

Final Report

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



Prepared for Pinnacle International
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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.

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 2,095 residential units within the Phase 4 Part 2 and Phase 5 developments. This amendment would allow for an increase of 1,140 units over the existing permissions. The proposed non-residential aspect of the site consists of 10,663 sq. m. of gross floor area (GFA); for the purpose of this assessment, it has been assumed that 50% of the non-residential GFA will be used for retail and 50% will be 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 (38 storeys and 50 storeys); and
- Phase 5: Three condominium towers on Block 17 and part of Block 1 (30 storeys, 35 storeys and 50 storeys).

Exhibit 1-1: Development Block Diagram

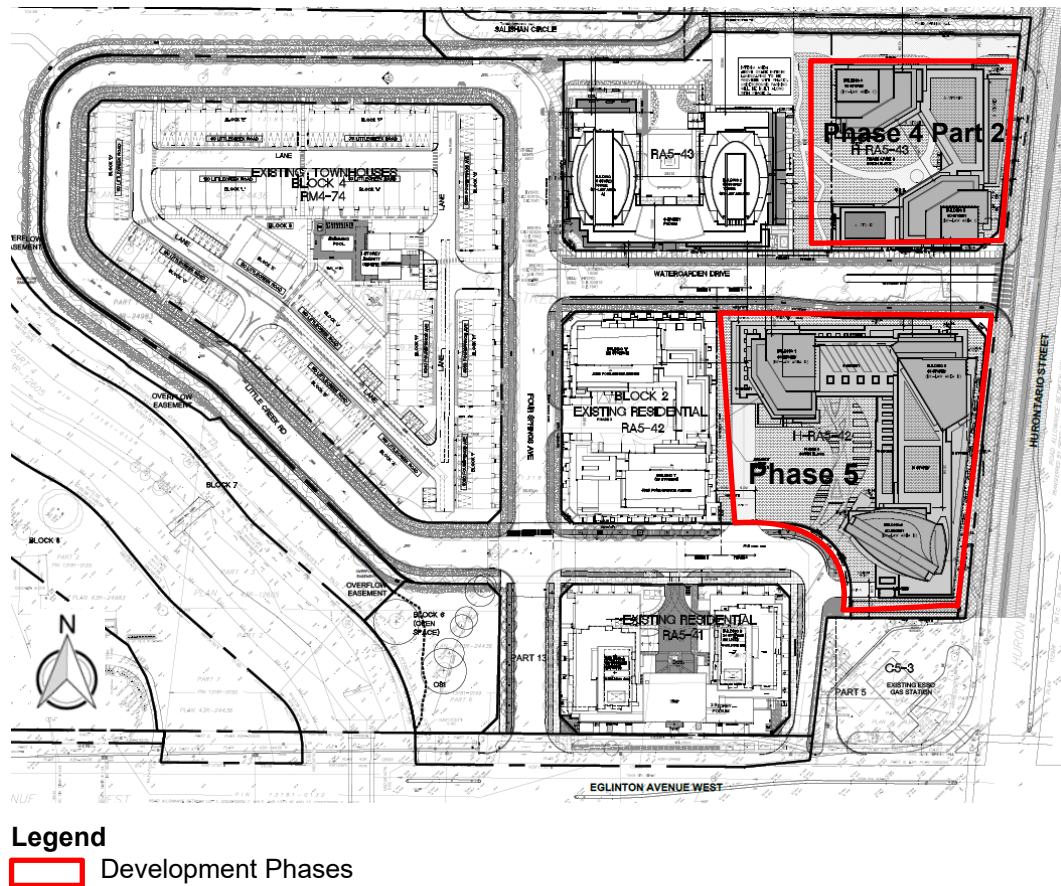


Exhibit 1-2: Aerial View of Subject Lands



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 & Foursprings Avenue / Plaza Entrance (signalized); and
- Eglinton Avenue West & Kingsbridge Garden Circle / Fairwind Drive (signalized).

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 38 storeys and 50 storeys high, with 408 and 527 units, respectively. Vehicle access to both buildings will be provided from a private roadway network at the north side of the site, which connects to Foursprings Avenue to the west and Hurontario Street to the east. A total of 1,218 parking spaces is proposed in a five level underground parking garage. The proposed site plan for Phase 4, Part 2 is illustrated in **Exhibit 1-4**.

Phase 5 of Pinnacle Uptown consists of three condominium towers of 30, 35, and 50 storeys, with 294, 354, and 512 units, respectively. The main access to the three towers will be connected to Little Creek Road. Additionally, a ramp accessible from Little Creek Road provides access to the parking garage, housing a total of 1,670 parking spaces. The proposed site plan for Phase 5 is presented in **Exhibit 1-5**.

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

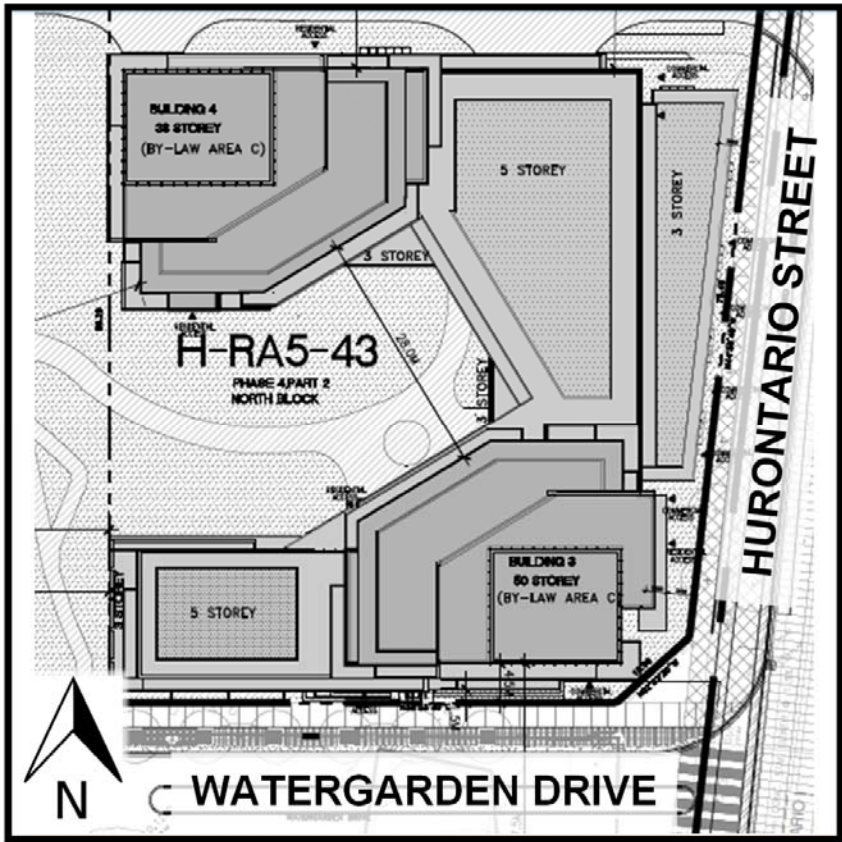
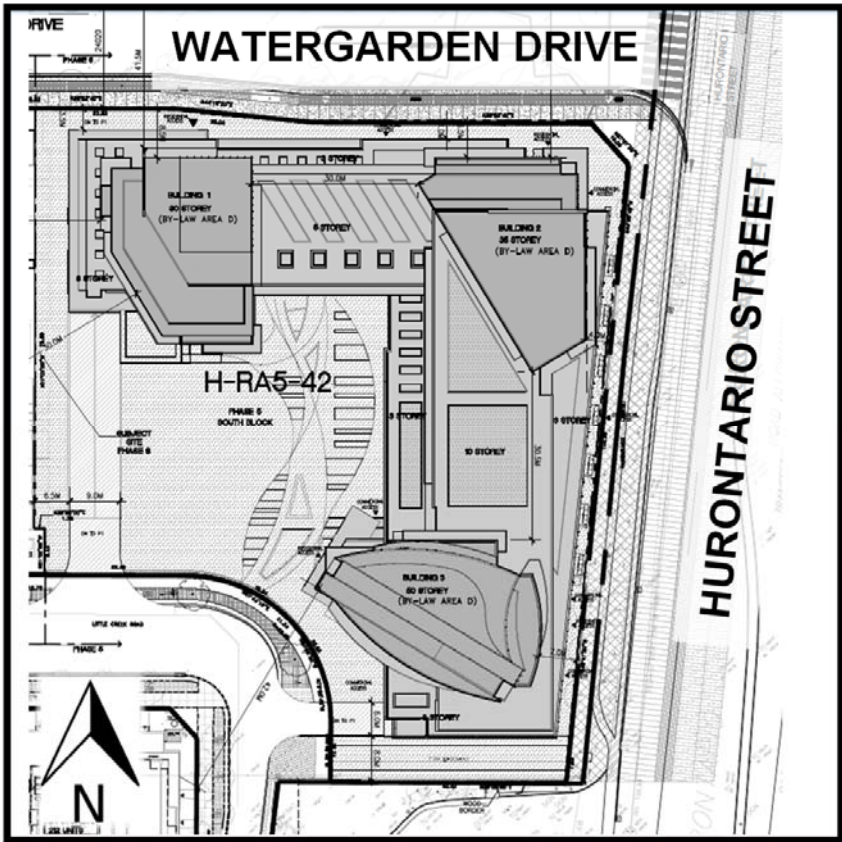


Exhibit 1-5: Proposed Site Plan - Phase 5



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.

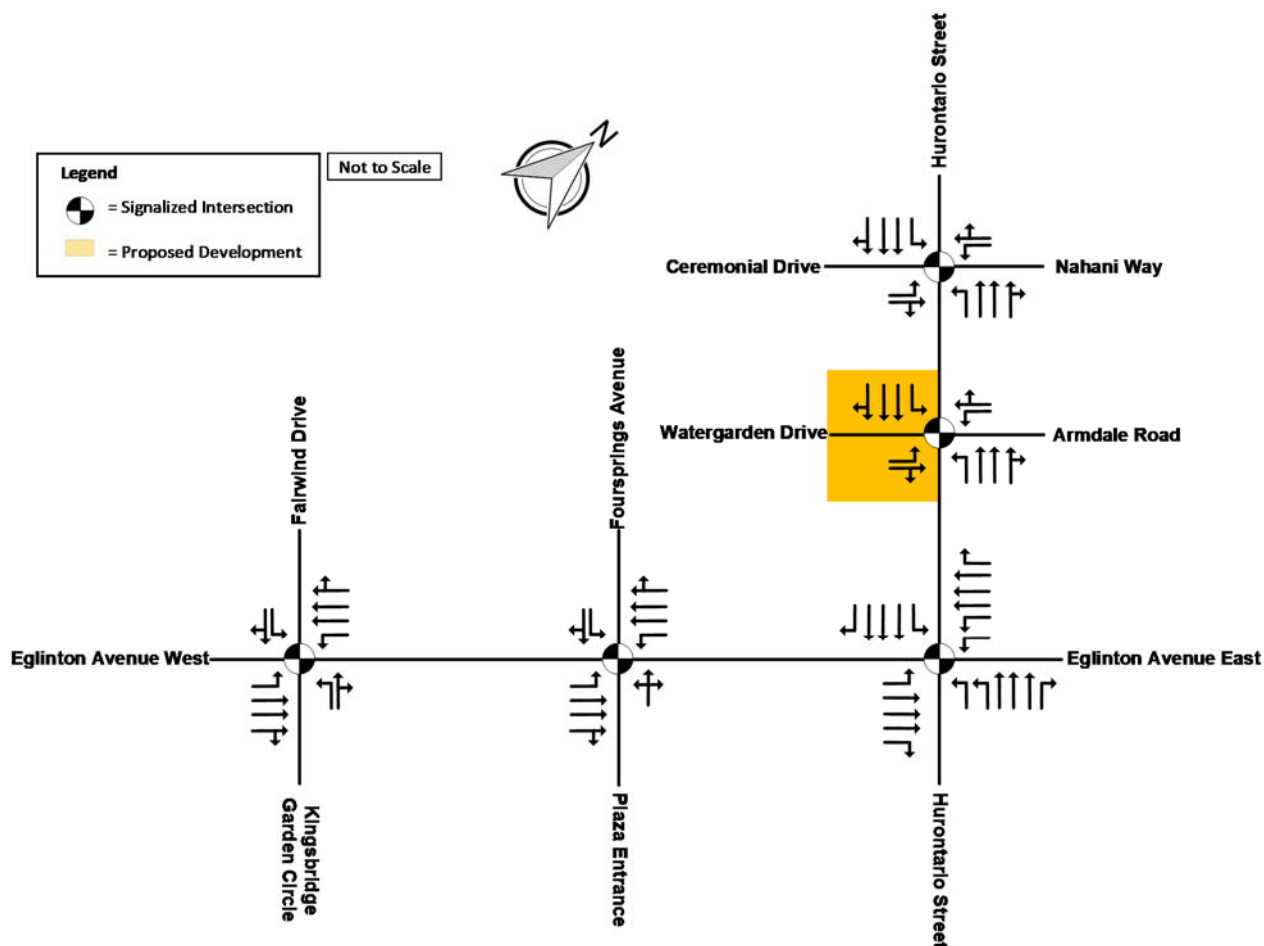
2.1 Existing Road Network

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.
- **Foursprings 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: 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 transit terminal, offering connections to Toronto and Southwestern Ontario.

Exhibit 2-2: Existing Transit Network

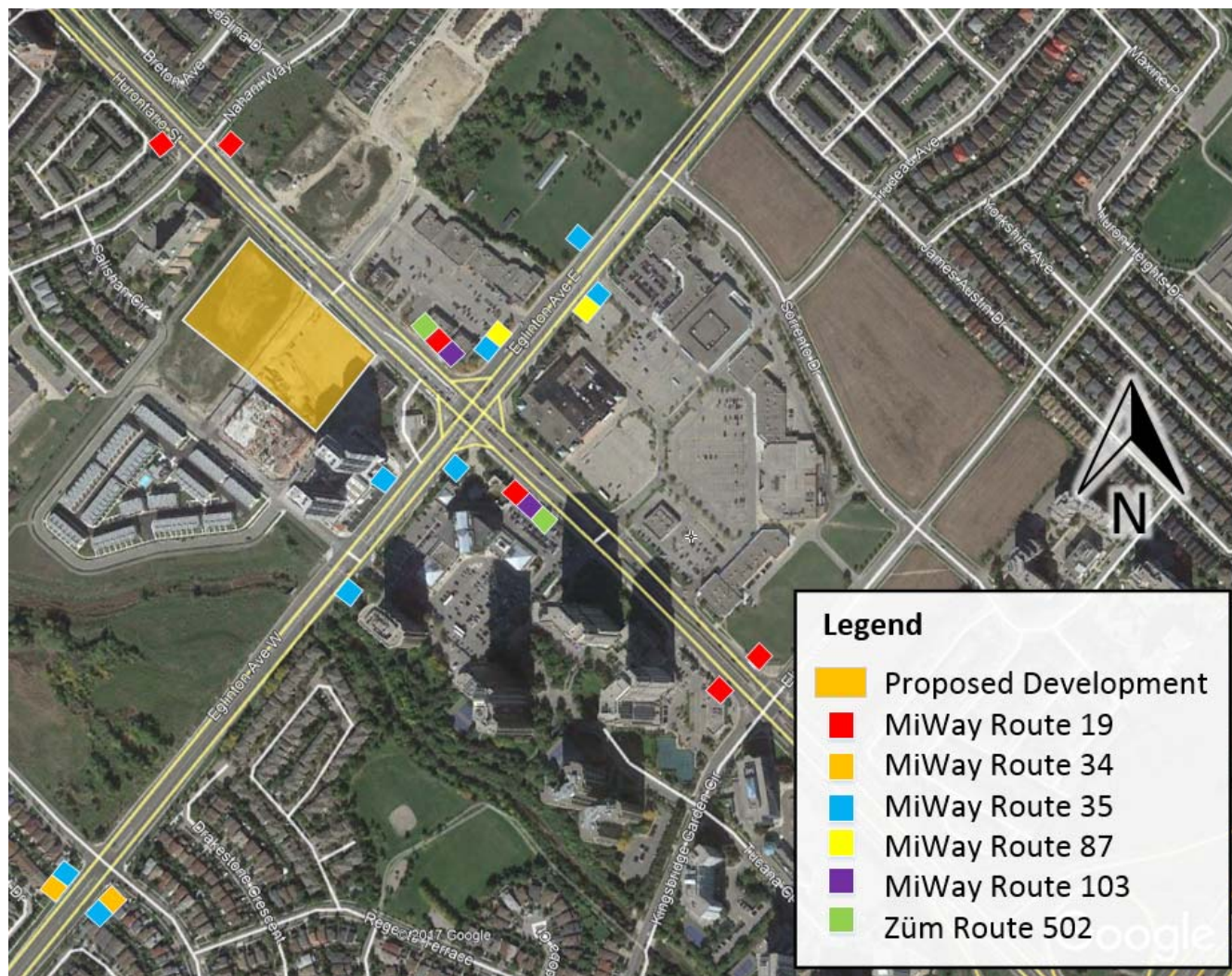


Exhibit 2-3: Existing Transit Peak Hour Frequencies

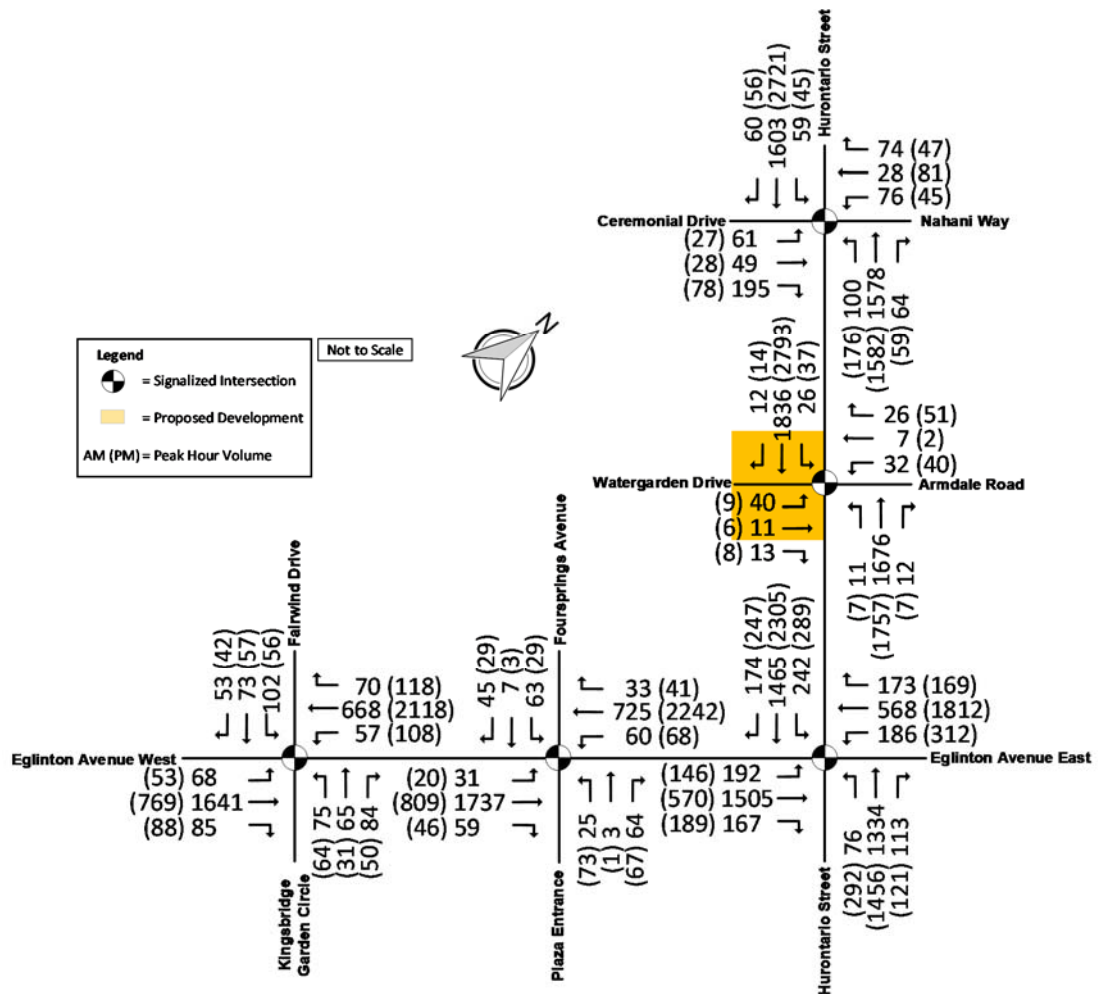
Route	Weekday Peak Headway (minutes)	
	AM	PM
MiWay - Route 19 (Hurontario)	5	5
MiWay - Route 34 (Credit Valley)	22	23
MiWay - Route 35 (Eglinton)	9	5
MiWay - Route 87 (Meadowvale-Skymark)	20	20
MiWay - Route 103 (Hurontario Express)	9	10
Brampton Transit Züm - Route 502 (Main)	7	8

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. **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.

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).

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 approximately three car lengths for this movement as well as the westbound left turn movement;
- Hurontario Street & Watergarden Drive / Armdale Road is operating with acceptable overall level of service (LOS 'A') with no critical movements;
- Hurontario Street & Eglinton Avenue West is operating over capacity overall, due to high eastbound through and southbound left volumes (V/C ratio greater than 1.0 for both). The southbound left queue is observed to spillover past the storage lane by up to approximately six car lengths;
- Eglinton Avenue West & Foursprings Avenue / Plaza Entrance is operating with overall acceptable LOS, with a minor queue spillover of one car length.
- Eglinton Avenue West & Kingsbridge Garden Circle / Fairwind Drive is operating with acceptable LOS overall, however there are individual constraints for the southbound left movement (V/C ratio of 1.03). Queue storage spillover of up to four car lengths is observed for this and the northbound left turn movements.

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 0.89). Individually, the southbound through movement is experiencing some congestion (V/C ratio of 0.98), and there is queue spillover of up to three car lengths for the northbound left movement.
- Hurontario Street & Watergarden Drive / Armdale Road is operating with acceptable overall LOS, with no critical movements observed;
- Hurontario Street & Eglinton Ave West is operating with overall capacity constraints (V/C ratio of 1.29). The westbound left/through, northbound through, and southbound left/through movements are noted to operate with V/C ratios of 0.96 or higher. Also, the southbound left queue is exceeding storage capacity by up to nine car lengths;
- Eglinton Avenue West & Foursprings Avenue / Plaza Entrance is operating with acceptable overall LOS with no critical movements observed; and
- Eglinton Avenue West & Kingsbridge Garden Circle / Fairwind Drive is operating with acceptable overall LOS 'B', with no capacity constraints observed. However northbound left movement spillover of up to approximately four car lengths is observed.

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 Drive/Nahani Way & Hurontario St	C	23.2	0.85	EBL	E	56.4	0.29	31	66
				EBT/R	E	77.2	0.81	102	-
				WBL	F	100.0	0.83	44	26.8
				WBT/R	E	56.9	0.34	41	-
				NBL	E	79.2	0.86	76	60
Watergarden Drive/Armdale Road & Hurontario St	A	9.7	0.48	EBL	F	84.4	0.60	26	63.1
				EBT/R	E	71.3	0.13	12	-
				WBL	E	77.1	0.51	22	32.1
				WBT/R	E	71.2	0.12	11	-
Hurontario St & Eglinton Ave E	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	125.4	1.10	136	100
				SBR	F	82.0	0.15	43	100
Plaza Entrance/Foursprings Avenue & Eglinton Ave W	B	13.5	0.52	NBL/T/R	F	82.0	0.70	41	-
				SBL	F	89.1	0.71	38	32.5
				SBT/R	E	64.8	0.08	15	-
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	C	23.1	0.67	NBL	E	76.5	0.68	39	16.2
				NBT/R	E	71.0	0.69	63	-
				SBL	F	156.0	1.03	55	34.8
				SBT/R	E	64.2	0.53	51	-
PM Peak Period									
Ceremonial Drive/Nahani Way & Hurontario St	C	34.2	0.89	EBL	E	65.2	0.34	19	66
				EBT/R	E	62.3	0.21	25	-
				WBL	E	66.1	0.45	25	26.8
				WBT/R	E	78.7	0.75	54	-
				NBL	D	54.6	0.62	76	60
				SBT	D	41.2	0.98	415	-
Watergarden Drive/Armdale Road & Hurontario St	A	4	0.72	EBL	E	70.5	0.14	8	63.1
				EBT/R	E	70.5	0.16	11	-
				WBL	E	75.3	0.49	26	32.1
				WBT/R	E	73.4	0.40	25	-
Hurontario St & Eglinton Ave E	F	136	1.29	EBL	E	61.2	0.77	62	100
				WBL	F	162.3	1.12	91	150
				WBT	F	134.4	1.16	282	-
				NBL	F	82.8	0.83	68	100
				NBT	E	67.0	0.96	212	-
				SBL	F	167.6	1.15	157	100
				SBT	F	234.3	1.43	416	-
Plaza Entrance/Foursprings Avenue & Eglinton Ave W	A	9.9	0.65	NBL/T/R	F	82.5	0.78	59	-
				SBL	E	60.9	0.21	19	32.5
				SBT/R	E	59.7	0.13	18	-
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	B	14.9	0.64	NBL	F	86.4	0.68	38	16.2
				NBT/R	E	68.0	0.25	28	-
				SBL	E	72.1	0.51	34	34.8
				SBT/R	E	78.3	0.64	51	-

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.

For the purposes of this TIS report, the Hurontario LRT will be included as a separate sensitivity analysis to assess changes to future background and future total traffic conditions. This is due to unconfirmed lane reconfigurations for the study area's Hurontario intersections, and absence of documentation regarding the LRT's impact on vehicle traffic volumes, mode choice, and travel behaviour. 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.

To provide a consistent basis to assess future traffic operations with existing operations, 2022 future conditions will assume a do-nothing scenario with regards to network improvements while implementing the aforementioned growth rates. A sensitivity analysis will then compare operations with the Hurontario LRT included.

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.

Phase 3 is currently under construction, and units in Phase 4 Part 1 are currently for sale. To assess trips associated with these phases, trip generation estimates were calculated, summarized in **Exhibit 3-2**. It is expected that a portion of trips will occur internally between residents and the retail uses on the Pinnacle Lands (i.e. short walking trips), and a portion of retail trips will be made by drivers passing by the study area. Accounting for these travel behaviours, a total of 319 and 376 new trips are expected at the Pinnacle Lands for the background phases during the weekday AM and PM peak hours, respectively.

Exhibit 3-2: Background Trip Generation Summary

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, 883 Units (ITE Code 230)	Trips/Unit	0.06	0.27	0.33	0.27	0.13	0.40
		%	17%	83%	100%	67%	33%	100%
		Gross Trips	52	251	303	247	122	369
		Internal Trips	-	-	-	-3	-2	-5
Phase 4 Part 1	Shopping Centre (ITE Code 820)	Trips/1000 sq.ft.	3.96	2.42	6.38	9.76	10.58	20.34
		%	62%	38%	100%	48%	52%	100%
		Gross Trips	10	6	16	24	27	51
		Internal Trips	-	-	-	-2	-3	-5
		Pass-by Trips	-	-	-	-17	-17	-34
Total New Site Trips			62	257	319	249	127	376

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

Exhibit 3-3: 2022 Future Background Conditions Traffic Volumes

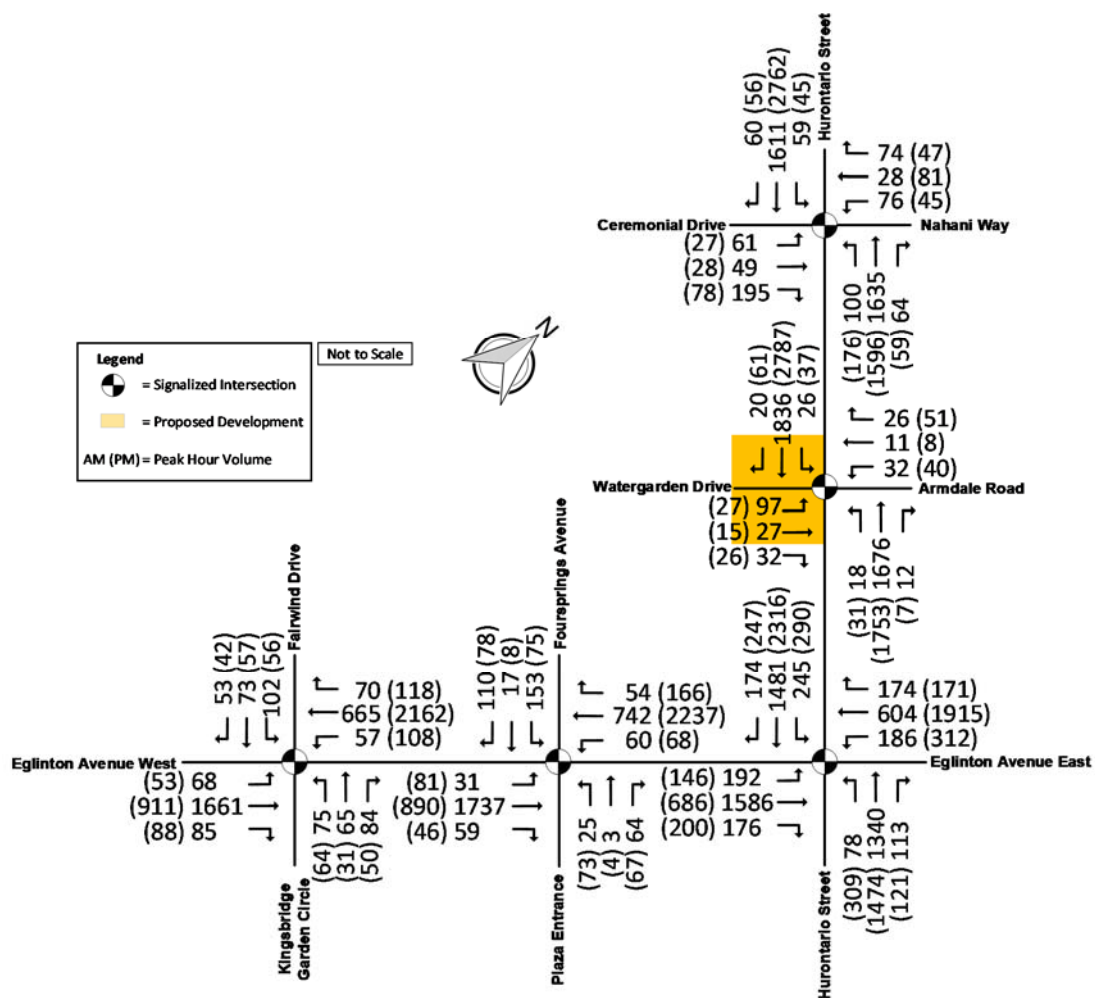


Exhibit 3-4 summarizes the signalized intersection operations in the study area during the AM and PM peak hours. Future background synchro reports are provided in **Appendix E**.

Under future background AM peak hour traffic conditions, the following is anticipated:

- Overall intersection delay increases of up to seven seconds when compared to existing conditions; and
- Increased overall capacity constraints for the Hurontario Street / Eglinton Avenue intersection (V/C ratio increase from 1.08 to 1.11).

Under future background PM peak hour traffic conditions, the following is anticipated:

- Overall intersection delay increases of up to 12 seconds when compared to existing conditions; and
- Overall intersection capacity constraints (V/C ratio of 1.66) and eastbound left capacity constraints (V/C ratio of 1.84) at the Foursprings Avenue / Eglinton Avenue West intersection.

During both peak traffic hours, the Eglinton Avenue / Hurontario Street intersection is expected to operate with increased congestion due to increases to background traffic, mainly attributed to Pinnacle Uptown Phase 3 and Phase 4 Part 1. It is noted that this intersection is already operating over capacity under existing conditions.

Exhibit 3-4: 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 Drive/Nahani Way & Hurontario St	C	21.2	0.86	EBL	E	56.4	0.29	31	66
				EBT	E	77.2	0.81	102	-
				WBL	F	100.0	0.83	44	26.8
				WBT	E	57.0	0.34	41	-
				NBL	E	77.9	0.88	77	60
Watergarden Drive/Armdale Road & Hurontario St	B	15.2	0.55	EBL	F	83.3	0.74	50	63.1
				EBT	E	63.9	0.26	25	-
				WBL	E	64.2	0.27	20	32.1
				WBT	E	62.2	0.10	12	-
Hurontario St & Eglinton Ave E	E	69.8	1.11	EBT	F	112.2	1.11	273	-
				WBL	E	78.6	0.71	45	150
				NBL	E	74.4	0.48	23	100
				SBL	F	130.9	1.12	138	100
				SBR	F	87.9	0.16	46	100
Plaza Entrance/Foursprings Avenue & Eglinton Ave W	C	20.7	0.66	WBL	E	55.4	0.61	40	60
				NBT	E	60.5	0.47	38	-
				SBL	F	94.7	0.87	76	32.5
				SBT	E	55.8	0.14	22	-
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	C	23.3	0.69	NBL	E	76.5	0.68	39	16.2
				NBT	E	71.4	0.69	64	-
				SBL	F	156.0	1.03	55	34.8
				SBT	E	64.2	0.53	51	-
PM Peak Period									
Ceremonial Drive/Nahani Way & Hurontario St	D	36	0.9	EBL	E	65.2	0.34	19	66
				EBT	E	62.3	0.21	25	-
				WBL	E	66.1	0.45	25	26.8
				WBT	E	78.7	0.75	54	-
				NBL	D	53.6	0.62	74	60
				SBT	D	44.5	0.99	425	-
Watergarden Drive/Armdale Road & Hurontario St	A	5.4	0.74	EBL	E	74.2	0.43	19	63.1
				EBT	E	74.2	0.47	24	-
				WBL	E	75.5	0.50	26	32.1
				WBT	E	73.9	0.44	28	-
Hurontario St & Eglinton Ave E	F	143.8	1.32	EBL	E	61.8	0.78	65	100
				WBL	F	162.3	1.12	91	150
				WBT	F	161.3	1.22	307	-
				NBL	F	85.3	0.85	76	100
				NBT	E	69.0	0.97	216	-
				SBL	F	167.4	1.16	158	100
				SBT	F	243.9	1.45	419	-
Plaza Entrance/Foursprings Avenue & Eglinton Ave W	C	22	1.66	EBL	F	464.7	1.84	69	120
				NBT	F	87.3	0.81	61	-
				SBL	E	66.5	0.53	41	32.5
				SBT	E	62.5	0.38	41	-
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	B	14.8	0.67	NBL	F	85.3	0.67	38	16.2
				NBT	E	67.9	0.25	28	-
				SBL	E	71.9	0.50	34	34.8
				SBT	E	78.2	0.65	51	-

3.5 2022 Future Background Sensitivity Analysis – Hurontario LRT

As mentioned in Section 3.2, this sensitivity analysis will assess changes to 2022 future background traffic operations upon completion of 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. For the purposes of the traffic operations sensitivity analysis, it was assumed that all affected vehicles will complete the U-turn movement.

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 sensitivity analysis, it was assumed that an 11% 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 3-5 illustrates 2022 future background conditions with the Hurontario LRT constructed. **Exhibit 3-6** summarizes the associated signalized intersection operations in the study area during the AM and PM peak hours. Future background synchro reports are provided in **Appendix F**.

Under future background AM peak hour traffic conditions with the LRT, the following is anticipated when compared to the do-nothing scenario:

- Hurontario Street / Ceremonial Drive and Nahani Way intersection overall delay increase of 38 seconds (LOS 'E'), with operations at capacity (V/C ratio of 1.01); and
- Hurontario Street / Eglinton Avenue East intersection overall delay increase of over two minutes, with additional capacity constraints (V/C ratio of 1.54).

Under future background PM peak hour traffic conditions, the following is anticipated:

- Hurontario Street / Ceremonial Drive and Nahani Way intersection overall delay increase of over three minutes (LOS 'F'), with volumes exceeding capacity (V/C ratio of 1.37);
- Hurontario Street / Eglinton Avenue East intersection overall delay increase of three minutes, with additional capacity constraints (V/C ratio of 1.96). This is attributed to new southbound U-turn activity as a result of left turn restrictions at the Watergarden Drive / Hurontario Street intersection; and

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.

- Eglinton Avenue / Foursprings Avenue intersection overall capacity improvements from V/C ratio of 1.66 to 1.03. This is attributed to the 11% reduction in site and Eglinton corridor vehicular traffic.

Overall, a future reduction of the existing six through-lane cross section, signal timing adjustments to accommodate LRT operations, and a future transit modal split of 22% for the study area will result in additional vehicular capacity constraints along the Hurontario corridor, with longer vehicular delays and northbound-southbound queues.

If traffic operations in the study area are to improve while maintaining the future planned changes to the road network and transit infrastructure, further increases in transit usage as well as active transportation usage (e.g. walking, cycling) need to be achieved to reduce regional commuter automobile traffic in the area.

Exhibit 3-5: 2022 Future Background Conditions (With Hurontario LRT) Traffic Volumes

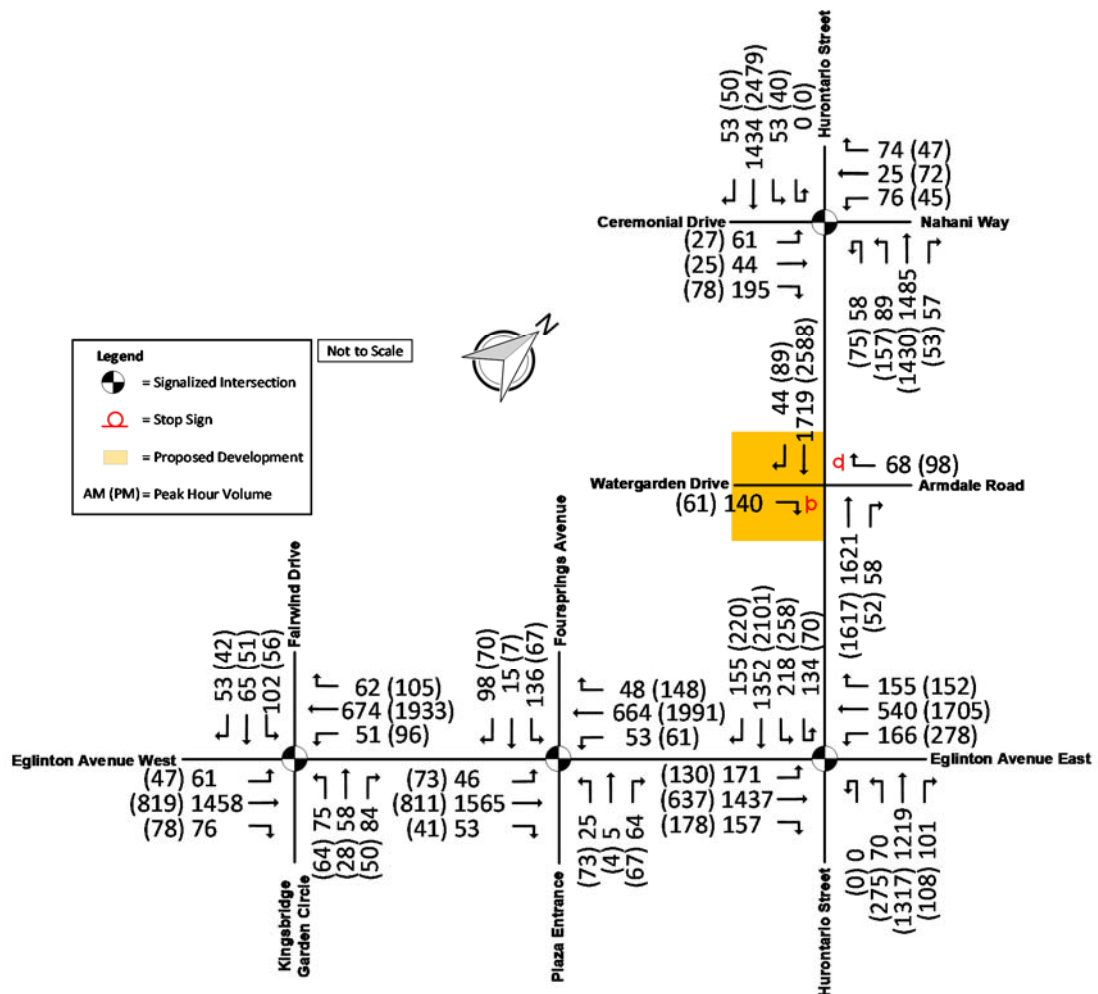


Exhibit 3-6: 2022 Future Background Conditions (With Hurontario LRT) Traffic Operations – Signalized Intersection Summary

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 Drive/Nahani Way & Hurontario St	E	58.7	1.01	EBL	E	57.3	0.29	31	66
				EBT	F	80.0	0.83	101	-
				WBL	F	99.3	0.82	44	26.8
				WBT	E	55.6	0.17	22	-
				NBL	E	79.7	0.72	49	90
				NBT	C	21.9	0.93	65	-
				SBL	E	74.9	0.50	50	120
Hurontario St & Eglinton Ave E	F	200.9	1.54	SBT	F	88.2	1.07	358	-
				EBL	E	59.2	0.77	82	100
				EBT	F	107.3	1.09	234	-
				EBR	F	350.5	0.12	24	100
				WBL	F	408.5	1.65	67	150
				NBL	F	96.2	0.73	26	100
				NBT	F	153.3	1.20	308	-
Plaza Entrance/Foursprings Avenue & Eglinton Ave	B	16.4	0.54	SBL	F	912.0	2.84	217	130
				SBT	F	227.1	1.38	339	-
				NBT	E	62.2	0.46	35	-
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	C	21.1	0.57	SBL	F	97.1	0.86	69	32.5
				SBT	E	57.5	0.13	21	-
				NBL	E	74.0	0.66	39	16.2
				NBT	E	68.6	0.64	58	-
				SBL	F	146.3	1.00	54	34.8
				SBT	E	63.5	0.50	47	-
				PM Peak Period					
Ceremonial Drive/Nahani Way & Hurontario St	F	228.5	1.37	EBL	E	65.6	0.32	19	66
				EBT	E	68.0	0.53	49	-
				WBL	E	67.0	0.45	25	26.8
				WBT	E	79.4	0.74	50	-
				NBL	F	89.8	0.71	83	90
				SBL	E	77.3	0.47	27	120
				SBT	F	385.9	1.75	730	-
Hurontario St & Eglinton Ave E	F	337	1.96	EBL	F	245.0	1.32	87	100
				WBL	F	824.5	2.60	108	150
				WBT	F	144.6	1.18	268	-
				NBL	F	887.1	2.74	114	100
				NBT	F	82.0	1.00	203	-
				SBL	F	455.4	1.87	100	130
				SBT	F	592.0	2.13	365	-
Plaza Entrance/Foursprings Avenue & Eglinton Ave W	B	14.8	1.03	EBL	F	148.4	1.08	46	120
				NBT	F	87.3	0.81	61	-
				SBL	E	64.9	0.48	37	32.5
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	B	13.1	0.51	SBT	E	61.8	0.32	36	-
				NBL	F	86.8	0.68	38	16.2
				NBT	E	68.3	0.23	26	-
				SBL	E	73.6	0.53	34	34.8
				SBT	E	76.0	0.60	47	-

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 / Foursprings 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 Foursprings Avenue and Watergarden Drive.

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 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. Based on a total of 2,095 residential units and 10,664 square metres (114,781 square feet) of non-residential (i.e. retail and office use) GFA, the site is anticipated to produce a total of 712 and 983 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). To be conservative, pass-by (i.e. drivers passing by the site) trip reductions were not 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 2,095 Units (LUC 230)	Trips/Unit	0.05	0.23	0.28	0.23	0.12	0.35
		%	17%	83%	100%	67%	33%	100%
		Gross Trips	100	489	589	488	240	728
		Internal Trips	-	-	-	-13	-6	-19
	General Office 57,390 sq. ft. (LUC 710)	Trips/Unit	1.88	0.26	2.14	0.42	2.07	2.49
		%	88%	12%	100%	17%	83%	100%
		Gross Trips	108	15	123	24	119	143
		Internal Trips	-	-	-	-3	-4	-7
	Specialty Retail 57,390 sq. ft. (LUC 826)	Trips/Unit	-	-	-	1.22	1.55	2.77
		%	-	-	-	44%	56%	100%
		Gross Trips	-	-	-	70	89	159
		Internal Trips	-	-	-	-8	-13	-21
		Pass-by Trips	-	-	-	-	-	-
	Total New Site Trips		208	504	712	558	425	983

4.2.2 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:

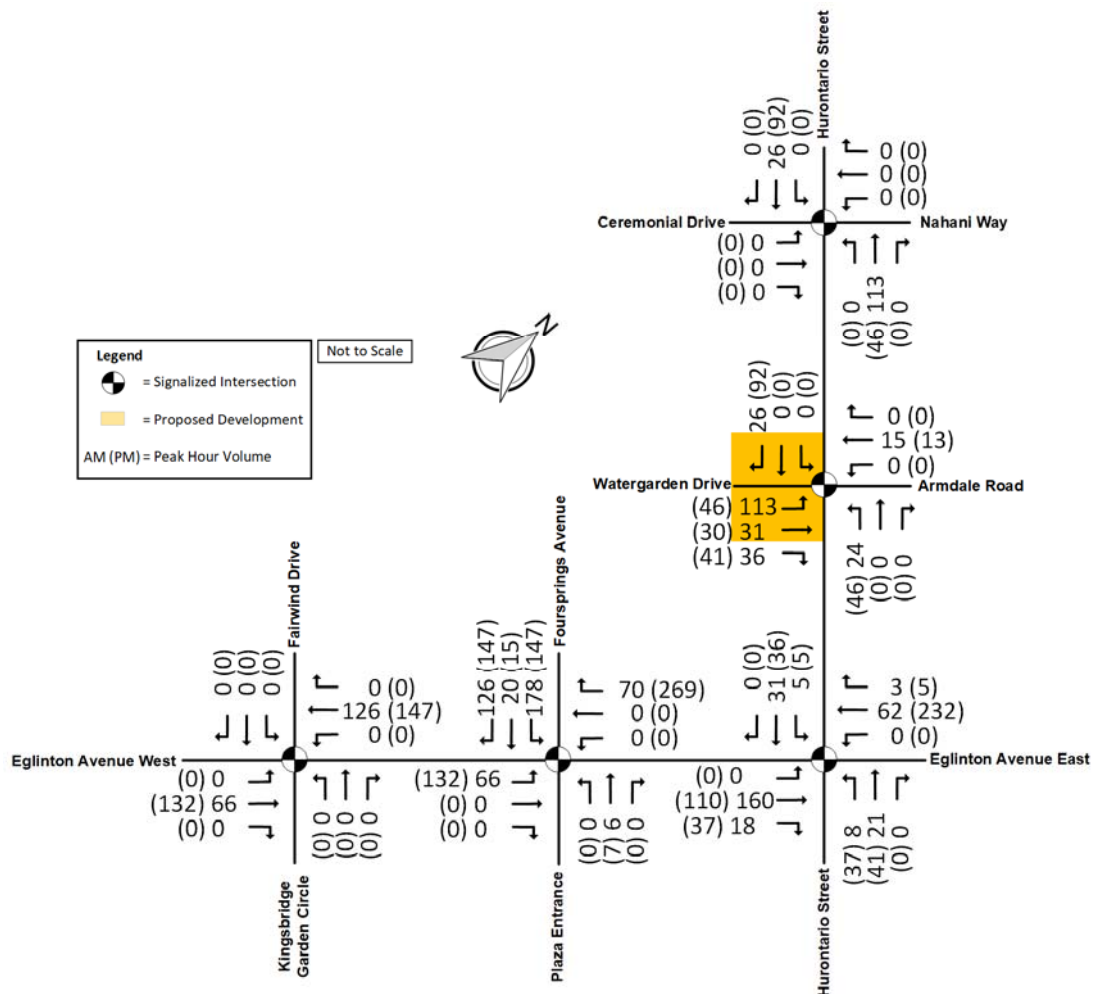
- Hurontario Street & Watergarden Drive / Armdale Road;
- Hurontario Street & Eglinton Avenue West; and
- Eglinton Avenue West & Foursprings Avenue / Plaza Entrance.

Using this method, **Exhibit 4-2** summarizes the trip distribution to apply to the new subject site trips based on the logical travel patterns. The assignment of site traffic is presented in **Exhibit 4-3**.

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 Foursprings & Eglinton & Hurontario	4%	3%	7%	9%
To/ From East: via Foursprings & Eglinton	30%	32%	42%	26%
To/ From South: via Foursprings / Plaza Entrance	3%	4%	1%	4%
To/ From West: via Foursprings & Eglinton	32%	25%	24%	35%
Total	100%	100%	100%	100%

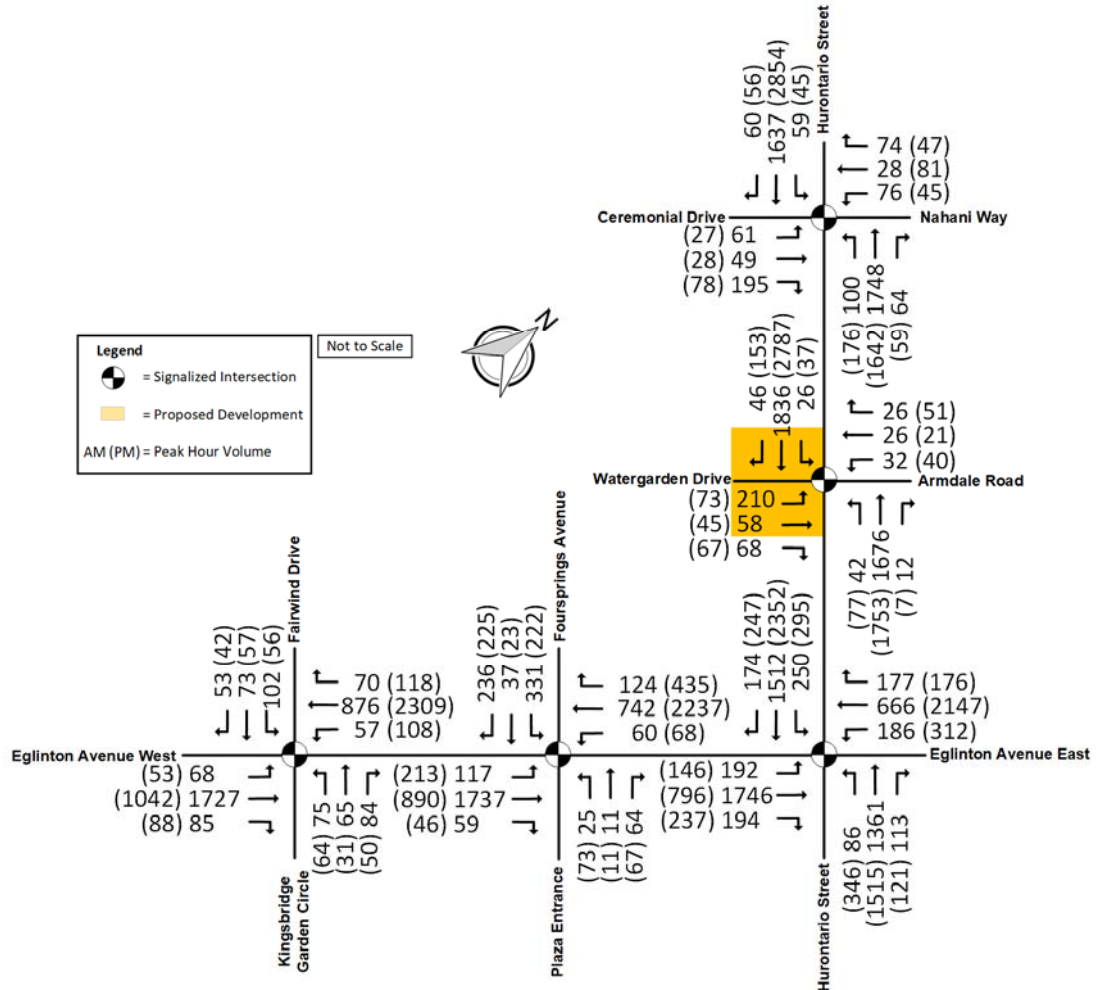
Exhibit 4-3: New Site Traffic Volumes



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 4-4**.

Exhibit 4-4: 2022 Future Total Conditions Traffic Volumes



Using these 2022 future total traffic volumes, 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 4-5**.

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

- Increased congestion for the northbound left movement (V/C ratio of 0.89 from 0.88) at the Ceremonial Drive / Nahani Way / Hurontario Street intersection;
- Capacity constraints at the eastbound left movement (V/C ratio of 1.03) at the Watergarden Drive / Armdale Road intersection;
- and
- Overall capacity constraints (V/C ratio of 0.90) at the Foursprings Avenue / Eglinton Avenue West intersection.

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

- Capacity constraints for the Watergarden Drive / Armdale Road intersection (V/C ratio of 1.60), attributed to high northbound left turn movements; and
- Increased capacity constraints at the Foursprings Avenue / Eglinton Avenue West intersection (V/C ratio of 3.89) primarily attributed to high eastbound left turn volumes.

Exhibit 4-5: 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 Drive/Nahani Way & Hurontario St	C	20.8	0.89	EBL	E	56.3	0.29	31	66
				EBT	E	77.1	0.81	103	-
				WBL	F	98.5	0.82	43	26.8
				WBT	E	57.0	0.35	43	-
				NBL	F	81.8	0.92	73	60
Watergarden Drive/Armdale Road & Hurontario St	C	27.4	0.68	EBL	F	126.1	1.03	117	63.1
				EBT	E	56.6	0.41	52	-
Hurontario St & Eglinton Ave E	F	82.3	1.17	EBT	F	160.4	1.22	291	-
				WBL	E	78.6	0.71	45	150
				NBL	E	74.2	0.50	24	100
				SBL	F	134.3	1.15	145	100
				SBR	E	76.5	0.16	47	100
Plaza Entrance/Foursprings Avenue & Eglinton Ave	D	44.8	0.90	WBL	F	89.7	0.74	44	60
				NBT	E	56.1	0.54	43	-
				SBL	F	245.7	1.36	215	32.5
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	C	22.3	0.74	NBL	E	76.4	0.68	39	16.2
				NBT	E	71.4	0.69	64	-
				SBL	F	153.4	1.02	55	34.8
				SBT	E	64.1	0.53	51	-
PM Peak Period									
Ceremonial Drive/Nahani Way & Hurontario St	D	40.9	0.92	EBL	E	65.1	0.34	19	66
				EBT	E	62.2	0.21	25	-
				WBL	E	65.9	0.45	25	26.8
				WBT	E	78.7	0.75	54	-
				NBL	D	52.2	0.62	72	60
				SBT	D	53.6	1.03	450	-
Watergarden Drive/Armdale Road & Hurontario St	B	16.8	1.60	EBL	E	74.7	0.64	38	63.1
				EBT	E	79.9	0.74	53	-
				WBL	E	67.3	0.44	25	32.1
				WBT	E	64.4	0.32	31	-
				NBL	F	405.0	1.75	47	55
Hurontario St & Eglinton Ave E	F	164.9	1.39	EBL	E	70.2	0.78	54	100
				WBL	F	162.3	1.12	91	150
				WBT	F	224.7	1.37	362	-
				NBL	F	94.8	0.92	90	100
				NBT	E	75.0	1.00	227	-
				SBL	F	173.5	1.18	162	100
				SBT	F	266.6	1.49	429	-
Plaza Entrance/Foursprings Avenue & Eglinton Ave W	F	111.8	3.89	EBL	F	1844.1	4.94	184	120
				WBT	B	14.4	0.86	33	-
				NBT	F	123.5	0.99	83	-
				SBL	F	101.9	0.95	131	32.5
				SBT	E	62.3	0.72	112	-
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	B	14.3	0.81	EBL	E	75.4	0.83	25	84
				NBL	F	85.2	0.67	38	16.2
				NBT	E	67.8	0.25	28	-
				SBL	E	71.8	0.50	34	34.8
				SBT	E	78.7	0.65	52	-

Overall, congested operations continue to be anticipated throughout the study area during the weekday AM and PM peak hours. Synchro output reports are provided in **Appendix G**.

When the planned Hurontario LRT is completed, a corresponding reduced automobile dependence is anticipated, as per the aforementioned Metrolinx Hurontario LRT documents, resulting in an 11% lowering of the existing automobile mode share for the adjacent road network and the Pinnacle lands. Therefore, there will be reduced corridor traffic and reduced site generated traffic volumes with regards to all phases of the Pinnacle lands. However, Hurontario Street corridor vehicle capacity is lowered due to the removal of one through lane in the north and south directions. This is studied in the following sensitivity analysis (**Section 4.4**).

4.4 2022 Future Total Conditions Sensitivity Analysis

Going further in the sensitivity analysis discussions in **Section 3.5 (2022 Future Background)**, a trip generation reduction of 11% was then conducted for the proposed Pinnacle Phase 4 Part 2 and Phase 5 developments to reflect the anticipated increased transit usage (11% currently to a future 22% transit modal split). The Synchro capacity analysis using the reduced site traffic added to the 2022 reduced future background traffic activity was then conducted.

4.4.1 Reduced Site Trips

The resulting reduced vehicle trips that account for anticipated increased transit usage for Pinnacle Phase 4 and Phase 5 Part 2 is summarized in **Exhibit 4-6**, with the trip assignment illustrated in **Exhibit 4-7**.

Exhibit 4-6: Reduced Site Trips

	Weekday AM Peak Hour			Weekday PM Peak Hour		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Total New Site Trips (From Exhibit 4-1)	100	489	589	587	374	961
11% Reduction in Vehicle Trips	-11	-54	-65	-65	-41	-106
Reduced New Site Trips	89	435	524	522	333	855

As noted in **Section 3.5**, an eastbound left turn restriction at the existing signalized Watergarden Drive / Hurontario Street intersection will cause outbound site traffic to turn right and southbound U-turn at the Eglinton Avenue / Hurontario Street intersection, or to exit via the Foursprings 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 Foursprings Avenue / Eglinton Avenue West intersection.

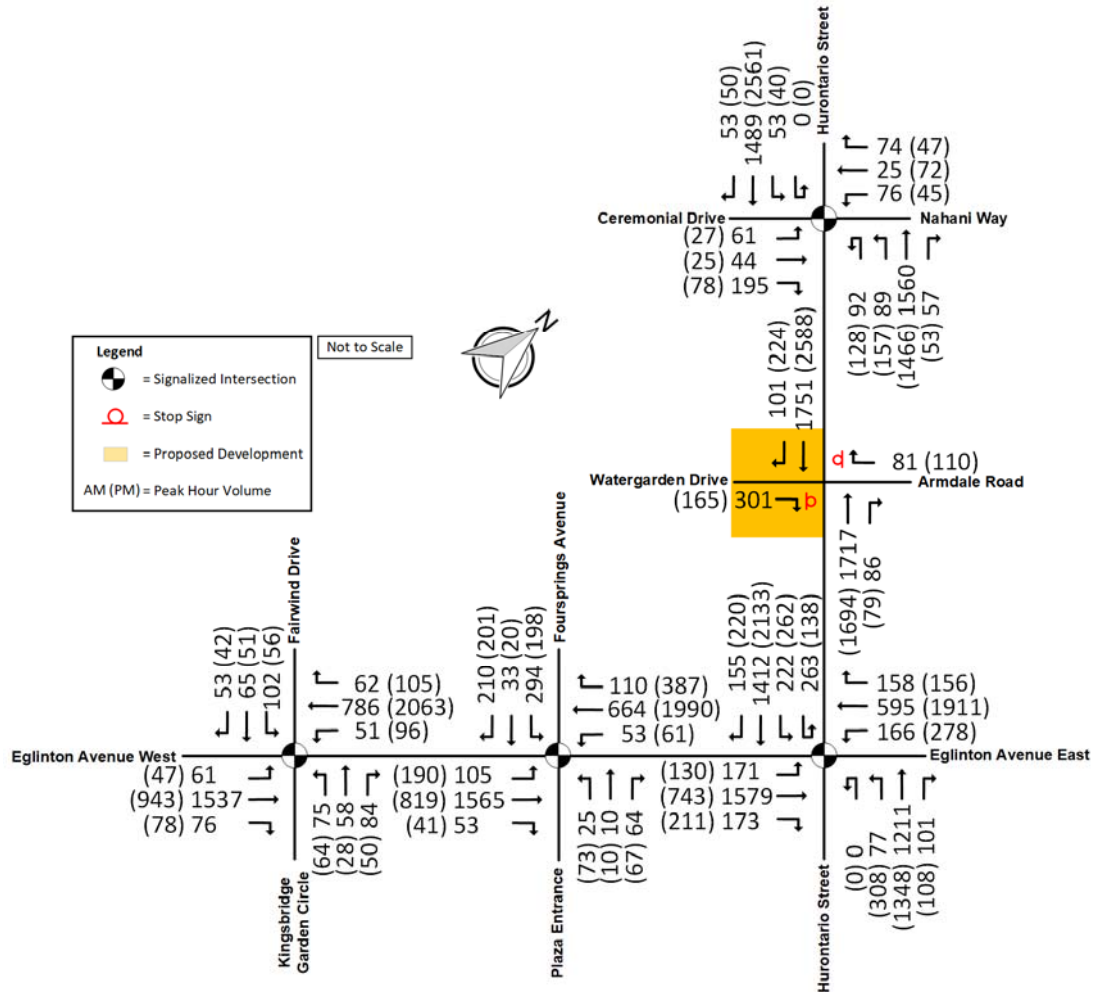
For the purposes of the traffic operations sensitivity analysis, it was assumed that all affected vehicles will complete the U-turn movement. These route changes are due to the installation of the Hurontario LRT centre median and the removal of existing full movement signalized operations at the Watergarden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

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4.4.2 Future Total Traffic Conditions with Hurontario LRT

The reduced site trips were added to the future background scenario with the Hurontario LRT operational (**Section 3.5**), producing the total traffic volumes illustrated in **Exhibit 4-8**.

Exhibit 4-8: Sensitivity Analysis: Future Total Traffic Conditions with Hurontario LRT



Using these future total traffic volumes, traffic operations analysis was conducted to determine future intersection performance with the Hurontario LRT operational. The results of this analysis are presented in **Exhibit 4-9** and **Exhibit 4-10** for the signalized and unsignalized intersections, respectively. Synchro output reports are provided in **Appendix H**.

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

- Increased overall delay and capacity constraints at the Ceremonial Drive / Nahani Way / Hurontario Street intersection, attributed to shorter green times as a result of longer amber and all-red times to accommodate LRT traffic, as well as additional U-turn traffic volumes;
- Southbound Hurontario Street traffic queue spillback from Ceremonial Drive, extending to south of Glenn Hawthorne Boulevard;
- Significant southbound left / U-turn traffic capacity constraints at the Hurontario Street / Eglinton Avenue intersection due to site traffic eastbound left turn restrictions at the Watergarden Drive / Hurontario Street intersection;

- Southbound Hurontario Street traffic queue spillback from Eglinton Avenue, extending to south of Ceremonial Drive;
- Minor overall operational improvements for the Foursprings Avenue and Fairwind Drive / Eglinton Avenue intersections attributed to lower corridor traffic as a result of anticipated increases in transit usage; and
- Acceptable Watergarden Drive / Hurontario Street intersection operations with no critical movements.

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

- Increased overall delay and capacity constraints at the Ceremonial Drive / Nahani Way / Hurontario Street intersection, attributed to shorter green times as a result of longer amber and all-red times to accommodate LRT traffic, as well as additional U-turn traffic volumes;
- Southbound Hurontario Street traffic queue spillback from Ceremonial Drive, extending to south of Bristol Road;
- Significant northbound left and southbound left / U-turn traffic capacity constraints at the Hurontario Street / Eglinton Avenue intersection;
- Southbound Hurontario Street traffic queue spillback from Eglinton Avenue, extending past Ceremonial Drive;
- Minor overall operational improvements for the Foursprings Avenue and Fairwind Drive / Eglinton Avenue intersections attributed to lower corridor traffic as a result of anticipated increases in transit usage; and
- Long eastbound right delays at the Watergarden Drive / Hurontario Street unsignalized intersection due to Hurontario Street corridor southbound traffic. Delays may be less than anticipated due to the signalized Ceremonial Drive / Hurontario Street intersection located 200 metres upstream, potentially creating more gaps in traffic to permit more eastbound right turning opportunities.

Overall, a future reduction of the existing six through-lane cross section, signal timing adjustments to accommodate LRT operations, and a future transit modal split of 22% for the study area will result in additional vehicular capacity constraints along the Hurontario corridor, with longer vehicular delays and northbound-southbound queues.

The eastbound left turn restriction at the existing signalized Watergarden Drive / Hurontario Street intersection will cause site traffic to instead turn right and southbound U-turn at the Eglinton Avenue / Hurontario Street intersection, resulting in increased vehicular activity at an already congested major intersection. Site traffic movements may shift towards the Foursprings Avenue / Eglinton Avenue West intersection due to drivers avoiding making U-turns on Hurontario Street, however capacity constraints are generally expected throughout the study area road network.

As mentioned in **Section 3.5**, if traffic operations in the study area are to improve while maintaining the future planned changes to the road network and transit infrastructure, further increases in transit usage as well as active transportation usage (e.g. walking, cycling) need to be achieved to reduce regional commuter automobile traffic in the area.

Exhibit 4-9: Future Total Conditions Traffic Operations with Hurontario LRT - 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 Drive/Nahani Way & Hurontario St	E	74.1	1.07	EBL	E	56.7	0.28	31	66
				EBT	E	79.3	0.83	103	-
				WBL	F	89.1	0.78	43	26.8
				WBT	E	55.2	0.17	23	-
				NBL	F	83.7	0.78	63	90
				NBT	C	20.3	0.98	64	-
				SBL	E	75.2	0.50	52	120
SBT	F	128.5	1.17	379	-				
Hurontario St & Eglinton Ave E	F	262	1.73	EBL	E	66.8	0.83	79	100
				EBT	F	150.3	1.20	257	-
				EBR	F	161.9	0.13	22	100
				WBL	F	408.5	1.65	67	150
				NBL	F	110.6	0.81	30	100
				NBT	F	149.9	1.19	305	-
				SBL	F	1389.8	3.90	301	130
SBT	F	253.7	1.43	337	-				
Plaza Entrance/Foursprings Avenue & Eglinton Ave W	C	32.7	0.7	SBL	F	182.6	1.21	186	32.5
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	C	20.3	0.59	NBL	E	74.0	0.66	39	16.2
				NBT	E	69.1	0.65	59	-
				SBL	F	146.3	1.00	54	34.8
				SBT	E	63.5	0.50	47	-
PM Peak Period									
Ceremonial Drive/Nahani Way & Hurontario St	F	242.1	1.43	EBL	E	65.6	0.32	19	66
				EBT	E	69.5	0.57	51	-
				WBL	E	67.0	0.45	25	26.8
				WBT	E	79.4	0.74	50	-
				NBL	F	94.0	0.87	109	90
				SBL	E	77.3	0.47	27	120
				SBT	F	411.2	1.81	761	-
Hurontario St & Eglinton Ave E	F	363.4	2.03	EBL	F	235.8	1.32	77	100
				WBL	F	824.5	2.60	108	150
				WBT	F	206.0	1.32	317	-
				NBL	F	1034.4	3.07	127	100
				NBT	F	88.2	1.03	211	-
				SBL	F	629.3	2.26	135	130
				SBT	F	602.6	2.16	377	-
Plaza Entrance/Foursprings Avenue & Eglinton Ave W	F	96.8	3.56	EBL	F	1600.7	4.40	165	120
				NBT	F	124.5	0.98	78	-
				SBL	F	99.9	0.93	112	32.5
				SBT	E	62.3	0.68	97	-
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	B	13.2	0.54	NBL	F	85.7	0.67	38	16.2
				NBT	E	68.2	0.23	26	-
				SBL	E	73.4	0.52	34	34.8
				SBT	E	77.1	0.62	48	-

Exhibit 4-10: Future Total Conditions Traffic Operations with Hurontario LRT - Unsignalized Intersection Summary

Intersection	Intersection Delay (s)	Lane	Lane LOS	Control Delay (s)	Approach LOS	V/C Ratio	95th % Queue (m)	Storage Length (m)
AM Peak Period								
Watergarden Drive/Hurontario St	2.1	-	-	-	-	-	-	-
PM Peak Period								
Watergarden Drive/Hurontario St	3.6	EBR	F	73.7	F	0.90	61	-

5 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 5-1**.

Based on these parking rates, the proposed supply for both subject site phases fulfil By-law minimum requirements with regards to residential, visitor, non-residential, and accessible parking supply.

Exhibit 5-1: Subject Site Parking Requirements

Parking Use	Unit	Zoning By-law (RA5-42 / 43)	Required Supply	Proposed Supply	Surplus / Deficiency
Phase 4 Part 2					
Resident	679	1.1 spaces / 1 bedroom	747	1218	+41
	250	1.1 spaces / 2 bedroom	275		
	6	1.2 spaces / 3 bedroom	8		
Visitor	935	Greater of 0.15 spaces / unit, or	141		
Commercial	20.3	4.3 spaces / 100 sq. m GFA non-residential	88		
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))	6		
Total			1177	1218	+41
Phase 4 Part 2 Total Surplus / Deficiency					+41
Phase 5					
Resident	722	1.1 spaces / 1 bedroom	795	1670	+5
	370	1.1 spaces / 2 bedroom	407		
	68	1.2 spaces / 3 bedroom	82		
Visitor	1160	Greater of 0.15 spaces / unit, or	174		
Commercial	86.3	4.3 spaces / 100 sq. m GFA non-residential	372		
Accessible	-	2 space + 2% of commercial spaces (As per Part 3 Parking Regulations Table 3.1.3.1 (July 31, 2016))	9		
Total			1665	1670	+5
Phase 5 Total Surplus / Deficiency					+5

6 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 3,109 dwelling units and between 10,700 sq. m. and 25,200 sq. m. GFA of retail commercial and office space permitted.

An As-Of-Right (AOR) comparison has been conducted to assess the potential traffic impacts to the surrounding road network if the Official Plan were to be amended. For the purpose of this assessment, the proposed amendment has considered the 10,900 sq. ft. of proposed retail and office GFA in Phase 4 (part 1 and 2) and phase 5 in addition to the 3,109 dwelling units. Synchro output reports for the AOR scenario are provided in **Appendix I**.

A comparison of the AOR to the proposed amendment is presented in **Exhibit 6-1** and **Exhibit 6-2** for the weekday AM and PM peak hours, respectively.

As observed in the tables, the increase in the volume-to-capacity (v/c) ratio between the as-of-right and the proposed amendment is minimal for most movements during the Weekday AM and PM peak hours, with the exception of the two access points to the subject lands.

During the AM peak hour, the eastbound left turn movement at the intersection of Watergarden Drive and Hurontario Street is anticipated to experience an increase in v/c ratio from 0.86 to 1.03 when the proposed amendment to the official Plan is considered. At the intersection of Foursprings Avenue and Eglinton Avenue West, the v/c ratio at the southbound left turn movement is anticipated to increase from 0.99 to 1.36 when considering the proposed amendment to the Official Plan.

During the PM peak hour, the northbound through and the southbound left turn movements at the intersection of Foursprings Avenue and Eglinton Avenue West will approach capacity when considering the proposed amendment to the Official Plan.

Exhibit 6-1: 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	E	0.29	E	0.29	0.00
	EBT	E	0.81	E	0.81	0.00
	WBL	F	0.83	F	0.82	-0.01
	WBT	E	0.35	E	0.35	0.00
	NBL	E	0.89	F	0.92	0.03
	Overall	C	0.87	C	0.89	0.02
Watergarden Drive/Armdale Road & Hurontario St	EBL	F	0.86	F	1.03	0.17
	EBT	E	0.34	E	0.41	0.07
	WBL	E	0.21	D	0.21	0.00
	WBT	E	0.09	D	0.14	0.05
	Overall	C	0.61	C	0.68	0.07
Hurontario St & Eglinton Ave E	EBT	F	1.17	F	1.22	0.05
	WBL	E	0.71	E	0.71	0.00
	NBL	E	0.49	E	0.50	0.01
	SBL	F	1.13	F	1.15	0.02
	SBR	F	0.16	E	0.16	0.00
	Overall	E	1.14	F	1.17	0.03
Plaza Entrance/Fourspring s Avenue & Eglinton Ave W	WBL	F	0.74	F	0.74	0.00
	NBT	D	0.39	E	0.54	0.15
	SBL	F	0.99	F	1.36	0.37
	Overall	C	0.80	D	0.90	0.10
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	NBL	E	0.68	E	0.68	0.00
	NBT	E	0.69	E	0.69	0.00
	SBL	F	1.03	F	1.02	-0.01
	SBT	E	0.53	E	0.53	0.00
	Overall	C	0.70	C	0.74	0.04

Exhibit 6-2: 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	0.34	E	0.34	0.00
	EBT	E	0.21	E	0.21	0.00
	WBL	E	0.45	E	0.45	0.00
	WBT	E	0.75	E	0.75	0.00
	NBL	D	0.62	D	0.62	0.00
	SBT	D	1.01	D	1.03	0.02
	Overall	D	0.91	D	0.92	0.01
Watergarden Drive/Armdale Road & Hurontario St	EBL	E	0.51	E	0.64	0.13
	EBT	E	0.57	E	0.74	0.17
	WBL	E	0.46	E	0.44	-0.02
	WBT	E	0.46	E	0.32	-0.14
	NBL	F	1.11	F	1.75	0.64
	Overall	A	1.04	B	1.60	0.56
Hurontario St & Eglinton Ave E	EBL	E	0.78	E	0.78	0.00
	WBL	F	1.12	F	1.12	0.00
	WBT	F	1.29	F	1.37	0.08
	NBL	F	0.88	F	0.92	0.04
	NBT	E	0.98	E	1.00	0.02
	SBL	F	1.16	F	1.18	0.02
	SBT	F	1.46	F	1.49	0.03
	Overall	F	1.35	F	1.39	0.04
Plaza Entrance/Foursprings Avenue & Eglinton Ave W	EBL	F	3.25	F	4.94	1.69
	WBT	A	0.78	B	0.86	0.08
	NBT	E	0.64	F	0.99	0.35
	SBL	E	0.53	F	0.95	0.42
	SBT	D	0.39	E	0.72	0.33
	Overall	D	2.61	F	3.89	1.28
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	EBL	D	0.72	E	0.83	0.11
	NBL	F	0.67	F	0.67	0.00
	NBT	E	0.25	E	0.25	0.00
	SBL	E	0.50	E	0.50	0.00
	SBT	E	0.65	E	0.65	0.00
	Overall	B	0.70	B	0.81	0.11

A secondary assessment was completed to account for the increase in transit usage, as a result of the planned Hurontario LRT. A comparison of the AOR to the proposed amendment, considering an 11% increase in modal split, is presented in **Exhibit 6-3** and **Exhibit 6-4** for the weekday AM and PM peak hours, respectively.

As observed in the tables, the increase in the volume-to-capacity (v/c) ratio between the as-of-right and the proposed amendment is minimal for most movements during the Weekday AM and PM peak hours, with the exception of the intersection of Foursprings Avenue and Eglinton Avenue West.

During the AM peak hour, the southbound left turn movement at the intersection of Foursprings Avenue and Eglinton Avenue West is anticipated to experience an increase in v/c ratio from 0.95 to 1.21.

During the PM peak hour, the southbound left turn movement at the intersection of Foursprings Avenue and Eglinton Avenue West is anticipated to experience an increase in v/c ratio from 0.43 to 0.93. The Northbound through movement is anticipated to experience an increase in v/c ratio from 0.56 to 0.98. The eastbound left turn movement is anticipated to continue to operate well above capacity in both scenarios.

Exhibit 6-3: AOR Comparison – Modal Split Reduction (AM Peak Hour)

Intersection	Movement	AS-OF-RIGHT (MODAL SPLIT REDUCTION)		PROPOSED AMENDMENT (MODAL SPLIT REDUCTION)		Change In v/c
		LOS	v/c	LOS	v/c	
Ceremonial Drive/Nahani Way & Hurontario St	EBL	E	0.28	E	0.28	0.00
	EBT	E	0.82	E	0.83	0.01
	WBL	F	0.80	F	0.78	-0.02
	WBT	E	0.17	E	0.17	0.00
	NBL	F	0.72	F	0.78	0.06
	NBT	B	0.95	C	0.98	0.03
	SBL	E	0.50	E	0.50	0.00
	SBT	F	1.12	F	1.17	0.05
	Overall	E	1.03	E	1.07	0.04
Hurontario St & Eglinton Ave E	EBL	E	0.78	E	0.83	0.05
	EBT	F	1.15	F	1.20	0.05
	EBR	F	0.13	F	0.13	0.00
	WBL	F	1.65	F	1.65	0.00
	NBL	F	0.75	F	0.81	0.06
	NBT	F	1.17	F	1.19	0.02
	SBL	F	3.37	F	3.90	0.53
	SBT	F	1.42	F	1.43	0.01
	Overall	F	1.64	F	1.73	0.09
Plaza Entrance/Foursprings Avenue & Eglinton Ave W	SBL	F	0.95	F	1.21	0.26
	Overall	C	0.62	C	0.70	0.08
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	NBL	E	0.66	E	0.66	0.00
	NBT	E	0.64	E	0.65	0.01
	SBL	F	1.00	F	1.00	0.00
	SBT	E	0.50	E	0.50	0.00
	Overall	C	0.57	C	0.59	0.02

Exhibit 6-4: AOR Comparison – Modal Split Reduction (PM Peak Hour)

Intersection	Movement	AS-OF-RIGHT (MODAL SPLIT REDUCTION)		PROPOSED AMENDMENT (MODAL SPLIT REDUCTION)		Change In v/c
		LOS	v/c	LOS	v/c	
Ceremonial Drive/Nahani Way & Hurontario St	EBL	E	0.32	E	0.32	0.00
	EBT	E	0.55	E	0.57	0.02
	WBL	E	0.45	E	0.45	0.00
	WBT	E	0.74	E	0.74	0.00
	NBL	F	0.76	F	0.87	0.11
	SBL	E	0.47	E	0.47	0.00
	SBT	F	1.78	F	1.81	0.03
	Overall	F	1.40	F	1.43	0.03
Hurontario St & Eglinton Ave E	EBL	F	1.32	F	1.32	0.00
	WBL	F	2.60	F	2.60	0.00
	WBT	F	1.24	F	1.32	0.08
	NBL	F	2.89	F	3.07	0.18
	NBT	F	1.01	F	1.03	0.02
	SBL	F	1.96	F	2.26	0.30
	SBT	F	2.14	F	2.16	0.02
	Overall	F	1.98	F	2.03	0.05
Plaza Entrance/Fourspring s Avenue & Eglinton Ave W	EBL	F	2.90	F	4.40	1.50
	NBT	E	0.56	F	0.98	0.42
	SBL	D	0.43	F	0.93	0.50
	Overall	D	2.28	F	3.56	1.28
Kingsbridge Garden Circle/Fairwind Drive & Eglinton Ave W	NBL	F	0.68	F	0.67	-0.01
	NBT	E	0.23	E	0.23	0.00
	SBL	E	0.53	E	0.52	-0.01
	SBT	E	0.61	E	0.62	0.01
	Overall	B	0.52	B	0.54	0.02

7 Transportation Demand Management

A Transportation Demand Management (TDM) Plan will be issued as an addendum to this report.

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

8.1.2 2022 Future Background Conditions

- With regards to the Pinnacle Lands, Phase 3 is currently under construction and units in Phase 4 Part 1 are currently for sale. Based on the land uses, a total of 319 and 376 new trips are expected for the background phases during the weekday AM and PM peak hours, respectively.
- During the PM peak hour, it is anticipated that the Foursprings Avenue / Eglinton Avenue intersection will operate at over capacity
- During both peak traffic hours, the Eglinton Avenue / Hurontario Street intersection is expected to operate with increased congestion due to increases to background traffic, mainly attributed to Pinnacle Uptown Phase 3 and Phase 4 Part 1. It is noted that this intersection is already operating over capacity under existing conditions.

8.1.3 2022 Future Background Sensitivity Analysis - Hurontario LRT

- A future reduction of the existing six through-lane cross section, signal timing adjustments to accommodate LRT operations, and a future transit modal split of 22% for the study area will result in additional vehicular capacity constraints along the Hurontario corridor, with longer vehicular delays and northbound-southbound queues.

8.1.4 2022 Future Total Conditions

- Based on a total of 2,095 residential units and 10,664 square metres (114,781 square feet) of non-residential (50/50 split between retail and office use) GFA, the site is anticipated to produce a total of 712 and 983 new vehicle trips during the weekday AM peak hour and weekday PM peak hour, respectively.
- Overall, congested operations continue to be anticipated throughout the study area during the weekday AM and PM peak hours.
- 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 Pinnacle lands. This would therefore improve future operations in the study area via reduced corridor traffic and reduced site generated traffic with regards to all phases of the Pinnacle lands.

8.1.5 Future Total Traffic Conditions with Hurontario LRT

- The eastbound left turn restriction at the existing signalized Watergarden Drive / Hurontario Street intersection will cause site traffic to instead southbound U-turn at the Eglinton Avenue / Hurontario Street intersection, resulting in increased vehicular activity at an already congested major intersection.
- Site traffic movements may shift towards the Foursprings Avenue / Eglinton Avenue West intersection due to drivers avoiding making U-turns on Hurontario Street, however capacity constraints are generally expected throughout the study area road network.
- If traffic operations in the study area are to improve while maintaining the future planned changes to the road network and transit infrastructure, further increases in transit usage as well as active transportation usage (e.g. walking, cycling) need to be achieved to reduce regional commuter automobile traffic in the area.

8.2 Parking Analysis Findings

- 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)".
- Based on these parking rates, the proposed supply for both subject site phases meet minimum requirements with regards to residential and shared (visitor and commercial) parking. The proposed accessible parking supply also meets Regulation requirements.

8.3 As-Of-Right Comparison

- The increase in the volume-to-capacity (v/c) ratio between the as-of-right (AOR) and the proposed amendment is minimal for most movements during the Weekday AM and PM peak hours, with the exception of the two access points to the subject lands (Watergarden Drive at Hurontario Street and Foursprings Avenue at Eglinton Avenue West). Both access points will experience volumes which will approach or exceed capacity when the proposed amendment is considered.
- A secondary comparison was completed, taking into account the planned Hurontario LRT. When the planned Hurontario LRT is completed, the difference in v/c ratio between the AOR and the planned amendment is minimal, with the exception of the Foursprings Avenue and Eglinton Avenue West intersection.

8.4 Transportation Demand Management

- Results of the Transportation Demand Management (TDM) Plan will be issued as an addendum to this report.

Appendix A – Terms of Reference Correspondence



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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	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> Specified Period From: 7:00:00 To: 9:00:00 </td> <td style="width: 50%; vertical-align: top;"> One Hour Peak From: 7:45:00 To: 8:45:00 </td> </tr> </table>	Specified Period From: 7:00:00 To: 9:00:00	One Hour Peak From: 7:45:00 To: 8:45:00																																																						
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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: $\bowtie$	<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>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: $\bowtie$
Heavys	0	0	0	0																											
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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

N
S
W
E

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: $\bowtie$ 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: $\bowtie$ South Peds: 17 South Entering: 1810 South Leg Total: 4496
Cars	2640																														
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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	
Totals	1	233	5908	6142

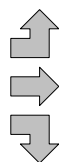
East Leg Total: 1108
 East Entering: 605
 East Peds: 84
 Peds Cross: $\bowtie$

Heavys	Trucks	Cars	Totals
5	19	748	772

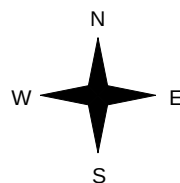


Ceremonial Dr

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="margin: auto;"> <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		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																				

<table style="width: 100%;"> <tr><th>Heavys</th><th>Trucks</th><th>Cars</th><th>Totals</th></tr> <tr><td>0</td><td>1</td><td>29</td><td>30</td></tr> </table> Watergarden Dr <table style="width: 100%;"> <tr><th>Heavys</th><th>Trucks</th><th>Cars</th><th>Totals</th></tr> <tr><td>0</td><td>1</td><td>39</td><td>40</td></tr> <tr><td>0</td><td>0</td><td>11</td><td>11</td></tr> <tr><td>0</td><td>0</td><td>13</td><td>13</td></tr> <tr><td>0</td><td>1</td><td>63</td><td></td></tr> </table>	Heavys	Trucks	Cars	Totals	0	1	29	30	Heavys	Trucks	Cars	Totals	0	1	39	40	0	0	11	11	0	0	13	13	0	1	63		<table style="width: 100%;"> <tr><th>Cars</th><th>Trucks</th><th>Heavys</th><th>Totals</th></tr> <tr><td>24</td><td>2</td><td>0</td><td>26</td></tr> <tr><td>7</td><td>0</td><td>0</td><td>7</td></tr> <tr><td>30</td><td>2</td><td>0</td><td>32</td></tr> <tr><td>61</td><td>4</td><td>0</td><td></td></tr> </table> Watergarden Dr <table style="width: 100%;"> <tr><th>Cars</th><th>Trucks</th><th>Heavys</th><th>Totals</th></tr> <tr><td>45</td><td>4</td><td>0</td><td>49</td></tr> </table>	Cars	Trucks	Heavys	Totals	24	2	0	26	7	0	0	7	30	2	0	32	61	4	0		Cars	Trucks	Heavys	Totals	45	4	0	49	<table style="width: 100%;"> <tr><th>Cars</th><th>Trucks</th><th>Heavys</th><th>Totals</th></tr> <tr><td>1768</td><td>86</td><td>0</td><td>1854</td></tr> </table>	Cars	Trucks	Heavys	Totals	1768	86	0	1854
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Peds Cross: $\bowtie$ West Peds: 16 West Entering: 64 West Leg Total: 94	<table style="margin: auto;"> <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	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>Heavys</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> <tr><td>Trucks</td><td>0</td><td>46</td><td>0</td><td>46</td></tr> <tr><td>Cars</td><td>14</td><td>2616</td><td>37</td><td>2667</td></tr> <tr><td>Totals</td><td>14</td><td>2663</td><td>37</td><td></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>Heavys</td><td>0</td></tr> <tr><td>Trucks</td><td>56</td></tr> <tr><td>Cars</td><td>1761</td></tr> <tr><td>Totals</td><td>1817</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																														

Heavys	Trucks	Cars	Totals
0	0	23	23

Hurontario St

Cars	Trucks	Heavys	Totals
51	0	0	51
2	0	0	2
40	0	0	40
93	0	0	

Watergarden Dr

Heavys	Trucks	Cars	Totals
0	0	9	9
0	0	6	6
0	0	8	8
0	0	23	

Hurontario St

Watergarden Dr

Cars	Trucks	Heavys	Totals
50	0	0	50

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

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: $\bowtie$

	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: $\bowtie$

Heavys	Trucks	Cars	Totals
0	5	121	126

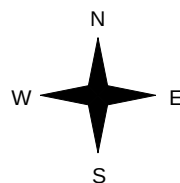


Watergarden Dr

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



Hurontario St



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: $\bowtie$
 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: $\bowtie$
 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	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> Specified Period From: 7:00:00 To: 9:00:00 </td> <td style="width: 50%; vertical-align: top;"> One Hour Peak From: 8:00:00 To: 9:00:00 </td> </tr> </table>	Specified Period From: 7:00:00 To: 9:00:00	One Hour Peak From: 8:00:00 To: 9:00:00																																																						
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<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 2px;"> Peds Cross: ⚡ South Peds: 63 South Entering: 1524 South Leg Total: 3342 </td> <td style="padding: 2px;"></td> </tr> </table>		Peds Cross: ⚡ South Peds: 63 South Entering: 1524 South Leg Total: 3342																																																							
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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: ⚡	<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>2</td><td>41</td><td>3</td><td>46</td></tr> <tr><td>Cars</td><td>245</td><td>2264</td><td>286</td><td>2795</td></tr> <tr><td>Totals</td><td>247</td><td>2305</td><td>289</td><td></td></tr> </table>	Heavys	0	0	0	0	Trucks	2	41	3	46	Cars	245	2264	286	2795	Totals	247	2305	289		<table style="width: 100%;"> <tr><td>Heavys</td><td>1</td></tr> <tr><td>Trucks</td><td>58</td></tr> <tr><td>Cars</td><td>1702</td></tr> <tr><td>Totals</td><td>1761</td></tr> </table>	Heavys	1	Trucks	58	Cars	1702	Totals	1761	East Leg Total: 3274 East Entering: 2294 East Peds: 89 Peds Cross: ⚡
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																														

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

N
S
W
E

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: ⚡ West Peds: 57 West Entering: 905 West Leg Total: 3257	<table style="width: 100%;"> <tr><td>Cars</td><td>2758</td></tr> <tr><td>Trucks</td><td>48</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Totals</td><td>2806</td></tr> </table>	Cars	2758	Trucks	48	Heavys	0	Totals	2806	<table style="width: 100%;"> <tr><td>Cars</td><td>288</td><td>1395</td><td>119</td><td>1802</td></tr> <tr><td>Trucks</td><td>4</td><td>50</td><td>2</td><td>56</td></tr> <tr><td>Heavys</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> <tr><td>Totals</td><td>292</td><td>1446</td><td>121</td><td></td></tr> </table>	Cars	288	1395	119	1802	Trucks	4	50	2	56	Heavys	0	1	0	1	Totals	292	1446	121		Peds Cross: ⚡ South Peds: 70 South Entering: 1859 South Leg Total: 4665
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																												

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: $\bowtie$

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



	4
Heavys	4
Trucks	254
Cars	6127
Totals	6385

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

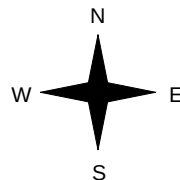
Heavys	Trucks	Cars	Totals
2	105	5806	5913



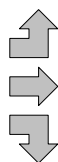
Hurontario St



Eglinton Ave W



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



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



Eglinton Ave W



Hurontario St



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

Cars	7574
Trucks	281
Heavys	0
Totals	7855



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

Peds Cross: $\bowtie$
 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

←

Eglinton Ave W

↑

Foursprings Ave

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

↑

Eglinton Ave W

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

↑

↓

Plaza Driveway

Cars	Trucks	Heavys	Totals
1811	39	4	1854

→

Eglinton Ave W

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

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

Eglinton Ave W

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

Eglinton Ave W

Cars	Trucks	Heavys	Totals
815	16	0	831

Peds Cross: ⚡

West Peds: 5

West Entering: 801

West Leg Total: 3144

Plaza Driveway

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	

Peds Cross: ⚡

South Peds: 10

South Entering: 141

South Leg Total: 258

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	0	0	0
9	0	9	223	232
Totals	9	223	232	

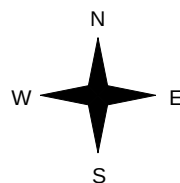
East Leg Total: 10798
 East Entering: 5702
 East Peds: 90
 Peds Cross: $\bowtie$

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	



Plaza Driveway



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

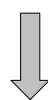
Eglinton Ave W



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	
Totals	435	2	1	438



	Cars	Trucks	Heavys	Totals
190	3	0	193	
8	0	0	8	
268	2	0	270	
466	5	0		
Totals	193	8	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: 2	<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>5</td><td>1</td><td>0</td><td>6</td></tr> <tr><td>Cars</td><td>48</td><td>72</td><td>102</td><td>222</td></tr> <tr><td>Totals</td><td>53</td><td>73</td><td>102</td><td></td></tr> </table>	Heavys	0	0	0	0	Trucks	5	1	0	6	Cars	48	72	102	222	Totals	53	73	102		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Trucks</td><td>6</td></tr> <tr><td>Cars</td><td>197</td></tr> <tr><td>Totals</td><td>203</td></tr> </table>	Heavys	0	Trucks	6	Cars	197	Totals	203	East Leg Total: 2578 East Entering: 751 East Peds: 3 Peds Cross: 3
Heavys	0	0	0	0																											
Trucks	5	1	0	6																											
Cars	48	72	102	222																											
Totals	53	73	102																												
Heavys	0																														
Trucks	6																														
Cars	197																														
Totals	203																														

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	

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

Kingsbridge Garden Circle

Peds Cross: 3 West Peds: 6 West Entering: 1794 West Leg Total: 2546	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>202</td></tr> <tr><td>Trucks</td><td>13</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Totals</td><td>215</td></tr> </table>	Cars	202	Trucks	13	Heavys	0	Totals	215	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>69</td><td>63</td><td>82</td><td>214</td></tr> <tr><td>Trucks</td><td>6</td><td>2</td><td>2</td><td>10</td></tr> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Totals</td><td>75</td><td>65</td><td>84</td><td></td></tr> </table>	Cars	69	63	82	214	Trucks	6	2	2	10	Heavys	0	0	0	0	Totals	75	65	84		Peds Cross: 3 South Peds: 11 South Entering: 224 South Leg Total: 439
Cars	202																														
Trucks	13																														
Heavys	0																														
Totals	215																														
Cars	69	63	82	214																											
Trucks	6	2	2	10																											
Heavys	0	0	0	0																											
Totals	75	65	84																												

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 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: 360 North Entering: 155 North Peds: 5 Peds Cross: 8	<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>2</td><td>0</td><td>2</td></tr> <tr><td>Cars</td><td>42</td><td>55</td><td>56</td><td>153</td></tr> <tr><td>Totals</td><td>42</td><td>57</td><td>56</td><td></td></tr> </table>	Heavys	0	0	0	0	Trucks	0	2	0	2	Cars	42	55	56	153	Totals	42	57	56		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>3</td></tr> <tr><td>Trucks</td><td>3</td></tr> <tr><td>Cars</td><td>199</td></tr> <tr><td>Totals</td><td>205</td></tr> </table>	Heavys	3	Trucks	3	Cars	199	Totals	205	East Leg Total: 3125 East Entering: 2296 East Peds: 3 Peds Cross: 8
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																														

Heavys	Trucks	Cars	Totals
0	26	2150	2176

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

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

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

Cars	Trucks	Heavys	Totals
246	7	0	253

Cars	Trucks	Heavys	Totals
812	17	0	829

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	619
163	187	269		
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

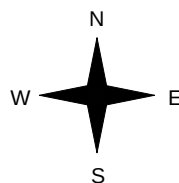


Eglinton Ave W

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	

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]

Appendix C – Signal Timing Plans

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					
371	00:00	/	/	/	/	/	/	LO	101	2	2	2					
371	06:00	1/1	/	/	/	1/1	/	CC	160	1	1	1					
1052																	

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 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

[illegible]

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		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 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			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				
	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 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

[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		LEN	NO.	NO.	FUNC
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
746 08:00	1/1	/	/	/	1/1	CC	160	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

PHASE OMIT BUT SPF2 Y=ON

?? SHOW OFF1-3,I746

OFFSET TABLE

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

??

Signal ID: 2801

Location: HURONTARIO STREET N at Eglinton Avenue West

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

Signal Timing Report

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-----	-----0----	-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	Free
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

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

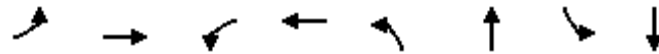
Appendix D – Existing Conditions - Synchro Reports

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 Drive/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)		93.4		92.9		183.5		161.8
Turn Bay Length (m)	63.1		32.1		55.0			
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 Drive/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

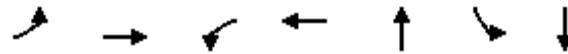
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	1505	167	186	568	173	76	1334	113	242	1465	174
Future Volume (vph)	192	1505	167	186	568	173	76	1334	113	242	1465	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	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/Foursprings Avenue & 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		52.3
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/Foursprings Avenue & Eglinton Ave W

AM Peak Period
Existing Conditions

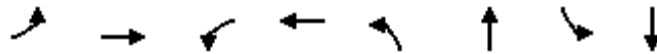
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	1737	59	60	725	33	25	3	64	63	7	45
Future Volume (vph)	31	1737	59	60	725	33	25	3	64	63	7	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	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

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

AM Peak Period

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												

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)	32	125	68	194	187	1746	51	3120
v/c Ratio	0.34	0.42	0.45	0.76	0.61	0.45	0.35	0.98
Control Delay	70.9	23.8	71.9	78.7	47.9	11.8	25.3	41.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.9	23.8	71.9	78.7	47.9	11.9	25.3	41.0
Queue Length 50th (m)	9.4	10.0	20.3	54.8	50.4	75.8	7.4	327.1
Queue Length 95th (m)	18.9	25.4	24.8	53.5	76.2	100.2	21.5	#414.5
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)	215	573	347	560	305	3916	147	3191
Starvation Cap Reductn	0	0	0	0	0	457	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	0.15	0.22	0.20	0.35	0.61	0.50	0.35	0.98

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	0.99		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	0.95		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)	1789	1668		1794	1788		1825	5043		1804	5171	
Flt Permitted	0.37	1.00		0.60	1.00		0.04	1.00		0.12	1.00	
Satd. Flow (perm)	705	1668		1137	1788		76	5043		237	5171	
Peak-hour factor, PHF	0.85	0.85	0.85	0.66	0.66	0.66	0.94	0.94	0.94	0.89	0.89	0.89
Adj. Flow (vph)	32	33	92	68	123	71	187	1683	63	51	3057	63
RTOR Reduction (vph)	0	78	0	0	16	0	0	1	0	0	1	0
Lane Group Flow (vph)	32	47	0	68	178	0	187	1745	0	51	3119	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)	21.3	21.3		21.3	21.3		124.2	124.2		98.7	98.7	
Effective Green, g (s)	21.3	21.3		21.3	21.3		124.2	124.2		98.7	98.7	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.78	0.78		0.62	0.62	
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)	93	222		151	238		304	3914		146	3189	
v/s Ratio Prot		0.03			c0.10		c0.09	0.35			c0.60	
v/s Ratio Perm	0.05			0.06			0.39			0.22		
v/c Ratio	0.34	0.21		0.45	0.75		0.62	0.45		0.35	0.98	
Uniform Delay, d1	63.0	61.9		64.0	66.7		52.7	6.1		15.0	29.6	
Progression Factor	1.00	1.00		1.00	1.00		0.97	1.75		1.00	1.00	
Incremental Delay, d2	2.2	0.5		2.1	12.0		3.4	0.3		6.5	11.6	
Delay (s)	65.2	62.3		66.1	78.7		54.6	11.1		21.4	41.2	
Level of Service	E	E		E	E		D	B		C	D	
Approach Delay (s)		62.9			75.4			15.3			40.9	
Approach LOS		E			E			B			D	
Intersection Summary												
HCM 2000 Control Delay			34.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.89									
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 Drive/Armdale Road

PM Peak Period
Existing Conditions

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	13	21	49	65	8	1918	43	3226
v/c Ratio	0.14	0.17	0.49	0.50	0.17	0.45	0.28	0.74
Control Delay	71.3	66.5	87.2	59.6	5.1	1.7	1.8	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	22.4
Total Delay	71.3	66.5	87.2	59.6	5.1	1.8	1.8	24.9
Queue Length 50th (m)	4.0	5.8	15.3	13.0	0.1	5.3	0.1	1.8
Queue Length 95th (m)	8.4	11.1	26.1	25.0	m0.1	m7.3	m0.1	15.8
Internal Link Dist (m)		93.4		92.9		183.5		161.8
Turn Bay Length (m)	63.1		32.1		55.0			
Base Capacity (vph)	265	349	284	332	48	4248	153	4334
Starvation Cap Reductn	0	0	0	0	0	927	0	802
Spillback Cap Reductn	0	0	0	0	0	0	0	1240
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.06	0.17	0.20	0.17	0.58	0.28	1.04
Intersection Summary								
m Volume for 95th percentile queue is metered by upstream signal.								

HCM Signalized Intersection Capacity Analysis

2: Watgarden Drive/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	0.95		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	0.91		1.00	0.85		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)	1766	1738		1814	1568		1825	5085		1807	5187	
Flt Permitted	0.71	1.00		0.74	1.00		0.03	1.00		0.10	1.00	
Satd. Flow (perm)	1329	1738		1420	1568		57	5085		182	5187	
Peak-hour factor, PHF	0.68	0.68	0.68	0.81	0.81	0.81	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	13	9	12	49	2	63	8	1910	8	43	3210	16
RTOR Reduction (vph)	0	2	0	0	21	0	0	0	0	0	0	0
Lane Group Flow (vph)	13	19	0	49	44	0	8	1918	0	43	3226	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)	11.3	11.3		11.3	11.3		133.7	133.7		133.7	133.7	
Effective Green, g (s)	11.3	11.3		11.3	11.3		133.7	133.7		133.7	133.7	
Actuated g/C Ratio	0.07	0.07		0.07	0.07		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)	93	122		100	110		47	4249		152	4334	
v/s Ratio Prot		0.01			0.03			0.38			c0.62	
v/s Ratio Perm	0.01			c0.03			0.14			0.24		
v/c Ratio	0.14	0.16		0.49	0.40		0.17	0.45		0.28	0.74	
Uniform Delay, d1	69.8	69.9		71.6	71.1		2.5	3.5		2.8	5.7	
Progression Factor	1.00	1.00		1.00	1.00		0.41	0.42		0.02	0.33	
Incremental Delay, d2	0.7	0.6		3.7	2.3		3.5	0.2		1.7	0.4	
Delay (s)	70.5	70.5		75.3	73.4		4.6	1.6		1.8	2.3	
Level of Service	E	E		E	E		A	A		A	A	
Approach Delay (s)		70.5			74.2			1.6			2.3	
Approach LOS		E			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			4.0			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.72									
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)	154	600	199	315	1830	171	317	1583	132	340	2712	291
v/c Ratio	0.77	0.37	0.33	1.12	1.16	0.36	0.83	0.96	0.26	1.14	1.43	0.46
Control Delay	65.3	35.8	3.8	152.4	126.9	11.8	87.7	66.7	17.0	146.9	227.2	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	65.3	35.8	3.8	152.4	126.9	11.8	87.7	66.7	17.0	146.9	227.2	15.4
Queue Length 50th (m)	20.8	58.2	15.8	~59.0	~253.6	6.4	51.2	181.2	10.9	~108.6	~428.8	15.7
Queue Length 95th (m)	#62.3	66.0	2.7	#90.6	#282.1	26.5	68.1	#211.5	28.2	#157.4	#415.8	38.4
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	100.0	
Base Capacity (vph)	209	1639	603	282	1581	480	416	1654	510	297	1897	634
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	41	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	0.74	0.37	0.33	1.12	1.16	0.36	0.76	0.96	0.26	1.14	1.46	0.46

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

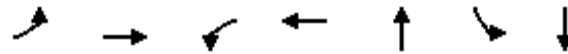
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  		 	  		 	  	
Traffic Volume (vph)	146	570	189	312	1812	169	292	1456	121	289	2305	247
Future Volume (vph)	146	570	189	312	1812	169	292	1456	121	289	2305	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	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	0.95	0.95	0.95	0.99	0.99	0.99	0.92	0.92	0.92	0.85	0.85	0.85
Adj. Flow (vph)	154	600	199	315	1830	171	317	1583	132	340	2712	291
RTOR Reduction (vph)	0	0	136	0	0	99	0	0	56	0	0	92
Lane Group Flow (vph)	154	600	63	315	1830	72	317	1583	76	340	2712	199
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)	64.3	51.0	51.0	13.0	48.7	48.7	17.5	52.0	52.0	79.0	58.5	58.5
Effective Green, g (s)	64.3	51.0	51.0	13.0	48.7	48.7	17.5	52.0	52.0	79.0	58.5	58.5
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)	199	1639	467	282	1580	380	383	1654	454	295	1898	542
v/s Ratio Prot	0.06	0.12		c0.09	c0.35		0.09	0.31		c0.16	c0.52	
v/s Ratio Perm	0.25		0.04			0.06			0.05	0.41		0.13
v/c Ratio	0.77	0.37	0.14	1.12	1.16	0.19	0.83	0.96	0.17	1.15	1.43	0.37
Uniform Delay, d1	39.5	42.0	38.8	73.5	55.6	41.1	69.8	52.9	38.5	53.5	50.8	37.2
Progression Factor	1.16	0.83	0.49	1.00	1.00	1.00	1.00	1.00	1.00	1.41	0.77	0.72
Incremental Delay, d2	15.3	0.1	0.1	88.8	78.7	0.2	13.1	14.0	0.8	92.1	195.1	1.3
Delay (s)	61.2	35.2	19.2	162.3	134.4	41.3	82.8	67.0	39.3	167.6	234.3	28.1
Level of Service	E	D	B	F	F	D	F	E	D	F	F	C
Approach Delay (s)		36.1			131.3			67.6			209.6	
Approach LOS		D			F			E			F	
Intersection Summary												
HCM 2000 Control Delay			136.1				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.29									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			24.0		
Intersection Capacity Utilization			115.1%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

PM Peak Period

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

Existing Conditions



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	22	950	74	2482	183	33	36
v/c Ratio	0.37	0.25	0.18	0.63	0.80	0.21	0.15
Control Delay	30.6	5.4	1.8	5.5	79.8	60.3	48.7
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay	30.6	5.4	1.8	5.8	79.8	60.3	48.7
Queue Length 50th (m)	2.1	38.0	1.1	38.1	49.0	9.4	8.1
Queue Length 95th (m)	14.7	54.3	m2.0	m22.1	59.2	18.9	17.6
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	60	3870	410	3938	357	258	391
Starvation Cap Reductn	0	0	0	671	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	0.37	0.25	0.18	0.76	0.51	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/Foursprings Avenue & Eglinton Ave W

PM Peak Period
Existing Conditions

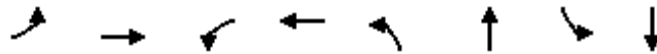
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	809	46	68	2242	41	73	1	67	29	3	29
Future Volume (vph)	20	809	46	68	2242	41	73	1	67	29	3	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	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			1692		1789	1626	
Flt Permitted	0.04	1.00		0.28	1.00			0.82		0.58	1.00	
Satd. Flow (perm)	79	5083		539	5176			1419		1089	1626	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	22	899	51	74	2437	45	95	1	87	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	160	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)	121.7	121.7		121.7	121.7			23.3		23.3	23.3	
Effective Green, g (s)	121.7	121.7		121.7	121.7			23.3		23.3	23.3	
Actuated g/C Ratio	0.76	0.76		0.76	0.76			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)	60	3866		409	3936			206		158	236	
v/s Ratio Prot		0.19			c0.48						0.02	
v/s Ratio Perm	0.28			0.14				c0.11		0.03		
v/c Ratio	0.37	0.24		0.18	0.63			0.78		0.21	0.13	
Uniform Delay, d1	6.4	5.6		5.3	8.8			65.8		60.2	59.5	
Progression Factor	1.09	0.88		0.23	0.55			1.00		1.00	1.00	
Incremental Delay, d2	16.2	0.1		0.3	0.2			16.6		0.7	0.2	
Delay (s)	23.1	5.1		1.5	5.1			82.5		60.9	59.7	
Level of Service	C	A		A	A			F		E	E	
Approach Delay (s)		5.5			5.0			82.5			60.3	
Approach LOS		A			A			F			E	
Intersection Summary												
HCM 2000 Control Delay		9.9			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.65										
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)	58	932	110	2281	69	87	64	113
v/c Ratio	0.64	0.23	0.24	0.55	0.68	0.42	0.51	0.66
Control Delay	43.5	3.7	9.8	11.0	99.8	35.8	81.6	82.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	3.7	9.8	11.0	99.8	35.8	81.6	82.1
Queue Length 50th (m)	6.1	20.6	13.6	110.0	21.6	10.5	19.7	32.8
Queue Length 95th (m)	#40.6	30.2	25.1	134.6	38.2	27.5	34.0	50.9
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)	90	4088	455	4179	318	531	394	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	0.64	0.23	0.24	0.55	0.22	0.16	0.16	0.22

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

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		1813	5147		1697	1685		1819	1746	
Flt Permitted	0.06	1.00		0.29	1.00		0.61	1.00		0.70	1.00	
Satd. Flow (perm)	113	5030		562	5147		1084	1685		1341	1746	
Peak-hour factor, PHF	0.92	0.92	0.92	0.98	0.98	0.98	0.93	0.93	0.93	0.88	0.88	0.88
Adj. Flow (vph)	58	836	96	110	2161	120	69	33	54	64	65	48
RTOR Reduction (vph)	0	4	0	0	2	0	0	47	0	0	7	0
Lane Group Flow (vph)	58	928	0	110	2279	0	69	40	0	64	106	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)	129.9	129.9		129.9	129.9		15.1	15.1		15.1	15.1	
Effective Green, g (s)	129.9	129.9		129.9	129.9		15.1	15.1		15.1	15.1	
Actuated g/C Ratio	0.81	0.81		0.81	0.81		0.09	0.09		0.09	0.09	
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)	91	4083		456	4178		102	159		126	164	
v/s Ratio Prot		0.18			0.44			0.02			0.06	
v/s Ratio Perm	c0.51			0.20			c0.06			0.05		
v/c Ratio	0.64	0.23		0.24	0.55		0.68	0.25		0.51	0.64	
Uniform Delay, d1	5.9	3.5		3.5	5.1		70.1	67.2		68.9	69.9	
Progression Factor	1.00	1.00		2.07	1.96		1.00	1.00		1.00	1.00	
Incremental Delay, d2	29.5	0.1		1.0	0.4		16.3	0.8		3.2	8.4	
Delay (s)	35.3	3.6		8.3	10.3		86.4	68.0		72.1	78.3	
Level of Service	D	A		A	B		F	E		E	E	
Approach Delay (s)		5.5			10.2			76.2			76.0	
Approach LOS		A			B			E			E	
Intersection Summary												
HCM 2000 Control Delay			14.9			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.64									
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												

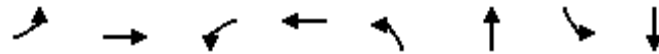
Appendix E – 2022 Future Background Conditions – Synchro Reports

Queues

AM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	265	92	123	108	1827	65	1836
v/c Ratio	0.29	0.82	0.83	0.37	0.88	0.50	0.50	0.52
Control Delay	56.7	77.6	109.2	49.6	84.0	13.8	29.4	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	77.6	109.2	49.6	84.0	13.8	29.4	11.2
Queue Length 50th (m)	18.3	77.2	28.5	29.4	36.0	78.7	8.3	86.8
Queue Length 95th (m)	30.7	102.3	43.5	41.4	#76.7	75.6	33.4	122.3
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	533	123	3641	129	3560
Starvation Cap Reductn	0	0	0	0	0	285	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	0.88	0.54	0.50	0.52

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

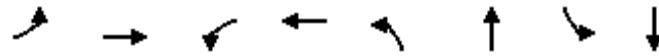
1: Ceremonial Drive/Nahani Way & Hurontario St

AM Peak Period
Future Background

												
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	1635	64	59	1611	60
Future Volume (vph)	61	49	195	76	28	74	100	1635	64	59	1611	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		1748	5053		1802	4938	
Flt Permitted	0.64	1.00		0.31	1.00		0.09	1.00		0.09	1.00	
Satd. Flow (perm)	1211	1640		593	1669		172	5053		179	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	1758	69	65	1770	66
RTOR Reduction (vph)	0	14	0	0	15	0	0	2	0	0	2	0
Lane Group Flow (vph)	66	251	0	92	108	0	108	1825	0	65	1834	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		123	3641		128	3558	
v/s Ratio Prot		0.15			0.06			0.36			0.37	
v/s Ratio Perm	0.05			0.16			0.63			0.36		
v/c Ratio	0.29	0.81		0.83	0.34		0.88	0.50		0.51	0.52	
Uniform Delay, d1	55.7	62.2		62.4	56.3		17.0	9.8		9.8	9.9	
Progression Factor	1.00	1.00		1.00	1.00		1.62	1.26		1.00	1.00	
Incremental Delay, d2	0.7	15.0		37.6	0.7		50.2	0.5		13.7	0.5	
Delay (s)	56.4	77.2		100.0	57.0		77.8	12.8		23.5	10.5	
Level of Service	E	E		F	E		E	B		C	B	
Approach Delay (s)		73.0			75.4			16.4			10.9	
Approach LOS		E			E			B			B	
Intersection Summary												
HCM 2000 Control Delay			21.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			14.5		
Intersection Capacity Utilization			92.1%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

Queues
2: Watergarden Drive/Armdale Road

AM Peak Period
Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	126	77	43	50	19	1777	28	2018
v/c Ratio	0.74	0.32	0.27	0.21	0.16	0.45	0.19	0.51
Control Delay	91.2	46.9	65.1	27.5	19.7	19.7	5.8	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Total Delay	91.2	46.9	65.1	27.5	19.7	20.2	5.8	4.6
Queue Length 50th (m)	39.3	16.1	12.6	4.6	3.3	134.8	1.3	35.6
Queue Length 95th (m)	50.0	25.3	19.7	12.0	m5.3	155.8	m2.7	37.9
Internal Link Dist (m)		93.4		92.9		183.5		161.8
Turn Bay Length (m)	63.1		32.1		55.0			
Base Capacity (vph)	271	370	256	350	120	3924	151	3922
Starvation Cap Reductn	0	0	0	0	0	1468	0	286
Spillback Cap Reductn	0	1	0	0	0	109	0	223
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.21	0.17	0.14	0.16	0.72	0.19	0.56

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

2: Watergarden Drive/Armdale Road

AM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	27	32	32	11	26	18	1676	12	26	1836	20
Future Volume (vph)	97	27	32	32	11	26	18	1676	12	26	1836	20
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	0.90		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)	1779	1764		1722	1618		1821	5029		1696	5028	
Flt Permitted	0.72	1.00		0.71	1.00		0.08	1.00		0.11	1.00	
Satd. Flow (perm)	1356	1764		1281	1618		153	5029		193	5028	
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)	126	35	42	43	15	35	19	1764	13	28	1996	22
RTOR Reduction (vph)	0	19	0	0	30	0	0	0	0	0	0	0
Lane Group Flow (vph)	126	58	0	43	20	0	19	1777	0	28	2018	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)	20.1	20.1		20.1	20.1		124.9	124.9		124.9	124.9	
Effective Green, g (s)	20.1	20.1		20.1	20.1		124.9	124.9		124.9	124.9	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.78	0.78		0.78	0.78	
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)	170	221		160	203		119	3925		150	3924	
v/s Ratio Prot		0.03			0.01			0.35			c0.40	
v/s Ratio Perm	c0.09			0.03			0.12			0.15		
v/c Ratio	0.74	0.26		0.27	0.10		0.16	0.45		0.19	0.51	
Uniform Delay, d1	67.4	63.2		63.3	61.9		4.4	6.0		4.5	6.4	
Progression Factor	1.00	1.00		1.00	1.00		2.77	3.03		0.54	0.60	
Incremental Delay, d2	15.9	0.6		0.9	0.2		1.9	0.3		2.4	0.4	
Delay (s)	83.3	63.9		64.2	62.2		14.1	18.3		4.8	4.3	
Level of Service	F	E		E	E		B	B		A	A	
Approach Delay (s)		76.0			63.1			18.3			4.3	
Approach LOS		E			E			B			A	
Intersection Summary												
HCM 2000 Control Delay	15.2			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.55											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)			15.0					
Intersection Capacity Utilization	60.5%			ICU Level of Service			B					
Analysis Period (min)	15											
c Critical Lane Group												

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	SBR
Lane Group Flow (vph)	213	1762	196	196	636	183	84	1441	122	266	1610	189
v/c Ratio	0.68	1.11	0.37	0.71	0.42	0.34	0.48	0.78	0.21	1.11	0.74	0.26
Control Delay	42.2	107.1	19.0	85.7	46.4	7.1	82.3	48.1	10.5	122.2	52.1	19.9
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0
Total Delay	42.2	107.3	19.0	85.7	46.4	7.1	82.3	48.1	10.5	122.2	55.7	19.9
Queue Length 50th (m)	41.9	~236.8	15.9	31.7	60.0	0.0	13.6	148.2	5.5	~80.2	185.0	21.2
Queue Length 95th (m)	72.0	#273.1	41.1	45.2	72.6	18.6	22.7	166.3	19.9	#138.4	206.9	46.2
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			100.0		100.0
Base Capacity (vph)	319	1589	531	319	1520	532	392	1859	580	240	2190	716
Starvation Cap Reductn	0	97	0	0	0	0	0	0	0	0	478	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	0.67	1.18	0.37	0.61	0.42	0.34	0.21	0.78	0.21	1.11	0.94	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
Future Background

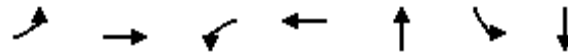
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	1586	176	186	604	174	78	1340	113	245	1481	174
Future Volume (vph)	192	1586	176	186	604	174	78	1340	113	245	1481	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	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)	1755	5193	1426	3404	5142	1367	3309	5043	1411	1789	5043	1438
Flt Permitted	0.31	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	565	5193	1426	3404	5142	1367	3309	5043	1411	122	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	1762	196	196	636	183	84	1441	122	266	1610	189
RTOR Reduction (vph)	0	0	95	0	0	129	0	0	60	0	0	92
Lane Group Flow (vph)	213	1762	101	196	636	54	84	1441	62	266	1610	97
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	8.5	59.0	59.0	81.0	69.5	69.5
Effective Green, g (s)	61.7	49.0	49.0	13.0	47.3	47.3	8.5	59.0	59.0	81.0	69.5	69.5
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)	312	1590	436	276	1520	404	175	1859	520	238	2190	624
v/s Ratio Prot	0.05	c0.34		c0.06	0.12		0.03	0.29		c0.12	0.32	
v/s Ratio Perm	0.21		0.07			0.04			0.04	c0.44		0.07
v/c Ratio	0.68	1.11	0.23	0.71	0.42	0.13	0.48	0.78	0.12	1.12	0.74	0.16
Uniform Delay, d1	35.6	55.5	41.4	71.7	45.3	41.3	73.6	44.6	33.3	51.0	37.6	27.5
Progression Factor	0.99	0.99	1.23	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.32	3.18
Incremental Delay, d2	4.2	57.1	0.2	7.0	0.2	0.2	0.8	3.2	0.5	90.0	2.0	0.5
Delay (s)	39.6	112.2	51.0	78.6	45.5	41.5	74.4	47.9	33.8	130.8	51.4	87.9
Level of Service	D	F	D	E	D	D	E	D	C	F	D	F
Approach Delay (s)		99.5			51.2			48.2			65.0	
Approach LOS		F			D			D			E	
Intersection Summary												
HCM 2000 Control Delay			69.8									
HCM 2000 Volume to Capacity ratio			1.11									
Actuated Cycle Length (s)			160.0									
Intersection Capacity Utilization			102.0%									
Analysis Period (min)			15									
c Critical Lane Group												

Queues

AM Peak Period

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	57	1996	65	866	129	174	144
v/c Ratio	0.14	0.54	0.61	0.24	0.51	0.87	0.37
Control Delay	11.4	12.5	73.9	14.0	55.0	100.5	14.0
Queue Delay	0.0	0.3	0.0	0.0	0.1	0.6	0.0
Total Delay	11.4	12.8	73.9	14.0	55.1	101.0	14.0
Queue Length 50th (m)	4.5	79.7	16.9	45.4	31.3	54.4	5.1
Queue Length 95th (m)	17.1	165.5	#40.1	66.6	38.0	76.3	21.8
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	406	3727	107	3655	333	267	481
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	870	0	0	16	10	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.70	0.61	0.24	0.41	0.68	0.30

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/Foursprings Avenue & Eglinton Ave W

AM Peak Period
Future Background

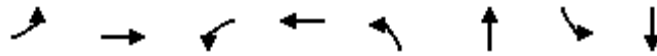
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	1737	59	60	742	54	25	5	64	153	17	110
Future Volume (vph)	51	1737	59	60	742	54	25	5	64	153	17	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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			1.00		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)	1715	5112		1825	5009			1640		1775	1624	
Flt Permitted	0.31	1.00		0.08	1.00			0.80		0.60	1.00	
Satd. Flow (perm)	558	5112		147	5009			1337		1127	1624	
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)	57	1930	66	65	807	59	34	7	88	174	19	125
RTOR Reduction (vph)	0	2	0	0	4	0	0	17	0	0	103	0
Lane Group Flow (vph)	57	1994	0	65	862	0	0	112	0	174	41	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)	116.6	116.6		116.6	116.6			28.4		28.4	28.4	
Effective Green, g (s)	116.6	116.6		116.6	116.6			28.4		28.4	28.4	
Actuated g/C Ratio	0.73	0.73		0.73	0.73			0.18		0.18	0.18	
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)	406	3725		107	3650			237		200	288	
v/s Ratio Prot		0.39			0.17						0.03	
v/s Ratio Perm	0.10			c0.44				0.08		c0.15		
v/c Ratio	0.14	0.54		0.61	0.24			0.47		0.87	0.14	
Uniform Delay, d1	6.6	9.7		10.6	7.1			59.1		64.0	55.5	
Progression Factor	1.31	1.16		3.16	1.83			1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.5		22.0	0.1			1.5		30.7	0.2	
Delay (s)	9.2	11.6		55.4	13.1			60.5		94.7	55.8	
Level of Service	A	B		E	B			E		F	E	
Approach Delay (s)		11.6			16.1			60.5			77.0	
Approach LOS		B			B			E			E	
Intersection Summary												
HCM 2000 Control Delay			20.7			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			92.2%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

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

AM Peak Period

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	81	2078	61	872	97	193	131	162
v/c Ratio	0.19	0.55	0.62	0.23	0.68	0.70	1.03	0.56
Control Delay	8.3	9.8	56.8	14.6	85.8	72.3	151.4	59.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.3	9.8	56.8	14.6	85.8	72.3	151.4	59.6
Queue Length 50th (m)	6.8	92.1	10.6	51.3	29.6	55.4	~44.2	41.5
Queue Length 95th (m)	15.3	117.3	#43.2	69.4	39.3	63.6	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)	436	3808	99	3768	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	0.19	0.55	0.62	0.23	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
Future Background

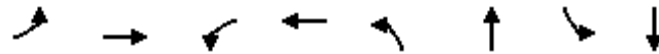
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	1661	85	57	750	70	75	65	84	102	73	53
Future Volume (vph)	68	1661	85	57	750	70	75	65	84	102	73	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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	5074		1771	5022		1680	1701		1820	1711	
Flt Permitted	0.31	1.00		0.07	1.00		0.51	1.00		0.43	1.00	
Satd. Flow (perm)	582	5074		132	5022		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	1977	101	61	798	74	97	84	109	131	94	68
RTOR Reduction (vph)	0	2	0	0	5	0	0	10	0	0	19	0
Lane Group Flow (vph)	81	2076	0	61	868	0	97	183	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)	436	3805		99	3766		142	265		127	267	
v/s Ratio Prot		0.41			0.17			0.11			0.08	
v/s Ratio Perm	0.14			0.46			0.11			0.16		
v/c Ratio	0.19	0.55		0.62	0.23		0.68	0.69		1.03	0.53	
Uniform Delay, d1	5.8	8.5		9.3	6.0		63.8	63.8		67.5	62.1	
Progression Factor	1.00	1.00		1.96	2.22		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.6		25.0	0.1		12.7	7.5		88.5	2.1	
Delay (s)	6.7	9.0		43.2	13.6		76.5	71.4		156.0	64.2	
Level of Service	A	A		D	B		E	E		F	E	
Approach Delay (s)		8.9			15.5			73.1			105.2	
Approach LOS		A			B			E			F	
Intersection Summary												
HCM 2000 Control Delay	23.3			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.69											
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												

Queues

PM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	125	68	194	187	1761	51	3166
v/c Ratio	0.34	0.42	0.45	0.76	0.61	0.45	0.35	0.99
Control Delay	70.9	23.8	71.9	78.7	47.1	11.5	25.7	44.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	70.9	23.8	71.9	78.7	47.1	11.6	25.7	44.1
Queue Length 50th (m)	9.4	10.0	20.3	54.8	49.2	74.1	7.4	339.5
Queue Length 95th (m)	18.9	25.4	24.8	53.5	74.3	99.0	21.7	#425.0
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)	215	573	347	560	305	3916	145	3191
Starvation Cap Reductn	0	0	0	0	0	469	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	0.15	0.22	0.20	0.35	0.61	0.51	0.35	0.99

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

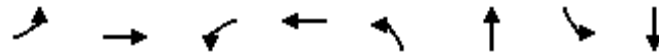
1: Ceremonial Drive/Nahani Way & Hurontario St

PM Peak Period
Future Background

												
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	1596	59	45	2762	56
Future Volume (vph)	27	28	78	45	81	47	176	1596	59	45	2762	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	0.99		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	0.95		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)	1789	1668		1794	1788		1825	5043		1805	5171	
Flt Permitted	0.37	1.00		0.60	1.00		0.04	1.00		0.12	1.00	
Satd. Flow (perm)	705	1668		1137	1788		76	5043		233	5171	
Peak-hour factor, PHF	0.85	0.85	0.85	0.66	0.66	0.66	0.94	0.94	0.94	0.89	0.89	0.89
Adj. Flow (vph)	32	33	92	68	123	71	187	1698	63	51	3103	63
RTOR Reduction (vph)	0	78	0	0	16	0	0	1	0	0	1	0
Lane Group Flow (vph)	32	47	0	68	178	0	187	1760	0	51	3165	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)	21.3	21.3		21.3	21.3		124.2	124.2		98.7	98.7	
Effective Green, g (s)	21.3	21.3		21.3	21.3		124.2	124.2		98.7	98.7	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.78	0.78		0.62	0.62	
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)	93	222		151	238		304	3914		143	3189	
v/s Ratio Prot		0.03			c0.10		c0.09	0.35			c0.61	
v/s Ratio Perm	0.05			0.06			0.39			0.22		
v/c Ratio	0.34	0.21		0.45	0.75		0.62	0.45		0.36	0.99	
Uniform Delay, d1	63.0	61.9		64.0	66.7		52.7	6.2		15.1	30.3	
Progression Factor	1.00	1.00		1.00	1.00		0.95	1.69		1.00	1.00	
Incremental Delay, d2	2.2	0.5		2.1	12.0		3.4	0.3		6.8	14.3	
Delay (s)	65.2	62.3		66.1	78.7		53.6	10.8		21.9	44.5	
Level of Service	E	E		E	E		D	B		C	D	
Approach Delay (s)		62.9			75.4			14.9			44.2	
Approach LOS		E			E			B			D	
Intersection Summary												
HCM 2000 Control Delay			36.0				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			17.5		
Intersection Capacity Utilization			106.6%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

Queues
2: Watergarden Drive/Armdale Road

PM Peak Period
Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	40	60	49	73	34	1913	43	3273
v/c Ratio	0.43	0.48	0.50	0.53	0.71	0.45	0.28	0.76
Control Delay	83.7	81.0	88.0	61.8	65.0	1.5	1.7	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	38.0
Total Delay	83.7	81.0	88.0	61.8	65.0	1.7	1.7	40.8
Queue Length 50th (m)	12.5	18.1	15.3	15.3	4.4	5.6	0.1	1.8
Queue Length 95th (m)	18.6	24.4	26.0	27.6	m6.6	m7.7	m0.1	22.5
Internal Link Dist (m)		93.4		92.9		183.5		161.8
Turn Bay Length (m)	63.1		32.1		55.0			
Base Capacity (vph)	263	345	274	340	48	4241	153	4315
Starvation Cap Reductn	0	0	0	0	0	932	0	792
Spillback Cap Reductn	0	0	0	0	0	0	0	1285
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.17	0.18	0.21	0.71	0.58	0.28	1.08

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

2: Watergarden Drive/Armdale Road

PM Peak Period
Future Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	15	26	40	8	51	31	1753	7	37	2787	61
Future Volume (vph)	27	15	26	40	8	51	31	1753	7	37	2787	61
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	0.91		1.00	0.87		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	1718		1814	1605		1825	5085		1807	5169	
Flt Permitted	0.71	1.00		0.72	1.00		0.03	1.00		0.10	1.00	
Satd. Flow (perm)	1320	1718		1371	1605		58	5085		183	5169	
Peak-hour factor, PHF	0.68	0.68	0.68	0.81	0.81	0.81	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	40	22	38	49	10	63	34	1905	8	43	3203	70
RTOR Reduction (vph)	0	2	0	0	22	0	0	0	0	0	1	0
Lane Group Flow (vph)	40	58	0	49	51	0	34	1913	0	43	3272	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)	11.5	11.5		11.5	11.5		133.5	133.5		133.5	133.5	
Effective Green, g (s)	11.5	11.5		11.5	11.5		133.5	133.5		133.5	133.5	
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)	94	123		98	115		48	4242		152	4312	
v/s Ratio Prot		0.03			0.03			0.38			c0.63	
v/s Ratio Perm	0.03			c0.04			0.59			0.23		
v/c Ratio	0.43	0.47		0.50	0.44		0.71	0.45		0.28	0.76	
Uniform Delay, d1	71.1	71.3		71.5	71.2		5.4	3.5		2.9	6.0	
Progression Factor	1.00	1.00		1.00	1.00		2.71	0.37		0.02	0.37	
Incremental Delay, d2	3.1	2.9		4.0	2.7		32.0	0.2		1.6	0.5	
Delay (s)	74.2	74.2		75.5	73.9		46.5	1.5		1.7	2.7	
Level of Service	E	E		E	E		D	A		A	A	
Approach Delay (s)		74.2			74.5			2.3			2.7	
Approach LOS		E			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			5.4			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				15.0		
Intersection Capacity Utilization			85.0%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

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	SBR
Lane Group Flow (vph)	154	722	211	315	1934	173	336	1602	132	341	2725	291
v/c Ratio	0.77	0.44	0.35	1.12	1.22	0.36	0.85	0.97	0.26	1.15	1.45	0.46
Control Delay	67.7	37.3	3.6	152.4	151.8	13.2	89.8	68.7	17.2	146.9	235.3	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	67.7	37.3	3.6	152.4	151.8	13.2	89.8	68.7	17.2	146.9	235.4	16.0
Queue Length 50th (m)	22.9	72.0	13.6	~59.0	~278.7	8.3	54.5	184.3	11.2	~108.9	~433.2	16.6
Queue Length 95th (m)	#66.4	81.6	2.0	#90.6	#306.5	28.9	#75.6	#216.1	28.4	#157.9	#418.7	38.4
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	100.0	
Base Capacity (vph)	209	1639	611	282	1583	476	416	1654	509	297	1883	630
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	45	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	0.74	0.44	0.35	1.12	1.22	0.36	0.81	0.97	0.26	1.15	1.48	0.46

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
Future Background

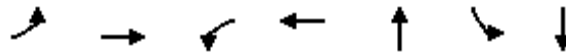
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	686	200	312	1915	171	309	1474	121	290	2316	247
Future Volume (vph)	146	686	200	312	1915	171	309	1474	121	290	2316	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	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	0.95	0.95	0.95	0.99	0.99	0.99	0.92	0.92	0.92	0.85	0.85	0.85
Adj. Flow (vph)	154	722	211	315	1934	173	336	1602	132	341	2725	291
RTOR Reduction (vph)	0	0	144	0	0	95	0	0	55	0	0	92
Lane Group Flow (vph)	154	722	67	315	1934	78	336	1602	77	341	2725	199
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)	64.2	51.0	51.0	13.0	48.8	48.8	18.0	52.0	52.0	79.0	58.0	58.0
Effective Green, g (s)	64.2	51.0	51.0	13.0	48.8	48.8	18.0	52.0	52.0	79.0	58.0	58.0
Actuated g/C Ratio	0.40	0.32	0.32	0.08	0.30	0.30	0.11	0.32	0.32	0.49	0.36	0.36
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)	198	1639	467	282	1583	381	394	1654	454	295	1882	538
v/s Ratio Prot	0.06	0.14		c0.09	c0.37		0.10	0.31		c0.16	c0.52	
v/s Ratio Perm	0.25		0.05			0.06			0.05	0.41		0.13
v/c Ratio	0.78	0.44	0.14	1.12	1.22	0.20	0.85	0.97	0.17	1.16	1.45	0.37
Uniform Delay, d1	39.5	43.2	38.9	73.5	55.6	41.2	69.7	53.2	38.6	53.6	51.0	37.6
Progression Factor	1.22	0.84	0.45	1.00	1.00	1.00	1.00	1.00	1.00	1.39	0.79	0.75
Incremental Delay, d2	15.5	0.2	0.1	88.8	105.7	0.3	15.6	15.8	0.8	93.0	203.6	1.3
Delay (s)	63.8	36.5	17.6	162.3	161.3	41.5	85.3	69.0	39.4	167.4	243.9	29.4
Level of Service	E	D	B	F	F	D	F	E	D	F	F	C
Approach Delay (s)		36.7			152.9			69.8			217.5	
Approach LOS		D			F			E			F	
Intersection Summary												
HCM 2000 Control Delay			143.8			HCM 2000 Level of Service				F		
HCM 2000 Volume to Capacity ratio			1.32									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			24.0			
Intersection Capacity Utilization			117.8%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

Queues

PM Peak Period

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	90	1040	74	2612	187	85	98
v/c Ratio	1.91	0.27	0.20	0.67	0.81	0.52	0.39
Control Delay	500.5	5.6	1.7	7.0	80.6	71.8	59.1
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Total Delay	500.5	5.6	1.7	7.5	80.6	71.8	59.1
Queue Length 50th (m)	~29.0	42.3	1.1	58.7	50.6	25.2	26.4
Queue Length 95th (m)	#70.4	60.1	m1.8	m21.6	60.2	40.1	41.0
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	47	3837	366	3870	345	256	392
Starvation Cap Reductn	0	0	0	657	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	1.91	0.27	0.20	0.81	0.54	0.33	0.25

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

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

PM Peak Period
Future Background

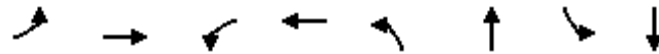
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	890	46	68	2237	166	73	4	67	75	8	78
Future Volume (vph)	81	890	46	68	2237	166	73	4	67	75	8	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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	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	5088		1808	5129			1697		1790	1629	
Flt Permitted	0.03	1.00		0.26	1.00			0.79		0.57	1.00	
Satd. Flow (perm)	64	5088		486	5129			1373		1080	1629	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	90	989	51	74	2432	180	95	5	87	85	9	89
RTOR Reduction (vph)	0	2	0	0	4	0	0	22	0	0	6	0
Lane Group Flow (vph)	90	1038	0	74	2608	0	0	165	0	85	92	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)	48	3835		366	3865			209		164	248	
v/s Ratio Prot		0.20			0.51						0.06	
v/s Ratio Perm	c1.41			0.15			c0.12			0.08		
v/c Ratio	1.88	0.27		0.20	0.67		0.79			0.52	0.37	
Uniform Delay, d1	19.7	6.1		5.7	9.9		65.3			62.4	60.9	
Progression Factor	1.09	0.82		0.22	0.64		1.00			1.00	1.00	
Incremental Delay, d2	461.1	0.2		0.1	0.1		17.7			2.8	0.9	
Delay (s)	482.6	5.2		1.4	6.4		83.0			65.1	61.8	
Level of Service	F	A		A	A		F			E	E	
Approach Delay (s)		43.2			6.3		83.0				63.4	
Approach LOS		D			A		F				E	
Intersection Summary												
HCM 2000 Control Delay		22.2			HCM 2000 Level of Service		C					
HCM 2000 Volume to Capacity ratio		1.68										
Actuated Cycle Length (s)		160.0			Sum of lost time (s)		15.0					
Intersection Capacity Utilization		99.2%			ICU Level of Service		F					
Analysis Period (min)		15										
c Critical Lane Group												

Queues

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

PM Peak Period

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	58	1086	110	2326	69	87	64	113
v/c Ratio	0.67	0.27	0.29	0.56	0.67	0.42	0.50	0.66
Control Delay	49.2	4.0	10.7	11.6	99.1	35.7	81.3	82.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	4.0	10.7	11.6	99.1	35.7	81.3	82.6
Queue Length 50th (m)	6.5	25.4	14.6	124.1	21.6	10.5	19.7	33.1
Queue Length 95th (m)	#41.9	36.4	m25.6	149.1	38.2	27.5	34.0	51.2
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)	86	4097	384	4177	319	531	394	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	0.67	0.27	0.29	0.56	0.22	0.16	0.16	0.22

Intersection Summary

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

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)	53	911	88	108	2162	118	64	31	50	56	57	42
Future Volume (vph)	53	911	88	108	2162	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	0.99		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	5046		1816	5148		1697	1685		1819	1746	
Flt Permitted	0.06	1.00		0.25	1.00		0.61	1.00		0.70	1.00	
Satd. Flow (perm)	107	5046		474	5148		1086	1685		1341	1746	
Peak-hour factor, PHF	0.92	0.92	0.92	0.98	0.98	0.98	0.93	0.93	0.93	0.88	0.88	0.88
Adj. Flow (vph)	58	990	96	110	2206	120	69	33	54	64	65	48
RTOR Reduction (vph)	0	3	0	0	2	0	0	47	0	0	6	0
Lane Group Flow (vph)	58	1083	0	110	2324	0	69	40	0	64	107	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)	129.8	129.8		129.8	129.8		15.2	15.2		15.2	15.2	
Effective Green, g (s)	129.8	129.8		129.8	129.8		15.2	15.2		15.2	15.2	
Actuated g/C Ratio	0.81	0.81		0.81	0.81		0.09	0.09		0.09	0.09	
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)	86	4093		384	4176		103	160		127	165	
v/s Ratio Prot		0.21			0.45			0.02			0.06	
v/s Ratio Perm	c0.54			0.23			c0.06			0.05		
v/c Ratio	0.67	0.26		0.29	0.56		0.67	0.25		0.50	0.65	
Uniform Delay, d1	6.3	3.6		3.7	5.2		70.0	67.1		68.8	69.8	
Progression Factor	1.00	1.00		2.04	2.02		1.00	1.00		1.00	1.00	
Incremental Delay, d2	35.0	0.2		1.4	0.4		15.3	0.8		3.1	8.4	
Delay (s)	41.3	3.8		9.0	10.9		85.3	67.9		71.9	78.2	
Level of Service	D	A		A	B		F	E		E	E	
Approach Delay (s)		5.7			10.8			75.6			76.0	
Approach LOS		A			B			E			E	
Intersection Summary												
HCM 2000 Control Delay	14.8			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.67											
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												

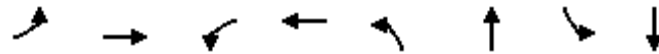
Appendix F – Sensitivity Analysis :
Future Background Conditions with
Hurontario LRT Included
Synchro Reports

Queues

AM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	260	92	119	159	1658	58	1634
v/c Ratio	0.29	0.83	0.81	0.32	0.72	0.93	0.50	1.07
Control Delay	57.7	79.4	107.8	20.1	78.8	23.0	84.5	86.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.7	79.4	107.8	20.1	78.8	23.0	84.5	86.0
Queue Length 50th (m)	18.4	75.0	28.5	9.4	51.8	118.4	17.8	~313.1
Queue Length 95th (m)	31.2	101.1	43.7	21.9	m49.0	m65.1	#50.0	#357.5
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)	308	413	152	468	220	1778	117	1526
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	0.21	0.63	0.61	0.25	0.72	0.93	0.50	1.07

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	44	195	76	25	74	58	89	1485	57	53	1434
Future Volume (vph)	61	44	195	76	25	74	58	89	1485	57	53	1434
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	0.88		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)	1784	1633		1807	1659			1645	3440		1668	3362
Flt Permitted	0.67	1.00		0.33	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1266	1633		623	1659			1645	3440		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	48	212	92	30	89	63	96	1597	61	58	1576
RTOR Reduction (vph)	0	16	0	0	69	0	0	0	1	0	0	2
Lane Group Flow (vph)	66	244	0	92	50	0	0	159	1657	0	58	1632
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)	29.0	29.0		29.0	29.0			21.4	82.7		11.3	72.6
Effective Green, g (s)	29.0	29.0		29.0	29.0			21.4	82.7		11.3	72.6
Actuated g/C Ratio	0.18	0.18		0.18	0.18			0.13	0.52		0.07	0.45
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)	229	295		112	300			220	1778		117	1525
v/s Ratio Prot		c0.15			0.03			c0.10	c0.48		0.03	c0.49
v/s Ratio Perm	0.05			0.15								
v/c Ratio	0.29	0.83		0.82	0.17			0.72	0.93		0.50	1.07
Uniform Delay, d1	56.6	63.1		63.0	55.3			66.5	36.0		71.6	43.7
Progression Factor	1.00	1.00		1.00	1.00			1.18	0.57		1.00	1.00
Incremental Delay, d2	0.7	16.9		36.3	0.3			1.1	1.2		3.3	44.5
Delay (s)	57.3	80.0		99.3	55.6			79.7	21.9		74.9	88.2
Level of Service	E	F		F	E			E	C		E	F
Approach Delay (s)		75.4			74.6				26.9			87.7
Approach LOS		E			E				C			F
Intersection Summary												
HCM 2000 Control Delay			58.7			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			37.0			
Intersection Capacity Utilization			115.0%			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 Background

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	53
Future Volume (vph)	53
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)	58
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 Drive/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	140	0	0	68	0	1621	58	0	1719	44
Future Volume (Veh/h)	0	0	140	0	0	68	0	1621	58	0	1719	44
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	182	0	0	92	0	1706	61	0	1868	48
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	0.71	0.71	0.55	0.71	0.71	0.69	0.55				0.69	
vC, conflicting volume	2857	3698	974	2876	3692	910	1932				1790	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	854	2044	0	880	2035	0	1073				1258	
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	69	100	100	87	100				100	
cM capacity (veh/h)	148	39	595	109	39	723	359				354	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	182	92	1137	630	1245	671						
Volume Left	0	0	0	0	0	0						
Volume Right	182	92	0	61	0	48						
cSH	595	723	1700	1700	1700	1700						
Volume to Capacity	0.31	0.13	0.67	0.37	0.73	0.39						
Queue Length 95th (m)	9.8	3.3	0.0	0.0	0.0	0.0						
Control Delay (s)	13.7	10.7	0.0	0.0	0.0	0.0						
Lane LOS	B	B										
Approach Delay (s)	13.7	10.7	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			0.9									
Intersection Capacity Utilization			64.3%	ICU Level of Service					C			
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)	190	1597	174	175	568	163	75	1311	109	383	1638
v/c Ratio	0.77	1.09	0.30	1.65	0.39	0.29	0.73	1.20	0.19	2.84	1.37
Control Delay	62.6	102.7	7.1	373.6	47.4	1.4	112.0	144.9	0.7	858.3	211.4
Queue Delay	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.6	106.2	7.1	373.6	47.4	1.4	112.0	144.9	0.7	858.3	211.4
Queue Length 50th (m)	41.3	~204.0	6.1	~41.3	53.7	0.0	12.4	~264.8	0.0	~212.8	~356.6
Queue Length 95th (m)	#81.6	#234.1	24.3	#66.8	65.8	0.0	#26.2	#307.8	0.0 m	#217.2 m	#339.3
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)	247	1463	579	106	1449	564	103	1094	572	135	1193
Starvation Cap Reductn	0	11	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	0.77	1.10	0.30	1.65	0.39	0.29	0.73	1.20	0.19	2.84	1.37

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)	171	1437	157	166	540	155	70	1219	101	134	218	1352	
Future Volume (vph)	171	1437	157	166	540	155	70	1219	101	134	218	1352	
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	0.91	1.00	1.00	0.91		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)	1751	5193	1448	3404	5142	1395	3309	3510	1445		1664	3281	
Flt Permitted	0.37	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	
Satd. Flow (perm)	684	5193	1448	3404	5142	1395	3309	3510	1445		1664	3281	
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)	190	1597	174	175	568	163	75	1311	109	146	237	1470	
RTOR Reduction (vph)	0	0	125	0	0	117	0	0	75	0	0	6	
Lane Group Flow (vph)	190	1597	49	175	568	46	75	1311	34	0	383	1632	
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)	50.1	45.1	45.1	5.0	45.1	45.1	5.0	49.9	49.9		13.0	57.9	
Effective Green, g (s)	50.1	45.1	45.1	5.0	45.1	45.1	5.0	49.9	49.9		13.0	57.9	
Actuated g/C Ratio	0.31	0.28	0.28	0.03	0.28	0.28	0.03	0.31	0.31		0.08	0.36	
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)	247	1463	408	106	1449	393	103	1094	450		135	1187	
v/s Ratio Prot	0.02	c0.31		c0.05	0.11		0.02	0.37			c0.23	c0.50	
v/s Ratio Perm	0.22		0.03			0.03			0.02				
v/c Ratio	0.77	1.09	0.12	1.65	0.39	0.12	0.73	1.20	0.08		2.84	1.38	
Uniform Delay, d1	48.8	57.5	42.7	77.5	46.4	42.7	76.8	55.1	38.8		73.5	51.0	
Progression Factor	0.99	0.97	8.21	1.00	1.00	1.00	1.00	1.00	1.00		1.05	1.10	
Incremental Delay, d2	11.0	51.7	0.1	331.0	0.2	0.1	19.4	98.3	0.3		835.1	171.1	
Delay (s)	59.2	107.3	350.5	408.5	46.6	42.8	96.2	153.3	39.1		912.0	227.1	
Level of Service	E	F	F	F	D	D	F	F	D		F	F	
Approach Delay (s)		124.2			115.8			142.1				356.9	
Approach LOS		F			F			F				F	
Intersection Summary													
HCM 2000 Control Delay			200.9									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.54										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	47.0
Intersection Capacity Utilization			140.3%									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

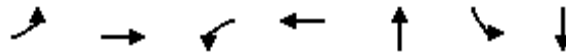
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	155
Future Volume (vph)	155
Ideal Flow (vphpl)	1900
Lane Width	3.3
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	168
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/Foursprings Avenue & Eglinton Ave W

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	51	1798	58	774	129	155	128
v/c Ratio	0.11	0.47	0.40	0.21	0.52	0.86	0.36
Control Delay	9.0	9.5	26.3	4.1	51.6	102.5	14.9
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	9.6	26.3	4.1	51.7	102.5	14.9
Queue Length 50th (m)	3.6	62.8	5.7	13.6	28.5	48.7	4.6
Queue Length 95th (m)	13.0	124.1	m14.0	m18.6	35.4	69.2	20.7
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	462	3799	144	3725	345	262	470
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	766	0	0	4	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.59	0.40	0.21	0.38	0.59	0.27

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

AM Peak Period
Future Background

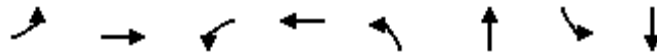
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	1565	53	53	664	48	25	5	64	136	15	98
Future Volume (vph)	46	1565	53	53	664	48	25	5	64	136	15	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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			1.00		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	5010			1639		1775	1625	
Flt Permitted	0.34	1.00		0.10	1.00			0.81		0.59	1.00	
Satd. Flow (perm)	622	5112		194	5010			1353		1106	1625	
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)	51	1739	59	58	722	52	34	7	88	155	17	111
RTOR Reduction (vph)	0	2	0	0	4	0	0	27	0	0	93	0
Lane Group Flow (vph)	51	1796	0	58	770	0	0	102	0	155	35	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)	118.9	118.9		118.9	118.9			26.1		26.1	26.1	
Effective Green, g (s)	118.9	118.9		118.9	118.9			26.1		26.1	26.1	
Actuated g/C Ratio	0.74	0.74		0.74	0.74			0.16		0.16	0.16	
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)	462	3798		144	3723			220		180	265	
v/s Ratio Prot		c0.35			0.15						0.02	
v/s Ratio Perm	0.08			0.30				0.08		c0.14		
v/c Ratio	0.11	0.47		0.40	0.21			0.46		0.86	0.13	
Uniform Delay, d1	5.8	8.1		7.5	6.2			60.6		65.2	57.3	
Progression Factor	1.17	1.04		1.72	0.60			1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.4		6.5	0.1			1.6		31.9	0.2	
Delay (s)	7.1	8.8		19.5	3.9			62.2		97.1	57.5	
Level of Service	A	A		B	A			E		F	E	
Approach Delay (s)		8.8			5.0			62.2			79.2	
Approach LOS		A			A			E			E	
Intersection Summary												
HCM 2000 Control Delay			16.4			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				15.0		
Intersection Capacity Utilization			75.2%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

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

AM Peak Period

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	1850	54	783	97	184	131	151
v/c Ratio	0.15	0.48	0.40	0.21	0.66	0.66	1.00	0.54
Control Delay	7.6	8.8	23.4	7.0	83.3	66.9	144.7	56.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	8.8	23.4	7.0	83.3	66.9	144.7	56.9
Queue Length 50th (m)	5.8	75.2	5.5	25.7	29.5	49.7	42.2	37.1
Queue Length 95th (m)	13.4	96.9	13.1	33.4	39.2	58.3	54.1	47.1
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)	484	3823	134	3782	282	512	252	516
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	0.15	0.48	0.40	0.21	0.34	0.36	0.52	0.29
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

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

AM Peak Period
Future Background

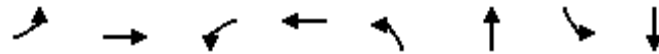
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	1478	76	51	674	62	75	58	84	102	65	53
Future Volume (vph)	61	1478	76	51	674	62	75	58	84	102	65	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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	0.91		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	5074		1770	5022		1680	1693		1820	1697	
Flt Permitted	0.34	1.00		0.10	1.00		0.54	1.00		0.45	1.00	
Satd. Flow (perm)	644	5074		178	5022		960	1693		858	1697	
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)	73	1760	90	54	717	66	97	75	109	131	83	68
RTOR Reduction (vph)	0	2	0	0	4	0	0	18	0	0	22	0
Lane Group Flow (vph)	73	1848	0	54	779	0	97	166	0	131	129	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)	120.4	120.4		120.4	120.4		24.6	24.6		24.6	24.6	
Effective Green, g (s)	120.4	120.4		120.4	120.4		24.6	24.6		24.6	24.6	
Actuated g/C Ratio	0.75	0.75		0.75	0.75		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)	484	3818		133	3779		147	260		131	260	
v/s Ratio Prot		c0.36			0.16			0.10			0.08	
v/s Ratio Perm	0.11			0.30			0.10			c0.15		
v/c Ratio	0.15	0.48		0.41	0.21		0.66	0.64		1.00	0.50	
Uniform Delay, d1	5.5	7.7		7.1	5.8		63.8	63.5		67.7	62.0	
Progression Factor	1.00	1.00		1.32	1.11		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.4		8.8	0.1		10.2	5.1		78.6	1.5	
Delay (s)	6.2	8.1		18.2	6.6		74.0	68.6		146.3	63.5	
Level of Service	A	A		B	A		E	E		F	E	
Approach Delay (s)		8.1			7.3			70.5			102.0	
Approach LOS		A			A			E			F	
Intersection Summary												
HCM 2000 Control Delay		21.1			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		160.0			Sum of lost time (s)			15.0				
Intersection Capacity Utilization		88.6%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

Queues

PM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	121	68	180	249	1577	45	2841
v/c Ratio	0.32	0.56	0.45	0.76	0.71	0.74	0.41	1.75
Control Delay	69.9	67.2	72.9	79.2	91.2	11.3	82.8	370.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	67.2	72.9	79.2	91.2	11.3	82.8	370.7
Queue Length 50th (m)	9.4	32.8	20.4	50.4	80.6	45.3	14.1	~709.3
Queue Length 95th (m)	18.9	48.5	25.0	50.2	m83.3	m44.0	26.9	#729.7
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)	197	413	294	447	353	2129	109	1620
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.29	0.23	0.40	0.71	0.74	0.41	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	25	78	45	72	47	75	157	1430	53	40	2479
Future Volume (vph)	27	25	78	45	72	47	75	157	1430	53	40	2479
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.97		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		1.00	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)	1783	1657		1790	1776			1825	3510		1825	3599
Flt Permitted	0.43	1.00		0.64	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	812	1657		1210	1776			1825	3510		1825	3599
Peak-hour factor, PHF	0.85	0.85	0.85	0.66	0.66	0.66	0.92	0.94	0.94	0.94	0.89	0.89
Adj. Flow (vph)	32	29	92	68	109	71	82	167	1521	56	45	2785
RTOR Reduction (vph)	0	11	0	0	17	0	0	0	1	0	0	1
Lane Group Flow (vph)	32	110	0	68	163	0	0	249	1576	0	45	2840
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)	20.0	20.0		20.0	20.0			31.0	94.6		8.4	72.0
Effective Green, g (s)	20.0	20.0		20.0	20.0			31.0	94.6		8.4	72.0
Actuated g/C Ratio	0.12	0.12		0.12	0.12			0.19	0.59		0.05	0.45
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)	101	207		151	222			353	2075		95	1619
v/s Ratio Prot		0.07			c0.09			c0.14	c0.45		0.02	c0.79
v/s Ratio Perm	0.04			0.06								
v/c Ratio	0.32	0.53		0.45	0.74			0.71	0.76		0.47	1.75
Uniform Delay, d1	63.8	65.6		64.9	67.5			60.2	24.3		73.7	44.0
Progression Factor	1.00	1.00		1.00	1.00			1.45	0.41		1.00	1.00
Incremental Delay, d2	1.8	2.4		2.1	11.9			2.4	1.0		3.7	341.9
Delay (s)	65.6	68.0		67.0	79.4			89.8	10.9		77.3	385.9
Level of Service	E	E		E	E			F	B		E	F
Approach Delay (s)		67.5			76.0				21.6			381.1
Approach LOS		E			E				C			F
Intersection Summary												
HCM 2000 Control Delay	228.5			HCM 2000 Level of Service					F			
HCM 2000 Volume to Capacity ratio	1.37											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)					37.0			
Intersection Capacity Utilization	134.2%			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

PM Peak Period

Future Background

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	50
Future Volume (vph)	50
Ideal Flow (vphpl)	1900
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	0.89
Adj. Flow (vph)	56
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: Watgarden Drive/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	61	0	0	98	0	1617	52	0	2588	89
Future Volume (Veh/h)	0	0	61	0	0	98	0	1617	52	0	2588	89
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.68	0.68	0.68	0.81	0.81	0.81	0.92	0.92	0.92	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	90	0	0	121	0	1758	57	0	2975	102
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	0.70	0.70	0.55	0.70	0.70	0.71	0.55				0.71	
vC, conflicting volume	4062	4900	1556	3413	4922	974	3091				1860	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2648	3845	398	1721	3877	144	3164				1393	
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	73	100	100	79	100				100	
cM capacity (veh/h)	6	2	331	27	2	586	55				337	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	90	121	1172	643	1983	1094						
Volume Left	0	0	0	0	0	0						
Volume Right	90	121	0	57	0	102						
cSH	331	586	1700	1700	1700	1700						
Volume to Capacity	0.27	0.21	0.69	0.38	1.17	0.64						
Queue Length 95th (m)	8.2	5.9	0.0	0.0	0.0	0.0						
Control Delay (s)	19.9	12.7	0.0	0.0	0.0	0.0						
Lane LOS	C	B										
Approach Delay (s)	19.9	12.7	0.0	0.0								
Approach LOS	C	B										
Intersection Summary												
Average Delay			0.7									
Intersection Capacity Utilization			86.4%	ICU Level of Service					E			
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)	137	671	187	281	1722	154	299	1432	117	380	2731
v/c Ratio	1.29	0.46	0.29	2.60	1.18	0.26	2.74	1.00	0.20	1.87	2.12
Control Delay	217.7	41.2	2.1	772.6	136.3	1.0	833.8	81.1	0.8	426.5	539.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	217.7	41.2	2.1	772.6	136.3	1.0	833.8	81.1	0.8	426.5	539.4
Queue Length 50th (m)	~35.4	69.3	8.6	~77.0	~238.9	0.0	~82.9	~168.6	0.0	~187.2	~722.0
Queue Length 95th (m)	#87.1	83.0	0.0	#107.5	#267.6	0.0	#114.1	#202.6	0.0	m#99.6	m#365.1
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)	106	1449	650	108	1463	597	109	1428	590	203	1286
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	1.29	0.46	0.29	2.60	1.18	0.26	2.74	1.00	0.20	1.87	2.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

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)	130	637	178	278	1705	152	275	1317	108	70	258	2101
Future Volume (vph)	130	637	178	278	1705	152	275	1317	108	70	258	2101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.91	1.00		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00	0.83	1.00	1.00	0.89		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	1494	3471	5193	1304	3506	5092	1442		1811	3541
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)	170	5142	1494	3471	5193	1304	3506	5092	1442		1811	3541
Peak-hour factor, PHF	0.95	0.95	0.95	0.99	0.99	0.99	0.92	0.92	0.92	0.92	0.85	0.85
Adj. Flow (vph)	137	671	187	281	1722	154	299	1432	117	76	304	2472
RTOR Reduction (vph)	0	0	134	0	0	111	0	0	84	0	0	5
Lane Group Flow (vph)	137	671	53	281	1722	43	299	1432	33	0	380	2726
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)	50.1	45.1	45.1	5.0	45.1	45.1	5.0	44.9	44.9		18.0	57.9
Effective Green, g (s)	50.1	45.1	45.1	5.0	45.1	45.1	5.0	44.9	44.9		18.0	57.9
Actuated g/C Ratio	0.31	0.28	0.28	0.03	0.28	0.28	0.03	0.28	0.28		0.11	0.36
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)	104	1449	421	108	1463	367	109	1428	404		203	1281
v/s Ratio Prot	0.04	0.13		c0.08	0.33		0.09	0.28			c0.21	c0.77
v/s Ratio Perm	c0.37		0.04			0.03			0.02			
v/c Ratio	1.32	0.46	0.13	2.60	1.18	0.12	2.74	1.00	0.08		1.87	2.13
Uniform Delay, d1	53.0	47.4	42.8	77.5	57.5	42.7	77.5	57.6	42.4		71.0	51.0
Progression Factor	0.97	0.84	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.86	1.65
Incremental Delay, d2	194.3	0.2	0.1	747.0	87.1	0.1	809.6	24.5	0.4		394.1	507.8
Delay (s)	245.7	40.2	42.9	824.5	144.6	42.8	887.1	82.0	42.8		455.4	592.0
Level of Service	F	D	D	F	F	D	F	F	D		F	F
Approach Delay (s)		69.0			225.9			209.8				575.4
Approach LOS		E			F			F				F
Intersection Summary												
HCM 2000 Control Delay			337.0									F
HCM 2000 Volume to Capacity ratio			1.96									
Actuated Cycle Length (s)			160.0									47.0
Intersection Capacity Utilization			157.3%									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

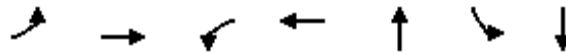
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	220
Future Volume (vph)	220
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.85
Adj. Flow (vph)	259
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/Foursprings Avenue & Eglinton Ave W

Future Background



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	81	947	66	2325	187	76	88
v/c Ratio	1.11	0.25	0.16	0.60	0.81	0.47	0.34
Control Delay	162.9	5.7	2.2	5.7	80.5	69.3	53.1
Queue Delay	0.0	0.0	0.0	0.9	0.0	0.0	0.0
Total Delay	162.9	5.7	2.2	6.6	80.5	69.3	53.1
Queue Length 50th (m)	~29.2	38.2	1.7	32.3	50.6	22.4	21.5
Queue Length 95th (m)	#46.2	54.5	m1.6	m20.0	60.2	36.5	35.7
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	73	3841	407	3873	347	256	396
Starvation Cap Reductn	0	0	0	1147	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	1.11	0.25	0.16	0.85	0.54	0.30	0.22

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

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

PM Peak Period
Future Background

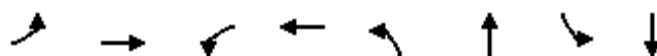
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	811	41	61	1991	148	73	4	67	67	7	70
Future Volume (vph)	73	811	41	61	1991	148	73	4	67	67	7	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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	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	5089		1805	5129			1697		1790	1628	
Flt Permitted	0.05	1.00		0.28	1.00			0.79		0.57	1.00	
Satd. Flow (perm)	98	5089		540	5129			1382		1079	1628	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	81	901	46	66	2164	161	95	5	87	76	8	80
RTOR Reduction (vph)	0	2	0	0	4	0	0	22	0	0	11	0
Lane Group Flow (vph)	81	945	0	66	2321	0	0	165	0	76	77	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)	120.7	120.7		120.7	120.7			24.3		24.3	24.3	
Effective Green, g (s)	120.7	120.7		120.7	120.7			24.3		24.3	24.3	
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)	73	3839		407	3869			209		163	247	
v/s Ratio Prot		0.19			0.45						0.05	
v/s Ratio Perm	c0.83			0.12			c0.12			0.07		
v/c Ratio	1.11	0.25		0.16	0.60		0.79			0.47	0.31	
Uniform Delay, d1	19.6	5.9		5.5	8.8		65.4			61.9	60.4	
Progression Factor	1.12	0.87		0.30	0.59		1.00			1.00	1.00	
Incremental Delay, d2	137.6	0.2		0.1	0.1		17.7			2.1	0.7	
Delay (s)	159.6	5.3		1.7	5.2		83.1			64.0	61.1	
Level of Service	F	A		A	A		F			E	E	
Approach Delay (s)		17.5			5.2		83.1				62.5	
Approach LOS		B			A		F				E	
Intersection Summary												
HCM 2000 Control Delay		14.9			HCM 2000 Level of Service					B		
HCM 2000 Volume to Capacity ratio		1.04										
Actuated Cycle Length (s)		160.0			Sum of lost time (s)					15.0		
Intersection Capacity Utilization		92.5%			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 Background



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	51	975	98	2079	69	84	64	106
v/c Ratio	0.43	0.24	0.22	0.49	0.68	0.42	0.53	0.63
Control Delay	18.1	3.7	8.5	8.6	99.6	33.6	83.8	76.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.1	3.7	8.5	8.6	99.6	33.6	83.8	76.8
Queue Length 50th (m)	3.9	21.4	9.5	79.2	21.7	9.0	19.8	29.0
Queue Length 95th (m)	17.9	32.0	19.6	104.7	38.0	25.6	34.0	46.6
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)	119	4120	438	4200	333	531	394	519
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	0.43	0.24	0.22	0.49	0.21	0.16	0.16	0.20

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)	47	819	78	96	1933	105	64	28	50	56	51	42
Future Volume (vph)	47	819	78	96	1933	105	64	28	50	56	51	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	0.99		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	5047		1814	5148		1696	1679		1819	1739	
Flt Permitted	0.08	1.00		0.28	1.00		0.64	1.00		0.70	1.00	
Satd. Flow (perm)	147	5047		536	5148		1136	1679		1345	1739	
Peak-hour factor, PHF	0.92	0.92	0.92	0.98	0.98	0.98	0.93	0.93	0.93	0.88	0.88	0.88
Adj. Flow (vph)	51	890	85	98	1972	107	69	30	54	64	58	48
RTOR Reduction (vph)	0	3	0	0	2	0	0	49	0	0	12	0
Lane Group Flow (vph)	51	972	0	98	2077	0	69	35	0	64	94	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)	130.5	130.5		130.5	130.5		14.5	14.5		14.5	14.5	
Effective Green, g (s)	130.5	130.5		130.5	130.5		14.5	14.5		14.5	14.5	
Actuated g/C Ratio	0.82	0.82		0.82	0.82		0.09	0.09		0.09	0.09	
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)	119	4116		437	4198		102	152		121	157	
v/s Ratio Prot		0.19			c0.40			0.02			0.05	
v/s Ratio Perm	0.35			0.18			c0.06			0.05		
v/c Ratio	0.43	0.24		0.22	0.49		0.68	0.23		0.53	0.60	
Uniform Delay, d1	4.2	3.4		3.3	4.6		70.5	67.6		69.5	70.0	
Progression Factor	1.00	1.00		1.84	1.69		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.9	0.1		1.0	0.3		16.3	0.8		4.1	6.1	
Delay (s)	15.1	3.5		7.1	8.0		86.8	68.3		73.6	76.0	
Level of Service	B	A		A	A		F	E		E	E	
Approach Delay (s)		4.1			8.0			76.7			75.1	
Approach LOS		A			A			E			E	
Intersection Summary												
HCM 2000 Control Delay	13.1			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.51											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)			15.0					
Intersection Capacity Utilization	109.2%			ICU Level of Service			H					
Analysis Period (min)	15											
c Critical Lane Group												

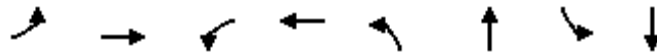
Appendix G – 2022 Future Total Conditions: Synchro Reports

Queues

AM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	265	92	123	108	1949	65	1865
v/c Ratio	0.29	0.82	0.82	0.38	0.91	0.54	0.60	0.52
Control Delay	56.6	77.6	107.6	51.5	86.3	12.9	40.8	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	77.6	107.6	51.5	86.3	12.9	40.8	11.4
Queue Length 50th (m)	18.2	77.5	28.4	30.6	36.1	93.5	9.3	89.4
Queue Length 95th (m)	30.7	102.5	43.4	42.5	m#72.8	m91.3	#43.0	125.4
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	523	186	530	119	3642	109	3557
Starvation Cap Reductn	0	0	0	0	0	152	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	28
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.51	0.49	0.23	0.91	0.56	0.60	0.53

Intersection Summary

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

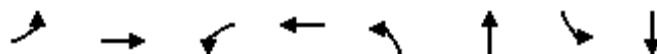
AM Peak Period

05/30/2018

												
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	1748	64	59	1637	60
Future Volume (vph)	61	49	195	76	28	74	100	1748	64	59	1637	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		1748	5056		1807	4939	
Flt Permitted	0.64	1.00		0.31	1.00		0.09	1.00		0.08	1.00	
Satd. Flow (perm)	1212	1640		596	1669		165	5056		153	4939	
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	1880	69	65	1799	66
RTOR Reduction (vph)	0	13	0	0	11	0	0	2	0	0	2	0
Lane Group Flow (vph)	66	252	0	92	112	0	108	1947	0	65	1863	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)	30.3	30.3		30.3	30.3		115.2	115.2		115.2	115.2	
Effective Green, g (s)	30.3	30.3		30.3	30.3		115.2	115.2		115.2	115.2	
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)	229	310		112	316		118	3640		110	3556	
v/s Ratio Prot		0.15			0.07			0.39			0.38	
v/s Ratio Perm	0.05			0.15			0.65			0.43		
v/c Ratio	0.29	0.81		0.82	0.35		0.92	0.53		0.59	0.52	
Uniform Delay, d1	55.6	62.1		62.3	56.3		18.4	10.2		10.9	10.1	
Progression Factor	1.00	1.00		1.00	1.00		1.42	1.13		1.00	1.00	
Incremental Delay, d2	0.7	14.9		36.3	0.7		55.7	0.5		21.2	0.6	
Delay (s)	56.3	77.1		98.5	57.0		81.8	12.0		32.1	10.6	
Level of Service	E	E		F	E		F	B		C	B	
Approach Delay (s)		72.9			74.8			15.7			11.4	
Approach LOS		E			E			B			B	
Intersection Summary												
HCM 2000 Control Delay			20.8		HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			160.0		Sum of lost time (s)				14.5			
Intersection Capacity Utilization			94.3%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

Queues
2: Watergarden Drive/Armdale Road

AM Peak Period
05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	273	163	43	70	44	1777	28	2046
v/c Ratio	1.03	0.44	0.21	0.19	0.47	0.50	0.22	0.58
Control Delay	123.0	52.6	56.9	34.6	48.6	26.9	8.5	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.1
Total Delay	123.0	52.6	56.9	34.6	48.6	27.6	8.5	11.1
Queue Length 50th (m)	~92.2	39.7	11.6	11.1	9.3	139.7	2.0	147.5
Queue Length 95th (m)	#116.6	52.4	19.4	19.4	m14.5	158.8	m2.6	37.9
Internal Link Dist (m)		93.4		92.9		183.5		161.8
Turn Bay Length (m)	63.1		32.1		55.0		70.0	
Base Capacity (vph)	266	370	201	362	93	3552	127	3537
Starvation Cap Reductn	0	0	0	0	0	1272	0	254
Spillback Cap Reductn	0	1	0	0	0	66	0	253
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.44	0.21	0.19	0.47	0.78	0.22	0.62

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

2: Watergarden Drive/Armdale Road

AM Peak Period
05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	58	68	32	26	26	42	1676	12	26	1836	46
Future Volume (vph)	210	58	68	32	26	26	42	1676	12	26	1836	46
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		1.00	1.00	
Frt	1.00	0.92		1.00	0.93		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)	1779	1766		1722	1701		1825	5029		1706	5009	
Flt Permitted	0.71	1.00		0.56	1.00		0.07	1.00		0.10	1.00	
Satd. Flow (perm)	1332	1766		1009	1701		132	5029		179	5009	
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)	273	75	88	43	35	35	44	1764	13	28	1996	50
RTOR Reduction (vph)	0	18	0	0	22	0	0	1	0	0	1	0
Lane Group Flow (vph)	273	145	0	43	48	0	44	1776	0	28	2045	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)	32.0	32.0		32.0	32.0		113.0	113.0		113.0	113.0	
Effective Green, g (s)	32.0	32.0		32.0	32.0		113.0	113.0		113.0	113.0	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.71	0.71		0.71	0.71	
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)	266	353		201	340		93	3551		126	3537	
v/s Ratio Prot		0.08			0.03			0.35			c0.41	
v/s Ratio Perm	c0.20			0.04			0.33			0.16		
v/c Ratio	1.03	0.41		0.21	0.14		0.47	0.50		0.22	0.58	
Uniform Delay, d1	64.0	55.8		53.5	52.7		10.4	10.7		8.2	11.7	
Progression Factor	1.00	1.00		1.00	1.00		2.70	2.47		0.54	0.89	
Incremental Delay, d2	62.1	0.8		0.5	0.2		11.0	0.3		3.5	0.6	
Delay (s)	126.1	56.6		54.0	52.9		39.0	26.7		7.9	11.0	
Level of Service	F	E		D	D		D	C		A	B	
Approach Delay (s)		100.1			53.3			27.0			11.0	
Approach LOS		F			D			C			B	
Intersection Summary												
HCM 2000 Control Delay	27.4			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.68											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)			15.0					
Intersection Capacity Utilization	75.6%			ICU Level of Service			D					
Analysis Period (min)	15											
c Critical Lane Group												

Queues
3: Hurontario St & Eglinton Ave E

AM Peak Period
05/30/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	213	1940	216	196	701	186	92	1463	122	272	1643	189
v/c Ratio	0.72	1.22	0.41	0.71	0.46	0.35	0.50	0.79	0.21	1.14	0.75	0.27
Control Delay	45.0	150.7	20.6	85.7	47.2	7.1	82.6	48.6	10.5	128.9	46.7	18.4
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0
Total Delay	45.0	150.9	20.6	85.7	47.2	7.1	82.6	48.6	10.5	128.9	51.6	18.4
Queue Length 50th (m)	44.4	~280.7	18.9	31.7	67.1	0.0	14.9	151.4	5.5	~85.7	187.2	24.9
Queue Length 95th (m)	m68.5	m#291.3	m42.0	45.2	80.4	18.6	24.3	169.8	19.9	#144.5	210.2	46.7
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)	299	1589	531	319	1520	534	392	1859	580	238	2179	711
Starvation Cap Reductn	0	101	0	0	0	0	0	0	0	0	467	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	0.71	1.30	0.41	0.61	0.46	0.35	0.23	0.79	0.21	1.14	0.96	0.27

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

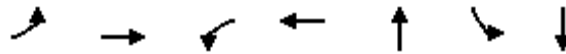
AM Peak Period

05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	1746	194	186	666	177	86	1361	113	250	1512	174
Future Volume (vph)	192	1746	194	186	666	177	86	1361	113	250	1512	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)	1759	5193	1426	3404	5142	1367	3309	5043	1411	1789	5043	1438
Flt Permitted	0.27	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	502	5193	1426	3404	5142	1367	3309	5043	1411	118	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	1940	216	196	701	186	92	1463	122	272	1643	189
RTOR Reduction (vph)	0	0	95	0	0	131	0	0	60	0	0	90
Lane Group Flow (vph)	213	1940	121	196	701	55	92	1463	62	272	1643	99
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	8.9	59.0	59.0	81.0	69.1	69.1
Effective Green, g (s)	61.7	49.0	49.0	13.0	47.3	47.3	8.9	59.0	59.0	81.0	69.1	69.1
Actuated g/C Ratio	0.39	0.31	0.31	0.08	0.30	0.30	0.06	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)	293	1590	436	276	1520	404	184	1859	520	237	2177	621
v/s Ratio Prot	c0.06	c0.37		0.06	0.14		0.03	0.29		c0.12	0.33	
v/s Ratio Perm	0.22		0.08			0.04			0.04	c0.46		0.07
v/c Ratio	0.73	1.22	0.28	0.71	0.46	0.14	0.50	0.79	0.12	1.15	0.75	0.16
Uniform Delay, d1	36.0	55.5	42.1	71.7	46.0	41.4	73.4	44.9	33.3	51.8	38.3	27.7
Progression Factor	1.05	1.03	1.16	1.00	1.00	1.00	1.00	1.00	1.00	0.67	1.15	2.74
Incremental Delay, d2	5.2	103.2	0.2	7.0	0.2	0.2	0.8	3.5	0.5	99.3	2.1	0.5
Delay (s)	43.1	160.4	49.1	78.6	46.2	41.5	74.2	48.4	33.8	134.3	46.1	76.5
Level of Service	D	F	D	E	D	D	E	D	C	F	D	E
Approach Delay (s)		139.7			51.3			48.7			60.2	
Approach LOS		F			D			D			E	
Intersection Summary												
HCM 2000 Control Delay			82.3	HCM 2000 Level of Service					F			
HCM 2000 Volume to Capacity ratio			1.17									
Actuated Cycle Length (s)			160.0	Sum of lost time (s)					24.0			
Intersection Capacity Utilization			102.4%	ICU Level of Service					G			
Analysis Period (min)			15									
c Critical Lane Group												

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	130	1996	65	942	137	376	310
v/c Ratio	0.39	0.58	0.74	0.29	0.57	1.36	0.59
Control Delay	18.3	16.6	99.6	19.9	56.0	229.1	25.4
Queue Delay	0.0	1.8	0.0	0.0	0.6	0.5	0.0
Total Delay	18.3	18.4	99.6	19.9	56.6	229.6	25.4
Queue Length 50th (m)	15.0	100.0	18.4	63.6	33.0	~156.7	34.0
Queue Length 95th (m)	42.6	168.5	#44.4	76.6	42.8	#214.7	63.1
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	333	3420	88	3304	239	276	529
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	1195	0	0	13	10	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.90	0.74	0.29	0.61	1.41	0.59

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

AM Peak Period

05/30/2018

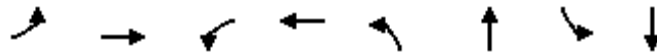


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	1737	59	60	742	124	25	11	64	331	37	236
Future Volume (vph)	117	1737	59	60	742	124	25	11	64	331	37	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total 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			1.00		0.97	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)	1717	5112		1825	4918			1658		1775	1626	
Flt Permitted	0.28	1.00		0.07	1.00			0.56		0.62	1.00	
Satd. Flow (perm)	499	5112		133	4918			941		1164	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)	130	1930	66	65	807	135	34	15	88	376	42	268
RTOR Reduction (vph)	0	2	0	0	15	0	0	16	0	0	143	0
Lane Group Flow (vph)	130	1994	0	65	927	0	0	121	0	376	167	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)	107.0	107.0		107.0	107.0			38.0		38.0	38.0	
Effective Green, g (s)	107.0	107.0		107.0	107.0			38.0		38.0	38.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.24		0.24	0.24	
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)	333	3418		88	3288			223		276	386	
v/s Ratio Prot		0.39			0.19						0.10	
v/s Ratio Perm	0.26			0.49				0.13		0.32		
v/c Ratio	0.39	0.58		0.74	0.28			0.54		1.36	0.43	
Uniform Delay, d1	11.9	14.4		17.3	10.8			53.4		61.0	51.8	
Progression Factor	1.22	1.10		2.84	1.91			1.00		1.00	1.00	
Incremental Delay, d2	2.9	0.6		40.3	0.2			2.7		184.7	0.8	
Delay (s)	17.4	16.5		89.7	20.8			56.1		245.7	52.6	
Level of Service	B	B		F	C			E		F	D	
Approach Delay (s)		16.6			25.3			56.1			158.4	
Approach LOS		B			C			E			F	

Intersection Summary

HCM 2000 Control Delay	44.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	108.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	81	2157	61	1006	97	193	131	162
v/c Ratio	0.22	0.57	0.69	0.27	0.68	0.70	1.02	0.56
Control Delay	9.0	10.1	62.0	12.1	85.5	73.3	150.6	59.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	10.1	62.0	12.1	85.5	73.3	150.6	59.6
Queue Length 50th (m)	7.0	98.2	10.4	57.7	29.6	56.0	~44.1	41.5
Queue Length 95th (m)	16.0	124.2	m#45.1	73.5	39.3	64.2	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)	374	3808	89	3775	267	506	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	0.22	0.57	0.69	0.27	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.

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

HCM Signalized Intersection Capacity Analysis

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

AM Peak Period
05/30/2018

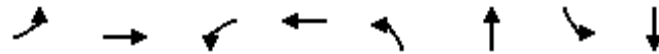
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	1727	85	57	876	70	75	65	84	102	73	53
Future Volume (vph)	68	1727	85	57	876	70	75	65	84	102	73	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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	5077		1771	5031		1680	1701		1820	1711	
Flt Permitted	0.27	1.00		0.06	1.00		0.52	1.00		0.43	1.00	
Satd. Flow (perm)	499	5077		119	5031		911	1701		821	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	2056	101	61	932	74	97	84	109	131	94	68
RTOR Reduction (vph)	0	2	0	0	4	0	0	8	0	0	19	0
Lane Group Flow (vph)	81	2155	0	61	1002	0	97	185	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)	119.9	119.9		119.9	119.9		25.1	25.1		25.1	25.1	
Effective Green, g (s)	119.9	119.9		119.9	119.9		25.1	25.1		25.1	25.1	
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)	373	3804		89	3770		142	266		128	268	
v/s Ratio Prot		0.42			0.20			0.11			0.08	
v/s Ratio Perm	0.16			0.51			0.11			0.16		
v/c Ratio	0.22	0.57		0.69	0.27		0.68	0.69		1.02	0.53	
Uniform Delay, d1	6.0	8.7		10.3	6.3		63.7	63.8		67.5	62.0	
Progression Factor	1.00	1.00		1.54	1.77		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.6		33.7	0.2		12.7	7.6		85.9	2.0	
Delay (s)	7.3	9.3		49.7	11.3		76.4	71.4		153.4	64.1	
Level of Service	A	A		D	B		E	E		F	E	
Approach Delay (s)		9.3			13.5			73.1			104.0	
Approach LOS		A			B			E			F	
Intersection Summary												
HCM 2000 Control Delay			22.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.74									
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												

Queues

PM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	125	68	194	187	1810	51	3270
v/c Ratio	0.34	0.42	0.45	0.76	0.61	0.46	0.38	1.03
Control Delay	70.5	23.8	71.7	78.9	45.9	11.1	27.4	53.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	30.7
Total Delay	70.5	23.8	71.7	78.9	45.9	11.2	27.4	83.8
Queue Length 50th (m)	9.4	10.0	20.2	55.0	47.3	75.7	7.5	~382.1
Queue Length 95th (m)	18.9	25.3	24.8	53.7	71.8	97.8	22.7	#449.6
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)	216	573	348	560	305	3915	136	3189
Starvation Cap Reductn	0	0	0	0	0	557	0	0
Spillback Cap Reductn	0	5	0	0	0	0	0	306
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.22	0.20	0.35	0.61	0.54	0.38	1.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

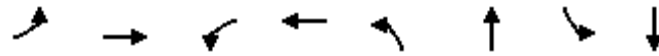
1: Ceremonial Drive/Nahani Way & Hurontario St

PM Peak Period
05/30/2018

												
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	1642	59	45	2854	56
Future Volume (vph)	27	28	78	45	81	47	176	1642	59	45	2854	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	0.99		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	0.95		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)	1788	1668		1794	1788		1825	5045		1806	5172	
Flt Permitted	0.38	1.00		0.60	1.00		0.04	1.00		0.12	1.00	
Satd. Flow (perm)	708	1668		1138	1788		76	5045		221	5172	
Peak-hour factor, PHF	0.85	0.85	0.85	0.66	0.66	0.66	0.94	0.94	0.94	0.89	0.89	0.89
Adj. Flow (vph)	32	33	92	68	123	71	187	1747	63	51	3207	63
RTOR Reduction (vph)	0	78	0	0	16	0	0	1	0	0	1	0
Lane Group Flow (vph)	32	47	0	68	178	0	187	1809	0	51	3269	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)	21.4	21.4		21.4	21.4		124.1	124.1		98.6	98.6	
Effective Green, g (s)	21.4	21.4		21.4	21.4		124.1	124.1		98.6	98.6	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.78	0.78		0.62	0.62	
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)	94	223		152	239		304	3913		136	3187	
v/s Ratio Prot		0.03			c0.10		c0.09	0.36			c0.63	
v/s Ratio Perm	0.05			0.06			0.39			0.23		
v/c Ratio	0.34	0.21		0.45	0.75		0.62	0.46		0.38	1.03	
Uniform Delay, d1	62.9	61.8		63.9	66.7		52.7	6.3		15.3	30.7	
Progression Factor	1.00	1.00		1.00	1.00		0.93	1.61		1.00	1.00	
Incremental Delay, d2	2.2	0.5		2.1	12.0		3.3	0.4		7.7	22.9	
Delay (s)	65.1	62.2		65.9	78.7		52.2	10.4		23.1	53.6	
Level of Service	E	E		E	E		D	B		C	D	
Approach Delay (s)		62.8			75.4			14.3			53.2	
Approach LOS		E			E			B			D	
Intersection Summary												
HCM 2000 Control Delay			40.9				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			17.5		
Intersection Capacity Utilization			108.4%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

Queues
2: Watergarden Drive/Armdale Road

PM Peak Period
05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	107	165	49	89	84	1913	43	3379
v/c Ratio	0.65	0.75	0.44	0.38	1.79	0.48	0.32	0.84
Control Delay	83.5	85.9	75.4	49.8	411.5	1.8	2.3	9.9
Queue Delay	0.0	1.3	0.8	0.0	0.0	0.2	0.0	46.4
Total Delay	83.5	87.2	76.2	49.8	411.5	1.9	2.3	56.3
Queue Length 50th (m)	32.9	50.8	14.6	19.1	~40.6	8.0	0.4	403.4
Queue Length 95th (m)	37.9	53.1	24.8	31.0	m#46.9	m11.2	m0.2	m392.6
Internal Link Dist (m)		93.4		92.9		183.5		161.8
Turn Bay Length (m)	63.1		32.1		55.0		70.0	
Base Capacity (vph)	260	347	175	351	47	3959	136	4001
Starvation Cap Reductn	0	0	0	0	0	957	0	767
Spillback Cap Reductn	0	67	33	0	0	0	0	1352
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.59	0.35	0.25	1.79	0.64	0.32	1.28

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

2: Watergarden Drive/Armdale Road

PM Peak Period
05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	45	67	40	21	51	77	1753	7	37	2787	153
Future Volume (vph)	73	45	67	40	21	51	77	1753	7	37	2787	153
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	0.97		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.97	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.91		1.00	0.89		1.00	1.00		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)	1768	1729		1817	1661		1825	5085		1811	5134	
Flt Permitted	0.70	1.00		0.46	1.00		0.03	1.00		0.09	1.00	
Satd. Flow (perm)	1302	1729		876	1661		62	5085		174	5134	
Peak-hour factor, PHF	0.68	0.68	0.68	0.81	0.81	0.81	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	107	66	99	49	26	63	84	1905	8	43	3203	176
RTOR Reduction (vph)	0	2	0	0	21	0	0	0	0	0	3	0
Lane Group Flow (vph)	107	163	0	49	68	0	84	1913	0	43	3376	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)	20.4	20.4		20.4	20.4		124.6	124.6		124.6	124.6	
Effective Green, g (s)	20.4	20.4		20.4	20.4		124.6	124.6		124.6	124.6	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.78	0.78		0.78	0.78	
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)	166	220		111	211		48	3959		135	3998	
v/s Ratio Prot		c0.09			0.04			0.38			0.66	
v/s Ratio Perm	0.08			0.06			c1.36			0.25		
v/c Ratio	0.64	0.74		0.44	0.32		1.75	0.48		0.32	0.84	
Uniform Delay, d1	66.4	67.3		64.5	63.5		17.7	6.3		5.2	11.4	
Progression Factor	1.00	1.00		1.00	1.00		2.03	0.24		0.08	0.73	
Incremental Delay, d2	8.3	12.7		2.8	0.9		369.1	0.2		1.8	0.7	
Delay (s)	74.7	79.9		67.3	64.4		405.0	1.7		2.2	9.0	
Level of Service	E	E		E	E		F	A		A	A	
Approach Delay (s)		77.8			65.4			18.6			8.9	
Approach LOS		E			E			B			A	
Intersection Summary												
HCM 2000 Control Delay	16.8			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	1.60											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)			15.0					
Intersection Capacity Utilization	93.7%			ICU Level of Service			F					
Analysis Period (min)	15											
c Critical Lane Group												

Queues
3: Hurontario St & Eglinton Ave E

PM Peak Period
05/30/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	154	838	249	315	2169	178	376	1647	132	347	2767	291
v/c Ratio	0.77	0.51	0.39	1.12	1.37	0.38	0.92	1.00	0.26	1.17	1.49	0.47
Control Delay	72.3	34.6	2.6	152.4	210.9	16.3	97.4	74.4	17.7	151.2	254.6	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Total Delay	72.3	34.6	2.6	152.4	210.9	16.3	97.4	74.4	17.7	151.2	254.7	19.9
Queue Length 50th (m)	33.7	82.1	1.8	~59.0	~335.4	12.1	61.9	192.1	11.6	~113.5	~443.9	24.1
Queue Length 95th (m)	m#53.7	m91.3	m6.3	#90.6	#362.0	33.9	#90.3	#226.9	29.0	m#161.5	#428.8	m39.4
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	636	282	1586	469	416	1654	508	297	1860	623
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	52	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	35
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.51	0.39	1.12	1.37	0.38	0.90	1.00	0.26	1.17	1.53	0.49

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

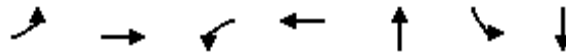
PM Peak Period

05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	796	237	312	2147	176	346	1515	121	295	2352	247
Future Volume (vph)	146	796	237	312	2147	176	346	1515	121	295	2352	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	0.95	0.95	0.95	0.99	0.99	0.99	0.92	0.92	0.92	0.85	0.85	0.85
Adj. Flow (vph)	154	838	249	315	2169	178	376	1647	132	347	2767	291
RTOR Reduction (vph)	0	0	169	0	0	87	0	0	54	0	0	91
Lane Group Flow (vph)	154	838	80	315	2169	91	376	1647	78	347	2767	200
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)	64.1	51.0	51.0	13.0	48.9	48.9	18.7	52.0	52.0	79.0	57.3	57.3
Effective Green, g (s)	64.1	51.0	51.0	13.0	48.9	48.9	18.7	52.0	52.0	79.0	57.3	57.3
Actuated g/C Ratio	0.40	0.32	0.32	0.08	0.31	0.31	0.12	0.32	0.32	0.49	0.36	0.36
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)	197	1639	467	282	1587	382	409	1654	454	295	1859	531
v/s Ratio Prot	0.06	0.16		c0.09	c0.42		0.11	0.32		c0.16	c0.53	
v/s Ratio Perm	0.25		0.05			0.07			0.06	0.42		0.13
v/c Ratio	0.78	0.51	0.17	1.12	1.37	0.24	0.92	1.00	0.17	1.18	1.49	0.38
Uniform Delay, d1	39.6	44.4	39.3	73.5	55.5	41.6	69.9	53.9	38.6	53.8	51.4	38.1
Progression Factor	1.39	0.75	0.23	1.00	1.00	1.00	1.00	1.00	1.00	1.41	0.88	0.94
Incremental Delay, d2	15.2	0.2	0.2	88.8	169.2	0.3	24.9	21.2	0.8	97.7	221.4	1.1
Delay (s)	70.2	33.7	9.2	162.3	224.7	41.9	94.8	75.0	39.4	173.5	266.6	36.8
Level of Service	E	C	A	F	F	D	F	E	D	F	F	D
Approach Delay (s)		33.3			205.1			76.3			237.5	
Approach LOS		C			F			E			F	
Intersection Summary												
HCM 2000 Control Delay	164.9			HCM 2000 Level of Service					F			
HCM 2000 Volume to Capacity ratio	1.39											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)					24.0			
Intersection Capacity Utilization	124.1%			ICU Level of Service					H			
Analysis Period (min)	15											
c Critical Lane Group												

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	237	1040	74	2905	196	252	282
v/c Ratio	5.04	0.31	0.24	0.86	0.98	0.95	0.72
Control Delay	1875.2	10.2	2.3	14.4	112.1	103.2	66.3
Queue Delay	0.0	0.0	0.0	26.3	0.0	0.0	0.0
Total Delay	1875.2	10.2	2.3	40.7	112.1	103.2	66.3
Queue Length 50th (m)	~126.9	53.8	1.5	136.5	56.3	79.7	81.4
Queue Length 95th (m)	#184.0	63.0	m1.7	m33.1	#83.3	#130.7	112.1
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	47	3407	312	3391	199	265	392
Starvation Cap Reductn	0	0	0	632	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	5.04	0.31	0.24	1.05	0.98	0.95	0.72

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.

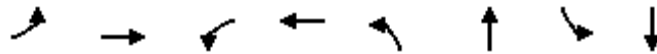
m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

PM Peak Period
05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	890	46	68	2237	435	73	11	67	222	23	225
Future Volume (vph)	213	890	46	68	2237	435	73	11	67	222	23	225
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	0.99			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	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	5088		1810	5043			1709		1789	1629	
Flt Permitted	0.04	1.00		0.25	1.00			0.44		0.59	1.00	
Satd. Flow (perm)	72	5088		467	5043			762		1118	1629	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	237	989	51	74	2432	473	95	14	87	252	26	256
RTOR Reduction (vph)	0	3	0	0	18	0	0	18	0	0	5	0
Lane Group Flow (vph)	237	1037	0	74	2887	0	0	178	0	252	277	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)	107.0	107.0		107.0	107.0			38.0		38.0	38.0	
Effective Green, g (s)	107.0	107.0		107.0	107.0			38.0		38.0	38.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.24		0.24	0.24	
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)	48	3402		312	3372			180		265	386	
v/s Ratio Prot		0.20			0.57						0.17	
v/s Ratio Perm	c3.30			0.16				c0.23		0.23		
v/c Ratio	4.94	0.30		0.24	0.86			0.99		0.95	0.72	
Uniform Delay, d1	26.5	11.0		10.4	20.5			60.8		60.1	56.1	
Progression Factor	1.04	0.91		0.20	0.69			1.00		1.00	1.00	
Incremental Delay, d2	1816.6	0.2		0.2	0.3			62.8		41.8	6.2	
Delay (s)	1844.1	10.2		2.2	14.4			123.5		101.9	62.3	
Level of Service	F	B		A	B			F		F	E	
Approach Delay (s)		350.6			14.1			123.5			81.0	
Approach LOS		F			B			F			F	
Intersection Summary												
HCM 2000 Control Delay		111.8			HCM 2000 Level of Service			F				
HCM 2000 Volume to Capacity ratio		3.89										
Actuated Cycle Length (s)		160.0			Sum of lost time (s)			15.0				
Intersection Capacity Utilization		135.8%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	58	1229	110	2476	69	87	64	113
v/c Ratio	0.83	0.30	0.34	0.59	0.66	0.42	0.50	0.66
Control Delay	86.4	4.2	9.7	10.6	98.1	35.5	80.8	84.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.4	4.2	9.7	10.6	98.1	35.5	80.8	84.0
Queue Length 50th (m)	9.0	30.0	14.6	141.5	21.6	10.5	19.7	33.8
Queue Length 95th (m)	#25.4	42.8	m16.9	m136.0	38.1	27.5	33.9	51.8
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)	70	4099	327	4176	319	531	394	516
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	0.83	0.30	0.34	0.59	0.22	0.16	0.16	0.22

Intersection Summary

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

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

PM Peak Period
05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	1042	88	108	2309	118	64	31	50	56	57	42
Future Volume (vph)	53	1042	88	108	2309	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		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	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1807	5057		1818	5151		1697	1685		1819	1746	
Flt Permitted	0.05	1.00		0.21	1.00		0.61	1.00		0.70	1.00	
Satd. Flow (perm)	87	5057		403	5151		1087	1685		1341	1746	
Peak-hour factor, PHF	0.92	0.92	0.92	0.98	0.98	0.98	0.93	0.93	0.93	0.88	0.88	0.88
Adj. Flow (vph)	58	1133	96	110	2356	120	69	33	54	64	65	48
RTOR Reduction (vph)	0	3	0	0	2	0	0	47	0	0	5	0
Lane Group Flow (vph)	58	1226	0	110	2474	0	69	40	0	64	108	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)	129.7	129.7		129.7	129.7		15.3	15.3		15.3	15.3	
Effective Green, g (s)	129.7	129.7		129.7	129.7		15.3	15.3		15.3	15.3	
Actuated g/C Ratio	0.81	0.81		0.81	0.81		0.10	0.10		0.10	0.10	
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)	70	4099		326	4175		103	161		128	166	
v/s Ratio Prot		0.24			0.48			0.02			0.06	
v/s Ratio Perm	c0.66			0.27			c0.06			0.05		
v/c Ratio	0.83	0.30		0.34	0.59		0.67	0.25		0.50	0.65	
Uniform Delay, d1	8.7	3.8		3.9	5.5		69.9	67.0		68.7	69.8	
Progression Factor	1.00	1.00		1.66	1.75		1.00	1.00		1.00	1.00	
Incremental Delay, d2	66.7	0.2		1.4	0.3		15.3	0.8		3.1	8.9	
Delay (s)	75.4	4.0		8.0	10.0		85.2	67.8		71.8	78.7	
Level of Service	E	A		A	A		F	E		E	E	
Approach Delay (s)		7.2			9.9			75.5			76.2	
Approach LOS		A			A			E			E	
Intersection Summary												
HCM 2000 Control Delay	14.3			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.81											
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												

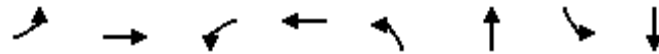
Appendix H – Sensitivity Analysis :
Future Total Conditions with
Hurontario LRT Included
Synchro Reports

Queues

AM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	260	92	119	196	1738	58	1694
v/c Ratio	0.28	0.83	0.79	0.32	0.78	0.98	0.50	1.17
Control Delay	57.0	80.9	100.9	21.0	81.0	21.9	85.1	123.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	80.9	100.9	21.0	81.0	21.9	85.1	123.5
Queue Length 50th (m)	18.3	76.9	28.2	10.2	65.0	~138.0	17.8	~336.4
Queue Length 95th (m)	31.0	102.9	43.2	22.7	m#62.6	m64.3	#51.7	#378.5
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)	309	407	155	465	251	1772	115	1452
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	0.21	0.64	0.59	0.26	0.78	0.98	0.50	1.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

AM Peak Period

05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	61	44	195	76	25	74	92	89	1560	57	53	1489
Future Volume (vph)	61	44	195	76	25	74	92	89	1560	57	53	1489
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	0.88		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)	1784	1633		1807	1659			1652	3442		1668	3363
Flt Permitted	0.68	1.00		0.34	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1268	1633		638	1659			1652	3442		1668	3363
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	48	212	92	30	89	100	96	1677	61	58	1636
RTOR Reduction (vph)	0	11	0	0	66	0	0	0	1	0	0	2
Lane Group Flow (vph)	66	249	0	92	53	0	0	196	1737	0	58	1692
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)	29.6	29.6		29.6	29.6			24.4	82.3		11.1	69.0
Effective Green, g (s)	29.6	29.6		29.6	29.6			24.4	82.3		11.1	69.0
Actuated g/C Ratio	0.19	0.19		0.19	0.19			0.15	0.51		0.07	0.43
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)	234	302		118	306			251	1770		115	1450
v/s Ratio Prot		c0.15			0.03			c0.12	c0.50		0.03	c0.50
v/s Ratio Perm	0.05			0.14								
v/c Ratio	0.28	0.83		0.78	0.17			0.78	0.98		0.50	1.17
Uniform Delay, d1	56.1	62.7		62.1	54.9			65.2	38.1		71.8	45.5
Progression Factor	1.00	1.00		1.00	1.00			1.26	0.44		1.00	1.00
Incremental Delay, d2	0.7	16.6		27.1	0.3			1.5	3.4		3.5	83.0
Delay (s)	56.7	79.3		89.1	55.2			83.7	20.3		75.2	128.5
Level of Service	E	E		F	E			F	C		E	F
Approach Delay (s)		74.8			70.0				26.7			126.8
Approach LOS		E			E				C			F
Intersection Summary												
HCM 2000 Control Delay			74.1			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			37.0			
Intersection Capacity Utilization			118.4%			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
05/30/2018

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	53
Future Volume (vph)	53
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)	58
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 Drive/Armdale Road

AM Peak Period
05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (veh/h)	0	0	301	0	0	81	0	1717	86	0	1751	101
Future Volume (Veh/h)	0	0	301	0	0	81	0	1717	86	0	1751	101
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	391	0	0	109	0	1807	91	0	1903	110
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	0.73	0.73	0.58	0.73	0.73	0.69	0.58				0.69	
vC, conflicting volume	2990	3895	1022	3218	3904	976	2029				1921	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1103	2343	0	1415	2356	86	1317				1447	
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	37	100	100	83	100				100	
cM capacity (veh/h)	95	26	619	24	25	635	302				299	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	391	109	1205	693	1269	744						
Volume Left	0	0	0	0	0	0						
Volume Right	391	109	0	91	0	110						
cSH	619	635	1700	1700	1700	1700						
Volume to Capacity	0.63	0.17	0.71	0.41	0.75	0.44						
Queue Length 95th (m)	33.8	4.7	0.0	0.0	0.0	0.0						
Control Delay (s)	20.2	11.8	0.0	0.0	0.0	0.0						
Lane LOS	C	B										
Approach Delay (s)	20.2	11.8	0.0	0.0								
Approach LOS	C	B										
Intersection Summary												
Average Delay			2.1									
Intersection Capacity Utilization			77.0%	ICU Level of Service					D			
Analysis Period (min)			15									

Queues
3: Hurontario St & Eglinton Ave E

AM Peak Period
05/30/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	190	1754	192	175	626	166	83	1302	109	527	1703
v/c Ratio	0.83	1.20	0.33	1.65	0.43	0.29	0.81	1.19	0.19	3.90	1.43
Control Delay	68.0	141.7	7.4	373.6	48.1	1.6	122.6	141.7	0.7	1330.9	235.6
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	68.0	141.8	7.4	373.6	48.1	1.6	122.6	141.7	0.7	1330.9	235.6
Queue Length 50th (m)	43.9	~243.2	9.0	~41.3	60.0	0.0	13.8	~261.6	0.0	~309.4	~379.7
Queue Length 95th (m)	m#79.0	m#257.4	m21.9	#66.8	72.6	0.2	#29.6	#304.6	0.0	m#300.8	m#337.3
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)	228	1463	579	106	1449	564	103	1094	572	135	1193
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	0.83	1.21	0.33	1.65	0.43	0.29	0.81	1.19	0.19	3.90	1.43

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
05/30/2018

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	
Lane Configurations													
Traffic Volume (vph)	171	1579	173	166	595	158	77	1211	101	263	222	1412	
Future Volume (vph)	171	1579	173	166	595	158	77	1211	101	263	222	1412	
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	0.91	1.00	1.00	0.91		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	0.99	
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)	1755	5193	1448	3404	5142	1395	3309	3510	1445		1669	3284	
Flt Permitted	0.33	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	
Satd. Flow (perm)	617	5193	1448	3404	5142	1395	3309	3510	1445		1669	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)	190	1754	192	175	626	166	83	1302	109	286	241	1535	
RTOR Reduction (vph)	0	0	138	0	0	119	0	0	75	0	0	5	
Lane Group Flow (vph)	190	1754	54	175	626	47	83	1302	34	0	527	1698	
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)	50.1	45.1	45.1	5.0	45.1	45.1	5.0	49.9	49.9		13.0	57.9	
Effective Green, g (s)	50.1	45.1	45.1	5.0	45.1	45.1	5.0	49.9	49.9		13.0	57.9	
Actuated g/C Ratio	0.31	0.28	0.28	0.03	0.28	0.28	0.03	0.31	0.31		0.08	0.36	
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)	228	1463	408	106	1449	393	103	1094	450		135	1188	
v/s Ratio Prot	0.03	c0.34		c0.05	0.12		0.03	0.37			c0.32	c0.52	
v/s Ratio Perm	0.23		0.04			0.03			0.02				
v/c Ratio	0.83	1.20	0.13	1.65	0.43	0.12	0.81	1.19	0.08		3.90	1.43	
Uniform Delay, d1	50.3	57.5	42.9	77.5	47.0	42.7	77.0	55.1	38.8		73.5	51.0	
Progression Factor	0.98	0.96	3.77	1.00	1.00	1.00	1.00	1.00	1.00		1.02	1.14	
Incremental Delay, d2	17.3	94.9	0.1	331.0	0.2	0.1	33.5	94.8	0.3		1314.5	195.3	
Delay (s)	66.8	150.3	161.9	408.5	47.2	42.8	110.6	149.9	39.1		1389.8	253.7	
Level of Service	E	F	F	F	D	D	F	F	D		F	F	
Approach Delay (s)		143.9			111.8			139.6				522.2	
Approach LOS		F			F			F				F	
Intersection Summary													
HCM 2000 Control Delay			262.0									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.73										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	47.0
Intersection Capacity Utilization			147.7%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

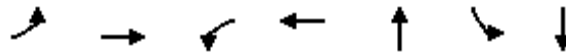
AM Peak Period

05/30/2018

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	155
Future Volume (vph)	155
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)	168
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	

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	117	1798	58	842	136	334	277
v/c Ratio	0.31	0.53	0.49	0.25	0.49	1.21	0.52
Control Delay	14.6	14.1	37.2	5.9	46.7	173.2	21.0
Queue Delay	0.0	0.4	0.0	0.0	0.1	0.0	0.0
Total Delay	14.6	14.5	37.2	5.9	46.8	173.2	21.0
Queue Length 50th (m)	12.8	84.2	6.2	17.3	28.7	~128.8	24.1
Queue Length 95th (m)	32.1	132.4	m16.9	m19.0	38.4	#185.5	51.0
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	375	3420	118	3305	277	276	528
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	980	0	0	5	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.74	0.49	0.25	0.50	1.21	0.52

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

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

AM Peak Period
05/30/2018

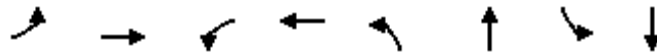
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	1565	53	53	664	110	25	10	64	294	33	210
Future Volume (vph)	105	1565	53	53	664	110	25	10	64	294	33	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total 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			1.00		0.97	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)	1715	5112		1825	4919			1656		1775	1626	
Flt Permitted	0.31	1.00		0.09	1.00			0.64		0.62	1.00	
Satd. Flow (perm)	562	5112		177	4919			1065		1167	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)	117	1739	59	58	722	120	34	14	88	334	38	239
RTOR Reduction (vph)	0	2	0	0	14	0	0	24	0	0	142	0
Lane Group Flow (vph)	117	1796	0	58	828	0	0	112	0	334	135	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)	107.0	107.0		107.0	107.0			38.0		38.0	38.0	
Effective Green, g (s)	107.0	107.0		107.0	107.0			38.0		38.0	38.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.24		0.24	0.24	
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)	375	3418		118	3289			252		277	386	
v/s Ratio Prot		c0.35			0.17						0.08	
v/s Ratio Perm	0.21			0.33				0.10		c0.29		
v/c Ratio	0.31	0.53		0.49	0.25			0.44		1.21	0.35	
Uniform Delay, d1	11.1	13.5		13.1	10.6			52.0		61.0	50.7	
Progression Factor	1.09	1.00		1.62	0.58			1.00		1.00	1.00	
Incremental Delay, d2	1.9	0.5		10.8	0.1			1.2		121.6	0.6	
Delay (s)	14.0	14.0		32.0	6.2			53.2		182.6	51.3	
Level of Service	B	B		C	A			D		F	D	
Approach Delay (s)		14.0			7.9			53.2			123.1	
Approach LOS		B			A			D			F	
Intersection Summary												
HCM 2000 Control Delay			32.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			104.6%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

Queues

AM Peak Period

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

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	1920	54	902	97	184	131	151
v/c Ratio	0.17	0.50	0.44	0.24	0.66	0.67	1.00	0.54
Control Delay	8.0	9.0	23.0	6.1	83.3	68.4	144.7	56.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	9.0	23.0	6.1	83.3	68.4	144.7	56.9
Queue Length 50th (m)	6.0	79.8	4.9	26.8	29.5	50.6	42.2	37.1
Queue Length 95th (m)	13.8	102.4	11.7	34.2	39.2	59.2	54.1	47.1
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)	423	3823	123	3790	282	510	252	516
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	0.50	0.44	0.24	0.34	0.36	0.52	0.29

Intersection Summary

HCM Signalized Intersection Capacity Analysis

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

AM Peak Period
05/30/2018

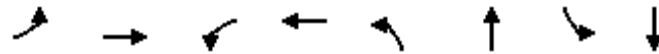
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	1537	76	51	786	62	75	58	84	102	65	53
Future Volume (vph)	61	1537	76	51	786	62	75	58	84	102	65	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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	0.91		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	5077		1770	5031		1680	1693		1820	1697	
Flt Permitted	0.30	1.00		0.09	1.00		0.54	1.00		0.45	1.00	
Satd. Flow (perm)	563	5077		163	5031		960	1693		858	1697	
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)	73	1830	90	54	836	66	97	75	109	131	83	68
RTOR Reduction (vph)	0	2	0	0	4	0	0	15	0	0	22	0
Lane Group Flow (vph)	73	1918	0	54	898	0	97	169	0	131	129	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)	120.4	120.4		120.4	120.4		24.6	24.6		24.6	24.6	
Effective Green, g (s)	120.4	120.4		120.4	120.4		24.6	24.6		24.6	24.6	
Actuated g/C Ratio	0.75	0.75		0.75	0.75		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)	423	3820		122	3785		147	260		131	260	
v/s Ratio Prot		c0.38			0.18			0.10			0.08	
v/s Ratio Perm	0.13			0.33			0.10			c0.15		
v/c Ratio	0.17	0.50		0.44	0.24		0.66	0.65		1.00	0.50	
Uniform Delay, d1	5.6	7.9		7.3	6.0		63.8	63.6		67.7	62.0	
Progression Factor	1.00	1.00		1.02	0.93		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.5		10.8	0.1		10.2	5.5		78.6	1.5	
Delay (s)	6.5	8.3		18.3	5.7		74.0	69.1		146.3	63.5	
Level of Service	A	A		B	A		E	E		F	E	
Approach Delay (s)		8.3			6.4			70.8			102.0	
Approach LOS		A			A			E			F	
Intersection Summary												
HCM 2000 Control Delay	20.3			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.59											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)			15.0					
Intersection Capacity Utilization	88.6%			ICU Level of Service			E					
Analysis Period (min)	15											
c Critical Lane Group												

Queues

PM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	121	68	180	306	1616	45	2934
v/c Ratio	0.32	0.58	0.45	0.76	0.87	0.76	0.41	1.81
Control Delay	69.9	73.6	72.9	79.2	91.5	10.2	82.8	395.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	73.6	72.9	79.2	91.5	10.2	82.8	395.7
Queue Length 50th (m)	9.4	35.6	20.4	50.4	97.5	42.0	14.1	~742.0
Queue Length 95th (m)	18.9	51.3	25.0	50.2 m	#109.2	m52.5	26.9	#761.0
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)	197	406	294	447	353	2129	109	1620
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.30	0.23	0.40	0.87	0.76	0.41	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
05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	27	25	78	45	72	47	128	157	1466	53	40	2561
Future Volume (vph)	27	25	78	45	72	47	128	157	1466	53	40	2561
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.97		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		1.00	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)	1783	1657		1790	1776			1825	3511		1825	3600
Flt Permitted	0.43	1.00		0.64	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	812	1657		1210	1776			1825	3511		1825	3600
Peak-hour factor, PHF	0.85	0.85	0.85	0.66	0.66	0.66	0.92	0.94	0.94	0.94	0.89	0.89
Adj. Flow (vph)	32	29	92	68	109	71	139	167	1560	56	45	2878
RTOR Reduction (vph)	0	4	0	0	17	0	0	0	1	0	0	1
Lane Group Flow (vph)	32	118	0	68	163	0	0	306	1615	0	45	2933
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)	20.0	20.0		20.0	20.0			31.0	94.6		8.4	72.0
Effective Green, g (s)	20.0	20.0		20.0	20.0			31.0	94.6		8.4	72.0
Actuated g/C Ratio	0.12	0.12		0.12	0.12			0.19	0.59		0.05	0.45
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)	101	207		151	222			353	2075		95	1620
v/s Ratio Prot		0.07			c0.09			c0.17	c0.46		0.02	c0.81
v/s Ratio Perm	0.04			0.06								
v/c Ratio	0.32	0.57		0.45	0.74			0.87	0.78		0.47	1.81
Uniform Delay, d1	63.8	65.9		64.9	67.5			62.5	24.8		73.7	44.0
Progression Factor	1.00	1.00		1.00	1.00			1.41	0.36		1.00	1.00
Incremental Delay, d2	1.8	3.5		2.1	11.9			5.5	0.7		3.7	367.2
Delay (s)	65.6	69.5		67.0	79.4			94.0	9.6		77.3	411.2
Level of Service	E	E		E	E			F	A		E	F
Approach Delay (s)		68.7			76.0				23.1			406.1
Approach LOS		E			E				C			F
Intersection Summary												
HCM 2000 Control Delay	242.1			HCM 2000 Level of Service					F			
HCM 2000 Volume to Capacity ratio	1.43											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)					37.0			
Intersection Capacity Utilization	139.4%			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

05/30/2018

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	50
Future Volume (vph)	50
Ideal Flow (vphpl)	1900
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	0.89
Adj. Flow (vph)	56
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: Watgarden Drive/Armdale Road

PM Peak Period
05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (veh/h)	0	0	165	0	0	110	0	1694	79	0	2588	224
Future Volume (Veh/h)	0	0	165	0	0	110	0	1694	79	0	2588	224
Sign Control	Stop				Stop				Free			
Grade	0%				0%				0%			
Peak Hour Factor	0.68	0.68	0.68	0.81	0.81	0.81	0.92	0.92	0.92	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	243	0	0	136	0	1841	86	0	2975	257
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	0.70	0.70	0.55	0.70	0.70	0.71	0.55				0.71	
vC, conflicting volume	4196	5090	1634	3664	5175	1030	3246				1972	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2839	4116	537	2079	4238	223	3443				1551	
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	10	100	100	74	100				100	
cM capacity (veh/h)	4	2	269	2	1	522	42				294	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	243	136	1227	700	1983	1249						
Volume Left	0	0	0	0	0	0						
Volume Right	243	136	0	86	0	257						
cSH	269	522	1700	1700	1700	1700						
Volume to Capacity	0.90	0.26	0.72	0.41	1.17	0.73						
Queue Length 95th (m)	61.3	7.9	0.0	0.0	0.0	0.0						
Control Delay (s)	73.7	14.3	0.0	0.0	0.0	0.0						
Lane LOS	F	B										
Approach Delay (s)	73.7	14.3	0.0	0.0								
Approach LOS	F	B										
Intersection Summary												
Average Delay			3.6									
Intersection Capacity Utilization			96.4%	ICU Level of Service					F			
Analysis Period (min)			15									

Queues

PM Peak Period

3: Hurontario St & Eglinton Ave E

05/30/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	137	782	222	281	1930	158	335	1465	117	458	2768
v/c Ratio	1.29	0.54	0.34	2.60	1.32	0.26	3.07	1.03	0.20	2.26	2.15
Control Delay	212.3	39.0	1.5	772.6	192.6	1.1	978.3	86.2	0.8	593.8	551.3
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	212.3	39.0	1.5	772.6	192.6	1.1	978.3	86.2	0.8	593.8	551.3
Queue Length 50th (m)	~39.8	84.1	0.0	~77.0	~289.1	0.0	~95.1	~181.1	0.0	~240.0	~735.5
Queue Length 95th (m)	m#76.6	m#98.1	m#0.0	#107.5	#317.1	0.0	#127.4	#210.8	0.0	m#135.0	m#376.8
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)	106	1449	650	108	1463	597	109	1428	590	203	1286
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	1.29	0.54	0.34	2.60	1.32	0.26	3.07	1.03	0.20	2.26	2.15

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

05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations		  		 	  		 	  			 	 
Traffic Volume (vph)	130	743	211	278	1911	156	308	1348	108	138	262	2133
Future Volume (vph)	130	743	211	278	1911	156	308	1348	108	138	262	2133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.91	1.00		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00	0.83	1.00	1.00	0.89		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	1494	3471	5193	1304	3506	5092	1442		1813	3542
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)	170	5142	1494	3471	5193	1304	3506	5092	1442		1813	3542
Peak-hour factor, PHF	0.95	0.95	0.95	0.99	0.99	0.99	0.92	0.92	0.92	0.92	0.85	0.85
Adj. Flow (vph)	137	782	222	281	1930	158	335	1465	117	150	308	2509
RTOR Reduction (vph)	0	0	159	0	0	113	0	0	84	0	0	5
Lane Group Flow (vph)	137	782	63	281	1930	45	335	1465	33	0	458	2763
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)	50.1	45.1	45.1	5.0	45.1	45.1	5.0	44.9	44.9		18.0	57.9
Effective Green, g (s)	50.1	45.1	45.1	5.0	45.1	45.1	5.0	44.9	44.9		18.0	57.9
Actuated g/C Ratio	0.31	0.28	0.28	0.03	0.28	0.28	0.03	0.28	0.28		0.11	0.36
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)	104	1449	421	108	1463	367	109	1428	404		203	1281
v/s Ratio Prot	0.04	0.15		c0.08	c0.37		0.10	0.29			c0.25	c0.78
v/s Ratio Perm	0.37		0.04			0.03			0.02			
v/c Ratio	1.32	0.54	0.15	2.60	1.32	0.12	3.07	1.03	0.08		2.26	2.16
Uniform Delay, d1	53.0	48.7	43.1	77.5	57.5	42.7	77.5	57.6	42.4		71.0	51.0
Progression Factor	0.83	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.88	1.60
Incremental Delay, d2	192.0	0.4	0.2	747.0	148.6	0.1	956.9	30.6	0.4		566.7	520.8
Delay (s)	235.8	37.9	43.2	824.5	206.0	42.9	1034.4	88.2	42.8		629.3	602.6
Level of Service	F	D	D	F	F	D	F	F	D		F	F
Approach Delay (s)		62.7			268.5			250.8				606.4
Approach LOS		E			F			F				F
Intersection Summary												
HCM 2000 Control Delay			363.4				HCM 2000 Level of Service		F			
HCM 2000 Volume to Capacity ratio			2.03									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)		47.0			
Intersection Capacity Utilization			159.1%				ICU Level of Service		H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

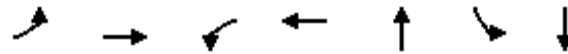
PM Peak Period

05/30/2018

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	220
Future Volume (vph)	220
Ideal Flow (vphpl)	1900
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	0.85
Adj. Flow (vph)	259
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	

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	211	956	66	2584	195	225	251
v/c Ratio	4.49	0.27	0.18	0.74	0.98	0.93	0.69
Control Delay	1620.1	9.3	2.8	10.1	113.4	102.6	64.2
Queue Delay	0.0	0.0	0.0	43.4	0.0	0.0	0.0
Total Delay	1620.1	9.3	2.8	53.5	113.4	102.6	64.2
Queue Length 50th (m)	~110.3	48.7	2.0	103.9	54.5	69.1	68.7
Queue Length 95th (m)	#164.7	57.9	m1.4	m17.1	#77.9	#111.6	97.2
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	47	3503	358	3486	213	263	396
Starvation Cap Reductn	0	0	0	1119	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	4.49	0.27	0.18	1.09	0.92	0.86	0.63

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

PM Peak Period
05/30/2018

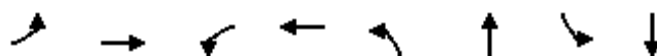
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	819	41	61	1990	387	73	10	67	198	20	201
Future Volume (vph)	190	819	41	61	1990	387	73	10	67	198	20	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total 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	0.99			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	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	5089		1807	5043			1708		1789	1629	
Flt Permitted	0.04	1.00		0.27	1.00			0.47		0.59	1.00	
Satd. Flow (perm)	70	5089		521	5043			821		1109	1629	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	211	910	46	66	2163	421	95	13	87	225	23	228
RTOR Reduction (vph)	0	3	0	0	17	0	0	19	0	0	10	0
Lane Group Flow (vph)	211	953	0	66	2567	0	0	176	0	225	241	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)	110.0	110.0		110.0	110.0			35.0		35.0	35.0	
Effective Green, g (s)	110.0	110.0		110.0	110.0			35.0		35.0	35.0	
Actuated g/C Ratio	0.69	0.69		0.69	0.69			0.22		0.22	0.22	
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)	48	3498		358	3467			179		242	356	
v/s Ratio Prot		0.19			0.51						0.15	
v/s Ratio Perm	c3.02			0.13				c0.21		0.20		
v/c Ratio	4.40	0.27		0.18	0.74			0.98		0.93	0.68	
Uniform Delay, d1	25.0	9.6		8.9	15.9			62.2		61.3	57.3	
Progression Factor	1.06	0.93		0.27	0.61			1.00		1.00	1.00	
Incremental Delay, d2	1574.3	0.2		0.1	0.1			62.3		38.6	5.0	
Delay (s)	1600.7	9.1		2.5	9.9			124.5		99.9	62.3	
Level of Service	F	A		A	A			F		F	E	
Approach Delay (s)		296.9			9.7			124.5			80.1	
Approach LOS		F			A			F			F	
Intersection Summary												
HCM 2000 Control Delay			96.8			HCM 2000 Level of Service				F		
HCM 2000 Volume to Capacity ratio			3.56									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				15.0		
Intersection Capacity Utilization			128.5%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

PM Peak Period

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

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	51	1110	98	2212	69	84	64	106
v/c Ratio	0.50	0.27	0.26	0.53	0.67	0.42	0.52	0.64
Control Delay	26.5	3.9	9.0	9.5	98.6	33.5	83.3	80.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	3.9	9.0	9.5	98.6	33.5	83.3	80.3
Queue Length 50th (m)	4.3	25.2	11.1	97.5	21.7	9.0	19.8	30.3
Queue Length 95th (m)	27.1	37.3	m18.1	126.2	38.0	25.6	34.0	47.9
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)	101	4126	377	4199	333	531	394	516
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	0.50	0.27	0.26	0.53	0.21	0.16	0.16	0.21

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

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

PM Peak Period
05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	47	943	78	96	2063	105	64	28	50	56	51	42
Future Volume (vph)	47	943	78	96	2063	105	64	28	50	56	51	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	5058		1816	5151		1696	1679		1819	1739	
Flt Permitted	0.07	1.00		0.24	1.00		0.64	1.00		0.70	1.00	
Satd. Flow (perm)	124	5058		462	5151		1137	1679		1345	1739	
Peak-hour factor, PHF	0.92	0.92	0.92	0.98	0.98	0.98	0.93	0.93	0.93	0.88	0.88	0.88
Adj. Flow (vph)	51	1025	85	98	2105	107	69	30	54	64	58	48
RTOR Reduction (vph)	0	3	0	0	2	0	0	49	0	0	8	0
Lane Group Flow (vph)	51	1107	0	98	2210	0	69	35	0	64	98	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)	130.4	130.4		130.4	130.4		14.6	14.6		14.6	14.6	
Effective Green, g (s)	130.4	130.4		130.4	130.4		14.6	14.6		14.6	14.6	
Actuated g/C Ratio	0.82	0.82		0.82	0.82		0.09	0.09		0.09	0.09	
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)	101	4122		376	4198		103	153		122	158	
v/s Ratio Prot		0.22			c0.43			0.02			0.06	
v/s Ratio Perm	0.41			0.21			c0.06			0.05		
v/c Ratio	0.50	0.27		0.26	0.53		0.67	0.23		0.52	0.62	
Uniform Delay, d1	4.7	3.5		3.5	4.8		70.4	67.5		69.4	70.0	
Progression Factor	1.00	1.00		1.82	1.79		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.9	0.2		1.1	0.3		15.3	0.8		4.0	7.0	
Delay (s)	21.5	3.7		7.4	8.9		85.7	68.2		73.4	77.1	
Level of Service	C	A		A	A		F	E		E	E	
Approach Delay (s)		4.5			8.8			76.1			75.7	
Approach LOS		A			A			E			E	
Intersection Summary												
HCM 2000 Control Delay	13.2			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.54											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)			15.0					
Intersection Capacity Utilization	109.2%			ICU Level of Service			H					
Analysis Period (min)	15											
c Critical Lane Group												

Appendix I – As-Of-Right Comparison:

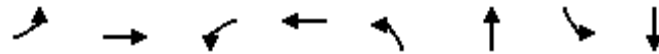
AOR Synchro Reports

Queues

AM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	265	92	123	108	1888	65	1842
v/c Ratio	0.29	0.82	0.83	0.38	0.88	0.52	0.55	0.52
Control Delay	56.7	77.6	109.2	50.6	79.9	12.5	34.4	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	77.6	109.2	50.6	79.9	12.6	34.4	11.3
Queue Length 50th (m)	18.3	77.2	28.5	30.0	35.9	87.1	8.7	87.4
Queue Length 95th (m)	30.7	102.3	43.5	42.0	m#75.4	83.9	#40.1	122.8
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	532	123	3645	119	3560
Starvation Cap Reductn	0	0	0	0	0	175	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	27
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.51	0.50	0.23	0.88	0.54	0.55	0.52

Intersection Summary

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

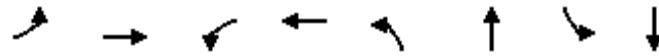
1: Ceremonial Drive/Nahani Way & Hurontario St

AM Peak Period
05/30/2018

												
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	1692	64	59	1616	60
Future Volume (vph)	61	49	195	76	28	74	100	1692	64	59	1616	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		1748	5055		1807	4938	
Flt Permitted	0.64	1.00		0.31	1.00		0.09	1.00		0.09	1.00	
Satd. Flow (perm)	1211	1640		593	1669		170	5055		166	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	1819	69	65	1776	66
RTOR Reduction (vph)	0	14	0	0	13	0	0	2	0	0	2	0
Lane Group Flow (vph)	66	251	0	92	110	0	108	1886	0	65	1840	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		122	3642		119	3558	
v/s Ratio Prot		0.15			0.07			0.37			0.37	
v/s Ratio Perm	0.05			c0.16			c0.63			0.39		
v/c Ratio	0.29	0.81		0.83	0.35		0.89	0.52		0.55	0.52	
Uniform Delay, d1	55.7	62.2		62.4	56.4		17.2	10.0		10.3	10.0	
Progression Factor	1.00	1.00		1.00	1.00		1.45	1.12		1.00	1.00	
Incremental Delay, d2	0.7	15.0		37.6	0.7		50.5	0.5		16.8	0.5	
Delay (s)	56.4	77.2		100.0	57.0		75.6	11.7		27.1	10.5	
Level of Service	E	E		F	E		E	B		C	B	
Approach Delay (s)		73.0			75.4			15.1			11.1	
Approach LOS		E			E			B			B	
Intersection Summary												
HCM 2000 Control Delay	20.6			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.87											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)			14.5					
Intersection Capacity Utilization	93.2%			ICU Level of Service			F					
Analysis Period (min)	15											
c Critical Lane Group												

Queues
2: Watergarden Drive/Armdale Road

AM Peak Period
05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	200	121	43	55	24	1777	28	2023
v/c Ratio	0.86	0.38	0.21	0.18	0.23	0.48	0.21	0.55
Control Delay	95.6	50.0	57.8	26.2	27.6	24.4	7.8	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Total Delay	95.6	50.0	57.8	26.2	27.6	24.9	7.8	8.8
Queue Length 50th (m)	61.8	27.7	11.8	5.6	4.5	137.8	1.5	139.4
Queue Length 95th (m)	74.8	38.5	19.2	13.3	m7.1	158.0	m2.7	37.9
Internal Link Dist (m)		93.4		92.9		183.5		161.8
Turn Bay Length (m)	63.1		32.1		55.0		70.0	
Base Capacity (vph)	270	370	232	356	104	3691	135	3688
Starvation Cap Reductn	0	0	0	0	0	1301	0	266
Spillback Cap Reductn	0	1	0	0	0	40	0	234
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.33	0.19	0.15	0.23	0.74	0.21	0.59

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

2: Watergarden Drive/Armdale Road

AM Peak Period
05/30/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	42	51	32	15	26	23	1676	12	26	1836	25
Future Volume (vph)	154	42	51	32	15	26	23	1676	12	26	1836	25
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		1.00	1.00	
Frt	1.00	0.92		1.00	0.90		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)	1779	1764		1722	1644		1825	5029		1698	5024	
Flt Permitted	0.72	1.00		0.64	1.00		0.07	1.00		0.10	1.00	
Satd. Flow (perm)	1350	1764		1162	1644		143	5029		184	5024	
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)	200	55	66	43	20	35	24	1764	13	28	1996	27
RTOR Reduction (vph)	0	18	0	0	28	0	0	1	0	0	1	0
Lane Group Flow (vph)	200	103	0	43	27	0	24	1776	0	28	2022	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)	27.6	27.6		27.6	27.6		117.4	117.4		117.4	117.4	
Effective Green, g (s)	27.6	27.6		27.6	27.6		117.4	117.4		117.4	117.4	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.73	0.73		0.73	0.73	
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)	232	304		200	283		104	3690		135	3686	
v/s Ratio Prot		0.06			0.02			0.35			c0.40	
v/s Ratio Perm	c0.15			0.04			0.17			0.15		
v/c Ratio	0.86	0.34		0.21	0.09		0.23	0.48		0.21	0.55	
Uniform Delay, d1	64.3	58.2		56.9	55.7		6.8	8.8		6.7	9.5	
Progression Factor	1.00	1.00		1.00	1.00		2.58	2.62		0.54	0.83	
Incremental Delay, d2	26.4	0.7		0.5	0.1		3.5	0.3		3.0	0.5	
Delay (s)	90.8	58.8		57.4	55.8		21.1	23.3		6.7	8.4	
Level of Service	F	E		E	E		C	C		A	A	
Approach Delay (s)		78.7			56.5			23.3			8.3	
Approach LOS		E			E			C			A	
Intersection Summary												
HCM 2000 Control Delay			21.0				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			15.0		
Intersection Capacity Utilization			63.7%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

AM Peak Period

3: Hurontario St & Eglinton Ave E

05/30/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	213	1853	206	196	649	184	86	1445	122	270	1627	189
v/c Ratio	0.68	1.17	0.39	0.71	0.43	0.35	0.49	0.78	0.21	1.13	0.74	0.26
Control Delay	41.6	127.8	19.2	85.7	46.5	7.1	82.4	48.2	10.5	126.0	48.2	18.8
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0
Total Delay	41.6	128.0	19.2	85.7	46.5	7.1	82.4	48.2	10.5	126.0	52.6	18.8
Queue Length 50th (m)	43.4	~259.4	18.7	31.7	61.4	0.0	13.9	148.7	5.5	~82.9	185.8	24.2
Queue Length 95th (m)	m70.1	m#291.7	m40.7	45.2	74.1	18.6	23.0	167.1	19.9	#140.7	208.1	47.0
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)	315	1589	531	319	1520	533	392	1859	580	239	2188	714
Starvation Cap Reductn	0	99	0	0	0	0	0	0	0	0	480	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	0.68	1.24	0.39	0.61	0.43	0.35	0.22	0.78	0.21	1.13	0.95	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.

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
05/30/2018

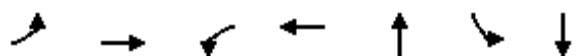
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	1668	185	186	617	175	80	1344	113	248	1497	174
Future Volume (vph)	192	1668	185	186	617	175	80	1344	113	248	1497	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	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)	1756	5193	1426	3404	5142	1367	3309	5043	1411	1789	5043	1438
Flt Permitted	0.30	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	552	5193	1426	3404	5142	1367	3309	5043	1411	121	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	1853	206	196	649	184	86	1445	122	270	1627	189
RTOR Reduction (vph)	0	0	95	0	0	130	0	0	60	0	0	91
Lane Group Flow (vph)	213	1853	111	196	649	54	86	1445	62	270	1627	98
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	8.6	59.0	59.0	81.0	69.4	69.4
Effective Green, g (s)	61.7	49.0	49.0	13.0	47.3	47.3	8.6	59.0	59.0	81.0	69.4	69.4
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)	308	1590	436	276	1520	404	177	1859	520	238	2187	623
v/s Ratio Prot	0.05	c0.36		c0.06	0.13		0.03	0.29		c0.12	0.32	
v/s Ratio Perm	0.21		0.08			0.04			0.04	c0.45		0.07
v/c Ratio	0.69	1.17	0.25	0.71	0.43	0.13	0.49	0.78	0.12	1.13	0.74	0.16
Uniform Delay, d1	35.7	55.5	41.8	71.7	45.4	41.3	73.6	44.7	33.3	51.2	37.9	27.5
Progression Factor	0.99	0.99	1.15	1.00	1.00	1.00	1.00	1.00	1.00	0.72	1.20	2.90
Incremental Delay, d2	4.2	80.2	0.2	7.0	0.2	0.2	0.8	3.3	0.5	95.2	2.0	0.5
Delay (s)	39.4	134.9	48.2	78.6	45.6	41.5	74.3	48.0	33.8	131.9	47.6	80.4
Level of Service	D	F	D	E	D	D	E	D	C	F	D	F
Approach Delay (s)		118.1			51.2			48.3			61.5	
Approach LOS		F			D			D			E	
Intersection Summary												
HCM 2000 Control Delay			75.1									HCM 2000 Level of Service E
HCM 2000 Volume to Capacity ratio			1.14									
Actuated Cycle Length (s)			160.0									Sum of lost time (s) 24.0
Intersection Capacity Utilization			102.2%									ICU Level of Service G
Analysis Period (min)			15									
c Critical Lane Group												

Queues

AM Peak Period

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	71	1996	65	882	132	277	228
v/c Ratio	0.20	0.58	0.74	0.26	0.43	0.99	0.43
Control Delay	14.0	16.3	99.8	18.1	48.2	110.7	13.6
Queue Delay	0.0	1.1	0.0	0.0	0.2	9.8	0.0
Total Delay	14.0	17.4	99.8	18.1	48.4	120.5	13.6
Queue Length 50th (m)	7.1	99.6	18.5	55.6	30.2	88.7	10.1
Queue Length 95th (m)	21.3	166.1	#43.7	68.9	39.4	#143.6	32.0
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	358	3420	88	3342	310	280	529
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	1085	0	0	16	10	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.85	0.74	0.26	0.45	1.03	0.43

Intersection Summary

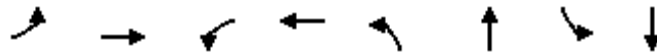
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

AM Peak Period
05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	1737	59	60	742	69	25	7	64	244	27	173
Future Volume (vph)	64	1737	59	60	742	69	25	7	64	244	27	173
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			1.00		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)	1716	5112		1825	4988			1647		1774	1626	
Flt Permitted	0.30	1.00		0.07	1.00			0.74		0.63	1.00	
Satd. Flow (perm)	536	5112		133	4988			1238		1179	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)	71	1930	66	65	807	75	34	10	88	277	31	197
RTOR Reduction (vph)	0	2	0	0	7	0	0	16	0	0	143	0
Lane Group Flow (vph)	71	1994	0	65	875	0	0	116	0	277	85	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)	107.0	107.0		107.0	107.0			38.0		38.0	38.0	
Effective Green, g (s)	107.0	107.0		107.0	107.0			38.0		38.0	38.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.24		0.24	0.24	
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)	358	3418		88	3335			294		280	386	
v/s Ratio Prot		0.39			0.18						0.05	
v/s Ratio Perm	0.13			c0.49				0.09		c0.23		
v/c Ratio	0.20	0.58		0.74	0.26			0.39		0.99	0.22	
Uniform Delay, d1	10.1	14.4		17.3	10.6			51.3		60.8	49.1	
Progression Factor	1.23	1.08		2.83	1.72			1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.6		40.7	0.2			0.9		50.3	0.3	
Delay (s)	13.5	16.2		89.9	18.5			52.2		111.1	49.4	
Level of Service	B	B		F	B			D		F	D	
Approach Delay (s)		16.1			23.4			52.2			83.2	
Approach LOS		B			C			D			F	
Intersection Summary												
HCM 2000 Control Delay			28.6			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			95.5%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	81	2094	61	939	97	193	131	162
v/c Ratio	0.20	0.55	0.64	0.25	0.68	0.70	1.03	0.56
Control Delay	8.6	9.9	55.4	12.6	85.8	72.3	151.4	59.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	9.9	55.4	12.6	85.8	72.3	151.4	59.6
Queue Length 50th (m)	6.9	93.2	10.7	55.0	29.6	55.4	~44.2	41.5
Queue Length 95th (m)	15.7	118.6	#44.6	71.9	39.3	63.6	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)	403	3808	96	3772	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	0.20	0.55	0.64	0.25	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
05/30/2018

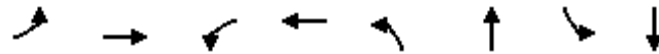
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	1674	85	57	813	70	75	65	84	102	73	53
Future Volume (vph)	68	1674	85	57	813	70	75	65	84	102	73	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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	5075		1771	5027		1680	1701		1820	1711	
Flt Permitted	0.29	1.00		0.07	1.00		0.51	1.00		0.43	1.00	
Satd. Flow (perm)	539	5075		129	5027		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	1993	101	61	865	74	97	84	109	131	94	68
RTOR Reduction (vph)	0	2	0	0	4	0	0	10	0	0	19	0
Lane Group Flow (vph)	81	2092	0	61	935	0	97	183	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)	404	3806		96	3770		142	265		127	267	
v/s Ratio Prot		0.41			0.19			0.11			0.08	
v/s Ratio Perm	0.15			c0.47			0.11			c0.16		
v/c Ratio	0.20	0.55		0.64	0.25		0.68	0.69		1.03	0.53	
Uniform Delay, d1	5.9	8.5		9.6	6.1		63.8	63.8		67.5	62.1	
Progression Factor	1.00	1.00		1.72	1.88		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.6		27.2	0.2		12.7	7.5		88.5	2.1	
Delay (s)	7.0	9.1		43.6	11.7		76.5	71.4		156.0	64.2	
Level of Service	A	A		D	B		E	E		F	E	
Approach Delay (s)		9.0			13.6			73.1			105.2	
Approach LOS		A			B			E			F	
Intersection Summary												
HCM 2000 Control Delay	22.7			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.70											
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												

Queues

PM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	125	68	194	187	1775	51	3215
v/c Ratio	0.34	0.42	0.45	0.76	0.61	0.45	0.36	1.01
Control Delay	70.9	23.8	71.9	78.7	46.9	11.4	26.1	47.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.9	23.8	71.9	78.7	46.9	11.5	26.1	47.9
Queue Length 50th (m)	9.4	10.0	20.3	54.8	48.8	74.7	7.5	353.5
Queue Length 95th (m)	18.9	25.4	24.8	53.5	73.9	99.4	21.9	#436.5
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)	215	573	347	560	305	3916	142	3191
Starvation Cap Reductn	0	0	0	0	0	451	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	0.15	0.22	0.20	0.35	0.61	0.51	0.36	1.01

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

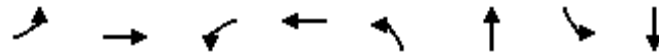
1: Ceremonial Drive/Nahani Way & Hurontario St

PM Peak Period
05/30/2018

												
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	1609	59	45	2805	56
Future Volume (vph)	27	28	78	45	81	47	176	1609	59	45	2805	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	0.99		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	0.95		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)	1789	1668		1794	1788		1825	5044		1805	5171	
Flt Permitted	0.37	1.00		0.60	1.00		0.04	1.00		0.12	1.00	
Satd. Flow (perm)	705	1668		1137	1788		76	5044		230	5171	
Peak-hour factor, PHF	0.85	0.85	0.85	0.66	0.66	0.66	0.94	0.94	0.94	0.89	0.89	0.89
Adj. Flow (vph)	32	33	92	68	123	71	187	1712	63	51	3152	63
RTOR Reduction (vph)	0	78	0	0	16	0	0	1	0	0	1	0
Lane Group Flow (vph)	32	47	0	68	178	0	187	1774	0	51	3214	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)	21.3	21.3		21.3	21.3		124.2	124.2		98.7	98.7	
Effective Green, g (s)	21.3	21.3		21.3	21.3		124.2	124.2		98.7	98.7	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.78	0.78		0.62	0.62	
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)	93	222		151	238		304	3915		141	3189	
v/s Ratio Prot		0.03			c0.10		c0.09	0.35			c0.62	
v/s Ratio Perm	0.05			0.06			0.39			0.22		
v/c Ratio	0.34	0.21		0.45	0.75		0.62	0.45		0.36	1.01	
Uniform Delay, d1	63.0	61.9		64.0	66.7		52.7	6.2		15.1	30.6	
Progression Factor	1.00	1.00		1.00	1.00		0.95	1.68		1.00	1.00	
Incremental Delay, d2	2.2	0.5		2.1	12.0		3.4	0.3		7.1	17.8	
Delay (s)	65.2	62.3		66.1	78.7		53.3	10.7		22.2	48.5	
Level of Service	E	E		E	E		D	B		C	D	
Approach Delay (s)		62.9			75.4			14.8			48.1	
Approach LOS		E			E			B			D	
Intersection Summary												
HCM 2000 Control Delay			38.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				17.5		
Intersection Capacity Utilization			107.4%			ICU Level of Service				G		
Analysis Period (min)			15									
c Critical Lane Group												

Queues
2: Watergarden Drive/Armdale Road

PM Peak Period
05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	53	81	49	80	52	1918	43	3323
v/c Ratio	0.51	0.58	0.46	0.53	1.11	0.46	0.28	0.78
Control Delay	86.7	85.0	83.2	62.3	150.4	1.5	1.6	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	46.5
Total Delay	86.7	85.0	83.2	62.3	150.4	1.7	1.6	49.8
Queue Length 50th (m)	16.5	24.7	15.2	17.6	~12.1	6.0	0.1	1.9
Queue Length 95th (m)	22.9	30.9	25.8	30.5	m#25.0	m8.5	m0.1	30.0
Internal Link Dist (m)		93.4		92.9		183.5		161.8
Turn Bay Length (m)	63.1		32.1		55.0		70.0	
Base Capacity (vph)	262	349	269	344	47	4203	151	4264
Starvation Cap Reductn	0	0	0	0	0	940	0	781
Spillback Cap Reductn	0	0	0	0	0	0	0	1308
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.23	0.18	0.23	1.11	0.59	0.28	1.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

2: Watergarden Drive/Armdale Road

PM Peak Period

05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	24	31	40	14	51	48	1757	7	37	2793	98
Future Volume (vph)	36	24	31	40	14	51	48	1757	7	37	2793	98
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	0.91		1.00	0.88		1.00	1.00		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)	1768	1739		1815	1632		1825	5085		1808	5154	
Flt Permitted	0.70	1.00		0.70	1.00		0.03	1.00		0.10	1.00	
Satd. Flow (perm)	1312	1739		1345	1632		58	5085		181	5154	
Peak-hour factor, PHF	0.68	0.68	0.68	0.81	0.81	0.81	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	53	35	46	49	17	63	52	1910	8	43	3210	113
RTOR Reduction (vph)	0	2	0	0	21	0	0	0	0	0	1	0
Lane Group Flow (vph)	53	79	0	49	59	0	52	1918	0	43	3322	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)	12.7	12.7		12.7	12.7		132.3	132.3		132.3	132.3	
Effective Green, g (s)	12.7	12.7		12.7	12.7		132.3	132.3		132.3	132.3	
Actuated g/C Ratio	0.08	0.08		0.08	0.08		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)	104	138		106	129		47	4204		149	4261	
v/s Ratio Prot		c0.05			0.04			0.38			0.64	
v/s Ratio Perm	0.04			0.04			c0.90			0.24		
v/c Ratio	0.51	0.57		0.46	0.46		1.11	0.46		0.29	0.78	
Uniform Delay, d1	70.7	71.0		70.4	70.4		13.8	3.9		3.1	6.7	
Progression Factor	1.00	1.00		1.00	1.00		2.75	0.34		0.02	0.39	
Incremental Delay, d2	3.9	5.7		3.2	2.5		116.3	0.1		1.5	0.5	
Delay (s)	74.6	76.7		73.6	72.9		154.4	1.5		1.6	3.1	
Level of Service	E	E		E	E		F	A		A	A	
Approach Delay (s)		75.8			73.1			5.5			3.1	
Approach LOS		E			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			7.3			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				15.0		
Intersection Capacity Utilization			86.0%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

PM Peak Period

3: Hurontario St & Eglinton Ave E

05/30/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	154	756	221	315	2042	175	354	1623	132	342	2736	291
v/c Ratio	0.77	0.46	0.36	1.12	1.29	0.37	0.88	0.98	0.26	1.15	1.46	0.46
Control Delay	80.3	34.5	2.5	152.4	178.5	14.7	92.4	71.1	17.5	147.0	242.3	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	80.3	34.5	2.5	152.4	178.5	14.7	92.4	71.1	17.5	147.0	242.4	16.6
Queue Length 50th (m)	35.4	57.3	2.0	~59.0	~304.8	10.2	57.8	187.9	11.4	~109.6	~436.0	17.6
Queue Length 95th (m)	#64.5	71.5	2.9	#90.6	#332.3	31.2	#82.4	#220.9	28.7	#159.7	#421.7	39.1
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			100.0		100.0
Base Capacity (vph)	209	1639	618	282	1585	472	416	1654	509	297	1871	626
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	48	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	0.74	0.46	0.36	1.12	1.29	0.37	0.85	0.98	0.26	1.15	1.50	0.46

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

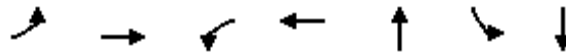
3: Hurontario St & Eglinton Ave E

PM Peak Period
05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  		 	  		 	  	
Traffic Volume (vph)	146	718	210	312	2022	173	326	1493	121	291	2326	247
Future Volume (vph)	146	718	210	312	2022	173	326	1493	121	291	2326	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	0.95	0.95	0.95	0.99	0.99	0.99	0.92	0.92	0.92	0.85	0.85	0.85
Adj. Flow (vph)	154	756	221	315	2042	175	354	1623	132	342	2736	291
RTOR Reduction (vph)	0	0	151	0	0	91	0	0	55	0	0	92
Lane Group Flow (vph)	154	756	70	315	2042	84	354	1623	77	342	2736	199
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)	64.1	51.0	51.0	13.0	48.9	48.9	18.4	52.0	52.0	79.0	57.6	57.6
Effective Green, g (s)	64.1	51.0	51.0	13.0	48.9	48.9	18.4	52.0	52.0	79.0	57.6	57.6
Actuated g/C Ratio	0.40	0.32	0.32	0.08	0.31	0.31	0.11	0.32	0.32	0.49	0.36	0.36
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)	197	1639	467	282	1587	382	403	1654	454	295	1869	534
v/s Ratio Prot	0.06	0.15		c0.09	c0.39		0.10	0.32		c0.16	c0.53	
v/s Ratio Perm	0.25		0.05			0.07			0.06	0.41		0.13
v/c Ratio	0.78	0.46	0.15	1.12	1.29	0.22	0.88	0.98	0.17	1.16	1.46	0.37
Uniform Delay, d1	39.6	43.5	39.0	73.5	55.5	41.4	69.7	53.5	38.6	53.7	51.2	37.8
Progression Factor	1.59	0.77	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.38	0.80	0.77
Incremental Delay, d2	16.1	0.2	0.1	88.8	133.9	0.3	18.5	18.1	0.8	93.6	210.7	1.3
Delay (s)	79.0	33.6	8.1	162.3	189.5	41.6	88.2	71.6	39.4	167.6	251.8	30.6
Level of Service	E	C	A	F	F	D	F	E	D	F	F	C
Approach Delay (s)		34.8			175.9			72.4			224.2	
Approach LOS		C			F			E			F	
Intersection Summary												
HCM 2000 Control Delay			152.3				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.35									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			24.0		
Intersection Capacity Utilization			120.6%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

05/30/2018



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	156	1042	74	2747	191	131	145
v/c Ratio	3.32	0.30	0.23	0.78	0.66	0.53	0.40
Control Delay	1103.6	9.7	2.4	10.2	60.3	63.0	53.4
Queue Delay	0.0	0.0	0.0	3.3	0.0	0.0	0.0
Total Delay	1103.6	9.7	2.4	13.5	60.3	63.0	53.4
Queue Length 50th (m)	~73.5	54.3	1.6	113.9	47.7	36.3	37.0
Queue Length 95th (m)	#122.1	63.6	m1.8	m27.3	61.3	57.5	57.0
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	47	3498	323	3503	311	266	392
Starvation Cap Reductn	0	0	0	644	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	3.32	0.30	0.23	0.96	0.61	0.49	0.37

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.

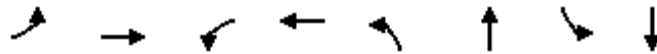
m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

PM Peak Period
05/30/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	140	892	46	68	2242	285	73	7	67	115	12	115
Future Volume (vph)	140	892	46	68	2242	285	73	7	67	115	12	115
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	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	5088		1809	5089			1702		1789	1630	
Flt Permitted	0.04	1.00		0.25	1.00			0.70		0.60	1.00	
Satd. Flow (perm)	70	5088		471	5089			1229		1121	1630	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	156	991	51	74	2437	310	95	9	87	131	14	131
RTOR Reduction (vph)	0	3	0	0	9	0	0	20	0	0	5	0
Lane Group Flow (vph)	156	1039	0	74	2738	0	0	171	0	131	140	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)	109.9	109.9		109.9	109.9			35.1		35.1	35.1	
Effective Green, g (s)	109.9	109.9		109.9	109.9			35.1		35.1	35.1	
Actuated g/C Ratio	0.69	0.69		0.69	0.69			0.22		0.22	0.22	
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)	48	3494		323	3495			269		245	357	
v/s Ratio Prot		0.20			0.54						0.09	
v/s Ratio Perm	c2.23			0.16				c0.14		0.12		
v/c Ratio	3.25	0.30		0.23	0.78			0.64		0.53	0.39	
Uniform Delay, d1	25.0	9.9		9.3	17.0			56.7		55.2	53.3	
Progression Factor	1.06	0.94		0.21	0.57			1.00		1.00	1.00	
Incremental Delay, d2	1063.2	0.2		0.1	0.2			4.9		2.2	0.7	
Delay (s)	1089.8	9.5		2.1	9.9			61.6		57.5	54.0	
Level of Service	F	A		A	A			E		E	D	
Approach Delay (s)		150.2			9.7			61.6			55.7	
Approach LOS		F			A			E			E	
Intersection Summary												
HCM 2000 Control Delay			52.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			2.61									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				15.0		
Intersection Capacity Utilization			126.2%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	58	1097	110	2369	69	87	64	113
v/c Ratio	0.72	0.27	0.29	0.57	0.67	0.42	0.50	0.66
Control Delay	57.4	4.0	10.1	11.6	99.1	35.7	81.3	82.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	4.0	10.1	11.6	99.1	35.7	81.3	82.6
Queue Length 50th (m)	7.0	25.7	15.5	136.8	21.6	10.5	19.7	33.1
Queue Length 95th (m)	#18.1	36.9	m20.6	146.4	38.2	27.5	34.0	51.2
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)	81	4097	379	4177	319	531	394	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	0.72	0.27	0.29	0.57	0.22	0.16	0.16	0.22

Intersection Summary

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

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

PM Peak Period
05/30/2018

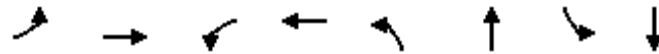
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	921	88	108	2204	118	64	31	50	56	57	42
Future Volume (vph)	53	921	88	108	2204	118	64	31	50	56	57	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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		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	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1807	5047		1816	5149		1697	1685		1819	1746	
Flt Permitted	0.05	1.00		0.24	1.00		0.61	1.00		0.70	1.00	
Satd. Flow (perm)	101	5047		468	5149		1086	1685		1341	1746	
Peak-hour factor, PHF	0.92	0.92	0.92	0.98	0.98	0.98	0.93	0.93	0.93	0.88	0.88	0.88
Adj. Flow (vph)	58	1001	96	110	2249	120	69	33	54	64	65	48
RTOR Reduction (vph)	0	3	0	0	2	0	0	47	0	0	6	0
Lane Group Flow (vph)	58	1094	0	110	2367	0	69	40	0	64	107	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)	129.8	129.8		129.8	129.8		15.2	15.2		15.2	15.2	
Effective Green, g (s)	129.8	129.8		129.8	129.8		15.2	15.2		15.2	15.2	
Actuated g/C Ratio	0.81	0.81		0.81	0.81		0.09	0.09		0.09	0.09	
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)	81	4094		379	4177		103	160		127	165	
v/s Ratio Prot		0.22			0.46			0.02			0.06	
v/s Ratio Perm	c0.58			0.24			c0.06			0.05		
v/c Ratio	0.72	0.27		0.29	0.57		0.67	0.25		0.50	0.65	
Uniform Delay, d1	6.8	3.6		3.7	5.3		70.0	67.1		68.8	69.8	
Progression Factor	1.00	1.00		1.93	1.99		1.00	1.00		1.00	1.00	
Incremental Delay, d2	42.1	0.2		1.2	0.4		15.3	0.8		3.1	8.4	
Delay (s)	48.9	3.8		8.4	10.9		85.3	67.9		71.9	78.2	
Level of Service	D	A		A	B		F	E		E	E	
Approach Delay (s)		6.1			10.8			75.6			76.0	
Approach LOS		A			B			E			E	
Intersection Summary												
HCM 2000 Control Delay	14.9			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.70											
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												

Queues

AM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

06/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	260	92	119	168	1685	58	1673
v/c Ratio	0.28	0.83	0.80	0.32	0.72	0.95	0.50	1.12
Control Delay	57.4	80.2	104.6	20.4	79.8	21.0	84.7	104.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	80.2	104.6	20.4	79.8	21.0	84.7	104.4
Queue Length 50th (m)	18.3	75.8	28.3	9.7	55.2	123.5	17.8	~329.0
Queue Length 95th (m)	31.1	101.8	43.4	22.2	m51.4	m65.5	#50.6	#371.2
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)	309	410	153	467	233	1776	116	1494
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	0.21	0.63	0.60	0.25	0.72	0.95	0.50	1.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

1: Ceremonial Drive/Nahani Way & Hurontario St

AM Peak Period

06/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	61	44	195	76	25	74	66	89	1510	57	53	1470
Future Volume (vph)	61	44	195	76	25	74	66	89	1510	57	53	1470
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	0.88		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)	1784	1633		1807	1659			1647	3441		1668	3362
Flt Permitted	0.67	1.00		0.33	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1267	1633		631	1659			1647	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	48	212	92	30	89	72	96	1624	61	58	1615
RTOR Reduction (vph)	0	14	0	0	68	0	0	0	1	0	0	2
Lane Group Flow (vph)	66	246	0	92	51	0	0	168	1684	0	58	1671
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)	29.3	29.3		29.3	29.3			22.7	82.5		11.2	71.0
Effective Green, g (s)	29.3	29.3		29.3	29.3			22.7	82.5		11.2	71.0
Actuated g/C Ratio	0.18	0.18		0.18	0.18			0.14	0.52		0.07	0.44
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)	232	299		115	303			233	1774		116	1491
v/s Ratio Prot		c0.15			0.03			c0.10	c0.49		0.03	c0.50
v/s Ratio Perm	0.05			0.15								
v/c Ratio	0.28	0.82		0.80	0.17			0.72	0.95		0.50	1.12
Uniform Delay, d1	56.3	62.9		62.5	55.1			65.6	36.8		71.7	44.5
Progression Factor	1.00	1.00		1.00	1.00			1.22	0.49		1.00	1.00
Incremental Delay, d2	0.7	16.5		31.5	0.3			1.0	1.6		3.4	63.9
Delay (s)	57.0	79.4		94.1	55.4			80.9	19.7		75.1	108.4
Level of Service	E	E		F	E			F	B		E	F
Approach Delay (s)		74.8			72.2				25.3			107.3
Approach LOS		E			E				C			F
Intersection Summary												
HCM 2000 Control Delay			66.1			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			37.0			
Intersection Capacity Utilization			116.4%			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

06/01/2018

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	53
Future Volume (vph)	53
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)	58
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 Drive/Armdale Road

AM Peak Period
06/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	221	0	0	72	0	1650	71	0	1751	56
Future Volume (Veh/h)	0	0	221	0	0	72	0	1650	71	0	1751	56
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	287	0	0	97	0	1737	75	0	1903	61
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	0.72	0.72	0.56	0.72	0.72	0.69	0.56			0.69		
vC, conflicting volume	2919	3784	998	3036	3778	933	1980			1835		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	971	2178	0	1134	2168	24	1192			1323		
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	53	100	100	86	100			100		
cM capacity (veh/h)	122	32	606	55	33	697	329			334		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	287	97	1158	654	1269	695						
Volume Left	0	0	0	0	0	0						
Volume Right	287	97	0	75	0	61						
cSH	606	697	1700	1700	1700	1700						
Volume to Capacity	0.47	0.14	0.68	0.38	0.75	0.41						
Queue Length 95th (m)	19.3	3.7	0.0	0.0	0.0	0.0						
Control Delay (s)	16.2	11.0	0.0	0.0	0.0	0.0						
Lane LOS	C	B										
Approach Delay (s)	16.2	11.0	0.0	0.0								
Approach LOS	C	B										
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utilization			70.6%		ICU Level of Service				C			
Analysis Period (min)			15									

Queues
3: Hurontario St & Eglinton Ave E

AM Peak Period
06/01/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	190	1678	183	175	580	164	77	1285	109	455	1688
v/c Ratio	0.78	1.15	0.32	1.65	0.40	0.29	0.75	1.17	0.19	3.37	1.41
Control Delay	61.5	121.4	7.3	373.6	47.5	1.5	114.4	135.8	0.7	1093.8	229.7
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	61.5	121.4	7.3	373.6	47.5	1.5	114.4	135.8	0.7	1093.8	229.7
Queue Length 50th (m)	42.4	~223.9	8.7	~41.3	55.0	0.0	12.7	~255.7	0.0	~261.6	~374.1
Queue Length 95th (m)	m#79.0	#254.2	m23.3	#66.8	67.2	0.0	#26.9	#298.7	0.0	m#258.0	m#342.1
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)	244	1463	579	106	1449	564	103	1094	572	135	1193
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	0.78	1.15	0.32	1.65	0.40	0.29	0.75	1.17	0.19	3.37	1.41

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

06/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations		  		 	  		 	 			 	 
Traffic Volume (vph)	171	1510	165	166	551	156	72	1195	101	198	221	1398
Future Volume (vph)	171	1510	165	166	551	156	72	1195	101	198	221	1398
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	0.91	1.00	1.00	0.91		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	0.99
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)	1752	5193	1448	3404	5142	1395	3309	3510	1445		1667	3283
Flt Permitted	0.36	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	669	5193	1448	3404	5142	1395	3309	3510	1445		1667	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)	190	1678	183	175	580	164	77	1285	109	215	240	1520
RTOR Reduction (vph)	0	0	131	0	0	118	0	0	75	0	0	5
Lane Group Flow (vph)	190	1678	52	175	580	46	77	1285	34	0	455	1683
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)	50.1	45.1	45.1	5.0	45.1	45.1	5.0	49.9	49.9		13.0	57.9
Effective Green, g (s)	50.1	45.1	45.1	5.0	45.1	45.1	5.0	49.9	49.9		13.0	57.9
Actuated g/C Ratio	0.31	0.28	0.28	0.03	0.28	0.28	0.03	0.31	0.31		0.08	0.36
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)	243	1463	408	106	1449	393	103	1094	450		135	1188
v/s Ratio Prot	0.02	c0.32		c0.05	0.11		0.02	0.37			c0.27	c0.51
v/s Ratio Perm	0.22		0.04			0.03			0.02			
v/c Ratio	0.78	1.15	0.13	1.65	0.40	0.12	0.75	1.17	0.08		3.37	1.42
Uniform Delay, d1	49.1	57.5	42.8	77.5	46.5	42.7	76.9	55.1	38.8		73.5	51.0
Progression Factor	0.96	0.95	5.11	1.00	1.00	1.00	1.00	1.00	1.00		1.03	1.12
Incremental Delay, d2	11.9	73.4	0.1	331.0	0.2	0.1	22.5	88.4	0.3		1074.7	189.6
Delay (s)	59.1	127.8	218.8	408.5	46.7	42.8	99.3	143.5	39.1		1150.6	246.9
Level of Service	E	F	F	F	D	D	F	F	D		F	F
Approach Delay (s)		129.5			114.9			133.4				438.8
Approach LOS		F			F			F				F
Intersection Summary												
HCM 2000 Control Delay			229.0									F
HCM 2000 Volume to Capacity ratio			1.64									
Actuated Cycle Length (s)			160.0									47.0
Intersection Capacity Utilization			144.1%									H
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

AM Peak Period
06/01/2018

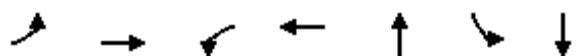
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	155
Future Volume (vph)	155
Ideal Flow (vphpl)	1900
Lane Width	3.3
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	168
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/Foursprings Avenue & Eglinton Ave W

06/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	63	1798	58	788	132	247	202
v/c Ratio	0.15	0.52	0.47	0.23	0.42	0.95	0.40
Control Delay	11.6	13.0	34.8	5.8	43.8	103.6	12.3
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	13.3	34.8	5.8	43.8	103.6	12.3
Queue Length 50th (m)	6.1	83.9	6.2	18.2	26.8	76.7	6.7
Queue Length 95th (m)	16.7	128.9	m15.7	m19.4	36.0	#123.5	26.8
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	409	3489	123	3408	329	277	519
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	863	0	0	5	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.68	0.47	0.23	0.41	0.89	0.39

Intersection Summary

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

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

AM Peak Period

06/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	1565	53	53	664	61	25	7	64	217	24	154
Future Volume (vph)	57	1565	53	53	664	61	25	7	64	217	24	154
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			1.00		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)	1715	5112		1825	4990			1647		1774	1625	
Flt Permitted	0.33	1.00		0.09	1.00			0.77		0.63	1.00	
Satd. Flow (perm)	601	5112		180	4990			1283		1168	1625	
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)	63	1739	59	58	722	66	34	10	88	247	27	175
RTOR Reduction (vph)	0	2	0	0	6	0	0	25	0	0	136	0
Lane Group Flow (vph)	63	1796	0	58	782	0	0	107	0	247	66	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)	109.2	109.2		109.2	109.2			35.8		35.8	35.8	
Effective Green, g (s)	109.2	109.2		109.2	109.2			35.8		35.8	35.8	
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.22		0.22	0.22	
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)	410	3488		122	3405			287		261	363	
v/s Ratio Prot		c0.35			0.16						0.04	
v/s Ratio Perm	0.10			0.32				0.08		c0.21		
v/c Ratio	0.15	0.51		0.48	0.23			0.37		0.95	0.18	
Uniform Delay, d1	9.0	12.4		11.9	9.6			52.6		61.2	50.3	
Progression Factor	1.10	0.98		1.60	0.59			1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.5		10.0	0.1			0.8		40.9	0.2	
Delay (s)	10.6	12.7		29.1	5.8			53.4		102.0	50.5	
Level of Service	B	B		C	A			D		F	D	
Approach Delay (s)		12.6			7.4			53.4			78.8	
Approach LOS		B			A			D			E	

Intersection Summary

HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

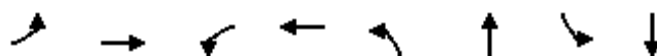
c Critical Lane Group

Queues

AM Peak Period

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

06/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	1863	54	843	97	184	131	151
v/c Ratio	0.16	0.49	0.41	0.22	0.66	0.67	1.00	0.54
Control Delay	7.8	8.8	22.4	6.8	83.3	67.4	144.7	56.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.8	8.8	22.4	6.8	83.3	67.4	144.7	56.9
Queue Length 50th (m)	5.9	76.0	5.4	27.5	29.5	50.0	42.2	37.1
Queue Length 95th (m)	13.6	97.9	12.4	35.2	39.2	58.5	54.1	47.1
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)	453	3823	131	3787	282	511	252	516
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.49	0.41	0.22	0.34	0.36	0.52	0.29
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

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

AM Peak Period

06/01/2018

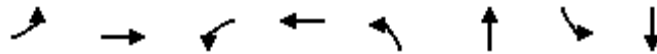
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	1489	76	51	730	62	75	58	84	102	65	53
Future Volume (vph)	61	1489	76	51	730	62	75	58	84	102	65	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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	0.91		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	5027		1680	1693		1820	1697	
Flt Permitted	0.32	1.00		0.09	1.00		0.54	1.00		0.45	1.00	
Satd. Flow (perm)	601	5075		176	5027		960	1693		858	1697	
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)	73	1773	90	54	777	66	97	75	109	131	83	68
RTOR Reduction (vph)	0	2	0	0	4	0	0	17	0	0	22	0
Lane Group Flow (vph)	73	1861	0	54	839	0	97	167	0	131	129	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)	120.4	120.4		120.4	120.4		24.6	24.6		24.6	24.6	
Effective Green, g (s)	120.4	120.4		120.4	120.4		24.6	24.6		24.6	24.6	
Actuated g/C Ratio	0.75	0.75		0.75	0.75		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)	452	3818		132	3782		147	260		131	260	
v/s Ratio Prot		c0.37			0.17			0.10			0.08	
v/s Ratio Perm	0.12			0.31			0.10			c0.15		
v/c Ratio	0.16	0.49		0.41	0.22		0.66	0.64		1.00	0.50	
Uniform Delay, d1	5.6	7.7		7.1	5.9		63.8	63.6		67.7	62.0	
Progression Factor	1.00	1.00		1.17	1.06		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.4		8.9	0.1		10.2	5.3		78.6	1.5	
Delay (s)	6.3	8.2		17.2	6.3		74.0	68.9		146.3	63.5	
Level of Service	A	A		B	A		E	E		F	E	
Approach Delay (s)		8.1			7.0			70.7			102.0	
Approach LOS		A			A			E			F	
Intersection Summary												
HCM 2000 Control Delay	20.8			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.57											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)			15.0					
Intersection Capacity Utilization	88.6%			ICU Level of Service			E					
Analysis Period (min)	15											
c Critical Lane Group												

Queues

PM Peak Period

1: Ceremonial Drive/Nahani Way & Hurontario St

06/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	121	68	180	270	1585	45	2884
v/c Ratio	0.32	0.56	0.45	0.76	0.76	0.74	0.41	1.78
Control Delay	69.9	70.0	72.9	79.2	91.9	10.9	82.8	382.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	70.0	72.9	79.2	91.9	10.9	82.8	382.3
Queue Length 50th (m)	9.4	34.1	20.4	50.4	86.9	44.3	14.1	~724.4
Queue Length 95th (m)	18.9	49.8	25.0	50.2	m#91.0	m45.8	26.9	#744.1
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)	197	410	294	447	353	2129	109	1620
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.30	0.23	0.40	0.76	0.74	0.41	1.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

06/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	27	25	78	45	72	47	95	157	1437	53	40	2517
Future Volume (vph)	27	25	78	45	72	47	95	157	1437	53	40	2517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.97		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		1.00	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)	1783	1657		1790	1776			1825	3510		1825	3599
Flt Permitted	0.43	1.00		0.64	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	812	1657		1210	1776			1825	3510		1825	3599
Peak-hour factor, PHF	0.85	0.85	0.85	0.66	0.66	0.66	0.92	0.94	0.94	0.94	0.89	0.89
Adj. Flow (vph)	32	29	92	68	109	71	103	167	1529	56	45	2828
RTOR Reduction (vph)	0	8	0	0	17	0	0	0	1	0	0	1
Lane Group Flow (vph)	32	113	0	68	163	0	0	270	1584	0	45	2883
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)	20.0	20.0		20.0	20.0			31.0	94.6		8.4	72.0
Effective Green, g (s)	20.0	20.0		20.0	20.0			31.0	94.6		8.4	72.0
Actuated g/C Ratio	0.12	0.12		0.12	0.12			0.19	0.59		0.05	0.45
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)	101	207		151	222			353	2075		95	1619
v/s Ratio Prot		0.07			c0.09			c0.15	c0.45		0.02	c0.80
v/s Ratio Perm	0.04			0.06								
v/c Ratio	0.32	0.55		0.45	0.74			0.76	0.76		0.47	1.78
Uniform Delay, d1	63.8	65.7		64.9	67.5			61.1	24.4		73.7	44.0
Progression Factor	1.00	1.00		1.00	1.00			1.44	0.39		1.00	1.00
Incremental Delay, d2	1.8	2.9		2.1	11.9			3.4	0.9		3.7	353.8
Delay (s)	65.6	68.7		67.0	79.4			91.4	10.5		77.3	397.8
Level of Service	E	E		E	E			F	B		E	F
Approach Delay (s)		68.0			76.0				22.3			392.9
Approach LOS		E			E				C			F
Intersection Summary												
HCM 2000 Control Delay	235.6			HCM 2000 Level of Service					F			
HCM 2000 Volume to Capacity ratio	1.40											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)					37.0			
Intersection Capacity Utilization	136.4%			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
06/01/2018

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	50
Future Volume (vph)	50
Ideal Flow (vphpl)	1900
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	0.89
Adj. Flow (vph)	56
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: Watgarden Drive/Armdale Road

PM Peak Period
06/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	81	0	0	103	0	1639	60	0	2594	141
Future Volume (Veh/h)	0	0	81	0	0	103	0	1639	60	0	2594	141
Sign Control	Stop				Stop				Free			
Grade	0%				0%				0%			
Peak Hour Factor	0.68	0.68	0.68	0.81	0.81	0.81	0.92	0.92	0.92	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	119	0	0	127	0	1782	65	0	2982	162
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	0.70	0.70	0.55	0.70	0.70	0.71	0.55				0.71	
vC, conflicting volume	4117	4969	1590	3474	5018	990	3158				1892	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2727	3944	458	1807	4013	167	3285				1438	
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	61	100	100	78	100				100	
cM capacity (veh/h)	5	2	303	20	2	567	49				324	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	119	127	1188	659	1988	1156						
Volume Left	0	0	0	0	0	0						
Volume Right	119	127	0	65	0	162						
cSH	303	567	1700	1700	1700	1700						
Volume to Capacity	0.39	0.22	0.70	0.39	1.17	0.68						
Queue Length 95th (m)	13.7	6.5	0.0	0.0	0.0	0.0						
Control Delay (s)	24.4	13.2	0.0	0.0	0.0	0.0						
Lane LOS	C	B										
Approach Delay (s)	24.4	13.2	0.0	0.0								
Approach LOS	C	B										
Intersection Summary												
Average Delay			0.9									
Intersection Capacity Utilization			89.4%	ICU Level of Service					E			
Analysis Period (min)			15									

Queues
3: Hurontario St & Eglinton Ave E

PM Peak Period
06/01/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	137	708	197	281	1818	156	315	1445	117	398	2741
v/c Ratio	1.29	0.49	0.30	2.60	1.24	0.26	2.89	1.01	0.20	1.96	2.13
Control Delay	218.1	37.6	1.2	772.6	161.8	1.1	897.9	83.0	0.8	464.9	542.6
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	218.1	37.6	1.2	772.6	161.8	1.1	897.9	83.0	0.8	464.9	542.6
Queue Length 50th (m)	~39.9	62.0	0.0	~77.0	~262.1	0.0	~88.4	~172.9	0.0	~199.7	~725.7
Queue Length 95th (m)	#85.5	76.3	0.0	#107.5	#290.6	0.0	#119.9	#206.0	0.0 m	#106.2 m	#364.6
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)	106	1449	650	108	1463	597	109	1428	590	203	1286
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	1.29	0.49	0.30	2.60	1.24	0.26	2.89	1.01	0.20	1.96	2.13

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

06/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations		  		  	  		  	  			  	  
Traffic Volume (vph)	130	673	187	278	1800	154	290	1329	108	86	259	2110
Future Volume (vph)	130	673	187	278	1800	154	290	1329	108	86	259	2110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.91	1.00		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00	0.83	1.00	1.00	0.89		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	1494	3471	5193	1304	3506	5092	1442		1811	3541
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)	170	5142	1494	3471	5193	1304	3506	5092	1442		1811	3541
Peak-hour factor, PHF	0.95	0.95	0.95	0.99	0.99	0.99	0.92	0.92	0.92	0.92	0.85	0.85
Adj. Flow (vph)	137	708	197	281	1818	156	315	1445	117	93	305	2482
RTOR Reduction (vph)	0	0	141	0	0	112	0	0	84	0	0	5
Lane Group Flow (vph)	137	708	56	281	1818	44	315	1445	33	0	398	2736
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)	50.1	45.1	45.1	5.0	45.1	45.1	5.0	44.9	44.9		18.0	57.9
Effective Green, g (s)	50.1	45.1	45.1	5.0	45.1	45.1	5.0	44.9	44.9		18.0	57.9
Actuated g/C Ratio	0.31	0.28	0.28	0.03	0.28	0.28	0.03	0.28	0.28		0.11	0.36
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)	104	1449	421	108	1463	367	109	1428	404		203	1281
v/s Ratio Prot	0.04	0.14		c0.08	0.35		0.09	0.28			c0.22	c0.77
v/s Ratio Perm	c0.37		0.04			0.03			0.02			
v/c Ratio	1.32	0.49	0.13	2.60	1.24	0.12	2.89	1.01	0.08		1.96	2.14
Uniform Delay, d1	53.0	47.8	42.8	77.5	57.5	42.7	77.5	57.6	42.4		71.0	51.0
Progression Factor	1.02	0.76	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.87	1.64
Incremental Delay, d2	193.8	0.3	0.1	747.0	115.2	0.1	875.0	26.8	0.4		433.9	511.3
Delay (s)	247.8	36.6	43.0	824.5	172.6	42.8	952.5	84.3	42.8		495.6	594.9
Level of Service	F	D	D	F	F	D	F	F	D		F	F
Approach Delay (s)		65.5			244.9			227.4				582.3
Approach LOS		E			F			F				F
Intersection Summary												
HCM 2000 Control Delay			345.9				HCM 2000 Level of Service		F			
HCM 2000 Volume to Capacity ratio			1.98									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)		47.0			
Intersection Capacity Utilization			157.9%				ICU Level of Service		H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Hurontario St & Eglinton Ave E

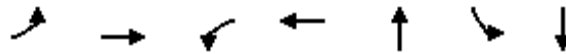
PM Peak Period

06/01/2018

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	220
Future Volume (vph)	220
Ideal Flow (vphpl)	1900
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	0.85
Adj. Flow (vph)	259
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	

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

06/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	139	958	66	2443	191	116	129
v/c Ratio	2.96	0.28	0.19	0.72	0.58	0.43	0.32
Control Delay	951.3	10.8	3.1	8.4	54.7	57.8	47.8
Queue Delay	0.0	0.0	0.0	35.0	0.0	0.0	0.0
Total Delay	951.3	10.8	3.1	43.4	54.7	57.8	47.8
Queue Length 50th (m)	~61.0	49.2	2.1	85.2	47.3	31.7	30.7
Queue Length 95th (m)	#106.5	58.6	m1.5	m18.9	60.6	51.0	49.5
Internal Link Dist (m)		387.1		163.7	30.4		52.3
Turn Bay Length (m)	120.0		60.0			32.5	
Base Capacity (vph)	47	3407	344	3413	329	268	397
Starvation Cap Reductn	0	0	0	1133	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	2.96	0.28	0.19	1.07	0.58	0.43	0.32

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

4: Plaza Entrance/Foursprings Avenue & Eglinton Ave W

PM Peak Period

06/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	821	41	61	1995	253	73	7	67	102	11	102
Future Volume (vph)	125	821	41	61	1995	253	73	7	67	102	11	102
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	0.98			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	5089		1807	5089			1702		1788	1631	
Flt Permitted	0.04	1.00		0.27	1.00			0.75		0.60	1.00	
Satd. Flow (perm)	72	5089		515	5089			1305		1131	1631	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	139	912	46	66	2168	275	95	9	87	116	12	116
RTOR Reduction (vph)	0	3	0	0	10	0	0	19	0	0	10	0
Lane Group Flow (vph)	139	955	0	66	2433	0	0	172	0	116	119	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)	107.0	107.0		107.0	107.0			38.0		38.0	38.0	
Effective Green, g (s)	107.0	107.0		107.0	107.0			38.0		38.0	38.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.24		0.24	0.24	
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)	48	3403		344	3403			309		268	387	
v/s Ratio Prot		0.19			0.48						0.07	
v/s Ratio Perm	c1.94			0.13			c0.13			0.10		
v/c Ratio	2.90	0.28		0.19	0.71		0.56			0.43	0.31	
Uniform Delay, d1	26.5	10.8		10.1	16.8		53.6			51.8	50.2	
Progression Factor	1.10	0.99		0.28	0.49		1.00			1.00	1.00	
Incremental Delay, d2	906.3	0.2		0.1	0.1		2.2			1.1	0.5	
Delay (s)	935.4	10.9		2.9	8.4		55.8			53.0	50.6	
Level of Service	F	B		A	A		E			D	D	
Approach Delay (s)		128.0			8.3		55.8				51.7	
Approach LOS		F			A		E				D	

Intersection Summary

HCM 2000 Control Delay	45.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	2.28		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	107.0%	ICU Level of Service	G
Analysis Period (min)	15		

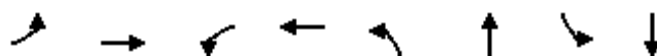
c Critical Lane Group

Queues

PM Peak Period

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

06/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	51	993	98	2116	69	84	64	106
v/c Ratio	0.44	0.24	0.23	0.50	0.68	0.42	0.53	0.63
Control Delay	19.5	3.7	8.7	9.3	99.6	33.6	83.6	77.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	3.7	8.7	9.3	99.6	33.6	83.6	77.6
Queue Length 50th (m)	4.0	21.9	10.5	88.8	21.7	9.0	19.8	29.3
Queue Length 95th (m)	19.1	32.6	m18.4	115.5	38.0	25.6	34.0	46.9
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)	115	4119	428	4198	333	531	394	519
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	0.44	0.24	0.23	0.50	0.21	0.16	0.16	0.20

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

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

PM Peak Period
06/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	47	835	78	96	1969	105	64	28	50	56	51	42
Future Volume (vph)	47	835	78	96	1969	105	64	28	50	56	51	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	0.99		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	5049		1814	5149		1696	1679		1819	1739	
Flt Permitted	0.07	1.00		0.28	1.00		0.64	1.00		0.70	1.00	
Satd. Flow (perm)	140	5049		526	5149		1136	1679		1345	1739	
Peak-hour factor, PHF	0.92	0.92	0.92	0.98	0.98	0.98	0.93	0.93	0.93	0.88	0.88	0.88
Adj. Flow (vph)	51	908	85	98	2009	107	69	30	54	64	58	48
RTOR Reduction (vph)	0	3	0	0	2	0	0	49	0	0	11	0
Lane Group Flow (vph)	51	990	0	98	2114	0	69	35	0	64	95	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)	130.5	130.5		130.5	130.5		14.5	14.5		14.5	14.5	
Effective Green, g (s)	130.5	130.5		130.5	130.5		14.5	14.5		14.5	14.5	
Actuated g/C Ratio	0.82	0.82		0.82	0.82		0.09	0.09		0.09	0.09	
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)	114	4118		429	4199		102	152		121	157	
v/s Ratio Prot		0.20			c0.41			0.02			0.05	
v/s Ratio Perm	0.36			0.19			c0.06			0.05		
v/c Ratio	0.45	0.24		0.23	0.50		0.68	0.23		0.53	0.61	
Uniform Delay, d1	4.3	3.4		3.3	4.6		70.5	67.6		69.5	70.0	
Progression Factor	1.00	1.00		1.90	1.81		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.2	0.1		0.9	0.3		16.3	0.8		4.1	6.5	
Delay (s)	16.5	3.5		7.2	8.7		86.8	68.3		73.6	76.5	
Level of Service	B	A		A	A		F	E		E	E	
Approach Delay (s)		4.2			8.6			76.7			75.4	
Approach LOS		A			A			E			E	
Intersection Summary												
HCM 2000 Control Delay	13.4			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	109.2%			ICU Level of Service			H					
Analysis Period (min)	15											
c Critical Lane Group												