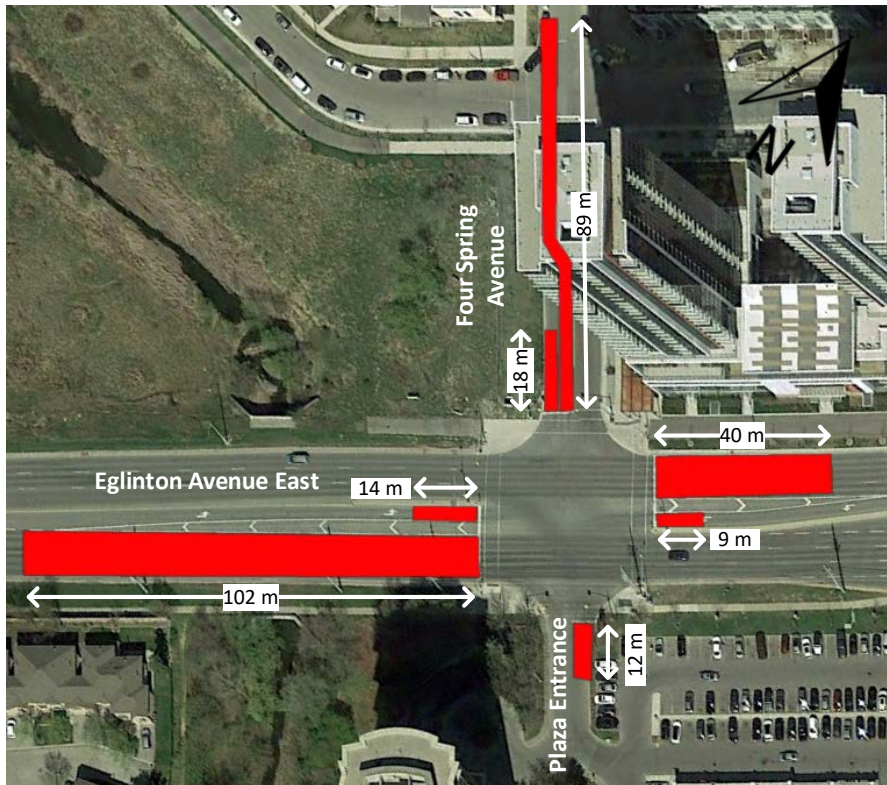
Future Total PM Peak Period – Hurontario Street at Eglinton Avenue East



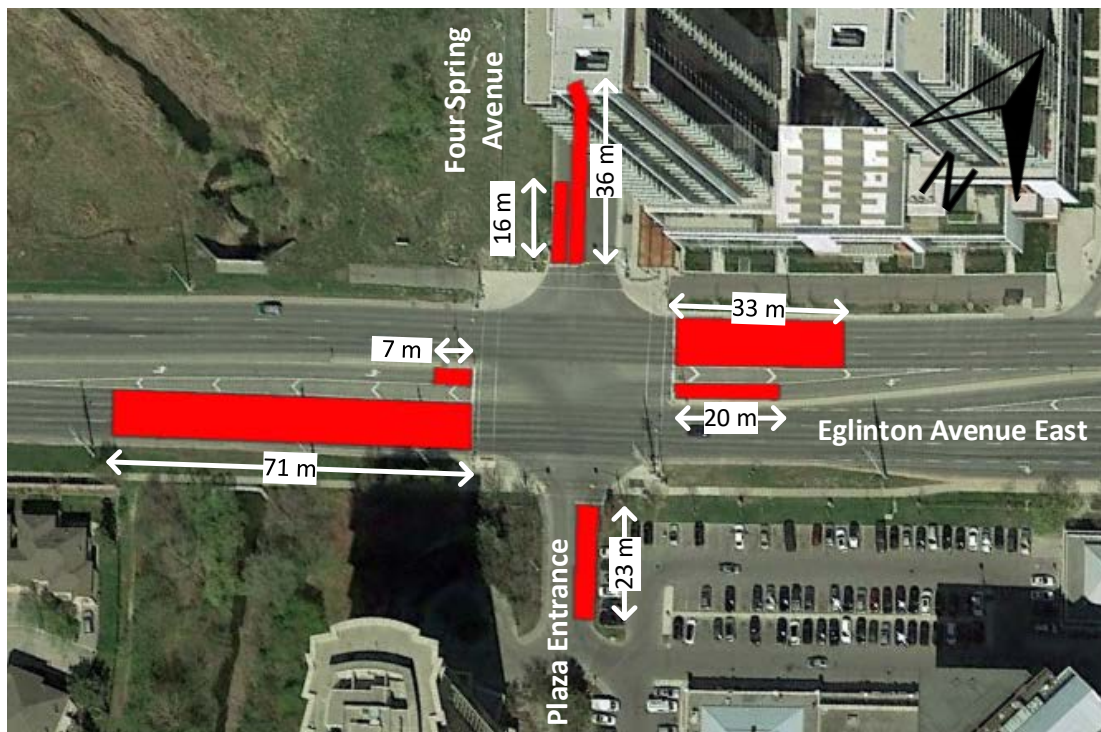
As-of-Right PM Peak Period - Hurontario Street at Eglinton Avenue East



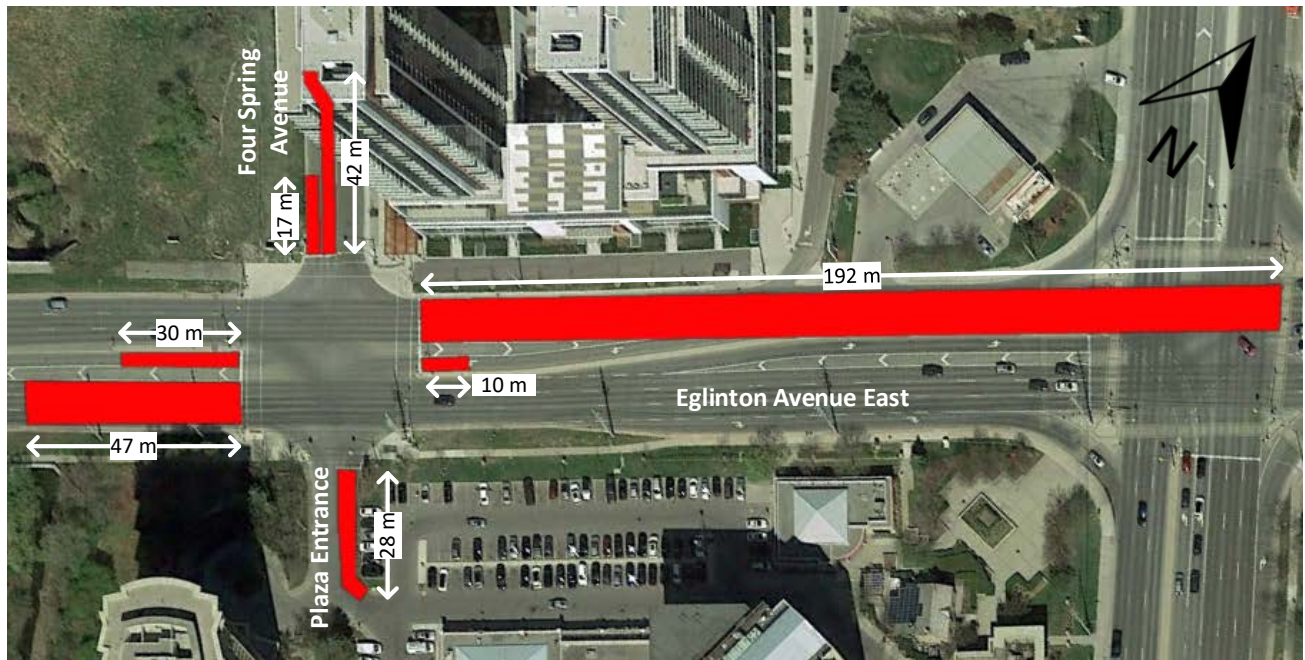
Future Total AM Peak Period – Eglinton Avenue East at Four Spring Avenue / Plaza Entrance



As-of-Right AM Peak Period – Eglinton Avenue East at Four Spring Avenue / Plaza Entrance



Future Total PM Peak Period – Eglinton Avenue East at Four Spring Avenue / Plaza Entrance



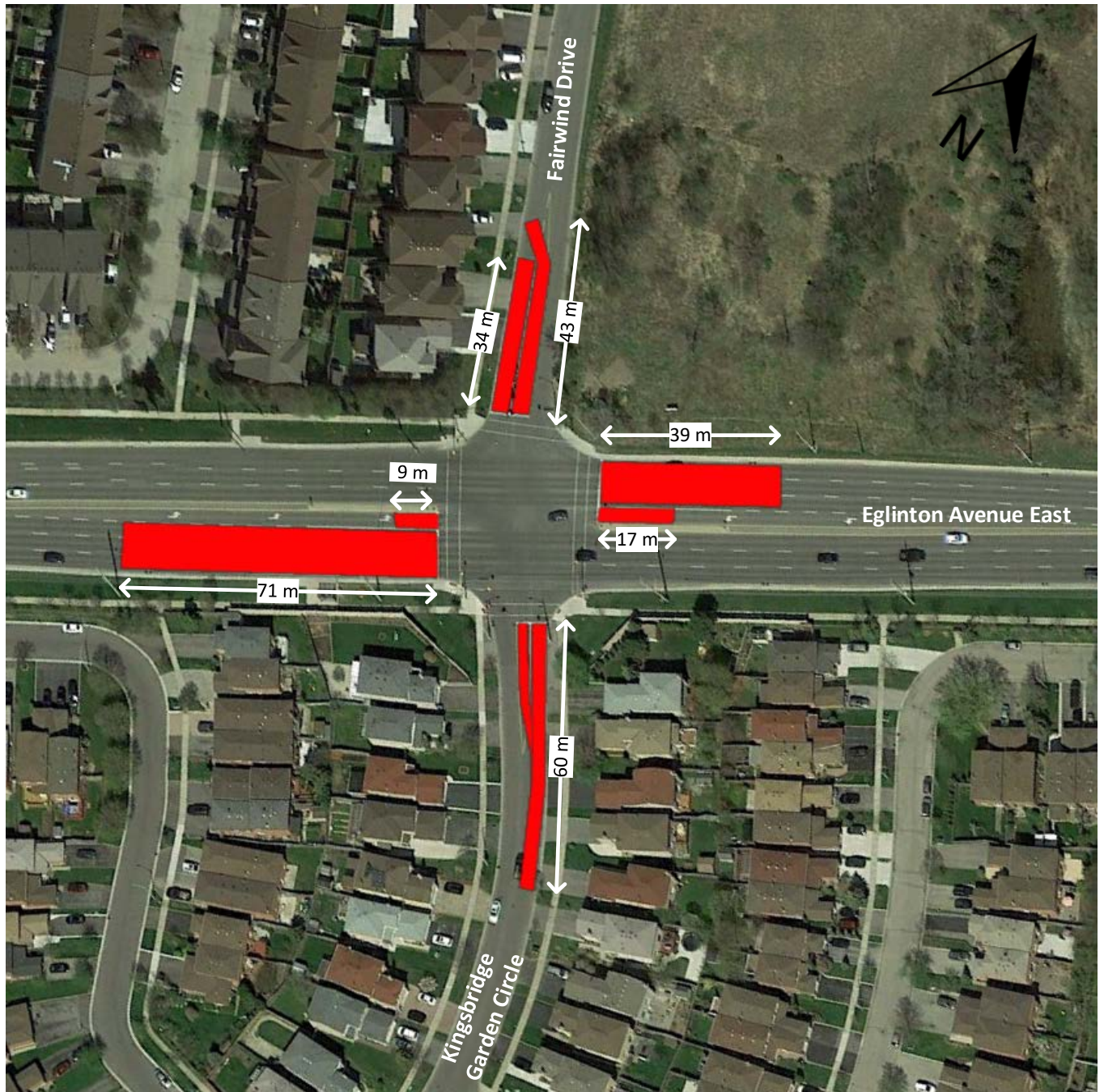
As-of-Right PM Peak Period – Eglinton Avenue East at Four Spring Avenue / Plaza Entrance



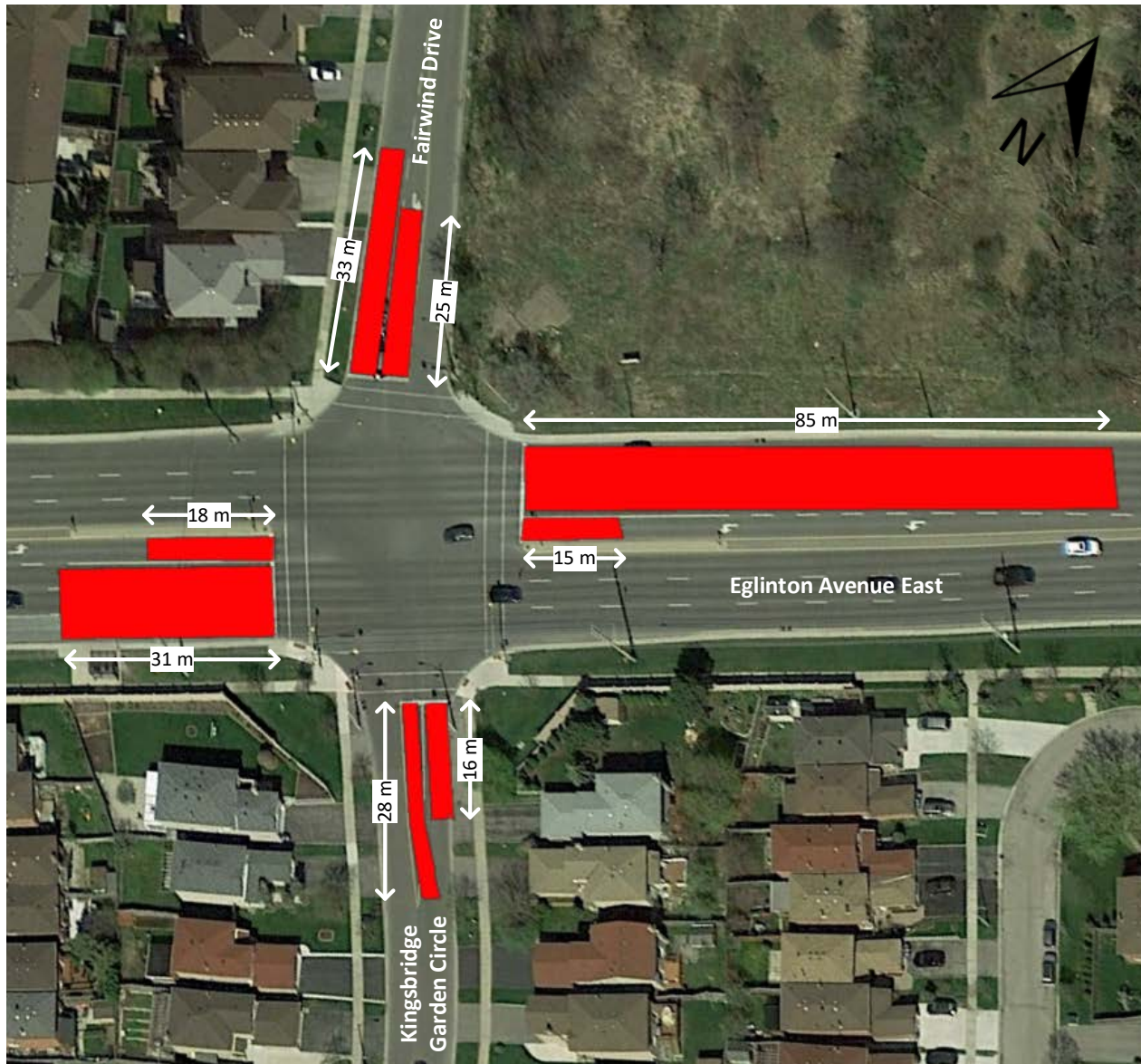
Future Total AM Peak Period – Eglinton Avenue East at Fairwind Drive / Kingsbridge Garden Circle



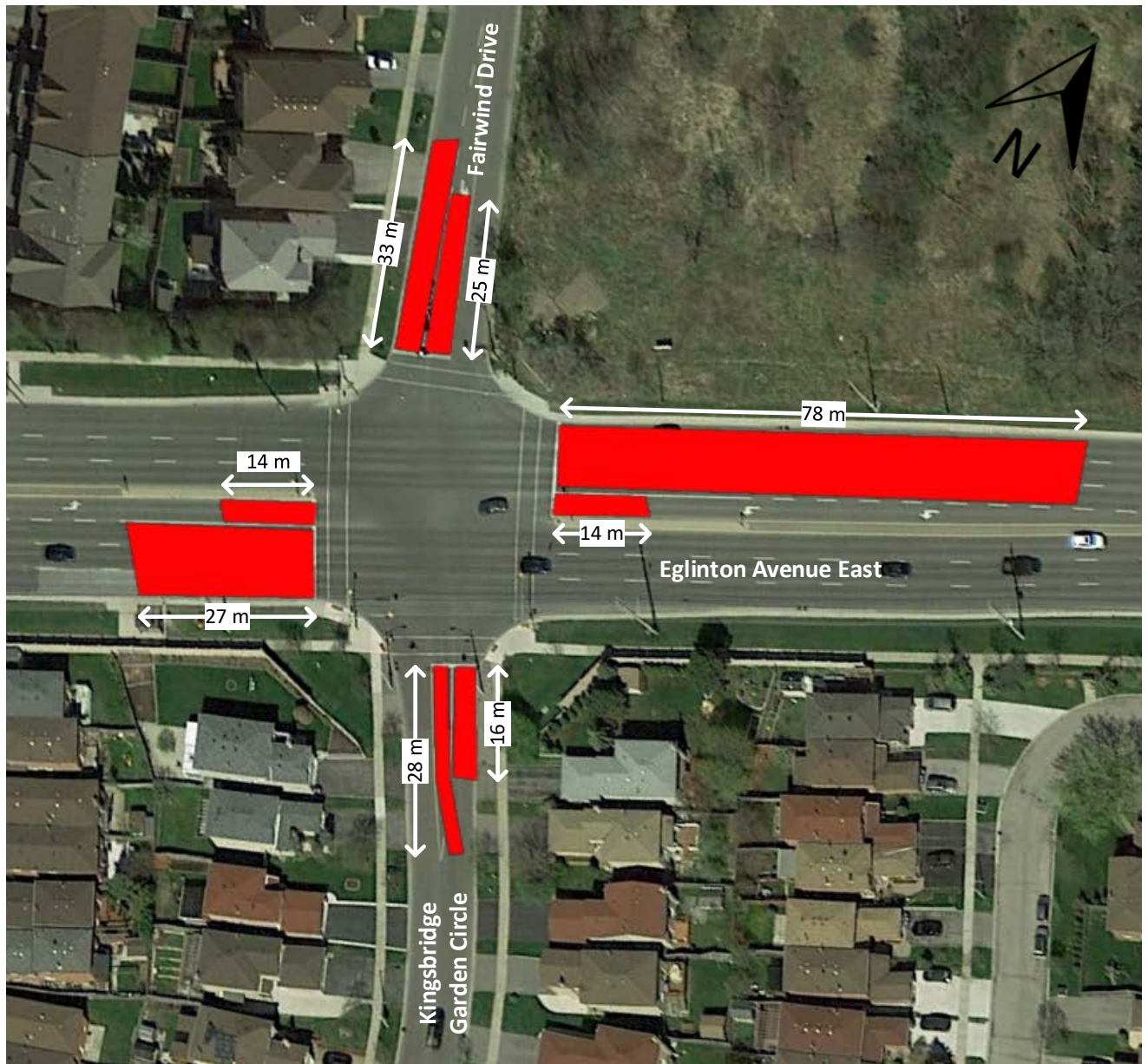
As-of-Right AM Peak Period – Eglinton Avenue East at Fairwind Drive / Kingsbridge Garden Circle



Future Total PM Peak Period – Eglinton Avenue East at Fairwind Drive / Kingsbridge Garden Circle



As-of-Right PM Peak Period – Eglinton Avenue East at Fairwind Drive / Kingsbridge Garden Circle



Appendix J – City of Mississauga Comments (October 17, 2018)

File: OZ/OPA 18 11

Proposal: 5 condo apartment buildings consisting of 2095 residential units with retail and office located in the building podiums.

TRANSPORTATION AND WORKS

TRAFFIC REVIEW (PPP)

Contact: Linda Wu Tel. (905) 615-3200 x3597

No	Milestone	Condition
1	RECOMMENDATION REPORT	Having reviewed the Traffic Impact Study dated June 1, 2018 prepared by IBI Group, staff provides the following preliminary comments: 1. Land use description The report shall provide a table outlining the existing, approved and proposed dwelling units as well as retail/office area for the all phases/parts within OP designated lands-Uptown Node/Residential High Density-Special Site 6. The table shall also present a comparison between the permitted uses under current OP designation and the proposed uses. 2. Future Scenario HuLRT services shall be assumed in Year 2022 scenario (i.e. sensibility scenario in the report), as such, the future total scenario (without LRT) shall be removed from the report. 3. Trip Generation for Site Traffic and background developments a) The study is to clarify the source of trip generation rates. The applied trip generation rates are NOT in accordance with the ITE 9th Edition as stated by the report. Additionally, it is noticed the trip rates applied for site traffic and background developments are different. b) Trip reduction shall be applied to account for higher transit mode share in the future. c) Trip generation table and diagram for "as-of-right" land use scenario shall be included in the report. d) The pass-by trips pertaining to retail uses shall be accounted for. 4. Background Traffic The growth/reduction rates along Hurontario St shall be obtained from the City's Travel Demand Model. 5. Road Network/Signal Timing Plans a) Lane configuration figures for the future scenario shall be provided. b) The signal for the intersection of Watergarden Drive/Armdale Road @ Hurontario Street will be maintained after LRT installation; the study assumes stop control for this intersection and shall be revised accordingly. c) The "as-of-right" shall assume LRT services along Hurontario Street. The provided traffic analysis for "as-of-right" is based on existing lane configuration and cannot be used for comparison. d) The study area shall include the intersections of Little Creek Road@Four Spring Avenue and Watergarden@Four Spring Avenue, based on received public concerns. e) It is noticed that lane reduction due to HuLRT services has NOT been consistently applied to all the Hurontario Street intersections in the future LRT scenario (e.g. PM Hurontario/Eglinton). f) Signal timing plans with LRT operations shall be utilized for future scenario

File: OZ/OPA 18 11

Proposal: 5 condo apartment buildings consisting of 2095 residential units with retail and office located in the building podiums.

TRANSPORTATION AND WORKS

TRAFFIC REVIEW (PPP)

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No	Milestone	Condition
1	RECOMMENDATION REPORT	analysis. 6. Queuing analysis Queue length summary shall be provided for critical movements. 7. Conclusion The capacity analysis shows significant increases of V/C ratios and delay times as a result of the proposal, especially for the intersection of Plaza entrance@Eglinton Ave. The conclusion does not provide viable justification for the additional 1,140 units over the current OP designation. Note: Detailed review will be conducted once receipt of a revised TIS report. Metrolinx/MTO may require additional traffic analysis or TIS circulation. For LRT related inquiries, please contact the staff from the City's LRT office: Matthew Williams (EXT.5834) Email: Matthew.Williams@mississauga.ca Created : 2018-08-16 02:54:09 Last Modified : 2018-08-29 10:15:17
2	RECOMMENDATION REPORT	Clearance from Fire and Peel regarding the Fire route and waste collection route is required. Note: Fire/Waste collection route/loading areas are not shown on the site plan drawing. Additionally, drawings for underground parking shall be submitted for the review of site circulation. Created : 2018-08-16 02:55:03 Last Modified : 2018-08-29 10:15:17

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No	Milestone	Condition
3	RECOMMENDATION REPORT	As an addendum to the Traffic Impact Study dated June 1, 2018 prepared by IBI Group, the following TDM measures shall be considered given the site's proximity to the Hurontario St transit corridor: -The owner agrees to provide the purchaser/ tenant of each condominium dwelling unit with one (1) PRESTO - transit smart card loaded with a minimum value of \$25.00 (twenty-five dollars). -The owner agrees to provide accessible, secure, and weather protected long-term (indoor) bicycle parking spaces, as well as accessible short-term (outdoor) bicycle parking spaces located adjacent to the main entrances. Recommended bike parking rates are as follows: 1) Residential unit : 0.8 spaces per unit for in-door parking; minimum 6 spaces for visitors. 2) Business office: 0.5 per 500 sq meter (GFA) for indoor parking; 0.5 per 500 sq meter (GFA) for outdoor parking. 3) Retail: 0.5 per 500 sq meter (GFA) for indoor parking; 1.0 per 500 sq meter (GFA) for outdoor parking. -The owner agrees to provide transit and active transportation information at a prominent location within the main building entrance area." Created : 2018-08-16 02:54:42 Last Modified : 2018-08-29 10:15:17
4	NOTE:	Prior to site plan approval an access modification permit and fee payment is required for the driveway works proposed to the municipal sidewalk, splash pad, and road curb/culvert only (as applicable). Created : 2018-08-16 02:55:59 Last Modified : 2018-08-29 10:15:17
5	NOTE:	The design and construction of the Hurontario St access is deferred to Metrolinx. Created : 2018-08-16 02:55:59 Last Modified : 2018-08-29 10:15:17
6	NOTE:	Environmental assessment approvals for the Hurontario-Main Light Rail Transit system have been obtained and funding for this project is committed by the Provincial Government with an anticipated start of construction scheduled for 2018. This project will impact right-of-way requirements, property accesses, allowed turning movements and will result in the permanent removal of a general purpose traffic lane in each direction for many segments of the corridor. Further information is available at www.lrt-mississauga.brampton.ca. Created : 2018-08-16 02:56:13 Last Modified : 2018-08-29 10:15:17

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TRANSPORTATION AND WORKS

TRAFFIC REVIEW (PPP)

Contact: Linda Wu Tel. (905) 615-3200 x3597

No	Milestone	Condition
7	NOTE:	The cost for any/all road improvements required in support of this development application will be borne by the owner. The applicant shall make satisfactory arrangements with the Transportation and Works Department for the design, construction and payment of all costs associated with works necessary in support access to this site. Created : 2018-08-16 02:57:52 Last Modified : 2018-08-29 10:15:17

TRANSIT REVIEWER

Contact: Alana Tyers Tel. (905) 615-3200 x3812

No	Milestone	Condition
1	NOTE:	This site is currently serviced by MiWay Routes 19 & 103 on Hurontario Street. Created : 2018-07-16 11:57:12 Last Modified :
2	NOTE:	Please ensure that convenient and accessible pedestrian linkages are provided between the site, the existing sidewalk network, and MiWay service. Created : 2018-07-16 11:57:12 Last Modified :
3	NOTE:	Please be advised that Higher Order Transit has been planned for Hurontario Street in the form of Light Rail Transit (LRT) and will include a centre median LRT as well as a station at the intersection of Eglinton and Hurontario Street. Created : 2018-07-16 11:57:12 Last Modified :

COMMUNITY SERVICES

PLANNER - COMM SERVICES

Contact: Ibrahim Dia Tel. (905) 615-3200 x3108

No	Milestone	Condition
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