Elia Land

TRANSPORTATION IMPACT STUDY

PROPOSED MIXED-USE DEVELOPMENT

25,35,55 Elia Avenue, 136 Eglinton Avenue East, 105 Elia Avenue, 4615 Hurontario Street and 110 Elia Avenue City of Mississauga

June 4, 2021

21173

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1 INTRODUCTION

LEA Consulting Ltd. (LEA) has been retained by Elia Land to undertake a Transportation Impact Study in support of the Zoning By-Law Amendment application for the proposed mixed-use development. The development is situated by vacant lots south of Eglinton Avenue East, east of Sorrento Drive and borders along the north and south side of Elia Avenue, which is municipally known as 25, 35, 55 Elia Avenue, 136 Eglinton Avenue East, 105 Elia Avenue, 4615 Hurontario Street and 110 Elia Avenue herein referred to as the "subject site") located in the City of Mississauga. The subject site and site plan are illustrated in **Figure 1-1** and **Figure 1-2**, respectively.

Figure 1-1: Subject Site Location

Figure 1-2: Conceptual Block Plan

The site is currently occupied by vacant lots and will be developed for a mixed-use development. The proposed development will create five (5) blocks, which consist of nine (9) residential towers on podiums with small retail components, three (3) blocks of townhouses and one (1) office building. It will provide 4,690 dwelling units, 4,295m^2 of retail space and 18,080m^2 of office space. A site total of 5,429 parking spaces will be provided with access to the subject site provided via driveways on Elia Avenue, Sorrento Drive, and Trudeau Avenue. The breakdown of the site statistics is outlined in **Table 1-1**.

Table 1-1: Site Statistics

Block	Use	Proposed Units/GFA
1	Residential	1,000 units
	Retail	1,915m^2
	Office	18,080m^2
2	Residential	1,046 units
	Retail	809m^2
3	Residential	1,111 units
4	Residential	974 units
	Retail	1,570m^2
5	Residential	559 units

The study area was determined based on the size of the redevelopment and its anticipated transportation impact, as well as through discussion with the City of Mississauga staff. The study area includes the following intersections:

- Eglinton Avenue East and Sorrento Drive (Signalized);
- Eglinton Avenue East and Hurontario Street (Signalized); and
- Hurontario Street and Elia Avenue/Kingsbridge Garden Circle (Signalized).

This Transportation Impact Study focuses on the weekday AM and PM peak hours and the five-year horizon as the proposed redevelopment includes residential use. The details of the Terms of Reference are contained in **Appendix A**.

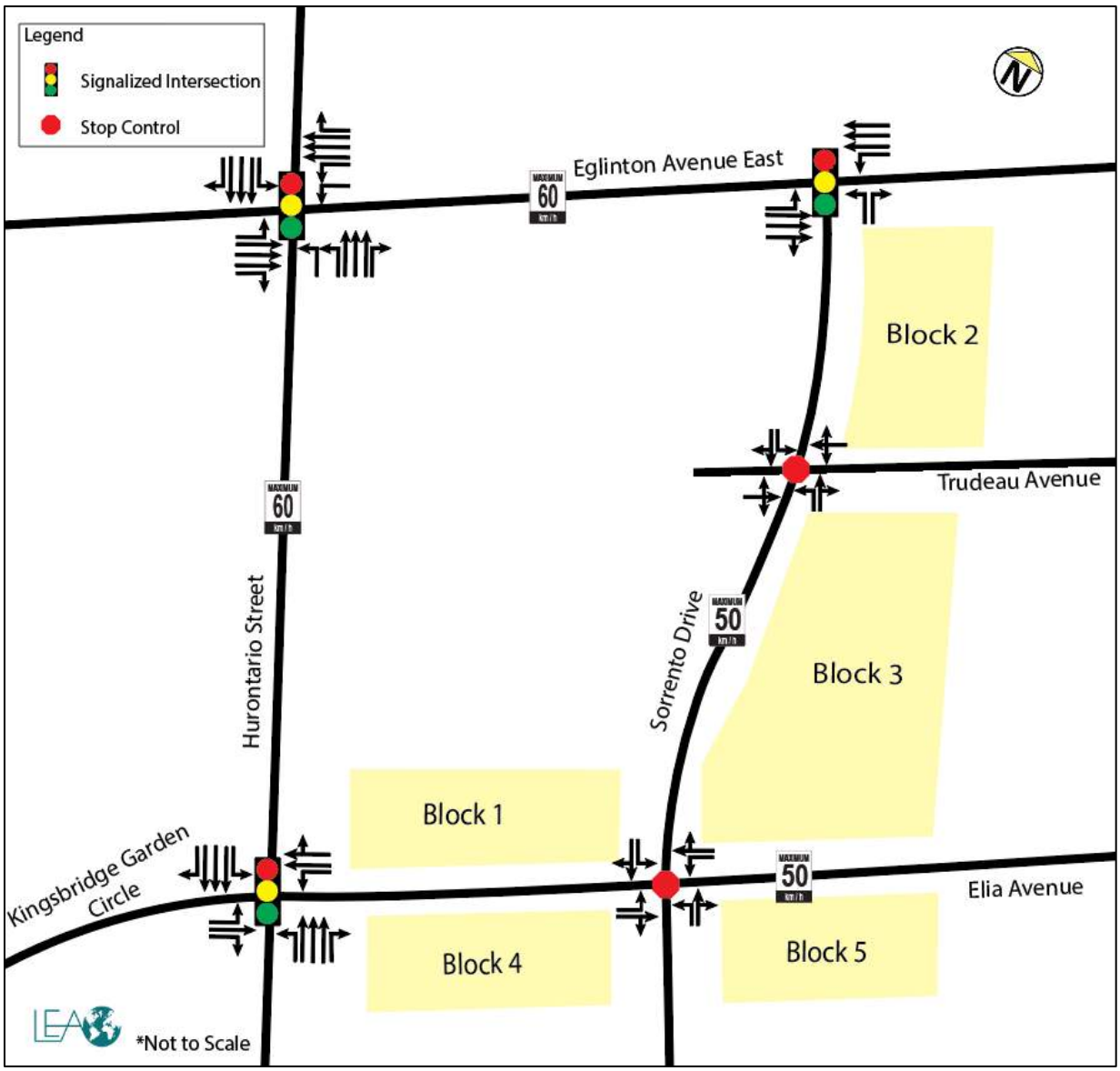
2 EXISTING TRANSPORTATION CONDITIONS

The existing transportation conditions within the study area including the road, transit, cyclist, and pedestrian networks were assessed.

2.1 ROAD NETWORK

This subsection will describe the road network contained within the above-mentioned study area. **Figure 2-1** illustrates the intersections and lane configuration contained within the study area.

Figure 2-1: Existing Lane Configuration



Eglinton Avenue East is an east-west major arterial road with an eleven lane cross section (six lanes in the westbound direction, five lanes in the eastbound direction) within the study area and is under the jurisdiction of the City of Mississauga. It operates with a posted speed limit of 60 km/h. At the intersection of Hurontario Street, in the eastbound direction it provides one exclusive left turn lane and one exclusive right turn lane, and in the westbound direction it provides two exclusive left turn lanes and one exclusive right turn lane. At the intersection of Sorrento Drive, it provides one exclusive left-turn lane in the westbound direction. Eglinton Avenue West operates under the traffic control signal system.

Hurontario Street is a north-south major arterial road with six through lanes (three lanes per direction) within the study area. Hurontario Street operates with a posted speed limit of 60 km/h and is under the jurisdiction of the City of Mississauga. It provides an exclusive left turn lane at both intersections in both directions within the study area and operates under the traffic control signal system.

Sorrento Drive is a north-south minor collector road with a two lane cross section (one lane per direction) within the study area and is under the jurisdiction of the City of Mississauga. It operates with a posted speed limit of 50 km/h. It provides an exclusive left turn lane and an exclusive right turn lane at the intersection of Eglinton Avenue East and operates under the traffic control system.

Kingsbridge Garden Circle/Elia Avenue is an east-west minor collector road with a four lane cross section (two lanes per direction) within the study area. It operates with a posted speed limit of 50 km/h. Kingsbridge Garden Circle provides an exclusive left and right turn lane and Elia Avenue provides an exclusive left turn lane at the intersection of Hurontario Street and operates under the traffic control system.

2.2 EXISTING TRANSIT NETWORK

The subject site is well serviced by existing bus routes operated by MiWay. It is conveniently located within walking distance to the Eglinton Avenue West and Sorrento Drive bus stop, the Hurontario and Eglinton Avenue East bus stop as well as the Hurontario Street and Elia Avenue/Kingsbridge Garden Circle bus stop which all provide good accessibility to the MiWay transit network.**Figure 2-2** shows the existing transit network in the area of the subject site.

Figure 2-2: Existing Transit Network

MiWay Route 7 – Airport is a generally east-west local bus route that operates between Square One City Centre and Toronto Pearson Airport/Westwood Square Bus Terminal Platform. This route operates with 20-minute headways during the AM and PM peak hours, and 30-minute headways during the day, operating all-day Monday to Friday. On weekends, the route operates with 40-minute headways.

Access Locations: Route 7 is accessible at the intersection of Eglinton Avenue and Sorrento Drive.

MiWay Route 17 – Hurontario is generally a north-south local bus route that operates between Square One City Centre and the Highway 407 & Hurontario Park & Ride. This route operates with headways of 10–15 minutes, all day, every day.

Access Locations: Route 17 is accessible at the intersection of Hurontario Street and Kingsbridge Garden Circle/Elia Avenue.

MiWay Route 34 – Credit Valley is generally an east-west local bus route that operates between City Centre Transit Terminal and Erin Mills Town Centre. This route operates with headways of 30 minutes, from 5:00 AM to 1:00AM every day.

Access Locations: Route 34 is accessible at the intersection of Kingsbridge Garden Circle and Hurontario Street.

MiWay Route 35 – Eglinton is an east-west local bus route that operates between Erin Centre Boulevard and 9th Line and the Islington Subway Station. This route operates with 10-minute headways on Monday to Friday. On weekends, the route operates with 30-minute headways.

Access Locations: Route 35 is accessible at the intersection of Eglinton Avenue and Hurontario Street.

MiWay Route 87 – Meadowvale-Skymark is a generally east-west local bus route that operates between Meadowvale Town Centre and Commerce Boulevard at Renforth Station. This route operates Monday-Friday from 5:30am to 10:00am with 20-minute headways.

Access Locations: Route 87 is accessible at the intersection of Eglinton Avenue and Hurontario Street.

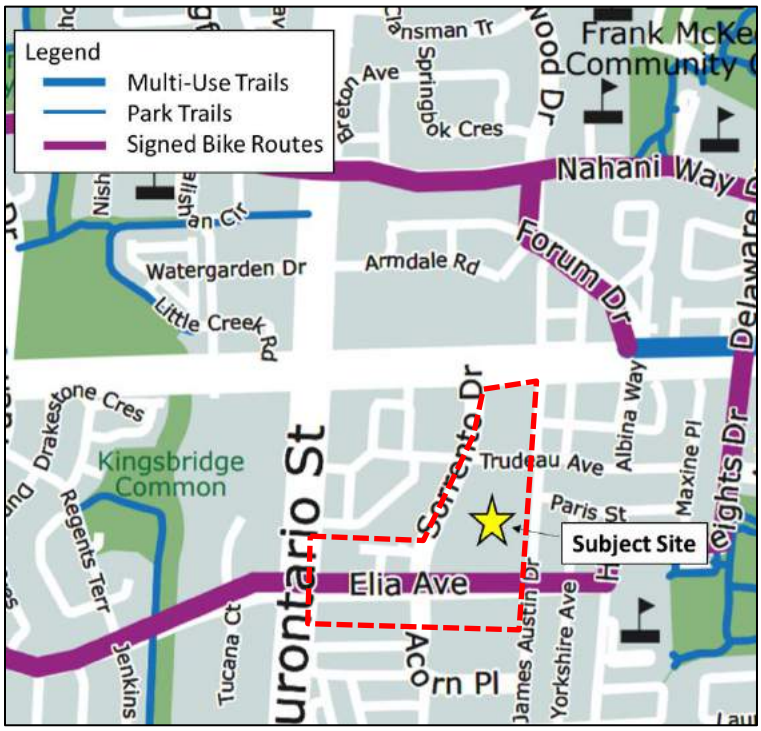
MiWay Express Route 103 – Hurontario Express is a north-south local bus route that operates between Trillium Hospital and Brampton Gateway Terminal. This route operates with 10-minute headways all day, Monday-Friday and operates with 20-minute headways on weekends.

Access Locations: Route 103 is accessible at the intersection of Eglinton Avenue and Hurontario Street.

2.3 CYCLING NETWORK

The subject site is located within fair access to a well-connected cycling network, with several significant cycling routes in the surrounding area. The subject site is located on the doorstep of a signed bike route along Elia Avenue which provides great east-west connections across the city. Additionally, there are many park trails available in the surrounding area. The subject site is also located in close proximity to the multi-use trail along Eglinton Avenue. A map of the existing cycling facilities present in the area is shown in **Figure 2-3**, demonstrating a number of additional bike routes available in the broader area of the subject site.

Figure 2-3: Existing Cycling Network

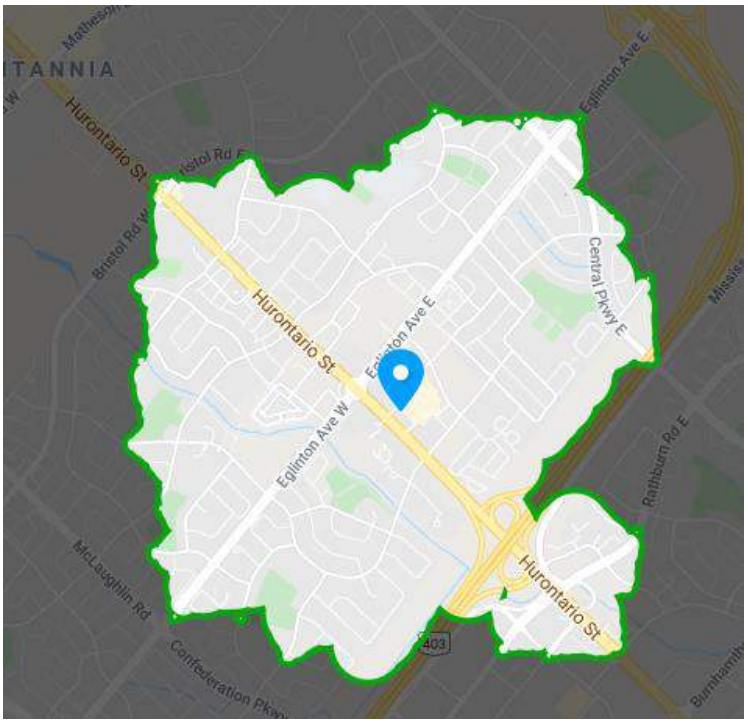


2.4 PEDESTRIAN NETWORK

In the area immediately surrounding the subject site, continuous sidewalks are available along both sides of all streets in the subject area. Pedestrian crosswalks are also available on all approaches with protected pedestrian phases at each signalized intersection. To verify the land uses that support the areas walkability, the subject site was entered as a testable address in the Walk Score website. The address of the subject site, 4553 Hurontario Street, receives a Walk Score of 76/100 – very walkable, which indicates that most errands can be accomplished on foot.

A 20-minute walk from the subject site could permit an individual to reach Bristol Road in the north, Kennedy Road South in the east, Robert Speck Parkway in the south, and McLaughlin Road/Confederation Parkway in the west. Within this area are many amenities and services such as schools, public parks, restaurants, retail stores, pharmacies, and banks. **Figure 2-4** shows the possible area an individual could reach in a 20-minute walk from the subject site.

Figure 2-4: Twenty Minute Walking Distance from Subject Site



2.5 HURONTARIO LRT

The Hurontario Light Rail Transit (LRT) is currently under construction and is expected to be completed in the Fall of 2024. The route will operate along Hurontario Street between Port Credit GO Station in Mississauga and Brampton Gateway Terminal in Brampton and provide 19 transit stops, with a future transit stop located on the doorstep of the subject site. The future Hurontario LRT will be fully integrated with municipal transit systems, providing separate bike lanes and multi-use paths. The service will provide connections to the Milton and Lakeshore West GO lines, along with local transit links like MiWay, Brampton Transit, Zum and Mississauga Transitway at Square One.

Ultimately, the subject site will be highly accessible to rapid transit at the intersection of Hurontario Street and Eglinton Avenue, and the future LRT will further reduce the need for future residents to own a vehicle, and for visitors to reach the site by private auto. Furthermore, it is considered supportive of the City of Mississauga objectives to provide parking that is reduced from the Zoning By-Law requirements, considering the vision for the Hurontario corridor.

2.6 TRAFFIC DATA COLLECTION

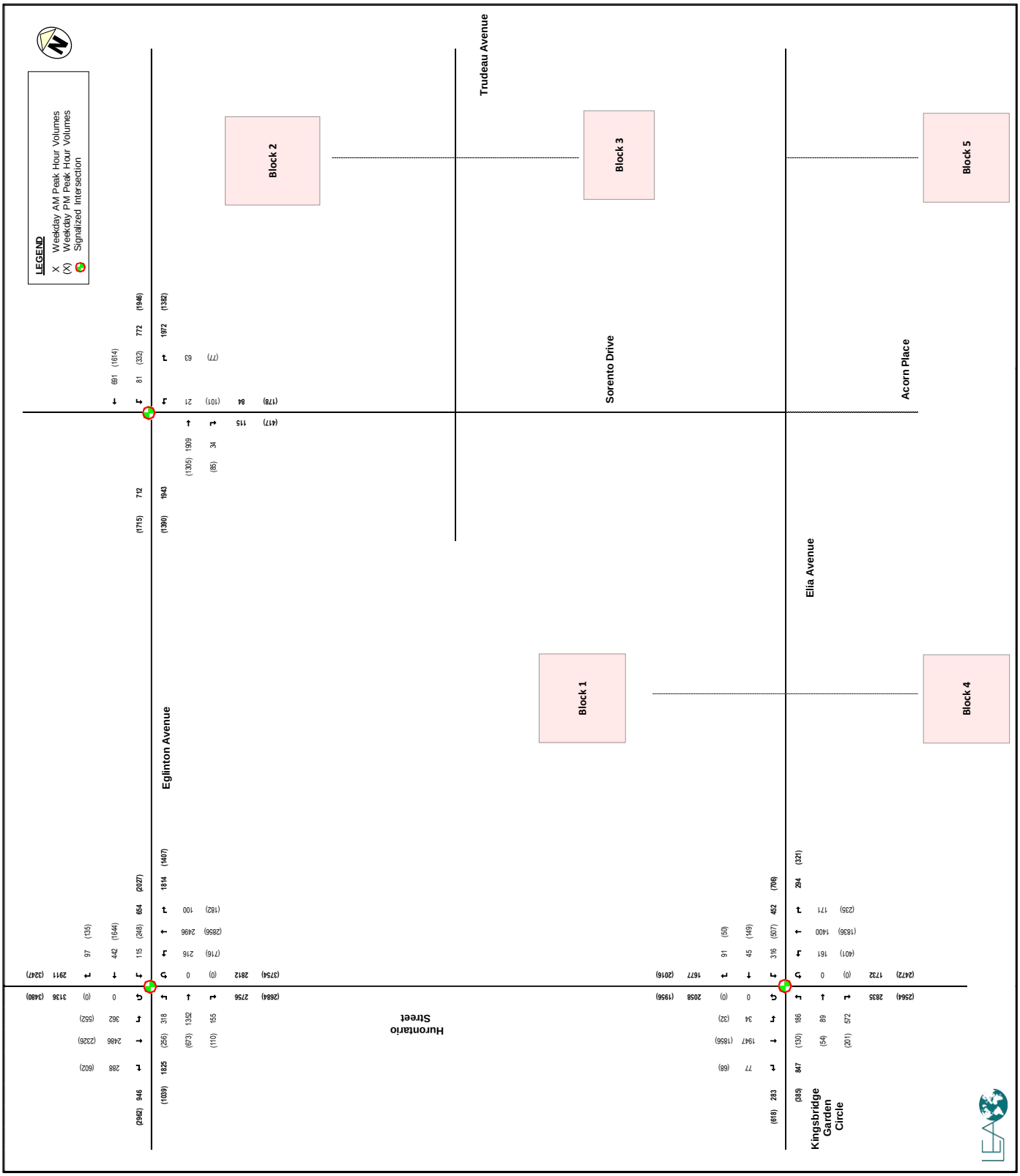
Turning movement counts (TMCs) were used as the source of traffic data in the intersection capacity analysis. The existing turning movement counts were obtained from the City of Mississauga. Given that no surveys can be conducted at this time, the TMCs were collected in 2016 and have been adjusted as a conservative method to derive present day traffic volumes. This method thereby increases the volumes along Eglinton Avenue at the necessary intersections, as no growth was observed at Hurontario Street. The detailed traffic counts and signal timing plans obtained from the City of Mississauga are available in **Appendix B.**

2.7 INTERSECTION CAPACITY ANALYSIS

The existing intersection capacity analysis was performed using Synchro 11.0 which incorporates the Highway Capacity Manual (HCM) 2000 methodology. The Synchro parameters for existing conditions were inputted according to the Region of Peel's "Traffic Impact Study Guidelines" and "Regional Guidelines for Using Synchro".

The existing balanced traffic volumes in the study area during the weekday AM and PM peak hours are illustrated in **Figure 2-5.**

Figure 2-5: Existing Peak Hour Traffic Volumes



The intersection capacity analysis was conducted under existing conditions during the weekday AM and PM peak hours, where the results for the studied signalized intersections are summarized in **Table 2-1**. Detailed capacity results are provided in **Appendix C**.

Table 2-1: Existing Capacity Analysis - Signalized Intersections

Intersection	Weekday AM Peak Hour								
	Overall			Movements of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	0.59	6.7	A	EBTR	0.45	4.6	A	48.1	59.8
				WBL	0.60	21.2	C	6.8	44.6
				WBT	0.16	2.3	A	11.4	17.0
				NBL	0.18	72.2	E	5.9	14.0
				NBR	0.45	78.3	E	13.1	27.4
Hurontario Street and Eglinton Avenue East	1.20	115.1	F	EBL	0.78	49.1	D	64.0	88.2
				EBT	0.89	61.6	E	139.9	158.2
				EBR	0.10	0.1	A	0.0	0.0
				WBL	0.46	70.8	E	17.9	28.0
				WBT	0.31	42.9	D	37.4	47.2
				WBR	0.07	0.1	A	0.0	0.0
				NBL	0.67	84.7	F	33.3	46.3
				NBT	1.22	148.1	F	300.2	315.6
				NBR	0.07	0.1	A	0.0	0.0
				SBL	1.36	236.6	F	124.4	184.0
				SBT	1.21	149.2	F	298.6	319.2
				SBR	0.19	0.3	A	0.0	0.0
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	0.80	23.9	C	EBL	0.55	50.7	D	45.7	63.2
				EBT	0.17	42.3	D	19.3	29.8
				EBR	0.77	60.9	E	78.8	116.5
				WBL	0.84	70.5	E	86.7	112.3
				WBTR	0.25	43.6	D	23.5	36.8
				NBL	0.74	60.8	E	31.9	55.7
				NBT	0.45	16.6	B	77.5	103.8
				NBR	0.11	0.2	A	0.0	0.0
				SBL	0.23	4.8	A	0.9	0.9
				SBT	0.80	6.1	A	18.2	16.6
				SBR	0.05	0.0	A	0.0	0.0

Intersection	Weekday PM Peak Hour								
	Overall			Movement of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	0.87	27.9	C	EBTR	0.64	38.0	D	136.6	60.3
				WBL	0.89	52.2	D	152.8	238.9
				WBT	0.38	4.4	A	40.6	55.0
				NBL	0.55	74.5	E	28.6	45.5
				NBR	0.05	65.1	E	0.0	14.4
Hurontario Street and Eglinton Avenue East	1.75	188.1	F	EBL	1.33	227.0	F	82.1	135.6
				EBT	0.44	45.5	D	58.4	70.2
				EBR	0.07	0.1	A	0.0	0.0
				WBL	0.81	82.8	F	37.5	56.2
				WBT	0.99	72.0	E	177.3	208.6
				WBR	0.09	0.1	A	0.0	0.0
				NBL	1.47	300.9	F	150.3	187.5
				NBT	1.45	251.1	F	374.4	393.9
				NBR	0.12	0.2	A	0.0	0.0
				SBL	2.16	585.3	F	242.4	310.0
				SBT	1.30	195.2	F	290.1	311.5
				SBR	0.38	0.7	A	0.0	0.0
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.06	56.6	E	EBL	0.34	37.8	D	27.6	45.0
				EBT	0.08	33.2	C	10.3	19.6
				EBR	0.13	34.1	C	0.0	15.7
				WBL	1.05	104.0	F	160.4	225.9
				WBTR	0.30	36.6	D	39.6	59.0
				NBL	0.97	88.5	F	102.1	162.7
				NBT	0.66	26.9	C	136.0	150.1
				NBR	0.15	0.2	A	0.0	0.0
				SBL	0.47	15.4	B	1.9	1.6
				SBT	1.14	82.8	F	238.0	95.5
				SBR	0.04	0.0	A	0.0	0.0

The City of Mississauga Traffic Impact Study Guidelines define any through movements or shared through/turning movements at a v/c ratio of 0.85 or above and exclusive turning movements at a v/c ratio of 0.90 or above as critical movements. Under existing conditions, the signalized intersections, during the AM peak hour, the intersection of Hurontario Street and Eglinton Avenue East is operating with an overall level of service (LOS) of “F”. The NBL, SBT and SBL movements are all operating above capacity and the EBT movement is approaching capacity. During the PM peak hour, the intersection of Hurontario Street and Eglinton Avenue East continues to operate with a LOS of “F”. The EBL, NBL, NBT, SBL, and SBT movements are all operating above capacity while the WBT movement is approaching capacity. At the intersection of Hurontario Street and Kingsbridge Garden Circle/Elia Avenue, the WBL and SBT movements are operating above capacity and the NBL movement is approaching capacity during the PM peak hour. It is recognized that the HCM 2000 results are highly conservative, as it is theoretically impossible for the intersection to operate beyond capacity under existing conditions.

3 FUTURE BACKGROUND TRAFFIC CONDITIONS

For the analysis of future background traffic conditions, this study considers a five-year and ten-year horizon to the years 2025, and 2030 respectively. Due to the implementation of the future Hurontario LRT, this report analyzes two (2) scenarios, one (1) without the implementation of the LRT and one (1) with the LRT. Future background traffic includes the traffic added to the network from other future developments within the surrounding study area, corridor growth, as well as all planned transportation infrastructure improvements.

3.1 ROAD NETWORK IMPROVEMENTS

The Hurontario LRT Environment Assessment Report (Hurontario EA) included preliminary design drawings showing the existing cross-section of Hurontario Street modified to accommodate the LRT tracks and the following modifications will be made for the segment of Hurontario Street within the study area:

- The narrowing of road pavement on Hurontario Street in order to provide sufficient width in the median for the LRT tracks. Most segments of Hurontario Street in the study area will be narrowed from six to four lanes.
- Exclusive right-turn lanes will be replaced by shared right-turn and through lanes at most intersections with the exception of the northbound right lane at Hurontario Street and Eglinton Avenue, which will remain.
- All existing left-turn movements will become protected only, with left-turn allowed only during left-turn phases at all intersections to prevent conflict between road vehicles and LRT vehicles.

In addition to changes required by the Hurontario LRT project, other roadway improvements are currently planned or under construction. These include:

- Extensive of Thornwood Drive from Forum Drive to Eglinton Avenue East, connecting with Sorrento Drive. The intersection of Thornwood Drive/Sorrento Drive and Eglinton Avenue East will be full movement with signalized control.

3.2 BACKGROUND DEVELOPMENTS

Three background developments were identified within the immediate study area. The background development traffic volumes were extracted from their respective traffic studies and were subsequently assigned to the study area road network. The statistics of the background developments are summarized in **Table 3-1**, and excerpts from the studies are provided in **Appendix D**.

Table 3-1: Background Developments

Location	Site Statistics	Source
91 Eglinton Avenue East & 5055 Hurontario Street	2,580 residential units	WSP (September 2018)
0 & 5044 Hurontario Street	2,095 residential units	IBI Group (June 2018)
5081 Hurontario Street (Phase 2)	755 residential units, 925m^2 of retail space and 705m^2 of live/work space	LEA Consulting (October 2020)

3.3 CORRIDOR GROWTH

A review of corridor growth trends received from the City of Mississauga reveals a decline of growth along Hurontario Street as a result of the Hurontario LRT, and a slight increase in growth along Eglinton Avenue.**Table 3-2** summarizes the applied corridor growth rates.

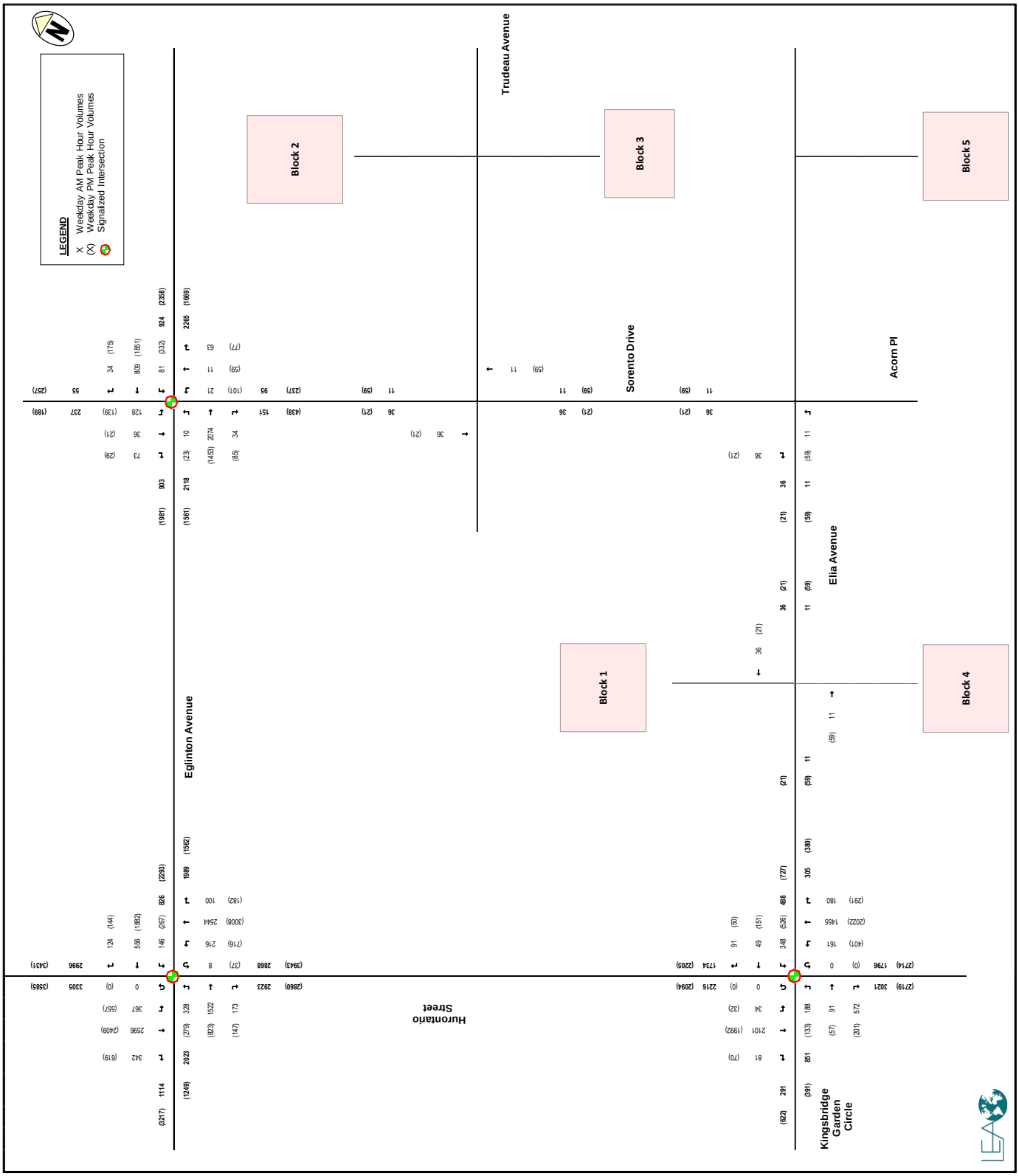
Table 3-2: Corridor Growth Rates

Street	Direction/Time	Growth
Hurontario Street	Northbound AM	-23.0%
	Northbound PM	-13.0%
	Southbound AM	-7.0%
	Southbound PM	-15.0%
Eglinton Avenue	Eastbound AM	0.0%
	Eastbound PM	0.5%
	Westbound AM	1.5%
	Westbound PM	0.0%

3.4 2025 INTERSECTION CAPACITY ANALYSIS

The future background traffic conditions were determined by incorporating corridor growth for a five-year horizon and background development traffic to the existing traffic volumes. The 2025 future background traffic volumes for the AM and PM peak hours are illustrated in **Figure 3-1**.

Figure 3-1: 2025 Future Background Peak Hour Traffic Volumes



The intersection capacity analysis was conducted under future background conditions during the weekday AM and PM peak hours, where the results for the studied signalized intersections are summarized in **Table 3-3**. Detailed capacity results are provided in **Appendix E**.

Table 3-3: 2025 Future Background Capacity Analysis

Intersection	Weekday AM Peak Hour								
	Overall			Movements of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	1.40	52.6	D	EBL	0.12	12.0	B	3.5	2.0
				EBTR	0.65	18.0	B	79.8	68.4
				WBL	1.46	307.7	F	34.3	51.3
				WBTR	0.30	13.9	B	42.5	49.8
				NBL	0.22	46.2	D	4.7	12.7
				NBTR	0.14	43.0	D	13.8	26.4
				SBL	1.32	219.6	F	193.2	41.5
				SBTR	0.79	62.8	E	104.0	19.1
Hurontario Street and Eglinton Avenue East	1.40	151.2	F	EBL	0.89	64.6	E	66.4	106.6
				EBT	1.01	81.2	F	172.0	198.9
				EBR	0.11	0.2	A	0.0	0.0
				WBL	0.56	59.7	E	17.3	26.7
				WBT	0.38	40.5	D	51.9	63.3
				WBR	0.09	0.1	A	0.0	0.0
				NBL	2.79	914.3	F	64.6	92.5
				NBT	1.25	156.7	F	310.2	323.8
				NBR	0.07	0.1	A	0.0	0.0
				SBL	1.40	255.5	F	127.2	186.8
				SBT	1.29	182.5	F	320.8	340.8
				SBR	0.23	0.3	A	0.0	0.0
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	0.87	24.2	C	EBL	0.52	47.8	D	44.7	64.2
				EBT	0.16	40.2	D	19.1	30.2
				EBR	0.74	56.4	E	75.7	116.5
				WBL	0.88	72.5	E	95.3	127.1
				WBTR	0.25	41.6	D	24.6	38.8
				NBL	0.72	60.3	E	31.9	55.1
				NBT	0.48	18.6	B	87.4	109.1
				NBR	0.12	0.2	A	0.0	0.0
				SBL	0.25	5.7	A	1.0	1.0
				SBT	0.90	7.9	A	25.8	20.8
				SBR	0.05	0.0	A	0.0	0.0

Table 4

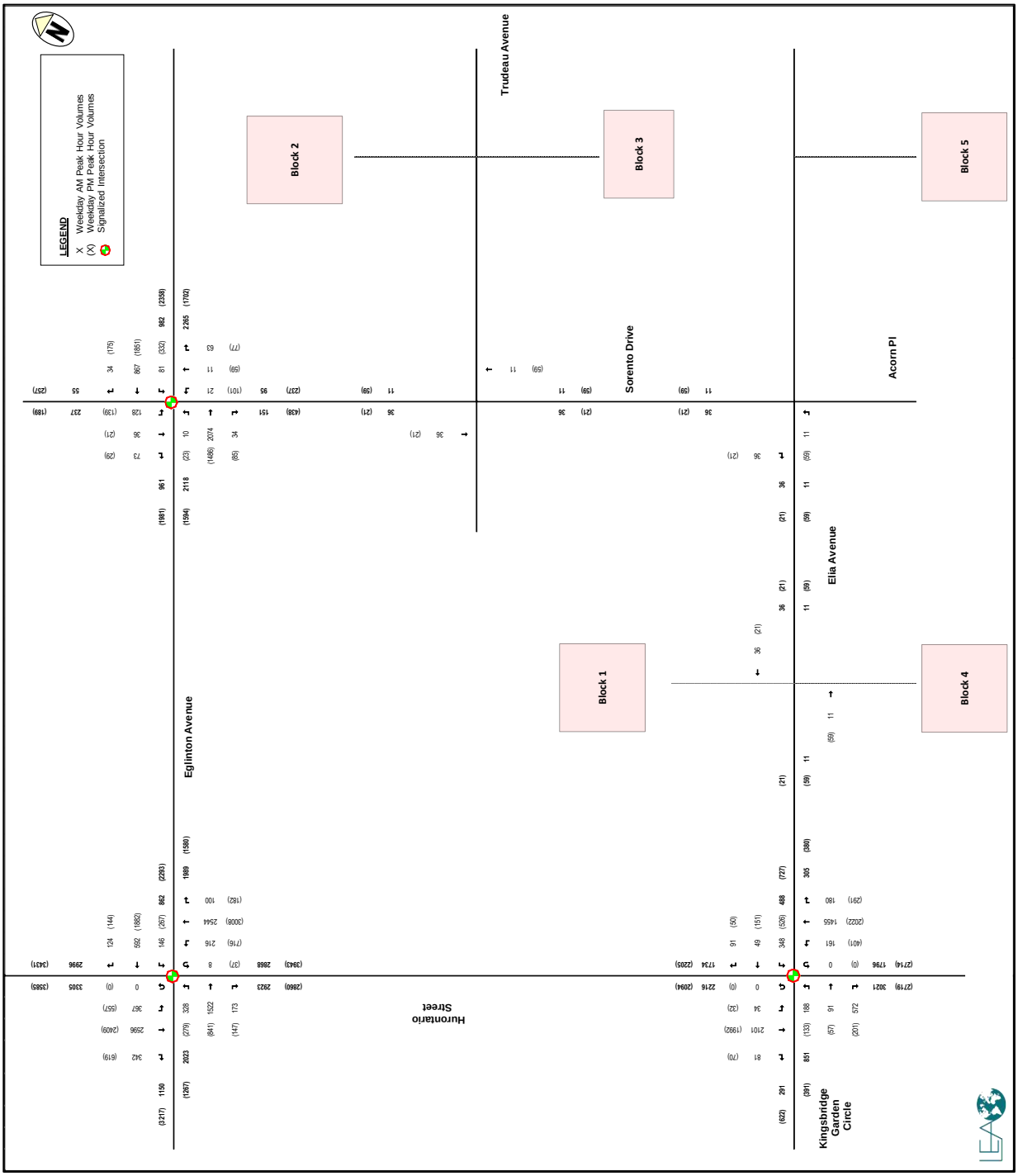
Intersection	Weekday PM Peak Hour								
	Overall			Movement of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	1.68	106.3	F	EBL	0.51	46.9	D	12.9	3.5
				EBTR	0.71	35.5	D	153.4	72.7
				WBL	1.69	372.8	F	265.7	336.4
				WBTR	0.94	42.6	D	242.6	298.3
				NBL	0.35	47.0	D	23.6	40.3
				NBTR	0.22	44.1	D	21.3	38.5
				SBL	1.58	333.3	F	230.9	45.9
				SBTR	0.34	46.2	D	36.8	7.5
Hurontario Street and Eglinton Avenue East	2.85	482.9	F	EBL	1.42	275.4	F	96.2	151.6
				EBT	0.53	47.3	D	73.9	87.1
				EBR	0.09	0.1	A	0.0	0.0
				WBL	0.87	103.8	F	42.5	47.6
				WBT	1.14	122.7	F	231.7	257.8
				WBR	0.09	0.1	A	0.0	0.0
				NBL	9.29	3827.9	F	260.5	297.9
				NBT	1.52	288.6	F	406.0	424.2
				NBR	0.12	0.1	A	0.0	0.0
				SBL	2.18	594.0	F	245.5	313.1
				SBT	1.35	215.8	F	306.8	327.9
				SBR	0.39	0.7	A	0.0	0.0
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.11	71.1	E	EBL	0.35	38.0	D	28.3	46.2
				EBT	0.08	33.3	C	10.9	20.5
				EBR	0.13	34.1	C	0.0	15.7
				WBL	1.09	117.2	F	172.3	238.5
				WBTR	0.30	36.7	D	40.9	60.7
				NBL	0.97	88.5	F	102.1	162.7
				NBT	0.73	28.9	C	158.9	174.2
				NBR	0.19	0.3	A	0.0	0.0
				SBL	0.68	24.0	C	3.9	2.2
				SBT	1.23	122.4	F	269.1	113.6
				SBR	0.04	0.0	A	0.0	0.0

Under 2025 future background conditions, during the AM peak hour, the WBL and SBL movement at the intersection of Sorrento Drive and Eglinton Avenue East is operating above capacity. Additionally, the EBT, NBL, NBT, SBL and SBT movements are all operating above capacity at Hurontario Street and Eglinton Avenue East. At the intersection of Hurontario Street and Kingsbridge Garden Circle/Elia Avenue, the SBT movement is approaching capacity. During the PM peak hour, the intersections are experiencing similar conditions to the AM peak hour with many movements above capacity and approaching capacity. It is noted that due to the existing constraints and high traffic volumes at the intersections in the study area, signal timing optimization was not undertaken. With the implementation of the proposed Hurontario LRT, it is expected that volumes will change to address the increase in transit usage.

3.5 2030 INTERSECTION CAPACITY ANALYSIS

The future background traffic conditions were determined by incorporating corridor growth for a 10-year horizon and background development traffic to the existing traffic volumes. The 2030 future background traffic volumes for the AM and PM peak hours are illustrated in **Figure 3-2**.

Figure 3-2: 2030 Future Background Peak Hour Traffic Volumes



The intersection capacity analysis was conducted under future background conditions during the weekday AM and PM peak hours, where the results for the studied signalized intersections are summarized in **Table 3-5**. Detailed capacity results are provided in **Appendix E**.

Table 3-5: 2030 Future Background Capacity Analysis

Intersection	Weekday AM Peak Hour								
	Overall			Movements of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	1.40	52.1	D	EBL	0.13	12.1	B	3.5	2.0
				EBTR	0.65	18.0	B	79.8	68.4
				WBL	1.46	307.7	F	34.3	51.3
				WBTR	0.32	14.1	B	46.0	53.5
				NBL	0.22	46.2	D	4.7	12.7
				NBTR	0.14	43.0	D	13.8	26.4
				SBL	1.32	219.6	F	193.2	41.5
				SBTR	0.79	62.8	E	104.0	19.1
Hurontario Street and Eglinton Avenue East	1.40	151.0	F	EBL	0.92	70.9	E	66.4	111.4
				EBT	1.01	81.2	F	172.0	198.9
				EBR	0.11	0.2	A	0.0	0.0
				WBL	0.56	61.1	E	17.2	27.1
				WBT	0.41	40.3	D	55.4	67.3
				WBR	0.09	0.1	A	0.0	0.0
				NBL	2.79	914.3	F	64.6	92.5
				NBT	1.25	156.7	F	310.2	323.8
				NBR	0.07	0.1	A	0.0	0.0
				SBL	1.40	255.5	F	127.2	186.8
				SBT	1.29	182.5	F	320.8	340.8
				SBR	0.23	0.3	A	0.0	0.0
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	0.87	24.2	C	EBL	0.52	47.8	D	44.7	64.2
				EBT	0.16	40.2	D	19.1	30.2
				EBR	0.74	56.4	E	75.7	116.5
				WBL	0.88	72.5	E	95.3	127.1
				WBTR	0.25	41.6	D	24.6	38.8
				NBL	0.72	60.3	E	31.9	55.1
				NBT	0.48	18.6	B	87.4	109.1
				NBR	0.12	0.2	A	0.0	0.0
				SBL	0.25	5.6	A	1.0	1.0
				SBT	0.90	7.9	A	25.8	20.8
				SBR	0.05	0.0	A	0.0	0.0

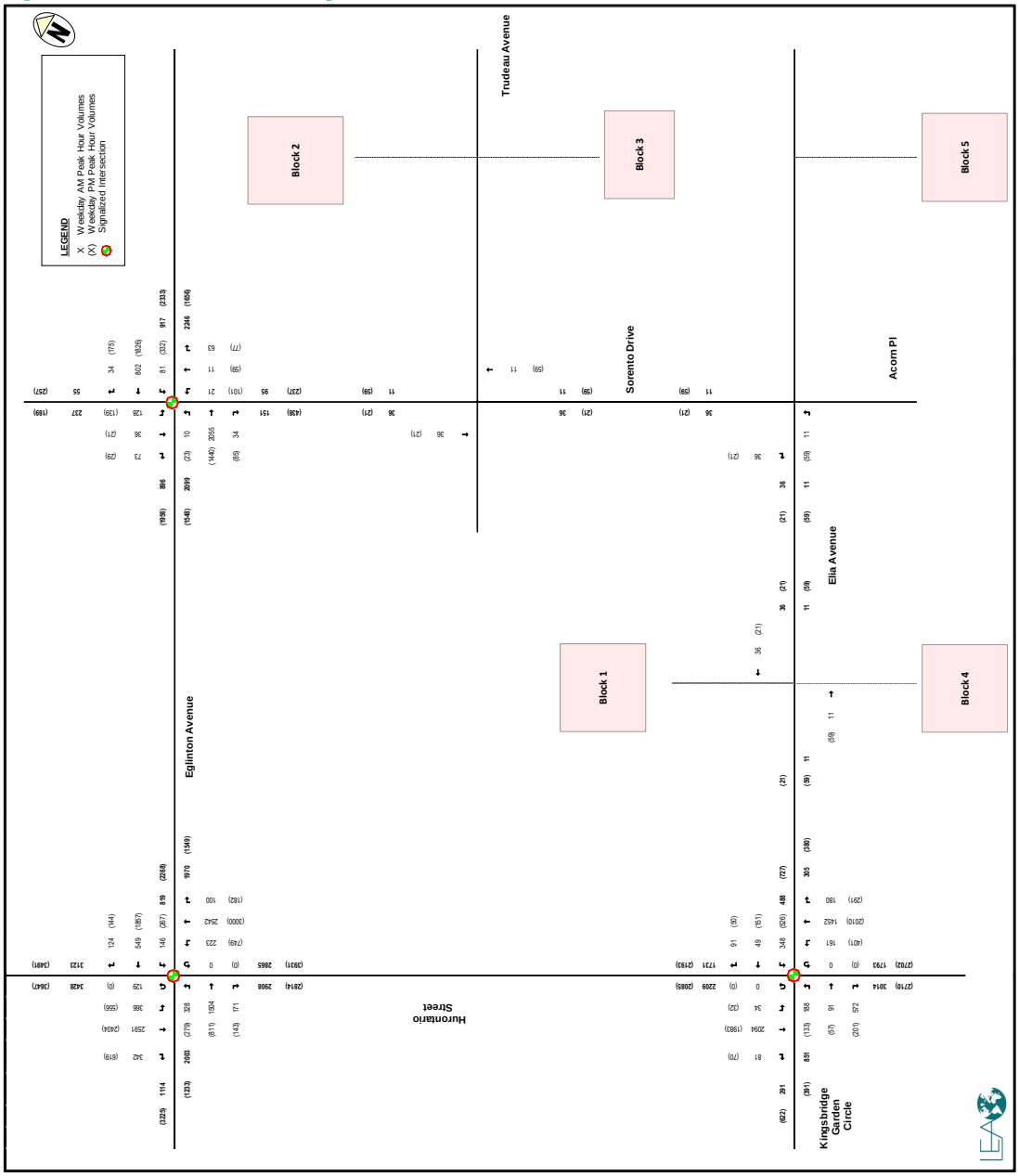
Intersection	Weekday PM Peak Hour								
	Overall			Movement of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	1.70	106.8	F	EBL	0.51	46.8	D	12.9	3.5
				EBTR	0.72	35.5	D	157.4	m77.5
				WBL	1.71	381.5	F	268.6	339.3
				WBTR	0.94	42.6	D	242.6	298.3
				NBL	0.35	47.0	D	23.6	40.3
				NBTR	0.22	44.1	D	21.3	38.5
				SBL	1.58	333.3	F	230.9	45.9
				SBTR	0.34	46.2	D	36.8	7.5
Hurontario Street and Eglinton Avenue East	2.85	482.2	F	EBL	1.42	275.4	F	96.2	151.6
				EBT	0.55	47.6	D	75.9	89.1
				EBR	0.09	0.1	A	0.0	0.0
				WBL	0.87	103.8	F	42.5	47.6
				WBT	1.14	122.7	F	231.7	257.8
				WBR	0.09	0.1	A	0.0	0.0
				NBL	9.29	3827.9	F	260.5	297.9
				NBT	1.52	288.6	F	406.0	424.2
				NBR	0.12	0.1	A	0.0	0.0
				SBL	2.18	594.0	F	245.5	313.1
				SBT	1.35	215.8	F	306.8	327.9
				SBR	0.39	0.7	A	0.0	0.0
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.11	71.1	E	EBL	0.35	38.0	D	28.3	46.2
				EBT	0.08	33.3	C	10.9	20.5
				EBR	0.13	34.1	C	0.0	15.7
				WBL	1.09	117.2	F	172.3	238.5
				WBTR	0.30	36.7	D	40.9	60.7
				NBL	0.97	88.5	F	102.1	162.7
				NBT	0.73	28.9	C	158.9	174.2
				NBR	0.19	0.3	A	0.0	0.0
				SBL	0.68	24.0	C	3.9	m2.2
				SBT	1.23	122.4	F	269.1	113.6
				SBR	0.04	0.0	A	0.0	m0.0

Similar to 2025 future background traffic conditions, the signalized intersections within the study area are expected to continue to operate with constraints during both peak hours. All movements are expected to operate very similarly to 2025 conditions, with minimal increases. It is noted that due to the existing constraints and high traffic volumes at the intersections in the study area, signal timing optimization was not undertaken. With the implementation of the proposed Hurontario LRT, it is expected that vehicular volumes will decrease as the transit service reliability increases.

3.6 2025 INTERSECTION CAPACITY ANALYSIS – WITH THE LRT

The future background traffic conditions were determined by incorporating corridor growth for a five-year horizon and background development traffic to the existing traffic volumes. It is understood that the final design for the Hurontario LRT has not been finalized. To reflect a conservative analysis, the background developments located at 5081 Hurontario Street and 0 & 5044 Hurontario Street included an analysis of the unsignalized intersection of Hurontario Street and Armdale Road/Watergarden Drive, north of our subject site. The 2025 future background traffic volumes for the AM and PM peak hours are illustrated in **Figure 3-3**.

Figure 3-3: 2025 Future Background Peak Hour Traffic Volumes with LRT



The intersection capacity analysis was conducted under future background conditions with the implementation of the LRT during the weekday AM and PM peak hours, where the results for the studied signalized intersections are summarized in **Table 3-6**. Detailed capacity results are provided in **Appendix E**.

Table 3-6: 2025 Future Background Capacity Analysis with LRT

Intersection	Weekday AM Peak Hour								
	Overall			Movements of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	1.37	52.0	D	EBL	0.12	11.7	B	3.5	1.9
				EBT	0.65	17.2	B	76.1	62.5
				WBL	1.41	287.0	F	33.5	49.7
				WBT	0.30	13.9	B	42.0	49.3
				NBL	0.22	46.2	D	4.7	12.7
				NBT	0.14	43.0	D	13.6	26.2
				SBL	1.32	219.6	F	193.2	41.5
				SBT	0.79	62.8	E	104.0	19.1
Hurontario Street and Eglinton Avenue East	2.40	424.7	F	EBL	0.89	63.5	E	66.4	105.5
				EBT	1.00	78.1	E	163.9	195.2
				EBR	0.11	0.1	A	0.0	0.0
				WBL	0.56	59.5	E	17.3	26.8
				WBT	0.38	40.4	D	51.2	62.7
				WBR	0.09	0.1	A	0.0	0.0
				NBL	0.68	81.3	F	34.4	45.6
				NBT	1.87	440.5	F	565.2	597.1
				NBR	0.07	0.1	A	0.0	0.0
				SBL	3.35	1122.5	F	443.5	517.9
				SBT	2.21	594.5	F	694.2	720.9
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.12	95.7	F	EBL	0.47	46.1	D	43.8	62.2
				EBT	0.16	40.2	D	19.1	30.2
				EBR	0.74	56.4	E	75.7	116.5
				WBL	0.88	72.5	E	95.3	127.1
				WBT	0.09	39.1	D	10.0	18.5
				WBR	0.12	39.6	D	8.2	19.6
				NBL	0.72	62.3	E	31.9	55.1
				NBT	0.80	27.9	C	190.6	244.5
				SBL	0.48	8.1	A	1.0	0.6
				SBT	1.34	174.6	F	432.1	18.7

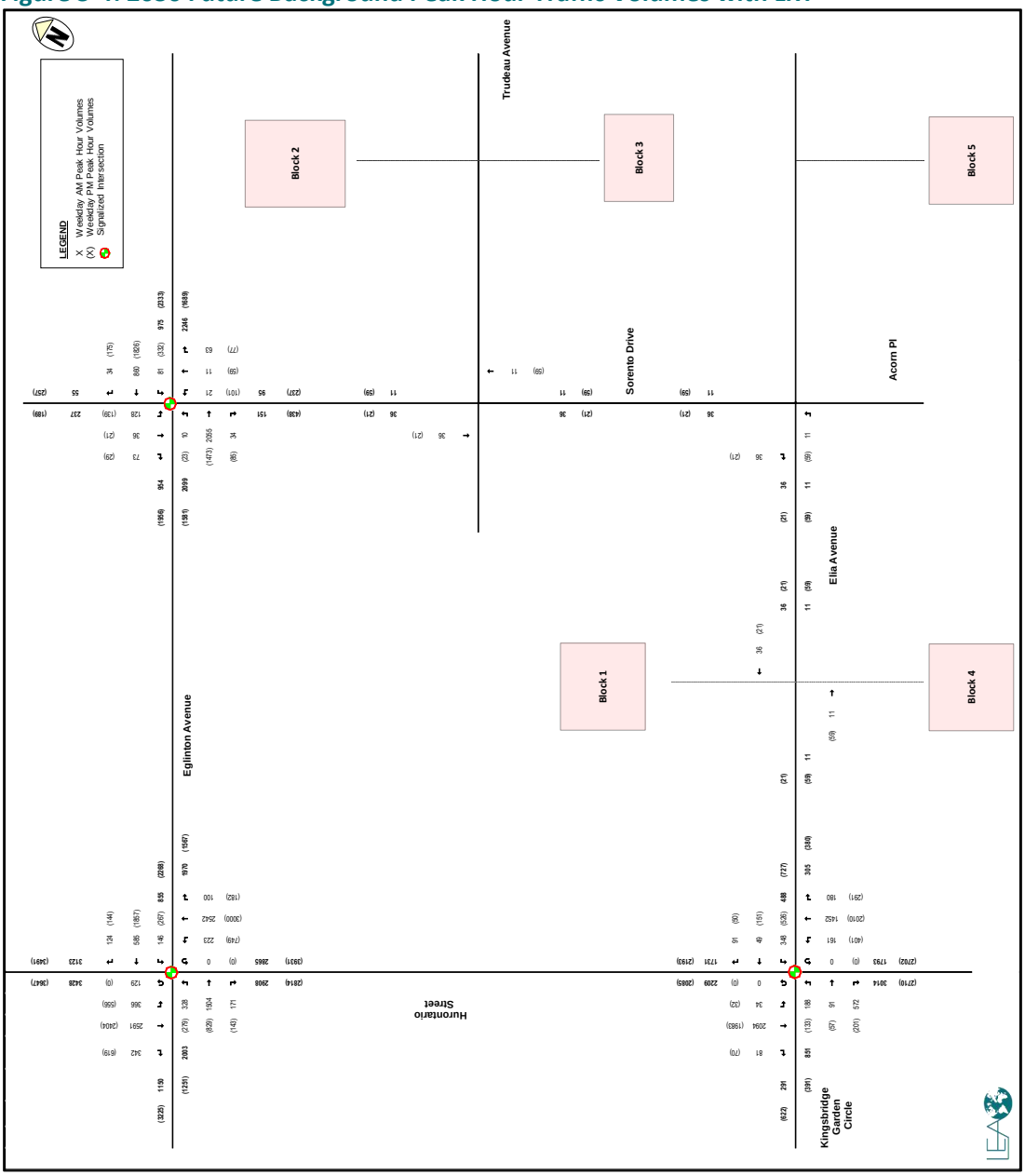
Intersection	Weekday PM Peak Hour								
	Overall			Movements of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	1.37	52.0	D	EBL	0.51	47.0	D	12.8	3.2
				EBTR	0.70	35.1	D	151.5	58.2
				WBL	1.68	368.6	F	264.6	335.2
				WBTR	0.93	41.5	D	237.8	292.8
				NBL	0.35	47.0	D	23.6	40.3
				NBTR	0.22	44.1	D	21.3	38.5
				SBL	1.58	333.3	F	230.9	45.9
				SBTR	0.34	46.2	D	36.8	7.5
Hurontario Street and Eglinton Avenue East	2.40	424.7	F	EBL	1.45	275.4	F	96.2	151.6
				EBT	0.53	47.2	D	72.7	85.7
				EBR	0.09	0.1	A	0.0	0.0
				WBL	0.87	104.2	F	42.4	47.8
				WBT	1.12	116.2	F	225.9	252.1
				WBR	0.09	0.1	A	0.0	0.0
				NBUL	1.54	324.3	F	160.8	156.8
				NBT	2.28	635.5	F	712.6	640.5
				NBR	0.12	0.1	A	0.0	0.0
				SBL	3.20	1050.8	F	411.2	484.9
				SBTR	2.62	783.4	F	745.1	770.9
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.12	95.7	F	EBL	0.31	37.2	D	27.9	45.1
				EBT	0.08	33.3	C	10.9	20.5
				EBR	0.13	34.1	C	0.0	15.7
				WBL	1.09	117.2	F	172.3	238.5
				WBT	0.22	35.3	D	30.5	46.7
				WBR	0.03	32.6	C	0.0	8.4
				NBL	0.97	88.5	F	102.1	162.7
				NBTR	1.22	140.3	F	434.0	468.6
				SBL	0.67	23.0	C	3.5	1.1
				SBTR	1.83	391.7	F	488.1	85.2

Under future background 2025 conditions with the implementation of the Hurontario LRT, the intersection of Sorrento Drive and Eglinton Avenue East is forecasted to operate with a LOS of "D" in both the AM and PM peak hours, while the intersections of Hurontario Street and Eglinton Avenue East and Hurontario Street and Kingsbridge Garden Circle/Elia Avenue are both forecasted to operate with a LOS of "F" during both peak hours. Overall, a future reduction of the existing six through-lane cross section and signal timing adjustments to accommodate the LRT operation will result in additional vehicular capacity constraints along the Hurontario corridor.

3.7 2030 INTERSECTION CAPACITY ANALYSIS – WITH THE LRT

The future background traffic conditions were determined by incorporating corridor growth for a 10-year horizon and background development traffic to the existing traffic volumes. It is understood that the final design for the Hurontario LRT has not been finalized. To reflect a conservative analysis, the background developments located at 5081 Hurontario Street and 0 & 5044 Hurontario Street included an analysis of the unsignalized intersection of Hurontario Street and Armdale Road/Watergarden Drive, north of our subject site. The 2030 future background traffic volumes for the AM and PM peak hours are illustrated in **Figure 3-4**.

Figure 3-4: 2030 Future Background Peak Hour Traffic Volumes with LRT



The intersection capacity analysis was conducted under future background conditions with the implementation of the LRT during the weekday AM and PM peak hours, where the results for the studied signalized intersections are summarized in **Table 3-7**. Detailed capacity results are provided in **Appendix E**.

Table 3-7: 2030 Future Background Capacity Analysis with LRT

Intersection	Weekday AM Peak Hour								
	Overall			Movements of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	1.37	51.5	D	EBL	0.13	11.7	B	3.5	1.9
				EBT	0.65	17.2	B	76.1	62.5
				WBL	1.41	287.0	F	33.5	49.7
				WBT	0.32	14.1	B	45.6	53.2
				NBL	0.22	46.2	D	4.7	12.7
				NBT	0.14	43.0	D	13.6	26.2
				SBL	1.32	219.6	F	193.2	41.5
				SBT	0.79	62.8	E	104.0	19.1
Hurontario Street and Eglinton Avenue East	2.41	423.5	F	EBL	0.92	69.7	E	66.4	110.6
				EBT	1.00	78.1	E	163.9	195.2
				EBR	0.11	0.1	A	0.0	0.0
				WBL	0.56	60.8	E	17.0	27.1
				WBT	0.40	40.3	D	54.7	66.4
				WBR	0.09	0.1	A	0.0	0.0
				NBL	0.68	81.3	F	34.4	45.6
				NBT	1.87	440.5	F	565.2	597.1
				NBR	0.07	0.1	A	0.0	m0.0
				SBL	3.35	1122.5	F	443.5	517.9
				SBT	2.21	594.5	F	694.2	720.9
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.12	95.7	F	EBL	0.47	46.1	D	43.8	62.2
				EBT	0.16	40.2	D	19.1	30.2
				EBR	0.74	56.4	E	75.7	116.5
				WBL	0.88	72.5	E	95.3	127.1
				WBT	0.09	39.1	D	10.0	18.5
				WBR	0.12	39.6	D	8.2	19.6
				NBL	0.72	62.3	E	31.9	55.1
				NBT	0.80	27.9	C	190.6	244.5
				SBL	0.48	8.1	A	1.0	0.6
				SBT	1.34	174.6	F	432.1	18.7

Intersection	Weekday PM Peak Hour								
	Overall			Movements of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	1.69	106.4	F	EBL	0.51	46.7	D	12.9	3.1
				EBT	0.72	35.1	D	155.4	59.5
				WBL	1.70	379.1	F	267.4	338.1
				WBT	0.93	41.5	D	237.8	292.8
				NBL	0.35	47.0	D	23.6	40.3
				NBT	0.22	44.1	D	21.3	38.5
				SBL	1.58	333.3	F	230.9	45.9
				SBT	0.34	46.2	D	36.8	7.5
Hurontario Street and Eglinton Avenue East	2.36	508.4	F	EBL	1.45	275.4	F	96.2	151.6
				EBT	0.54	47.4	D	74.6	87.9
				EBR	0.09	0.1	A	0.0	0.0
				WBL	0.87	104.2	F	42.4	47.8
				WBT	1.12	116.2	F	225.9	252.1
				WBR	0.09	0.1	A	0.0	0.0
				NBL	1.54	324.3	F	160.8	156.8
				NBT	2.28	635.5	F	712.6	640.5
				NBR	0.12	0.1	A	0.0	0.0
				SBL	3.20	1050.8	F	411.2	484.9
				SBT	2.62	783.4	F	745.1	770.9
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.39	210.9	F	EBL	0.31	37.2	D	27.9	45.1
				EBT	0.08	33.3	C	10.9	20.5
				EBR	0.13	34.1	C	0.0	15.7
				WBL	1.09	117.2	F	172.3	238.5
				WBT	0.22	35.3	D	30.5	46.7
				WBR	0.03	32.6	C	0.0	8.4
				NBL	0.97	88.5	F	102.1	162.7
				NBT	1.22	140.3	F	434.0	468.6
				SBL	0.67	23.0	C	3.5	1.1
				SBT	1.83	391.7	F	488.1	85.2

Under future background 2030 conditions with the implementation of the Hurontario LRT, the signalized intersections are expected to operate similarly to future background 2025 LRT conditions. As mentioned earlier, a future reduction of the existing six through-lane cross section and signal timing adjustments to accommodate the LRT operations will result in additional vehicular capacity constraints along the Hurontario corridor.

4 SITE-GENERATED TRAFFIC

The proposed mixed-use redevelopment will consist of five (5) blocks, which consist of nine (9) residential towers on podiums with small retail components, three (3) blocks of townhouses and one (1) office building. It will provide 4,690 dwelling units, 4,295m^2 of retail space and 18,080m^2 of office space. This section discusses the trip generation and trip distribution and assignment of the proposed development, which considers the existing travel behaviour of the surrounding residential area.

4.1 MODAL SPLIT

To determine the modal split of the proposed development, 2016 Transportation Tomorrow Survey (TTS) was used. The parameters used to estimate the modal split were trip modes for apartment/condominium dwelling types that were hope based trips during peak periods, located in the subject site area, the zones evaluated for the modal split were zones 3841, 3832, 3833, and 3855. These zones are bounded by Nahani Way/Ceremonial Drive to the north, Forum Drive to the east, Elia Avenue to the south and Salishan Court to the west. The modal split data presented in **Table 4-1** presents the person trips percentages based on the averages of the zones. The details are contained in **Appendix F**.

Table 4-1: Modal Split Summary

Modes	Modal Split
Single-Occupancy Vehicle (SOV)	55%
High Occupancy Vehicle (HOV)	22%
Transit	16%
Walk	3%
Cycle	2%
Other	1%
Total:	**100%**

The results indicate that the residents in the area highly rely on the automobile transportation mode. However, with the construction of the future LRT, it is anticipated that transit use will increase.

4.2 TRIP GENERATION

The trip generation of the proposed development was derived based on the Institute of Transportation Engineers 10th Edition Trip Generation Manual. The average trip rate was used for each block. The modal split from **Section 4.1** was then applied to the ITE Trip Generation Rates as the ITE Trip Generation Manual data are predominately collected in suburban areas which have minimal non-automobile usage. It is also anticipated that a number of the proposed residential and retail trips will be internally captured within the site. Based on the ITE 10th Edition Trip Generation Manual, site interactions have been assumed during the AM and PM peak periods. Similarly, a pass-by reduction of 34% for the weekday PM have been assumed for the number of trips the retail component would generate that would have already been en-route and passing the subject site. The resulting trip generation rates for each block are summarized in **Table 4-2**, **Table 4-3**, **Table 4-4**, **Table 4-5** and **Table 4-6.**

Table 4-2: Trip Generation - Block 1

Land Use			Weekday AM Peak Hour				Weekday PM Peak Hour			
			Rate	In	Out	Total	Rate	In	Out	Total
Multifamily Housing (High-Rise) ITE LUC 222	1,000	Directional Distribution	16%	24%	76%	100%	16%	61%	39%	100%
		Trip Rate (Average)		T=0.31x				T=0.36x		
		ITE Trips		74	236	310		220	140	360
		Site Interaction		-1	-7	-8		-15	-10	-25
		Modal Split Reduction		-12	-38	-50		-35	-22	-58
		Net Site Trips		**61**	**191**	**252**		**170**	**108**	**277**
Shopping Centre ITE LUC 820	1,915m^2	Directional Distribution	16%	62%	38%	100%	16% 34%	48%	52%	100%
		Trip Rate (Average)		T=0.94x				T=3.81x		
		ITE Trips		12	7	19		38	41	79
		Site Interaction		-6	-3	-9		-7	-12	-19
		Modal Split Reduction		-2	-1	-3		-6	-7	-13
		Pass-By Trips		0	0	0		-13	-14	-27
		Net Site Trips		**4**	**3**	**7**		**12**	**8**	**20**
General Office Building ITE LUC 710	18,081m^2	Directional Distribution	16%	86%	14%	100%	16%	16%	84%	100%
		Trip Rate (Average)		T=1.16x				T=1.15x		
		ITE Trips		194	32	226		36	188	224
		Site Interaction		-8	-4	-12		-7	-8	-15
		Modal Split Reduction		-31	-5	-36		-6	-30	-36
		Net Site Trips		**155**	**23**	**178**		**23**	**150**	**173**
		Total Trips:		**220**	**217**	**437**		**205**	**266**	**471**

Block 1 of the proposed development is expected to generate 437 net two-way auto trips (220 inbound, 217 outbound) in the weekday AM peak hour, and 471 net two-way auto trips (205 inbound, 266 outbound) in the weekday PM peak hour.

Table 4-3: Trip Generation - Block 2

Land Use			Weekday AM Peak Hour				Weekday PM Peak Hour			
			Rate	In	Out	Total	Rate	In	Out	Total
Multifamily Housing (High-Rise) ITE LUC 222	1,046	Directional Distribution	16%	24%	76%	100%	16%	61%	39%	100%
		Trip Rate (Average)		T=0.31x				T=0.36x		
		ITE Trips		78	246	324		230	147	377
		Site Interaction		0	0	0		-5	-1	-6
		Modal Split Reduction		-12	-39	-52		-37	-24	-60
		Net Site Trips		**66**	**207**	**273**		**188**	**122**	**310**
Shopping Centre ITE LUC 820	809m^2	Directional Distribution	16%	62%	38%	100%	16% 34%	48%	52%	100%
		Trip Rate (Average)		T=0.94x				T=3.81x		
		ITE Trips		5	3	8		16	17	33
		Site Interaction		-1	0	1		-2	-4	-6
		Modal Split Reduction		-1	0	-1		-3	-3	-5
		Pass-By Trips		0	0	0		-5	-6	-11
		Net Site Trips		**3**	**3**	**6**		**6**	**4**	**10**
		Total Trips:		**69**	**210**	**279**		**194**	**126**	**320**

Block 2 is expected to generate 279 net two-way auto trips (69 inbound, 210 outbound) in the weekday AM peak hour, and 320 net two-way auto trips (194 inbound, 126 outbound) in the weekday PM peak hour.

Table 4-4: Trip Generation - Block 3

Land Use			Weekday AM Peak Hour				Weekday PM Peak Hour			
			Rate	In	Out	Total	Rate	In	Out	Total
Multifamily Housing (High-Rise) ITE LUC 222	1,111	Directional Distribution	16%	24%	76%	100%	16%	61%	39%	100%
		Trip Rate (Average)		T=0.31x				T=0.36x		
		ITE Trips		83	261	344		244	156	400
		Modal Split Reduction		-13	-42	-55		-39	-25	-64
		Total Trips:		**70**	**219**	**289**		**205**	**131**	**336**

Block 3 is expected to generate 289 net two-way auto trips (70 inbound, 219 outbound) in the weekday AM peak hour, and 336 net two-way auto trips (205 inbound, 131 outbound) in the weekday PM peak hour.

Table 4-5: Trip Generation - Block 4

Land Use			Weekday AM Peak Hour				Weekday PM Peak Hour			
			Rate	In	Out	Total	Rate	In	Out	Total
Multifamily Housing (High-Rise) ITE LUC 222	974	Directional Distribution	16%	24%	76%	100%	16%	61%	39%	100%
		Trip Rate (Average)		T=0.31x				T=0.36x		
		ITE Trips		72	230	302		214	137	351
		Site Interaction		-1	-39	-40		-9	-3	-12
		Modal Split Reduction		-12	-37	-48		-34	-22	-56
		Net Site Trips		**59**	**154**	**214**		**171**	**112**	**283**
Shopping Centre ITE LUC 820	1,570m^2	Directional Distribution	16%	62%	38%	100%	16% 34%	48%	52%	100%
		Trip Rate (Average)		T=0.94x				T=3.81x		
		ITE Trips		10	6	16		31	33	64
		Site Interaction		-2	-1	-3		-3	-9	-12
		Modal Split Reduction		-2	-1	-3		-5	-5	-10
		Pass-By Trips		0	0	0		-11	-11	-22
		Net Site Trips		**6**	**4**	**10**		**12**	**8**	**20**
			Total Trips:	**65**	**158**	**223**		**183**	**120**	**303**

Block 4 is expected to generate 223 net two-way auto trips (65 inbound, 158 outbound) in the weekday AM peak hour, and 303 net two-way auto trips (183 inbound, 120 outbound) in the weekday PM peak hour.

Table 4-6: Trip Generation - Block 5

Land Use			Weekday AM Peak Hour				Weekday PM Peak Hour			
			Rate	In	Out	Total	Rate	In	Out	Total
Multifamily Housing (High-Rise) ITE LUC 222	559	Directional Distribution	16%	24%	76%	100%	16%	61%	39%	100%
		Trip Rate (Average)		T=0.31x				T=0.36x		
		ITE Trips		42	131	173		123	78	201
		Modal Split Reduction		-7	-21	-28		-20	-12	-32
			Total Trips:	**35**	**110**	**145**		**103**	**66**	**169**

Block 5 is expected to generate 145 net two-way auto trips (35 inbound, 110 outbound) in the weekday AM peak hour, and 169 net two-way auto trips (103 inbound, 66 outbound) in the weekday PM peak hour.

4.3 TRIP DISTRIBUTION AND ASSIGNMENT

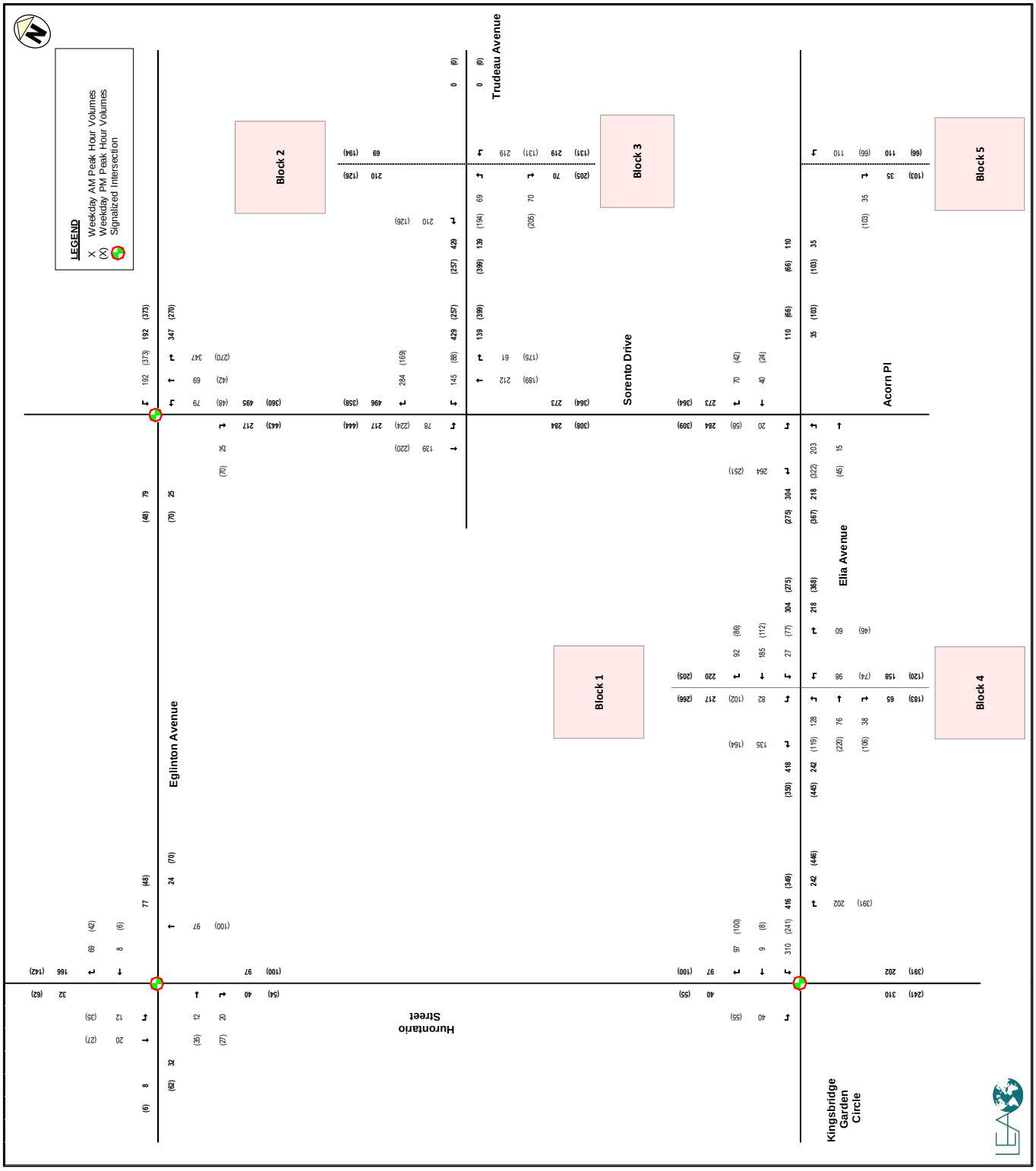
The trip distribution of site traffic was developed based on Transportation Tomorrow Survey (TTS) 2016 data. The destination of home-based trips generated during the weekday AM and PM peak periods by the traffic zones where the subject is located was used to determine the directional trip distribution. The trips were assigned based on the most logical routing considering the site access locations. **Table 4-7** below summarizes the assumed trip distribution for this study. The details of the TTS data are contained in **Appendix F.**

Table 4-7: Directional Trip Distribution

Route	Direction	Inbound	Outbound
Hurontario Street	North	7%	26%
	South	44%	34%
Eglinton Avenue	East	42%	38%
	West	7%	2%
	Total:	**100%**	**100%**

Figure 4-1 displays the inbound and outbound site traffic that is based on the modal split and ITE Trip Generation Rates.

Figure 4-1: Site Traffic Volumes



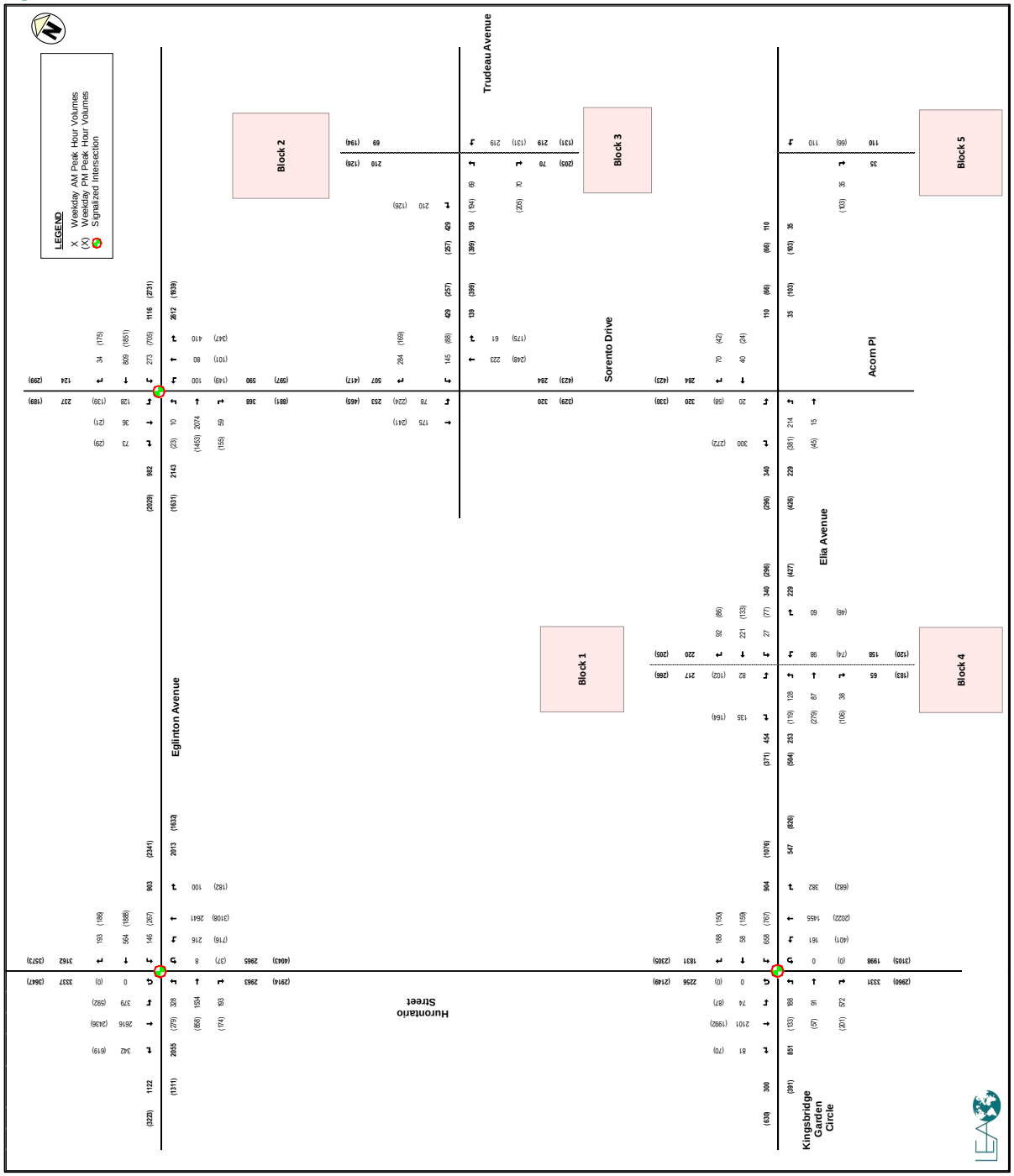
5 FUTURE TOTAL TRAFFIC CONDITIONS – WITHOUT LRT

Future total transportation conditions include future background volumes, in addition to the site trips generated by the proposed development. For the analysis of future total traffic conditions, this study considers a five-year and ten-year horizon to the years 2025, and 2030 respectively. This report also analyzes two (2) scenarios, one (1) without the implementation of the LRT and one (1) with the LRT.

5.1 2025 INTERSECTION CAPACITY ANALYSIS

The 2025 future total traffic conditions include 2025 future background volumes, in addition to the site trips generated by the proposed development. The future total traffic volumes for the AM and PM peak hours are illustrated in **Figure 5-1**.

Figure 5-1: 2025 Future Total Peak Hour Traffic Volumes



The 2025 intersection capacity analysis was conducted under future total conditions during the weekday AM and PM peak hours, where the results for the studied signalized and unsignalized intersections are summarized in **Table 5-1**. Detailed capacity results are provided in **Appendix G**.

Table 5-1: 2025 Future Total Capacity Analysis - Signalized Intersections

Intersection	Weekday AM Peak Hour								
	Overall			Movements of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	5.99	497.2	F	EBL	0.12	12.0	B	3.5	2.0
				EBT	0.66	18.5	B	82.4	69.4
				WBL	4.79	1774.0	F	132.9	187.6
				WBT	0.30	13.9	B	42.5	49.8
				NBL	1.05	164.6	F	31.7	68.1
				NBT	1.04	109.5	F	151.8	217.5
				SBL	8.68	3546.5	F	279.6	86.5
				SBT	0.79	62.8	E	104.0	19.1
Hurontario Street and Eglinton Avenue East	1.42	157.6	F	EBL	0.90	65.8	E	66.4	107.5
				EBT	1.02	83.3	F	174.7	201.8
				EBR	0.13	0.2	A	0.0	0.0
				WBL	0.53	57.6	E	16.9	25.3
				WBT	0.39	41.9	D	53.4	63.9
				WBR	0.13	0.2	A	0.0	0.0
				NBL	2.79	910.8	F	64.8	91.9
				NBT	1.29	175.3	F	330.3	343.3
				NBR	0.07	0.1	A	0.0	0.0
				SBL	1.45	274.9	F	134.6	195.4
				SBT	1.30	186.9	F	324.9	344.7
				SBR	0.23	0.3	A	0.0	0.0
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.14	49.6	D	EBL	0.55	43.5	D	43.7	69.0
				EBT	0.14	34.1	C	17.8	30.2
				EBR	0.66	46.3	D	70.3	116.5
				WBL	1.42	249.9	F	258.1	327.3
				WBT	0.41	38.8	D	48.3	71.8
				NBL	0.71	58.0	E	31.6	53.6
				NBT	0.53	23.9	C	97.2	109.1
				NBR	0.25	0.4	A	0.0	0.0
				SBL	0.65	10.0	B	2.4	2.1
				SBT	1.02	19.7	B	29.3	20.9
				SBR	0.05	0.0	A	0.0	0.0

Intersection	Weekday PM Peak Hour								
	Overall			Movement of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	3.23	293.3	F	EBL	0.51	47.0	D	13.0	3.5
				EBT	0.74	36.7	D	161.3	78.3
				WBL	1.84	439.7	F	296.4	367.7
				WBT	0.94	42.6	D	242.6	298.3
				NBL	0.51	51.0	D	36.8	59.2
				NBT	0.78	62.3	E	96.5	139.1
				SBL	6.11	2380.1	F	287.4	84.6
				SBT	0.34	46.2	D	36.8	7.5
Hurontario Street and Eglinton Avenue East	2.89	487.2	F	EBL	1.42	264.7	F	93.2	147.9
				EBT	0.56	47.8	D	77.7	91.2
				EBR	0.11	0.1	A	0.0	0.0
				WBL	0.87	102.5	F	42.5	47.9
				WBT	1.14	124.3	F	232.8	259.1
				WBR	0.12	0.1	A	0.0	0.0
				NBL	9.29	3826.7	F	259.4	288.8
				NBT	1.57	311.1	F	426.7	444.1
				NBR	0.12	0.1	A	0.0	0.0
				SBL	2.31	654.9	F	267.0	335.8
				SBT	1.37	222.5	F	312.3	333.1
				SBR	0.39	0.7	A	0.0	0.0
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.53	96.6	F	EBL	0.45	40.8	D	29.5	49.7
				EBT	0.08	33.3	C	10.9	20.5
				EBR	0.13	34.1	C	0.0	15.7
				WBL	1.58	323.6	F	318.6	390.2
				WBT	0.49	40.5	D	68.9	96.1
				NBL	0.97	88.5	F	102.1	162.7
				NBT	0.73	28.9	C	158.9	174.2
				NBR	0.44	0.9	A	0.0	0.0
				SBL	1.85	411.0	F	25.9	14.2
				SBT	1.23	122.6	F	269.1	112.4
				SBR	0.04	0.0	A	0.0	0.0

Similar to 2025 future background conditions, during both the AM and PM peak hour, the signalized intersections are experiencing similar conditions with many movements above capacity and approaching capacity.

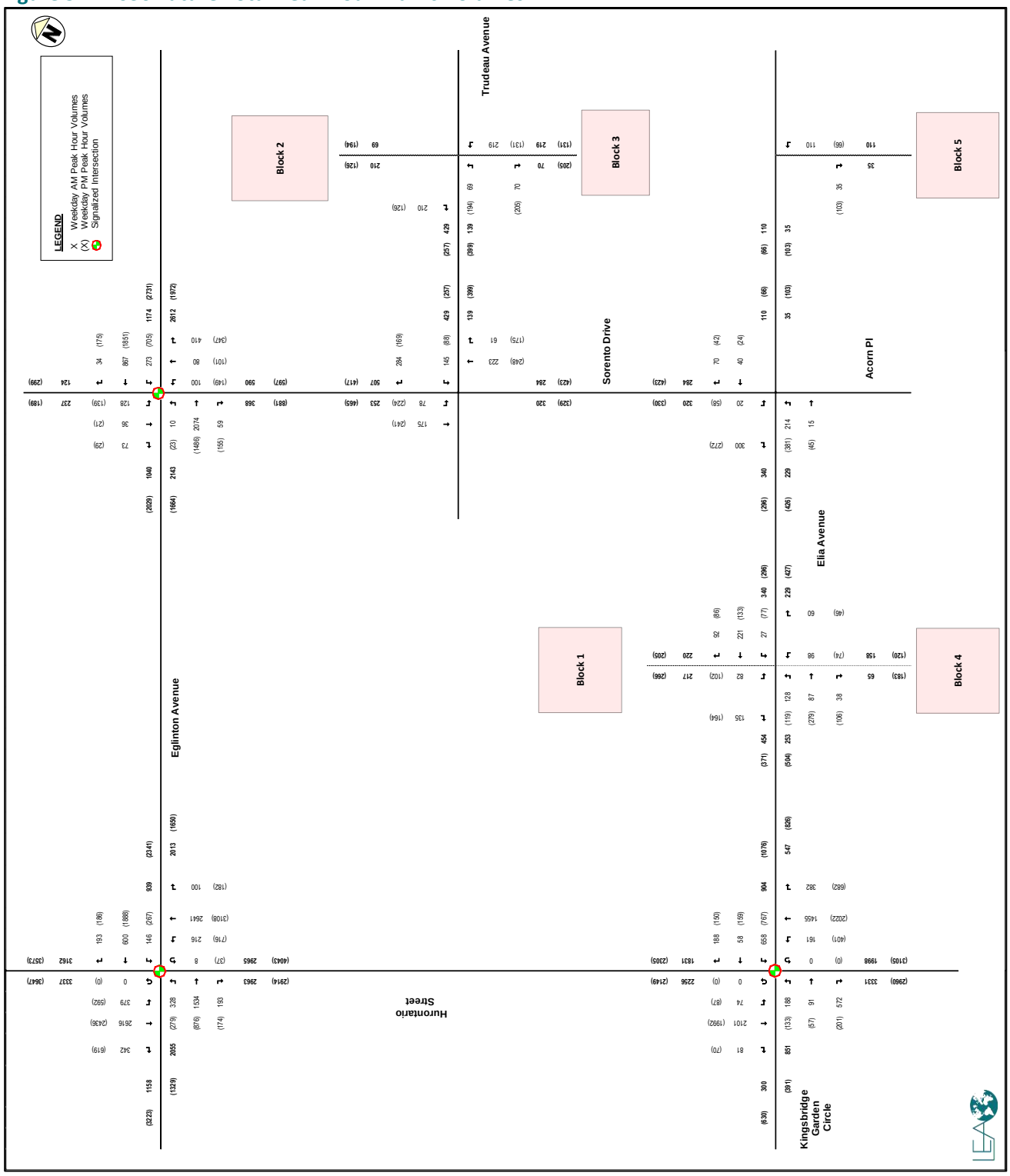
It is recommended that the introduction of the westbound left-turn phase during the AM peak hour at the intersections at Eglinton Avenue/Sorrento Drive and Hurontario Street / Elia Avenue would significantly improve the traffic operations. During the PM peak hour, the Eglinton/Sorrento intersection would experience

delays due to high northbound right-turn volumes. It is recommended that the provision of an exclusive northbound right-turn lane along with the signal timing plan optimization would be required to accommodate reasonable levels of service. The intersection of Hurontario Street and Elia Avenue requires modifications to the signal timing plans for better traffic operations during the PM peak hour. The details of the operations with the recommended mitigations such as signal timing plan optimization can be found in **Appendix G**.

5.2 2030 INTERSECTION CAPACITY ANALYSIS

The 2030 future total traffic conditions include 2030 future background volumes, in addition to the site trips generated by the proposed development. The future total traffic volumes for the AM and PM peak hours are illustrated in **Figure 5-2**.

Figure 5-2: 2030 Future Total Peak Hour Traffic Volumes



The 2030 intersection capacity analysis was conducted under future total conditions during the weekday AM and PM peak hours, where the results for the studied signalized and unsignalized intersections are summarized in **Table 5-2.** Detailed capacity results are provided in **Appendix G**.

Table 5-2: 2030 Future Total Capacity Analysis - Signalized Intersections

Intersection	Weekday AM Peak Hour								
	Overall			Movements of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	5.99	491.7	F	EBL	0.13	12.1	B	3.5	2.0
				EBT	0.66	18.5	B	82.4	69.4
				WBL	4.79	1774.0	F	132.9	187.6
				WBT	0.32	14.1	B	46.0	53.5
				NBL	1.05	164.6	F	31.7	68.1
				NBT	1.04	109.5	F	151.8	217.5
				SBL	8.68	3546.5	F	279.6	86.5
				SBT	0.79	62.8	E	104.0	19.1
Hurontario Street and Eglinton Avenue East	1.43	157.4	F	EBL	0.93	72.6	E	66.4	112.6
				EBT	1.02	83.3	F	174.7	201.8
				EBR	0.13	0.2	A	0.0	0.0
				WBL	0.53	58.8	E	16.7	25.6
				WBT	0.41	41.7	D	57.0	67.8
				WBR	0.13	0.2	A	0.0	0.0
				NBL	2.79	910.8	F	64.8	91.9
				NBT	1.29	175.3	F	330.3	343.3
				NBR	0.07	0.1	A	0.0	0.0
				SBL	1.45	274.9	F	134.6	195.4
				SBT	1.30	186.9	F	324.9	344.7
				SBR	0.23	0.3	A	0.0	0.0
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.14	49.6	D	EBL	0.55	43.5	D	43.7	69.0
				EBT	0.14	34.1	C	17.8	30.2
				EBR	0.66	46.3	D	70.3	116.5
				WBL	1.42	249.9	F	258.1	327.3
				WBT	0.41	38.8	D	48.3	71.8
				NBL	0.71	58.0	E	31.6	53.6
				NBT	0.53	23.9	C	97.2	109.1
				NBR	0.25	0.4	A	0.0	0.0
				SBL	0.65	10.0	B	2.4	2.1
				SBT	1.02	19.7	B	29.4	20.9
				SBR	0.05	0.0	A	0.0	0.0

Intersection	Weekday PM Peak Hour								
	Overall			Movement of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Sorrento Drive and Eglinton Avenue East	3.23	292.5	F	EBL	0.51	46.7	D	12.7	3.5
				EBT	0.76	36.7	D	165.6	83.1
				WBL	1.85	444.6	F	298.1	369.4
				WBT	0.94	42.6	D	242.6	298.3
				NBL	0.51	51.0	D	36.8	59.2
				NBT	0.78	62.3	E	96.5	139.1
				SBL	6.11	2380.1	F	287.4	84.6
				SBT	0.34	46.2	D	36.8	7.5
Hurontario Street and Eglinton Avenue East	2.89	486.6	F	EBL	1.42	264.7	F	93.2	147.9
				EBT	0.57	48.0	D	79.6	93.1
				EBR	0.11	0.1	A	0.0	0.0
				WBL	0.87	102.5	F	42.5	47.9
				WBT	1.14	124.3	F	232.8	259.1
				WBR	0.12	0.1	A	0.0	0.0
				NBL	9.29	3826.7	F	259.4	288.8
				NBT	1.57	311.1	F	426.7	444.1
				NBR	0.12	0.1	A	0.0	0.0
				SBL	2.31	654.9	F	267.0	335.8
				SBT	1.37	222.5	F	312.3	333.1
				SBR	0.39	0.7	A	0.0	0.0
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.53	96.6	F	EBL	0.45	40.8	D	29.5	49.7
				EBT	0.08	33.3	C	10.9	20.5
				EBR	0.13	34.1	C	0.0	15.7
				WBL	1.58	323.6	F	318.6	390.2
				WBT	0.49	40.5	D	68.9	96.1
				NBL	0.97	88.5	F	102.1	162.7
				NBT	0.73	28.9	C	158.9	174.2
				NBR	0.44	0.9	A	0.0	0.0
				SBL	1.85	411.0	F	25.9	14.2
				SBT	1.23	122.6	F	269.1	112.4
				SBR	0.04	0.0	A	0.0	m0.0

Similar to 2030 future background conditions, during both the AM and PM peak hour, the signalized intersections are experiencing similar conditions with many movements above capacity and approaching capacity. Similar to 2025 conditions, the modifications to the signal timing plans at the intersections of Eglinton Avenue / Sorrento Drive and Hurontario Street/Elia Avenue are recommended for both AM and PM peak hours.

It is also recommended that the exclusive right-turn lane provision in the northbound direction at the intersection of Eglinton Avenue and Sorrento Drive be considered as it would significantly improve the traffic operations. The details of the operations with the recommended mitigations can be found in **Appendix G**.

The future total traffic analyses indicate that its operations are not noticeably worsened by the proposed development. The details of the traffic impact of the proposed development are discussed in Section 7.0. Although the intersection capacity analyses indicate the operational constraints within the study area, which is the prevailing condition, the overall traffic conditions are anticipated to improve with the planned Hurontario LRT. The following section will provide the traffic operations with the Hurontario LRT.

6 FUTURE TOTAL TRAFFIC CONDITIONS – WITH LRT

When the planned Hurontario LRT is completed, a corresponding reduced automobile dependence is anticipated. As per the Metrolinx documents, a target transit level of 22% is set for the 2031 horizon year for the City of Mississauga. For the analysis of future total traffic conditions, the LRT scenario also considers a five-year and ten-year horizon to the years 2025 and 2030 respectively.

6.1 REDUCED SITE TRIPS

The resulting reduced vehicle trips that account for the increased transit usage for each block is summarized in

Table 6-1: Block 1 Reduced Site Trips

	Weekday AM Peak Hour			Weekday PM Peak Hour		
	In	Out	Total	In	Out	Total
Total New Site Trips	220	217	437	205	266	471
6% Reduction in Vehicle Trips	-17	-17	-34	-17	-22	-39
Reduced New Site Trips	**203**	**200**	**403**	**188**	**244**	**432**

Table 6-2: Block 2 Reduced Site Trips

	Weekday AM Peak Hour			Weekday PM Peak Hour		
	In	Out	Total	In	Out	Total
Total New Site Trips	69	210	279	194	126	320
6% Reduction in Vehicle Trips	-5	-16	-21	-15	-9	-24
Reduced New Site Trips	**64**	**194**	**258**	**179**	**117**	**296**

Table 6-3: Block 3 Reduced Site Trips

	Weekday AM Peak Hour			Weekday PM Peak Hour		
	In	Out	Total	In	Out	Total
Total New Site Trips	70	219	289	205	131	336
6% Reduction in Vehicle Trips	-5	-15	-20	-15	-9	-24
Reduced New Site Trips	**65**	**204**	**269**	**190**	**122**	**312**

Table 6-4: Block 4 Reduced Site Trips

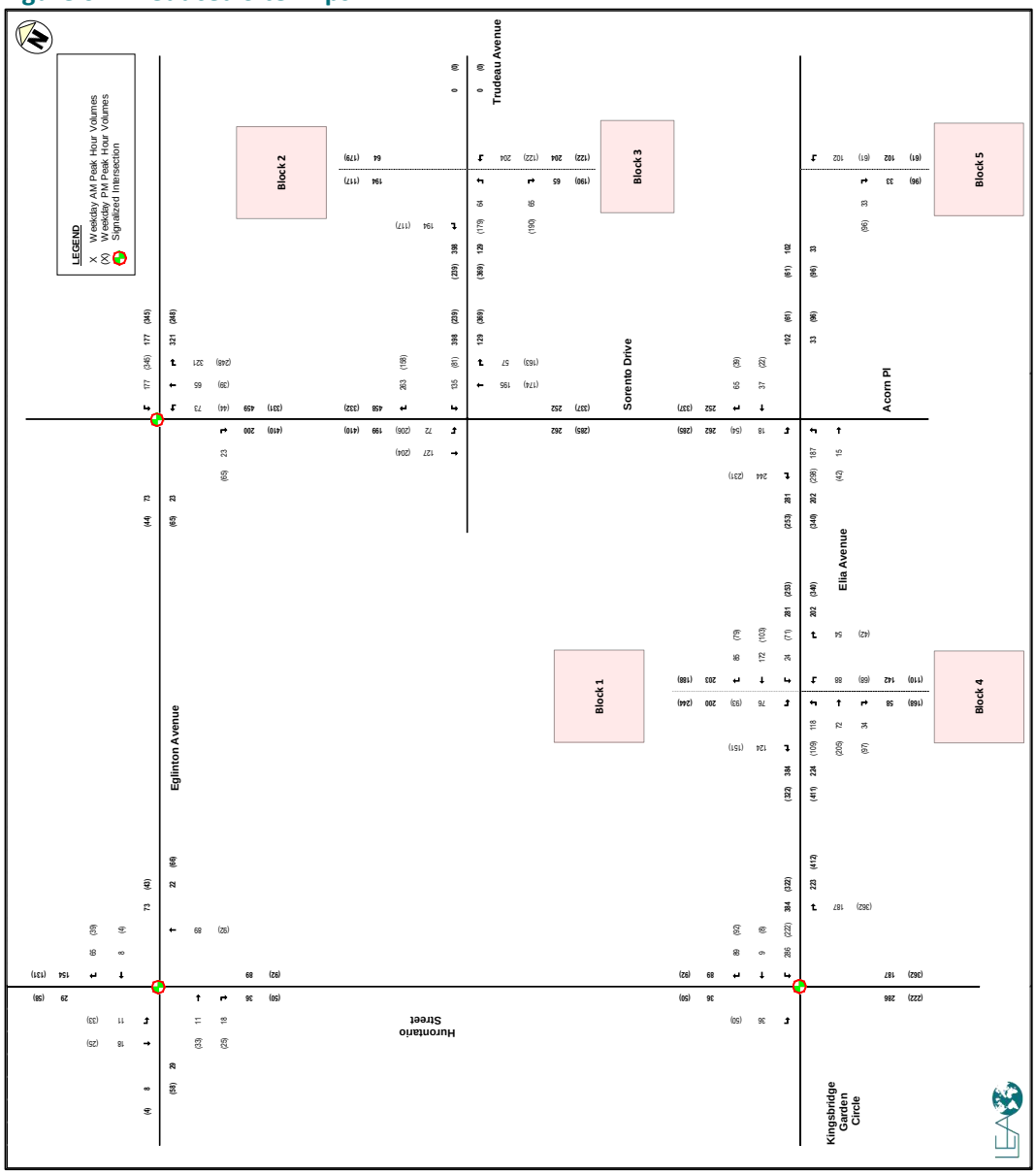
	Weekday AM Peak Hour			Weekday PM Peak Hour		
	In	Out	Total	In	Out	Total
Total New Site Trips	65	158	223	183	120	303
6% Reduction in Vehicle Trips	-7	-16	-23	-15	-10	-25
Reduced New Site Trips	**58**	**142**	**200**	**168**	**110**	**278**

Table 6-5: Block 5 Reduced Site Trips

	Weekday AM Peak Hour			Weekday PM Peak Hour		
	In	Out	Total	In	Out	Total
Total New Site Trips	35	110	145	103	66	169
6% Reduction in Vehicle Trips	-2	-8	-10	-7	-5	-12
Reduced New Site Trips	**33**	**102**	**135**	**96**	**61**	**157**

Based on the preliminary drawings for the Hurontario LRT, the signalized intersections in the subject site area will all remain. Therefore, the proposed trip distribution and assignment remains the same. The trip assignment with the reduced site trips is illustrated in **Figure 6-1**.

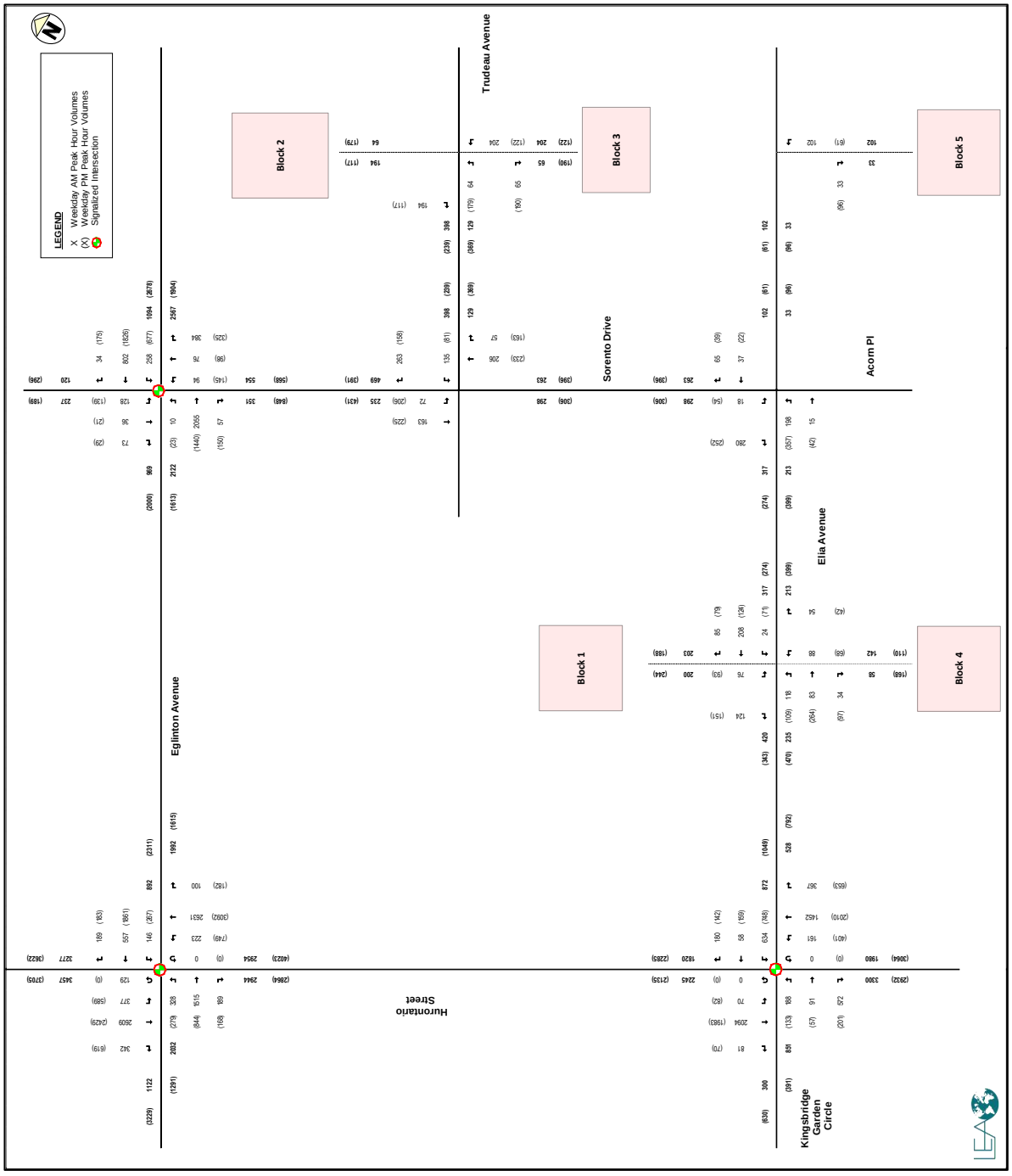
Figure 6-1: Reduced Site Trips



6.2 2025 INTERSECTION CAPACITY ANALYSIS – WITH LRT

The 2025 future total traffic conditions with the implementation of the Hurontario LRT include the 2025 future background volumes, in addition to the reduced site trips generated by the proposed development. The future total traffic volumes for the AM and PM peak hours are illustrated in **Figure 6-2**.

Figure 6-2: 2025 Future Total Peak Hour Traffic Volumes with LRT



The 2025 intersection capacity analysis with the LRT was conducted under future total conditions during the weekday AM and PM peak hours, where the results for the studied signalized and unsignalized intersections are summarized in **Table 6-6**. Detailed capacity results are provided in **Appendix H**. The analyses for this scenario focuses the Hurontario corridor.

Table 6-6: 2025 Future Total Capacity Analysis with LRT - Signalized Intersections

Intersection	Weekday AM Peak Hour								
	Overall			Movements of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Hurontario Street and Eglinton Avenue East	2.43	435.4	F	EBL	0.89	65.0	E	66.4	106.8
				EBT	1.00	80.0	F	167.4	197.6
				EBR	0.12	0.2	A	0.0	0.0
				WBL	0.53	57.5	E	16.9	25.3
				WBT	0.38	41.8	D	52.8	63.5
				WBR	0.12	0.1	A	0.0	0.0
				NBL	0.68	76.4	E	34.5	41.2
				NBT	1.93	475.2	F	593.7	612.3
				NBR	0.07	0.1	A	0.0	0.0
				SBL	3.40	1141.3	F	450.3	524.0
				SBT	2.22	600.6	F	699.7	726.5
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.45	144.8	F	EBL	0.40	38.9	D	40.9	62.3
				EBT	0.14	34.1	C	17.8	30.2
				EBR	0.66	46.3	D	70.3	116.5
				WBL	1.36	227.7	F	243.5	312.1
				WBT	0.09	33.4	C	11.1	20.7
				WBR	0.27	36.3	D	26.6	45.6
				NBL	0.71	58.0	E	31.6	53.6
				NBT	0.99	55.4	E	268.1	324.0
				SBL	1.67	319.3	F	28.7	13.3
				SBT	1.53	247.9	F	457.3	18.7

Intersection	Weekday PM Peak Hour								
	Overall			Movement of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Hurontario Street and Eglinton Avenue East	2.42	523.1	F	EBL	1.42	264.7	F	93.2	147.9
				EBT	0.55	47.6	D	76.1	89.5
				EBR	0.11	0.1	A	0.0	0.0
				WBL	0.87	102.9	F	42.5	48.0
				WBT	1.12	117.2	F	226.9	253.4
				WBR	0.12	0.1	A	0.0	0.0
				NBL	1.54	322.3	F	160.9	143.2
				NBT	2.35	666.5	F	741.4	609.1
				NBR	0.12	0.1	A	0.0	0.0
				SBL	3.32	1108.0	F	431.5	505.2
				SBT	2.64	793.1	F	752.6	778.1
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.64	265.6	F	EBL	0.32	37.3	D	27.9	45.3
				EBT	0.08	33.3	C	10.9	20.5
				EBR	0.13	34.1	C	0.0	15.7
				WBL	1.55	306.3	F	307.1	378.0
				WBT	0.23	35.5	D	32.3	48.9
				WBR	0.20	35.0	D	18.0	34.0
				NBL	0.97	88.5	F	102.1	162.7
				NBT	1.45	240.9	F	555.9	587.0
				SBL	1.71	346.2	F	22.4	8.7
				SBT	1.83	391.8	F	487.9	87.2

Under future total 2025 conditions with the implementation of the Hurontario LRT, the signalized intersections in the study area are forecasted to operate with a LOS of "F" during both peak hours. As the details of the lane configurations along the Hurontario LRT corridor are unknown, the analyses reflect the conservative assumption which accounts for lane reduction. As such, the analyses reflect the capacity constraints for vehicular operations.

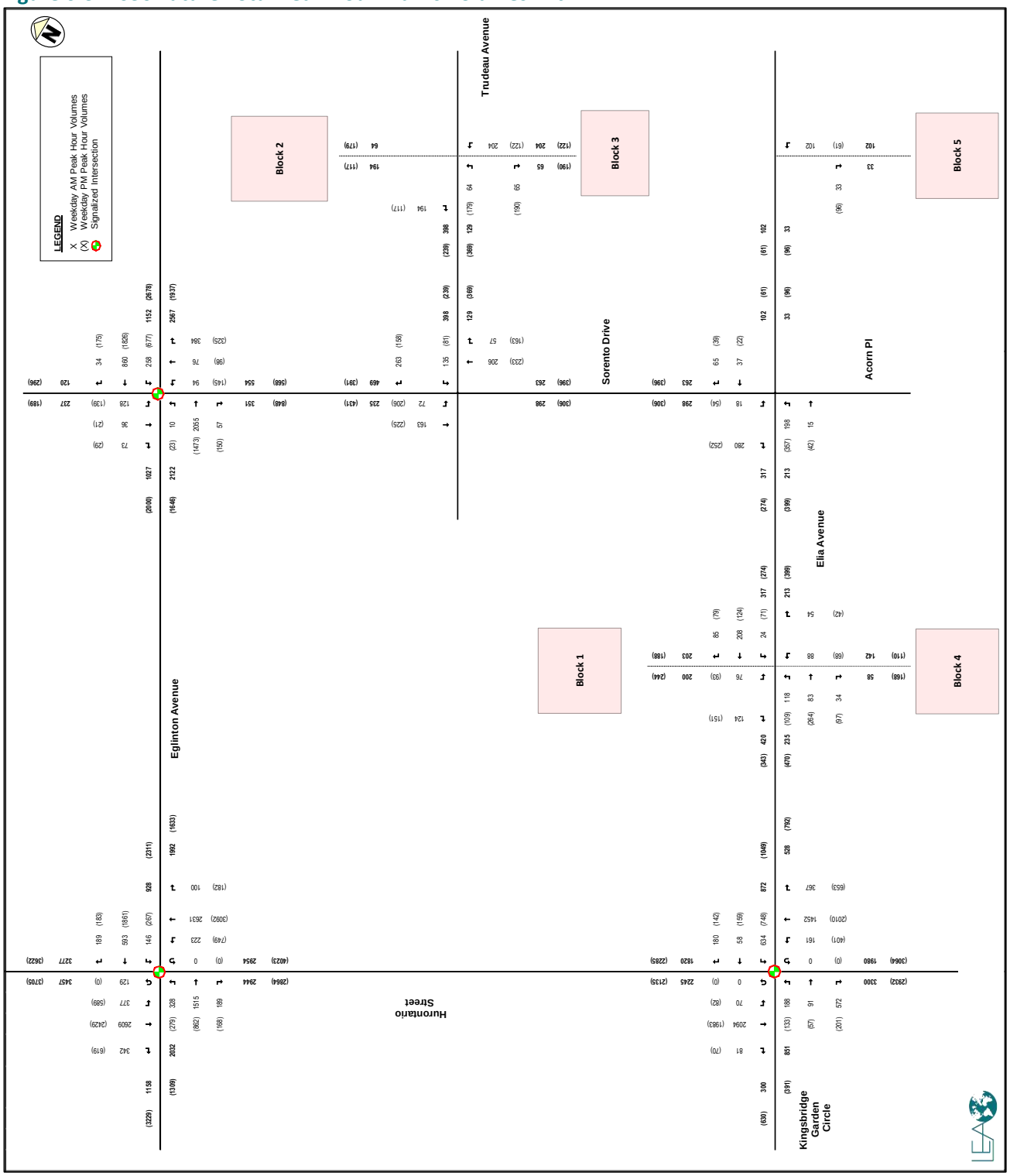
As the transit services would significantly improve with the LRT implementation, it is concluded that there is sufficient capacity in the transportation network that can accommodate the anticipated traffic demand for the proposed development. Furthermore, it is concluded that the traffic impact of the proposed development would be minimal.

6.3 2030 INTERSECTION CAPACITY ANALYSIS – WITH LRT

The 2030 future total traffic conditions with the implementation of the Hurontario LRT include the 2030 future background volumes in addition to the reduced site trips generated by the proposed development. The future total traffic volumes for the AM and PM peak hours are illustrated in

Figure 6-3**.**

Figure 6-3: 2030 Future Total Peak Hour Traffic Volumes with LRT



The 2030 intersection capacity analysis with the LRT was conducted under future total conditions during the weekday AM and PM peak hours, where the results for the studied signalized and unsignalized intersections are summarized in **Table 6-7.** Detailed capacity results are provided in **Appendix H**.

Table 6-7: 2030 Future Total Capacity Analysis with LRT - Signalized Intersections

Intersection	Weekday AM Peak Hour								
	Overall			Movements of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Hurontario Street and Eglinton Avenue East	2.43	434.2	F	EBL	0.92	71.4	E	66.4	111.7
				EBT	1.00	80.0	F	167.4	197.6
				EBR	0.12	0.2	A	0.0	0.0
				WBL	0.53	58.8	E	16.7	25.6
				WBT	0.41	41.6	D	56.3	67.5
				WBR	0.12	0.1	A	0.0	0.0
				NBL	0.68	76.4	E	34.5	41.2
				NBT	1.93	475.2	F	593.7	612.3
				NBR	0.07	0.1	A	0.0	0.0
				SBL	3.40	1141.3	F	450.3	524.0
				SBT	2.22	600.6	F	699.7	726.5
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.45	144.8	F	EBL	0.40	38.9	D	40.9	62.3
				EBT	0.14	34.1	C	17.8	30.2
				EBR	0.66	46.3	D	70.3	116.5
				WBL	1.36	227.7	F	243.5	312.1
				WBT	0.09	33.4	C	11.1	20.7
				WBR	0.27	36.3	D	26.6	45.6
				NBL	0.71	58.0	E	31.6	53.6
				NBT	0.99	55.4	E	268.1	324.0
				SBL	1.67	319.3	F	28.7	13.4
				SBT	1.53	247.9	F	457.4	18.8

Intersection	Weekday PM Peak Hour								
	Overall			Movement of Interest					
	V/C	Delay (s)	LOS	Movement	V/C	Delay (s)	LOS	Queue	
								50th	95th
Hurontario Street and Eglinton Avenue East	2.42	522.4	F	EBL	1.42	264.7	F	93.2	147.9
				EBT	0.56	47.9	D	78.2	91.6
				EBR	0.11	0.1	A	0.0	0.0
				WBL	0.87	102.9	F	42.5	48.0
				WBT	1.12	117.2	F	226.9	253.4
				WBR	0.12	0.1	A	0.0	0.0
				NBL	1.54	322.3	F	160.9	143.2
				NBT	2.35	666.5	F	741.4	609.1
				NBR	0.12	0.1	A	0.0	0.0
				SBL	3.32	1108.0	F	431.5	505.2
				SBT	2.64	793.1	F	752.6	778.1
Hurontario Street and Kingsbridge Garden Circle/Elia Avenue	1.64	265.6	F	EBL	0.32	37.3	D	27.9	45.3
				EBT	0.08	33.3	C	10.9	20.5
				EBR	0.13	34.1	C	0.0	15.7
				WBL	1.55	306.3	F	307.1	378.0
				WBT	0.23	35.5	D	32.3	48.9
				WBR	0.20	35.0	D	18.0	34.0
				NBL	0.97	88.5	F	102.1	162.7
				NBT	1.45	240.9	F	555.9	587.0
				SBL	1.71	346.2	F	22.4	8.7
				SBT	1.83	391.8	F	487.9	87.2

Under future total 2030 conditions with the implementation of the Hurontario LRT, the signalized intersections in the study area are forecasted to operate with a LOS of "F" during both peak hours. As noted in the previous section, the traffic analyses reflect the worst case scenario, which assumes the reduction to a number of travelling lanes on Hurontario Street.

Overall, it is concluded that there will be sufficient capacity available in the transportation network as the Hurontario LRT will increase the capacity for transit users. Furthermore, it is noted that the traffic impact of the proposed development would be minimal based on the comparison between the future background and future total traffic conditions.

7 FUTURE SCENARIO COMPARISON

Given the operational constraints identified at each of the signalized intersections in the study area, a side-by-side comparison of the traffic conditions with and without the proposed development was undertaken. The following sub-sections discuss the incremental difference in traffic operations in order identify the traffic impact of the proposed development at each intersection. This comparison involves 2030 future background conditions compared to 2030 future total conditions without the implementation of the LRT, which forecasts a worst case scenario.

7.1 SORRENTO DRIVE AND EGLINTON AVENUE EAST

The intersection capacity analysis was compared between future background 2030 conditions and future total 2030 conditions. The results for the AM and PM peak hour are summarized in **Table 7-1** and **Table 7-2**, respectively.

Table 7-1: 2030 AM FB vs. FT Comparison at Sorrento Drive and Eglinton Avenue East

Movement	Volume		V/C Ratio		Delay (s)	
	FB	FT	FB	FT	FB	FT
EBL	10	10	0.13	0.18	12.1	55.7
EBTR	2074	2074	0.65	0.99	18.0	83.3
WBL	86	273	1.46	1.00	307.7	110.7
WBTR	867	866	0.32	0.35	14.1	17.8
NBL	21	100	0.22	0.66	46.2	75.5
NBTR	11	80	0.14	0.24	43.0	58.2
SBL	128	128	1.32	0.88	219.6	92.9
SBTR	36	36	0.79	1.09	62.8	119.6
Overall			**1.44**	**1.08**	**52.1**	**72.5**

As noted, the proposed development requires modifications to the signal timing plans as well as the provision of an exclusive northbound right-turn lane to accommodate the reasonable levels of service during the AM peak hour. With the increase in volumes, the subject intersection operates at reasonable levels of service during the AM peak hour. The recommended mitigations would improve the traffic operations.

Table 7-2: 2030 PM FB vs. FT Comparison at Sorrento Drive and Eglinton Avenue East

Movement	Volume		V/C Ratio		Delay (s)	
	FB	FT	FB	FT	FB	FT
EBL	23	23	0.51	0.51	46.8	50.4
EBTR	1486	1486	0.72	1.00	35.5	50.9
WBL	664	705	1.71	1.55	381.5	308.9
WBTR	1851	1851	0.94	1.05	42.6	75.1
NBL	101	149	0.35	0.84	47.0	96.2
NBTR	59	101	0.22	0.35	44.1	62.7
SBL	139	139	1.58	0.25	333.3	61.3
SBTR	21	21	0.34	1.09	46.2	115.2
Overall			**1.70**	**1.42**	**106.3**	**96.4**

Similar to the AM conditions, during the PM peak hour, both the v/c ratio as well as delay in the future total scenario improve with the recommended mitigations. Through modifications to this intersection upon the completion of the development to the north, it is anticipated that there will be sufficient capacity to handle the traffic in the network.

7.2 HURONTARIO STREET AND EGLINTON AVENUE EAST

The intersection capacity analysis was compared between future background 2030 conditions and future total 2030 conditions. The results for the AM and PM peak hour are summarized in **Table 7-3** and **Table 7-4**, respectively.

Table 7-3:2030 AM FB vs. FT Comparison at Hurontario Street and Eglinton Avenue East

Movement	Volume		V/C Ratio		Delay (s)	
AM	FB	FT	FB	FT	FB	FT
EBL	328	328	0.92	0.93	70.9	72.6
EBT	1522	1534	1.01	1.02	81.2	83.3
EBR	173	193	0.11	0.13	0.2	0.2
WBL	146	146	0.56	0.53	61.1	58.8
WBT	592	600	0.41	0.41	40.3	41.7
WBR	130	193	0.09	0.13	0.1	0.2
NBL	216	216	2.79	2.79	914.3	910.8
NBT	2544	2641	1.25	1.29	156.7	175.3
NBR	100	100	0.07	0.07	0.1	0.1
SBL	367	379	1.40	1.45	255.5	274.9
SBT	2596	2616	1.29	1.30	182.5	186.9
SBR	342	342	0.23	0.23	0.3	0.3
Overall			**1.40**	**1.44**	**151.0**	**157.4**

When comparing 2030 AM future background conditions to 2030 AM future total conditions, the increase in overall intersection delay is 6.4 seconds, which is minimal. The increase in the overall v/c ratio is 0.04. Therefore, it is concluded that the addition of the site traffic from the proposed development is minimal. With the planned Hurontario LRT, the transportation network can accommodate the proposed development, which would increase the usage of transit services.

Table 7-4: 2030 PM FB vs. FT Comparison at Hurontario Street and Eglinton Avenue East

Movement	Volume		V/C Ratio		Delay (s)	
PM	FB	FT	FB	FT	FB	FT
EBL	279	279	1.42	1.42	264.7	264.7
EBT	841	875	0.55	0.57	47.6	48.0
EBR	149	174	0.09	0.11	0.1	0.1
WBL	267	267	0.87	0.87	103.8	102.5
WBT	1882	1888	1.14	1.14	122.7	124.3
WBR	144	186	0.09	0.12	0.1	0.1
NBL	716	716	9.29	9.29	3827.9	3826.7
NBT	3008	3108	1.52	1.57	288.6	311.1
NBR	182	182	0.12	0.12	0.1	0.1
SBL	557	592	2.18	2.31	594.0	654.9
SBT	2409	2436	1.35	1.37	215.8	222.5
SBR	619	619	0.39	0.39	0.7	0.7
Overall			**2.85**	**2.89**	**482.2**	**486.6**

When comparing 2030 PM future background conditions to 2030 PM future total conditions, the increase in overall intersection delay is 4.4 seconds, which is negligible. The increase in the overall v/c ratio is 0.04. Therefore, it is concluded that the addition of the site traffic from the proposed development is minimal. Additionally, with the implementation of the Hurontario LRT, a shift in auto-usage within the area is anticipated, whereby the proposed development would encourage the increase in the transit usage.

7.3 HURONTARIO STREET AND KINGSBRIDGE GARDEN CIRCLE/ELIA AVENUE

The intersection capacity analysis was compared between future background 2030 conditions and future total 2030 conditions. The results for the AM and PM peak hour are summarized in **Table 7-5** and **Table 7-6**, respectively.

Table 7-5: 2030 AM FB vs. FT Comparison at Hurontario Street and Kingsbridge Garden Circle/Elia Ave

Movement	Volume		V/C Ratio		Delay (s)	
AM	FB	FT	FB	FT	FB	FT
EBL	188	188	0.52	0.55	47.8	43.5
EBT	91	91	0.16	0.14	40.2	34.1
EBR	572	572	0.74	0.66	56.4	46.3
WBL	348	658	0.88	1.42	72.5	249.9
WBTR	49	58	0.25	0.41	41.6	38.8
NBL	161	161	0.72	0.71	60.3	58.0
NBT	1455	1455	0.48	0.53	18.6	23.9
NBR	180	382	0.12	0.25	0.2	0.4
SBL	34	74	0.25	0.65	5.6	10.0
SBT	2101	2101	0.90	1.02	7.9	19.7
SBR	81	81	0.05	0.05	0.0	0.0
Overall			**0.87**	**1.14**	**24.2**	**49.6**

When comparing 2030 AM future background conditions to 2030 AM future total conditions, there is an increase in the westbound left-turn movement. This anticipated demand will reduce over time as the Hurontario LRT would operate. Although the operation would be poor, this would encourage drivers to consider alternative transportation modes, which would promote the use of Hurontario LRT. Therefore, the poor performance of the westbound left-turn movement would likely be tolerable.

Other movements are expected to experience nominal increase in traffic volumes, hence no significant traffic impact is anticipated. Therefore, it is concluded that the addition of the site traffic from the proposed development to the subject intersection is acceptable as there will be a reduction in auto-usage within the area with the implementation of the Hurontario LRT.

Table 7-6: 2030 PM FB vs. FT Comparison at Hurontario Street and Kingsbridge Garden Circle/Elia Ave

Movement	Volume		V/C Ratio		Delay (s)	
PM	FB	FT	FB	FT	FB	FT
EBL	133	133	0.35	0.82	38.0	95.3
EBT	57	57	0.08	0.20	33.3	59.6
EBR	201	201	0.13	0.13	34.1	58.8
WBL	526	767	1.09	1.42	117.2	248.1
WBTR	151	159	0.30	0.46	36.7	39.6
NBL	401	401	0.97	0.97	88.5	90.0
NBT	2022	2022	0.73	0.84	28.9	40.4
NBR	291	682	0.19	0.44	0.3	0.9
SBL	32	87	0.68	0.66	24.0	66.0
SBT	1992	1992	1.23	1.23	122.4	124.0
SBR	70	70	0.04	0.04	0.0	0.0
Overall			**1.11**	**1.28**	**71.1**	**89.5**

When comparing 2030 PM future background conditions to 2030 PM future total conditions, the increase in both v/c ratio and delay is minimal across the intersection. Therefore, it is concluded that the addition of the site traffic from the proposed development will be minimal and there is sufficient capacity in the network available. Additionally, with the implementation of the Hurontario LRT it is anticipated that there will be a shift in auto-usage within the area.

In conclusion, across all three signalized intersection in the study area, the overall volume increase can be accommodated with the modifications to the signal timing plans and the provision of the northbound right-turn lane at the Eglinton/Sorrento intersection.

8 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) is a set of strategies which strive towards a more efficient transportation network by influencing travel behaviour. Effective TDM measures can reduce vehicle usage and encourage people to engage in more sustainable methods of travel. The location of the subject site relative to nearby shops and amenities, provides several opportunities to promote non-auto travel. The recommendations should enhance non-single occupant vehicle trips for the future residents of the proposed development.

8.1 PEDESTRIAN-BASED RECOMMENDED STRATEGIES

Building entrances are to be oriented close to the street with direct connections to the pedestrian pathways.

The proposed entrances to the buildings on the subject site face directly onto Hurontario, Elia Avenue, Sorrento Drive, Acorn Place and Trudeau Avenue. These entrances provide residents connectivity to the neighbourhood's pedestrian network, we well as the wealth of nearby amenities. Therefore, this provides convenient linkages for pedestrians and cyclists to access the building.

The pedestrian network should be provided with an enhanced landscape that would encourage walking.

The pedestrian connections should provide a pleasant and safe pedestrian experience through enhanced landscaping. This can be achieved by means of benches, cover, planting, lighting and other landscaping elements. The pedestrian network in the vicinity of the subject site will provide a variety of amenities for a safe and enjoyable pedestrian environment, which will encourage the use of active transportation modes.

Walking distance to nearby amenities

The subject development is conveniently located from a pedestrian perspective. The area provides excellent access to schools, public parks, restaurants, retail stores, pharmacies, and banks. All of these uses can be accessed within a twenty-minute walking distance.

8.2 TRANSIT-BASED RECOMMENDED STRATEGIES

Connection to transit network

As noted, the proposed development will provide excellent connections to MiWay surface transit as well as the future Hurontario LRT. The Hurontario and Eglinton Avenue bus stop is a three (3) minute walk from the subject site, where residents will have access to various MiWay transit routes. This is also one of the locations of the future LRT station stop. Therefore, the proposed development is ideally placed from a transit access perspective.

Communication strategy & transit incentive program

In order for residents to take advantage of the transit services surrounding the subject site, it is recommended that the owners provide information packages and communications to increase transit awareness and multi-modal transport by encouraging active transportations and different travel demand management programs. The information packages should contain public transit information such as route maps and schedule timetables.

Provision of pre-loaded PRESTO cards to all new residents

PRESTO is a contactless smart card used on participating public transit systems within the GTA and Ottawa. To further incentivize unit purchasers to make more transit-based trips, it is proposed that pre-loaded PRESTO cards (amount to be determined) be provided with the sale/rental of each unit. It is common to provide what is equivalent to a month's supply of daily commuting.

8.3 CYCLING-BASED RECOMMENDED STRATEGIES

Promote and increase cycling awareness and multi-modal transport

Information packages should be provided to residents to encourage active transportation and different travel demand management programs. This should include educating residents on the health and environmental of benefits of cycling, as well as providing pedestrian and cycling and transit maps of the available infrastructure in the surrounding area.

Provide short and long-term bicycle parking

While the City of Mississauga Zoning By-Law does not require bicycle parking, the City of Mississauga Cycling Master Plan generally recommends bicycle parking rates to apply to site development applications. These guidelines have been referenced and summarized in

Table 8-1: Bicycle Parking Summary

Land Use	GFA/ Units	Short-Term / Visitor			Long-Term / Employee			Total Proposed Supply
		Rate	Required	Proposed	Rate	Required	Proposed	
Block 1								
Residential	1,000 units	0.08/Unit	80	90	0.70/Unit	700	710	**800**
Retail	1,915m^2	0.25/100m^2	5	6	0.10/100m^2	2	4	**10**
Office	18,080m^2	n/a	n/a	n/a	0.10/100m^2	18	50	**50**
Block 1 Total			**85**	**96**	**-**	**720**	**764**	**860**
Block 2								
Residential	1,046 units	0.08/Unit	84	86	0.70/Unit	732	740	**826**
Retail	809m^2	0.25/100m^2	2	2	0.10/100m^2	1	2	**4**
Block 2 Total			**86**	**88**	**-**	**733**	**742**	**830**
Block 3								
Residential	1,111 units	0.08/Unit	89	90	0.70/Unit	778	798	**888**
Block 4								
Residential	974 units	0.08/Unit	78	85	0.70/Unit	682	710	**795**
Retail	1,570m^2	0.25/100m^2	4	6	0.10/100m^2	2	6	**12**
Block 4 Total			**82**	**91**	**-**	**684**	**716**	**807**
Block 5								
Residential	559 units	0.08/Unit	45	48	0.70/Unit	392	397	**445**

The subject site satisfies the bicycle parking requirements for each block. The short-term spaces should be located in highly visible and convenient areas close to the building entrances for visitors. Long-term bicycle parking should be provided in secured and weather-protected locations, including storage rooms, bicycle lockers, and underground parking areas.

The provision of bicycle parking will greatly encourage residents to shift travel behaviour from auto modes of transport to walking, cycling and public transit. In addition, the proposed bicycle supply will further support the future Hurontario Light Rail Transit (LRT) and the promotion of active transportation. It is understood that the LRT will run along Hurontario Street in Mississauga and Brampton and be fully integrated with municipal transit systems, providing separated bike lanes, with multi-use paths.

8.4 PARKING-DEMAND MANAGEMENT STRATEGIES

Provide reduced parking provision on the subject site

The proposed development will provide a reduced parking supply on the subject site. Given the subject site's convenient location within a well-connected transit system and walkable neighbourhood surrounded by restaurants, shops and institution facilities, most daily activities are not expected to require driving from the proposed redevelopment. By providing reduced parking on site, the proposed redevelopment will deter residents from driving and promote the use of public transit and active transportation.

Unbundled parking

It is recommended that the proposed development will provide unbundled parking, meaning that parking spaces will be sold separately from the unit. It is anticipated that parking spaces will be offered at a price point determined based on market conditions. This will facilitate residents to shift to other travel alternatives and reduce auto-dependency.

9 PARKING REVIEW

This section will discuss the parking standards from the City of Mississauga's Zoning By-law 0225-2007, which currently governs the parking requirements for the subject site.

Additionally, given the subject site's location, planning context, and future transportation context following completion of the Hurontario LRT, parking rates that differ from the by-law are proposed for the subject development. The recommended parking rates and the recommended parking supply based on these rates will be discussed following a review of the applicable by-law requirements, and are being recommended in addition to the TDM Plan discussed above, which will support the recommended parking rates and supply.

9.1 ZONING BY-LAW REQUIREMENTS

The proposed development is subject to parking requirements set out in the City of Mississauga Zoning By-Law 0225-2007.

As per By-law 0225-2007, a shared parking formula may be used to determine the overall parking requirements for mixed-use developments, recognizing that different uses can share parking to a degree due to different uses experiencing peak parking demand at different times of the day.

The non-residential visitor, office, and retail parking requirements for the proposed land uses have therefore been determined based on the parking rates prescribed by the City of Mississauga's Zoning By-law 0225-2007, according to the shared parking formula as it is expected that the different uses proposed will experience different peak parking demand at different times of the day.

The shared parking formula includes the percentage of peak period parking for different times during the day. This percentage is then multiplied by the parking requirement for each time period. The highest value obtained from all time periods becomes the required shared parking for the mixed-use development. Table **9-1** shows the shared parking formula used to obtain the total shared parking requirement.

Table 9-1: By-law 0225-2007 Weekday and Saturday Shared Parking Formula

Use	Percentage of Peak (Weekday) & [Saturday]			
	Morning	Noon	Afternoon	Evening
Visitor	(20%) [20%]	(20%) [20%]	(60%) [60%]	(100%) [100%]
Office	(100%) [10%]	(90%) [10%]	(95%) [10%]	(10%) [10%]
Retail	(80%) [80%]	(90%) [100%]	(90%) [100%]	(90%) [70%]

The minimum parking requirements applicable to the non-residential uses proposed for the subject site are summarized in **Table 9-2.**

Table 9-2: By-law 0225-2007 Weekday Shared Parking Calculations

Block	Land Use	Units / GFA	City of Mississauga By-Law 0225-2007		Shared Parking Period				Sharing Deduction
			Min. Required Parking Rate	Required Spaces	Morning	Noon	Afternoon	Evening	
Block 1				*Visitor Occupancy %*	*20%*	*20%*	*60%*	*100%*	*-40%*
	Visitors	1,000	0.20 spaces/unit	200	40	40	120	200	-80
				Office Occupancy %	100%	90%	95%	10%	-5%
	Office	18,080 m^2	3.2 spaces/100m^2	579	579	521	550	58	-29
				Retail Occupancy %	*80%*	*90%*	*90%*	*90%*	*-10%*
	Retail	1,915m^2	4.3 spaces/100m^2	82	66	74	74	74	-8
				Total	**685**	**635**	**744**	**332**	**-117**
Block 2				*Visitor Occupancy %*	*20%*	*20%*	*60%*	*100%*	*0%*
	Visitors	1,046	0.20 spaces/unit	209	42	42	125	209	-
				Retail Occupancy %	*80%*	*90%*	*90%*	*90%*	*10%*
	Retail	809m^2	4.3 spaces/100m^2	35	28	31	31	31	-4
				Total	**70**	**74**	**157**	**241**	**-3**
Block 3				*Visitor Occupancy %*	*20%*	*20%*	*60%*	*100%*	*0%*
	Visitors	1,111	0.20 spaces/unit	222	44	44	133	222	-
				Total	**44**	**44**	**133**	**222**	**-**
Block 4				*Visitor Occupancy %*	*20%*	*20%*	*60%*	*100%*	*0%*
	Visitors	974	0.20 spaces/unit	195	39	39	117	195	-
				Retail Occupancy %	*80%*	*90%*	*90%*	*90%*	*10%*
	Retail	1,570m^2	4.3 spaces/100m^2	68	54	61	61	61	-7
				Total	**93**	**100**	**178**	**256**	**-7**
Block 5				*Visitor Occupancy %*	*20%*	*20%*	*60%*	*100%*	*0%*
	Visitors	559	0.20 spaces/unit	112	22	22	67	112	-
				Total	**22**	**22**	**67**	**112**	**-**
								Overall Total Non-Residential Spaces	**-128**

As per Section 3.1.2.3 of By-law 0225-2007, a shared parking arrangement between different land uses is permitted for the proposed development. The non-residential parking supply for the proposed multi-use blocks by retail use can be reduced by 117 spaces for Block 1, 4 spaces for Block 2, and 7 spaces for Block 4, for a total of 128 spaces for the overall development.

As a result, a total of 1,574 parking spaces for non-residential uses are required for the proposed development, accounting for the shared parking formula set out in By-law 0225-2007.

Upon applying the by-law shared parking formula, the required parking accounting for sharing was calculated for each of the mixed-use blocks, as well as the proposed full-build out scenario. **Table 9-3** shows the by-law parking requirements for the entire site, accounting for the level of sharing permitted per non-residential use.

Table 9-3: Parking Summary - City of Mississauga Zoning By-Law 0225-2007

Block	Land Use	Units/GFA	City of Mississauga By-Law 0225-2007			Total Required Spaces
			Required Rate	Required Spaces	Sharing Deduction	
1	Bachelor	20 units	1.00 space/unit	20	n/a	2,119
	1-Bedroom	463 units	1.25 spaces/unit	579	n/a	
	2-Bedroom	366 units	1.40 spaces/unit	512	n/a	
	3-Bedroom	151 units	1.75 spaces/unit	264	n/a	
			Residential Total:	**1,375**	n/a	
	Visitor	1,000 units	0.20 spaces/unit	200	-80 (40%)	
	Retail	1,915m^2	4.3 spaces/100m^2	82	-8 (10%)	
	Office	18,080m^2	3.2 spaces/100m^2	579	-29 (5%)	
			Non-Residential Total:	**861**	-117	
			Block 1 Total:	**2,236**	**-117**	**2,119**
2	1-Bedroom	593	1.25 spaces/unit	741	n/a	1,677
	2-Bedroom	276	1.40 spaces/unit	386	n/a	
	3-Bedroom	177	1.75 spaces/unit	310	n/a	
			Residential Total:	**1,437**	**n/a**	
	Visitor	1,046 units	0.20 spaces/unit	209	n/a	
	Retail	809m^2	4.3 spaces/100m^2	35	-4 (10%)	
			Non-Residential Total:	**244**	**-4**	
			Block 2 Total:	**1,681**	**-4**	**1,677**
3	1-Bedroom	676	1.25 spaces/unit	845	n/a	1,729
	2-Bedroom	285	1.40 spaces/unit	399	n/a	
	3-Bedroom	150	1.75 spaces/unit	263	n/a	
			Residential Total:	**1,507**	**n/a**	
	Visitor	1,111	0.20 spaces/unit	222	n/a	
			Block 3 Total:	**1,729**	**n/a**	**1,729**
4	1-Bedroom	377	1.25 spaces/unit	471	n/a	1,624
	2-Bedroom	423	1.40 spaces/unit	592	n/a	
	3-Bedroom	174	1.75 spaces/unit	305	n/a	
			Residential Total:	**1,368**	**n/a**	
	Visitor	974	0.20 spaces/unit	195	n/a	
	Retail	1,570m^2	4.3 spaces/100m^2	68	-7 (10%)	
			Non-Residential Total	**263**	**-7**	
			Block 4 Total:	**1,631**	**-7**	**1,624**
5	1-Bedroom	259	1.25 spaces/unit	324	n/a	861
	2-Bedroom	285	1.40 spaces/unit	399	n/a	
	3-Bedroom	15	1.75 spaces/unit	26	n/a	
			Residential Total:	**749**	n/a	
	Visitor	559	0.20 spaces/unit	112	n/a	
			Block 5 Total:	**861**	**n/a**	**861**
			Total	**8,138 total 6,436 res. + 1,702 non-res.**	**-128 spaces**	**8,010 total 6,436 res. + 1,574 non-res.**

Based on the City of Mississauga Zoning By-Law 0225-2007, the proposed development would require a site total of 8,010 parking spaces, consisting of 6,436 residential parking spaces and 1,574 non-residential parking spaces, accounting for the number of spaces permitted to be shared by the Zoning By-law.

It is understood that the existing parking requirements applicable to the subject development would require more than 1 parking space per unit for residents only. Recognizing the subject site's location, site design, existing planning context, and the surrounding transportation network, new rates are proposed for the development. The following subsections will provide justification for the proposed parking rates.

9.2 RECENTLY PURSUED/APPROVED RESIDENTIAL & VISITOR PARKING RATES

City staff recognize the decrease in demand for parking provisions and promote higher levels of transit usage for developments located in close proximity to transit when reviewing residential development proposals. As such, new developments located close to transit services are more likely to receive approval for reduced parking rates. **Table 9-4** summarizes the parking provisions of recently pursued or approved residential developments with reduced parking rates in the surrounding area.

Table 9-4: Recently Pursued/Approved Developments with Reduced Parking Rates

Address	Units	Proposed Residential Parking Spaces	Proposed Rate	Status
5081 Hurontario Street (Phase 1)	497	478	0.96	Approved
60 Bristol Road	510	479	0.94	Approved
1 Fairview Road	460	312	0.78	Under Review

A review of nearby recently pursued or approved residential developments reveal the increasing demand in reduced parking rates from the City of Mississauga Zoning By-Law 0225-2007 requirements. The reduced parking rates are well justifiable by the area's walkability as well as proximity to surface transit. This trend of providing reduced residential parking supply is reflective of market demand from groups that seek to live car-free lifestyles within this neighbourhood. Therefore, the proposed parking supply is consistent with the characteristics of this neighbourhood and is considered appropriate as it is expected that a large portion of future residents will travel by non-auto modes.

9.3 BEST PRACTICE REVIEW – SURROUNDING MUNICIPALITY PARKING RATES

The following section will review surrounding municipality parking rates in locations that surround higher-order transit. It is noted that generally, municipalities offer reduced parking rates for developments located near rapid-transit systems as the intention is to encourage a shift towards active modes of transportation and reduce automobile use. It is noted that the City of Mississauga's first Parking Master Plan and Implementation Strategy was approved by Council in June 2019. **Table 9-5** summarizes the parking requirements in the City of Vaughan, City of Richmond Hill, City of Toronto Policy Area 4, and the City of Mississauga recommended rate.

Table 9-5: Surrounding Municipality Parking Rates

Land Use	City of Vaughan Rate	City of Richmond Hill 2010 Rate	City of Toronto 'Policy Area 4' Rate	Mississauga Parking Master Plan Rate[1]
Bachelor	0.85 spaces/unit	0.75 spaces/unit	0.70 spaces/unit	0.80 spaces/unit
1-Bedroom	0.85 spaces/unit	0.85 spaces/unit	0.80 spaces/unit	0.90 spaces/unit
2-Bedroom	0.95 spaces/unit	1.0 space/unit	0.90 spaces/unit	1.0 space/unit
3-Bedroom	1.15 spaces/unit	1.2 spaces/unit	1.1 space/unit	1.3 spaces/unit
Visitor	0.2 spaces/unit	0.15 spaces/unit	0.15 spaces/unit	0.15 spaces/unit
Retail	3.0 spaces/100m^2	3.0 spaces/100m^2	1.0 spaces /100m^2	4.3 spaces/unit
Office	2.0 spaces/100m^2	2.0 spaces/100m^2	1.0 spaces/100m^2	3.2 spaces/unit

As seen above, it is common amongst other jurisdictions to recommend reduced parking rates where the development is in an area that is identified as a growth centre and well-served by transit. It is noted that the City of Toronto prescribes a range of parking requirements for different policy areas of the City depending on the level of transit accessibility. For the purposes of this study, the rates prescribed for Policy Area 4 (PA4) were reviewed, as PA4 sites are typically located along corridors outside of the downtown core that are either mixed-use and/or are serviced by higher-order transit, such as Dundas Street West, Weston Road, and Lake Shore Boulevard West in Etobicoke. These areas are therefore considered to have similar transportation and land use characteristics to Mississauga's Uptown area. These rates are reflective of the proposed parking supply for the subject site, which is intended to reduce automobile reliance.

9.4 THE PROVINCIAL POLICY STATEMENT (2014)

The Provincial Policy Statement (PPS) outlines the Ontario government's policies on land use planning and provides direction in ensuring the development of healthy and sustainable communities with a thriving economy. Under Section 3 of the Planning Act, all decisions affecting land use planning matters "shall be consistent with" the PPS. One of the key matters pertaining to PPS policies includes the promotion of transportation decisions that increase active transportation and transit usage. As stated under Section 1.8.1b of the PPS, planning authorities shall support land use and development patterns which: "promote the use of active transportation and transit in and between residential, employment (including commercial and industrial) and institutional uses ant other areas;"

The proposed reduced parking supply is in support of the changing paradigm which shifts away from the provision of excess parking. The subject site is located in an existing transportation with excellent accessibility to transit and cycling options. Therefore, the decision to provide less parking spaces aids in promoting those mobility options that are not automobile dependent.

9.5 THE GROWTH PLAN FOR THE GREATER GOLDEN HORSESHOE (2019)

The Growth Plan for the Greater Golden Horseshoe provides a framework for municipalities to better manage growth in a region that supports a high quality of life, environmental protection, as well as economic prosperity. The support of municipalities in land use choices are vital to achieving the long-term framework outlined by the Growth Plan. Some key issues listed in the Growth Plan include:

- Build complete communities that better connect transit with where residents live, work and play
- Creating mobility options for residents to reduce reliance of automobile
- Minimize negative impacts of climate change

By lowering the number of parking spaces available for purchase/rental as well as unbundling the parking spaces, the proposed development supports the decreasing value in car ownership. Through planning for land uses that anticipates for a transportation network which supports transit and active transportation, the proposed development plans for sustainability will aid with the negative environmental impact caused by car usage. The proposed parking for this development aligns with the transportation related issues outlined in the Growth Plan.

9.6 ONTARIO'S FIVE-YEAR CLIMATE CHANGE ACTION PLAN

Ontario's Five-Year Climate Change Action Plan was announced in June 2016 with the objective of fighting climate change with several areas of action. The plan recognizes the vital role transportation and land use planning takes in effectively reducing greenhouse gas pollution. Some of those actions include implementing Transportation Demand Management Plans to limit single occupant vehicle trips, supporting cycling and walking for daily commutes, and eliminating minimum parking requirements for municipal zoning bylaws over the next five (5) years.

The proposed development's decision to provide less parking spaces than required from the City's zoning bylaw acknowledges that land and financial resources should not be used for excess parking, but rather for further land development opportunities that support lower auto-dependency. The subject site is within great access to the future Hurontario LRT which provides excellent connectivity options. Therefore, trips made by alternative modes are a viable option for residents, a choice which would reduce fossil fuel consumption and traffic congestion.

9.7 RECOMMENDED PARKING RATE

Providing a reduced parking supply is supportive of City transportation planning goals and will encourage a transit-oriented and walkable lifestyle for future residents, visitors, and employees of the subject site. Limiting parking at the household immediately reduces the possibility of conducting a trip by private auto and encourages residents to live a car-free or less car-dependent lifestyle. Furthermore, providing a reduced residential parking supply will encourage those who are selecting a car-free lifestyle to decide to live along the Hurontario Street corridor with access to the future Hurontario LRT.

The parking requirement for the office use is recommended to reflect this higher transit accessibility. Therefore, the parking requirement of 2.0 spaces / 100 m^2 of GFA, which has been implemented and tested in York Region, is considered to be appropriate for the proposed development. Furthermore, the retail GFA of the proposed development is relatively small and intended to service residents and future employees within the subject site. Therefore, they are anticipated to serve as an ancillary use, hence the parking needs would be minimal. The City of Toronto PA4 rates of 1.0 space / 100 m^2 of GFA are therefore recommended to represent a baseline retail parking space requirement. Further, it is recommended that the non-residential uses be shared to avoid an oversupply of parking while accommodating the varying peak period parking demand for residential visitor, office, and retail uses.

Table 9-6 summarizes the recommended parking rates and parking supply for the development.

Table 9-6: Recommended Overall Parking Rate and Supply for the Subject Site

Block	Land Use	Units/GFA	Recommended Parking Supply				Proposed Supply
			Recommended Minimum Rate	Recommended Parking	Sharing Deduction	Total Spaces	
1	Bachelor	20 units	0.80 spaces/unit	16	n/a	**16**	**932**
	1-Bedroom	463 units	0.90 spaces/unit	417	n/a	**417**	
	2-Bedroom	366 units	0.95 spaces/unit	348	n/a	**348**	
	3-Bedroom	151 units	1.0 space/unit	151	n/a	**151**	
			Residential Total:	**932**	**n/a**	**932**	
	Visitor	1,000 units	0.15 spaces/unit	150	-60 (40%)	**90**	**433**
	Retail	1,915m^2	1.0 spaces/100m^2	19	-2 (10%)	17	
	Office	18,080m^2	2.0 spaces/100m^2	362	-18 (5%)	344	
			Non-Residential Total:	**531**	**-80**	451	
			Block 1 Total:	**1,463**	**-80**	**1,383**	**1,365**
2	1-Bedroom	593	0.90 spaces/unit	534	n/a	534	**996**
	2-Bedroom	276	0.95 spaces/unit	262	n/a	262	
	3-Bedroom	177	1.0 space/unit	177	n/a	177	
			Residential Total:	**973**	n/a	**973**	
	Visitor	1,046 units	0.15 spaces/unit	157	n/a	157	**164**
	Retail	809m^2	1.0 spaces/100m^2	8	-1 (10%)	7	
			Non-Residential Total:	**165**	-1	**164**	
			Block 2 Total:	**1,138**	-1	**1,137**	**1,160**
3	1-Bedroom	676	0.90 spaces/unit	608	n/a	**608**	**1,033**
	2-Bedroom	285	0.95 spaces/unit	271	n/a	**271**	
	3-Bedroom	150	1.0 space/unit	150	n/a	**150**	
			Residential Total:	**1,029**	n/a	**1,029**	
	Visitor	1,111	0.15 spaces/unit	167	n/a	167	**167**
			Block 3 Total:	**1,196**	**n/a**	**1,196**	**1,200**
4	1-Bedroom	377	0.90 spaces/unit	339	n/a	339	**915**
	2-Bedroom	423	0.95 spaces/unit	402	n/a	402	
	3-Bedroom	174	1.0 space/unit	174	n/a	174	
			Residential Total:	**915**	**n/a**	**915**	
	Visitor	974	0.15 spaces/unit	146	n/a	146	**184**
	Retail	1,570m^2	1.0 spaces/100m^2	16	-2 (10%)	14	
			Non-Residential Total	**162**	**-2**	**160**	
			Block 4 Total:	**1,077**	**-2**	**1,075**	**1,099**
5	1-Bedroom	259	0.90 spaces/unit	233	n/a	233	**521**
	2-Bedroom	285	0.95 spaces/unit	271	n/a	271	
	3-Bedroom	15	1.0 space/unit	15	n/a	15	
			Residential Total:	**519**	**n/a**	**519**	
	Visitor	559	0.15 spaces/unit	84	n/a	84	**84**
			Block 5 Total:	**603**	**n/a**	**603**	**605**
Development Total				**5,477 total 4,368 res. + 1,109 non-res.**	**-83 non-res.**	**5,394 total 4,368 res. + 1,026 non-res.**	**5,429 total 4,397 res. + 1,032 non-res.**

Based on the recommended parking rates, the proposed development would require a site total of 5,477 total parking spaces, consisting of 4,368 residential parking spaces and 1,109 non-residential parking spaces. Overall, the proposed development provides 4,397 total residential spaces and 1,032 total non-residential spaces, meeting the overall parking rates recommended for the subject development.

It is noted that each development block meets or slightly exceeds the recommended parking supply requirements with the exception of the non-residential parking spaces for Block 1. Due to site constraints, the proposed block-specific parking supply for the non-residential uses is deficient by 18 spaces. This deficiency can be accommodated by the surplus of 24 visitor/retail parking spaces proposed for Block 4 across the street from Block 1. As residential and retail visitors will be able to park within the visitor section of either parking garage, the proposed supply and breakdown of spaces will be sufficient to accommodate projected parking demand for the subject site.

As the proposed development will have an excellent access to transit services, including the Hurontario LRT, the recommended parking rates and proposed supply is considered to be appropriate to avoid an oversupply of parking and encourage travel by non-automobile modes. The best practice review suggests that the proposed parking requirement will be reflective of other municipalities with a similar site context to the subject site. Furthermore, the proposed parking reduction will embrace the vision for the “Uptown Node” which creates and fosters important centres of mixed-use activities that will provide regional shopping services, employment opportunities and higher-density housing within Mississauga. Therefore, the proposed parking supply for each block will be adequate for the proposed development.

10 GEOMETRIC DESIGN ASSESSMENT

A geometric design assessment was undertaken to ensure safe traffic operations and circulations in and around the proposed development. The following sections provide the details of the assessment.

10.1 ON-SITE CIRCULATION REVIEW

A review of the functionality and the accessibility of the proposed loading spaces were undertaken. The truck swept path for anticipated service vehicles was undertaken and confirmed that the proposed loading configuration and the internal access layout can accommodate the service vehicles. The swept path diagrams are provided in **Appendix I**.

10.2 SIGHTLINE ANALYSIS

A sightline analysis has been conducted as per TAC guidelines to demonstrate the suitability of the site access locations for vehicles to safely exit onto the adjacent streets from the site accesses. Sightline analysis diagrams are included in **Appendix I**.

10.3 PEDESTRIAN CIRCULATION

A review of the pedestrian walkways and internal facilities was undertaken. The pedestrian circulation was undertaken and confirmed the linkages from the entrances and exits to the internal and external walkways are acceptable. The pedestrian circulation diagram is provided in **Appendix I**.

11 CONCLUSION

- The development proposal consists of five (5) blocks, which consist of nine (9) residential towers on podiums with small retail components, three (3) blocks of townhouses and one (1) office building. It will provide 4,690 dwelling units, 4,295m^2 of retail space and 18,080m^2 of office space
- The subject site is conveniently located within a multi-modal transportation network including great accessibility to the MiWay transit network. Daily activities are expected to be achievable from the subject site by active transportation modes.
- Existing intersection capacity analysis was undertaken for the intersections of Eglinton Avenue East and Sorrento Drive, Eglinton Avenue East and Hurontario Street and Hurontario Street and Kingsbridge Garden Circle/Elia Avenue. The analysis indicates that there are constraints identified in existing conditions.
- The study considers a five-year and ten-year horizon to the years 2025 and 2030, respectively. Additionally, the study considers two scenarios, one without the implementation of the future Hurontario LRT and one with the LRT. Under future background conditions the studied intersections continue to operate with constraints as a result of the constraints identified in existing conditions.
- Under future total conditions, similar constraints were identified in both the LRT scenario and without the LRT scenario. The comparison of the future total traffic condition to the future background traffic condition reveals that there is unnoticeable impact to the intersection of Eglinton Avenue East and Hurontario Street as a result of the proposed development. The intersections of Hurontario/Elia and Eglinton/Sorrento require modifications to the signal timing plans to accommodate reasonable levels of services during the peak hours. It is further noted that the intersection of Eglinton Avenue East and Sorrento Drive would require the provision of an exclusive northbound right-turn lane. With the recommended mitigations, the signalized intersections within the study area are expected to operate at acceptable levels of service during the peak hours.
- A comprehensive TDM plan is recommended to reduce single occupant vehicle trips and encourage alternative modes of travel including the provision of presto cards, secured bicycle parking and direct and convenient access to transit stops.
- As part of the TDM plan, a further reduction in the parking supply is recommended, which is developed based on the review of the best practise of comparable municipalities along the transit corridors. By providing a reduced parking supply, the proposed redevelopment aims to provide for a population that is not car dependent and will rely on alternative modes of travel for their daily needs.

Transportation Impact Study
25,35,55 Elia Avenue, 136 Eglinton Avenue East, 105 Elia Avenue, 4615 Hurontario Street and 110 Elia Avenue
21173

APPENDIX A

Terms of Reference

Amelia Crichton

From: Lahini Senthil-kumaran <Lahini.Senthil-kumaran@mississauga.ca>
Sent: December 15, 2020 1:08 PM
To: Amelia Crichton
Cc: Greg Borys; Ryan Au; Amy Lee
Subject: RE: 4553 - 4561 Hurontario Street - TOR for TIS & Traffic Operations Safety Assessment

Hello Amelia,

Thank you for providing the Terms of Reference for the proposed development. Based on our review of the Terms of Reference for 4553-4561 Hurontario Street dated November 25th, 2020, please find below comments:

- **STUDY AREA INTERSECTIONS**- Please also include the following intersections as study area intersections:
  (i) Hurontario Street and Toys-R-Us/West Plaza (Signalized)
- **TRAFFIC DATA**- The signal timing plans for signalized intersections required for Synchro analysis can be obtained from Jim Kartsomanis (Jim.Kartsomanis@mississauga.ca, Ext. 3964). The historical AADT and TMC data can be obtained from Tyler Xuereb (tyler.xuereb@mississauga.ca, Ext. 4783).
- **GROWTH RATES**- Please confirm with the Tyler Xuereb (tyler.xuereb@mississauga.ca, Ext. 4783)
- **BACKGROUND TRAFFIC**- Please use the following link to gather information about developments proposed in the neighbouring lands for background traffic assessment: http://www.mississauga.ca/portal/residents/developmentinformation. Please utilize the following link to confirm any road construction projects: http://www.mississauga.ca/portal/residents/construction
- Please contact William Wright from T&W Road Safety (William.Wright@mississauga.ca, ext.3221) to confirm any existing traffic related complaints and collision history.
- The future total conditions should assess the cumulative overall impact on the site based on the difference between the permitted storey allowed vs. proposed storey
- The 10 year horizon year period shall account for the road extension and proposal for the existing/commercial plaza
- **ON SITE CIRCULATION AND SITE ACCESS REVIEW-**
  - Parking- Please provide Auto TURN templates for corner parking spots or potential conflict points.
  - Emergency/Waste Collection vehicle pathway – provide AUTO turning templates, show turn around space.
  - Loading assessment- Please evaluate the access location in regards to sight line visibility, appropriate sight distances, provide Auto TURN templates.
  - Access configuration requirements- check corner clearances, throat length, sight line distances
  - Pedestrian circulation- internal facilities for pedestrians, walkways
- Safety & Operational Analysis required under the TIS, site line analysis to be included;
  - - pedestrian and vehicular sight line visibility with regard to ingress and egress;
  - - Detailed turning movements for the most constrained vehicles expected (e.g. access, dead end drive aisle, etc.);
  - - gaps and queuing;
  - - intersection capacity and level of service
- Please include a Traffic Calming Plan, and justification for those measures
- A traffic signal warrant analysis should be included

- With respect to traffic data collection, it is the City's preference to use available counts conducted pre COVID-19, the consultant shall contact staff to determine what counts are available and discuss methodology with staff prior to commencing the study.
- Use latest version of TTS Data;
- Parking Utilization Study- Please be advised that Traffic Planning does not review parking utilization studies, please contact our Planning and Building Department to provide comment
- The Transportation Demand Management Plan component of the study should include active transportation measures including cycling
- The Traffic Impact Study is to include a section for Community Impacts. Any traffic related impacts on the existing community and comments from the public through the planning approvals process shall be addressed in this section.
- All supporting documents are to be included in the appendices of the study
- The Traffic Impact Study is to comply with the City of Mississauga Traffic Impact Study Guidelines;
- The Traffic Impact Study is required to be signed and stamped by a Professional Engineer;

If you have any questions or concerns please feel free to contact myself, and we can set up a meeting to further discuss

Regards,

Lahini Senthil-Kumaran, B.Eng
Traffic Planning Technologist
T 905-615-3200 ext.5798
lahini.senthil-kumaran@mississauga.ca |

City of Mississauga |

Please consider the environment before printing.

From: Amelia Crichton [mailto:ACrichton@lea.ca]
Sent: Wednesday, November 25, 2020 4:42 PM
To: Lahini Senthil-kumaran
Cc: Greg Borys; Ryan Au; Amy Lee
Subject: 4553 - 4561 Hurontario Street - TOR for TIS & Traffic Operations Safety Assessment

Hello Lahini,

We have been retained to conduct a Traffic Study for the subject mixed-use development. Please see the attached Terms of Reference for the Transportation Impact Study for your approval.

Many thanks,

Amelia Crichton
Transportation Planner

LEA Consulting Ltd.
625 Cochrane Drive, 9th Floor | Markham, ON | L3R 9R9
T: 905 470 0015 ext. 308 **E:** ACrichton@lea.ca
www.LEA.ca

The whole community benefits when we follow and practice recommendations issued by Health Canada.
Please Note: *Most of LEA's office employees are working from home until further notice. Stay safe and healthy.*

APPENDIX B

Existing Traffic Data

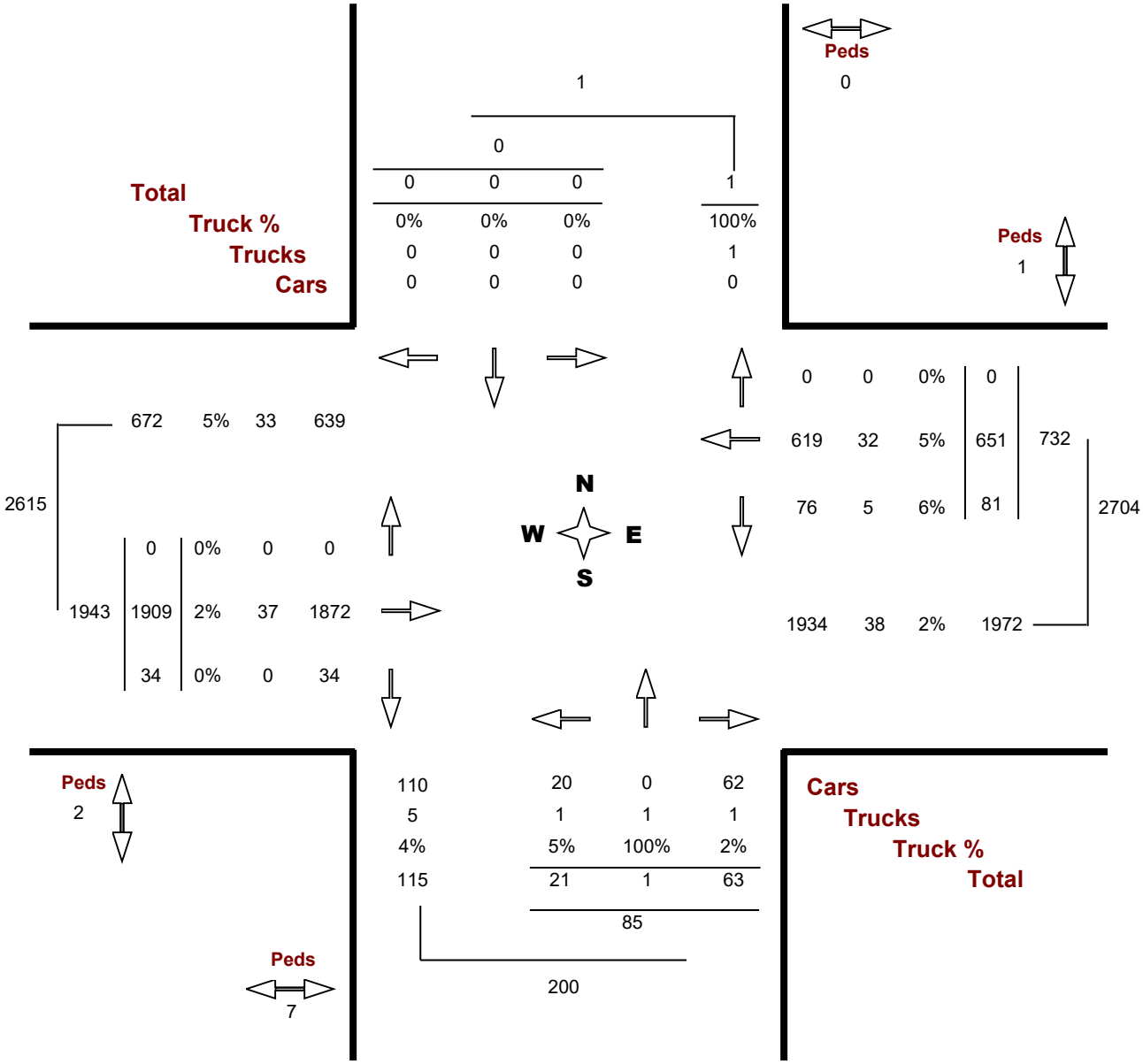
Turning Movements Report - AM Period

Location..... EGLINTON AVE E @ SORRENTO DR

Municipality..... Mississauga **GeoID.....** 347820

Count Date..... Thursday, 28 April, 2016 **Peak Hour.....** 08:00 AM — 09:00 AM

Road 1 EGLINTON AVE E **Road 2** SORRENTO DR



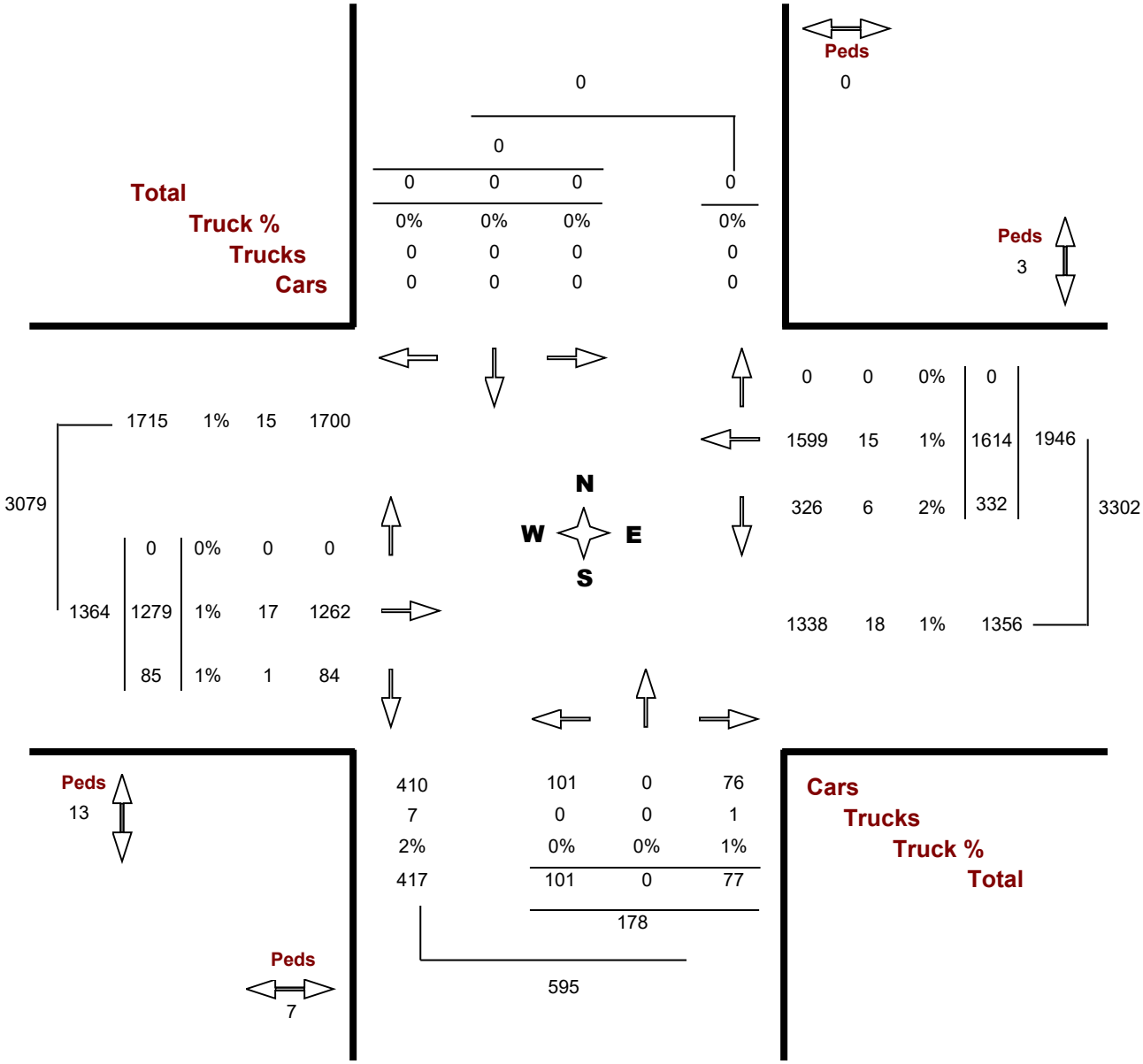
Turning Movements Report - PM Period

Location..... EGLINTON AVE E @ SORRENTO DR

Municipality..... Mississauga **GeoID.....** 347820

Count Date..... Thursday, 28 April, 2016 **Peak Hour.....** 04:45 PM — 05:45 PM

Road 1 EGLINTON AVE E **Road 2** SORRENTO DR



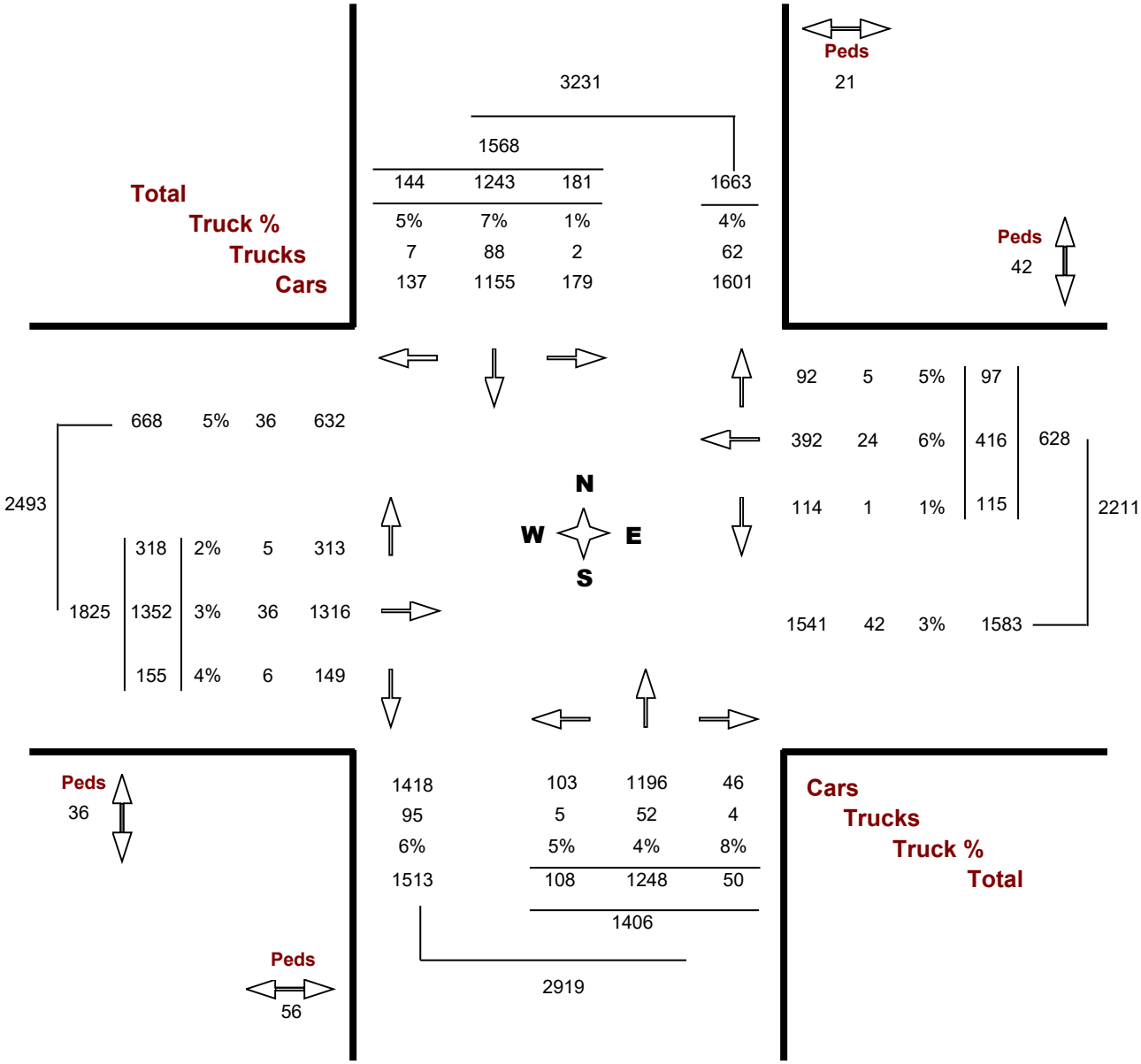
Turning Movements Report - AM Period

Location..... EGLINTON AVE W @ HURONTARIO ST / EGLINTON AVE E

Municipality..... Mississauga **GeoID.....** 347677

Count Date..... Tuesday, 22 March, 2016 **Peak Hour.....** 08:00 AM — 09:00 AM

Road 1 EGLINTON AVE W **Road 2** HURONTARIO ST / EGLINTON AVE E



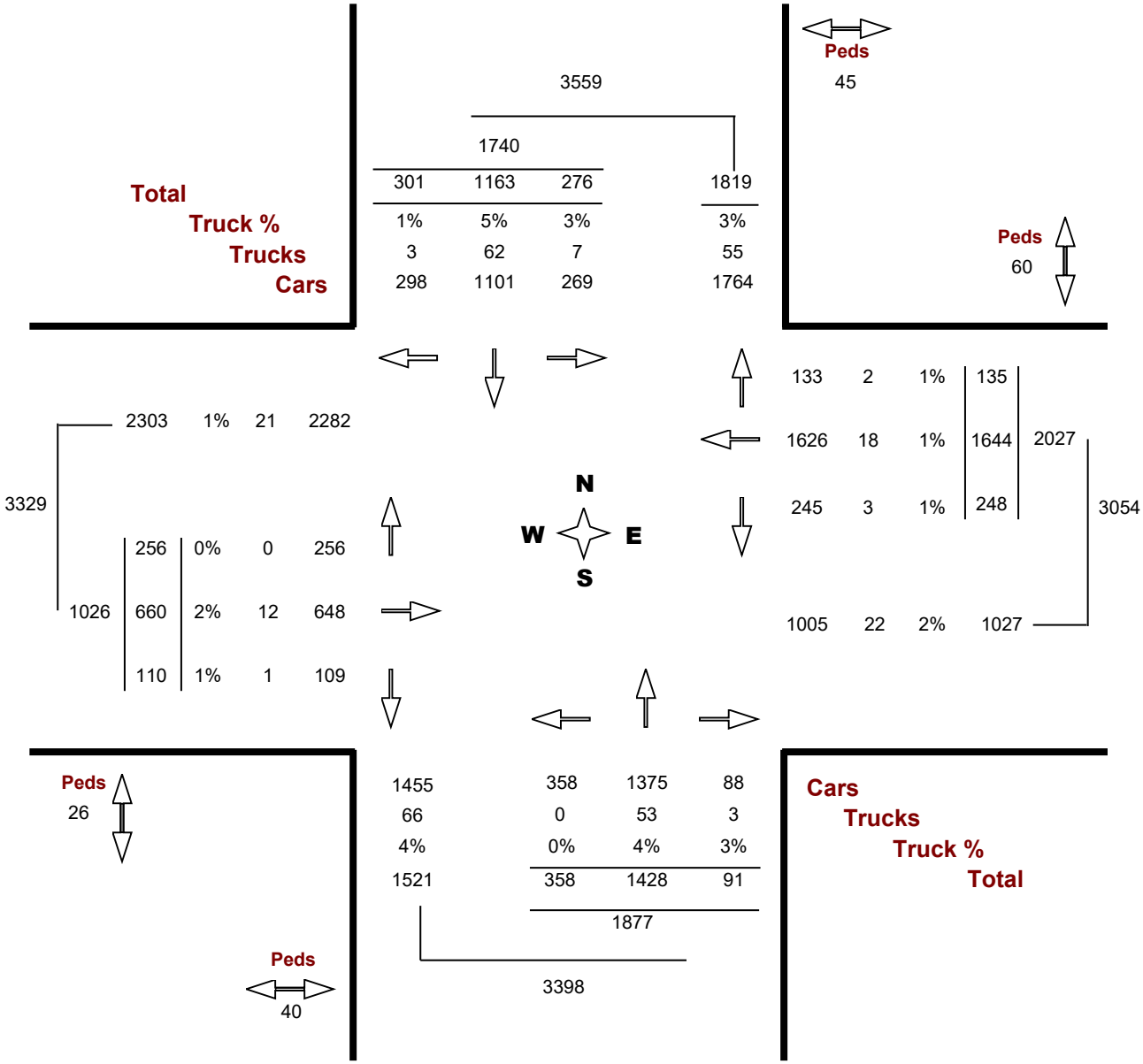
Turning Movements Report - PM Period

Location..... EGLINTON AVE W @ HURONTARIO ST / EGLINTON AVE E

Municipality..... Mississauga **GeoID.....** 347677

Count Date..... Tuesday, 22 March, 2016 **Peak Hour.....** 04:45 PM — 05:45 PM

Road 1 EGLINTON AVE W **Road 2** HURONTARIO ST / EGLINTON AVE E



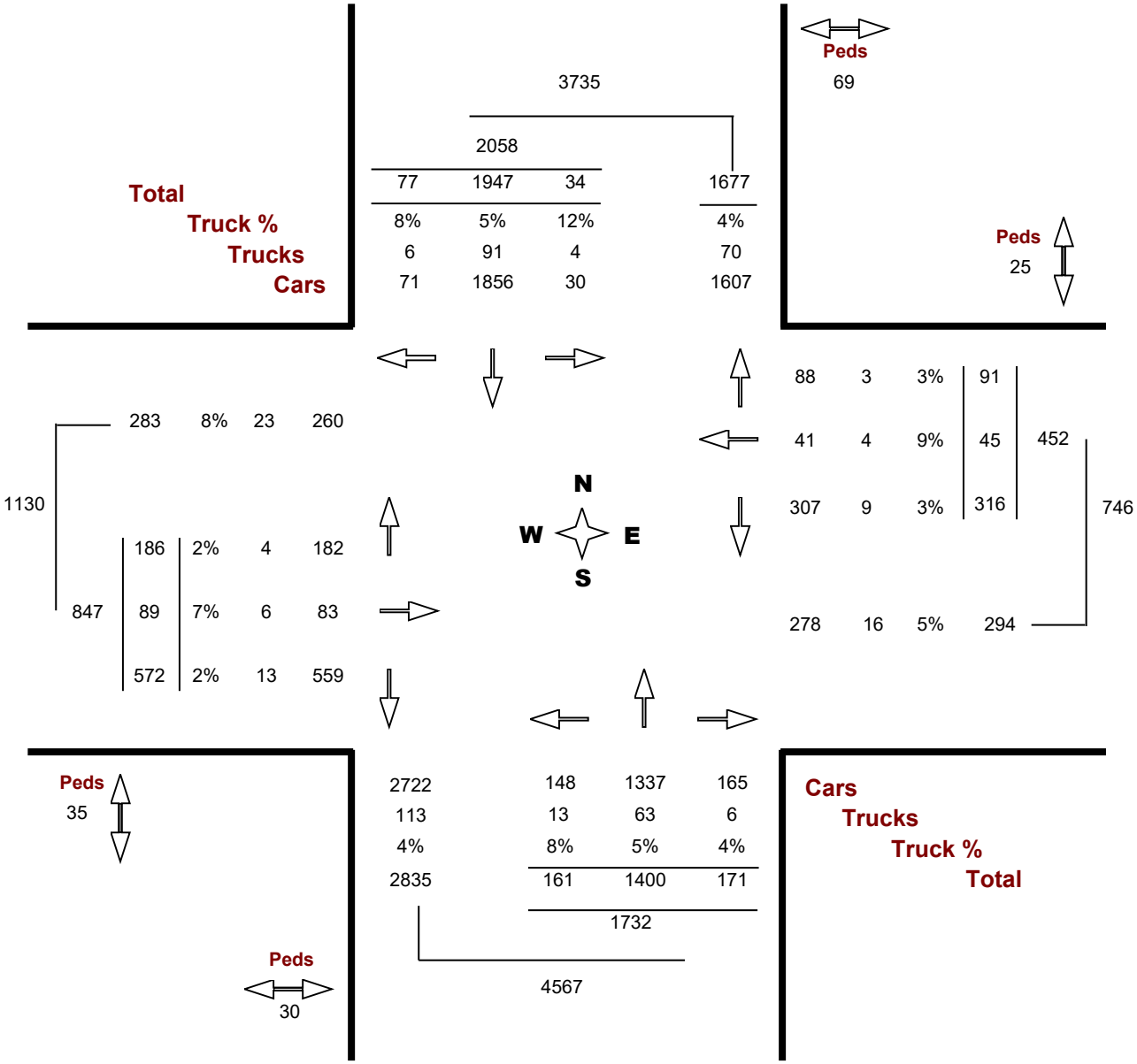
Turning Movements Report - AM Period

Location..... ELIA AVE @ HURONTARIO ST / KINGSBRIDGE GARDEN CIR

Municipality..... Mississauga **GeoID.....** 347922

Count Date..... Tuesday, 29 March, 2016 **Peak Hour.....** 08:00 AM — 09:00 AM

Road 1 ELIA AVE **Road 2** HURONTARIO ST / KINGSBRIDGE GARDEN CIR



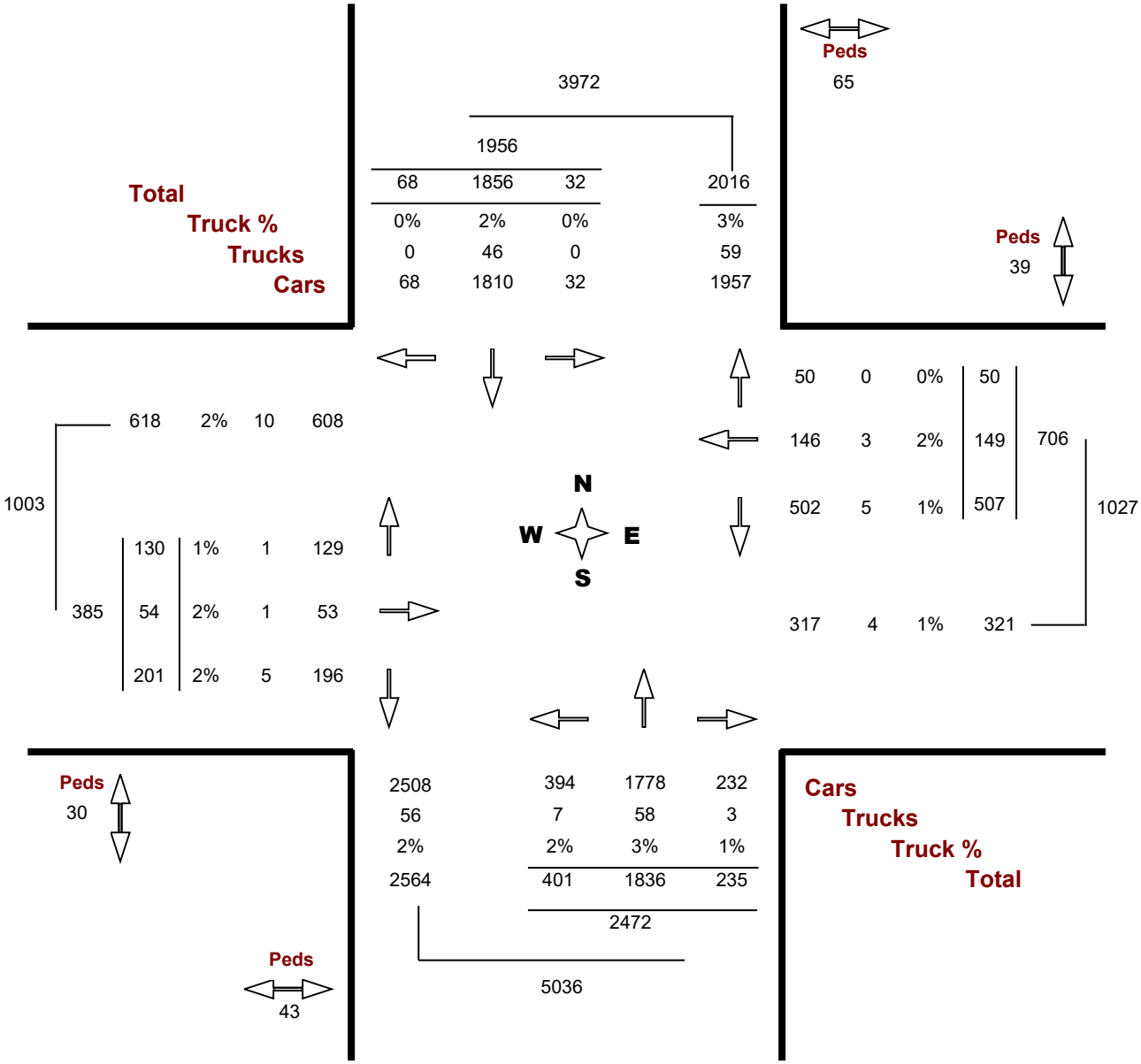
Turning Movements Report - PM Period

Location..... ELIA AVE @ HURONTARIO ST / KINGSBRIDGE GARDEN CIR

Municipality..... Mississauga **GeoID.....** 347922

Count Date..... Tuesday, 29 March, 2016 **Peak Hour.....** 04:45 PM — 05:45 PM

Road 1 ELIA AVE **Road 2** HURONTARIO ST / KINGSBRIDGE GARDEN CIR



APPENDIX C

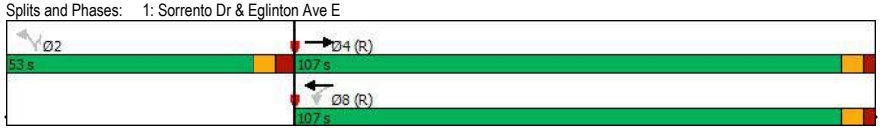
Existing Intersection Capacity Analysis

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1909	86	691	21	63
Future Volume (vph)	1909	86	691	21	63
Lane Group Flow (vph)	1943	86	691	21	63
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	33.5	33.5	33.5	41.5	41.5
Total Split (s)	107.0	107.0	107.0	53.0	53.0
Total Split (%)	66.9%	66.9%	66.9%	33.1%	33.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	7.5	7.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	None	None
v/c Ratio	0.44	0.59	0.16	0.16	0.46
Control Delay	4.9	24.7	2.5	70.0	62.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	4.9	24.7	2.5	70.0	62.1
Queue Length 50th (m)	48.1	6.8	11.4	5.9	13.1
Queue Length 95th (m)	m59.8	#44.6	17.0	14.0	27.4
Internal Link Dist (m)	301.3		166.0	158.0	
Turn Bay Length (m)		75.0		36.0	
Base Capacity (vph)	4427	147	4314	492	461
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.59	0.16	0.04	0.14

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 158 (99%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1909	34	86	691	21	63
Future Volume (vph)	1909	34	86	691	21	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5		6.5	6.5	7.5	7.5
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5126		1720	4995	1733	1579
Flt Permitted	1.00		0.09	1.00	0.95	1.00
Satd. Flow (perm)	5126		170	4995	1733	1579
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1909	34	86	691	21	63
RTOR Reduction (vph)	0	0	0	0	0	16
Lane Group Flow (vph)	1943	0	86	691	21	47
Confl. Peds. (#/hr)		7	7		2	1
Heavy Vehicles (%)	2%	0%	6%	5%	5%	2%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	135.4		135.4	135.4	10.6	10.6
Effective Green, g (s)	135.4		135.4	135.4	10.6	10.6
Actuated g/C Ratio	0.85		0.85	0.85	0.07	0.07
Clearance Time (s)	6.5		6.5	6.5	7.5	7.5
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	4337		143	4227	114	104
v/s Ratio Prot	0.38			0.14		
v/s Ratio Perm			c0.51		0.01	c0.03
v/c Ratio	0.45		0.60	0.16	0.18	0.45
Uniform Delay, d1	3.0		3.9	2.2	70.6	71.9
Progression Factor	1.47		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		17.3	0.1	1.6	6.4
Delay (s)	4.6		21.2	2.3	72.2	78.3
Level of Service	A		C	A	E	E
Approach Delay (s)	4.6			4.4	76.8	
Approach LOS	A			A	E	

Intersection Summary

HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		

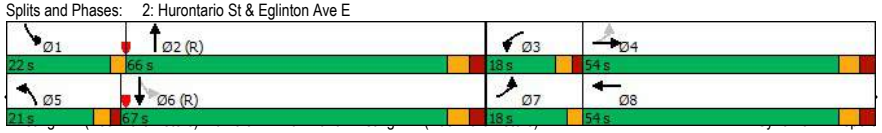
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	1352	155	122	442	103	216	2496	100	362	2486	288
Future Volume (vph)	318	1352	155	122	442	103	216	2496	100	362	2486	288
Lane Group Flow (vph)	318	1352	155	122	442	103	216	2496	100	362	2486	288
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free			Free			Free	6		Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	8.0		5.0	8.0	
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	41.0		8.0	41.0	
Total Split (s)	18.0	54.0		18.0	54.0		21.0	66.0		22.0	67.0	
Total Split (%)	11.3%	33.8%		11.3%	33.8%		13.1%	41.3%		13.8%	41.9%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	3.0		0.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		5.0	7.0		5.0	7.0		3.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
v/c Ratio	0.75	0.89	0.10	0.46	0.31	0.07	0.67	1.22	0.07	1.34	1.21	0.19
Control Delay	46.1	62.6	0.1	73.8	43.3	0.1	88.4	142.0	0.1	214.5	141.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	62.6	0.1	73.8	43.3	0.1	88.4	142.0	0.1	214.5	141.6	0.3
Queue Length 50th (m)	64.0	139.9	0.0	17.9	37.4	0.0	33.3	~300.2	0.0	~124.4	~298.6	0.0
Queue Length 95th (m)	88.2	158.2	0.0	28.0	47.2	0.0	46.3	#315.6	0.0	#184.0	#319.2	0.0
Internal Link Dist (m)		132.7			301.3			160.0			158.6	
Turn Bay Length (m)	90.0		95.0	128.0		120.0	87.0			95.0		95.0
Base Capacity (vph)	426	1511	1525	284	1453	1527	337	2043	1475	270	2055	1520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.89	0.10	0.43	0.30	0.07	0.64	1.22	0.07	1.34	1.21	0.19

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 114 (71%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 165
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	1352	155	122	442	103	216	2496	100	362	2486	288
Future Volume (vph)	318	1352	155	122	442	103	216	2496	100	362	2486	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0	5.0	7.0	4.0	3.0	7.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	*1.00	1.00	1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98
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)	1779	5092	1525	3506	4948	1527	3372	5542	1475	1807	5386	1520
Flt Permitted	0.43	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)	813	5092	1525	3506	4948	1527	3372	5542	1475	125	5386	1520
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	318	1352	155	122	442	103	216	2496	100	362	2486	288
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	318	1352	155	122	442	103	216	2496	100	362	2486	288
Confl. Peds. (#/hr)	21		56	56		21	36		42	42		36
Heavy Vehicles (%)	2%	3%	4%	1%	6%	5%	5%	4%	8%	1%	7%	5%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free			Free			Free	6		Free
Actuated Green, G (s)	62.5	47.5	160.0	12.1	46.6	160.0	15.4	58.9	160.0	80.5	61.0	160.0
Effective Green, g (s)	62.5	47.5	160.0	12.1	46.6	160.0	15.4	58.9	160.0	80.5	61.0	160.0
Actuated g/C Ratio	0.39	0.30	1.00	0.08	0.29	1.00	0.10	0.37	1.00	0.50	0.38	1.00
Clearance Time (s)	3.0	7.0		5.0	7.0		5.0	7.0		3.0	7.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	408	1511	1525	265	1441	1527	324	2040	1475	267	2053	1520
v/s Ratio Prot	c0.07	c0.27		0.03	0.09		0.06	0.45		c0.16	0.46	
v/s Ratio Perm	0.23		0.10			0.07			0.07	c0.52		0.19
v/c Ratio	0.78	0.89	0.10	0.46	0.31	0.07	0.67	1.22	0.07	1.36	1.21	0.19
Uniform Delay, d1	38.5	53.9	0.0	70.8	44.1	0.0	69.8	50.5	0.0	54.0	49.5	0.0
Progression Factor	1.00	1.00	1.00	0.96	0.97	1.00	1.12	0.85	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.6	7.7	0.1	2.6	0.3	0.1	6.6	105.1	0.1	182.6	99.7	0.3
Delay (s)	49.1	61.6	0.1	70.8	42.9	0.1	84.7	148.1	0.1	236.6	149.2	0.3
Level of Service	D	E	A	E	D	A	F	F	A	F	F	A
Approach Delay (s)		54.2			41.4			138.0			145.6	
Approach LOS		D			D			F			F	

Intersection Summary

HCM 2000 Control Delay	115.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	124.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	186	89	572	316	45	161	1400	171	34	1947	77
Future Volume (vph)	186	89	572	316	45	161	1400	171	34	1947	77
Lane Group Flow (vph)	186	89	572	316	136	161	1400	171	34	1947	77
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	4	4	4	8	8	5	2		6	6	
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	8.0		8.0	8.0	
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	10.0	41.5		41.5	41.5	
Total Split (s)	66.0	66.0	66.0	66.0	66.0	28.0	94.0		66.0	66.0	
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	17.5%	58.8%		41.3%	41.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	0.0	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max		C-Max	C-Max	
v/c Ratio	0.55	0.17	0.85	0.84	0.28	0.73	0.45	0.11	0.23	0.80	0.05
Control Delay	52.5	40.4	35.0	72.5	33.1	56.9	17.7	0.2	6.4	8.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	40.4	35.0	72.5	33.1	56.9	17.7	0.2	6.4	8.3	0.0
Queue Length 50th (m)	45.7	19.3	78.8	86.7	23.5	31.9	77.5	0.0	0.9	18.2	0.0
Queue Length 95th (m)	63.2	29.8	116.5	112.3	36.8	55.7	103.8	0.0	m0.9	m16.6	m0.0
Internal Link Dist (m)		139.7			217.7		241.5			228.3	
Turn Bay Length (m)	51.0			52.0		169.0		76.0	90.0		42.0
Base Capacity (vph)	423	656	763	466	593	295	3091	1520	149	2447	1478
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	0.44	0.14	0.75	0.68	0.23	0.55	0.45	0.11	0.23	0.80	0.05

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 139 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	186	89	572	316	45	91	161	1400	171	34	1947	77
Future Volume (vph)	186	89	572	316	45	91	161	1400	171	34	1947	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5	4.0	6.5	6.5	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.95		1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	0.95	1.00	1.00	0.98	1.00		1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1706	1795	1543	1733	1571		1690	4995	1520	1616	4995	1478
Flt Permitted	0.65	1.00	1.00	0.70	1.00		0.05	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	1159	1795	1543	1276	1571		86	4995	1520	307	4995	1478
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	186	89	572	316	45	91	161	1400	171	34	1947	77
RTOR Reduction (vph)	0	0	222	0	21	0	0	0	0	0	0	0
Lane Group Flow (vph)	186	89	350	316	115	0	161	1400	171	34	1947	77
Confl. Peds. (#/hr)	69		30	30		69	35		25	25		35
Heavy Vehicles (%)	2%	7%	2%	3%	9%	3%	8%	5%	4%	12%	5%	8%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		Free	6		Free
Actuated Green, G (s)	47.0	47.0	47.0	47.0	47.0		99.0	99.0	160.0	78.4	78.4	160.0
Effective Green, g (s)	47.0	47.0	47.0	47.0	47.0		99.0	99.0	160.0	78.4	78.4	160.0
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29		0.62	0.62	1.00	0.49	0.49	1.00
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	340	527	453	374	461		219	3090	1520	150	2447	1478
v/s Ratio Prot		0.05			0.07		c0.08	0.28			c0.39	
v/s Ratio Perm	0.16		0.23	c0.25			0.38		0.11	0.11		0.05
v/c Ratio	0.55	0.17	0.77	0.84	0.25		0.74	0.45	0.11	0.23	0.80	0.05
Uniform Delay, d1	47.5	42.0	51.6	53.1	43.1		46.3	16.2	0.0	23.4	34.1	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.19	0.17	1.00
Incremental Delay, d2	3.1	0.3	9.3	17.4	0.6		14.4	0.5	0.2	0.3	0.3	0.0
Delay (s)	50.7	42.3	60.9	70.5	43.6		60.8	16.6	0.2	4.8	6.1	0.0
Level of Service	D	D	E	E	D		E	B	A	A	A	A
Approach Delay (s)		56.7			62.4			19.1			5.9	
Approach LOS		E			E			B			A	

Intersection Summary

HCM 2000 Control Delay	23.9	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)	18.0
Intersection Capacity Utilization	122.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	0	0	0	0	0	0
Volume Left (vph)	0	0	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Degree Utilization, x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capacity (veh/h)	806	806	806	806	806	806	806	806
Control Delay (s)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Approach Delay (s)	0.0		0.0		0.0		0.0	
Approach LOS	A		A		A		A	

Intersection Summary				
Delay		0.0		
Level of Service		A		
Intersection Capacity Utilization		0.0%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	0	0	0	0
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	4.5	4.5	4.5	4.5
Degree Utilization, x	0.00	0.00	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	806	806	806	806
Control Delay (s)	6.9	6.9	6.3	6.3	6.3	6.3
Approach Delay (s)	0.0	0.0	0.0		0.0	
Approach LOS	A	A	A		A	

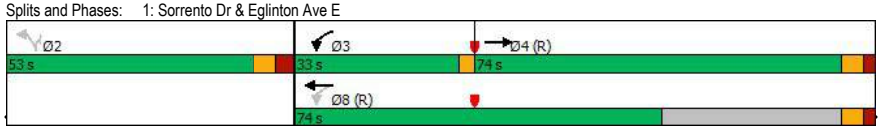
Intersection Summary				
Delay		0.0		
Level of Service		A		
Intersection Capacity Utilization		0.0%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1305	664	1614	101	77
Future Volume (vph)	1305	664	1614	101	77
Lane Group Flow (vph)	1392	664	1614	101	77
Turn Type	NA	pm+pt	NA	Perm	Perm
Protected Phases	4	3	8		
Permitted Phases		8		2	2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	33.5	9.5	33.5	41.5	41.5
Total Split (s)	74.0	33.0	74.0	53.0	53.0
Total Split (%)	46.3%	20.6%	46.3%	33.1%	33.1%
Yellow Time (s)	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.5	0.0	2.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	3.0	6.5	7.5	7.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?					
Recall Mode	C-Max	None	C-Max	None	None
v/c Ratio	0.64	0.89	0.38	0.55	0.33
Control Delay	38.0	51.3	4.7	79.2	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	51.3	4.7	79.2	16.0
Queue Length 50th (m)	136.6	152.8	40.6	28.6	0.0
Queue Length 95th (m)	m60.3	#238.9	55.0	45.5	14.4
Internal Link Dist (m)	301.3		166.0	158.0	
Turn Bay Length (m)		75.0		36.0	
Base Capacity (vph)	2170	746	4209	509	507
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.64	0.89	0.38	0.20	0.15

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 69 (43%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1305	87	664	1614	101	77
Future Volume (vph)	1305	87	664	1614	101	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5		3.0	6.5	7.5	7.5
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	0.98	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5131		1789	5193	1792	1591
Flt Permitted	1.00		0.10	1.00	0.95	1.00
Satd. Flow (perm)	5131		182	5193	1792	1591
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1305	87	664	1614	101	77
RTOR Reduction (vph)	5	0	0	0	0	69
Lane Group Flow (vph)	1387	0	664	1614	101	8
Confl. Peds. (#/hr)		7	7		13	3
Heavy Vehicles (%)	1%	1%	2%	1%	0%	1%
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases			8		2	2
Actuated Green, G (s)	67.5		129.7	129.7	16.3	16.3
Effective Green, g (s)	67.5		129.7	129.7	16.3	16.3
Actuated g/C Ratio	0.42		0.81	0.81	0.10	0.10
Clearance Time (s)	6.5		3.0	6.5	7.5	7.5
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	2164		742	4209	182	162
v/s Ratio Prot	0.27		c0.33	0.31		
v/s Ratio Perm			c0.39		c0.06	0.00
v/c Ratio	0.64		0.89	0.38	0.55	0.05
Uniform Delay, d1	36.7		38.1	4.2	68.4	64.9
Progression Factor	1.03		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		14.1	0.3	6.1	0.3
Delay (s)	38.0		52.2	4.4	74.5	65.1
Level of Service	D		D	A	E	E
Approach Delay (s)	38.0			18.4	70.4	
Approach LOS	D			B	E	

Intersection Summary

HCM 2000 Control Delay	27.9	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)	17.0
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		

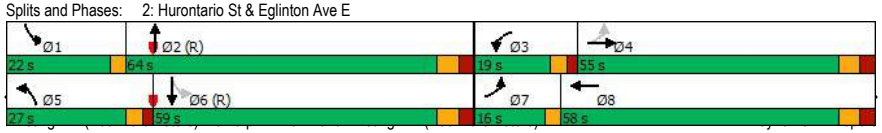
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	261	673	112	248	1644	135	716	2856	182	552	2326	602
Future Volume (vph)	261	673	112	248	1644	135	716	2856	182	552	2326	602
Lane Group Flow (vph)	261	673	112	248	1644	135	716	2856	182	552	2326	602
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free			Free			Free	6		Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	8.0		5.0	8.0	
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	41.0		8.0	41.0	
Total Split (s)	16.0	55.0		19.0	58.0		27.0	64.0		22.0	59.0	
Total Split (%)	10.0%	34.4%		11.9%	36.3%		16.9%	40.0%		13.8%	36.9%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	3.0		0.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		5.0	7.0		5.0	7.0		3.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
v/c Ratio	1.31	0.44	0.07	0.81	0.99	0.09	1.47	1.45	0.12	2.12	1.30	0.38
Control Delay	206.2	46.2	0.1	86.2	71.6	0.1	272.2	239.2	0.1	543.8	183.7	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	206.2	46.2	0.1	86.2	71.6	0.1	272.2	239.2	0.1	543.8	183.7	0.7
Queue Length 50th (m)	~82.1	58.4	0.0	37.5	177.3	0.0	~150.3	~374.4	0.0	~242.4	~290.1	0.0
Queue Length 95th (m)	#135.6	70.2	0.0	#56.2	#208.6	0.0	#187.5	#393.9	0.0	#310.0	#311.5	0.0
Internal Link Dist (m)		132.7			301.3			160.0			158.6	
Turn Bay Length (m)	90.0		95.0	128.0		120.0	87.0			95.0		95.0
Base Capacity (vph)	199	1542	1578	306	1655	1576	486	1974	1538	260	1783	1585
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.44	0.07	0.81	0.99	0.09	1.47	1.45	0.12	2.12	1.30	0.38

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 142 (89%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 175
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	261	673	112	248	1644	135	716	2856	182	552	2326	602
Future Volume (vph)	261	673	112	248	1644	135	716	2856	182	552	2326	602
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0	5.0	7.0	4.0	3.0	7.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	*1.00	1.00	1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98
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	1578	3506	5193	1576	3541	5542	1538	1772	5489	1585
Flt Permitted	0.08	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	160	5142	1578	3506	5193	1576	3541	5542	1538	143	5489	1585
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	261	673	112	248	1644	135	716	2856	182	552	2326	602
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	261	673	112	248	1644	135	716	2856	182	552	2326	602
Confl. Peds. (#/hr)	45		40	40		45	26		60	60		26
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	0%	4%	3%	3%	5%	1%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free			Free			Free	6		Free
Actuated Green, G (s)	61.0	48.0	160.0	14.0	51.0	160.0	22.0	57.0	160.0	71.0	52.0	160.0
Effective Green, g (s)	61.0	48.0	160.0	14.0	51.0	160.0	22.0	57.0	160.0	71.0	52.0	160.0
Actuated g/C Ratio	0.38	0.30	1.00	0.09	0.32	1.00	0.14	0.36	1.00	0.44	0.32	1.00
Clearance Time (s)	3.0	7.0		5.0	7.0		5.0	7.0		3.0	7.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	196	1542	1578	306	1655	1576	486	1974	1538	256	1783	1585
v/s Ratio Prot	c0.11	0.13		0.07	0.32		0.20	c0.52		c0.26	0.42	
v/s Ratio Perm	c0.40		0.07			0.09			0.12	c0.70		c0.38
v/c Ratio	1.33	0.44	0.07	0.81	0.99	0.09	1.47	1.45	0.12	2.16	1.30	0.38
Uniform Delay, d1	47.1	45.1	0.0	71.7	54.3	0.0	69.0	51.5	0.0	52.2	54.0	0.0
Progression Factor	1.00	1.00	1.00	0.93	0.96	1.00	1.12	0.92	1.00	1.00	1.00	1.00
Incremental Delay, d2	179.8	0.4	0.1	16.2	20.1	0.1	223.5	203.9	0.2	533.1	141.2	0.7
Delay (s)	227.0	45.5	0.1	82.8	72.0	0.1	300.9	251.1	0.2	585.3	195.2	0.7
Level of Service	F	D	A	F	E	A	F	F	A	F	F	A
Approach Delay (s)		85.9			68.5			248.4			223.5	
Approach LOS		F			E			F			F	

Intersection Summary

HCM 2000 Control Delay	188.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.75		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	150.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	130	54	201	507	149	401	1836	235	32	1856	68
Future Volume (vph)	130	54	201	507	149	401	1836	235	32	1856	68
Lane Group Flow (vph)	130	54	201	507	199	401	1836	235	32	1856	68
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	4	4	4	8	8	5	2		6	6	
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	8.0		8.0	8.0	
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	10.0	41.5		41.5	41.5	
Total Split (s)	66.0	66.0	66.0	66.0	66.0	37.0	94.0		57.0	57.0	
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	23.1%	58.8%		35.6%	35.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	0.0	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max		C-Max	C-Max	
v/c Ratio	0.34	0.08	0.29	1.05	0.30	0.96	0.66	0.15	0.47	1.14	0.04
Control Delay	39.8	33.7	5.2	101.4	36.0	83.9	27.1	0.2	16.9	85.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	33.7	5.2	101.4	36.0	83.9	27.1	0.2	16.9	85.6	0.0
Queue Length 50th (m)	27.6	10.3	0.0	~160.4	39.6	102.1	136.0	0.0	1.9	~238.0	0.0
Queue Length 95th (m)	45.0	19.6	15.7	#225.9	59.0	#162.7	150.1	0.0	m1.6	m95.5	m0.0
Internal Link Dist (m)		139.7			217.7		241.5			228.3	
Turn Bay Length (m)	51.0			52.0		169.0		76.0	90.0		42.0
Base Capacity (vph)	385	688	685	485	660	417	2784	1554	68	1625	1599
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	0.34	0.08	0.29	1.05	0.30	0.96	0.66	0.15	0.47	1.14	0.04

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 170
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	54	201	507	149	50	401	1836	235	32	1856	68
Future Volume (vph)	130	54	201	507	149	50	401	1836	235	32	1856	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5	4.0	6.5	6.5	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	0.98		1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.96	1.00	1.00	0.97	1.00		1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1737	1883	1526	1747	1792		1789	5092	1554	1812	5142	1599
Flt Permitted	0.58	1.00	1.00	0.72	1.00		0.07	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	1055	1883	1526	1328	1792		138	5092	1554	216	5142	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	130	54	201	507	149	50	401	1836	235	32	1856	68
RTOR Reduction (vph)	0	0	128	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	130	54	73	507	193	0	401	1836	235	32	1856	68
Confl. Peds. (#/hr)	65		43	43		65	30		39	39		30
Heavy Vehicles (%)	1%	2%	2%	1%	2%	0%	2%	3%	1%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		Free	6		Free
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	50.6	50.6	160.0
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	50.6	50.6	160.0
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37		0.55	0.55	1.00	0.32	0.32	1.00
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	385	688	557	485	655		414	2784	1554	68	1626	1599
v/s Ratio Prot		0.03			0.11		c0.20	0.36			c0.36	
v/s Ratio Perm	0.12		0.05	c0.38			0.33		0.15	0.15		0.04
v/c Ratio	0.34	0.08	0.13	1.05	0.30		0.97	0.66	0.15	0.47	1.14	0.04
Uniform Delay, d1	36.7	33.1	33.8	50.8	36.1		52.3	25.7	0.0	43.9	54.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.30	0.33	1.00
Incremental Delay, d2	1.1	0.1	0.2	53.2	0.5		36.2	1.2	0.2	2.1	64.4	0.0
Delay (s)	37.8	33.2	34.1	104.0	36.6		88.5	26.9	0.2	15.4	82.8	0.0
Level of Service	D	C	C	F	D		F	C	A	B	F	A
Approach Delay (s)		35.2			85.0			34.4			78.8	
Approach LOS		D			F			C			E	

Intersection Summary

HCM 2000 Control Delay	56.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	145.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	0	0	0	0	0	0
Volume Left (vph)	0	0	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Degree Utilization, x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capacity (veh/h)	806	806	806	806	806	806	806	806
Control Delay (s)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Approach Delay (s)	0.0		0.0		0.0		0.0	
Approach LOS	A		A		A		A	

Intersection Summary				
Delay		0.0		
Level of Service		A		
Intersection Capacity Utilization		0.0%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

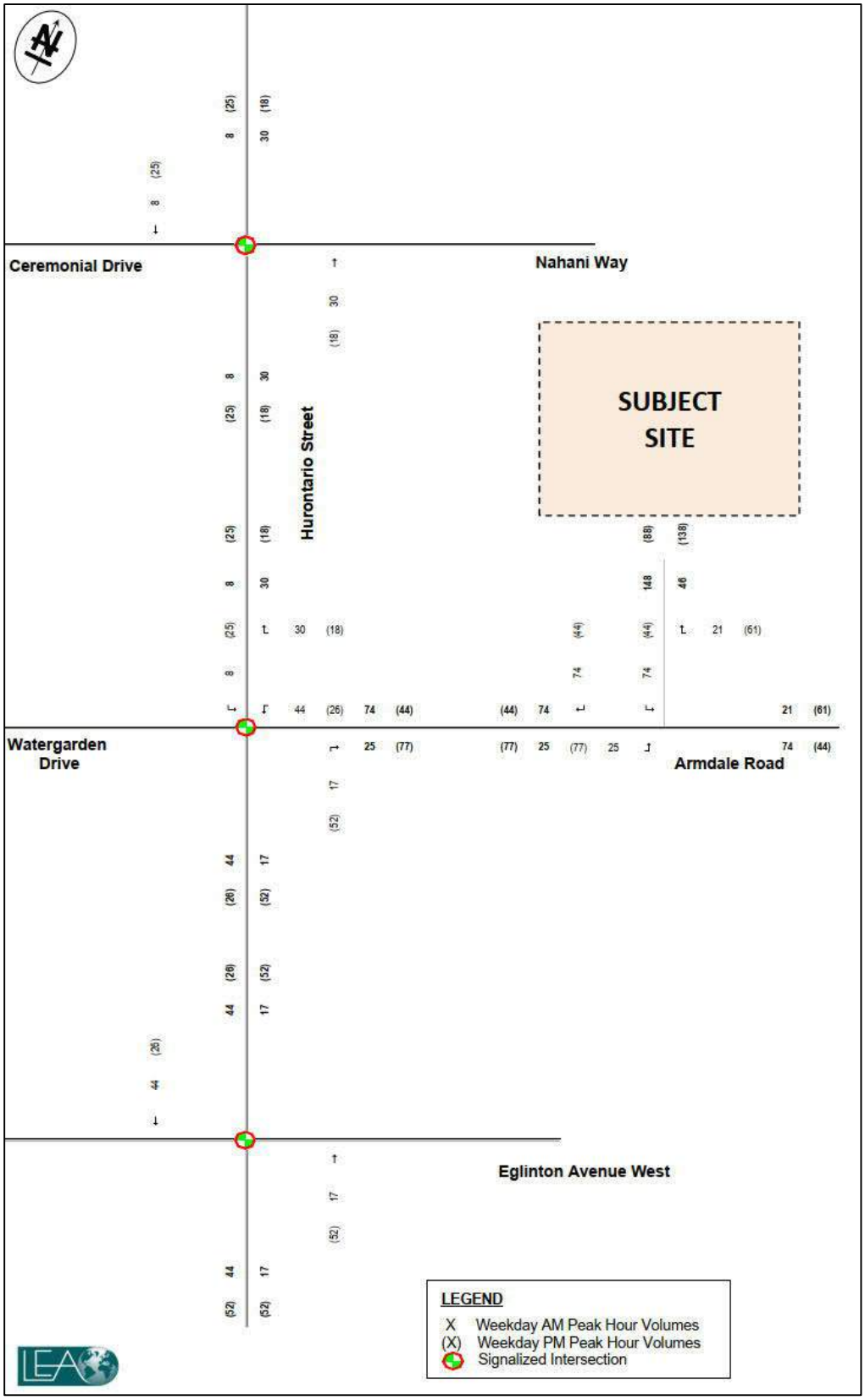
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	0	0	0	0
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	4.5	4.5	4.5	4.5
Degree Utilization, x	0.00	0.00	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	806	806	806	806
Control Delay (s)	6.9	6.9	6.3	6.3	6.3	6.3
Approach Delay (s)	0.0	0.0	0.0		0.0	
Approach LOS	A	A	A		A	

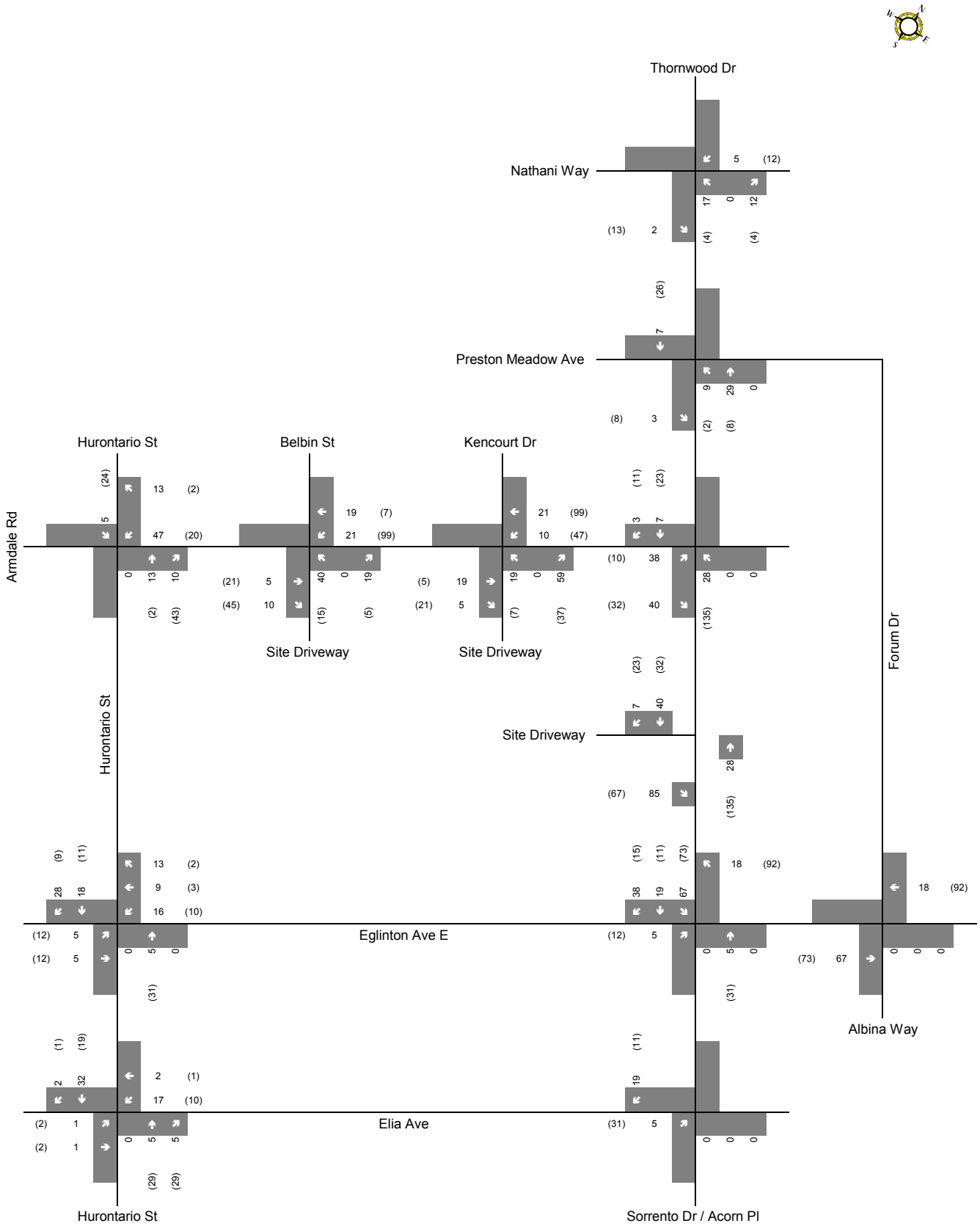
Intersection Summary				
Delay		0.0		
Level of Service		A		
Intersection Capacity Utilization		0.0%	ICU Level of Service	A
Analysis Period (min)		15		

APPENDIX D

Background Development Traffic

Figure 4-1: Site Traffic Volumes

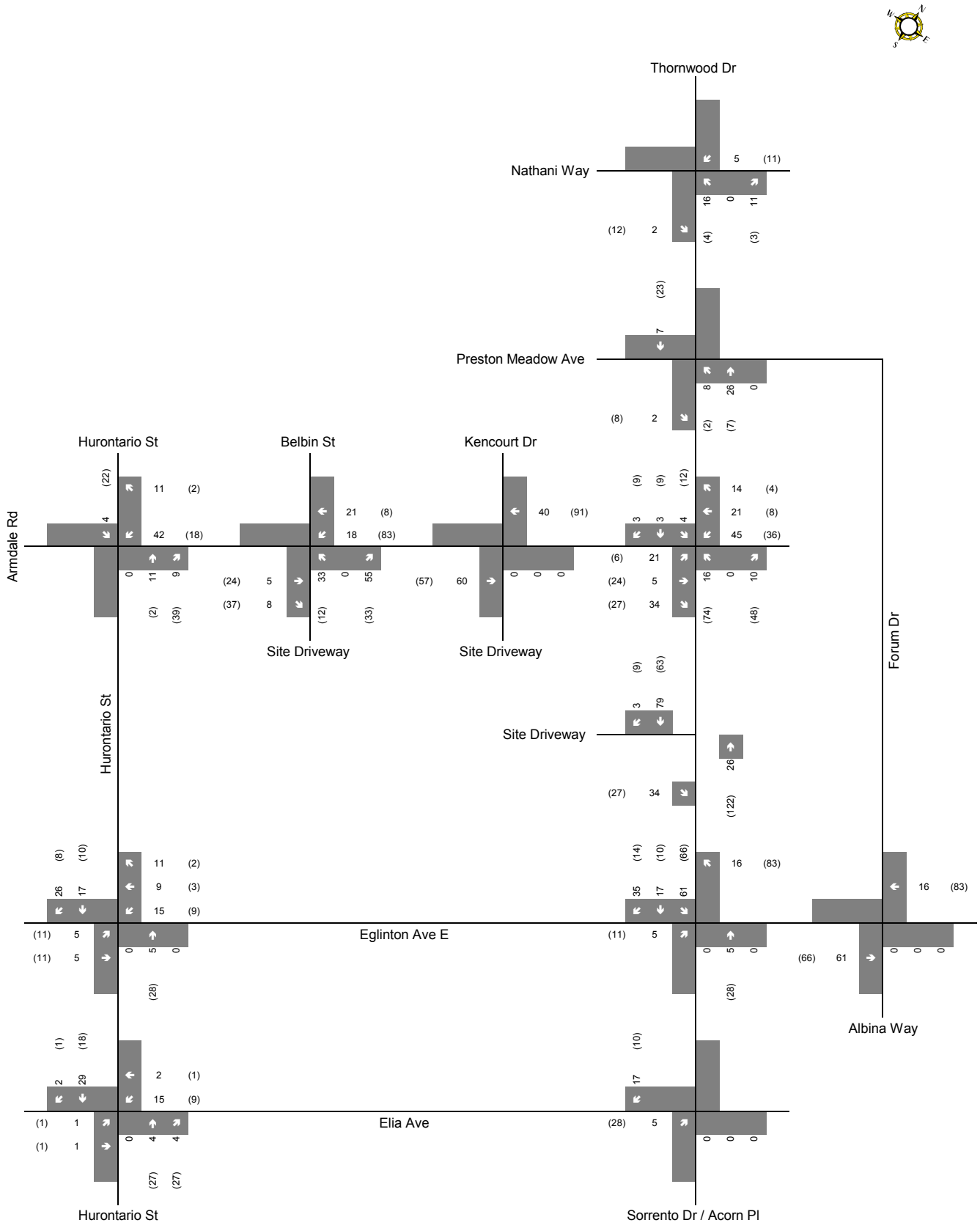




Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 5-1
Site Generated Traffic
Phase 1



Legend

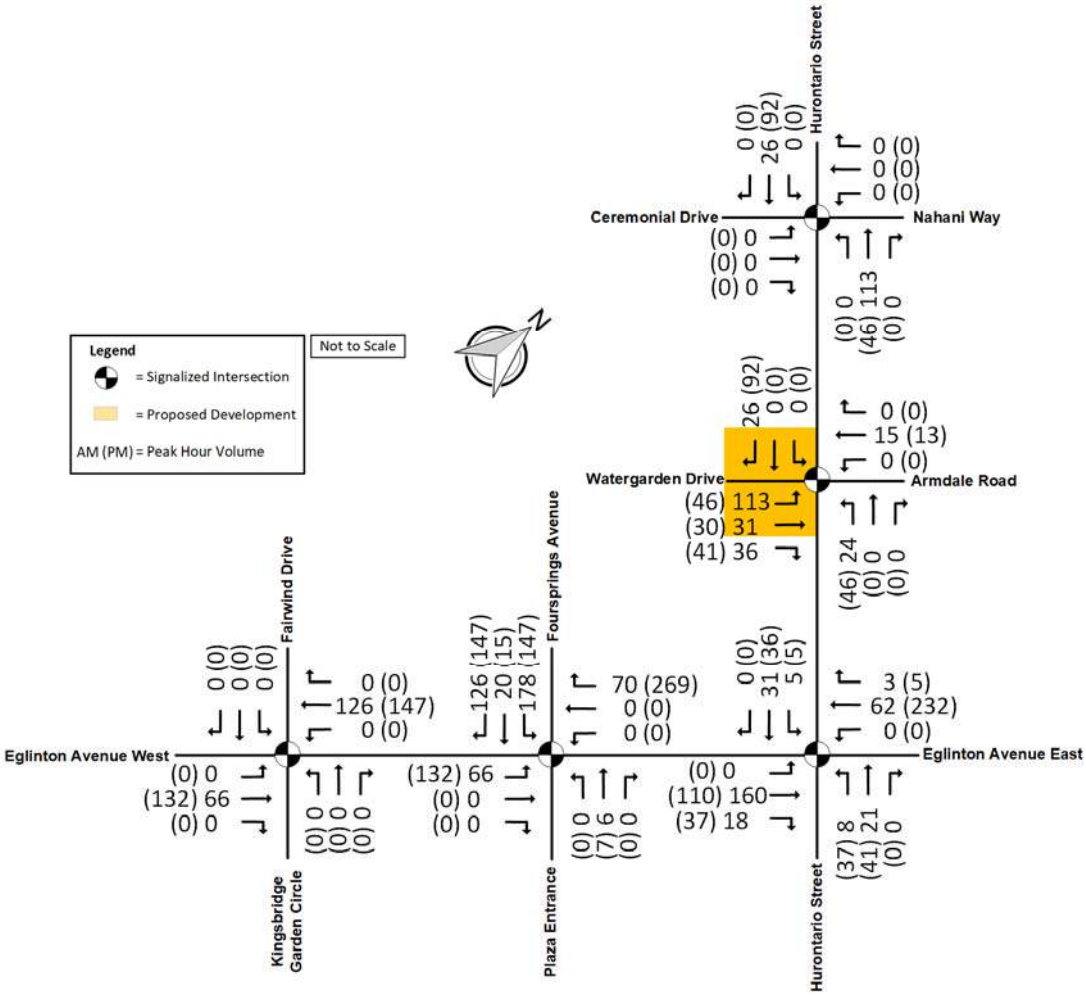
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 5-2
Site Generated Traffic
Phase 2

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



APPENDIX E

Future Background Intersection Capacity Analysis

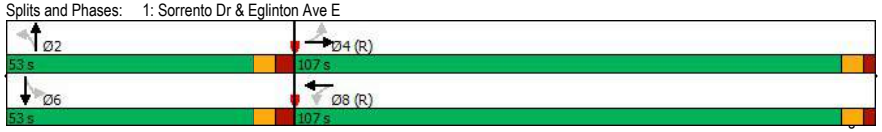
2025 Without LRT

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	2074	86	809	21	11	128	36
Future Volume (vph)	10	2074	86	809	21	11	128	36
Lane Group Flow (vph)	40	2108	86	945	21	74	512	436
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	33.5	33.5	33.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	107.0	107.0	107.0	107.0	53.0	53.0	53.0	53.0
Total Split (%)	66.9%	66.9%	66.9%	66.9%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.12	0.65	1.46	0.30	0.22	0.16	1.32	0.81
Control Delay	12.5	18.1	305.6	13.3	51.1	37.5	206.1	58.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	18.1	305.6	13.3	51.1	37.5	206.1	58.3
Queue Length 50th (m)	3.5	79.8	~34.3	42.5	4.7	13.8	~193.2	104.0
Queue Length 95th (m)	2.0	m68.4	#51.3	49.8	12.7	26.4	41.5	19.1
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	323	3223	59	3104	95	470	387	537
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.65	1.46	0.30	0.22	0.16	1.32	0.81

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 158 (99%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	2074	34	86	809	34	21	11	63	128	36	73
Future Volume (vph)	10	2074	34	86	809	34	21	11	63	128	36	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.87		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5128		1722	4921		1737	1629		1825	1728	
Flt Permitted	0.27	1.00		0.05	1.00		0.18	1.00		0.71	1.00	
Satd. Flow (perm)	515	5128		95	4921		336	1629		1362	1728	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	40	2074	34	86	809	136	21	11	63	512	144	292
RTOR Reduction (vph)	0	1	0	0	15	0	0	8	0	0	46	0
Lane Group Flow (vph)	40	2107	0	86	930	0	21	66	0	512	390	0
Confl. Peds. (#/hr)			7	7			2		1			
Heavy Vehicles (%)	0%	2%	0%	6%	5%	0%	5%	0%	2%	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)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Effective Green, g (s)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.28	0.28		0.28	0.28	
Clearance Time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	323	3221		59	3091		95	463		387	491	
v/s Ratio Prot		0.41			0.19			0.04			0.23	
v/s Ratio Perm	0.08			c0.91			0.06			c0.38		
v/c Ratio	0.12	0.65		1.46	0.30		0.22	0.14		1.32	0.79	
Uniform Delay, d1	12.0	18.8		29.8	13.6		43.7	42.7		57.2	52.9	
Progression Factor	0.98	0.94		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3		277.9	0.3		2.5	0.3		162.4	9.9	
Delay (s)	12.0	18.0		307.7	13.9		46.2	43.0		219.6	62.8	
Level of Service	B	B		F	B		D	D		F	E	
Approach Delay (s)		17.9			38.4			43.7			147.5	
Approach LOS		B			D			D			F	

Intersection Summary

HCM 2000 Control Delay	52.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

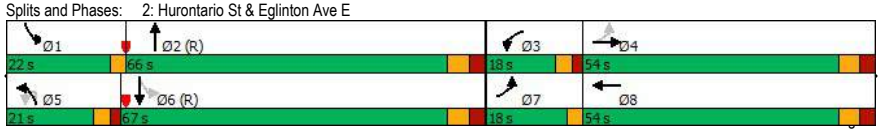
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1522	173	153	556	130	8	216	2544	100	367	2596
Future Volume (vph)	328	1522	173	153	556	130	8	216	2544	100	367	2596
Lane Group Flow (vph)	328	1522	173	153	556	130	0	248	2544	100	367	2596
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Detector Phase	7	4		3	8		5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	5.0	8.0		5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	10.0	41.0		8.0	41.0
Total Split (s)	18.0	54.0		18.0	54.0		21.0	21.0	66.0		22.0	67.0
Total Split (%)	11.3%	33.8%		11.3%	33.8%		13.1%	13.1%	41.3%		13.8%	41.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	2.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None	C-Max		None	C-Max
v/c Ratio	0.86	1.01	0.11	0.56	0.38	0.09		2.79	1.25	0.07	1.38	1.29
Control Delay	56.9	80.3	0.2	63.2	41.0	0.1		857.8	151.2	0.1	232.0	173.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	80.3	0.2	63.2	41.0	0.1		857.8	151.2	0.1	232.0	173.1
Queue Length 50th (m)	66.4	~172.0	0.0	17.3	51.9	0.0		~64.6	~310.2	0.0	~127.2	~320.8
Queue Length 95th (m)	#106.6	#198.9	0.0	m26.7	63.3	m0.0		#92.5	#323.8	0.0	#186.8	#340.8
Internal Link Dist (m)		132.7			301.3				160.0			158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0		87.0			95.0	
Base Capacity (vph)	383	1510	1525	284	1453	1527		89	2043	1475	265	2019
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	0.86	1.01	0.11	0.54	0.38	0.09		2.79	1.25	0.07	1.38	1.29

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 114 (71%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Queues
2: Hurontario St & Eglinton Ave E
Future Background 2025 AM
12-02-2020

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
Lane Group Flow (vph)	342
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
v/c Ratio	0.23
Control Delay	0.3
Queue Delay	0.0
Total Delay	0.3
Queue Length 50th (m)	0.0
Queue Length 95th (m)	0.0
Internal Link Dist (m)	
Turn Bay Length (m)	95.0
Base Capacity (vph)	1520
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.23

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1522	173	153	556	130	8	216	2544	100	367	2596
Future Volume (vph)	328	1522	173	153	556	130	8	216	2544	100	367	2596
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0		5.0	7.0	4.0	3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00		0.97	*1.00	1.00	1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98		1.00	1.00	0.98	1.00	1.00
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	1.00
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)	1783	5092	1525	3506	4948	1527		3389	5542	1475	1807	5386
Flt Permitted	0.36	1.00	1.00	0.95	1.00	1.00		0.25	1.00	1.00	0.07	1.00
Satd. Flow (perm)	678	5092	1525	3506	4948	1527		892	5542	1475	127	5386
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	328	1522	173	153	556	130	32	216	2544	100	367	2596
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	328	1522	173	153	556	130	0	248	2544	100	367	2596
Confl. Peds. (#/hr)	21		56	56		21		36		42	42	
Heavy Vehicles (%)	2%	3%	4%	1%	6%	5%	0%	5%	4%	8%	1%	7%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Actuated Green, G (s)	62.5	47.5	160.0	12.5	47.0	160.0		16.0	59.0	160.0	79.0	60.0
Effective Green, g (s)	62.5	47.5	160.0	12.5	47.0	160.0		16.0	59.0	160.0	79.0	60.0
Actuated g/C Ratio	0.39	0.30	1.00	0.08	0.29	1.00		0.10	0.37	1.00	0.49	0.38
Clearance Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	368	1511	1525	273	1453	1527		89	2043	1475	262	2019
v/s Ratio Prot	c0.08	c0.30		0.04	0.11				0.46		c0.17	0.48
v/s Ratio Perm	0.26		0.11			0.09		c0.28		0.07	c0.53	
v/c Ratio	0.89	1.01	0.11	0.56	0.38	0.09		2.79	1.25	0.07	1.40	1.29
Uniform Delay, d1	40.7	56.2	0.0	71.1	45.0	0.0		72.0	50.5	0.0	53.7	50.0
Progression Factor	1.00	1.00	1.00	0.78	0.89	1.00		1.12	0.83	1.00	1.00	1.00
Incremental Delay, d2	23.9	24.9	0.2	3.9	0.3	0.1		833.6	114.6	0.1	201.8	132.5
Delay (s)	64.6	81.2	0.2	59.7	40.5	0.1		914.3	156.7	0.1	255.5	182.5
Level of Service	E	F	A	E	D	A		F	F	A	F	F
Approach Delay (s)		71.6			37.7				216.2			171.8
Approach LOS		E			D				F			F

Intersection Summary			
HCM 2000 Control Delay	151.2	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)	24.0
Intersection Capacity Utilization	126.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1520
Flt Permitted	1.00
Satd. Flow (perm)	1520
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	342
RTOR Reduction (vph)	0
Lane Group Flow (vph)	342
Confl. Peds. (#/hr)	36
Heavy Vehicles (%)	5%
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	160.0
Effective Green, g (s)	160.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1520
v/s Ratio Prot	
v/s Ratio Perm	c0.22
v/c Ratio	0.23
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	0.3
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	188	91	572	348	49	161	1455	180	34	2101	81
Future Volume (vph)	188	91	572	348	49	161	1455	180	34	2101	81
Lane Group Flow (vph)	188	91	572	348	140	161	1455	180	34	2101	81
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	4	4	4	8	8	5	2		6	6	
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	8.0		8.0	8.0	
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	10.0	41.5		41.5	41.5	
Total Split (s)	66.0	66.0	66.0	66.0	66.0	28.0	94.0		66.0	66.0	
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	17.5%	58.8%		41.3%	41.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	0.0	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max		C-Max	C-Max	
v/c Ratio	0.52	0.16	0.82	0.88	0.28	0.72	0.49	0.12	0.25	0.89	0.05
Control Delay	49.5	38.6	31.8	74.5	33.2	55.6	19.6	0.2	7.4	11.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.5	38.6	31.8	74.5	33.2	55.6	19.6	0.2	7.4	11.3	0.0
Queue Length 50th (m)	44.7	19.1	75.7	95.3	24.6	31.9	87.4	0.0	1.0	25.8	0.0
Queue Length 95th (m)	64.2	30.2	116.5	127.1	38.8	55.1	109.1	0.0	m1.0	m20.8	m0.0
Internal Link Dist (m)		139.7			81.8		241.5			228.3	
Turn Bay Length (m)	51.0			52.0		169.0		76.0	90.0		42.0
Base Capacity (vph)	422	656	763	465	592	296	2999	1520	135	2348	1478
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	0.45	0.14	0.75	0.75	0.24	0.54	0.49	0.12	0.25	0.89	0.05

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 139 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	91	572	348	49	91	161	1455	180	34	2101	81
Future Volume (vph)	188	91	572	348	49	91	161	1455	180	34	2101	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5	4.0	6.5	6.5	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.96		1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	0.95	1.00	1.00	0.98	1.00		1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1706	1795	1543	1733	1577		1690	4995	1520	1617	4995	1478
Flt Permitted	0.64	1.00	1.00	0.70	1.00		0.05	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	1156	1795	1543	1273	1577		90	4995	1520	290	4995	1478
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	188	91	572	348	49	91	161	1455	180	34	2101	81
RTOR Reduction (vph)	0	0	216	0	18	0	0	0	0	0	0	0
Lane Group Flow (vph)	188	91	356	348	122	0	161	1455	180	34	2101	81
Confl. Peds. (#/hr)	69		30	30		69	35		25	25		35
Heavy Vehicles (%)	2%	7%	2%	3%	9%	3%	8%	5%	4%	12%	5%	8%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		Free	6		Free
Actuated Green, G (s)	49.9	49.9	49.9	49.9	49.9		96.1	96.1	160.0	75.2	75.2	160.0
Effective Green, g (s)	49.9	49.9	49.9	49.9	49.9		96.1	96.1	160.0	75.2	75.2	160.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31		0.60	0.60	1.00	0.47	0.47	1.00
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	360	559	481	397	491		223	3000	1520	136	2347	1478
v/s Ratio Prot		0.05			0.08		c0.08	0.29			c0.42	
v/s Ratio Perm	0.16		0.23	c0.27			0.36		0.12	0.12		0.05
v/c Ratio	0.52	0.16	0.74	0.88	0.25		0.72	0.48	0.12	0.25	0.90	0.05
Uniform Delay, d1	45.3	39.9	49.2	52.1	41.1		47.0	18.0	0.0	25.5	38.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.21	0.19	1.00
Incremental Delay, d2	2.6	0.3	7.1	20.4	0.6		13.3	0.6	0.2	0.4	0.6	0.0
Delay (s)	47.8	40.2	56.4	72.5	41.6		60.3	18.6	0.2	5.7	7.9	0.0
Level of Service	D	D	E	E	D		E	B	A	A	A	A
Approach Delay (s)		52.8			63.6			20.5			7.6	
Approach LOS		D			E			C			A	

Intersection Summary

HCM 2000 Control Delay	24.2	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)	18.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1636			1636			1029	900	1091	1029	900	1091

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS					A	A
Approach Delay (s)	0.0		0.0		0.0	0.0
Approach LOS					A	A

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		0.0%	ICU Level of Service
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	0	0	0	0	0	0	0	0	0	0	36
Future Volume (vph)	11	0	0	0	0	0	0	0	0	0	0	36
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	44	0	0	0	0	0	0	0	0	0	0	144

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	44	0	0	0	0	0	0	144
Volume Left (vph)	44	0	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0	0	144
Hadj (s)	0.50	0.00	0.00	0.00	0.00	0.00	0.00	-0.70
Departure Headway (s)	5.3	4.8	4.8	4.8	4.7	4.7	4.6	3.9
Degree Utilization, x	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.16
Capacity (veh/h)	658	739	730	730	763	763	780	897
Control Delay (s)	7.5	6.6	6.6	6.6	6.5	6.5	6.4	6.5
Approach Delay (s)	7.5		0.0		0.0		6.5	
Approach LOS	A		A		A		A	

Intersection Summary			
Delay		6.7	
Level of Service		A	
Intersection Capacity Utilization		13.3%	ICU Level of Service
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1636		1029	1091

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		0.0%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	11	0	0	36	0
Future Volume (vph)	0	0	0	0	0	0	0	11	0	0	36	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	44	0	0	144	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	0	44	0	144
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	4.3	4.3	4.6	4.6	4.5	4.5
Degree Utilization, x	0.00	0.00	0.00	0.06	0.00	0.18
Capacity (veh/h)	799	799	789	770	801	784
Control Delay (s)	7.3	7.3	6.4	6.7	6.3	7.3
Approach Delay (s)	0.0	0.0	6.7		7.3	
Approach LOS	A	A	A		A	

Intersection Summary			
Delay		7.2	
Level of Service		A	
Intersection Capacity Utilization		6.7%	ICU Level of Service A
Analysis Period (min)		15	

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

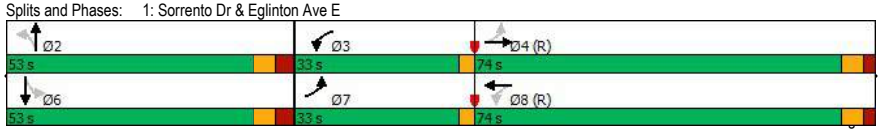
Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	23	1453	664	1851	101	59	139	21
Future Volume (vph)	23	1453	664	1851	101	59	139	21
Lane Group Flow (vph)	92	1540	664	2551	101	136	556	200
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	9.5	33.5	9.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	33.0	74.0	33.0	74.0	53.0	53.0	53.0	53.0
Total Split (%)	20.6%	46.3%	20.6%	46.3%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.5	0.0	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	3.0	6.5	7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.51	0.71	1.68	0.94	0.35	0.26	1.58	0.38
Control Delay	38.5	35.6	347.0	41.8	49.7	32.0	312.8	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	35.6	347.0	41.8	49.7	32.0	312.8	38.0
Queue Length 50th (m)	12.9	153.4	~265.7	242.6	23.6	21.3	~230.9	36.8
Queue Length 95th (m)	3.5	m72.7	#336.4	#298.3	40.3	38.5	45.9	7.5
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	392	2172	396	2715	290	521	351	529
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	0.23	0.71	1.68	0.94	0.35	0.26	1.58	0.38

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 69 (43%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1453	87	664	1851	175	101	59	77	139	21	29
Future Volume (vph)	23	1453	87	664	1851	175	101	59	77	139	21	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
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	1.00	
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	0.96		1.00	0.92		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5137		1789	4993		1802	1732		1825	1754	
Flt Permitted	0.06	1.00		0.07	1.00		0.54	1.00		0.64	1.00	
Satd. Flow (perm)	114	5137		132	4993		1020	1732		1235	1754	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	92	1453	87	664	1851	700	101	59	77	556	84	116
RTOR Reduction (vph)	0	4	0	0	34	0	0	29	0	0	31	0
Lane Group Flow (vph)	92	1536	0	664	2517	0	101	107	0	556	169	0
Confl. Peds. (#/hr)			7	7			13		3			
Heavy Vehicles (%)	0%	1%	1%	2%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Effective Green, g (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.49	0.42		0.63	0.54		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	180	2167		393	2680		290	492		351	498	
v/s Ratio Prot	0.04	0.30		c0.32	0.50			0.06			0.10	
v/s Ratio Perm	0.22			c0.74			0.10			c0.45		
v/c Ratio	0.51	0.71		1.69	0.94		0.35	0.22		1.58	0.34	
Uniform Delay, d1	32.7	38.1		51.6	34.6		45.5	43.7		57.2	45.4	
Progression Factor	1.42	0.93		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2		321.1	8.0		1.5	0.5		276.1	0.9	
Delay (s)	46.9	35.5		372.8	42.6		47.0	44.1		333.3	46.2	
Level of Service	D	D		F	D		D	D		F	D	
Approach Delay (s)		36.2			110.8			45.3			257.4	
Approach LOS		D			F			D			F	

Intersection Summary

HCM 2000 Control Delay	106.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.68		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	105.7%	ICU Level of Service	G
Analysis Period (min)	15		

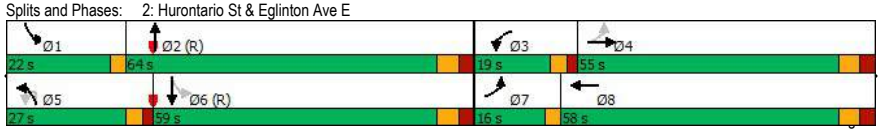
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	284	823	149	267	1882	144	37	716	3008	182	557	2409
Future Volume (vph)	284	823	149	267	1882	144	37	716	3008	182	557	2409
Lane Group Flow (vph)	284	823	149	267	1882	144	0	864	3008	182	557	2409
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Detector Phase	7	4		3	8		5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	5.0	8.0		5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	10.0	41.0		8.0	41.0
Total Split (s)	16.0	55.0		19.0	58.0		27.0	27.0	64.0		22.0	59.0
Total Split (%)	10.0%	34.4%		11.9%	36.3%		16.9%	16.9%	40.0%		13.8%	36.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	2.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None	C-Max		None	C-Max
v/c Ratio	1.43	0.53	0.09	0.87	1.14	0.09		9.29	1.52	0.12	2.14	1.35
Control Delay	251.8	48.2	0.1	104.5	116.2	0.1		3757.6	273.4	0.1	552.2	202.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	251.8	48.2	0.1	104.5	116.2	0.1		3757.6	273.4	0.1	552.2	202.9
Queue Length 50th (m)	~96.2	73.9	0.0	42.5	~231.7	0.0		~260.5	~406.0	0.0	~245.5	~306.8
Queue Length 95th (m)	#151.6	87.1	0.0	m47.6	#257.8	m0.0		#297.9	#424.2	m0.0	#313.1	#327.9
Internal Link Dist (m)		132.7			301.3				160.0			158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0		87.0			95.0	
Base Capacity (vph)	199	1542	1578	306	1655	1576		93	1974	1538	260	1783
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	1.43	0.53	0.09	0.87	1.14	0.09		9.29	1.52	0.12	2.14	1.35

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 142 (89%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
Lane Group Flow (vph)	619
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
v/c Ratio	0.39
Control Delay	0.7
Queue Delay	0.0
Total Delay	0.7
Queue Length 50th (m)	0.0
Queue Length 95th (m)	0.0
Internal Link Dist (m)	
Turn Bay Length (m)	95.0
Base Capacity (vph)	1585
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	284	823	149	267	1882	144	37	716	3008	182	557	2409
Future Volume (vph)	284	823	149	267	1882	144	37	716	3008	182	557	2409
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0		5.0	7.0	4.0	3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00		0.97	*1.00	1.00	1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97		1.00	1.00	0.97	1.00	1.00
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	1.00
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	1578	3506	5193	1576		3538	5542	1538	1772	5489
Flt Permitted	0.08	1.00	1.00	0.95	1.00	1.00		0.18	1.00	1.00	0.08	1.00
Satd. Flow (perm)	160	5142	1578	3506	5193	1576		677	5542	1538	143	5489
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	284	823	149	267	1882	144	148	716	3008	182	557	2409
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	284	823	149	267	1882	144	0	864	3008	182	557	2409
Confl. Peds. (#/hr)	45		40	40		45		26		60	60	
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	0%	0%	4%	3%	3%	5%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Actuated Green, G (s)	61.0	48.0	160.0	14.0	51.0	160.0		22.0	57.0	160.0	71.0	52.0
Effective Green, g (s)	61.0	48.0	160.0	14.0	51.0	160.0		22.0	57.0	160.0	71.0	52.0
Actuated g/C Ratio	0.38	0.30	1.00	0.09	0.32	1.00		0.14	0.36	1.00	0.44	0.32
Clearance Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	196	1542	1578	306	1655	1576		93	1974	1538	256	1783
v/s Ratio Prot	c0.12	0.16		0.08	0.36				c0.54		0.26	0.44
v/s Ratio Perm	c0.43		0.09			0.09		c1.28		0.12	c0.70	
v/c Ratio	1.45	0.53	0.09	0.87	1.14	0.09		9.29	1.52	0.12	2.18	1.35
Uniform Delay, d1	47.1	46.7	0.0	72.1	54.5	0.0		69.0	51.5	0.0	52.2	54.0
Progression Factor	1.00	1.00	1.00	1.22	1.03	1.00		1.11	0.98	1.00	1.00	1.00
Incremental Delay, d2	228.3	0.7	0.1	15.9	66.6	0.1		3751.0	238.2	0.1	541.8	161.8
Delay (s)	275.4	47.3	0.1	103.8	122.7	0.1		3827.9	288.6	0.1	594.0	215.8
Level of Service	F	D	A	F	F	A		F	F	A	F	F
Approach Delay (s)		93.3			112.8				1029.9			237.4
Approach LOS		F			F				F			F

Intersection Summary			
HCM 2000 Control Delay	482.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.85		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	159.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1585
Flt Permitted	1.00
Satd. Flow (perm)	1585
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	619
RTOR Reduction (vph)	0
Lane Group Flow (vph)	619
Confl. Peds. (#/hr)	26
Heavy Vehicles (%)	1%
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	160.0
Effective Green, g (s)	160.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1585
v/s Ratio Prot	
v/s Ratio Perm	c0.39
v/c Ratio	0.39
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.7
Delay (s)	0.7
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	133	57	201	526	151	401	2022	291	32	1992	70
Future Volume (vph)	133	57	201	526	151	401	2022	291	32	1992	70
Lane Group Flow (vph)	133	57	201	526	201	401	2022	291	32	1992	70
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	4	4	4	8	8	5	2		6	6	
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	8.0		8.0	8.0	
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	10.0	41.5		41.5	41.5	
Total Split (s)	66.0	66.0	66.0	66.0	66.0	37.0	94.0		57.0	57.0	
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	23.1%	58.8%		35.6%	35.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	0.0	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max		C-Max	C-Max	
v/c Ratio	0.35	0.08	0.29	1.09	0.31	0.96	0.73	0.19	0.68	1.23	0.04
Control Delay	40.1	33.7	5.2	113.3	36.9	83.9	29.2	0.3	29.8	125.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	33.7	5.2	113.3	36.9	83.9	29.2	0.3	29.8	125.0	0.0
Queue Length 50th (m)	28.3	10.9	0.0	~172.3	40.9	102.1	158.9	0.0	3.9	~269.1	0.0
Queue Length 95th (m)	46.2	20.5	15.7	#238.5	60.7	#162.7	174.2	0.0	m2.2	m113.6	m0.0
Internal Link Dist (m)		139.7			81.8		241.5			228.3	
Turn Bay Length (m)	51.0			52.0		169.0		76.0	90.0		42.0
Base Capacity (vph)	384	688	685	484	658	417	2784	1554	47	1625	1599
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	0.35	0.08	0.29	1.09	0.31	0.96	0.73	0.19	0.68	1.23	0.04

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 170
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	57	201	526	151	50	401	2022	291	32	1992	70
Future Volume (vph)	133	57	201	526	151	50	401	2022	291	32	1992	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5	4.0	6.5	6.5	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	0.98		1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.96	1.00	1.00	0.97	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1737	1883	1526	1748	1793		1789	5092	1554	1816	5142	1599
Flt Permitted	0.57	1.00	1.00	0.72	1.00		0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1051	1883	1526	1324	1793		138	5092	1554	151	5142	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	57	201	526	151	50	401	2022	291	32	1992	70
RTOR Reduction (vph)	0	0	128	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	133	57	73	526	198	0	401	2022	291	32	1992	70
Confl. Peds. (#/hr)	65		43	43		65	30		39	39		30
Heavy Vehicles (%)	1%	2%	2%	1%	2%	0%	2%	3%	1%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		Free	6		Free
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	50.6	50.6	160.0
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	50.6	50.6	160.0
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37		0.55	0.55	1.00	0.32	0.32	1.00
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	384	688	557	484	655		414	2784	1554	47	1626	1599
v/s Ratio Prot		0.03			0.11		c0.20	0.40			c0.39	
v/s Ratio Perm	0.13		0.05	c0.40			0.33		0.19	0.21		0.04
v/c Ratio	0.35	0.08	0.13	1.09	0.30		0.97	0.73	0.19	0.68	1.23	0.04
Uniform Delay, d1	36.9	33.2	33.8	50.8	36.2		52.3	27.2	0.0	47.7	54.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.36	0.38	1.00
Incremental Delay, d2	1.1	0.1	0.2	66.4	0.5		36.2	1.7	0.3	7.0	101.8	0.0
Delay (s)	38.0	33.3	34.1	117.2	36.7		88.5	28.9	0.3	24.0	122.4	0.0
Level of Service	D	C	C	F	D		F	C	A	C	F	A
Approach Delay (s)		35.3			94.9			34.7			116.8	
Approach LOS		D			F			C			F	

Intersection Summary

HCM 2000 Control Delay	71.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	149.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1636			1636			1029	900	1091	1029	900	1091

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS					A	A
Approach Delay (s)	0.0		0.0		0.0	0.0
Approach LOS					A	A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	59	0	0	0	0	0	0	0	0	0	0	21
Future Volume (vph)	59	0	0	0	0	0	0	0	0	0	0	21
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	236	0	0	0	0	0	0	0	0	0	0	84

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	236	0	0	0	0	0	0	84
Volume Left (vph)	236	0	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0	0	84
Hadj (s)	0.50	0.00	0.00	0.00	0.00	0.00	0.00	-0.70
Departure Headway (s)	5.2	4.7	4.9	4.9	5.3	5.3	5.2	4.5
Degree Utilization, x	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Capacity (veh/h)	681	764	728	728	656	656	682	761
Control Delay (s)	9.7	6.5	6.7	6.7	7.1	7.1	7.0	6.8
Approach Delay (s)	9.7		0.0		0.0		6.8	
Approach LOS	A		A		A		A	

Intersection Summary			
Delay	8.9		
Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1636		1029	1091

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		0.0%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	59	0	0	21	0
Future Volume (vph)	0	0	0	0	0	0	0	59	0	0	21	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	236	0	0	84	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	0	236	0	84
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	4.7	4.7	4.6	4.6	4.7	4.7
Degree Utilization, x	0.00	0.00	0.00	0.30	0.00	0.11
Capacity (veh/h)	722	722	795	781	778	760
Control Delay (s)	7.7	7.7	6.4	8.3	6.5	7.0
Approach Delay (s)	0.0	0.0	8.3		7.0	
Approach LOS	A	A	A		A	

Intersection Summary			
Delay		8.0	
Level of Service		A	
Intersection Capacity Utilization		6.7%	ICU Level of Service A
Analysis Period (min)		15	

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			

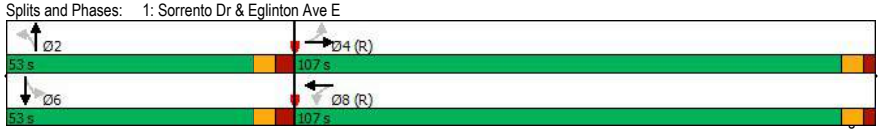
2030 Without LRT

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	2074	86	867	21	11	128	36
Future Volume (vph)	10	2074	86	867	21	11	128	36
Lane Group Flow (vph)	40	2108	86	1003	21	74	512	436
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	33.5	33.5	33.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	107.0	107.0	107.0	107.0	53.0	53.0	53.0	53.0
Total Split (%)	66.9%	66.9%	66.9%	66.9%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.13	0.65	1.46	0.32	0.22	0.16	1.32	0.81
Control Delay	12.6	18.1	305.6	13.6	51.1	37.5	206.1	58.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	18.1	305.6	13.6	51.1	37.5	206.1	58.3
Queue Length 50th (m)	3.5	79.8	~34.3	46.0	4.7	13.8	~193.2	104.0
Queue Length 95th (m)	2.0	m68.4	#51.3	53.5	12.7	26.4	41.5	19.1
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	301	3223	59	3108	95	470	387	537
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.65	1.46	0.32	0.22	0.16	1.32	0.81

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 158 (99%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	2074	34	86	867	34	21	11	63	128	36	73
Future Volume (vph)	10	2074	34	86	867	34	21	11	63	128	36	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.87		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5128		1722	4925		1737	1629		1825	1728	
Flt Permitted	0.25	1.00		0.05	1.00		0.18	1.00		0.71	1.00	
Satd. Flow (perm)	480	5128		95	4925		336	1629		1362	1728	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	40	2074	34	86	867	136	21	11	63	512	144	292
RTOR Reduction (vph)	0	1	0	0	13	0	0	8	0	0	46	0
Lane Group Flow (vph)	40	2107	0	86	990	0	21	66	0	512	390	0
Confl. Peds. (#/hr)			7	7			2		1			
Heavy Vehicles (%)	0%	2%	0%	6%	5%	0%	5%	0%	2%	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)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Effective Green, g (s)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.28	0.28		0.28	0.28	
Clearance Time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	301	3221		59	3093		95	463		387	491	
v/s Ratio Prot		0.41			0.20			0.04			0.23	
v/s Ratio Perm	0.08			c0.91			0.06			c0.38		
v/c Ratio	0.13	0.65		1.46	0.32		0.22	0.14		1.32	0.79	
Uniform Delay, d1	12.1	18.8		29.8	13.8		43.7	42.7		57.2	52.9	
Progression Factor	0.98	0.94		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.3		277.9	0.3		2.5	0.3		162.4	9.9	
Delay (s)	12.1	18.0		307.7	14.1		46.2	43.0		219.6	62.8	
Level of Service	B	B		F	B		D	D		F	E	
Approach Delay (s)		17.9			37.3			43.7			147.5	
Approach LOS		B			D			D			F	

Intersection Summary

HCM 2000 Control Delay	52.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

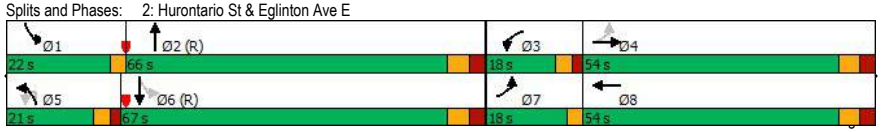
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1522	173	153	592	130	8	216	2544	100	367	2596
Future Volume (vph)	328	1522	173	153	592	130	8	216	2544	100	367	2596
Lane Group Flow (vph)	328	1522	173	153	592	130	0	248	2544	100	367	2596
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Detector Phase	7	4		3	8		5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	5.0	8.0		5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	10.0	41.0		8.0	41.0
Total Split (s)	18.0	54.0		18.0	54.0		21.0	21.0	66.0		22.0	67.0
Total Split (%)	11.3%	33.8%		11.3%	33.8%		13.1%	13.1%	41.3%		13.8%	41.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	2.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None	C-Max		None	C-Max
v/c Ratio	0.88	1.01	0.11	0.56	0.41	0.09		2.79	1.25	0.07	1.38	1.29
Control Delay	61.2	80.3	0.2	64.5	40.9	0.1		857.8	151.2	0.1	232.0	173.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	80.3	0.2	64.5	40.9	0.1		857.8	151.2	0.1	232.0	173.1
Queue Length 50th (m)	66.4	~172.0	0.0	17.2	55.4	0.0		~64.6	~310.2	0.0	~127.2	~320.8
Queue Length 95th (m)	#111.4	#198.9	0.0	m27.1	67.3	m0.0		#92.5	#323.8	0.0	#186.8	#340.8
Internal Link Dist (m)		132.7			301.3				160.0			158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0		87.0			95.0	
Base Capacity (vph)	371	1510	1525	284	1453	1527		89	2043	1475	265	2019
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	0.88	1.01	0.11	0.54	0.41	0.09		2.79	1.25	0.07	1.38	1.29

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 114 (71%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Queues
2: Hurontario St & Eglinton Ave E
Future Background 2030 AM
12-02-2020

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
Lane Group Flow (vph)	342
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
v/c Ratio	0.23
Control Delay	0.3
Queue Delay	0.0
Total Delay	0.3
Queue Length 50th (m)	0.0
Queue Length 95th (m)	0.0
Internal Link Dist (m)	
Turn Bay Length (m)	95.0
Base Capacity (vph)	1520
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.23

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1522	173	153	592	130	8	216	2544	100	367	2596
Future Volume (vph)	328	1522	173	153	592	130	8	216	2544	100	367	2596
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0		5.0	7.0	4.0	3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00		0.97	*1.00	1.00	1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98		1.00	1.00	0.98	1.00	1.00
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	1.00
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)	1784	5092	1525	3506	4948	1527		3389	5542	1475	1807	5386
Flt Permitted	0.34	1.00	1.00	0.95	1.00	1.00		0.25	1.00	1.00	0.07	1.00
Satd. Flow (perm)	636	5092	1525	3506	4948	1527		892	5542	1475	127	5386
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	328	1522	173	153	592	130	32	216	2544	100	367	2596
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	328	1522	173	153	592	130	0	248	2544	100	367	2596
Confl. Peds. (#/hr)	21		56	56		21		36		42	42	
Heavy Vehicles (%)	2%	3%	4%	1%	6%	5%	0%	5%	4%	8%	1%	7%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Actuated Green, G (s)	62.5	47.5	160.0	12.5	47.0	160.0		16.0	59.0	160.0	79.0	60.0
Effective Green, g (s)	62.5	47.5	160.0	12.5	47.0	160.0		16.0	59.0	160.0	79.0	60.0
Actuated g/C Ratio	0.39	0.30	1.00	0.08	0.29	1.00		0.10	0.37	1.00	0.49	0.38
Clearance Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	356	1511	1525	273	1453	1527		89	2043	1475	262	2019
v/s Ratio Prot	c0.09	c0.30		0.04	0.12				0.46		c0.17	0.48
v/s Ratio Perm	0.27		0.11			0.09		c0.28		0.07	c0.53	
v/c Ratio	0.92	1.01	0.11	0.56	0.41	0.09		2.79	1.25	0.07	1.40	1.29
Uniform Delay, d1	41.3	56.2	0.0	71.1	45.3	0.0		72.0	50.5	0.0	53.7	50.0
Progression Factor	1.00	1.00	1.00	0.80	0.88	1.00		1.12	0.83	1.00	1.00	1.00
Incremental Delay, d2	29.7	24.9	0.2	3.9	0.4	0.1		833.6	114.6	0.1	201.8	132.5
Delay (s)	70.9	81.2	0.2	61.1	40.3	0.1		914.3	156.7	0.1	255.5	182.5
Level of Service	E	F	A	E	D	A		F	F	A	F	F
Approach Delay (s)		72.6			38.0				216.2			171.8
Approach LOS		E			D				F			F

Intersection Summary			
HCM 2000 Control Delay	151.0	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)	24.0
Intersection Capacity Utilization	127.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1520
Flt Permitted	1.00
Satd. Flow (perm)	1520
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	342
RTOR Reduction (vph)	0
Lane Group Flow (vph)	342
Confl. Peds. (#/hr)	36
Heavy Vehicles (%)	5%
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	160.0
Effective Green, g (s)	160.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1520
v/s Ratio Prot	
v/s Ratio Perm	c0.22
v/c Ratio	0.23
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	0.3
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	188	91	572	348	49	161	1455	180	34	2101	81
Future Volume (vph)	188	91	572	348	49	161	1455	180	34	2101	81
Lane Group Flow (vph)	188	91	572	348	140	161	1455	180	34	2101	81
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	4	4	4	8	8	5	2		6	6	
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	8.0		8.0	8.0	
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	10.0	41.5		41.5	41.5	
Total Split (s)	66.0	66.0	66.0	66.0	66.0	28.0	94.0		66.0	66.0	
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	17.5%	58.8%		41.3%	41.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	0.0	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max		C-Max	C-Max	
v/c Ratio	0.52	0.16	0.82	0.88	0.28	0.72	0.49	0.12	0.25	0.89	0.05
Control Delay	49.5	38.6	31.8	74.5	33.2	55.6	19.6	0.2	7.4	11.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.5	38.6	31.8	74.5	33.2	55.6	19.6	0.2	7.4	11.3	0.0
Queue Length 50th (m)	44.7	19.1	75.7	95.3	24.6	31.9	87.4	0.0	1.0	25.8	0.0
Queue Length 95th (m)	64.2	30.2	116.5	127.1	38.8	55.1	109.1	0.0	m1.0	m20.8	m0.0
Internal Link Dist (m)		139.7			81.8		241.5			228.3	
Turn Bay Length (m)	51.0			52.0		169.0		76.0	90.0		42.0
Base Capacity (vph)	422	656	763	465	592	296	2999	1520	135	2348	1478
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	0.45	0.14	0.75	0.75	0.24	0.54	0.49	0.12	0.25	0.89	0.05

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 139 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	91	572	348	49	91	161	1455	180	34	2101	81
Future Volume (vph)	188	91	572	348	49	91	161	1455	180	34	2101	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5	4.0	6.5	6.5	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.96		1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	0.95	1.00	1.00	0.98	1.00		1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1706	1795	1543	1733	1577		1690	4995	1520	1617	4995	1478
Flt Permitted	0.64	1.00	1.00	0.70	1.00		0.05	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	1156	1795	1543	1273	1577		90	4995	1520	290	4995	1478
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	188	91	572	348	49	91	161	1455	180	34	2101	81
RTOR Reduction (vph)	0	0	216	0	18	0	0	0	0	0	0	0
Lane Group Flow (vph)	188	91	356	348	122	0	161	1455	180	34	2101	81
Confl. Peds. (#/hr)	69		30	30		69	35		25	25		35
Heavy Vehicles (%)	2%	7%	2%	3%	9%	3%	8%	5%	4%	12%	5%	8%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		Free	6		Free
Actuated Green, G (s)	49.9	49.9	49.9	49.9	49.9		96.1	96.1	160.0	75.2	75.2	160.0
Effective Green, g (s)	49.9	49.9	49.9	49.9	49.9		96.1	96.1	160.0	75.2	75.2	160.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31		0.60	0.60	1.00	0.47	0.47	1.00
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	360	559	481	397	491		223	3000	1520	136	2347	1478
v/s Ratio Prot		0.05			0.08		c0.08	0.29			c0.42	
v/s Ratio Perm	0.16		0.23	c0.27			0.36		0.12	0.12		0.05
v/c Ratio	0.52	0.16	0.74	0.88	0.25		0.72	0.48	0.12	0.25	0.90	0.05
Uniform Delay, d1	45.3	39.9	49.2	52.1	41.1		47.0	18.0	0.0	25.5	38.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.21	0.19	1.00
Incremental Delay, d2	2.6	0.3	7.1	20.4	0.6		13.3	0.6	0.2	0.4	0.6	0.0
Delay (s)	47.8	40.2	56.4	72.5	41.6		60.3	18.6	0.2	5.6	7.9	0.0
Level of Service	D	D	E	E	D		E	B	A	A	A	A
Approach Delay (s)		52.8			63.6			20.5			7.6	
Approach LOS		D			E			C			A	

Intersection Summary

HCM 2000 Control Delay	24.2	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)	18.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1636			1636			1029	900	1091	1029	900	1091

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS					A	A
Approach Delay (s)	0.0		0.0		0.0	0.0
Approach LOS					A	A

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		0.0%	ICU Level of Service
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	0	0	0	0	0	0	0	0	0	0	36
Future Volume (vph)	11	0	0	0	0	0	0	0	0	0	0	36
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	44	0	0	0	0	0	0	0	0	0	0	144

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	44	0	0	0	0	0	0	144
Volume Left (vph)	44	0	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0	0	144
Hadj (s)	0.50	0.00	0.00	0.00	0.00	0.00	0.00	-0.70
Departure Headway (s)	5.3	4.8	4.8	4.8	4.7	4.7	4.6	3.9
Degree Utilization, x	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.16
Capacity (veh/h)	658	739	730	730	763	763	780	897
Control Delay (s)	7.5	6.6	6.6	6.6	6.5	6.5	6.4	6.5
Approach Delay (s)	7.5		0.0		0.0		6.5	
Approach LOS	A		A		A		A	

Intersection Summary			
Delay		6.7	
Level of Service		A	
Intersection Capacity Utilization		13.3%	ICU Level of Service
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1636		1029	1091

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	11	0	0	36	0
Future Volume (vph)	0	0	0	0	0	0	0	11	0	0	36	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	44	0	0	144	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	0	44	0	144
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	4.3	4.3	4.6	4.6	4.5	4.5
Degree Utilization, x	0.00	0.00	0.00	0.06	0.00	0.18
Capacity (veh/h)	799	799	789	770	801	784
Control Delay (s)	7.3	7.3	6.4	6.7	6.3	7.3
Approach Delay (s)	0.0	0.0	6.7		7.3	
Approach LOS	A	A	A		A	

Intersection Summary			
Delay	7.2		
Level of Service	A		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Queues
1: Sorrento Dr & Eglinton Ave E

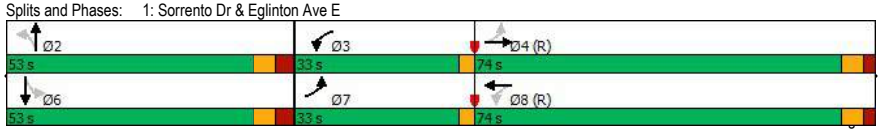
Future Background 2030 PM
12-02-2020

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	23	1486	664	1851	101	59	139	21
Future Volume (vph)	23	1486	664	1851	101	59	139	21
Lane Group Flow (vph)	92	1573	664	2551	101	136	556	200
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	9.5	33.5	9.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	33.0	74.0	33.0	74.0	53.0	53.0	53.0	53.0
Total Split (%)	20.6%	46.3%	20.6%	46.3%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.5	0.0	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	3.0	6.5	7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.51	0.72	1.70	0.94	0.35	0.26	1.58	0.38
Control Delay	38.4	35.6	356.7	41.8	49.7	32.0	312.8	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	35.6	356.7	41.8	49.7	32.0	312.8	38.0
Queue Length 50th (m)	12.9	157.4	~268.6	242.6	23.6	21.3	~230.9	36.8
Queue Length 95th (m)	3.5	m77.5	#339.3	#298.3	40.3	38.5	45.9	7.5
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	392	2172	391	2715	290	521	351	529
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	0.23	0.72	1.70	0.94	0.35	0.26	1.58	0.38

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 69 (43%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



HCM Signalized Intersection Capacity Analysis
1: Sorrento Dr & Eglinton Ave E

Future Background 2030 PM
12-02-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1486	87	664	1851	175	101	59	77	139	21	29
Future Volume (vph)	23	1486	87	664	1851	175	101	59	77	139	21	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
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	1.00	
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	0.96		1.00	0.92		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5138		1789	4993		1802	1732		1825	1754	
Flt Permitted	0.06	1.00		0.06	1.00		0.54	1.00		0.64	1.00	
Satd. Flow (perm)	114	5138		122	4993		1020	1732		1235	1754	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	92	1486	87	664	1851	700	101	59	77	556	84	116
RTOR Reduction (vph)	0	4	0	0	34	0	0	29	0	0	31	0
Lane Group Flow (vph)	92	1569	0	664	2517	0	101	107	0	556	169	0
Confl. Peds. (#/hr)			7	7			13		3			
Heavy Vehicles (%)	0%	1%	1%	2%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Effective Green, g (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.49	0.42		0.63	0.54		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	180	2167		389	2680		290	492		351	498	
v/s Ratio Prot	0.04	0.31		c0.32	0.50			0.06			0.10	
v/s Ratio Perm	0.22			c0.75			0.10			c0.45		
v/c Ratio	0.51	0.72		1.71	0.94		0.35	0.22		1.58	0.34	
Uniform Delay, d1	32.7	38.5		52.6	34.6		45.5	43.7		57.2	45.4	
Progression Factor	1.42	0.92		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2		328.9	8.0		1.5	0.5		276.1	0.9	
Delay (s)	46.8	35.5		381.5	42.6		47.0	44.1		333.3	46.2	
Level of Service	D	D		F	D		D	D		F	D	
Approach Delay (s)		36.1			112.6			45.3			257.4	
Approach LOS		D			F			D			F	

Intersection Summary

HCM 2000 Control Delay	106.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
Analysis Period (min)	15		

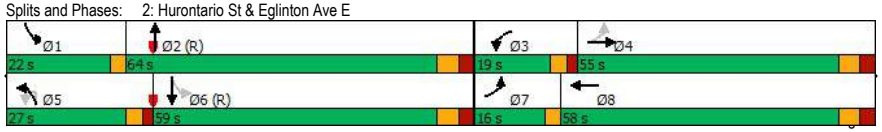
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	284	841	149	267	1882	144	37	716	3008	182	557	2409
Future Volume (vph)	284	841	149	267	1882	144	37	716	3008	182	557	2409
Lane Group Flow (vph)	284	841	149	267	1882	144	0	864	3008	182	557	2409
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Detector Phase	7	4		3	8		5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	5.0	8.0		5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	10.0	41.0		8.0	41.0
Total Split (s)	16.0	55.0		19.0	58.0		27.0	27.0	64.0		22.0	59.0
Total Split (%)	10.0%	34.4%		11.9%	36.3%		16.9%	16.9%	40.0%		13.8%	36.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	2.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None	C-Max		None	C-Max
v/c Ratio	1.43	0.55	0.09	0.87	1.14	0.09		9.29	1.52	0.12	2.14	1.35
Control Delay	251.8	48.5	0.1	104.5	116.2	0.1		3757.6	273.4	0.1	552.2	202.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	251.8	48.5	0.1	104.5	116.2	0.1		3757.6	273.4	0.1	552.2	202.9
Queue Length 50th (m)	~96.2	75.9	0.0	42.5	~231.7	0.0		~260.5	~406.0	0.0	~245.5	~306.8
Queue Length 95th (m)	#151.6	89.1	0.0	m47.6	#257.8	m0.0		#297.9	#424.2	m0.0	#313.1	#327.9
Internal Link Dist (m)		132.7			301.3				160.0			158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0		87.0			95.0	
Base Capacity (vph)	199	1542	1578	306	1655	1576		93	1974	1538	260	1783
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	1.43	0.55	0.09	0.87	1.14	0.09		9.29	1.52	0.12	2.14	1.35

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 142 (89%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
Lane Group Flow (vph)	619
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
v/c Ratio	0.39
Control Delay	0.7
Queue Delay	0.0
Total Delay	0.7
Queue Length 50th (m)	0.0
Queue Length 95th (m)	0.0
Internal Link Dist (m)	
Turn Bay Length (m)	95.0
Base Capacity (vph)	1585
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	284	841	149	267	1882	144	37	716	3008	182	557	2409
Future Volume (vph)	284	841	149	267	1882	144	37	716	3008	182	557	2409
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0		5.0	7.0	4.0	3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00		0.97	*1.00	1.00	1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97		1.00	1.00	0.97	1.00	1.00
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	1.00
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	1578	3506	5193	1576		3538	5542	1538	1772	5489
Flt Permitted	0.08	1.00	1.00	0.95	1.00	1.00		0.18	1.00	1.00	0.08	1.00
Satd. Flow (perm)	160	5142	1578	3506	5193	1576		677	5542	1538	143	5489
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	284	841	149	267	1882	144	148	716	3008	182	557	2409
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	284	841	149	267	1882	144	0	864	3008	182	557	2409
Confl. Peds. (#/hr)	45		40	40		45		26		60	60	
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	0%	0%	4%	3%	3%	5%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Actuated Green, G (s)	61.0	48.0	160.0	14.0	51.0	160.0		22.0	57.0	160.0	71.0	52.0
Effective Green, g (s)	61.0	48.0	160.0	14.0	51.0	160.0		22.0	57.0	160.0	71.0	52.0
Actuated g/C Ratio	0.38	0.30	1.00	0.09	0.32	1.00		0.14	0.36	1.00	0.44	0.32
Clearance Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	196	1542	1578	306	1655	1576		93	1974	1538	256	1783
v/s Ratio Prot	c0.12	0.16		0.08	0.36				c0.54		0.26	0.44
v/s Ratio Perm	c0.43		0.09			0.09		c1.28		0.12	c0.70	
v/c Ratio	1.45	0.55	0.09	0.87	1.14	0.09		9.29	1.52	0.12	2.18	1.35
Uniform Delay, d1	47.1	46.9	0.0	72.1	54.5	0.0		69.0	51.5	0.0	52.2	54.0
Progression Factor	1.00	1.00	1.00	1.22	1.03	1.00		1.11	0.98	1.00	1.00	1.00
Incremental Delay, d2	228.3	0.7	0.1	15.9	66.6	0.1		3751.0	238.2	0.1	541.8	161.8
Delay (s)	275.4	47.6	0.1	103.8	122.7	0.1		3827.9	288.6	0.1	594.0	215.8
Level of Service	F	D	A	F	F	A		F	F	A	F	F
Approach Delay (s)		92.8			112.8				1029.9			237.4
Approach LOS		F			F				F			F

Intersection Summary			
HCM 2000 Control Delay	482.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.85		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	159.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1585
Flt Permitted	1.00
Satd. Flow (perm)	1585
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	619
RTOR Reduction (vph)	0
Lane Group Flow (vph)	619
Confl. Peds. (#/hr)	26
Heavy Vehicles (%)	1%
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	160.0
Effective Green, g (s)	160.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1585
v/s Ratio Prot	
v/s Ratio Perm	c0.39
v/c Ratio	0.39
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.7
Delay (s)	0.7
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	133	57	201	526	151	401	2022	291	32	1992	70
Future Volume (vph)	133	57	201	526	151	401	2022	291	32	1992	70
Lane Group Flow (vph)	133	57	201	526	201	401	2022	291	32	1992	70
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	4	4	4	8	8	5	2		6	6	
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	8.0		8.0	8.0	
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	10.0	41.5		41.5	41.5	
Total Split (s)	66.0	66.0	66.0	66.0	66.0	37.0	94.0		57.0	57.0	
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	23.1%	58.8%		35.6%	35.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	0.0	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max		C-Max	C-Max	
v/c Ratio	0.35	0.08	0.29	1.09	0.31	0.96	0.73	0.19	0.68	1.23	0.04
Control Delay	40.1	33.7	5.2	113.3	36.9	83.9	29.2	0.3	29.8	125.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	33.7	5.2	113.3	36.9	83.9	29.2	0.3	29.8	125.0	0.0
Queue Length 50th (m)	28.3	10.9	0.0	~172.3	40.9	102.1	158.9	0.0	3.9	~269.1	0.0
Queue Length 95th (m)	46.2	20.5	15.7	#238.5	60.7	#162.7	174.2	0.0	m2.2	m113.6	m0.0
Internal Link Dist (m)		139.7			81.8		241.5			228.3	
Turn Bay Length (m)	51.0			52.0		169.0		76.0	90.0		42.0
Base Capacity (vph)	384	688	685	484	658	417	2784	1554	47	1625	1599
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	0.35	0.08	0.29	1.09	0.31	0.96	0.73	0.19	0.68	1.23	0.04

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 170
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	57	201	526	151	50	401	2022	291	32	1992	70
Future Volume (vph)	133	57	201	526	151	50	401	2022	291	32	1992	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5	4.0	6.5	6.5	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	0.98		1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.96	1.00	1.00	0.97	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1737	1883	1526	1748	1793		1789	5092	1554	1816	5142	1599
Flt Permitted	0.57	1.00	1.00	0.72	1.00		0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1051	1883	1526	1324	1793		138	5092	1554	151	5142	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	57	201	526	151	50	401	2022	291	32	1992	70
RTOR Reduction (vph)	0	0	128	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	133	57	73	526	198	0	401	2022	291	32	1992	70
Confl. Peds. (#/hr)	65		43	43		65	30		39	39		30
Heavy Vehicles (%)	1%	2%	2%	1%	2%	0%	2%	3%	1%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		Free	6		Free
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	50.6	50.6	160.0
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	50.6	50.6	160.0
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37		0.55	0.55	1.00	0.32	0.32	1.00
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	384	688	557	484	655		414	2784	1554	47	1626	1599
v/s Ratio Prot		0.03			0.11		c0.20	0.40			c0.39	
v/s Ratio Perm	0.13		0.05	c0.40			0.33		0.19	0.21		0.04
v/c Ratio	0.35	0.08	0.13	1.09	0.30		0.97	0.73	0.19	0.68	1.23	0.04
Uniform Delay, d1	36.9	33.2	33.8	50.8	36.2		52.3	27.2	0.0	47.7	54.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.36	0.38	1.00
Incremental Delay, d2	1.1	0.1	0.2	66.4	0.5		36.2	1.7	0.3	7.0	101.8	0.0
Delay (s)	38.0	33.3	34.1	117.2	36.7		88.5	28.9	0.3	24.0	122.4	0.0
Level of Service	D	C	C	F	D		F	C	A	C	F	A
Approach Delay (s)		35.3			94.9			34.7			116.8	
Approach LOS		D			F			C			F	

Intersection Summary

HCM 2000 Control Delay	71.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	149.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1636			1636			1029	900	1091	1029	900	1091

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS					A	A
Approach Delay (s)	0.0		0.0		0.0	0.0
Approach LOS					A	A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	59	0	0	0	0	0	0	0	0	0	0	21
Future Volume (vph)	59	0	0	0	0	0	0	0	0	0	0	21
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	236	0	0	0	0	0	0	0	0	0	0	84

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	236	0	0	0	0	0	0	84
Volume Left (vph)	236	0	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0	0	84
Hadj (s)	0.50	0.00	0.00	0.00	0.00	0.00	0.00	-0.70
Departure Headway (s)	5.2	4.7	4.9	4.9	5.3	5.3	5.2	4.5
Degree Utilization, x	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Capacity (veh/h)	681	764	728	728	656	656	682	761
Control Delay (s)	9.7	6.5	6.7	6.7	7.1	7.1	7.0	6.8
Approach Delay (s)	9.7		0.0		0.0		6.8	
Approach LOS	A		A		A		A	

Intersection Summary			
Delay	8.9		
Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1636		1029	1091

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		0.0%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	59	0	0	21	0
Future Volume (vph)	0	0	0	0	0	0	0	59	0	0	21	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	236	0	0	84	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	0	236	0	84
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	4.7	4.7	4.6	4.6	4.7	4.7
Degree Utilization, x	0.00	0.00	0.00	0.30	0.00	0.11
Capacity (veh/h)	722	722	795	781	778	760
Control Delay (s)	7.7	7.7	6.4	8.3	6.5	7.0
Approach Delay (s)	0.0	0.0	8.3		7.0	
Approach LOS	A	A	A		A	

Intersection Summary			
Delay		8.0	
Level of Service		A	
Intersection Capacity Utilization		6.7%	ICU Level of Service A
Analysis Period (min)		15	

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			

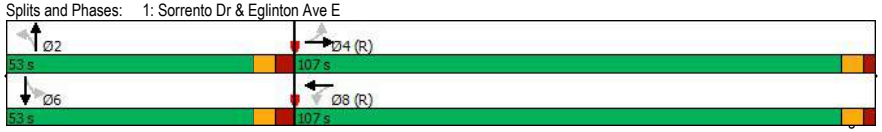
2025 With LRT

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	2055	86	802	21	11	128	36
Future Volume (vph)	10	2055	86	802	21	11	128	36
Lane Group Flow (vph)	40	2089	86	938	21	74	512	436
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	33.5	33.5	33.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	107.0	107.0	107.0	107.0	53.0	53.0	53.0	53.0
Total Split (%)	66.9%	66.9%	66.9%	66.9%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.12	0.65	1.41	0.30	0.22	0.16	1.32	0.81
Control Delay	12.1	17.4	285.2	13.3	51.1	36.9	206.1	58.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	17.4	285.2	13.3	51.1	36.9	206.1	58.3
Queue Length 50th (m)	3.5	76.1	~33.5	42.0	4.7	13.6	~193.2	104.0
Queue Length 95th (m)	m1.9	m62.5	#49.7	49.3	12.7	26.2	41.5	19.1
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	327	3223	61	3104	95	471	387	537
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.65	1.41	0.30	0.22	0.16	1.32	0.81

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 158 (99%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	2055	34	86	802	34	21	11	63	128	36	73
Future Volume (vph)	10	2055	34	86	802	34	21	11	63	128	36	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.87		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5128		1722	4920		1737	1629		1825	1728	
Flt Permitted	0.27	1.00		0.05	1.00		0.18	1.00		0.71	1.00	
Satd. Flow (perm)	520	5128		98	4920		336	1629		1362	1728	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	40	2055	34	86	802	136	21	11	63	512	144	292
RTOR Reduction (vph)	0	1	0	0	15	0	0	9	0	0	46	0
Lane Group Flow (vph)	40	2088	0	86	923	0	21	65	0	512	390	0
Confl. Peds. (#/hr)			7	7			2		1			
Heavy Vehicles (%)	0%	2%	0%	6%	5%	0%	5%	0%	2%	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)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Effective Green, g (s)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.28	0.28		0.28	0.28	
Clearance Time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	326	3221		61	3090		95	463		387	491	
v/s Ratio Prot		0.41			0.19			0.04			0.23	
v/s Ratio Perm	0.08			c0.88			0.06			c0.38		
v/c Ratio	0.12	0.65		1.41	0.30		0.22	0.14		1.32	0.79	
Uniform Delay, d1	12.0	18.7		29.8	13.6		43.7	42.7		57.2	52.9	
Progression Factor	0.97	0.92		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		257.2	0.2		2.5	0.3		162.4	9.9	
Delay (s)	11.7	17.2		287.0	13.9		46.2	43.0		219.6	62.8	
Level of Service	B	B		F	B		D	D		F	E	
Approach Delay (s)		17.1			36.8			43.7			147.5	
Approach LOS		B			D			D			F	

Intersection Summary

HCM 2000 Control Delay	52.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		

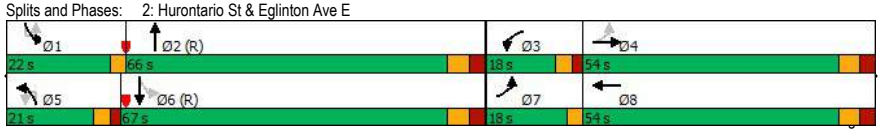
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1504	171	153	549	130	223	2542	100	129	366	2591
Future Volume (vph)	328	1504	171	153	549	130	223	2542	100	129	366	2591
Lane Group Flow (vph)	328	1504	171	153	549	130	223	2542	100	0	882	2933
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Detector Phase	7	4		3	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	41.0		8.0	8.0	41.0
Total Split (s)	18.0	54.0		18.0	54.0		21.0	66.0		22.0	22.0	67.0
Total Split (%)	11.3%	33.8%		11.3%	33.8%		13.1%	41.3%		13.8%	13.8%	41.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	3.0		0.0	0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	None	C-Max
v/c Ratio	0.85	1.00	0.11	0.56	0.38	0.09	0.68	1.87	0.07		3.32	2.20
Control Delay	56.0	77.7	0.1	63.0	41.0	0.1	84.8	421.2	0.1		1067.6	566.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	56.0	77.7	0.1	63.0	41.0	0.1	84.8	421.2	0.1		1067.6	566.9
Queue Length 50th (m)	66.4	~163.9	0.0	17.3	51.2	0.0	34.4	~565.2	0.0		~443.5	~694.2
Queue Length 95th (m)	#105.5	#195.2	0.0	m26.8	62.7	m0.0	m45.6	#597.1	m0.0		#517.9	#720.9
Internal Link Dist (m)		132.7			301.3			160.0				158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0	87.0				95.0	
Base Capacity (vph)	386	1510	1525	284	1453	1527	337	1362	1475		266	1334
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	0.85	1.00	0.11	0.54	0.38	0.09	0.66	1.87	0.07		3.32	2.20

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 114 (71%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 175
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1504	171	153	549	130	223	2542	100	129	366	2591
Future Volume (vph)	328	1504	171	153	549	130	223	2542	100	129	366	2591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0	5.0	7.0	4.0		3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	*1.00	1.00		1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98		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	0.98
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)	1783	5092	1525	3506	4948	1527	3372	3694	1475		1818	3510
Flt Permitted	0.37	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.07	1.00
Satd. Flow (perm)	686	5092	1525	3506	4948	1527	3372	3694	1475		126	3510
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00
Adj. Flow (vph)	328	1504	171	153	549	130	223	2542	100	516	366	2591
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	7
Lane Group Flow (vph)	328	1504	171	153	549	130	223	2542	100	0	882	2926
Confl. Peds. (#/hr)	21		56	56		21	36		42		42	
Heavy Vehicles (%)	2%	3%	4%	1%	6%	5%	5%	4%	8%	0%	1%	7%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Actuated Green, G (s)	62.5	47.5	160.0	12.5	47.0	160.0	15.5	59.0	160.0		79.5	60.5
Effective Green, g (s)	62.5	47.5	160.0	12.5	47.0	160.0	15.5	59.0	160.0		79.5	60.5
Actuated g/C Ratio	0.39	0.30	1.00	0.08	0.29	1.00	0.10	0.37	1.00		0.50	0.38
Clearance Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	370	1511	1525	273	1453	1527	326	1362	1475		263	1327
v/s Ratio Prot	c0.08	c0.30		0.04	0.11		0.07	0.69			c0.40	0.83
v/s Ratio Perm	0.26		c0.11			0.09			0.07		c1.26	
v/c Ratio	0.89	1.00	0.11	0.56	0.38	0.09	0.68	1.87	0.07		3.35	2.21
Uniform Delay, d1	40.5	56.1	0.0	71.1	44.9	0.0	69.9	50.5	0.0		53.7	49.8
Progression Factor	1.00	1.00	1.00	0.78	0.89	1.00	1.06	0.95	1.00		1.00	1.00
Incremental Delay, d2	23.0	22.0	0.1	3.9	0.3	0.1	6.9	392.5	0.1		1068.8	544.8
Delay (s)	63.5	78.1	0.1	59.5	40.4	0.1	81.3	440.5	0.1		1122.5	594.5
Level of Service	E	E	A	E	D	A	F	F	A		F	F
Approach Delay (s)		69.1			37.6			397.1				716.6
Approach LOS		E			D			F				F

Intersection Summary

HCM 2000 Control Delay	424.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.40		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	155.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
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	1.00
Adj. Flow (vph)	342
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	36
Heavy Vehicles (%)	5%
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	188	91	572	348	49	91	161	1452	34	2094
Future Volume (vph)	188	91	572	348	49	91	161	1452	34	2094
Lane Group Flow (vph)	188	91	572	348	49	91	161	1632	34	2175
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4			8		5	2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	65.5	10.0	41.5	41.5	41.5
Total Split (s)	66.0	66.0	66.0	66.0	66.0	66.0	28.0	94.0	66.0	66.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	41.3%	17.5%	58.8%	41.3%	41.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	0.0	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5	6.5	6.5
Lead/Lag							Lead		Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.47	0.16	0.82	0.88	0.09	0.18	0.72	0.80	0.48	1.34
Control Delay	47.0	38.6	31.8	74.5	36.6	17.9	55.6	29.6	14.2	177.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	38.6	31.8	74.5	36.6	17.9	55.6	29.6	14.2	177.0
Queue Length 50th (m)	43.8	19.1	75.7	95.3	10.0	8.2	31.9	190.6	1.0	~432.1
Queue Length 95th (m)	62.2	30.2	116.5	127.1	18.5	19.6	55.1	244.5	m0.6	m18.7
Internal Link Dist (m)		139.7			81.8			241.5		228.3
Turn Bay Length (m)	51.0			52.0		52.0	169.0			
Base Capacity (vph)	472	656	763	465	644	572	296	2042	71	1620
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.14	0.75	0.75	0.08	0.16	0.54	0.80	0.48	1.34

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 139 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 180
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	91	572	348	49	91	161	1452	180	34	2094	81
Future Volume (vph)	188	91	572	348	49	91	161	1452	180	34	2094	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.93	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.95	1.00	1.00	0.98	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	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	1795	1543	1733	1762	1478	1690	3394		1624	3446	
Flt Permitted	0.73	1.00	1.00	0.70	1.00	1.00	0.05	1.00		0.09	1.00	
Satd. Flow (perm)	1293	1795	1543	1273	1762	1478	90	3394		153	3446	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	188	91	572	348	49	91	161	1452	180	34	2094	81
RTOR Reduction (vph)	0	0	216	0	0	35	0	5	0	0	2	0
Lane Group Flow (vph)	188	91	356	348	49	56	161	1627	0	34	2173	0
Confl. Peds. (#/hr)	69		30	30		69	35		25	25		35
Heavy Vehicles (%)	2%	7%	2%	3%	9%	3%	8%	5%	4%	12%	5%	8%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	49.9	49.9	49.9	49.9	49.9	49.9	96.1	96.1		75.2	75.2	
Effective Green, g (s)	49.9	49.9	49.9	49.9	49.9	49.9	96.1	96.1		75.2	75.2	
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.31	0.60	0.60		0.47	0.47	
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	403	559	481	397	549	460	223	2038		71	1619	
v/s Ratio Prot		0.05			0.03		0.08	c0.48			c0.63	
v/s Ratio Perm	0.15		0.23	c0.27		0.04	0.36			0.22		
v/c Ratio	0.47	0.16	0.74	0.88	0.09	0.12	0.72	0.80		0.48	1.34	
Uniform Delay, d1	44.3	39.9	49.2	52.1	39.0	39.4	49.0	24.5		29.0	42.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.21	0.48	
Incremental Delay, d2	1.8	0.3	7.1	20.4	0.1	0.2	13.3	3.4		2.1	154.5	
Delay (s)	46.1	40.2	56.4	72.5	39.1	39.6	62.3	27.9		8.1	174.6	
Level of Service	D	D	E	E	D	D	E	C		A	F	
Approach Delay (s)		52.4			63.0			31.0			172.1	
Approach LOS		D			E			C			F	

Intersection Summary			
HCM 2000 Control Delay	95.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	142.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1636			1636			1029	900	1091	1029	900	1091

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS					A	A
Approach Delay (s)	0.0		0.0		0.0	0.0
Approach LOS					A	A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	0	0	0	0	0	0	0	0	0	0	36
Future Volume (vph)	11	0	0	0	0	0	0	0	0	0	0	36
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	44	0	0	0	0	0	0	0	0	0	0	144

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	44	0	0	0	0	0	0	144
Volume Left (vph)	44	0	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0	0	144
Hadj (s)	0.50	0.00	0.00	0.00	0.00	0.00	0.00	-0.70
Departure Headway (s)	5.3	4.8	4.8	4.8	4.7	4.7	4.6	3.9
Degree Utilization, x	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.16
Capacity (veh/h)	658	739	730	730	763	763	780	897
Control Delay (s)	7.5	6.6	6.6	6.6	6.5	6.5	6.4	6.5
Approach Delay (s)	7.5		0.0		0.0		6.5	
Approach LOS	A		A		A		A	

Intersection Summary				
Delay		6.7		
Level of Service		A		
Intersection Capacity Utilization		13.3%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1636		1029	1091

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	11	0	0	36	0
Future Volume (vph)	0	0	0	0	0	0	0	11	0	0	36	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	44	0	0	144	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	0	44	0	144
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	4.3	4.3	4.6	4.6	4.5	4.5
Degree Utilization, x	0.00	0.00	0.00	0.06	0.00	0.18
Capacity (veh/h)	799	799	789	770	801	784
Control Delay (s)	7.3	7.3	6.4	6.7	6.3	7.3
Approach Delay (s)	0.0	0.0	6.7		7.3	
Approach LOS	A	A	A		A	

Intersection Summary				
Delay		7.2		
Level of Service		A		
Intersection Capacity Utilization		6.7%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

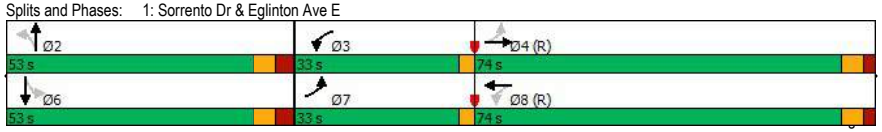
Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		0.0%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	23	1440	664	1826	101	59	139	21
Future Volume (vph)	23	1440	664	1826	101	59	139	21
Lane Group Flow (vph)	92	1527	664	2526	101	136	556	200
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	9.5	33.5	9.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	33.0	74.0	33.0	74.0	53.0	53.0	53.0	53.0
Total Split (%)	20.6%	46.3%	20.6%	46.3%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.5	0.0	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	3.0	6.5	7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.51	0.70	1.67	0.93	0.35	0.26	1.58	0.38
Control Delay	39.0	35.2	343.3	40.8	49.7	32.0	312.8	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.0	35.2	343.3	40.8	49.7	32.0	312.8	38.0
Queue Length 50th (m)	12.8	151.5	~264.6	237.8	23.6	21.3	~230.9	36.8
Queue Length 95th (m)	m3.2	m58.2	#335.2	#292.8	40.3	38.5	45.9	7.5
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	392	2169	398	2713	290	521	351	529
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	0.23	0.70	1.67	0.93	0.35	0.26	1.58	0.38

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 69 (43%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1440	87	664	1826	175	101	59	77	139	21	29
Future Volume (vph)	23	1440	87	664	1826	175	101	59	77	139	21	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
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	1.00	
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	0.96		1.00	0.92		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5136		1789	4991		1802	1732		1825	1754	
Flt Permitted	0.06	1.00		0.07	1.00		0.54	1.00		0.64	1.00	
Satd. Flow (perm)	114	5136		136	4991		1020	1732		1235	1754	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	92	1440	87	664	1826	700	101	59	77	556	84	116
RTOR Reduction (vph)	0	4	0	0	35	0	0	29	0	0	31	0
Lane Group Flow (vph)	92	1523	0	664	2491	0	101	107	0	556	169	0
Confl. Peds. (#/hr)			7	7			13		3			
Heavy Vehicles (%)	0%	1%	1%	2%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Effective Green, g (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.49	0.42		0.63	0.54		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	180	2166		395	2679		290	492		351	498	
v/s Ratio Prot	0.04	0.30		c0.31	0.50			0.06			0.10	
v/s Ratio Perm	0.22			c0.74			0.10			c0.45		
v/c Ratio	0.51	0.70		1.68	0.93		0.35	0.22		1.58	0.34	
Uniform Delay, d1	32.3	38.0		51.2	34.3		45.5	43.7		57.2	45.4	
Progression Factor	1.44	0.92		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2		317.3	7.2		1.5	0.5		276.1	0.9	
Delay (s)	47.0	35.1		368.6	41.5		47.0	44.1		333.3	46.2	
Level of Service	D	D		F	D		D	D		F	D	
Approach Delay (s)		35.8			109.6			45.3			257.4	
Approach LOS		D			F			D			F	

Intersection Summary

HCM 2000 Control Delay	105.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.68		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	105.5%	ICU Level of Service	G
Analysis Period (min)	15		

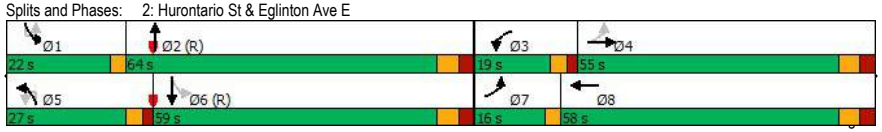
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	284	811	145	267	1857	144	749	3000	182	68	556	2404
Future Volume (vph)	284	811	145	267	1857	144	749	3000	182	68	556	2404
Lane Group Flow (vph)	284	811	145	267	1857	144	749	3000	182	0	828	3023
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Detector Phase	7	4		3	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	41.0		8.0	8.0	41.0
Total Split (s)	16.0	55.0		19.0	58.0		27.0	64.0		22.0	22.0	59.0
Total Split (%)	10.0%	34.4%		11.9%	36.3%		16.9%	40.0%		13.8%	13.8%	36.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	3.0		0.0	0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	None	C-Max
v/c Ratio	1.43	0.53	0.09	0.87	1.12	0.09	1.54	2.28	0.12		3.15	2.59
Control Delay	251.8	48.0	0.1	104.9	110.3	0.1	295.7	604.2	0.1		994.5	742.3
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	251.8	48.0	0.1	104.9	110.3	0.1	295.7	604.2	0.1		994.5	742.3
Queue Length 50th (m)	~96.2	72.7	0.0	42.4	~225.9	0.0	~160.8	~712.6	0.0		~411.2	~745.1
Queue Length 95th (m)	#151.6	85.7	0.0	m47.8	#252.1	m0.0	m#156.8	m#640.5	m0.0		#484.9	#770.9
Internal Link Dist (m)		132.7			301.3			160.0				158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0	87.0				95.0	
Base Capacity (vph)	199	1542	1578	306	1655	1576	486	1315	1538		263	1165
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	1.43	0.53	0.09	0.87	1.12	0.09	1.54	2.28	0.12		3.15	2.59

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 142 (89%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 175
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	284	811	145	267	1857	144	749	3000	182	68	556	2404
Future Volume (vph)	284	811	145	267	1857	144	749	3000	182	68	556	2404
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0	5.0	7.0	4.0		3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	*1.00	1.00		1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.97		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	0.97
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	1578	3506	5193	1576	3541	3694	1538		1789	3540
Flt Permitted	0.08	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.08	1.00
Satd. Flow (perm)	160	5142	1578	3506	5193	1576	3541	3694	1538		145	3540
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00
Adj. Flow (vph)	284	811	145	267	1857	144	749	3000	182	272	556	2404
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	16
Lane Group Flow (vph)	284	811	145	267	1857	144	749	3000	182	0	828	3007
Confl. Peds. (#/hr)	45		40	40		45	26		60		60	
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	0%	4%	3%	0%	3%	5%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Actuated Green, G (s)	61.0	48.0	160.0	14.0	51.0	160.0	22.0	57.0	160.0		71.0	52.0
Effective Green, g (s)	61.0	48.0	160.0	14.0	51.0	160.0	22.0	57.0	160.0		71.0	52.0
Actuated g/C Ratio	0.38	0.30	1.00	0.09	0.32	1.00	0.14	0.36	1.00		0.44	0.32
Clearance Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	196	1542	1578	306	1655	1576	486	1315	1538		259	1150
v/s Ratio Prot	c0.12	0.16		0.08	c0.36		0.21	c0.81			c0.38	0.85
v/s Ratio Perm	c0.43		0.09			0.09			0.12		c1.04	
v/c Ratio	1.45	0.53	0.09	0.87	1.12	0.09	1.54	2.28	0.12		3.20	2.62
Uniform Delay, d1	47.1	46.5	0.0	72.1	54.5	0.0	69.0	51.5	0.0		52.2	54.0
Progression Factor	1.00	1.00	1.00	1.22	1.02	1.00	1.06	1.11	1.00		1.00	1.00
Incremental Delay, d2	228.3	0.6	0.1	16.2	60.3	0.1	251.4	578.5	0.1		998.6	729.4
Delay (s)	275.4	47.2	0.1	104.2	116.2	0.1	324.3	635.5	0.1		1050.8	783.4
Level of Service	F	D	A	F	F	A	F	F	A		F	F
Approach Delay (s)		93.9			107.4			546.8				840.9
Approach LOS		F			F			F				F

Intersection Summary

HCM 2000 Control Delay	509.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.36		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	187.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
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	1.00
Adj. Flow (vph)	619
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	26
Heavy Vehicles (%)	1%
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	133	57	201	526	151	50	401	2010	32	1983
Future Volume (vph)	133	57	201	526	151	50	401	2010	32	1983
Lane Group Flow (vph)	133	57	201	526	151	50	401	2301	32	2053
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4			8		5	2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	65.5	10.0	41.5	41.5	41.5
Total Split (s)	66.0	66.0	66.0	66.0	66.0	66.0	37.0	94.0	57.0	57.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	41.3%	23.1%	58.8%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	0.0	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5	6.5	6.5
Lead/Lag							Lead		Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.31	0.08	0.29	1.09	0.22	0.08	0.96	1.22	0.68	1.82
Control Delay	38.9	33.7	5.2	113.3	36.1	8.1	83.9	136.8	29.5	391.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.9	33.7	5.2	113.3	36.1	8.1	83.9	136.8	29.5	391.9
Queue Length 50th (m)	27.9	10.9	0.0	~172.3	30.5	0.0	102.1	~434.0	3.5	~488.1
Queue Length 95th (m)	45.1	20.5	15.7	#238.5	46.7	8.4	#162.7	#468.6	m1.1	m85.2
Internal Link Dist (m)		139.7			81.8			241.5		228.3
Turn Bay Length (m)	51.0			52.0		52.0	169.0			
Base Capacity (vph)	426	688	685	484	688	590	417	1887	47	1126
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.08	0.29	1.09	0.22	0.08	0.96	1.22	0.68	1.82

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 180
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	57	201	526	151	50	401	2010	291	32	1983	70
Future Volume (vph)	133	57	201	526	151	50	401	2010	291	32	1983	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.94	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.96	1.00	1.00	0.97	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	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1729	1883	1526	1748	1883	1527	1789	3438		1825	3556	
Flt Permitted	0.64	1.00	1.00	0.72	1.00	1.00	0.07	1.00		0.08	1.00	
Satd. Flow (perm)	1166	1883	1526	1324	1883	1527	138	3438		152	3556	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	57	201	526	151	50	401	2010	291	32	1983	70
RTOR Reduction (vph)	0	0	128	0	0	32	0	7	0	0	1	0
Lane Group Flow (vph)	133	57	73	526	151	18	401	2294	0	32	2052	0
Confl. Peds. (#/hr)	65		43	43		65	30		39	39		30
Heavy Vehicles (%)	1%	2%	2%	1%	2%	0%	2%	3%	1%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5	58.5	87.5	87.5		50.6	50.6	
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5	58.5	87.5	87.5		50.6	50.6	
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37	0.37	0.55	0.55		0.32	0.32	
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	426	688	557	484	688	558	414	1880		48	1124	
v/s Ratio Prot		0.03			0.08		0.20	c0.67			c0.58	
v/s Ratio Perm	0.11		0.05	c0.40		0.01	0.33			0.21		
v/c Ratio	0.31	0.08	0.13	1.09	0.22	0.03	0.97	1.22		0.67	1.83	
Uniform Delay, d1	36.3	33.2	33.8	50.8	35.0	32.6	52.3	36.2		47.4	54.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.35	0.37	
Incremental Delay, d2	0.9	0.1	0.2	66.4	0.3	0.1	36.2	104.1		6.5	371.7	
Delay (s)	37.2	33.3	34.1	117.2	35.3	32.6	88.5	140.3		23.0	391.7	
Level of Service	D	C	C	F	D	C	F	F		C	F	
Approach Delay (s)		35.0			94.4			132.6			386.0	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	210.9	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)	18.0
Intersection Capacity Utilization	168.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1636			1636			1029	900	1091	1029	900	1091

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS					A	A
Approach Delay (s)	0.0		0.0		0.0	0.0
Approach LOS					A	A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	59	0	0	0	0	0	0	0	0	0	0	21
Future Volume (vph)	59	0	0	0	0	0	0	0	0	0	0	21
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	236	0	0	0	0	0	0	0	0	0	0	84

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	236	0	0	0	0	0	0	84
Volume Left (vph)	236	0	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0	0	84
Hadj (s)	0.50	0.00	0.00	0.00	0.00	0.00	0.00	-0.70
Departure Headway (s)	5.2	4.7	4.9	4.9	5.3	5.3	5.2	4.5
Degree Utilization, x	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Capacity (veh/h)	681	764	728	728	656	656	682	761
Control Delay (s)	9.7	6.5	6.7	6.7	7.1	7.1	7.0	6.8
Approach Delay (s)	9.7		0.0		0.0		6.8	
Approach LOS	A		A		A		A	

Intersection Summary				
Delay		8.9		
Level of Service		A		
Intersection Capacity Utilization		13.3%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1636		1029	1091

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	59	0	0	21	0
Future Volume (vph)	0	0	0	0	0	0	0	59	0	0	21	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	236	0	0	84	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	0	236	0	84
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	4.7	4.7	4.6	4.6	4.7	4.7
Degree Utilization, x	0.00	0.00	0.00	0.30	0.00	0.11
Capacity (veh/h)	722	722	795	781	778	760
Control Delay (s)	7.7	7.7	6.4	8.3	6.5	7.0
Approach Delay (s)	0.0	0.0	8.3		7.0	
Approach LOS	A	A	A		A	

Intersection Summary				
Delay		8.0		
Level of Service		A		
Intersection Capacity Utilization	6.7%		ICU Level of Service	A
Analysis Period (min)		15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		0.0%	ICU Level of Service	A
Analysis Period (min)		15		

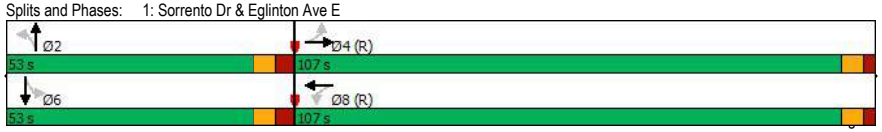
2030 With LRT

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	2055	86	860	21	11	128	36
Future Volume (vph)	10	2055	86	860	21	11	128	36
Lane Group Flow (vph)	40	2089	86	996	21	74	512	436
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	33.5	33.5	33.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	107.0	107.0	107.0	107.0	53.0	53.0	53.0	53.0
Total Split (%)	66.9%	66.9%	66.9%	66.9%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.13	0.65	1.41	0.32	0.22	0.16	1.32	0.81
Control Delay	12.2	17.4	285.2	13.6	51.1	36.9	206.1	58.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	17.4	285.2	13.6	51.1	36.9	206.1	58.3
Queue Length 50th (m)	3.5	76.1	~33.5	45.6	4.7	13.6	~193.2	104.0
Queue Length 95th (m)	m1.9	m62.5	#49.7	53.2	12.7	26.2	41.5	19.1
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	304	3223	61	3108	95	471	387	537
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.65	1.41	0.32	0.22	0.16	1.32	0.81

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 158 (99%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	2055	34	86	860	34	21	11	63	128	36	73
Future Volume (vph)	10	2055	34	86	860	34	21	11	63	128	36	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.87		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5128		1722	4925		1737	1629		1825	1728	
Flt Permitted	0.25	1.00		0.05	1.00		0.18	1.00		0.71	1.00	
Satd. Flow (perm)	484	5128		98	4925		336	1629		1362	1728	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	40	2055	34	86	860	136	21	11	63	512	144	292
RTOR Reduction (vph)	0	1	0	0	13	0	0	9	0	0	46	0
Lane Group Flow (vph)	40	2088	0	86	983	0	21	65	0	512	390	0
Confl. Peds. (#/hr)			7	7			2		1			
Heavy Vehicles (%)	0%	2%	0%	6%	5%	0%	5%	0%	2%	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)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Effective Green, g (s)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.28	0.28		0.28	0.28	
Clearance Time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	304	3221		61	3093		95	463		387	491	
v/s Ratio Prot		0.41			0.20			0.04			0.23	
v/s Ratio Perm	0.08			c0.88			0.06			c0.38		
v/c Ratio	0.13	0.65		1.41	0.32		0.22	0.14		1.32	0.79	
Uniform Delay, d1	12.1	18.7		29.8	13.8		43.7	42.7		57.2	52.9	
Progression Factor	0.96	0.92		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		257.2	0.3		2.5	0.3		162.4	9.9	
Delay (s)	11.7	17.2		287.0	14.1		46.2	43.0		219.6	62.8	
Level of Service	B	B		F	B		D	D		F	E	
Approach Delay (s)		17.1			35.8			43.7			147.5	
Approach LOS		B			D			D			F	

Intersection Summary

HCM 2000 Control Delay	51.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		

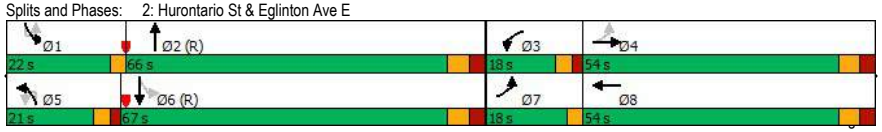
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1504	171	153	585	130	223	2542	100	129	366	2591
Future Volume (vph)	328	1504	171	153	585	130	223	2542	100	129	366	2591
Lane Group Flow (vph)	328	1504	171	153	585	130	223	2542	100	0	882	2933
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Detector Phase	7	4		3	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	41.0		8.0	8.0	41.0
Total Split (s)	18.0	54.0		18.0	54.0		21.0	66.0		22.0	22.0	67.0
Total Split (%)	11.3%	33.8%		11.3%	33.8%		13.1%	41.3%		13.8%	13.8%	41.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	3.0		0.0	0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	None	C-Max
v/c Ratio	0.88	1.00	0.11	0.56	0.40	0.09	0.68	1.87	0.07		3.32	2.20
Control Delay	60.3	77.7	0.1	64.3	40.8	0.1	84.8	421.2	0.1		1067.6	566.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	60.3	77.7	0.1	64.3	40.8	0.1	84.8	421.2	0.1		1067.6	566.9
Queue Length 50th (m)	66.4	~163.9	0.0	17.0	54.7	0.0	34.4	~565.2	0.0		~443.5	~694.2
Queue Length 95th (m)	#110.6	#195.2	0.0	m27.1	66.4	m0.0	m45.6	#597.1	m0.0		#517.9	#720.9
Internal Link Dist (m)		132.7			301.3			160.0				158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0	87.0				95.0	
Base Capacity (vph)	373	1510	1525	284	1453	1527	337	1362	1475		266	1334
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	0.88	1.00	0.11	0.54	0.40	0.09	0.66	1.87	0.07		3.32	2.20

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 114 (71%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 175
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1504	171	153	585	130	223	2542	100	129	366	2591
Future Volume (vph)	328	1504	171	153	585	130	223	2542	100	129	366	2591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0	5.0	7.0	4.0		3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	*1.00	1.00		1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98		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	0.98
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)	1783	5092	1525	3506	4948	1527	3372	3694	1475		1818	3510
Flt Permitted	0.34	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.07	1.00
Satd. Flow (perm)	644	5092	1525	3506	4948	1527	3372	3694	1475		126	3510
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00
Adj. Flow (vph)	328	1504	171	153	585	130	223	2542	100	516	366	2591
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	7
Lane Group Flow (vph)	328	1504	171	153	585	130	223	2542	100	0	882	2926
Confl. Peds. (#/hr)	21		56	56		21	36		42		42	
Heavy Vehicles (%)	2%	3%	4%	1%	6%	5%	5%	4%	8%	0%	1%	7%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Actuated Green, G (s)	62.5	47.5	160.0	12.5	47.0	160.0	15.5	59.0	160.0		79.5	60.5
Effective Green, g (s)	62.5	47.5	160.0	12.5	47.0	160.0	15.5	59.0	160.0		79.5	60.5
Actuated g/C Ratio	0.39	0.30	1.00	0.08	0.29	1.00	0.10	0.37	1.00		0.50	0.38
Clearance Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	358	1511	1525	273	1453	1527	326	1362	1475		263	1327
v/s Ratio Prot	c0.09	c0.30		0.04	0.12		0.07	0.69			c0.40	0.83
v/s Ratio Perm	0.27		c0.11			0.09			0.07		c1.26	
v/c Ratio	0.92	1.00	0.11	0.56	0.40	0.09	0.68	1.87	0.07		3.35	2.21
Uniform Delay, d1	41.2	56.1	0.0	71.1	45.3	0.0	69.9	50.5	0.0		53.7	49.8
Progression Factor	1.00	1.00	1.00	0.80	0.88	1.00	1.06	0.95	1.00		1.00	1.00
Incremental Delay, d2	28.5	22.0	0.1	3.9	0.4	0.1	6.9	392.5	0.1		1068.8	544.8
Delay (s)	69.7	78.1	0.1	60.8	40.3	0.1	81.3	440.5	0.1		1122.5	594.5
Level of Service	E	E	A	E	D	A	F	F	A		F	F
Approach Delay (s)		70.1			37.9			397.1				716.6
Approach LOS		E			D			F				F

Intersection Summary

HCM 2000 Control Delay	423.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.41		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	155.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
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	1.00
Adj. Flow (vph)	342
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	36
Heavy Vehicles (%)	5%
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	188	91	572	348	49	91	161	1452	34	2094
Future Volume (vph)	188	91	572	348	49	91	161	1452	34	2094
Lane Group Flow (vph)	188	91	572	348	49	91	161	1632	34	2175
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4			8		5	2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	65.5	10.0	41.5	41.5	41.5
Total Split (s)	66.0	66.0	66.0	66.0	66.0	66.0	28.0	94.0	66.0	66.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	41.3%	17.5%	58.8%	41.3%	41.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	0.0	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5	6.5	6.5
Lead/Lag							Lead		Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.47	0.16	0.82	0.88	0.09	0.18	0.72	0.80	0.48	1.34
Control Delay	47.0	38.6	31.8	74.5	36.6	17.9	55.6	29.6	14.2	177.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	38.6	31.8	74.5	36.6	17.9	55.6	29.6	14.2	177.0
Queue Length 50th (m)	43.8	19.1	75.7	95.3	10.0	8.2	31.9	190.6	1.0	~432.1
Queue Length 95th (m)	62.2	30.2	116.5	127.1	18.5	19.6	55.1	244.5	m0.6	m18.7
Internal Link Dist (m)		139.7			81.8			241.5		228.3
Turn Bay Length (m)	51.0			52.0		52.0	169.0			
Base Capacity (vph)	472	656	763	465	644	572	296	2042	71	1620
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.14	0.75	0.75	0.08	0.16	0.54	0.80	0.48	1.34

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 139 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 180
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	91	572	348	49	91	161	1452	180	34	2094	81
Future Volume (vph)	188	91	572	348	49	91	161	1452	180	34	2094	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.93	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.95	1.00	1.00	0.98	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	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	1795	1543	1733	1762	1478	1690	3394		1624	3446	
Flt Permitted	0.73	1.00	1.00	0.70	1.00	1.00	0.05	1.00		0.09	1.00	
Satd. Flow (perm)	1293	1795	1543	1273	1762	1478	90	3394		153	3446	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	188	91	572	348	49	91	161	1452	180	34	2094	81
RTOR Reduction (vph)	0	0	216	0	0	35	0	5	0	0	2	0
Lane Group Flow (vph)	188	91	356	348	49	56	161	1627	0	34	2173	0
Confl. Peds. (#/hr)	69		30	30		69	35		25	25		35
Heavy Vehicles (%)	2%	7%	2%	3%	9%	3%	8%	5%	4%	12%	5%	8%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	49.9	49.9	49.9	49.9	49.9	49.9	96.1	96.1		75.2	75.2	
Effective Green, g (s)	49.9	49.9	49.9	49.9	49.9	49.9	96.1	96.1		75.2	75.2	
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.31	0.60	0.60		0.47	0.47	
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	403	559	481	397	549	460	223	2038		71	1619	
v/s Ratio Prot		0.05			0.03		0.08	c0.48			c0.63	
v/s Ratio Perm	0.15		0.23	c0.27		0.04	0.36			0.22		
v/c Ratio	0.47	0.16	0.74	0.88	0.09	0.12	0.72	0.80		0.48	1.34	
Uniform Delay, d1	44.3	39.9	49.2	52.1	39.0	39.4	49.0	24.5		29.0	42.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.21	0.48	
Incremental Delay, d2	1.8	0.3	7.1	20.4	0.1	0.2	13.3	3.4		2.1	154.5	
Delay (s)	46.1	40.2	56.4	72.5	39.1	39.6	62.3	27.9		8.1	174.6	
Level of Service	D	D	E	E	D	D	E	C		A	F	
Approach Delay (s)		52.4			63.0			31.0			172.1	
Approach LOS		D			E			C			F	

Intersection Summary			
HCM 2000 Control Delay	95.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	142.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1636			1636			1029	900	1091	1029	900	1091

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS					A	A
Approach Delay (s)	0.0		0.0		0.0	0.0
Approach LOS					A	A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	0	0	0	0	0	0	0	0	0	0	36
Future Volume (vph)	11	0	0	0	0	0	0	0	0	0	0	36
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	44	0	0	0	0	0	0	0	0	0	0	144

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	44	0	0	0	0	0	0	144
Volume Left (vph)	44	0	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0	0	144
Hadj (s)	0.50	0.00	0.00	0.00	0.00	0.00	0.00	-0.70
Departure Headway (s)	5.3	4.8	4.8	4.8	4.7	4.7	4.6	3.9
Degree Utilization, x	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.16
Capacity (veh/h)	658	739	730	730	763	763	780	897
Control Delay (s)	7.5	6.6	6.6	6.6	6.5	6.5	6.4	6.5
Approach Delay (s)	7.5		0.0		0.0		6.5	
Approach LOS	A		A		A		A	

Intersection Summary				
Delay		6.7		
Level of Service		A		
Intersection Capacity Utilization		13.3%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1636		1029	1091

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	11	0	0	36	0
Future Volume (vph)	0	0	0	0	0	0	0	11	0	0	36	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	44	0	0	144	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	0	44	0	144
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	4.3	4.3	4.6	4.6	4.5	4.5
Degree Utilization, x	0.00	0.00	0.00	0.06	0.00	0.18
Capacity (veh/h)	799	799	789	770	801	784
Control Delay (s)	7.3	7.3	6.4	6.7	6.3	7.3
Approach Delay (s)	0.0	0.0	6.7		7.3	
Approach LOS	A	A	A		A	

Intersection Summary				
Delay		7.2		
Level of Service		A		
Intersection Capacity Utilization		6.7%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

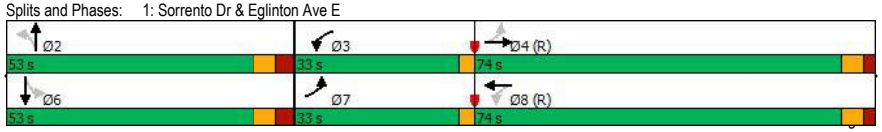
Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		0.0%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	23	1473	664	1826	101	59	139	21
Future Volume (vph)	23	1473	664	1826	101	59	139	21
Lane Group Flow (vph)	92	1560	664	2526	101	136	556	200
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	9.5	33.5	9.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	33.0	74.0	33.0	74.0	53.0	53.0	53.0	53.0
Total Split (%)	20.6%	46.3%	20.6%	46.3%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.5	0.0	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	3.0	6.5	7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.51	0.72	1.69	0.93	0.35	0.26	1.58	0.38
Control Delay	38.8	35.2	352.8	40.8	49.7	32.0	312.8	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	35.2	352.8	40.8	49.7	32.0	312.8	38.0
Queue Length 50th (m)	12.9	155.4	~267.4	237.8	23.6	21.3	~230.9	36.8
Queue Length 95th (m)	m3.1	m59.5	#338.1	#292.8	40.3	38.5	45.9	7.5
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	392	2172	393	2713	290	521	351	529
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	0.23	0.72	1.69	0.93	0.35	0.26	1.58	0.38

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 69 (43%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1473	87	664	1826	175	101	59	77	139	21	29
Future Volume (vph)	23	1473	87	664	1826	175	101	59	77	139	21	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
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	1.00	
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	0.96		1.00	0.92		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5138		1789	4991		1802	1732		1825	1754	
Flt Permitted	0.06	1.00		0.07	1.00		0.54	1.00		0.64	1.00	
Satd. Flow (perm)	114	5138		126	4991		1020	1732		1235	1754	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	92	1473	87	664	1826	700	101	59	77	556	84	116
RTOR Reduction (vph)	0	4	0	0	35	0	0	29	0	0	31	0
Lane Group Flow (vph)	92	1556	0	664	2491	0	101	107	0	556	169	0
Confl. Peds. (#/hr)			7	7			13		3			
Heavy Vehicles (%)	0%	1%	1%	2%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Effective Green, g (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.49	0.42		0.63	0.54		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	180	2167		390	2679		290	492		351	498	
v/s Ratio Prot	0.04	0.30		c0.32	0.50			0.06			0.10	
v/s Ratio Perm	0.22			c0.75			0.10			c0.45		
v/c Ratio	0.51	0.72		1.70	0.93		0.35	0.22		1.58	0.34	
Uniform Delay, d1	32.3	38.4		52.2	34.3		45.5	43.7		57.2	45.4	
Progression Factor	1.43	0.91		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2		327.0	7.2		1.5	0.5		276.1	0.9	
Delay (s)	46.7	35.1		379.1	41.5		47.0	44.1		333.3	46.2	
Level of Service	D	D		F	D		D	D		F	D	
Approach Delay (s)		35.8			111.8			45.3			257.4	
Approach LOS		D			F			D			F	

Intersection Summary

HCM 2000 Control Delay	106.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.69		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

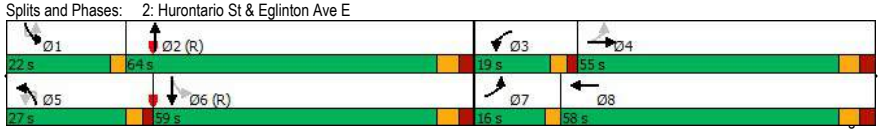
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	284	829	145	267	1857	144	749	3000	182	68	556	2404
Future Volume (vph)	284	829	145	267	1857	144	749	3000	182	68	556	2404
Lane Group Flow (vph)	284	829	145	267	1857	144	749	3000	182	0	828	3023
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Detector Phase	7	4		3	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	41.0		8.0	8.0	41.0
Total Split (s)	16.0	55.0		19.0	58.0		27.0	64.0		22.0	22.0	59.0
Total Split (%)	10.0%	34.4%		11.9%	36.3%		16.9%	40.0%		13.8%	13.8%	36.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	3.0		0.0	0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	None	C-Max
v/c Ratio	1.43	0.54	0.09	0.87	1.12	0.09	1.54	2.28	0.12		3.15	2.59
Control Delay	251.8	48.3	0.1	104.9	110.3	0.1	295.7	604.2	0.1		994.5	742.3
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	251.8	48.3	0.1	104.9	110.3	0.1	295.7	604.2	0.1		994.5	742.3
Queue Length 50th (m)	~96.2	74.6	0.0	42.4	~225.9	0.0	~160.8	~712.6	0.0		~411.2	~745.1
Queue Length 95th (m)	#151.6	87.9	0.0	m47.8	#252.1	m0.0	m#156.8	m#640.5	m0.0		#484.9	#770.9
Internal Link Dist (m)		132.7			301.3			160.0				158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0	87.0				95.0	
Base Capacity (vph)	199	1542	1578	306	1655	1576	486	1315	1538		263	1165
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	1.43	0.54	0.09	0.87	1.12	0.09	1.54	2.28	0.12		3.15	2.59

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 142 (89%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 175
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	284	829	145	267	1857	144	749	3000	182	68	556	2404
Future Volume (vph)	284	829	145	267	1857	144	749	3000	182	68	556	2404
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0	5.0	7.0	4.0		3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	*1.00	1.00		1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.97		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	0.97
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	1578	3506	5193	1576	3541	3694	1538		1789	3540
Flt Permitted	0.08	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.08	1.00
Satd. Flow (perm)	160	5142	1578	3506	5193	1576	3541	3694	1538		145	3540
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00
Adj. Flow (vph)	284	829	145	267	1857	144	749	3000	182	272	556	2404
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	16
Lane Group Flow (vph)	284	829	145	267	1857	144	749	3000	182	0	828	3007
Confl. Peds. (#/hr)	45		40	40		45	26		60		60	
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	0%	4%	3%	0%	3%	5%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Actuated Green, G (s)	61.0	48.0	160.0	14.0	51.0	160.0	22.0	57.0	160.0		71.0	52.0
Effective Green, g (s)	61.0	48.0	160.0	14.0	51.0	160.0	22.0	57.0	160.0		71.0	52.0
Actuated g/C Ratio	0.38	0.30	1.00	0.09	0.32	1.00	0.14	0.36	1.00		0.44	0.32
Clearance Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	196	1542	1578	306	1655	1576	486	1315	1538		259	1150
v/s Ratio Prot	c0.12	0.16		0.08	c0.36		0.21	c0.81			c0.38	0.85
v/s Ratio Perm	c0.43		0.09			0.09			0.12		c1.04	
v/c Ratio	1.45	0.54	0.09	0.87	1.12	0.09	1.54	2.28	0.12		3.20	2.62
Uniform Delay, d1	47.1	46.7	0.0	72.1	54.5	0.0	69.0	51.5	0.0		52.2	54.0
Progression Factor	1.00	1.00	1.00	1.22	1.02	1.00	1.06	1.11	1.00		1.00	1.00
Incremental Delay, d2	228.3	0.7	0.1	16.2	60.3	0.1	251.4	578.5	0.1		998.6	729.4
Delay (s)	275.4	47.4	0.1	104.2	116.2	0.1	324.3	635.5	0.1		1050.8	783.4
Level of Service	F	D	A	F	F	A	F	F	A		F	F
Approach Delay (s)		93.4			107.4			546.8				840.9
Approach LOS		F			F			F				F

Intersection Summary

HCM 2000 Control Delay	508.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.36		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	187.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
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	1.00
Adj. Flow (vph)	619
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	26
Heavy Vehicles (%)	1%
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	133	57	201	526	151	50	401	2010	32	1983
Future Volume (vph)	133	57	201	526	151	50	401	2010	32	1983
Lane Group Flow (vph)	133	57	201	526	151	50	401	2301	32	2053
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4			8		5	2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	65.5	10.0	41.5	41.5	41.5
Total Split (s)	66.0	66.0	66.0	66.0	66.0	66.0	37.0	94.0	57.0	57.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	41.3%	23.1%	58.8%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	0.0	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5	6.5	6.5
Lead/Lag							Lead		Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.31	0.08	0.29	1.09	0.22	0.08	0.96	1.22	0.68	1.82
Control Delay	38.9	33.7	5.2	113.3	36.1	8.1	83.9	136.8	29.5	391.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.9	33.7	5.2	113.3	36.1	8.1	83.9	136.8	29.5	391.9
Queue Length 50th (m)	27.9	10.9	0.0	~172.3	30.5	0.0	102.1	~434.0	3.5	~488.1
Queue Length 95th (m)	45.1	20.5	15.7	#238.5	46.7	8.4	#162.7	#468.6	m1.1	m85.2
Internal Link Dist (m)		139.7			81.8			241.5		228.3
Turn Bay Length (m)	51.0			52.0		52.0	169.0			
Base Capacity (vph)	426	688	685	484	688	590	417	1887	47	1126
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.08	0.29	1.09	0.22	0.08	0.96	1.22	0.68	1.82

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 180
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	57	201	526	151	50	401	2010	291	32	1983	70
Future Volume (vph)	133	57	201	526	151	50	401	2010	291	32	1983	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.94	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.96	1.00	1.00	0.97	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	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1729	1883	1526	1748	1883	1527	1789	3438		1825	3556	
Flt Permitted	0.64	1.00	1.00	0.72	1.00	1.00	0.07	1.00		0.08	1.00	
Satd. Flow (perm)	1166	1883	1526	1324	1883	1527	138	3438		152	3556	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	57	201	526	151	50	401	2010	291	32	1983	70
RTOR Reduction (vph)	0	0	128	0	0	32	0	7	0	0	1	0
Lane Group Flow (vph)	133	57	73	526	151	18	401	2294	0	32	2052	0
Confl. Peds. (#/hr)	65		43	43		65	30		39	39		30
Heavy Vehicles (%)	1%	2%	2%	1%	2%	0%	2%	3%	1%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5	58.5	87.5	87.5		50.6	50.6	
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5	58.5	87.5	87.5		50.6	50.6	
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37	0.37	0.55	0.55		0.32	0.32	
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	426	688	557	484	688	558	414	1880		48	1124	
v/s Ratio Prot		0.03			0.08		0.20	c0.67			c0.58	
v/s Ratio Perm	0.11		0.05	c0.40		0.01	0.33			0.21		
v/c Ratio	0.31	0.08	0.13	1.09	0.22	0.03	0.97	1.22		0.67	1.83	
Uniform Delay, d1	36.3	33.2	33.8	50.8	35.0	32.6	52.3	36.2		47.4	54.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.35	0.37	
Incremental Delay, d2	0.9	0.1	0.2	66.4	0.3	0.1	36.2	104.1		6.5	371.7	
Delay (s)	37.2	33.3	34.1	117.2	35.3	32.6	88.5	140.3		23.0	391.7	
Level of Service	D	C	C	F	D	C	F	F		C	F	
Approach Delay (s)		35.0			94.4			132.6			386.0	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	210.9	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)	18.0
Intersection Capacity Utilization	168.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1636			1636			1029	900	1091	1029	900	1091

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS					A	A
Approach Delay (s)	0.0		0.0		0.0	0.0
Approach LOS					A	A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	59	0	0	0	0	0	0	0	0	0	0	21
Future Volume (vph)	59	0	0	0	0	0	0	0	0	0	0	21
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	236	0	0	0	0	0	0	0	0	0	0	84

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	236	0	0	0	0	0	0	84
Volume Left (vph)	236	0	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0	0	84
Hadj (s)	0.50	0.00	0.00	0.00	0.00	0.00	0.00	-0.70
Departure Headway (s)	5.2	4.7	4.9	4.9	5.3	5.3	5.2	4.5
Degree Utilization, x	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Capacity (veh/h)	681	764	728	728	656	656	682	761
Control Delay (s)	9.7	6.5	6.7	6.7	7.1	7.1	7.0	6.8
Approach Delay (s)	9.7		0.0		0.0		6.8	
Approach LOS	A		A		A		A	

Intersection Summary				
Delay		8.9		
Level of Service		A		
Intersection Capacity Utilization		13.3%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1636		1029	1091

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	59	0	0	21	0
Future Volume (vph)	0	0	0	0	0	0	0	59	0	0	21	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	236	0	0	84	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	0	236	0	84
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	4.7	4.7	4.6	4.6	4.7	4.7
Degree Utilization, x	0.00	0.00	0.00	0.30	0.00	0.11
Capacity (veh/h)	722	722	795	781	778	760
Control Delay (s)	7.7	7.7	6.4	8.3	6.5	7.0
Approach Delay (s)	0.0	0.0	8.3		7.0	
Approach LOS	A	A	A		A	

Intersection Summary				
Delay		8.0		
Level of Service		A		
Intersection Capacity Utilization	6.7%		ICU Level of Service	A
Analysis Period (min)		15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		0.0%	ICU Level of Service	A
Analysis Period (min)		15		

APPENDIX F

Detailed TTS Calculations

Thu Nov 26 2020 12:59:42 GMT-0500 (Eastern Standard Time) - Run Time: 4667ms

Cross Tabul 2011 2016 v1.1

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

Filters:
2006 GTA z 3841 3833 3832
and
Type of dwelling unit - dwell_type In 1-3
and
Trip purpose - trip_purp In 1-3
and
Start time of trip - start_time In 600-900

Trip 2006
Table:

	Transit exc	Auto driver	GO rail onl	Joint GO r	Auto passe	School bus	Walk
3833	62	0	0	0	0	0	41
3841	105	1130	126	84	251	63	84
3855	206	658	82	0	164	185	41

Trip 2011
Table:

	Transit exc	Auto driver	GO rail onl	Joint GO r	Auto passe	School bus	Walk
3832	40	245	0	20	122	0	63
3833	78	94	0	0	50	0	64
3841	336	1242	91	0	506	21	29
3855	97	257	76	28	91	166	0

Trip 2016
Table:

	Transit exc	Cycle	Auto driver	Joint GO r	Other	Auto passe	School bus	Taxi passe	Walk	
3832	70	50	331	0	0	53	62	0	0	
3833	39	0	259	0	0	139	36	0	39	
3841	294	0	1226	32	0	264	78	93	81	
3855	240	43	519	20	44	108	58	44	0	4222
	15%	2%	55%	1%	1%	13%	6%	3%	3%	

SOV	55%
HOV	22%
Transit	16%
Walk	3%
Cycle	2%
Other	1%
Total:	100%

OUTBOUND

Wed Nov 25 2020 10:51:23 GMT-0500 (Eastern Standard Time) - Run Time: 2455ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of origin - gta06_orig

Filters:
2006 GTA zone of origin - gta06_o 3841 3833 3832
and
Start time of trip - start_time In 600-900
and
Trip purpose - trip_purp In 1 3
and
Primary travel mode of trip - mode_ M

Trip 2016
Table:

D/O	3832	3833	3841	3855	Total	Distribution	Assignment	
63	0	20	0	0	20	1%	Eglinton Ave EB	
124	0	0	32	0	32	1%	Eglinton Ave EB	
150	0	0	9	0	9	0%	Eglinton Ave EB	
203	0	0	9	0	9	0%	Hurontario SB	
299	0	0	10	0	10	0%	Eglinton Ave EB	
306	0	0	0	33	33	1%	Eglinton Ave EB	
309	0	8	0	0	8	0%	Eglinton Ave EB	
312	22	0	0	0	22	1%	Eglinton Ave EB	
358	0	26	0	0	26	1%	Eglinton Ave EB	
378	0	0	0	12	12	1%	Eglinton Ave EB	
2083	0	0	7	0	7	0%	Eglinton Ave EB	
2104	0	26	0	0	26	1%	Eglinton Ave EB	
2118	0	0	8	0	8	0%	Eglinton Ave EB	
2374	0	0	0	22	22	1%	Eglinton Ave EB	
2403	0	13	0	0	13	1%	Eglinton Ave EB	
3196	13	0	0	0	13	1%	Eglinton Ave EB	
3325	0	4	0	0	4	0%	Hurontario NB	
3330	0	0	9	0	9	0%	Eglinton Ave EB	
3339	15	0	0	0	15	1%	Eglinton Ave EB	
3349	0	0	9	0	9	0%	Eglinton Ave EB	
3421	0	0	31	0	31	1%	Eglinton Ave EB	
3423	0	0	0	54	54	2%	Hurontario NB	
3424	0	0	16	0	16	1%	Eglinton Ave EB	
3425	0	0	9	0	9	0%	Eglinton Ave EB	
3430	0	0	9	0	9	0%	Eglinton Ave EB	
3601	0	0	16	0	16	1%	Hurontario SB	
3605	0	0	31	0	31	1%	Eglinton Ave EB	
3608	0	0	9	0	9	0%	Hurontario NB	
3609	0	0	56	0	56	2%	Eglinton Ave EB	
3610	0	0	0	54	54	2%	Hurontario SB	
3612	14	0	0	12	26	1%	Hurontario SB	
3613	0	0	33	0	33	1%	Hurontario SB	
3614	0	0	38	0	38	2%	Hurontario SB	
3618	0	0	22	0	22	1%	Hurontario NB	
3620	13	0	33	22	68	3%	Hurontario NB	
3621	13	0	0	0	13	1%	Hurontario NB	
3632	0	0	7	0	7	0%	Hurontario NB	
3633	0	0	84	0	84	4%	Hurontario SB	
3645	0	0	5	0	5	0%	Hurontario SB	
3648	31	0	0	0	31	1%	Hurontario SB	
3659	0	0	0	43	43	2%	Hurontario SB	
3660	0	0	19	0	19	1%	Hurontario SB	
3662	0	0	12	0	12	1%	Hurontario SB	
3669	0	0	8	0	8	0%	Eglinton Ave EB	
3671	0	0	12	0	12	1%	Hurontario SB	
3685	0	0	80	0	80	3%	Hurontario SB	
3686	14	0	41	0	55	2%	Hurontario NB	
3687	0	0	0	42	42	2%	Eglinton Ave EB	
3689	0	39	160	0	199	9%	Hurontario NB	
3690	91	25	31	0	147	6%	Hurontario NB	
3693	0	0	27	0	27	1%	Hurontario NB	
3695	0	0	12	0	12	1%	Hurontario NB	
3696	0	0	28	0	28	1%	Eglinton Ave EB	
3698	0	26	0	0	26	1%	Eglinton Ave EB	
3699	31	13	0	0	44	2%	Eglinton Ave EB	
3701	0	8	104	0	112	5%	Eglinton Ave EB	
3702	0	0	45	0	45	2%	Eglinton Ave EB	
3703	9	0	0	0	9	0%	Eglinton Ave EB	
3705	17	0	0	0	17	1%	Eglinton Ave EB	
3710	0	0	22	67	89	4%	Eglinton Ave EB	
3815	0	0	0	25	25	1%	Hurontario SB	
3822	0	0	0	20	20	1%	Eglinton Ave EB	
3825	0	0	0	20	20	1%	Eglinton Ave WB	Hurontario NB
3831	0	0	4	0	4	0%	Eglinton Ave WB	Hurontario NB
3833	0	0	0	21	21	1%	Eglinton Ave WB	Hurontario NB
3843	16	0	9	17	42	2%	Hurontario SB	
3851	0	26	0	17	43	2%	Hurontario SB	
3854	20	0	0	0	20	1%	Hurontario SB	
3867	0	0	18	0	18	1%	Hurontario SB	
4005	0	0	43	0	43	2%	Hurontario SB	
4008	0	26	0	0	26	1%	Hurontario SB	
4024	0	0	26	0	26	1%	Hurontario SB	
4088	0	0	0	38	38	2%	Hurontario SB	
4116	13	0	0	0	13	1%	Hurontario SB	
5172	0	0	32	0	32	1%	Hurontario SB	
					2336	100%		

Outbound

Row Labels	Sum of Distribution
Eglinton Ave EB	38%
Eglinton Ave WB	2%
Hurontario NB	26%
Hurontario SB	34%
Grand Total	**100%**

Inbound

Row Labels	Sum of Distribution
Eglinton EB	7%
Eglinton WB	42%
Hurontario NB	44%
Hurontario SB	7%
Grand Total	**100%**

Route		Inbound	Outbound
Hurontario Street	North	7%	26%
	South	44%	34%
Eglinton Aveue	East	42%	38%
	West	7%	2%
		100%	100%

INBOUND

Wed Nov 25 2020 10:53:37 GMT-0500 (Eastern Standard Time) - Run Time: 2212ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig
Column: 2006 GTA zone of destination - gta06_dest

Filters:
2006 GTA zone of destination - gta 3841 3833 3832
and
Start time of trip - start_time In 600-900
and
Trip purpose - trip_purp In 1 3
and
Primary travel mode of trip - mode_ M

Trip 2016
Table:

D/O	3832	3833	3841	3855	Total	Distribution	Assignment
127	0	0	24	0	24	2%	Eglinton WB
271	0	0	22	0	22	2%	Hurontario NB
336	0	0	19	0	19	2%	Eglinton WB
572	23	0	0	0	23	2%	Hurontario NB
607	0	0	10	0	10	1%	Hurontario NB
1133	0	0	9	0	9	1%	Eglinton WB
2134	0	25	0	0	25	2%	Eglinton WB
2390	23	0	0	0	23	2%	Eglinton WB
3102	0	0	11	0	11	1%	Eglinton WB
3345	0	0	0	16	16	1%	Eglinton WB
3419	40	0	0	0	40	3%	Eglinton WB
3423	0	0	0	54	54	5%	Eglinton WB
3466	0	0	0	21	21	2%	Eglinton WB
3494	18	0	0	0	18	2%	Eglinton WB
3495	8	0	0	0	8	1%	Eglinton WB
3606	6	0	0	0	6	1%	Hurontario SB
3607	0	0	11	0	11	1%	Eglinton EB
3619	38	0	0	0	38	3%	Eglinton WB

3620	26	0	0	0	26	2%	Hurontario SB
3638	0	0	15	0	15	1%	Hurontario NB
3661	0	0	8	0	8	1%	Hurontario NB
3663	0	0	44	0	44	4%	Hurontario NB
3669	0	0	27	0	27	2%	Hurontario NB
3676	11	0	0	0	11	1%	Hurontario NB
3677	0	0	0	9	9	1%	Hurontario NB
3685	0	0	15	0	15	1%	Eglinton EB
3686	14	0	15	0	29	3%	Eglinton EB
3687	0	0	0	42	42	4%	Eglinton WB
3689	0	0	22	0	22	2%	Eglinton EB
3690	23	0	0	0	23	2%	Eglinton WB
3691	0	0	27	0	27	2%	Hurontario SB
3693	0	0	22	0	22	2%	Hurontario SB
3698	0	26	0	0	26	2%	Eglinton WB
3699	31	0	0	0	31	3%	Eglinton WB
3715	0	0	17	0	17	1%	Hurontario NB
3811	0	0	20	0	20	2%	Hurontario NB
3814	18	0	0	0	18	2%	Hurontario NB
3830	56	0	0	0	56	5%	Eglinton WB
3840	35	0	0	0	35	3%	Hurontario NB
3843	0	0	0	17	17	1%	Hurontario NB
3851	0	0	0	17	17	1%	Hurontario NB
3864	0	0	0	71	71	6%	Hurontario NB
3867	0	0	18	0	18	2%	Hurontario NB
4037	0	0	38	0	38	3%	Hurontario NB
4042	0	0	0	16	16	1%	Hurontario NB
4105	0	0	19	0	19	2%	Hurontario NB
4110	0	0	28	0	28	2%	Hurontario NB
4166	0	0	0	13	13	1%	Hurontario NB
4186	0	0	16	0	16	1%	Hurontario NB
					1154	100%	

APPENDIX G

Future Total Analysis – Without LRT

2025 Without LRT Analysis

Queues
1: Sorrento Dr & Eglinton Ave E

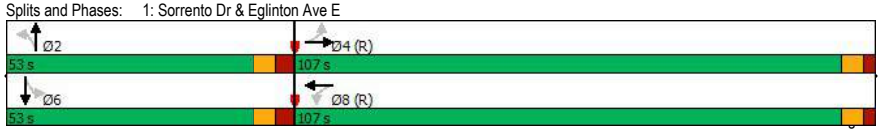
Future Total 2025 AM
12-03-2020

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	2074	273	809	100	80	128	36
Future Volume (vph)	10	2074	273	809	100	80	128	36
Lane Group Flow (vph)	40	2133	273	945	100	490	512	436
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	33.5	33.5	33.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	107.0	107.0	107.0	107.0	53.0	53.0	53.0	53.0
Total Split (%)	66.9%	66.9%	66.9%	66.9%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.12	0.66	4.79	0.30	1.05	1.04	8.83	0.81
Control Delay	12.5	18.7	1755.5	13.3	160.7	104.8	3563.8	58.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	18.7	1755.5	13.3	160.7	104.8	3563.8	58.3
Queue Length 50th (m)	3.5	82.4	~132.9	42.5	~31.7	~151.8	~279.6	104.0
Queue Length 95th (m)	2.0	m69.4	#187.6	49.8	#68.1	#217.5	#86.5	19.1
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	323	3216	57	3104	95	472	58	537
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.66	4.79	0.30	1.05	1.04	8.83	0.81

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 158 (99%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



HCM Signalized Intersection Capacity Analysis
1: Sorrento Dr & Eglinton Ave E

Future Total 2025 AM
12-03-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	2074	59	273	809	34	100	80	410	128	36	73
Future Volume (vph)	10	2074	59	273	809	34	100	80	410	128	36	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.87		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5118		1722	4921		1737	1634		1825	1728	
Flt Permitted	0.27	1.00		0.05	1.00		0.18	1.00		0.11	1.00	
Satd. Flow (perm)	515	5118		91	4921		336	1634		208	1728	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	40	2074	59	273	809	136	100	80	410	512	144	292
RTOR Reduction (vph)	0	2	0	0	15	0	0	8	0	0	46	0
Lane Group Flow (vph)	40	2131	0	273	930	0	100	482	0	512	390	0
Confl. Peds. (#/hr)			7	7			2		1			
Heavy Vehicles (%)	0%	2%	0%	6%	5%	0%	5%	0%	2%	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)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Effective Green, g (s)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.28	0.28		0.28	0.28	
Clearance Time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	323	3214		57	3091		95	464		59	491	
v/s Ratio Prot		0.42			0.19			0.30			0.23	
v/s Ratio Perm	0.08			c3.01			0.30			c2.46		
v/c Ratio	0.12	0.66		4.79	0.30		1.05	1.04		8.68	0.79	
Uniform Delay, d1	12.0	19.0		29.8	13.6		57.2	57.2		57.2	52.9	
Progression Factor	0.98	0.96		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3		1744.3	0.3		107.3	52.3		3489.2	9.9	
Delay (s)	12.0	18.5		1774.0	13.9		164.6	109.5		3546.5	62.8	
Level of Service	B	B		F	B		F	F		F	E	
Approach Delay (s)		18.4			408.4			118.9			1944.3	
Approach LOS		B			F			F			F	

Intersection Summary

HCM 2000 Control Delay	497.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	5.99		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	116.5%	ICU Level of Service	H
Analysis Period (min)	15		

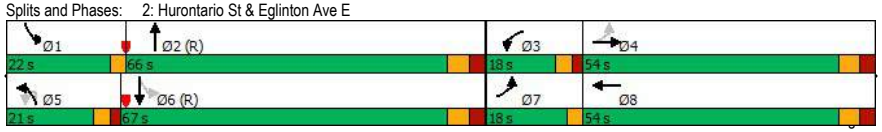
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1534	193	146	563	193	8	216	2641	100	379	2616
Future Volume (vph)	328	1534	193	146	563	193	8	216	2641	100	379	2616
Lane Group Flow (vph)	328	1534	193	146	563	193	0	248	2641	100	379	2616
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Detector Phase	7	4		3	8		5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	5.0	8.0		5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	10.0	41.0		8.0	41.0
Total Split (s)	18.0	54.0		18.0	54.0		21.0	21.0	66.0		22.0	67.0
Total Split (%)	11.3%	33.8%		11.3%	33.8%		13.1%	13.1%	41.3%		13.8%	41.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	2.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None	C-Max		None	C-Max
v/c Ratio	0.86	1.01	0.13	0.54	0.39	0.13		2.79	1.29	0.07	1.43	1.30
Control Delay	57.4	81.6	0.2	61.0	42.4	0.2		857.0	169.8	0.1	250.1	177.2
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	57.4	81.6	0.2	61.0	42.4	0.2		857.0	169.8	0.1	250.1	177.2
Queue Length 50th (m)	66.4	~174.7	0.0	16.9	53.4	0.0		~64.8	~330.3	0.0	~134.6	~324.9
Queue Length 95th (m)	#107.5	#201.8	0.0	m25.3	m63.9	m0.0		#91.9	#343.3	0.0	#195.4	#344.7
Internal Link Dist (m)		132.7			301.3				160.0			158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0		87.0			95.0	
Base Capacity (vph)	381	1512	1525	284	1453	1527		89	2043	1475	265	2019
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	0.86	1.01	0.13	0.51	0.39	0.13		2.79	1.29	0.07	1.43	1.30

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 114 (71%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Queues
2: Hurontario St & Eglinton Ave E
Future Total 2025 AM
12-03-2020

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
Lane Group Flow (vph)	342
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
v/c Ratio	0.23
Control Delay	0.3
Queue Delay	0.0
Total Delay	0.3
Queue Length 50th (m)	0.0
Queue Length 95th (m)	0.0
Internal Link Dist (m)	
Turn Bay Length (m)	95.0
Base Capacity (vph)	1520
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.23

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1534	193	146	563	193	8	216	2641	100	379	2616
Future Volume (vph)	328	1534	193	146	563	193	8	216	2641	100	379	2616
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0		5.0	7.0	4.0	3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00		0.97	*1.00	1.00	1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98		1.00	1.00	0.98	1.00	1.00
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	1.00
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)	1783	5092	1525	3506	4948	1527		3389	5542	1475	1807	5386
Flt Permitted	0.36	1.00	1.00	0.95	1.00	1.00		0.25	1.00	1.00	0.07	1.00
Satd. Flow (perm)	669	5092	1525	3506	4948	1527		892	5542	1475	127	5386
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	328	1534	193	146	563	193	32	216	2641	100	379	2616
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	328	1534	193	146	563	193	0	248	2641	100	379	2616
Confl. Peds. (#/hr)	21		56	56		21		36		42	42	
Heavy Vehicles (%)	2%	3%	4%	1%	6%	5%	0%	5%	4%	8%	1%	7%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Actuated Green, G (s)	62.5	47.5	160.0	12.5	47.0	160.0		16.0	59.0	160.0	79.0	60.0
Effective Green, g (s)	62.5	47.5	160.0	12.5	47.0	160.0		16.0	59.0	160.0	79.0	60.0
Actuated g/C Ratio	0.39	0.30	1.00	0.08	0.29	1.00		0.10	0.37	1.00	0.49	0.38
Clearance Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	365	1511	1525	273	1453	1527		89	2043	1475	262	2019
v/s Ratio Prot	c0.08	c0.30		0.04	0.11				0.48		c0.17	0.49
v/s Ratio Perm	0.27		0.13			0.13		c0.28		0.07	c0.54	
v/c Ratio	0.90	1.02	0.13	0.53	0.39	0.13		2.79	1.29	0.07	1.45	1.30
Uniform Delay, d1	40.8	56.2	0.0	71.0	45.0	0.0		72.0	50.5	0.0	53.7	50.0
Progression Factor	1.00	1.00	1.00	0.77	0.92	1.00		1.08	0.79	1.00	1.00	1.00
Incremental Delay, d2	25.1	27.0	0.2	3.2	0.3	0.2		833.2	135.4	0.1	221.2	136.9
Delay (s)	65.8	83.3	0.2	57.6	41.9	0.2		910.8	175.3	0.1	274.9	186.9
Level of Service	E	F	A	E	D	A		F	F	A	F	F
Approach Delay (s)		72.7			35.5				230.5			177.7
Approach LOS		E			D				F			F

Intersection Summary			
HCM 2000 Control Delay	157.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	129.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1520
Flt Permitted	1.00
Satd. Flow (perm)	1520
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	342
RTOR Reduction (vph)	0
Lane Group Flow (vph)	342
Confl. Peds. (#/hr)	36
Heavy Vehicles (%)	5%
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	160.0
Effective Green, g (s)	160.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1520
v/s Ratio Prot	
v/s Ratio Perm	c0.22
v/c Ratio	0.23
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	0.3
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Queues
3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Future Total 2025 AM
12-03-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	188	91	572	658	58	161	1455	382	74	2101	81
Future Volume (vph)	188	91	572	658	58	161	1455	382	74	2101	81
Lane Group Flow (vph)	188	91	572	658	246	161	1455	382	74	2101	81
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	4	4	4	8	8	5	2		6	6	
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	8.0		8.0	8.0	
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	10.0	41.5		41.5	41.5	
Total Split (s)	66.0	66.0	66.0	66.0	66.0	28.0	94.0		66.0	66.0	
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	17.5%	58.8%		41.3%	41.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	0.0	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max		C-Max	C-Max	
v/c Ratio	0.55	0.14	0.75	1.42	0.42	0.70	0.53	0.25	0.65	1.02	0.05
Control Delay	47.7	34.7	26.0	236.9	36.5	53.6	24.1	0.4	13.9	22.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	34.7	26.0	236.9	36.5	53.6	24.1	0.4	13.9	22.9	0.0
Queue Length 50th (m)	43.7	17.8	70.3	~258.1	48.3	31.6	97.2	0.0	2.4	~29.3	0.0
Queue Length 95th (m)	69.0	30.2	116.5	#327.3	71.8	53.6	109.1	0.0	m2.1	m20.9	m0.0
Internal Link Dist (m)		139.7			81.8		241.5			228.3	
Turn Bay Length (m)	51.0			52.0		169.0		76.0	90.0		42.0
Base Capacity (vph)	342	656	763	465	581	295	2731	1520	114	2064	1478
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	0.55	0.14	0.75	1.42	0.42	0.55	0.53	0.25	0.65	1.02	0.05

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 139 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

HCM Signalized Intersection Capacity Analysis
3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Future Total 2025 AM
12-03-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	91	572	658	58	188	161	1455	382	74	2101	81
Future Volume (vph)	188	91	572	658	58	188	161	1455	382	74	2101	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5	4.0	6.5	6.5	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.95		1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	0.96	1.00	1.00	0.98	1.00		1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1722	1795	1543	1733	1544		1690	4995	1520	1618	4995	1478
Flt Permitted	0.52	1.00	1.00	0.70	1.00		0.06	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	938	1795	1543	1273	1544		102	4995	1520	278	4995	1478
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	188	91	572	658	58	188	161	1455	382	74	2101	81
RTOR Reduction (vph)	0	0	199	0	16	0	0	0	0	0	0	0
Lane Group Flow (vph)	188	91	373	658	230	0	161	1455	382	74	2101	81
Confl. Peds. (#/hr)	69		30	30		69	35		25	25		35
Heavy Vehicles (%)	2%	7%	2%	3%	9%	3%	8%	5%	4%	12%	5%	8%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		Free	6		Free
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	66.1	66.1	160.0
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	66.1	66.1	160.0
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37		0.55	0.55	1.00	0.41	0.41	1.00
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	342	656	564	465	564		228	2731	1520	114	2063	1478
v/s Ratio Prot		0.05			0.15		c0.08	0.29			c0.42	
v/s Ratio Perm	0.20		0.24	c0.52			0.31		0.25	0.27		0.05
v/c Ratio	0.55	0.14	0.66	1.42	0.41		0.71	0.53	0.25	0.65	1.02	0.05
Uniform Delay, d1	40.3	33.9	42.5	50.8	37.8		46.2	23.2	0.0	37.7	47.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.20	0.18	1.00
Incremental Delay, d2	3.2	0.2	3.8	199.2	1.0		11.8	0.7	0.4	2.6	11.4	0.0
Delay (s)	43.5	34.1	46.3	249.9	38.8		58.0	23.9	0.4	10.0	19.7	0.0
Level of Service	D	C	D	F	D		E	C	A	B	B	A
Approach Delay (s)		44.4			192.5			22.2			18.7	
Approach LOS		D			F			C			B	

Intersection Summary

HCM 2000 Control Delay	49.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	140.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	87	38	27	221	92	98	0	60	82	0	135
Future Volume (Veh/h)	128	87	38	27	221	92	98	0	60	82	0	135
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	512	348	152	108	884	368	392	0	240	328	0	540
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	1252			500			3088	2916	424	2896	2808	1068
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1252			500			3088	2916	424	2896	2808	1068
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	9			90			0	100	62	0	100	0
cM capacity (veh/h)	563			1075			0	1	634	1	1	272

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	512	500	108	1252	632	868
Volume Left	512	0	108	0	392	328
Volume Right	0	152	0	368	240	540
cSH	563	1700	1075	1700	0	3
Volume to Capacity	0.91	0.29	0.10	0.74	Err	264.79
Queue Length 95th (m)	77.3	0.0	2.3	0.0	Err	Err
Control Delay (s)	46.2	0.0	8.7	0.0	Err	Err
Lane LOS	E		A		F	F
Approach Delay (s)	23.4		0.7		Err	Err
Approach LOS					F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	214	15	0	0	40	70	0	0	0	20	0	300
Future Volume (vph)	214	15	0	0	40	70	0	0	0	20	0	300
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	856	60	0	0	160	280	0	0	0	80	0	1200

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	856	60	0	440	0	0	80	1200
Volume Left (vph)	856	0	0	0	0	0	80	0
Volume Right (vph)	0	0	0	280	0	0	0	1200
Hadj (s)	0.50	0.00	0.00	-0.45	0.00	0.00	0.50	-0.70
Departure Headway (s)	8.0	7.5	7.6	7.2	9.3	9.3	8.0	6.8
Degree Utilization, x	1.90	0.12	0.00	0.88	0.00	0.00	0.18	2.26
Capacity (veh/h)	457	472	479	498	385	385	440	542
Control Delay (s)	429.7	10.3	9.4	41.1	11.1	11.1	11.5	585.5
Approach Delay (s)	402.2		41.1		0.0		549.6	
Approach LOS	F		E		A		F	

Intersection Summary			
Delay	413.5		
Level of Service	F		
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	35	0	0	110	0
Future Volume (Veh/h)	0	35	0	0	110	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	140	0	0	440	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			140		70	70
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			140		70	70
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		53	100
cM capacity (veh/h)			1456		939	998

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	140	0	440
Volume Left	0	0	440
Volume Right	140	0	0
cSH	1700	1700	939
Volume to Capacity	0.08	0.00	0.47
Queue Length 95th (m)	0.0	0.0	17.8
Control Delay (s)	0.0	0.0	12.2
Lane LOS			B
Approach Delay (s)	0.0	0.0	12.2
Approach LOS			B

Intersection Summary			
Average Delay		9.2	
Intersection Capacity Utilization		16.1%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	145	0	284	0	223	61	78	175	0
Future Volume (vph)	0	0	0	145	0	284	0	223	61	78	175	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	580	0	1136	0	892	244	312	700	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	1716	0	1136	312	700
Volume Left (vph)	0	580	0	0	312	0
Volume Right (vph)	0	1136	0	244	0	0
Hadj (s)	0.00	-0.33	0.00	-0.15	0.50	0.00
Departure Headway (s)	9.5	6.6	7.7	7.6	8.1	7.6
Degree Utilization, x	0.00	3.17	0.00	2.38	0.70	1.47
Capacity (veh/h)	386	553	474	487	437	478
Control Delay (s)	12.5	993.7	9.5	645.1	26.7	244.3
Approach Delay (s)	0.0	993.7	645.1		177.2	
Approach LOS	A	F	F		F	

Intersection Summary			
Delay		677.4	
Level of Service		F	
Intersection Capacity Utilization		55.3%	ICU Level of Service B
Analysis Period (min)		15	

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

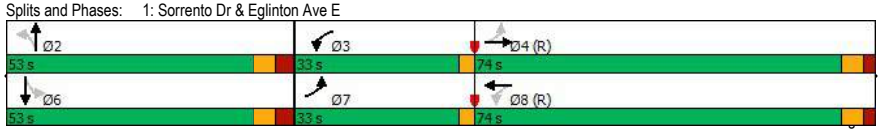
Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	23	1452	705	1851	149	101	139	21
Future Volume (vph)	23	1452	705	1851	149	101	139	21
Lane Group Flow (vph)	92	1607	705	2551	149	448	556	200
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	9.5	33.5	9.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	33.0	74.0	33.0	74.0	53.0	53.0	53.0	53.0
Total Split (%)	20.6%	46.3%	20.6%	46.3%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.5	0.0	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	3.0	6.5	7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.51	0.74	1.82	0.94	0.51	0.81	6.11	0.38
Control Delay	38.5	36.6	409.8	41.8	55.4	53.0	2332.6	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	36.6	409.8	41.8	55.4	53.0	2332.6	38.0
Queue Length 50th (m)	13.0	161.3	~296.4	242.6	36.8	96.5	~287.4	36.8
Queue Length 95th (m)	m3.5	m78.3	#367.7	#298.3	59.2	#139.1	#84.6	7.5
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	392	2159	387	2715	290	550	91	529
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	0.23	0.74	1.82	0.94	0.51	0.81	6.11	0.38

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 69 (43%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1452	155	705	1851	175	149	101	347	139	21	29
Future Volume (vph)	23	1452	155	705	1851	175	149	101	347	139	21	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
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	1.00	
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	0.96		1.00	0.88		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5098		1789	4993		1802	1664		1825	1754	
Flt Permitted	0.06	1.00		0.06	1.00		0.54	1.00		0.17	1.00	
Satd. Flow (perm)	114	5098		112	4993		1020	1664		320	1754	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	92	1452	155	705	1851	700	149	101	347	556	84	116
RTOR Reduction (vph)	0	8	0	0	34	0	0	77	0	0	31	0
Lane Group Flow (vph)	92	1599	0	705	2517	0	149	371	0	556	169	0
Confl. Peds. (#/hr)			7	7			13		3			
Heavy Vehicles (%)	0%	1%	1%	2%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Effective Green, g (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.49	0.42		0.63	0.54		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	180	2150		384	2680		290	473		91	498	
v/s Ratio Prot	0.04	0.31		c0.34	0.50			0.22			0.10	
v/s Ratio Perm	0.22			c0.81			0.15			c1.74		
v/c Ratio	0.51	0.74		1.84	0.94		0.51	0.78		6.11	0.34	
Uniform Delay, d1	32.7	39.0		53.5	34.6		48.0	52.7		57.2	45.4	
Progression Factor	1.42	0.94		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2		386.2	8.0		3.0	9.5		2322.9	0.9	
Delay (s)	47.0	36.7		439.7	42.6		51.0	62.3		2380.1	46.2	
Level of Service	D	D		F	D		D	E		F	D	
Approach Delay (s)		37.3			128.6			59.5			1762.7	
Approach LOS		D			F			E			F	

Intersection Summary

HCM 2000 Control Delay	293.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.23		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

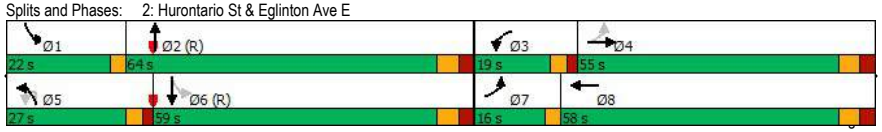
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	279	858	174	267	1888	186	37	716	3108	182	592	2436
Future Volume (vph)	279	858	174	267	1888	186	37	716	3108	182	592	2436
Lane Group Flow (vph)	279	858	174	267	1888	186	0	864	3108	182	592	2436
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Detector Phase	7	4		3	8		5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	5.0	8.0		5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	10.0	41.0		8.0	41.0
Total Split (s)	16.0	55.0		19.0	58.0		27.0	27.0	64.0		22.0	59.0
Total Split (%)	10.0%	34.4%		11.9%	36.3%		16.9%	16.9%	40.0%		13.8%	36.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	2.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None	C-Max		None	C-Max
v/c Ratio	1.40	0.56	0.11	0.87	1.14	0.12		9.29	1.57	0.12	2.28	1.37
Control Delay	241.7	48.7	0.1	103.2	117.7	0.1		3757.6	295.0	0.1	610.8	209.2
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	241.7	48.7	0.1	103.2	117.7	0.1		3757.6	295.0	0.1	610.8	209.2
Queue Length 50th (m)	~93.2	77.7	0.0	42.5	~232.8	0.0		~259.4	~426.7	0.0	~267.0	~312.3
Queue Length 95th (m)	#147.9	91.2	0.0	m47.9	#259.1	m0.0		#288.8	#444.1	m0.0	#335.8	#333.1
Internal Link Dist (m)		132.7			301.3				160.0			158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0		87.0			95.0	
Base Capacity (vph)	199	1542	1578	306	1655	1576		93	1974	1538	260	1783
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	1.40	0.56	0.11	0.87	1.14	0.12		9.29	1.57	0.12	2.28	1.37

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 142 (89%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
Lane Group Flow (vph)	619
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
v/c Ratio	0.39
Control Delay	0.7
Queue Delay	0.0
Total Delay	0.7
Queue Length 50th (m)	0.0
Queue Length 95th (m)	0.0
Internal Link Dist (m)	
Turn Bay Length (m)	95.0
Base Capacity (vph)	1585
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	279	858	174	267	1888	186	37	716	3108	182	592	2436
Future Volume (vph)	279	858	174	267	1888	186	37	716	3108	182	592	2436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0		5.0	7.0	4.0	3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00		0.97	*1.00	1.00	1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97		1.00	1.00	0.97	1.00	1.00
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	1.00
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	1578	3506	5193	1576		3538	5542	1538	1772	5489
Flt Permitted	0.08	1.00	1.00	0.95	1.00	1.00		0.18	1.00	1.00	0.08	1.00
Satd. Flow (perm)	160	5142	1578	3506	5193	1576		677	5542	1538	143	5489
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	279	858	174	267	1888	186	148	716	3108	182	592	2436
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	279	858	174	267	1888	186	0	864	3108	182	592	2436
Confl. Peds. (#/hr)	45		40	40		45		26		60	60	
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	0%	0%	4%	3%	3%	5%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Actuated Green, G (s)	61.0	48.0	160.0	14.0	51.0	160.0		22.0	57.0	160.0	71.0	52.0
Effective Green, g (s)	61.0	48.0	160.0	14.0	51.0	160.0		22.0	57.0	160.0	71.0	52.0
Actuated g/C Ratio	0.38	0.30	1.00	0.09	0.32	1.00		0.14	0.36	1.00	0.44	0.32
Clearance Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	196	1542	1578	306	1655	1576		93	1974	1538	256	1783
v/s Ratio Prot	c0.12	0.17		0.08	0.36				c0.56		0.27	0.44
v/s Ratio Perm	c0.43		0.11			0.12		c1.28		0.12	c0.75	
v/c Ratio	1.42	0.56	0.11	0.87	1.14	0.12		9.29	1.57	0.12	2.31	1.37
Uniform Delay, d1	47.1	47.1	0.0	72.1	54.5	0.0		69.0	51.5	0.0	52.2	54.0
Progression Factor	1.00	1.00	1.00	1.20	1.03	1.00		1.10	0.98	1.00	1.00	1.00
Incremental Delay, d2	217.6	0.7	0.1	15.8	68.1	0.1		3750.9	260.8	0.1	602.8	168.5
Delay (s)	264.7	47.8	0.1	102.5	124.3	0.1		3826.7	311.1	0.1	654.9	222.5
Level of Service	F	D	A	F	F	A		F	F	A	F	F
Approach Delay (s)		87.6			111.9				1028.7			255.0
Approach LOS		F			F				F			F

Intersection Summary			
HCM 2000 Control Delay	487.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.89		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	163.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1585
Flt Permitted	1.00
Satd. Flow (perm)	1585
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	619
RTOR Reduction (vph)	0
Lane Group Flow (vph)	619
Confl. Peds. (#/hr)	26
Heavy Vehicles (%)	1%
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	160.0
Effective Green, g (s)	160.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1585
v/s Ratio Prot	
v/s Ratio Perm	c0.39
v/c Ratio	0.39
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.7
Delay (s)	0.7
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	133	57	201	767	159	401	2022	682	87	1992	70
Future Volume (vph)	133	57	201	767	159	401	2022	682	87	1992	70
Lane Group Flow (vph)	133	57	201	767	309	401	2022	682	87	1992	70
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	4	4	4	8	8	5	2		6	6	
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	8.0		8.0	8.0	
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	10.0	41.5		41.5	41.5	
Total Split (s)	66.0	66.0	66.0	66.0	66.0	37.0	94.0		57.0	57.0	
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	23.1%	58.8%		35.6%	35.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	0.0	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max		C-Max	C-Max	
v/c Ratio	0.45	0.08	0.29	1.58	0.49	0.96	0.73	0.44	1.85	1.23	0.04
Control Delay	44.5	33.7	5.2	307.0	41.9	83.9	29.2	0.9	408.5	125.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	33.7	5.2	307.0	41.9	83.9	29.2	0.9	408.5	125.1	0.0
Queue Length 50th (m)	29.5	10.9	0.0	~318.6	68.9	102.1	158.9	0.0	~25.9	~269.1	0.0
Queue Length 95th (m)	49.7	20.5	15.7	#390.2	96.1	#162.7	174.2	0.0	m#14.2	m112.4	m0.0
Internal Link Dist (m)		139.7			81.8		241.5			228.3	
Turn Bay Length (m)	51.0			52.0		169.0		76.0	90.0		42.0
Base Capacity (vph)	296	688	685	484	627	417	2784	1554	47	1625	1599
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	0.45	0.08	0.29	1.58	0.49	0.96	0.73	0.44	1.85	1.23	0.04

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 160
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	57	201	767	159	150	401	2022	682	87	1992	70
Future Volume (vph)	133	57	201	767	159	150	401	2022	682	87	1992	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5	4.0	6.5	6.5	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	0.97		1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.97	1.00	1.00	0.97	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1751	1883	1526	1748	1708		1789	5092	1554	1816	5142	1599
Flt Permitted	0.44	1.00	1.00	0.72	1.00		0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	811	1883	1526	1324	1708		138	5092	1554	151	5142	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	57	201	767	159	150	401	2022	682	87	1992	70
RTOR Reduction (vph)	0	0	128	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	133	57	73	767	306	0	401	2022	682	87	1992	70
Confl. Peds. (#/hr)	65		43	43		65	30		39	39		30
Heavy Vehicles (%)	1%	2%	2%	1%	2%	0%	2%	3%	1%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		Free	6		Free
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	50.6	50.6	160.0
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	50.6	50.6	160.0
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37		0.55	0.55	1.00	0.32	0.32	1.00
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	296	688	557	484	624		414	2784	1554	47	1626	1599
v/s Ratio Prot		0.03			0.18		c0.20	0.40			0.39	
v/s Ratio Perm	0.16		0.05	c0.58			0.33		0.44	c0.57		0.04
v/c Ratio	0.45	0.08	0.13	1.58	0.49		0.97	0.73	0.44	1.85	1.23	0.04
Uniform Delay, d1	38.5	33.2	33.8	50.8	39.2		52.3	27.2	0.0	54.7	54.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.38	0.38	1.00
Incremental Delay, d2	2.3	0.1	0.2	272.8	1.3		36.2	1.7	0.9	390.3	101.8	0.0
Delay (s)	40.8	33.3	34.1	323.6	40.5		88.5	28.9	0.9	411.0	122.6	0.0
Level of Service	D	C	C	F	D		F	C	A	F	F	A
Approach Delay (s)		36.2			242.3			30.5			130.3	
Approach LOS		D			F			C			F	

Intersection Summary

HCM 2000 Control Delay	96.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	162.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	279	106	77	133	86	74	0	46	102	0	164
Future Volume (Veh/h)	119	279	106	77	133	86	74	0	46	102	0	164
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	476	1116	424	308	532	344	296	0	184	408	0	656
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	876			1540			4084	3772	1328	3572	3812	704
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	876			1541			4129	3812	1325	3608	3853	704
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	39			28			0	100	3	0	100	0
cM capacity (veh/h)	779			429			0	0	189	0	0	440

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	476	1540	308	876	480	1064
Volume Left	476	0	308	0	296	408
Volume Right	0	424	0	344	184	656
cSH	779	1700	429	1700	0	0
Volume to Capacity	0.61	0.91	0.72	0.52	Err	Err
Queue Length 95th (m)	29.7	0.0	39.0	0.0	Err	Err
Control Delay (s)	16.6	0.0	32.0	0.0	Err	Err
Lane LOS	C		D		F	F
Approach Delay (s)	3.9		8.3		Err	Err
Approach LOS					F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	381	45	0	0	24	42	0	0	0	58	0	272
Future Volume (vph)	381	45	0	0	24	42	0	0	0	58	0	272
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	1524	180	0	0	96	168	0	0	0	232	0	1088

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	1524	180	0	264	0	0	232	1088
Volume Left (vph)	1524	0	0	0	0	0	232	0
Volume Right (vph)	0	0	0	168	0	0	0	1088
Hadj (s)	0.50	0.00	0.00	-0.45	0.00	0.00	0.50	-0.70
Departure Headway (s)	7.7	7.2	7.9	7.4	8.8	8.8	7.7	6.5
Degree Utilization, x	3.28	0.36	0.00	0.55	0.00	0.00	0.50	1.96
Capacity (veh/h)	469	490	461	479	403	403	460	563
Control Delay (s)	1046.1	13.1	9.7	17.8	10.6	10.6	16.8	453.7
Approach Delay (s)	937.0		17.8		0.0		376.9	
Approach LOS	F		C		A		F	

Intersection Summary			
Delay	638.3		
Level of Service	F		
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	103	0	0	66	0
Future Volume (Veh/h)	0	103	0	0	66	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	412	0	0	264	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			412		206	206
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			412		206	206
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		66	100
cM capacity (veh/h)			1158		787	840

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	412	0	264
Volume Left	0	0	264
Volume Right	412	0	0
cSH	1700	1700	787
Volume to Capacity	0.24	0.00	0.34
Queue Length 95th (m)	0.0	0.0	10.4
Control Delay (s)	0.0	0.0	11.9
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.9
Approach LOS			B

Intersection Summary			
Average Delay		4.6	
Intersection Capacity Utilization		16.7%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	88	0	169	0	248	175	224	241	0
Future Volume (vph)	0	0	0	88	0	169	0	248	175	224	241	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	352	0	676	0	992	700	896	964	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	1028	0	1692	896	964
Volume Left (vph)	0	352	0	0	896	0
Volume Right (vph)	0	676	0	700	0	0
Hadj (s)	0.00	-0.33	0.00	-0.29	0.50	0.00
Departure Headway (s)	9.6	6.7	7.8	7.5	8.1	7.6
Degree Utilization, x	0.00	1.90	0.00	3.52	2.01	2.03
Capacity (veh/h)	385	549	469	485	452	482
Control Delay (s)	12.6	428.9	9.6	1154.6	480.6	487.6
Approach Delay (s)	0.0	428.9	1154.6		484.3	
Approach LOS	A	F	F		F	

Intersection Summary			
Delay		719.5	
Level of Service		F	
Intersection Capacity Utilization		61.4%	ICU Level of Service B
Analysis Period (min)		15	

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			

2030 Without LRT Analysis

Queues
1: Sorrento Dr & Eglinton Ave E

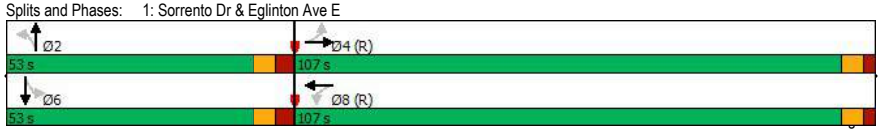
Future Total 2030 AM
12-03-2020

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	2074	273	866	100	80	128	36
Future Volume (vph)	10	2074	273	866	100	80	128	36
Lane Group Flow (vph)	40	2133	273	1002	100	490	512	436
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	33.5	33.5	33.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	107.0	107.0	107.0	107.0	53.0	53.0	53.0	53.0
Total Split (%)	66.9%	66.9%	66.9%	66.9%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.13	0.66	4.79	0.32	1.05	1.04	8.83	0.81
Control Delay	12.6	18.7	1755.5	13.6	160.7	104.8	3563.8	58.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	18.7	1755.5	13.6	160.7	104.8	3563.8	58.3
Queue Length 50th (m)	3.5	82.4	~132.9	46.0	~31.7	~151.8	~279.6	104.0
Queue Length 95th (m)	2.0	m69.4	#187.6	53.5	#68.1	#217.5	#86.5	19.1
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	301	3216	57	3108	95	472	58	537
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.66	4.79	0.32	1.05	1.04	8.83	0.81

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 158 (99%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



HCM Signalized Intersection Capacity Analysis
1: Sorrento Dr & Eglinton Ave E

Future Total 2030 AM
12-03-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	2074	59	273	866	34	100	80	410	128	36	73
Future Volume (vph)	10	2074	59	273	866	34	100	80	410	128	36	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.87		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5118		1722	4925		1737	1634		1825	1728	
Flt Permitted	0.25	1.00		0.05	1.00		0.18	1.00		0.11	1.00	
Satd. Flow (perm)	480	5118		91	4925		336	1634		208	1728	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	40	2074	59	273	866	136	100	80	410	512	144	292
RTOR Reduction (vph)	0	2	0	0	13	0	0	8	0	0	46	0
Lane Group Flow (vph)	40	2131	0	273	989	0	100	482	0	512	390	0
Confl. Peds. (#/hr)			7	7			2		1			
Heavy Vehicles (%)	0%	2%	0%	6%	5%	0%	5%	0%	2%	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)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Effective Green, g (s)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.28	0.28		0.28	0.28	
Clearance Time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	301	3214		57	3093		95	464		59	491	
v/s Ratio Prot		0.42			0.20			0.30			0.23	
v/s Ratio Perm	0.08			c3.01			0.30			c2.46		
v/c Ratio	0.13	0.66		4.79	0.32		1.05	1.04		8.68	0.79	
Uniform Delay, d1	12.1	19.0		29.8	13.8		57.2	57.2		57.2	52.9	
Progression Factor	0.98	0.96		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.3		1744.3	0.3		107.3	52.3		3489.2	9.9	
Delay (s)	12.1	18.5		1774.0	14.1		164.6	109.5		3546.5	62.8	
Level of Service	B	B		F	B		F	F		F	E	
Approach Delay (s)		18.4			390.9			118.9			1944.3	
Approach LOS		B			F			F			F	

Intersection Summary

HCM 2000 Control Delay	491.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	5.99		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	116.5%	ICU Level of Service	H
Analysis Period (min)	15		

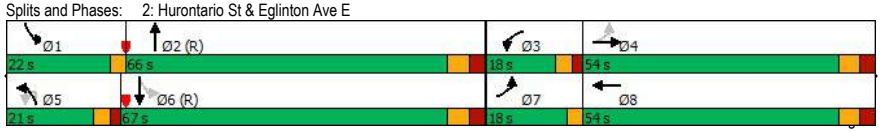
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1534	193	146	600	193	8	216	2641	100	379	2616
Future Volume (vph)	328	1534	193	146	600	193	8	216	2641	100	379	2616
Lane Group Flow (vph)	328	1534	193	146	600	193	0	248	2641	100	379	2616
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Detector Phase	7	4		3	8		5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	5.0	8.0		5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	10.0	41.0		8.0	41.0
Total Split (s)	18.0	54.0		18.0	54.0		21.0	21.0	66.0		22.0	67.0
Total Split (%)	11.3%	33.8%		11.3%	33.8%		13.1%	13.1%	41.3%		13.8%	41.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	2.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None	C-Max		None	C-Max
v/c Ratio	0.89	1.01	0.13	0.54	0.41	0.13		2.79	1.29	0.07	1.43	1.30
Control Delay	62.5	81.6	0.2	62.2	42.3	0.2		857.0	169.8	0.1	250.1	177.2
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	62.5	81.6	0.2	62.2	42.3	0.2		857.0	169.8	0.1	250.1	177.2
Queue Length 50th (m)	66.4	~174.7	0.0	16.7	57.0	0.0		~64.8	~330.3	0.0	~134.6	~324.9
Queue Length 95th (m)	#112.6	#201.8	0.0	m25.6	m67.8	m0.0		#91.9	#343.3	0.0	#195.4	#344.7
Internal Link Dist (m)		132.7			301.3				160.0			158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0		87.0			95.0	
Base Capacity (vph)	367	1512	1525	284	1453	1527		89	2043	1475	265	2019
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	0.89	1.01	0.13	0.51	0.41	0.13		2.79	1.29	0.07	1.43	1.30

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 114 (71%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
Lane Group Flow (vph)	342
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
v/c Ratio	0.23
Control Delay	0.3
Queue Delay	0.0
Total Delay	0.3
Queue Length 50th (m)	0.0
Queue Length 95th (m)	0.0
Internal Link Dist (m)	
Turn Bay Length (m)	95.0
Base Capacity (vph)	1520
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.23

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1534	193	146	600	193	8	216	2641	100	379	2616
Future Volume (vph)	328	1534	193	146	600	193	8	216	2641	100	379	2616
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0		5.0	7.0	4.0	3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00		0.97	*1.00	1.00	1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98		1.00	1.00	0.98	1.00	1.00
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	1.00
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)	1784	5092	1525	3506	4948	1527		3389	5542	1475	1807	5386
Flt Permitted	0.33	1.00	1.00	0.95	1.00	1.00		0.25	1.00	1.00	0.07	1.00
Satd. Flow (perm)	627	5092	1525	3506	4948	1527		892	5542	1475	127	5386
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	328	1534	193	146	600	193	32	216	2641	100	379	2616
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	328	1534	193	146	600	193	0	248	2641	100	379	2616
Confl. Peds. (#/hr)	21		56	56		21		36		42	42	
Heavy Vehicles (%)	2%	3%	4%	1%	6%	5%	0%	5%	4%	8%	1%	7%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Actuated Green, G (s)	62.5	47.5	160.0	12.5	47.0	160.0		16.0	59.0	160.0	79.0	60.0
Effective Green, g (s)	62.5	47.5	160.0	12.5	47.0	160.0		16.0	59.0	160.0	79.0	60.0
Actuated g/C Ratio	0.39	0.30	1.00	0.08	0.29	1.00		0.10	0.37	1.00	0.49	0.38
Clearance Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	353	1511	1525	273	1453	1527		89	2043	1475	262	2019
v/s Ratio Prot	c0.09	c0.30		0.04	0.12				0.48		c0.17	0.49
v/s Ratio Perm	0.28		0.13			0.13		c0.28		0.07	c0.54	
v/c Ratio	0.93	1.02	0.13	0.53	0.41	0.13		2.79	1.29	0.07	1.45	1.30
Uniform Delay, d1	41.4	56.2	0.0	71.0	45.4	0.0		72.0	50.5	0.0	53.7	50.0
Progression Factor	1.00	1.00	1.00	0.78	0.91	1.00		1.08	0.79	1.00	1.00	1.00
Incremental Delay, d2	31.1	27.0	0.2	3.2	0.4	0.2		833.2	135.4	0.1	221.2	136.9
Delay (s)	72.6	83.3	0.2	58.8	41.7	0.2		910.8	175.3	0.1	274.9	186.9
Level of Service	E	F	A	E	D	A		F	F	A	F	F
Approach Delay (s)		73.7			35.8				230.5			177.7
Approach LOS		E			D				F			F

Intersection Summary			
HCM 2000 Control Delay	157.4	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)	24.0
Intersection Capacity Utilization	129.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1520
Flt Permitted	1.00
Satd. Flow (perm)	1520
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	342
RTOR Reduction (vph)	0
Lane Group Flow (vph)	342
Confl. Peds. (#/hr)	36
Heavy Vehicles (%)	5%
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	160.0
Effective Green, g (s)	160.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1520
v/s Ratio Prot	
v/s Ratio Perm	c0.22
v/c Ratio	0.23
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	0.3
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Queues
3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Future Total 2030 AM
12-03-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	188	91	572	658	58	161	1455	382	74	2101	81
Future Volume (vph)	188	91	572	658	58	161	1455	382	74	2101	81
Lane Group Flow (vph)	188	91	572	658	246	161	1455	382	74	2101	81
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	4	4	4	8	8	5	2		6	6	
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	8.0		8.0	8.0	
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	10.0	41.5		41.5	41.5	
Total Split (s)	66.0	66.0	66.0	66.0	66.0	28.0	94.0		66.0	66.0	
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	17.5%	58.8%		41.3%	41.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	0.0	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max		C-Max	C-Max	
v/c Ratio	0.55	0.14	0.75	1.42	0.42	0.70	0.53	0.25	0.65	1.02	0.05
Control Delay	47.7	34.7	26.0	236.9	36.5	53.6	24.1	0.4	13.9	22.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	34.7	26.0	236.9	36.5	53.6	24.1	0.4	13.9	22.9	0.0
Queue Length 50th (m)	43.7	17.8	70.3	~258.1	48.3	31.6	97.2	0.0	2.4	~29.4	0.0
Queue Length 95th (m)	69.0	30.2	116.5	#327.3	71.8	53.6	109.1	0.0	m2.1	m20.9	m0.0
Internal Link Dist (m)		139.7			81.8		241.5			228.3	
Turn Bay Length (m)	51.0			52.0		169.0		76.0	90.0		42.0
Base Capacity (vph)	342	656	763	465	581	295	2731	1520	114	2064	1478
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	0.55	0.14	0.75	1.42	0.42	0.55	0.53	0.25	0.65	1.02	0.05

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 139 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

HCM Signalized Intersection Capacity Analysis
3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Future Total 2030 AM
12-03-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	91	572	658	58	188	161	1455	382	74	2101	81
Future Volume (vph)	188	91	572	658	58	188	161	1455	382	74	2101	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5	4.0	6.5	6.5	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.95		1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	0.96	1.00	1.00	0.98	1.00		1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1722	1795	1543	1733	1544		1690	4995	1520	1618	4995	1478
Flt Permitted	0.52	1.00	1.00	0.70	1.00		0.06	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	938	1795	1543	1273	1544		102	4995	1520	278	4995	1478
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	188	91	572	658	58	188	161	1455	382	74	2101	81
RTOR Reduction (vph)	0	0	199	0	16	0	0	0	0	0	0	0
Lane Group Flow (vph)	188	91	373	658	230	0	161	1455	382	74	2101	81
Confl. Peds. (#/hr)	69		30	30		69	35		25	25		35
Heavy Vehicles (%)	2%	7%	2%	3%	9%	3%	8%	5%	4%	12%	5%	8%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		Free	6		Free
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	66.1	66.1	160.0
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	66.1	66.1	160.0
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37		0.55	0.55	1.00	0.41	0.41	1.00
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	342	656	564	465	564		228	2731	1520	114	2063	1478
v/s Ratio Prot		0.05			0.15		c0.08	0.29			c0.42	
v/s Ratio Perm	0.20		0.24	c0.52			0.31		0.25	0.27		0.05
v/c Ratio	0.55	0.14	0.66	1.42	0.41		0.71	0.53	0.25	0.65	1.02	0.05
Uniform Delay, d1	40.3	33.9	42.5	50.8	37.8		46.2	23.2	0.0	37.7	47.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.20	0.18	1.00
Incremental Delay, d2	3.2	0.2	3.8	199.2	1.0		11.8	0.7	0.4	2.6	11.4	0.0
Delay (s)	43.5	34.1	46.3	249.9	38.8		58.0	23.9	0.4	10.0	19.7	0.0
Level of Service	D	C	D	F	D		E	C	A	B	B	A
Approach Delay (s)		44.4			192.5			22.2			18.7	
Approach LOS		D			F			C			B	

Intersection Summary

HCM 2000 Control Delay	49.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	140.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	87	38	27	221	92	98	0	60	82	0	135
Future Volume (Veh/h)	128	87	38	27	221	92	98	0	60	82	0	135
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	512	348	152	108	884	368	392	0	240	328	0	540
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	1252			500			3088	2916	424	2896	2808	1068
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1252			500			3088	2916	424	2896	2808	1068
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	9			90			0	100	62	0	100	0
cM capacity (veh/h)	563			1075			0	1	634	1	1	272

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	512	500	108	1252	632	868
Volume Left	512	0	108	0	392	328
Volume Right	0	152	0	368	240	540
cSH	563	1700	1075	1700	0	3
Volume to Capacity	0.91	0.29	0.10	0.74	Err	264.79
Queue Length 95th (m)	77.3	0.0	2.3	0.0	Err	Err
Control Delay (s)	46.2	0.0	8.7	0.0	Err	Err
Lane LOS	E		A		F	F
Approach Delay (s)	23.4		0.7		Err	Err
Approach LOS					F	F

Intersection Summary			
Average Delay		Err	
Intersection Capacity Utilization		49.3%	ICU Level of Service	A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	214	15	0	0	40	70	0	0	0	20	0	300
Future Volume (vph)	214	15	0	0	40	70	0	0	0	20	0	300
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	856	60	0	0	160	280	0	0	0	80	0	1200

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	856	60	0	440	0	0	80	1200
Volume Left (vph)	856	0	0	0	0	0	80	0
Volume Right (vph)	0	0	0	280	0	0	0	1200
Hadj (s)	0.50	0.00	0.00	-0.45	0.00	0.00	0.50	-0.70
Departure Headway (s)	8.0	7.5	7.6	7.2	9.3	9.3	8.0	6.8
Degree Utilization, x	1.90	0.12	0.00	0.88	0.00	0.00	0.18	2.26
Capacity (veh/h)	457	472	479	498	385	385	440	542
Control Delay (s)	429.7	10.3	9.4	41.1	11.1	11.1	11.5	585.5
Approach Delay (s)	402.2		41.1		0.0		549.6	
Approach LOS	F		E		A		F	

Intersection Summary			
Delay		413.5	
Level of Service		F	
Intersection Capacity Utilization		43.8%	ICU Level of Service	A
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	35	0	0	110	0
Future Volume (Veh/h)	0	35	0	0	110	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	140	0	0	440	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			140		70	70
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			140		70	70
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		53	100
cM capacity (veh/h)			1456		939	998

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	140	0	440
Volume Left	0	0	440
Volume Right	140	0	0
cSH	1700	1700	939
Volume to Capacity	0.08	0.00	0.47
Queue Length 95th (m)	0.0	0.0	17.8
Control Delay (s)	0.0	0.0	12.2
Lane LOS			B
Approach Delay (s)	0.0	0.0	12.2
Approach LOS			B

Intersection Summary			
Average Delay		9.2	
Intersection Capacity Utilization		16.1%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	145	0	284	0	223	61	78	175	0
Future Volume (vph)	0	0	0	145	0	284	0	223	61	78	175	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	580	0	1136	0	892	244	312	700	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	1716	0	1136	312	700
Volume Left (vph)	0	580	0	0	312	0
Volume Right (vph)	0	1136	0	244	0	0
Hadj (s)	0.00	-0.33	0.00	-0.15	0.50	0.00
Departure Headway (s)	9.5	6.6	7.7	7.6	8.1	7.6
Degree Utilization, x	0.00	3.17	0.00	2.38	0.70	1.47
Capacity (veh/h)	386	553	474	487	437	478
Control Delay (s)	12.5	993.7	9.5	645.1	26.7	244.3
Approach Delay (s)	0.0	993.7	645.1		177.2	
Approach LOS	A	F	F		F	

Intersection Summary			
Delay		677.4	
Level of Service		F	
Intersection Capacity Utilization		55.3%	ICU Level of Service B
Analysis Period (min)		15	

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Queues
1: Sorrento Dr & Eglinton Ave E

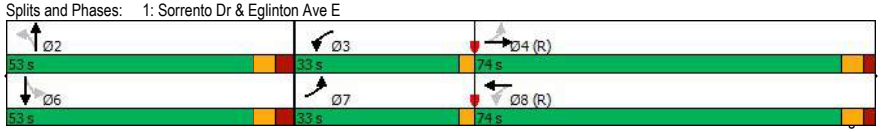
Future Total 2030 PM
12-03-2020

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	23	1486	705	1851	149	101	139	21
Future Volume (vph)	23	1486	705	1851	149	101	139	21
Lane Group Flow (vph)	92	1641	705	2551	149	448	556	200
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	9.5	33.5	9.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	33.0	74.0	33.0	74.0	53.0	53.0	53.0	53.0
Total Split (%)	20.6%	46.3%	20.6%	46.3%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.5	0.0	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	3.0	6.5	7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.51	0.76	1.84	0.94	0.51	0.81	6.11	0.38
Control Delay	38.3	36.6	416.2	41.8	55.4	53.0	2332.6	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	36.6	416.2	41.8	55.4	53.0	2332.6	38.0
Queue Length 50th (m)	12.7	165.6	~298.1	242.6	36.8	96.5	~287.4	36.8
Queue Length 95th (m)	m3.5	m83.1	#369.4	#298.3	59.2	#139.1	#84.6	7.5
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	392	2160	384	2715	290	550	91	529
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	0.23	0.76	1.84	0.94	0.51	0.81	6.11	0.38

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 69 (43%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



HCM Signalized Intersection Capacity Analysis
1: Sorrento Dr & Eglinton Ave E

Future Total 2030 PM
12-03-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1486	155	705	1851	175	149	101	347	139	21	29
Future Volume (vph)	23	1486	155	705	1851	175	149	101	347	139	21	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
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	1.00	
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	0.96		1.00	0.88		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5100		1789	4993		1802	1664		1825	1754	
Flt Permitted	0.06	1.00		0.06	1.00		0.54	1.00		0.17	1.00	
Satd. Flow (perm)	114	5100		107	4993		1020	1664		320	1754	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	92	1486	155	705	1851	700	149	101	347	556	84	116
RTOR Reduction (vph)	0	8	0	0	34	0	0	77	0	0	31	0
Lane Group Flow (vph)	92	1633	0	705	2517	0	149	371	0	556	169	0
Confl. Peds. (#/hr)			7	7			13		3			
Heavy Vehicles (%)	0%	1%	1%	2%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Effective Green, g (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.49	0.42		0.63	0.54		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	180	2151		382	2680		290	473		91	498	
v/s Ratio Prot	0.04	0.32		c0.35	0.50			0.22			0.10	
v/s Ratio Perm	0.22			c0.81			0.15			c1.74		
v/c Ratio	0.51	0.76		1.85	0.94		0.51	0.78		6.11	0.34	
Uniform Delay, d1	32.7	39.3		54.1	34.6		48.0	52.7		57.2	45.4	
Progression Factor	1.42	0.93		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2		390.5	8.0		3.0	9.5		2322.9	0.9	
Delay (s)	46.7	36.7		444.6	42.6		51.0	62.3		2380.1	46.2	
Level of Service	D	D		F	D		D	E		F	D	
Approach Delay (s)		37.3			129.7			59.5			1762.7	
Approach LOS		D			F			E			F	

Intersection Summary

HCM 2000 Control Delay	292.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.23		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	127.3%	ICU Level of Service	H
Analysis Period (min)	15		

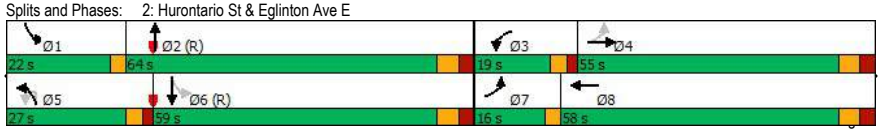
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	279	875	174	267	1888	186	37	716	3108	182	592	2436
Future Volume (vph)	279	875	174	267	1888	186	37	716	3108	182	592	2436
Lane Group Flow (vph)	279	875	174	267	1888	186	0	864	3108	182	592	2436
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Detector Phase	7	4		3	8		5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	5.0	8.0		5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	10.0	41.0		8.0	41.0
Total Split (s)	16.0	55.0		19.0	58.0		27.0	27.0	64.0		22.0	59.0
Total Split (%)	10.0%	34.4%		11.9%	36.3%		16.9%	16.9%	40.0%		13.8%	36.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	2.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None	C-Max		None	C-Max
v/c Ratio	1.40	0.57	0.11	0.87	1.14	0.12		9.29	1.57	0.12	2.28	1.37
Control Delay	241.7	49.0	0.1	103.2	117.7	0.1		3757.6	295.0	0.1	610.8	209.2
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	241.7	49.0	0.1	103.2	117.7	0.1		3757.6	295.0	0.1	610.8	209.2
Queue Length 50th (m)	~93.2	79.6	0.0	42.5	~232.8	0.0		~259.4	~426.7	0.0	~267.0	~312.3
Queue Length 95th (m)	#147.9	93.1	0.0	m47.9	#259.1	m0.0		#288.8	#444.1	m0.0	#335.8	#333.1
Internal Link Dist (m)		132.7			301.3				160.0			158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0		87.0			95.0	
Base Capacity (vph)	199	1542	1578	306	1655	1576		93	1974	1538	260	1783
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	1.40	0.57	0.11	0.87	1.14	0.12		9.29	1.57	0.12	2.28	1.37

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 142 (89%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
Lane Group Flow (vph)	619
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
v/c Ratio	0.39
Control Delay	0.7
Queue Delay	0.0
Total Delay	0.7
Queue Length 50th (m)	0.0
Queue Length 95th (m)	0.0
Internal Link Dist (m)	
Turn Bay Length (m)	95.0
Base Capacity (vph)	1585
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	279	875	174	267	1888	186	37	716	3108	182	592	2436
Future Volume (vph)	279	875	174	267	1888	186	37	716	3108	182	592	2436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0		5.0	7.0	4.0	3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00		0.97	*1.00	1.00	1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97		1.00	1.00	0.97	1.00	1.00
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	1.00
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	1578	3506	5193	1576		3538	5542	1538	1772	5489
Flt Permitted	0.08	1.00	1.00	0.95	1.00	1.00		0.18	1.00	1.00	0.08	1.00
Satd. Flow (perm)	160	5142	1578	3506	5193	1576		677	5542	1538	143	5489
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	279	875	174	267	1888	186	148	716	3108	182	592	2436
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	279	875	174	267	1888	186	0	864	3108	182	592	2436
Confl. Peds. (#/hr)	45		40	40		45		26		60	60	
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	0%	0%	4%	3%	3%	5%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Actuated Green, G (s)	61.0	48.0	160.0	14.0	51.0	160.0		22.0	57.0	160.0	71.0	52.0
Effective Green, g (s)	61.0	48.0	160.0	14.0	51.0	160.0		22.0	57.0	160.0	71.0	52.0
Actuated g/C Ratio	0.38	0.30	1.00	0.09	0.32	1.00		0.14	0.36	1.00	0.44	0.32
Clearance Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	196	1542	1578	306	1655	1576		93	1974	1538	256	1783
v/s Ratio Prot	c0.12	0.17		0.08	0.36				c0.56		0.27	0.44
v/s Ratio Perm	c0.43		0.11			0.12		c1.28		0.12	c0.75	
v/c Ratio	1.42	0.57	0.11	0.87	1.14	0.12		9.29	1.57	0.12	2.31	1.37
Uniform Delay, d1	47.1	47.2	0.0	72.1	54.5	0.0		69.0	51.5	0.0	52.2	54.0
Progression Factor	1.00	1.00	1.00	1.20	1.03	1.00		1.10	0.98	1.00	1.00	1.00
Incremental Delay, d2	217.6	0.8	0.1	15.8	68.1	0.1		3750.9	260.8	0.1	602.8	168.5
Delay (s)	264.7	48.0	0.1	102.5	124.3	0.1		3826.7	311.1	0.1	654.9	222.5
Level of Service	F	D	A	F	F	A		F	F	A	F	F
Approach Delay (s)		87.3			111.9				1028.7			255.0
Approach LOS		F			F				F			F

Intersection Summary			
HCM 2000 Control Delay	486.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.89		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	163.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1585
Flt Permitted	1.00
Satd. Flow (perm)	1585
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	619
RTOR Reduction (vph)	0
Lane Group Flow (vph)	619
Confl. Peds. (#/hr)	26
Heavy Vehicles (%)	1%
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	160.0
Effective Green, g (s)	160.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1585
v/s Ratio Prot	
v/s Ratio Perm	c0.39
v/c Ratio	0.39
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.7
Delay (s)	0.7
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	133	57	201	767	159	401	2022	682	87	1992	70
Future Volume (vph)	133	57	201	767	159	401	2022	682	87	1992	70
Lane Group Flow (vph)	133	57	201	767	309	401	2022	682	87	1992	70
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	4	4	4	8	8	5	2		6	6	
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	8.0		8.0	8.0	
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	10.0	41.5		41.5	41.5	
Total Split (s)	66.0	66.0	66.0	66.0	66.0	37.0	94.0		57.0	57.0	
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	23.1%	58.8%		35.6%	35.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	0.0	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max		C-Max	C-Max	
v/c Ratio	0.45	0.08	0.29	1.58	0.49	0.96	0.73	0.44	1.85	1.23	0.04
Control Delay	44.5	33.7	5.2	307.0	41.9	83.9	29.2	0.9	408.5	125.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	33.7	5.2	307.0	41.9	83.9	29.2	0.9	408.5	125.1	0.0
Queue Length 50th (m)	29.5	10.9	0.0	~318.6	68.9	102.1	158.9	0.0	~25.9	~269.1	0.0
Queue Length 95th (m)	49.7	20.5	15.7	#390.2	96.1	#162.7	174.2	0.0	m#14.2	m112.4	m0.0
Internal Link Dist (m)		139.7			81.8		241.5			228.3	
Turn Bay Length (m)	51.0			52.0		169.0		76.0	90.0		42.0
Base Capacity (vph)	296	688	685	484	627	417	2784	1554	47	1625	1599
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	0.45	0.08	0.29	1.58	0.49	0.96	0.73	0.44	1.85	1.23	0.04

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 160
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	57	201	767	159	150	401	2022	682	87	1992	70
Future Volume (vph)	133	57	201	767	159	150	401	2022	682	87	1992	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5	4.0	6.5	6.5	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	0.97		1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.97	1.00	1.00	0.97	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1751	1883	1526	1748	1708		1789	5092	1554	1816	5142	1599
Flt Permitted	0.44	1.00	1.00	0.72	1.00		0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	811	1883	1526	1324	1708		138	5092	1554	151	5142	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	57	201	767	159	150	401	2022	682	87	1992	70
RTOR Reduction (vph)	0	0	128	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	133	57	73	767	306	0	401	2022	682	87	1992	70
Confl. Peds. (#/hr)	65		43	43		65	30		39	39		30
Heavy Vehicles (%)	1%	2%	2%	1%	2%	0%	2%	3%	1%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		Free	6		Free
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	50.6	50.6	160.0
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	50.6	50.6	160.0
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37		0.55	0.55	1.00	0.32	0.32	1.00
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	296	688	557	484	624		414	2784	1554	47	1626	1599
v/s Ratio Prot		0.03			0.18		c0.20	0.40			0.39	
v/s Ratio Perm	0.16		0.05	c0.58			0.33		0.44	c0.57		0.04
v/c Ratio	0.45	0.08	0.13	1.58	0.49		0.97	0.73	0.44	1.85	1.23	0.04
Uniform Delay, d1	38.5	33.2	33.8	50.8	39.2		52.3	27.2	0.0	54.7	54.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.38	0.38	1.00
Incremental Delay, d2	2.3	0.1	0.2	272.8	1.3		36.2	1.7	0.9	390.3	101.8	0.0
Delay (s)	40.8	33.3	34.1	323.6	40.5		88.5	28.9	0.9	411.0	122.6	0.0
Level of Service	D	C	C	F	D		F	C	A	F	F	A
Approach Delay (s)		36.2			242.3			30.5			130.3	
Approach LOS		D			F			C			F	

Intersection Summary

HCM 2000 Control Delay	96.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	162.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	279	106	77	133	86	74	0	46	102	0	164
Future Volume (Veh/h)	119	279	106	77	133	86	74	0	46	102	0	164
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	476	1116	424	308	532	344	296	0	184	408	0	656
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	876			1540			4084	3772	1328	3572	3812	704
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	876			1541			4129	3812	1325	3608	3853	704
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	39			28			0	100	3	0	100	0
cM capacity (veh/h)	779			429			0	0	189	0	0	440

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	476	1540	308	876	480	1064
Volume Left	476	0	308	0	296	408
Volume Right	0	424	0	344	184	656
cSH	779	1700	429	1700	0	0
Volume to Capacity	0.61	0.91	0.72	0.52	Err	Err
Queue Length 95th (m)	29.7	0.0	39.0	0.0	Err	Err
Control Delay (s)	16.6	0.0	32.0	0.0	Err	Err
Lane LOS	C		D		F	F
Approach Delay (s)	3.9		8.3		Err	Err
Approach LOS					F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	381	45	0	0	24	42	0	0	0	58	0	272
Future Volume (vph)	381	45	0	0	24	42	0	0	0	58	0	272
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	1524	180	0	0	96	168	0	0	0	232	0	1088

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	1524	180	0	264	0	0	232	1088
Volume Left (vph)	1524	0	0	0	0	0	232	0
Volume Right (vph)	0	0	0	168	0	0	0	1088
Hadj (s)	0.50	0.00	0.00	-0.45	0.00	0.00	0.50	-0.70
Departure Headway (s)	7.7	7.2	7.9	7.4	8.8	8.8	7.7	6.5
Degree Utilization, x	3.28	0.36	0.00	0.55	0.00	0.00	0.50	1.96
Capacity (veh/h)	469	490	461	479	403	403	460	563
Control Delay (s)	1046.1	13.1	9.7	17.8	10.6	10.6	16.8	453.7
Approach Delay (s)	937.0		17.8		0.0		376.9	
Approach LOS	F		C		A		F	

Intersection Summary			
Delay	638.3		
Level of Service	F		
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	103	0	0	66	0
Future Volume (Veh/h)	0	103	0	0	66	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	412	0	0	264	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			412		206	206
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			412		206	206
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		66	100
cM capacity (veh/h)			1158		787	840

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	412	0	264
Volume Left	0	0	264
Volume Right	412	0	0
cSH	1700	1700	787
Volume to Capacity	0.24	0.00	0.34
Queue Length 95th (m)	0.0	0.0	10.4
Control Delay (s)	0.0	0.0	11.9
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.9
Approach LOS			B

Intersection Summary			
Average Delay		4.6	
Intersection Capacity Utilization		16.7%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	88	0	169	0	248	175	224	241	0
Future Volume (vph)	0	0	0	88	0	169	0	248	175	224	241	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	352	0	676	0	992	700	896	964	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	1028	0	1692	896	964
Volume Left (vph)	0	352	0	0	896	0
Volume Right (vph)	0	676	0	700	0	0
Hadj (s)	0.00	-0.33	0.00	-0.29	0.50	0.00
Departure Headway (s)	9.6	6.7	7.8	7.5	8.1	7.6
Degree Utilization, x	0.00	1.90	0.00	3.52	2.01	2.03
Capacity (veh/h)	385	549	469	485	452	482
Control Delay (s)	12.6	428.9	9.6	1154.6	480.6	487.6
Approach Delay (s)	0.0	428.9	1154.6		484.3	
Approach LOS	A	F	F		F	

Intersection Summary			
Delay		719.5	
Level of Service		F	
Intersection Capacity Utilization		61.4%	ICU Level of Service B
Analysis Period (min)		15	

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			

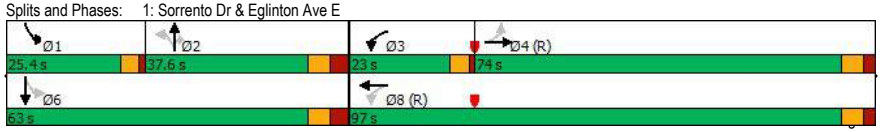
2030 Future Total Without LRT Optimized Results

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	10	2074	273	866	100	80	410	128	36
Future Volume (vph)	10	2074	273	866	100	80	410	128	36
Lane Group Flow (vph)	40	2133	273	1002	100	80	410	512	436
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	pm+pt	NA
Protected Phases		4	3	8		2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	3	8	2	2	2	1	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	5.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	33.5	33.5	9.5	33.5	41.5	41.5	41.5	9.5	41.5
Total Split (s)	74.0	74.0	23.0	97.0	37.6	37.6	37.6	25.4	63.0
Total Split (%)	46.3%	46.3%	14.4%	60.6%	23.5%	23.5%	23.5%	15.9%	39.4%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0	4.0	3.5	4.0
All-Red Time (s)	2.5	2.5	1.0	2.5	3.5	3.5	3.5	1.0	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	4.5	6.5	7.5	7.5	7.5	4.5	7.5
Lead/Lag	Lag	Lag	Lead		Lag	Lag	Lag	Lead	
Lead-Lag Optimize?									
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None	None
v/c Ratio	0.18	0.99	0.99	0.35	0.66	0.24	0.93	1.04	0.71
Control Delay	57.7	81.4	100.7	17.6	82.7	58.2	59.4	98.9	45.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.7	81.4	100.7	17.6	82.7	58.2	59.4	98.9	45.5
Queue Length 50th (m)	10.1	212.6	~76.8	55.0	27.2	20.1	62.5	~132.2	92.7
Queue Length 95th (m)	5.8	m198.7	#131.5	63.9	47.1	35.0	#116.6	35.3	16.1
Internal Link Dist (m)		301.3		166.0		158.4			110.2
Turn Bay Length (m)	84.0		75.0		36.0			36.0	
Base Capacity (vph)	221	2160	275	2883	166	361	465	491	645
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.99	0.99	0.35	0.60	0.22	0.88	1.04	0.68

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 158 (99%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 165
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	2074	59	273	866	34	100	80	410	128	36	73
Future Volume (vph)	10	2074	59	273	866	34	100	80	410	128	36	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		4.5	6.5		7.5	7.5	7.5	4.5	7.5	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1825	5118		1722	4925		1736	1921	1579	1825	1728	
Flt Permitted	0.27	1.00		0.06	1.00		0.48	1.00	1.00	0.61	1.00	
Satd. Flow (perm)	526	5118		101	4925		884	1921	1579	1163	1728	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	40	2074	59	273	866	136	100	80	410	512	144	292
RTOR Reduction (vph)	0	2	0	0	13	0	0	0	172	0	47	0
Lane Group Flow (vph)	40	2131	0	273	989	0	100	80	238	512	389	0
Confl. Peds. (#/hr)			7	7			2		1			
Heavy Vehicles (%)	0%	2%	0%	6%	5%	0%	5%	0%	2%	0%	0%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	67.5	67.5		93.2	93.2		27.4	27.4	27.4	52.8	52.8	
Effective Green, g (s)	67.5	67.5		93.2	93.2		27.4	27.4	27.4	52.8	52.8	
Actuated g/C Ratio	0.42	0.42		0.58	0.58		0.17	0.17	0.17	0.33	0.33	
Clearance Time (s)	6.5	6.5		4.5	6.5		7.5	7.5	7.5	4.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)	221	2159		273	2868		151	328	270	470	570	
v/s Ratio Prot		0.42		c0.13	0.20			0.04		c0.14	0.23	
v/s Ratio Perm	0.08			c0.45			0.11		0.15	c0.22		
v/c Ratio	0.18	0.99		1.00	0.35		0.66	0.24	0.88	1.09	0.68	
Uniform Delay, d1	28.9	45.8		56.2	17.5		62.0	57.3	64.7	51.8	46.4	
Progression Factor	1.90	1.65		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	7.8		54.5	0.3		13.6	0.8	28.2	67.9	4.3	
Delay (s)	55.7	83.3		110.7	17.8		75.5	58.2	92.9	119.6	50.7	
Level of Service	E	F		F	B		E	E	F	F	D	
Approach Delay (s)		82.8			37.7			85.2			87.9	
Approach LOS		F			D			F			F	

Intersection Summary

HCM 2000 Control Delay	72.5	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)	23.0
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		

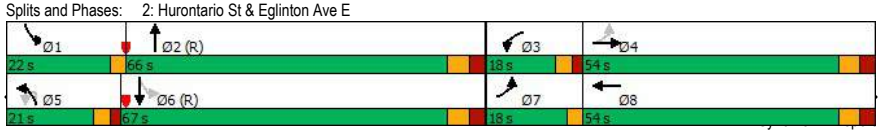
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1534	193	146	600	193	8	216	2641	100	379	2616
Future Volume (vph)	328	1534	193	146	600	193	8	216	2641	100	379	2616
Lane Group Flow (vph)	328	1534	193	146	600	193	0	248	2641	100	379	2616
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Detector Phase	7	4		3	8		5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	5.0	8.0		5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	10.0	41.0		8.0	41.0
Total Split (s)	18.0	54.0		18.0	54.0		21.0	21.0	66.0		22.0	67.0
Total Split (%)	11.3%	33.8%		11.3%	33.8%		13.1%	13.1%	41.3%		13.8%	41.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	2.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None	C-Max		None	C-Max
v/c Ratio	0.89	1.01	0.13	0.54	0.41	0.13		2.79	1.29	0.07	1.43	1.30
Control Delay	62.5	81.6	0.2	64.8	47.2	0.2		857.0	169.8	0.1	250.1	177.2
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	62.5	81.6	0.2	64.8	47.2	0.2		857.0	169.8	0.1	250.1	177.2
Queue Length 50th (m)	66.4	~174.7	0.0	22.1	56.9	0.0		~64.8	~330.3	0.0	~134.6	~324.9
Queue Length 95th (m)	#112.6	#201.8	0.0	33.1	69.0	0.0		#91.9	#343.3	0.0	#195.4	#344.7
Internal Link Dist (m)		132.7			301.3				160.0			158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0		87.0			95.0	
Base Capacity (vph)	367	1512	1525	284	1453	1527		89	2043	1475	265	2019
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	0.89	1.01	0.13	0.51	0.41	0.13		2.79	1.29	0.07	1.43	1.30

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 114 (71%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
Lane Group Flow (vph)	342
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
v/c Ratio	0.23
Control Delay	0.3
Queue Delay	0.0
Total Delay	0.3
Queue Length 50th (m)	0.0
Queue Length 95th (m)	0.0
Internal Link Dist (m)	
Turn Bay Length (m)	95.0
Base Capacity (vph)	1520
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.23

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1534	193	146	600	193	8	216	2641	100	379	2616
Future Volume (vph)	328	1534	193	146	600	193	8	216	2641	100	379	2616
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0		5.0	7.0	4.0	3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00		0.97	*1.00	1.00	1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98		1.00	1.00	0.98	1.00	1.00
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	1.00
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)	1784	5092	1525	3506	4948	1527		3389	5542	1475	1807	5386
Flt Permitted	0.33	1.00	1.00	0.95	1.00	1.00		0.25	1.00	1.00	0.07	1.00
Satd. Flow (perm)	627	5092	1525	3506	4948	1527		892	5542	1475	127	5386
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	328	1534	193	146	600	193	32	216	2641	100	379	2616
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	328	1534	193	146	600	193	0	248	2641	100	379	2616
Confl. Peds. (#/hr)	21		56	56		21		36		42	42	
Heavy Vehicles (%)	2%	3%	4%	1%	6%	5%	0%	5%	4%	8%	1%	7%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Actuated Green, G (s)	62.5	47.5	160.0	12.5	47.0	160.0		16.0	59.0	160.0	79.0	60.0
Effective Green, g (s)	62.5	47.5	160.0	12.5	47.0	160.0		16.0	59.0	160.0	79.0	60.0
Actuated g/C Ratio	0.39	0.30	1.00	0.08	0.29	1.00		0.10	0.37	1.00	0.49	0.38
Clearance Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	353	1511	1525	273	1453	1527		89	2043	1475	262	2019
v/s Ratio Prot	c0.09	c0.30		0.04	0.12				0.48		c0.17	0.49
v/s Ratio Perm	0.28		0.13			0.13		c0.28		0.07	c0.54	
v/c Ratio	0.93	1.02	0.13	0.53	0.41	0.13		2.79	1.29	0.07	1.45	1.30
Uniform Delay, d1	41.4	56.2	0.0	71.0	45.4	0.0		72.0	50.5	0.0	53.7	50.0
Progression Factor	1.00	1.00	1.00	0.82	1.02	1.00		1.08	0.79	1.00	1.00	1.00
Incremental Delay, d2	31.1	27.0	0.2	3.3	0.4	0.2		833.2	135.4	0.1	221.2	136.9
Delay (s)	72.6	83.3	0.2	61.3	46.6	0.2		910.8	175.3	0.1	274.9	186.9
Level of Service	E	F	A	E	D	A		F	F	A	F	F
Approach Delay (s)		73.7			39.3				230.5			177.7
Approach LOS		E			D				F			F

Intersection Summary			
HCM 2000 Control Delay	157.8	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)	24.0
Intersection Capacity Utilization	129.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1520
Flt Permitted	1.00
Satd. Flow (perm)	1520
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	342
RTOR Reduction (vph)	0
Lane Group Flow (vph)	342
Confl. Peds. (#/hr)	36
Heavy Vehicles (%)	5%
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	160.0
Effective Green, g (s)	160.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1520
v/s Ratio Prot	
v/s Ratio Perm	c0.22
v/c Ratio	0.23
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	0.3
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	188	91	572	658	58	161	1455	382	74	2101	81
Future Volume (vph)	188	91	572	658	58	161	1455	382	74	2101	81
Lane Group Flow (vph)	188	91	572	658	246	161	1455	382	74	2101	81
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	4	4	4	8	8	5	2		6	6	
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	8.0		8.0	8.0	
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	10.0	41.5		41.5	41.5	
Total Split (s)	66.0	66.0	66.0	66.0	66.0	28.0	94.0		66.0	66.0	
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	17.5%	58.8%		41.3%	41.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	0.0	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max		C-Max	C-Max	
v/c Ratio	0.55	0.14	0.75	1.42	0.42	0.70	0.53	0.25	0.65	1.02	0.05
Control Delay	47.7	34.7	26.0	236.9	36.5	53.6	24.1	0.4	13.9	23.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	34.7	26.0	236.9	36.5	53.6	24.1	0.4	13.9	23.0	0.0
Queue Length 50th (m)	43.7	17.8	70.3	~258.1	48.3	31.6	97.2	0.0	2.4	~29.4	0.0
Queue Length 95th (m)	69.0	30.2	116.5	#327.3	71.8	53.6	109.1	0.0	m2.2	m20.9	m0.0
Internal Link Dist (m)		139.7			81.8		241.5			228.3	
Turn Bay Length (m)	51.0			52.0		169.0		76.0	90.0		42.0
Base Capacity (vph)	342	656	763	465	581	295	2731	1520	114	2064	1478
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	0.55	0.14	0.75	1.42	0.42	0.55	0.53	0.25	0.65	1.02	0.05

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 139 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	91	572	658	58	188	161	1455	382	74	2101	81
Future Volume (vph)	188	91	572	658	58	188	161	1455	382	74	2101	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5	4.0	6.5	6.5	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.95		1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	0.96	1.00	1.00	0.98	1.00		1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1722	1795	1543	1733	1544		1690	4995	1520	1618	4995	1478
Flt Permitted	0.52	1.00	1.00	0.70	1.00		0.06	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	938	1795	1543	1273	1544		102	4995	1520	278	4995	1478
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	188	91	572	658	58	188	161	1455	382	74	2101	81
RTOR Reduction (vph)	0	0	199	0	16	0	0	0	0	0	0	0
Lane Group Flow (vph)	188	91	373	658	230	0	161	1455	382	74	2101	81
Confl. Peds. (#/hr)	69		30	30		69	35		25	25		35
Heavy Vehicles (%)	2%	7%	2%	3%	9%	3%	8%	5%	4%	12%	5%	8%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Free	Perm	NA	Free
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		Free	6		Free
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	66.1	66.1	160.0
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5		87.5	87.5	160.0	66.1	66.1	160.0
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37		0.55	0.55	1.00	0.41	0.41	1.00
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5		4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	342	656	564	465	564		228	2731	1520	114	2063	1478
v/s Ratio Prot		0.05			0.15		c0.08	0.29			c0.42	
v/s Ratio Perm	0.20		0.24	c0.52			0.31		0.25	0.27		0.05
v/c Ratio	0.55	0.14	0.66	1.42	0.41		0.71	0.53	0.25	0.65	1.02	0.05
Uniform Delay, d1	40.3	33.9	42.5	50.8	37.8		46.2	23.2	0.0	37.7	47.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.20	0.18	1.00
Incremental Delay, d2	3.2	0.2	3.8	199.2	1.0		11.8	0.7	0.4	2.6	11.4	0.0
Delay (s)	43.5	34.1	46.3	249.9	38.8		58.0	23.9	0.4	10.1	19.7	0.0
Level of Service	D	C	D	F	D		E	C	A	B	B	A
Approach Delay (s)		44.4			192.5			22.2			18.7	
Approach LOS		D			F			C			B	

Intersection Summary

HCM 2000 Control Delay	49.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	140.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	87	38	27	221	92	98	0	60	82	0	135
Future Volume (Veh/h)	128	87	38	27	221	92	98	0	60	82	0	135
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	512	348	152	108	884	368	392	0	240	328	0	540
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	1252			500			3088	2916	424	2896	2808	1068
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1252			500			3088	2916	424	2896	2808	1068
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	9			90			0	100	62	0	100	0
cM capacity (veh/h)	563			1075			0	1	634	1	1	272

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	512	500	108	1252	632	868
Volume Left	512	0	108	0	392	328
Volume Right	0	152	0	368	240	540
cSH	563	1700	1075	1700	0	3
Volume to Capacity	0.91	0.29	0.10	0.74	Err	264.79
Queue Length 95th (m)	77.3	0.0	2.3	0.0	Err	Err
Control Delay (s)	46.2	0.0	8.7	0.0	Err	Err
Lane LOS	E		A		F	F
Approach Delay (s)	23.4		0.7		Err	Err
Approach LOS					F	F

Intersection Summary			
Average Delay		Err	
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	214	15	0	0	40	70	0	0	0	20	0	300
Future Volume (vph)	214	15	0	0	40	70	0	0	0	20	0	300
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	856	60	0	0	160	280	0	0	0	80	0	1200

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	856	60	0	440	0	0	80	1200
Volume Left (vph)	856	0	0	0	0	0	80	0
Volume Right (vph)	0	0	0	280	0	0	0	1200
Hadj (s)	0.50	0.00	0.00	-0.45	0.00	0.00	0.50	-0.70
Departure Headway (s)	8.0	7.5	7.6	7.2	9.3	9.3	8.0	6.8
Degree Utilization, x	1.90	0.12	0.00	0.88	0.00	0.00	0.18	2.26
Capacity (veh/h)	457	472	479	498	385	385	440	542
Control Delay (s)	429.7	10.3	9.4	41.1	11.1	11.1	11.5	585.5
Approach Delay (s)	402.2		41.1		0.0		549.6	
Approach LOS	F		E		A		F	

Intersection Summary			
Delay		413.5	
Level of Service		F	
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	35	0	0	110	0
Future Volume (Veh/h)	0	35	0	0	110	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	140	0	0	440	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			140		70	70
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			140		70	70
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		53	100
cM capacity (veh/h)			1456		939	998

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	140	0	440
Volume Left	0	0	440
Volume Right	140	0	0
cSH	1700	1700	939
Volume to Capacity	0.08	0.00	0.47
Queue Length 95th (m)	0.0	0.0	17.8
Control Delay (s)	0.0	0.0	12.2
Lane LOS			B
Approach Delay (s)	0.0	0.0	12.2
Approach LOS			B

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	145	0	284	0	223	61	78	175	0
Future Volume (vph)	0	0	0	145	0	284	0	223	61	78	175	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	580	0	1136	0	892	244	312	700	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	1716	0	1136	312	700
Volume Left (vph)	0	580	0	0	312	0
Volume Right (vph)	0	1136	0	244	0	0
Hadj (s)	0.00	-0.33	0.00	-0.15	0.50	0.00
Departure Headway (s)	9.5	6.6	7.7	7.6	8.1	7.6
Degree Utilization, x	0.00	3.17	0.00	2.38	0.70	1.47
Capacity (veh/h)	386	553	474	487	437	478
Control Delay (s)	12.5	993.7	9.5	645.1	26.7	244.3
Approach Delay (s)	0.0	993.7	645.1		177.2	
Approach LOS	A	F	F		F	

Intersection Summary			
Delay	677.4		
Level of Service	F		
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

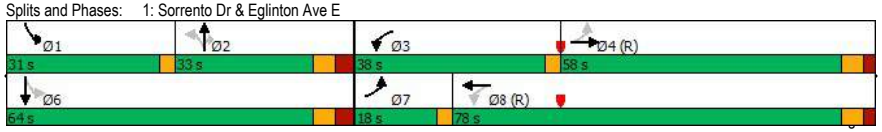
Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	23	1486	705	1851	149	101	347	139	21
Future Volume (vph)	23	1486	705	1851	149	101	347	139	21
Lane Group Flow (vph)	92	1641	705	2551	149	101	347	556	200
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	pm+pt	NA
Protected Phases	7	4	3	8		2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	7	4	3	8	2	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	8.0	8.0	5.0	8.0
Minimum Split (s)	9.5	33.5	9.5	33.5	41.5	41.5	41.5	9.5	41.5
Total Split (s)	18.0	58.0	38.0	78.0	33.0	33.0	33.0	31.0	64.0
Total Split (%)	11.3%	36.3%	23.8%	48.8%	20.6%	20.6%	20.6%	19.4%	40.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.5	0.0	2.5	3.5	3.5	3.5	0.0	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	3.0	6.5	7.5	7.5	7.5	3.0	7.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?									
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
v/c Ratio	0.51	0.99	1.54	1.05	0.84	0.35	0.66	1.02	0.32
Control Delay	35.4	50.3	287.6	72.1	100.3	64.2	13.0	89.4	30.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	50.3	287.6	72.1	100.3	64.2	13.0	89.4	30.1
Queue Length 50th (m)	12.7	180.8	~280.6	~296.4	42.6	26.6	2.3	144.6	31.9
Queue Length 95th (m)	m4.6	m117.1	#351.9	#332.7	#75.6	44.0	31.0	37.2	5.8
Internal Link Dist (m)		301.3		166.0		158.4			110.2
Turn Bay Length (m)	84.0		75.0		36.0			36.0	
Base Capacity (vph)	222	1650	458	2429	190	306	537	545	650
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.99	1.54	1.05	0.78	0.33	0.65	1.02	0.31

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 69 (43%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 175
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1486	155	705	1851	175	149	101	347	139	21	29
Future Volume (vph)	23	1486	155	705	1851	175	149	101	347	139	21	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		3.0	6.5		7.5	7.5	7.5	3.0	7.5	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1825	5100		1789	4993		1800	1921	1591	1825	1754	
Flt Permitted	0.08	1.00		0.07	1.00		0.63	1.00	1.00	0.60	1.00	
Satd. Flow (perm)	149	5100		138	4993		1198	1921	1591	1151	1754	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	92	1486	155	705	1851	700	149	101	347	556	84	116
RTOR Reduction (vph)	0	8	0	0	40	0	0	0	288	0	32	0
Lane Group Flow (vph)	92	1633	0	705	2511	0	149	101	59	556	168	0
Confl. Peds. (#/hr)			7	7			13		3			
Heavy Vehicles (%)	0%	1%	1%	2%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	63.0	51.5		91.1	76.6		23.9	23.9	23.9	54.9	54.9	
Effective Green, g (s)	63.0	51.5		91.1	76.6		23.9	23.9	23.9	54.9	54.9	
Actuated g/C Ratio	0.39	0.32		0.57	0.48		0.15	0.15	0.15	0.34	0.34	
Clearance Time (s)	3.0	6.5		3.0	6.5		7.5	7.5	7.5	3.0	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)	179	1641		456	2390		178	286	237	512	601	
v/s Ratio Prot	0.04	0.32		c0.35	0.50			0.05		c0.19	0.10	
v/s Ratio Perm	0.17			c0.53			0.12		0.04	c0.18		
v/c Ratio	0.51	1.00		1.55	1.05		0.84	0.35	0.25	1.09	0.28	
Uniform Delay, d1	38.4	54.1		52.5	41.7		66.2	61.1	60.1	50.1	38.2	
Progression Factor	1.30	0.84		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	5.6		256.4	33.4		30.1	1.6	1.2	65.1	0.5	
Delay (s)	50.4	50.9		308.9	75.1		96.2	62.7	61.3	115.2	38.7	
Level of Service	D	D		F	E		F	E	E	F	D	
Approach Delay (s)		50.9			125.7			70.3			94.9	
Approach LOS		D			F			E			F	

Intersection Summary

HCM 2000 Control Delay	96.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		

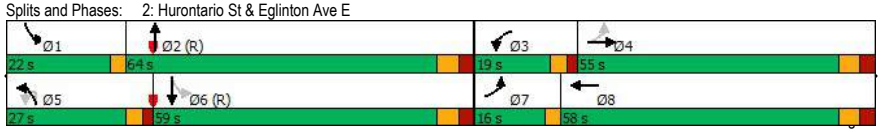
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	279	875	174	267	1888	186	37	716	3108	182	592	2436
Future Volume (vph)	279	875	174	267	1888	186	37	716	3108	182	592	2436
Lane Group Flow (vph)	279	875	174	267	1888	186	0	864	3108	182	592	2436
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Detector Phase	7	4		3	8		5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	5.0	8.0		5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	10.0	41.0		8.0	41.0
Total Split (s)	16.0	55.0		19.0	58.0		27.0	27.0	64.0		22.0	59.0
Total Split (%)	10.0%	34.4%		11.9%	36.3%		16.9%	16.9%	40.0%		13.8%	36.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	2.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None	C-Max		None	C-Max
v/c Ratio	1.40	0.57	0.11	0.87	1.14	0.12		9.29	1.57	0.12	2.28	1.37
Control Delay	241.7	49.0	0.1	105.8	110.4	0.1		3756.9	298.4	0.1	610.8	209.2
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	241.7	49.0	0.1	105.8	110.4	0.1		3756.9	298.4	0.1	610.8	209.2
Queue Length 50th (m)	~93.2	79.6	0.0	42.6	~232.6	0.0		~259.8	~426.7	0.0	~267.0	~312.3
Queue Length 95th (m)	#147.9	93.1	0.0	m43.7	m#221.6	m0.0		#298.1	#444.0	m0.0	#335.8	#333.1
Internal Link Dist (m)		132.7			301.3				160.0			158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0		87.0			95.0	
Base Capacity (vph)	199	1542	1578	306	1655	1576		93	1974	1538	260	1783
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	1.40	0.57	0.11	0.87	1.14	0.12		9.29	1.57	0.12	2.28	1.37

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 142 (89%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
Lane Group Flow (vph)	619
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
v/c Ratio	0.39
Control Delay	0.7
Queue Delay	0.0
Total Delay	0.7
Queue Length 50th (m)	0.0
Queue Length 95th (m)	0.0
Internal Link Dist (m)	
Turn Bay Length (m)	95.0
Base Capacity (vph)	1585
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	279	875	174	267	1888	186	37	716	3108	182	592	2436
Future Volume (vph)	279	875	174	267	1888	186	37	716	3108	182	592	2436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0		5.0	7.0	4.0	3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00		0.97	*1.00	1.00	1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97		1.00	1.00	0.97	1.00	1.00
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	1.00
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	1578	3506	5193	1576		3538	5542	1538	1772	5489
Flt Permitted	0.08	1.00	1.00	0.95	1.00	1.00		0.18	1.00	1.00	0.08	1.00
Satd. Flow (perm)	160	5142	1578	3506	5193	1576		677	5542	1538	143	5489
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	279	875	174	267	1888	186	148	716	3108	182	592	2436
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	279	875	174	267	1888	186	0	864	3108	182	592	2436
Confl. Peds. (#/hr)	45		40	40		45		26		60	60	
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	0%	0%	4%	3%	3%	5%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	custom	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8			5	2		1	6
Permitted Phases	4		Free			Free	5			Free	6	
Actuated Green, G (s)	61.0	48.0	160.0	14.0	51.0	160.0		22.0	57.0	160.0	71.0	52.0
Effective Green, g (s)	61.0	48.0	160.0	14.0	51.0	160.0		22.0	57.0	160.0	71.0	52.0
Actuated g/C Ratio	0.38	0.30	1.00	0.09	0.32	1.00		0.14	0.36	1.00	0.44	0.32
Clearance Time (s)	3.0	7.0		5.0	7.0			5.0	7.0		3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	196	1542	1578	306	1655	1576		93	1974	1538	256	1783
v/s Ratio Prot	c0.12	0.17		0.08	0.36				c0.56		0.27	0.44
v/s Ratio Perm	c0.43		0.11			0.12		c1.28		0.12	c0.75	
v/c Ratio	1.42	0.57	0.11	0.87	1.14	0.12		9.29	1.57	0.12	2.31	1.37
Uniform Delay, d1	47.1	47.2	0.0	72.1	54.5	0.0		69.0	51.5	0.0	52.2	54.0
Progression Factor	1.00	1.00	1.00	1.30	0.89	1.00		1.06	1.14	1.00	1.00	1.00
Incremental Delay, d2	217.6	0.8	0.1	12.2	66.9	0.1		3750.3	260.8	0.1	602.8	168.5
Delay (s)	264.7	48.0	0.1	105.8	115.2	0.1		3823.4	319.7	0.1	654.9	222.5
Level of Service	F	D	A	F	F	A		F	F	A	F	F
Approach Delay (s)		87.3			105.0				1034.5			255.0
Approach LOS		F			F				F			F

Intersection Summary			
HCM 2000 Control Delay	487.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.89		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	163.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1585
Flt Permitted	1.00
Satd. Flow (perm)	1585
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	619
RTOR Reduction (vph)	0
Lane Group Flow (vph)	619
Confl. Peds. (#/hr)	26
Heavy Vehicles (%)	1%
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	160.0
Effective Green, g (s)	160.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1585
v/s Ratio Prot	
v/s Ratio Perm	c0.39
v/c Ratio	0.39
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.7
Delay (s)	0.7
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	133	57	201	767	159	401	2022	682	87	1992	70
Future Volume (vph)	133	57	201	767	159	401	2022	682	87	1992	70
Lane Group Flow (vph)	133	57	201	767	309	401	2022	682	87	1992	70
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases		4		3	8	5	2		1	6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	4	4	4	3	8	5	2		1	6	
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	5.0	8.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	65.5	65.5	65.5	10.0	65.5	10.0	41.5		10.0	41.5	
Total Split (s)	35.0	35.0	35.0	34.0	69.0	34.0	81.0		10.0	57.0	
Total Split (%)	21.9%	21.9%	21.9%	21.3%	43.1%	21.3%	50.6%		6.3%	35.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5	3.5	0.0	3.5	0.0	2.5		0.0	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.5	7.5	4.0	7.5	4.0	6.5		4.0	6.5	
Lead/Lag	Lag	Lag	Lag	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	None	C-Max		None	C-Max	
v/c Ratio	0.82	0.20	0.50	1.35	0.48	0.97	0.84	0.44	0.65	1.23	0.04
Control Delay	100.0	59.4	11.3	204.8	36.5	84.9	41.0	0.9	49.9	126.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.0	59.4	11.3	204.8	36.5	84.9	41.0	0.9	49.9	126.1	0.0
Queue Length 50th (m)	37.5	14.5	0.0	~286.9	59.9	~111.7	190.0	0.0	11.2	~269.1	0.0
Queue Length 95th (m)	#67.2	27.1	21.3	#358.5	85.8	#173.2	208.3	0.0	m5.4	m112.4	m0.0
Internal Link Dist (m)		139.7			81.8		241.5			228.3	
Turn Bay Length (m)	51.0			52.0		169.0		76.0	90.0		42.0
Base Capacity (vph)	180	323	428	569	677	414	2413	1554	134	1622	1599
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	0.74	0.18	0.47	1.35	0.46	0.97	0.84	0.44	0.65	1.23	0.04

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 180
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	57	201	767	159	150	401	2022	682	87	1992	70
Future Volume (vph)	133	57	201	767	159	150	401	2022	682	87	1992	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	4.0	7.5		4.0	6.5	4.0	4.0	6.5	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	0.97		1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.96	1.00	1.00	0.98	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1744	1883	1526	1773	1708		1789	5092	1554	1825	5142	1599
Flt Permitted	0.57	1.00	1.00	0.62	1.00		0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1050	1883	1526	1157	1708		138	5092	1554	152	5142	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	57	201	767	159	150	401	2022	682	87	1992	70
RTOR Reduction (vph)	0	0	170	0	22	0	0	0	0	0	0	0
Lane Group Flow (vph)	133	57	31	767	287	0	401	2022	682	87	1992	70
Confl. Peds. (#/hr)	65		43	43		65	30		39	39		30
Heavy Vehicles (%)	1%	2%	2%	1%	2%	0%	2%	3%	1%	0%	2%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		Free	6		Free
Actuated Green, G (s)	24.8	24.8	24.8	58.8	58.8		87.2	75.8	160.0	57.9	50.5	160.0
Effective Green, g (s)	24.8	24.8	24.8	58.8	58.8		87.2	75.8	160.0	57.9	50.5	160.0
Actuated g/C Ratio	0.16	0.16	0.16	0.37	0.37		0.55	0.47	1.00	0.36	0.32	1.00
Clearance Time (s)	7.5	7.5	7.5	4.0	7.5		4.0	6.5		4.0	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	162	291	236	540	627		412	2412	1554	132	1622	1599
v/s Ratio Prot		0.03		c0.27	0.17		c0.20	0.40		0.03	c0.39	
v/s Ratio Perm	0.13		0.02	c0.26			0.33		0.44	0.21		0.04
v/c Ratio	0.82	0.20	0.13	1.42	0.46		0.97	0.84	0.44	0.66	1.23	0.04
Uniform Delay, d1	65.5	58.9	58.3	48.3	38.5		52.5	36.8	0.0	37.3	54.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.73	0.38	1.00
Incremental Delay, d2	29.9	0.7	0.5	199.8	1.1		37.5	3.7	0.9	1.5	103.2	0.0
Delay (s)	95.3	59.6	58.8	248.1	39.6		90.0	40.4	0.9	66.0	124.0	0.0
Level of Service	F	E	E	F	D		F	D	A	E	F	A
Approach Delay (s)		71.4			188.2			38.1			117.6	
Approach LOS		E			F			D			F	

Intersection Summary

HCM 2000 Control Delay	89.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	159.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	279	106	77	133	86	74	0	46	102	0	164
Future Volume (Veh/h)	119	279	106	77	133	86	74	0	46	102	0	164
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	476	1116	424	308	532	344	296	0	184	408	0	656
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked				0.97			0.97	0.97	0.97	0.97	0.97	
vC, conflicting volume	876			1540			4084	3772	1328	3572	3812	704
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	876			1541			4153	3833	1323	3628	3874	704
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	39			28			0	100	2	0	100	0
cM capacity (veh/h)	779			425			0	0	188	0	0	440

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	476	1540	308	876	480	1064
Volume Left	476	0	308	0	296	408
Volume Right	0	424	0	344	184	656
cSH	779	1700	425	1700	0	0
Volume to Capacity	0.61	0.91	0.72	0.52	Err	Err
Queue Length 95th (m)	29.7	0.0	39.7	0.0	Err	Err
Control Delay (s)	16.6	0.0	32.7	0.0	Err	Err
Lane LOS	C		D		F	F
Approach Delay (s)	3.9		8.5		Err	Err
Approach LOS					F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	381	45	0	0	24	42	0	0	0	58	0	272
Future Volume (vph)	381	45	0	0	24	42	0	0	0	58	0	272
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	1524	180	0	0	96	168	0	0	0	232	0	1088

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	1524	180	0	264	0	0	232	1088
Volume Left (vph)	1524	0	0	0	0	0	232	0
Volume Right (vph)	0	0	0	168	0	0	0	1088
Hadj (s)	0.50	0.00	0.00	-0.45	0.00	0.00	0.50	-0.70
Departure Headway (s)	7.7	7.2	7.9	7.4	8.8	8.8	7.7	6.5
Degree Utilization, x	3.28	0.36	0.00	0.55	0.00	0.00	0.50	1.96
Capacity (veh/h)	469	490	461	479	403	403	460	563
Control Delay (s)	1046.1	13.1	9.7	17.8	10.6	10.6	16.8	453.7
Approach Delay (s)	937.0		17.8		0.0		376.9	
Approach LOS	F		C		A		F	

Intersection Summary			
Delay	638.3		
Level of Service	F		
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	103	0	0	66	0
Future Volume (Veh/h)	0	103	0	0	66	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	412	0	0	264	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			412		206	206
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			412		206	206
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		66	100
cM capacity (veh/h)			1158		787	840

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	412	0	264
Volume Left	0	0	264
Volume Right	412	0	0
cSH	1700	1700	787
Volume to Capacity	0.24	0.00	0.34
Queue Length 95th (m)	0.0	0.0	10.4
Control Delay (s)	0.0	0.0	11.9
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.9
Approach LOS			B

Intersection Summary			
Average Delay		4.6	
Intersection Capacity Utilization		16.7%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	88	0	169	0	248	175	224	241	0
Future Volume (vph)	0	0	0	88	0	169	0	248	175	224	241	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	352	0	676	0	992	700	896	964	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	1028	0	1692	896	964
Volume Left (vph)	0	352	0	0	896	0
Volume Right (vph)	0	676	0	700	0	0
Hadj (s)	0.00	-0.33	0.00	-0.29	0.50	0.00
Departure Headway (s)	9.6	6.7	7.8	7.5	8.1	7.6
Degree Utilization, x	0.00	1.90	0.00	3.52	2.01	2.03
Capacity (veh/h)	385	549	469	485	452	482
Control Delay (s)	12.6	428.9	9.6	1154.6	480.6	487.6
Approach Delay (s)	0.0	428.9	1154.6		484.3	
Approach LOS	A	F	F		F	

Intersection Summary			
Delay		719.5	
Level of Service		F	
Intersection Capacity Utilization		61.4%	ICU Level of Service B
Analysis Period (min)		15	

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			

APPENDIX H

Future Total Analysis – With LRT

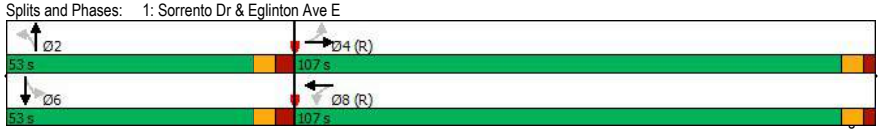
2025 With LRT Analysis

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	2055	258	802	94	76	128	36
Future Volume (vph)	10	2055	258	802	94	76	128	36
Lane Group Flow (vph)	40	2112	258	938	94	460	512	436
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	33.5	33.5	33.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	107.0	107.0	107.0	107.0	53.0	53.0	53.0	53.0
Total Split (%)	66.9%	66.9%	66.9%	66.9%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.12	0.66	4.37	0.30	0.99	0.97	6.32	0.81
Control Delay	12.3	18.1	1568.5	13.3	145.4	89.5	2430.0	58.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	18.1	1568.5	13.3	145.4	89.5	2430.0	58.3
Queue Length 50th (m)	3.5	79.5	~122.6	42.0	27.5	131.4	~265.9	104.0
Queue Length 95th (m)	m1.7	m63.3	#176.0	49.3	#63.9	#196.6	#79.5	19.1
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	327	3216	59	3104	95	473	81	537
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.66	4.37	0.30	0.99	0.97	6.32	0.81

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 158 (99%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	2055	57	258	802	34	94	76	384	128	36	73
Future Volume (vph)	10	2055	57	258	802	34	94	76	384	128	36	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.87		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5118		1722	4920		1737	1634		1825	1728	
Flt Permitted	0.27	1.00		0.05	1.00		0.18	1.00		0.15	1.00	
Satd. Flow (perm)	520	5118		94	4920		336	1634		288	1728	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	40	2055	57	258	802	136	94	76	384	512	144	292
RTOR Reduction (vph)	0	2	0	0	15	0	0	9	0	0	46	0
Lane Group Flow (vph)	40	2110	0	258	923	0	94	451	0	512	390	0
Confl. Peds. (#/hr)			7	7			2		1			
Heavy Vehicles (%)	0%	2%	0%	6%	5%	0%	5%	0%	2%	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)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Effective Green, g (s)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.28	0.28		0.28	0.28	
Clearance Time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	326	3214		59	3090		95	464		81	491	
v/s Ratio Prot		0.41			0.19			0.28			0.23	
v/s Ratio Perm	0.08			c2.74			0.28			c1.78		
v/c Ratio	0.12	0.66		4.37	0.30		0.99	0.97		6.32	0.79	
Uniform Delay, d1	12.0	18.8		29.8	13.6		57.0	56.6		57.2	52.9	
Progression Factor	0.99	0.95		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		1556.4	0.2		88.6	34.9		2420.6	9.9	
Delay (s)	11.9	17.9		1586.1	13.9		145.6	91.6		2477.8	62.8	
Level of Service	B	B		F	B		F	F		F	E	
Approach Delay (s)		17.8			353.0			100.7			1367.1	
Approach LOS		B			F			F			F	

Intersection Summary

HCM 2000 Control Delay	373.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	4.96		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	113.5%	ICU Level of Service	H
Analysis Period (min)	15		

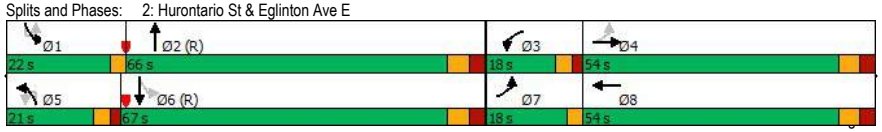
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1515	189	146	557	189	223	2631	100	129	377	2609
Future Volume (vph)	328	1515	189	146	557	189	223	2631	100	129	377	2609
Lane Group Flow (vph)	328	1515	189	146	557	189	223	2631	100	0	893	2951
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Detector Phase	7	4		3	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	41.0		8.0	8.0	41.0
Total Split (s)	18.0	54.0		18.0	54.0		21.0	66.0		22.0	22.0	67.0
Total Split (%)	11.3%	33.8%		11.3%	33.8%		13.1%	41.3%		13.8%	13.8%	41.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	3.0		0.0	0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	None	C-Max
v/c Ratio	0.86	1.00	0.12	0.54	0.38	0.12	0.68	1.93	0.07		3.36	2.21
Control Delay	56.9	78.9	0.2	61.0	42.4	0.1	79.7	450.9	0.1		1086.0	572.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	56.9	78.9	0.2	61.0	42.4	0.1	79.7	450.9	0.1		1086.0	572.9
Queue Length 50th (m)	66.4	~167.4	0.0	16.9	52.8	0.0	34.5	~593.7	0.0		~450.3	~699.7
Queue Length 95th (m)	#106.8	#197.6	0.0	m25.3	m63.5	m0.0	m41.2	m#612.3	m0.0		#524.0	#726.5
Internal Link Dist (m)		132.7			301.3			160.0				158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0	87.0				95.0	
Base Capacity (vph)	383	1512	1525	284	1453	1527	337	1362	1475		266	1334
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	0.86	1.00	0.12	0.51	0.38	0.12	0.66	1.93	0.07		3.36	2.21

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 114 (71%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 175
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1515	189	146	557	189	223	2631	100	129	377	2609
Future Volume (vph)	328	1515	189	146	557	189	223	2631	100	129	377	2609
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0	5.0	7.0	4.0		3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	*1.00	1.00		1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98		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	0.98
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)	1783	5092	1525	3506	4948	1527	3372	3694	1475		1817	3511
Flt Permitted	0.36	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.07	1.00
Satd. Flow (perm)	676	5092	1525	3506	4948	1527	3372	3694	1475		126	3511
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00
Adj. Flow (vph)	328	1515	189	146	557	189	223	2631	100	516	377	2609
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	7
Lane Group Flow (vph)	328	1515	189	146	557	189	223	2631	100	0	893	2944
Confl. Peds. (#/hr)	21		56	56		21	36		42		42	
Heavy Vehicles (%)	2%	3%	4%	1%	6%	5%	5%	4%	8%	0%	1%	7%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Actuated Green, G (s)	62.5	47.5	160.0	12.5	47.0	160.0	15.5	59.0	160.0		79.5	60.5
Effective Green, g (s)	62.5	47.5	160.0	12.5	47.0	160.0	15.5	59.0	160.0		79.5	60.5
Actuated g/C Ratio	0.39	0.30	1.00	0.08	0.29	1.00	0.10	0.37	1.00		0.50	0.38
Clearance Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	367	1511	1525	273	1453	1527	326	1362	1475		263	1327
v/s Ratio Prot	c0.08	c0.30		0.04	0.11		0.07	0.71			c0.40	0.84
v/s Ratio Perm	0.26		c0.12			0.12			0.07		c1.28	
v/c Ratio	0.89	1.00	0.12	0.53	0.38	0.12	0.68	1.93	0.07		3.40	2.22
Uniform Delay, d1	40.7	56.2	0.0	71.0	45.0	0.0	69.9	50.5	0.0		53.7	49.8
Progression Factor	1.00	1.00	1.00	0.76	0.92	1.00	1.00	1.06	1.00		1.00	1.00
Incremental Delay, d2	24.3	23.8	0.2	3.3	0.3	0.1	6.4	421.6	0.1		1087.6	550.9
Delay (s)	65.0	80.0	0.2	57.5	41.8	0.1	76.4	475.2	0.1		1141.3	600.6
Level of Service	E	F	A	E	D	A	E	F	A		F	F
Approach Delay (s)		70.2			35.6			429.0				726.2
Approach LOS		E			D			F				F

Intersection Summary

HCM 2000 Control Delay	435.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.43		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	158.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
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	1.00
Adj. Flow (vph)	342
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	36
Heavy Vehicles (%)	5%
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	188	91	572	634	58	180	161	1452	70	2094
Future Volume (vph)	188	91	572	634	58	180	161	1452	70	2094
Lane Group Flow (vph)	188	91	572	634	58	180	161	1819	70	2175
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4			8		5	2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	65.5	10.0	41.5	41.5	41.5
Total Split (s)	66.0	66.0	66.0	66.0	66.0	66.0	28.0	94.0	66.0	66.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	41.3%	17.5%	58.8%	41.3%	41.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	0.0	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5	6.5	6.5
Lead/Lag							Lead		Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.40	0.14	0.75	1.36	0.09	0.31	0.70	0.99	1.63	1.53
Control Delay	40.9	34.7	26.0	216.0	33.9	27.3	53.6	54.3	312.3	255.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	34.7	26.0	216.0	33.9	27.3	53.6	54.3	312.3	255.1
Queue Length 50th (m)	40.9	17.8	70.3	~243.5	11.1	26.6	31.6	268.1	~28.7	~457.3
Queue Length 95th (m)	62.3	30.2	116.5	#312.1	20.7	45.6	53.6	#324.0	m#13.3	m18.7
Internal Link Dist (m)		139.7			81.8			241.5		228.3
Turn Bay Length (m)	51.0			52.0		52.0	169.0			
Base Capacity (vph)	469	656	763	465	644	572	295	1833	43	1425
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.14	0.75	1.36	0.09	0.31	0.55	0.99	1.63	1.53

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 139 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 180
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	91	572	634	58	180	161	1452	367	70	2094	81
Future Volume (vph)	188	91	572	634	58	180	161	1452	367	70	2094	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.93	1.00	0.98		1.00	1.00	
Flpb, ped/bikes	0.95	1.00	1.00	0.98	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	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1695	1795	1543	1733	1762	1478	1690	3326		1630	3446	
Flt Permitted	0.72	1.00	1.00	0.70	1.00	1.00	0.06	1.00		0.06	1.00	
Satd. Flow (perm)	1283	1795	1543	1273	1762	1478	102	3326		104	3446	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	188	91	572	634	58	180	161	1452	367	70	2094	81
RTOR Reduction (vph)	0	0	199	0	0	32	0	14	0	0	2	0
Lane Group Flow (vph)	188	91	373	634	58	148	161	1805	0	70	2173	0
Confl. Peds. (#/hr)	69		30	30		69	35		25	25		35
Heavy Vehicles (%)	2%	7%	2%	3%	9%	3%	8%	5%	4%	12%	5%	8%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5	58.5	87.5	87.5		66.1	66.1	
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5	58.5	87.5	87.5		66.1	66.1	
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37	0.37	0.55	0.55		0.41	0.41	
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	469	656	564	465	644	540	228	1818		42	1423	
v/s Ratio Prot		0.05			0.03		0.08	c0.54			0.63	
v/s Ratio Perm	0.15		0.24	c0.50		0.10	0.31			c0.67		
v/c Ratio	0.40	0.14	0.66	1.36	0.09	0.27	0.71	0.99		1.67	1.53	
Uniform Delay, d1	37.7	33.9	42.5	50.8	33.3	35.8	46.2	35.9		47.0	47.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.21	0.22	
Incremental Delay, d2	1.2	0.2	3.8	177.0	0.1	0.6	11.8	19.5		309.4	237.6	
Delay (s)	38.9	34.1	46.3	227.7	33.4	36.3	58.0	55.4		319.3	247.9	
Level of Service	D	C	D	F	C	D	E	E		F	F	
Approach Delay (s)		43.4			175.3			55.6			250.1	
Approach LOS		D			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	144.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	158.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	83	34	24	208	85	88	0	54	76	0	124
Future Volume (Veh/h)	118	83	34	24	208	85	88	0	54	76	0	124
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	472	332	136	96	832	340	352	0	216	304	0	496
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	1172			468			2864	2708	400	2686	2606	1002
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1172			468			2864	2708	400	2686	2606	1002
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	22			91			0	100	67	0	100	0
cM capacity (veh/h)	603			1104			0	4	654	3	5	297

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	472	468	96	1172	568	800
Volume Left	472	0	96	0	352	304
Volume Right	0	136	0	340	216	496
cSH	603	1700	1104	1700	0	8
Volume to Capacity	0.78	0.28	0.09	0.69	Err	95.21
Queue Length 95th (m)	52.0	0.0	2.0	0.0	Err	Err
Control Delay (s)	29.1	0.0	8.6	0.0	Err	Err
Lane LOS	D		A		F	F
Approach Delay (s)	14.6		0.6		Err	Err
Approach LOS					F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	198	15	0	0	37	65	0	0	0	18	0	280
Future Volume (vph)	198	15	0	0	37	65	0	0	0	18	0	280
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	792	60	0	0	148	260	0	0	0	72	0	1120

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	792	60	0	408	0	0	72	1120
Volume Left (vph)	792	0	0	0	0	0	72	0
Volume Right (vph)	0	0	0	260	0	0	0	1120
Hadj (s)	0.50	0.00	0.00	-0.45	0.00	0.00	0.50	-0.70
Departure Headway (s)	7.9	7.4	7.6	7.2	9.2	9.2	7.9	6.7
Degree Utilization, x	1.74	0.12	0.00	0.81	0.00	0.00	0.16	2.08
Capacity (veh/h)	461	478	480	497	385	385	444	547
Control Delay (s)	359.3	10.2	9.4	33.0	11.0	11.0	11.2	507.8
Approach Delay (s)	334.7		33.0		0.0		477.8	
Approach LOS	F		D		A		F	

Intersection Summary				
Delay		354.1		
Level of Service		F		
Intersection Capacity Utilization		41.6%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	33	0	0	102	0
Future Volume (Veh/h)	0	33	0	0	102	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	132	0	0	408	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			132		66	66
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			132		66	66
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		57	100
cM capacity (veh/h)			1466		944	1003

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	132	0	408
Volume Left	0	0	408
Volume Right	132	0	0
cSH	1700	1700	944
Volume to Capacity	0.08	0.00	0.43
Queue Length 95th (m)	0.0	0.0	15.5
Control Delay (s)	0.0	0.0	11.7
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.7
Approach LOS			B

Intersection Summary				
Average Delay		8.8		
Intersection Capacity Utilization		15.7%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	135	0	263	0	206	57	72	163	0
Future Volume (vph)	0	0	0	135	0	263	0	206	57	72	163	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	540	0	1052	0	824	228	288	652	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	1592	0	1052	288	652
Volume Left (vph)	0	540	0	0	288	0
Volume Right (vph)	0	1052	0	228	0	0
Hadj (s)	0.00	-0.33	0.00	-0.15	0.50	0.00
Departure Headway (s)	9.5	6.6	7.7	7.5	8.1	7.6
Degree Utilization, x	0.00	2.94	0.00	2.20	0.65	1.37
Capacity (veh/h)	386	551	474	486	436	486
Control Delay (s)	12.5	891.3	9.5	564.9	23.5	201.8
Approach Delay (s)	0.0	891.3	564.9		147.1	
Approach LOS	A	F	F		F	

Intersection Summary				
Delay		600.3		
Level of Service		F		
Intersection Capacity Utilization	51.9%		ICU Level of Service	A
Analysis Period (min)		15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

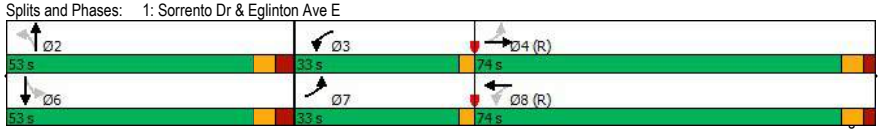
Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization	0.0%		ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	23	1440	677	1826	145	98	139	21
Future Volume (vph)	23	1440	677	1826	145	98	139	21
Lane Group Flow (vph)	92	1590	677	2526	145	423	556	200
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	9.5	33.5	9.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	33.0	74.0	33.0	74.0	53.0	53.0	53.0	53.0
Total Split (%)	20.6%	46.3%	20.6%	46.3%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.5	0.0	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	3.0	6.5	7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.51	0.74	1.74	0.93	0.50	0.77	5.05	0.38
Control Delay	39.0	36.1	374.9	40.8	54.9	49.8	1856.5	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.0	36.1	374.9	40.8	54.9	49.8	1856.5	38.0
Queue Length 50th (m)	13.0	158.9	~278.0	237.8	35.7	88.6	~276.0	36.8
Queue Length 95th (m)	m3.3	m59.5	#348.7	#292.8	57.5	128.0	#78.8	7.5
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	392	2160	389	2713	290	548	110	529
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	0.23	0.74	1.74	0.93	0.50	0.77	5.05	0.38

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 69 (43%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 175
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1440	150	677	1826	175	145	98	325	139	21	29
Future Volume (vph)	23	1440	150	677	1826	175	145	98	325	139	21	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
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	1.00	
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	0.96		1.00	0.88		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5100		1789	4991		1802	1666		1825	1754	
Flt Permitted	0.06	1.00		0.06	1.00		0.54	1.00		0.20	1.00	
Satd. Flow (perm)	114	5100		117	4991		1020	1666		388	1754	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	92	1440	150	677	1826	700	145	98	325	556	84	116
RTOR Reduction (vph)	0	8	0	0	35	0	0	74	0	0	31	0
Lane Group Flow (vph)	92	1582	0	677	2491	0	145	349	0	556	169	0
Confl. Peds. (#/hr)			7	7			13		3			
Heavy Vehicles (%)	0%	1%	1%	2%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Effective Green, g (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.49	0.42		0.63	0.54		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	180	2151		386	2679		290	473		110	498	
v/s Ratio Prot	0.04	0.31		c0.33	0.50			0.21			0.10	
v/s Ratio Perm	0.22			c0.77			0.14			c1.43		
v/c Ratio	0.51	0.74		1.75	0.93		0.50	0.74		5.05	0.34	
Uniform Delay, d1	32.3	38.8		53.0	34.3		47.8	51.8		57.2	45.4	
Progression Factor	1.44	0.93		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2		349.8	7.2		2.8	7.1		1844.7	0.9	
Delay (s)	47.0	36.2		402.8	41.5		50.6	59.0		1902.0	46.2	
Level of Service	D	D		F	D		D	E		F	D	
Approach Delay (s)		36.7			117.9			56.8			1411.0	
Approach LOS		D			F			E			F	

Intersection Summary

HCM 2000 Control Delay	247.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.83		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	123.4%	ICU Level of Service	H
Analysis Period (min)	15		

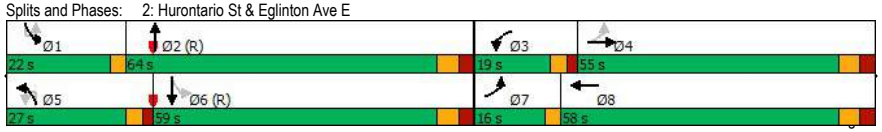
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	279	844	168	267	1861	183	749	3092	182	68	589	2429
Future Volume (vph)	279	844	168	267	1861	183	749	3092	182	68	589	2429
Lane Group Flow (vph)	279	844	168	267	1861	183	749	3092	182	0	861	3048
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Detector Phase	7	4		3	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	41.0		8.0	8.0	41.0
Total Split (s)	16.0	55.0		19.0	58.0		27.0	64.0		22.0	22.0	59.0
Total Split (%)	10.0%	34.4%		11.9%	36.3%		16.9%	40.0%		13.8%	13.8%	36.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	3.0		0.0	0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	None	C-Max
v/c Ratio	1.40	0.55	0.11	0.87	1.12	0.12	1.54	2.35	0.12		3.27	2.61
Control Delay	241.7	48.5	0.1	103.6	111.3	0.1	294.2	634.6	0.1		1050.2	750.7
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	241.7	48.5	0.1	103.6	111.3	0.1	294.2	634.6	0.1		1050.2	750.7
Queue Length 50th (m)	~93.2	76.1	0.0	42.5	~226.9	0.0	~160.9	~741.4	0.0		~431.5	~752.6
Queue Length 95th (m)	#147.9	89.5	0.0	m48.0	#253.4	m0.0	m#143.2	m#609.1	m0.0		#505.2	#778.1
Internal Link Dist (m)		132.7			301.3			160.0				158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0	87.0				95.0	
Base Capacity (vph)	199	1542	1578	306	1655	1576	486	1315	1538		263	1166
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	1.40	0.55	0.11	0.87	1.12	0.12	1.54	2.35	0.12		3.27	2.61

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 142 (89%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 175
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	279	844	168	267	1861	183	749	3092	182	68	589	2429
Future Volume (vph)	279	844	168	267	1861	183	749	3092	182	68	589	2429
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0	5.0	7.0	4.0		3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	*1.00	1.00		1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.97		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	0.97
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	1578	3506	5193	1576	3541	3694	1538		1788	3541
Flt Permitted	0.08	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.08	1.00
Satd. Flow (perm)	160	5142	1578	3506	5193	1576	3541	3694	1538		145	3541
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00
Adj. Flow (vph)	279	844	168	267	1861	183	749	3092	182	272	589	2429
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	16
Lane Group Flow (vph)	279	844	168	267	1861	183	749	3092	182	0	861	3032
Confl. Peds. (#/hr)	45		40	40		45	26		60		60	
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	0%	4%	3%	0%	3%	5%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Actuated Green, G (s)	61.0	48.0	160.0	14.0	51.0	160.0	22.0	57.0	160.0		71.0	52.0
Effective Green, g (s)	61.0	48.0	160.0	14.0	51.0	160.0	22.0	57.0	160.0		71.0	52.0
Actuated g/C Ratio	0.38	0.30	1.00	0.09	0.32	1.00	0.14	0.36	1.00		0.44	0.32
Clearance Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	196	1542	1578	306	1655	1576	486	1315	1538		259	1150
v/s Ratio Prot	c0.12	0.16		0.08	c0.36		0.21	c0.84			c0.39	0.86
v/s Ratio Perm	c0.43		0.11			0.12			0.12		c1.08	
v/c Ratio	1.42	0.55	0.11	0.87	1.12	0.12	1.54	2.35	0.12		3.32	2.64
Uniform Delay, d1	47.1	46.9	0.0	72.1	54.5	0.0	69.0	51.5	0.0		52.2	54.0
Progression Factor	1.00	1.00	1.00	1.20	1.03	1.00	1.04	1.10	1.00		1.00	1.00
Incremental Delay, d2	217.6	0.7	0.1	16.1	61.3	0.1	250.2	609.7	0.1		1055.8	739.1
Delay (s)	264.7	47.6	0.1	102.9	117.2	0.1	322.3	666.5	0.1		1108.0	793.1
Level of Service	F	D	A	F	F	A	F	F	A		F	F
Approach Delay (s)		88.4			106.3			572.3				862.5
Approach LOS		F			F			F				F

Intersection Summary

HCM 2000 Control Delay	523.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.42		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	191.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
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	1.00
Adj. Flow (vph)	619
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	26
Heavy Vehicles (%)	1%
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	133	57	201	748	159	142	401	2010	82	1983
Future Volume (vph)	133	57	201	748	159	142	401	2010	82	1983
Lane Group Flow (vph)	133	57	201	748	159	142	401	2663	82	2053
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4			8		5	2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	65.5	10.0	41.5	41.5	41.5
Total Split (s)	66.0	66.0	66.0	66.0	66.0	66.0	37.0	94.0	57.0	57.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	41.3%	23.1%	58.8%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	0.0	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5	6.5	6.5
Lead/Lag							Lead		Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.32	0.08	0.29	1.55	0.23	0.24	0.96	1.44	1.74	1.82
Control Delay	39.1	33.7	5.2	290.5	36.3	23.4	83.9	232.4	361.7	392.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	33.7	5.2	290.5	36.3	23.4	83.9	232.4	361.7	392.0
Queue Length 50th (m)	27.9	10.9	0.0	~307.1	32.3	18.0	102.1	~555.9	~22.4	~487.9
Queue Length 95th (m)	45.3	20.5	15.7	#378.0	48.9	34.0	#162.7	#587.0	m8.7	m87.2
Internal Link Dist (m)		139.7			81.8			241.5		228.3
Turn Bay Length (m)	51.0			52.0		52.0	169.0			
Base Capacity (vph)	419	688	685	484	688	590	417	1845	47	1126
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.08	0.29	1.55	0.23	0.24	0.96	1.44	1.74	1.82

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 180
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

HCM Signalized Intersection Capacity Analysis
3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Future Total 2025 LRT PM
12-03-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	57	201	748	159	142	401	2010	653	82	1983	70
Future Volume (vph)	133	57	201	748	159	142	401	2010	653	82	1983	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.94	1.00	0.97		1.00	1.00	
Flpb, ped/bikes	0.96	1.00	1.00	0.97	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	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1731	1883	1526	1748	1883	1527	1789	3339		1825	3556	
Flt Permitted	0.63	1.00	1.00	0.72	1.00	1.00	0.07	1.00		0.08	1.00	
Satd. Flow (perm)	1148	1883	1526	1324	1883	1527	138	3339		152	3556	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	57	201	748	159	142	401	2010	653	82	1983	70
RTOR Reduction (vph)	0	0	128	0	0	32	0	19	0	0	1	0
Lane Group Flow (vph)	133	57	73	748	159	110	401	2644	0	82	2052	0
Confl. Peds. (#/hr)	65		43	43		65	30		39	39		30
Heavy Vehicles (%)	1%	2%	2%	1%	2%	0%	2%	3%	1%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5	58.5	87.5	87.5		50.6	50.6	
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5	58.5	87.5	87.5		50.6	50.6	
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37	0.37	0.55	0.55		0.32	0.32	
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	419	688	557	484	688	558	414	1826		48	1124	
v/s Ratio Prot		0.03			0.08		0.20	c0.79			c0.58	
v/s Ratio Perm	0.12		0.05	c0.56		0.07	0.33			0.54		
v/c Ratio	0.32	0.08	0.13	1.55	0.23	0.20	0.97	1.45		1.71	1.83	
Uniform Delay, d1	36.4	33.2	33.8	50.8	35.2	34.7	52.3	36.2		54.7	54.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.36	0.37	
Incremental Delay, d2	0.9	0.1	0.2	255.6	0.4	0.4	36.2	204.6		326.7	371.7	
Delay (s)	37.3	33.3	34.1	306.3	35.5	35.0	88.5	240.9		346.2	391.8	
Level of Service	D	C	C	F	D	D	F	F		F	F	
Approach Delay (s)		35.1			228.6			220.9			390.1	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	265.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	187.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
4: Block 4/Block 1 & Elia Ave

Future Total 2025 LRT PM
12-03-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	264	97	71	124	79	68	0	42	93	0	151
Future Volume (Veh/h)	109	264	97	71	124	79	68	0	42	93	0	151
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	436	1056	388	284	496	316	272	0	168	372	0	604
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	812			1444			3790	3502	1250	3318	3538	654
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	812			1443			3826	3533	1246	3346	3570	654
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	47			39			0	100	20	0	100	0
cM capacity (veh/h)	823			469			0	1	211	0	1	470

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	436	1444	284	812	440	976
Volume Left	436	0	284	0	272	372
Volume Right	0	388	0	316	168	604
cSH	823	1700	469	1700	0	1
Volume to Capacity	0.53	0.85	0.61	0.48	Err	1227.68
Queue Length 95th (m)	22.2	0.0	27.6	0.0	Err	Err
Control Delay (s)	14.2	0.0	23.8	0.0	Err	Err
Lane LOS	B		C		F	F
Approach Delay (s)	3.3		6.2		Err	Err
Approach LOS					F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	357	42	0	0	22	39	0	0	0	54	0	252
Future Volume (vph)	357	42	0	0	22	39	0	0	0	54	0	252
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	1428	168	0	0	88	156	0	0	0	216	0	1008

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	1428	168	0	244	0	0	216	1008
Volume Left (vph)	1428	0	0	0	0	0	216	0
Volume Right (vph)	0	0	0	156	0	0	0	1008
Hadj (s)	0.50	0.00	0.00	-0.45	0.00	0.00	0.50	-0.70
Departure Headway (s)	7.7	7.2	7.8	7.4	8.7	8.7	7.6	6.4
Degree Utilization, x	3.05	0.34	0.00	0.50	0.00	0.00	0.46	1.80
Capacity (veh/h)	472	493	463	481	408	408	463	567
Control Delay (s)	942.4	12.6	9.6	16.4	10.5	10.5	15.7	382.4
Approach Delay (s)	844.6		16.4		0.0		317.7	
Approach LOS	F		C		A		F	

Intersection Summary				
Delay		568.1		
Level of Service		F		
Intersection Capacity Utilization		48.7%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	96	0	0	61	0
Future Volume (Veh/h)	0	96	0	0	61	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	384	0	0	244	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			384		192	192
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			384		192	192
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		70	100
cM capacity (veh/h)			1186		801	855

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	384	0	244
Volume Left	0	0	244
Volume Right	384	0	0
cSH	1700	1700	801
Volume to Capacity	0.23	0.00	0.30
Queue Length 95th (m)	0.0	0.0	9.0
Control Delay (s)	0.0	0.0	11.4
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.4
Approach LOS			B

Intersection Summary			
Average Delay		4.4	
Intersection Capacity Utilization		16.0%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	81	0	158	0	233	163	206	225	0
Future Volume (vph)	0	0	0	81	0	158	0	233	163	206	225	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	324	0	632	0	932	652	824	900	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	956	0	1584	824	900
Volume Left (vph)	0	324	0	0	824	0
Volume Right (vph)	0	632	0	652	0	0
Hadj (s)	0.00	-0.33	0.00	-0.29	0.50	0.00
Departure Headway (s)	9.6	6.7	7.8	7.5	8.1	7.6
Degree Utilization, x	0.00	1.77	0.00	3.30	1.85	1.90
Capacity (veh/h)	385	531	469	485	451	481
Control Delay (s)	12.6	369.8	9.6	1054.0	409.2	427.9
Approach Delay (s)	0.0	369.8	1054.0		419.0	
Approach LOS	A	F	F		F	

Intersection Summary				
Delay		643.8		
Level of Service		F		
Intersection Capacity Utilization	57.8%		ICU Level of Service	B
Analysis Period (min)		15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		0.0%	ICU Level of Service	A
Analysis Period (min)		15		

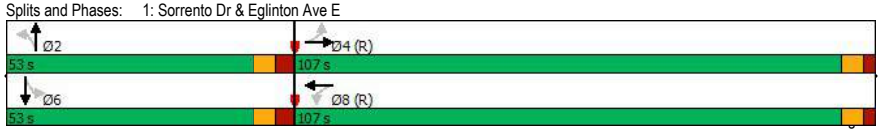
2030 With LRT Analysis

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	2055	258	860	94	76	128	36
Future Volume (vph)	10	2055	258	860	94	76	128	36
Lane Group Flow (vph)	40	2112	258	996	94	460	512	436
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	33.5	33.5	33.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	107.0	107.0	107.0	107.0	53.0	53.0	53.0	53.0
Total Split (%)	66.9%	66.9%	66.9%	66.9%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.13	0.66	4.37	0.32	0.99	0.97	6.32	0.81
Control Delay	12.4	18.1	1568.5	13.6	145.4	89.5	2430.0	58.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	18.1	1568.5	13.6	145.4	89.5	2430.0	58.3
Queue Length 50th (m)	3.5	79.5	~122.6	45.6	27.5	131.4	~265.9	104.0
Queue Length 95th (m)	m1.7	m63.3	#176.0	53.2	#63.9	#196.6	#79.5	19.1
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	304	3216	59	3108	95	473	81	537
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.66	4.37	0.32	0.99	0.97	6.32	0.81

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 158 (99%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	2055	57	258	860	34	94	76	384	128	36	73
Future Volume (vph)	10	2055	57	258	860	34	94	76	384	128	36	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.87		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5118		1722	4925		1737	1634		1825	1728	
Flt Permitted	0.25	1.00		0.05	1.00		0.18	1.00		0.15	1.00	
Satd. Flow (perm)	484	5118		94	4925		336	1634		288	1728	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	40	2055	57	258	860	136	94	76	384	512	144	292
RTOR Reduction (vph)	0	2	0	0	13	0	0	9	0	0	46	0
Lane Group Flow (vph)	40	2110	0	258	983	0	94	451	0	512	390	0
Confl. Peds. (#/hr)			7	7			2		1			
Heavy Vehicles (%)	0%	2%	0%	6%	5%	0%	5%	0%	2%	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)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Effective Green, g (s)	100.5	100.5		100.5	100.5		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.28	0.28		0.28	0.28	
Clearance Time (s)	6.5	6.5		6.5	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	304	3214		59	3093		95	464		81	491	
v/s Ratio Prot		0.41			0.20			0.28			0.23	
v/s Ratio Perm	0.08			c2.74			0.28			c1.78		
v/c Ratio	0.13	0.66		4.37	0.32		0.99	0.97		6.32	0.79	
Uniform Delay, d1	12.1	18.8		29.8	13.8		57.0	56.6		57.2	52.9	
Progression Factor	0.98	0.95		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		1556.4	0.3		88.6	34.9		2420.6	9.9	
Delay (s)	11.9	17.9		1586.1	14.1		145.6	91.6		2477.8	62.8	
Level of Service	B	B		F	B		F	F		F	E	
Approach Delay (s)		17.8			337.5			100.7			1367.1	
Approach LOS		B			F			F			F	

Intersection Summary

HCM 2000 Control Delay	369.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	4.96		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	113.5%	ICU Level of Service	H
Analysis Period (min)	15		

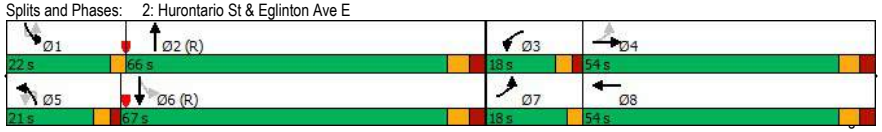
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1515	189	146	593	189	223	2631	100	129	377	2609
Future Volume (vph)	328	1515	189	146	593	189	223	2631	100	129	377	2609
Lane Group Flow (vph)	328	1515	189	146	593	189	223	2631	100	0	893	2951
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Detector Phase	7	4		3	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	41.0		8.0	8.0	41.0
Total Split (s)	18.0	54.0		18.0	54.0		21.0	66.0		22.0	22.0	67.0
Total Split (%)	11.3%	33.8%		11.3%	33.8%		13.1%	41.3%		13.8%	13.8%	41.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	3.0		0.0	0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	None	C-Max
v/c Ratio	0.89	1.00	0.12	0.54	0.41	0.12	0.68	1.93	0.07		3.36	2.21
Control Delay	61.3	78.9	0.2	62.3	42.2	0.1	79.7	450.9	0.1		1086.0	572.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	61.3	78.9	0.2	62.3	42.2	0.1	79.7	450.9	0.1		1086.0	572.9
Queue Length 50th (m)	66.4	~167.4	0.0	16.7	56.3	0.0	34.5	~593.7	0.0		~450.3	~699.7
Queue Length 95th (m)	#111.7	#197.6	0.0	m25.6	m67.5	m0.0	m41.2	m#612.3	m0.0		#524.0	#726.5
Internal Link Dist (m)		132.7			301.3			160.0				158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0	87.0				95.0	
Base Capacity (vph)	370	1512	1525	284	1453	1527	337	1362	1475		266	1334
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	0.89	1.00	0.12	0.51	0.41	0.12	0.66	1.93	0.07		3.36	2.21

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 114 (71%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 175
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	328	1515	189	146	593	189	223	2631	100	129	377	2609
Future Volume (vph)	328	1515	189	146	593	189	223	2631	100	129	377	2609
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0	5.0	7.0	4.0		3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	*1.00	1.00		1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98		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	0.98
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)	1784	5092	1525	3506	4948	1527	3372	3694	1475		1817	3511
Flt Permitted	0.34	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.07	1.00
Satd. Flow (perm)	635	5092	1525	3506	4948	1527	3372	3694	1475		126	3511
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00
Adj. Flow (vph)	328	1515	189	146	593	189	223	2631	100	516	377	2609
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	7
Lane Group Flow (vph)	328	1515	189	146	593	189	223	2631	100	0	893	2944
Confl. Peds. (#/hr)	21		56	56		21	36		42		42	
Heavy Vehicles (%)	2%	3%	4%	1%	6%	5%	5%	4%	8%	0%	1%	7%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Actuated Green, G (s)	62.5	47.5	160.0	12.5	47.0	160.0	15.5	59.0	160.0		79.5	60.5
Effective Green, g (s)	62.5	47.5	160.0	12.5	47.0	160.0	15.5	59.0	160.0		79.5	60.5
Actuated g/C Ratio	0.39	0.30	1.00	0.08	0.29	1.00	0.10	0.37	1.00		0.50	0.38
Clearance Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	355	1511	1525	273	1453	1527	326	1362	1475		263	1327
v/s Ratio Prot	c0.09	c0.30		0.04	0.12		0.07	0.71			c0.40	0.84
v/s Ratio Perm	0.27		c0.12			0.12			0.07		c1.28	
v/c Ratio	0.92	1.00	0.12	0.53	0.41	0.12	0.68	1.93	0.07		3.40	2.22
Uniform Delay, d1	41.3	56.2	0.0	71.0	45.3	0.0	69.9	50.5	0.0		53.7	49.8
Progression Factor	1.00	1.00	1.00	0.78	0.91	1.00	1.00	1.06	1.00		1.00	1.00
Incremental Delay, d2	30.1	23.8	0.2	3.2	0.3	0.1	6.4	421.6	0.1		1087.6	550.9
Delay (s)	71.4	80.0	0.2	58.8	41.6	0.1	76.4	475.2	0.1		1141.3	600.6
Level of Service	E	F	A	E	D	A	E	F	A		F	F
Approach Delay (s)		71.2			35.9			429.0				726.2
Approach LOS		E			D			F				F

Intersection Summary

HCM 2000 Control Delay	434.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.43		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	158.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	342
Future Volume (vph)	342
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	1.00
Adj. Flow (vph)	342
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	36
Heavy Vehicles (%)	5%
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	188	91	572	634	58	180	161	1452	70	2094
Future Volume (vph)	188	91	572	634	58	180	161	1452	70	2094
Lane Group Flow (vph)	188	91	572	634	58	180	161	1819	70	2175
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4			8		5	2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	65.5	10.0	41.5	41.5	41.5
Total Split (s)	66.0	66.0	66.0	66.0	66.0	66.0	28.0	94.0	66.0	66.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	41.3%	17.5%	58.8%	41.3%	41.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	0.0	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5	6.5	6.5
Lead/Lag							Lead		Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.40	0.14	0.75	1.36	0.09	0.31	0.70	0.99	1.63	1.53
Control Delay	40.9	34.7	26.0	216.0	33.9	27.3	53.6	54.3	312.3	255.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	34.7	26.0	216.0	33.9	27.3	53.6	54.3	312.3	255.1
Queue Length 50th (m)	40.9	17.8	70.3	~243.5	11.1	26.6	31.6	268.1	~28.7	~457.4
Queue Length 95th (m)	62.3	30.2	116.5	#312.1	20.7	45.6	53.6	#324.0	m#13.4	m18.8
Internal Link Dist (m)		139.7			81.8			241.5		228.3
Turn Bay Length (m)	51.0			52.0		52.0	169.0			
Base Capacity (vph)	469	656	763	465	644	572	295	1833	43	1425
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.14	0.75	1.36	0.09	0.31	0.55	0.99	1.63	1.53

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 139 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 180
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

HCM Signalized Intersection Capacity Analysis
3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Future Total 2030 LRT AM
12-03-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	91	572	634	58	180	161	1452	367	70	2094	81
Future Volume (vph)	188	91	572	634	58	180	161	1452	367	70	2094	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.93	1.00	0.98		1.00	1.00	
Flpb, ped/bikes	0.95	1.00	1.00	0.98	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	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1695	1795	1543	1733	1762	1478	1690	3326		1630	3446	
Flt Permitted	0.72	1.00	1.00	0.70	1.00	1.00	0.06	1.00		0.06	1.00	
Satd. Flow (perm)	1283	1795	1543	1273	1762	1478	102	3326		104	3446	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	188	91	572	634	58	180	161	1452	367	70	2094	81
RTOR Reduction (vph)	0	0	199	0	0	32	0	14	0	0	2	0
Lane Group Flow (vph)	188	91	373	634	58	148	161	1805	0	70	2173	0
Confl. Peds. (#/hr)	69		30	30		69	35		25	25		35
Heavy Vehicles (%)	2%	7%	2%	3%	9%	3%	8%	5%	4%	12%	5%	8%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5	58.5	87.5	87.5		66.1	66.1	
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5	58.5	87.5	87.5		66.1	66.1	
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37	0.37	0.55	0.55		0.41	0.41	
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	469	656	564	465	644	540	228	1818		42	1423	
v/s Ratio Prot		0.05			0.03		0.08	c0.54			0.63	
v/s Ratio Perm	0.15		0.24	c0.50		0.10	0.31			c0.67		
v/c Ratio	0.40	0.14	0.66	1.36	0.09	0.27	0.71	0.99		1.67	1.53	
Uniform Delay, d1	37.7	33.9	42.5	50.8	33.3	35.8	46.2	35.9		47.0	47.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.21	0.22	
Incremental Delay, d2	1.2	0.2	3.8	177.0	0.1	0.6	11.8	19.5		309.4	237.6	
Delay (s)	38.9	34.1	46.3	227.7	33.4	36.3	58.0	55.4		319.3	247.9	
Level of Service	D	C	D	F	C	D	E	E		F	F	
Approach Delay (s)		43.4			175.3			55.6			250.1	
Approach LOS		D			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	144.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	158.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
4: Block 4/Block 1 & Elia Ave

Future Total 2030 LRT AM
12-03-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	83	34	24	208	85	88	0	54	76	0	124
Future Volume (Veh/h)	118	83	34	24	208	85	88	0	54	76	0	124
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	472	332	136	96	832	340	352	0	216	304	0	496
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked												
vC, conflicting volume	1172			468			2864	2708	400	2686	2606	1002
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1172			468			2864	2708	400	2686	2606	1002
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	22			91			0	100	67	0	100	0
cM capacity (veh/h)	603			1104			0	4	654	3	5	297

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	472	468	96	1172	568	800
Volume Left	472	0	96	0	352	304
Volume Right	0	136	0	340	216	496
cSH	603	1700	1104	1700	0	8
Volume to Capacity	0.78	0.28	0.09	0.69	Err	95.21
Queue Length 95th (m)	52.0	0.0	2.0	0.0	Err	Err
Control Delay (s)	29.1	0.0	8.6	0.0	Err	Err
Lane LOS	D		A		F	F
Approach Delay (s)	14.6		0.6		Err	Err
Approach LOS					F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	198	15	0	0	37	65	0	0	0	18	0	280
Future Volume (vph)	198	15	0	0	37	65	0	0	0	18	0	280
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	792	60	0	0	148	260	0	0	0	72	0	1120

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	792	60	0	408	0	0	72	1120
Volume Left (vph)	792	0	0	0	0	0	72	0
Volume Right (vph)	0	0	0	260	0	0	0	1120
Hadj (s)	0.50	0.00	0.00	-0.45	0.00	0.00	0.50	-0.70
Departure Headway (s)	7.9	7.4	7.6	7.2	9.2	9.2	7.9	6.7
Degree Utilization, x	1.74	0.12	0.00	0.81	0.00	0.00	0.16	2.08
Capacity (veh/h)	461	478	480	497	385	385	444	547
Control Delay (s)	359.3	10.2	9.4	33.0	11.0	11.0	11.2	507.8
Approach Delay (s)	334.7		33.0		0.0		477.8	
Approach LOS	F		D		A		F	

Intersection Summary				
Delay		354.1		
Level of Service		F		
Intersection Capacity Utilization		41.6%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	33	0	0	102	0
Future Volume (Veh/h)	0	33	0	0	102	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	132	0	0	408	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			132		66	66
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			132		66	66
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		57	100
cM capacity (veh/h)			1466		944	1003

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	132	0	408
Volume Left	0	0	408
Volume Right	132	0	0
cSH	1700	1700	944
Volume to Capacity	0.08	0.00	0.43
Queue Length 95th (m)	0.0	0.0	15.5
Control Delay (s)	0.0	0.0	11.7
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.7
Approach LOS			B

Intersection Summary				
Average Delay		8.8		
Intersection Capacity Utilization		15.7%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	135	0	263	0	206	57	72	163	0
Future Volume (vph)	0	0	0	135	0	263	0	206	57	72	163	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	540	0	1052	0	824	228	288	652	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	1592	0	1052	288	652
Volume Left (vph)	0	540	0	0	288	0
Volume Right (vph)	0	1052	0	228	0	0
Hadj (s)	0.00	-0.33	0.00	-0.15	0.50	0.00
Departure Headway (s)	9.5	6.6	7.7	7.5	8.1	7.6
Degree Utilization, x	0.00	2.94	0.00	2.20	0.65	1.37
Capacity (veh/h)	386	551	474	486	436	486
Control Delay (s)	12.5	891.3	9.5	564.9	23.5	201.8
Approach Delay (s)	0.0	891.3	564.9		147.1	
Approach LOS	A	F	F		F	

Intersection Summary				
Delay		600.3		
Level of Service		F		
Intersection Capacity Utilization	51.9%		ICU Level of Service	A
Analysis Period (min)		15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

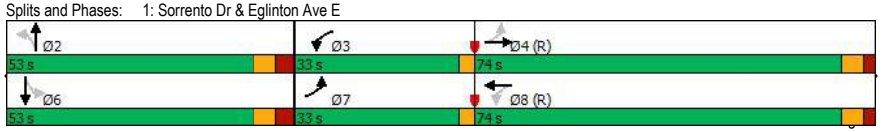
Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		0.0%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	23	1473	677	1826	145	98	139	21
Future Volume (vph)	23	1473	677	1826	145	98	139	21
Lane Group Flow (vph)	92	1623	677	2526	145	423	556	200
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	9.5	33.5	9.5	33.5	41.5	41.5	41.5	41.5
Total Split (s)	33.0	74.0	33.0	74.0	53.0	53.0	53.0	53.0
Total Split (%)	20.6%	46.3%	20.6%	46.3%	33.1%	33.1%	33.1%	33.1%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.5	0.0	2.5	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	3.0	6.5	7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.51	0.75	1.76	0.93	0.50	0.77	5.05	0.38
Control Delay	38.9	36.1	385.0	40.8	54.9	49.8	1856.5	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.9	36.1	385.0	40.8	54.9	49.8	1856.5	38.0
Queue Length 50th (m)	12.8	163.1	~280.9	237.8	35.7	88.6	~276.0	36.8
Queue Length 95th (m)	m3.1	m62.8	#351.6	#292.8	57.5	128.0	#78.8	7.5
Internal Link Dist (m)		301.3		166.0		158.4		110.2
Turn Bay Length (m)	84.0		75.0		36.0		36.0	
Base Capacity (vph)	392	2159	384	2713	290	548	110	529
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	0.23	0.75	1.76	0.93	0.50	0.77	5.05	0.38

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 69 (43%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Sorrento Dr & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1473	150	677	1826	175	145	98	325	139	21	29
Future Volume (vph)	23	1473	150	677	1826	175	145	98	325	139	21	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
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	1.00	
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	0.96		1.00	0.88		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	5102		1789	4991		1802	1666		1825	1754	
Flt Permitted	0.06	1.00		0.06	1.00		0.54	1.00		0.20	1.00	
Satd. Flow (perm)	114	5102		108	4991		1020	1666		388	1754	
Peak-hour factor, PHF	0.25	1.00	1.00	1.00	1.00	0.25	1.00	1.00	1.00	0.25	0.25	0.25
Adj. Flow (vph)	92	1473	150	677	1826	700	145	98	325	556	84	116
RTOR Reduction (vph)	0	8	0	0	35	0	0	74	0	0	31	0
Lane Group Flow (vph)	92	1615	0	677	2491	0	145	349	0	556	169	0
Confl. Peds. (#/hr)			7	7			13		3			
Heavy Vehicles (%)	0%	1%	1%	2%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Effective Green, g (s)	79.1	67.5		100.5	85.9		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.49	0.42		0.63	0.54		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		3.0	6.5		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	180	2152		383	2679		290	473		110	498	
v/s Ratio Prot	0.04	0.32		c0.33	0.50			0.21			0.10	
v/s Ratio Perm	0.22			c0.78			0.14			c1.43		
v/c Ratio	0.51	0.75		1.77	0.93		0.50	0.74		5.05	0.34	
Uniform Delay, d1	32.3	39.1		54.0	34.3		47.8	51.8		57.2	45.4	
Progression Factor	1.44	0.92		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2		355.9	7.2		2.8	7.1		1844.7	0.9	
Delay (s)	46.8	36.1		409.9	41.5		50.6	59.0		1902.0	46.2	
Level of Service	D	D		F	D		D	E		F	D	
Approach Delay (s)		36.7			119.4			56.8			1411.0	
Approach LOS		D			F			E			F	

Intersection Summary

HCM 2000 Control Delay	247.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.84		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	124.0%	ICU Level of Service	H
Analysis Period (min)	15		

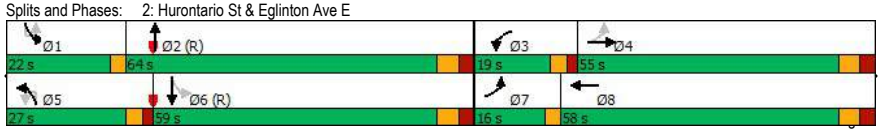
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	279	862	168	267	1861	183	749	3092	182	68	589	2429
Future Volume (vph)	279	862	168	267	1861	183	749	3092	182	68	589	2429
Lane Group Flow (vph)	279	862	168	267	1861	183	749	3092	182	0	861	3048
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Detector Phase	7	4		3	8		5	2		1	1	6
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		5.0	8.0		5.0	5.0	8.0
Minimum Split (s)	8.0	44.0		10.0	44.0		10.0	41.0		8.0	8.0	41.0
Total Split (s)	16.0	55.0		19.0	58.0		27.0	64.0		22.0	22.0	59.0
Total Split (%)	10.0%	34.4%		11.9%	36.3%		16.9%	40.0%		13.8%	13.8%	36.9%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	0.0	3.0		2.0	3.0		2.0	3.0		0.0	0.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	None	C-Max
v/c Ratio	1.40	0.56	0.11	0.87	1.12	0.12	1.54	2.35	0.12		3.27	2.61
Control Delay	241.7	48.8	0.1	103.6	111.3	0.1	294.2	634.6	0.1		1050.2	750.7
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	241.7	48.8	0.1	103.6	111.3	0.1	294.2	634.6	0.1		1050.2	750.7
Queue Length 50th (m)	~93.2	78.2	0.0	42.5	~226.9	0.0	~160.9	~741.4	0.0		~431.5	~752.6
Queue Length 95th (m)	#147.9	91.6	0.0	m48.0	#253.4	m0.0	m#143.2	m#609.1	m0.0		#505.2	#778.1
Internal Link Dist (m)		132.7			301.3			160.0				158.6
Turn Bay Length (m)	90.0		95.0	128.0		120.0	87.0				95.0	
Base Capacity (vph)	199	1542	1578	306	1655	1576	486	1315	1538		263	1166
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	1.40	0.56	0.11	0.87	1.12	0.12	1.54	2.35	0.12		3.27	2.61

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 142 (89%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 175
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 2: Hurontario St & Eglinton Ave E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	279	862	168	267	1861	183	749	3092	182	68	589	2429
Future Volume (vph)	279	862	168	267	1861	183	749	3092	182	68	589	2429
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	4.0	5.0	7.0	4.0	5.0	7.0	4.0		3.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	*1.00	1.00		1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.97		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	0.97
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	1578	3506	5193	1576	3541	3694	1538		1788	3541
Flt Permitted	0.08	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.08	1.00
Satd. Flow (perm)	160	5142	1578	3506	5193	1576	3541	3694	1538		145	3541
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25	1.00	1.00
Adj. Flow (vph)	279	862	168	267	1861	183	749	3092	182	272	589	2429
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	16
Lane Group Flow (vph)	279	862	168	267	1861	183	749	3092	182	0	861	3032
Confl. Peds. (#/hr)	45		40	40		45	26		60		60	
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	0%	4%	3%	0%	3%	5%
Turn Type	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free	custom	pm+pt	NA
Protected Phases	7	4		3	8		5	2			1	6
Permitted Phases	4		Free			Free			Free	1	6	
Actuated Green, G (s)	61.0	48.0	160.0	14.0	51.0	160.0	22.0	57.0	160.0		71.0	52.0
Effective Green, g (s)	61.0	48.0	160.0	14.0	51.0	160.0	22.0	57.0	160.0		71.0	52.0
Actuated g/C Ratio	0.38	0.30	1.00	0.09	0.32	1.00	0.14	0.36	1.00		0.44	0.32
Clearance Time (s)	3.0	7.0		5.0	7.0		5.0	7.0			3.0	7.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	196	1542	1578	306	1655	1576	486	1315	1538		259	1150
v/s Ratio Prot	c0.12	0.17		0.08	c0.36		0.21	c0.84			c0.39	0.86
v/s Ratio Perm	c0.43		0.11			0.12			0.12		c1.08	
v/c Ratio	1.42	0.56	0.11	0.87	1.12	0.12	1.54	2.35	0.12		3.32	2.64
Uniform Delay, d1	47.1	47.1	0.0	72.1	54.5	0.0	69.0	51.5	0.0		52.2	54.0
Progression Factor	1.00	1.00	1.00	1.20	1.03	1.00	1.04	1.10	1.00		1.00	1.00
Incremental Delay, d2	217.6	0.8	0.1	16.1	61.3	0.1	250.2	609.7	0.1		1055.8	739.1
Delay (s)	264.7	47.9	0.1	102.9	117.2	0.1	322.3	666.5	0.1		1108.0	793.1
Level of Service	F	D	A	F	F	A	F	F	A		F	F
Approach Delay (s)		88.0			106.3			572.3				862.5
Approach LOS		F			F			F				F

Intersection Summary

HCM 2000 Control Delay	522.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.42		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	191.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	619
Future Volume (vph)	619
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	1.00
Adj. Flow (vph)	619
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	26
Heavy Vehicles (%)	1%
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	133	57	201	748	159	142	401	2010	82	1983
Future Volume (vph)	133	57	201	748	159	142	401	2010	82	1983
Lane Group Flow (vph)	133	57	201	748	159	142	401	2663	82	2053
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases		4			8		5	2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	65.5	65.5	65.5	65.5	65.5	65.5	10.0	41.5	41.5	41.5
Total Split (s)	66.0	66.0	66.0	66.0	66.0	66.0	37.0	94.0	57.0	57.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	41.3%	41.3%	23.1%	58.8%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	0.0	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5	6.5	6.5
Lead/Lag							Lead		Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.32	0.08	0.29	1.55	0.23	0.24	0.96	1.44	1.74	1.82
Control Delay	39.1	33.7	5.2	290.5	36.3	23.4	83.9	232.4	361.7	392.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	33.7	5.2	290.5	36.3	23.4	83.9	232.4	361.7	392.0
Queue Length 50th (m)	27.9	10.9	0.0	~307.1	32.3	18.0	102.1	~555.9	~22.4	~487.9
Queue Length 95th (m)	45.3	20.5	15.7	#378.0	48.9	34.0	#162.7	#587.0	m8.7	m87.2
Internal Link Dist (m)		139.7			81.8			241.5		228.3
Turn Bay Length (m)	51.0			52.0		52.0	169.0			
Base Capacity (vph)	419	688	685	484	688	590	417	1845	47	1126
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.08	0.29	1.55	0.23	0.24	0.96	1.44	1.74	1.82

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 14 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 180
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

HCM Signalized Intersection Capacity Analysis
3: Hurontario St & Kingsbridge Garden Circle/Elia Ave

Future Total 2030 LRT PM
12-03-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	57	201	748	159	142	401	2010	653	82	1983	70
Future Volume (vph)	133	57	201	748	159	142	401	2010	653	82	1983	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.94	1.00	0.97		1.00	1.00	
Flpb, ped/bikes	0.96	1.00	1.00	0.97	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	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1731	1883	1526	1748	1883	1527	1789	3339		1825	3556	
Flt Permitted	0.63	1.00	1.00	0.72	1.00	1.00	0.07	1.00		0.08	1.00	
Satd. Flow (perm)	1148	1883	1526	1324	1883	1527	138	3339		152	3556	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	57	201	748	159	142	401	2010	653	82	1983	70
RTOR Reduction (vph)	0	0	128	0	0	32	0	19	0	0	1	0
Lane Group Flow (vph)	133	57	73	748	159	110	401	2644	0	82	2052	0
Confl. Peds. (#/hr)	65		43	43		65	30		39	39		30
Heavy Vehicles (%)	1%	2%	2%	1%	2%	0%	2%	3%	1%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	58.5	58.5	58.5	58.5	58.5	58.5	87.5	87.5		50.6	50.6	
Effective Green, g (s)	58.5	58.5	58.5	58.5	58.5	58.5	87.5	87.5		50.6	50.6	
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37	0.37	0.55	0.55		0.32	0.32	
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	4.0	6.5		6.5	6.5	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	419	688	557	484	688	558	414	1826		48	1124	
v/s Ratio Prot		0.03			0.08		0.20	c0.79			c0.58	
v/s Ratio Perm	0.12		0.05	c0.56		0.07	0.33			0.54		
v/c Ratio	0.32	0.08	0.13	1.55	0.23	0.20	0.97	1.45		1.71	1.83	
Uniform Delay, d1	36.4	33.2	33.8	50.8	35.2	34.7	52.3	36.2		54.7	54.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.36	0.37	
Incremental Delay, d2	0.9	0.1	0.2	255.6	0.4	0.4	36.2	204.6		326.7	371.7	
Delay (s)	37.3	33.3	34.1	306.3	35.5	35.0	88.5	240.9		346.2	391.8	
Level of Service	D	C	C	F	D	D	F	F		F	F	
Approach Delay (s)		35.1			228.6			220.9			390.1	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	265.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	187.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
4: Block 4/Block 1 & Elia Ave

Future Total 2030 LRT PM
12-03-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	264	97	71	124	79	68	0	42	93	0	151
Future Volume (Veh/h)	109	264	97	71	124	79	68	0	42	93	0	151
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	436	1056	388	284	496	316	272	0	168	372	0	604
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		106										
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	812			1444			3790	3502	1250	3318	3538	654
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	812			1443			3826	3533	1246	3346	3570	654
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	47			39			0	100	20	0	100	0
cM capacity (veh/h)	823			469			0	1	211	0	1	470

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	436	1444	284	812	440	976
Volume Left	436	0	284	0	272	372
Volume Right	0	388	0	316	168	604
cSH	823	1700	469	1700	0	1
Volume to Capacity	0.53	0.85	0.61	0.48	Err	1227.68
Queue Length 95th (m)	22.2	0.0	27.6	0.0	Err	Err
Control Delay (s)	14.2	0.0	23.8	0.0	Err	Err
Lane LOS	B		C		F	F
Approach Delay (s)	3.3		6.2		Err	Err
Approach LOS					F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	357	42	0	0	22	39	0	0	0	54	0	252
Future Volume (vph)	357	42	0	0	22	39	0	0	0	54	0	252
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	1428	168	0	0	88	156	0	0	0	216	0	1008

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	1428	168	0	244	0	0	216	1008
Volume Left (vph)	1428	0	0	0	0	0	216	0
Volume Right (vph)	0	0	0	156	0	0	0	1008
Hadj (s)	0.50	0.00	0.00	-0.45	0.00	0.00	0.50	-0.70
Departure Headway (s)	7.7	7.2	7.8	7.4	8.7	8.7	7.6	6.4
Degree Utilization, x	3.05	0.34	0.00	0.50	0.00	0.00	0.46	1.80
Capacity (veh/h)	472	493	463	481	408	408	463	567
Control Delay (s)	942.4	12.6	9.6	16.4	10.5	10.5	15.7	382.4
Approach Delay (s)	844.6		16.4		0.0		317.7	
Approach LOS	F		C		A		F	

Intersection Summary				
Delay		568.1		
Level of Service		F		
Intersection Capacity Utilization		48.7%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	96	0	0	61	0
Future Volume (Veh/h)	0	96	0	0	61	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	384	0	0	244	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			384		192	192
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			384		192	192
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		70	100
cM capacity (veh/h)			1186		801	855

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	384	0	244
Volume Left	0	0	244
Volume Right	384	0	0
cSH	1700	1700	801
Volume to Capacity	0.23	0.00	0.30
Queue Length 95th (m)	0.0	0.0	9.0
Control Delay (s)	0.0	0.0	11.4
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.4
Approach LOS			B

Intersection Summary			
Average Delay		4.4	
Intersection Capacity Utilization		16.0%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	81	0	158	0	233	163	206	225	0
Future Volume (vph)	0	0	0	81	0	158	0	233	163	206	225	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	324	0	632	0	932	652	824	900	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	956	0	1584	824	900
Volume Left (vph)	0	324	0	0	824	0
Volume Right (vph)	0	632	0	652	0	0
Hadj (s)	0.00	-0.33	0.00	-0.29	0.50	0.00
Departure Headway (s)	9.6	6.7	7.8	7.5	8.1	7.6
Degree Utilization, x	0.00	1.77	0.00	3.30	1.85	1.90
Capacity (veh/h)	385	531	469	485	451	481
Control Delay (s)	12.6	369.8	9.6	1054.0	409.2	427.9
Approach Delay (s)	0.0	369.8	1054.0		419.0	
Approach LOS	A	F	F		F	

Intersection Summary				
Delay		643.8		
Level of Service		F		
Intersection Capacity Utilization	57.8%		ICU Level of Service	B
Analysis Period (min)		15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		0.0%	ICU Level of Service	A
Analysis Period (min)		15		

APPENDIX I

Swept Path Analysis

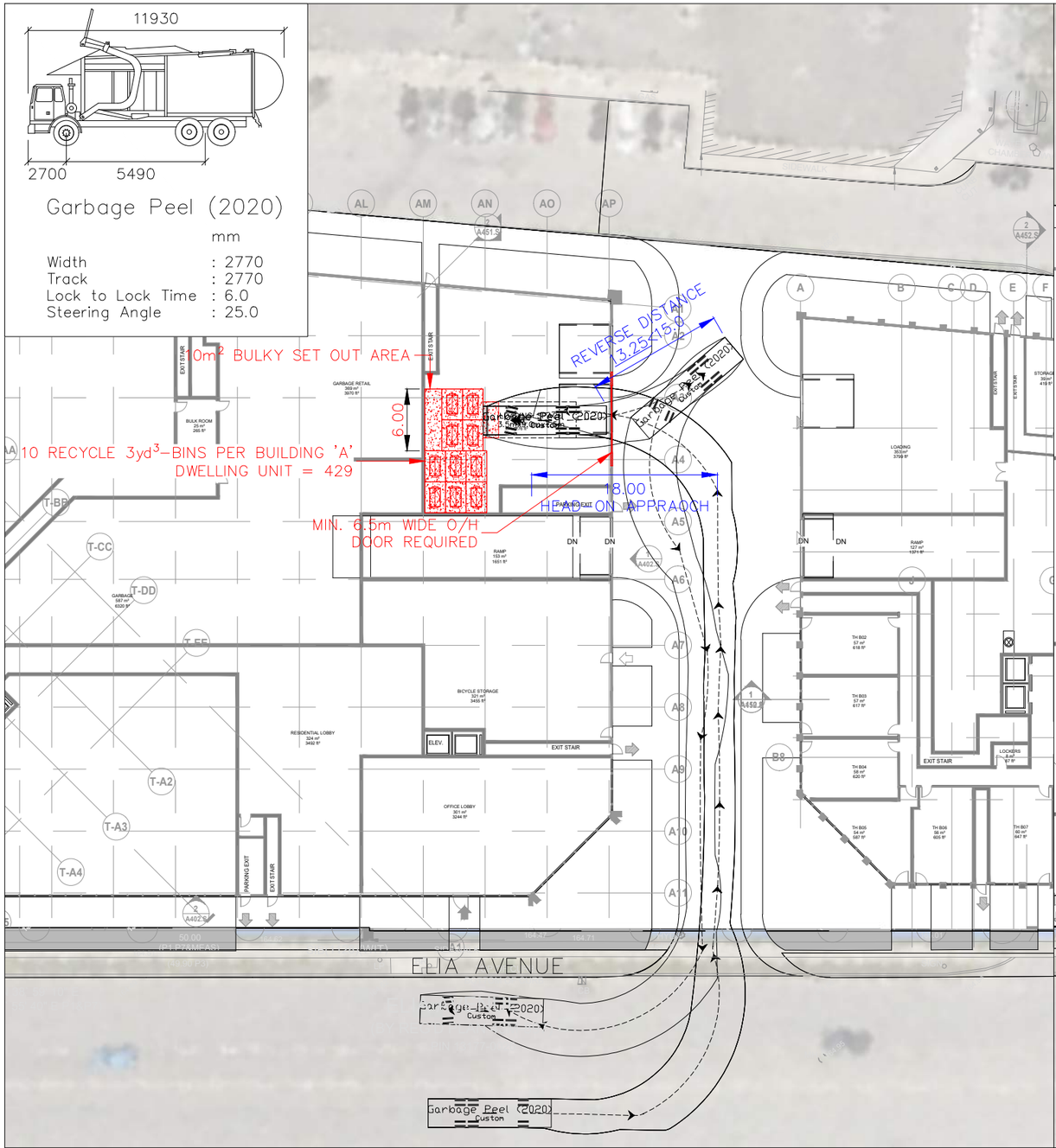
On-Site Circulation Review

Garbage Peel (2020)

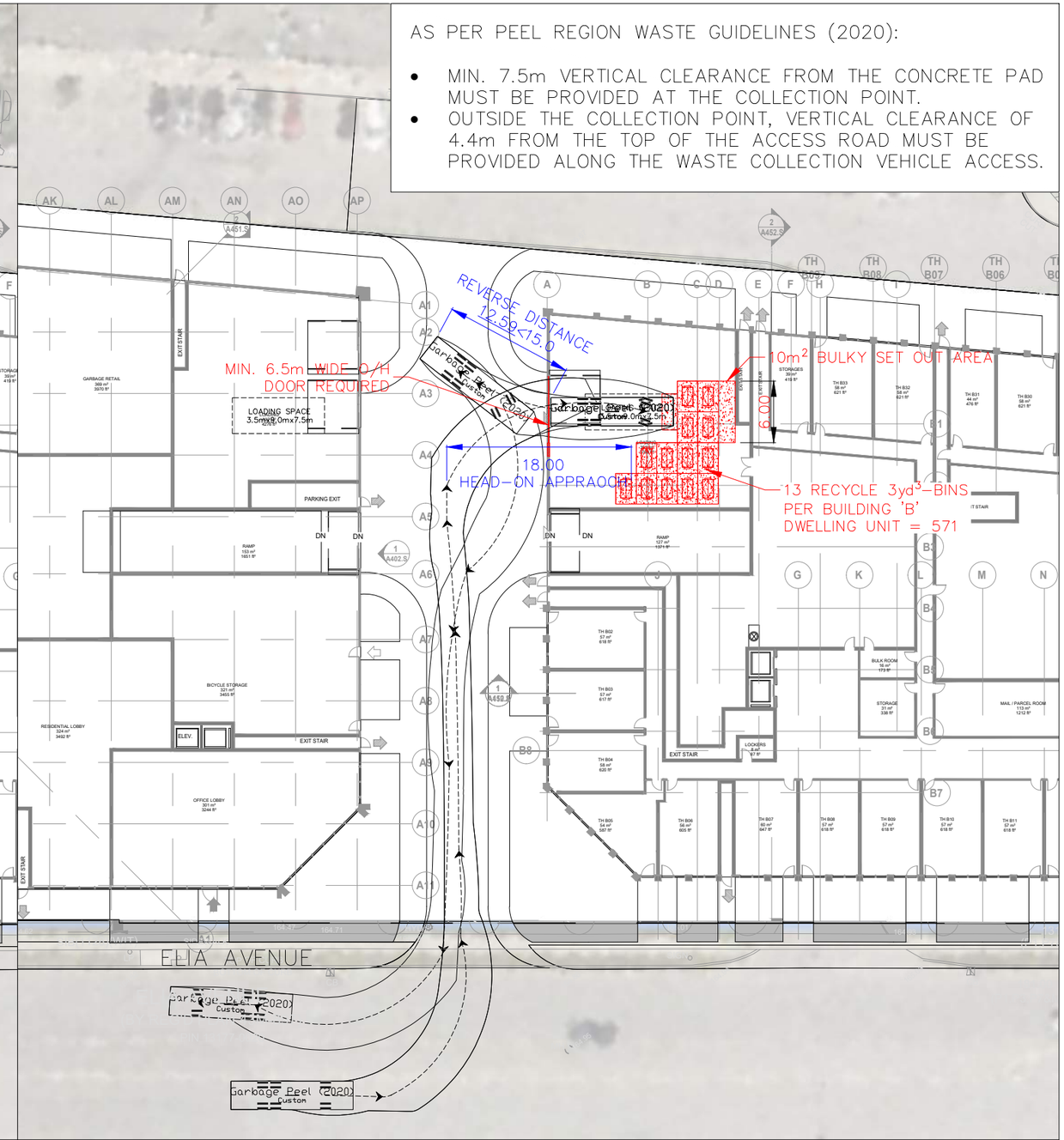
	mm
Width	: 2770
Track	: 2770
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

AS PER PEEL REGION WASTE GUIDELINES (2020):

- MIN. 7.5m VERTICAL CLEARANCE FROM THE CONCRETE PAD MUST BE PROVIDED AT THE COLLECTION POINT.
- OUTSIDE THE COLLECTION POINT, VERTICAL CLEARANCE OF 4.4m FROM THE TOP OF THE ACCESS ROAD MUST BE PROVIDED ALONG THE WASTE COLLECTION VEHICLE ACCESS.



BUILDING 'A' ENTRY/EXIT PATH



BUILDING 'B' ENTRY/EXIT PATH

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 21173

Date DEC. 11, 2020

ELIA LAND
MISSISSAUGA ONTARIO

5 0 5 10 15m
1:500

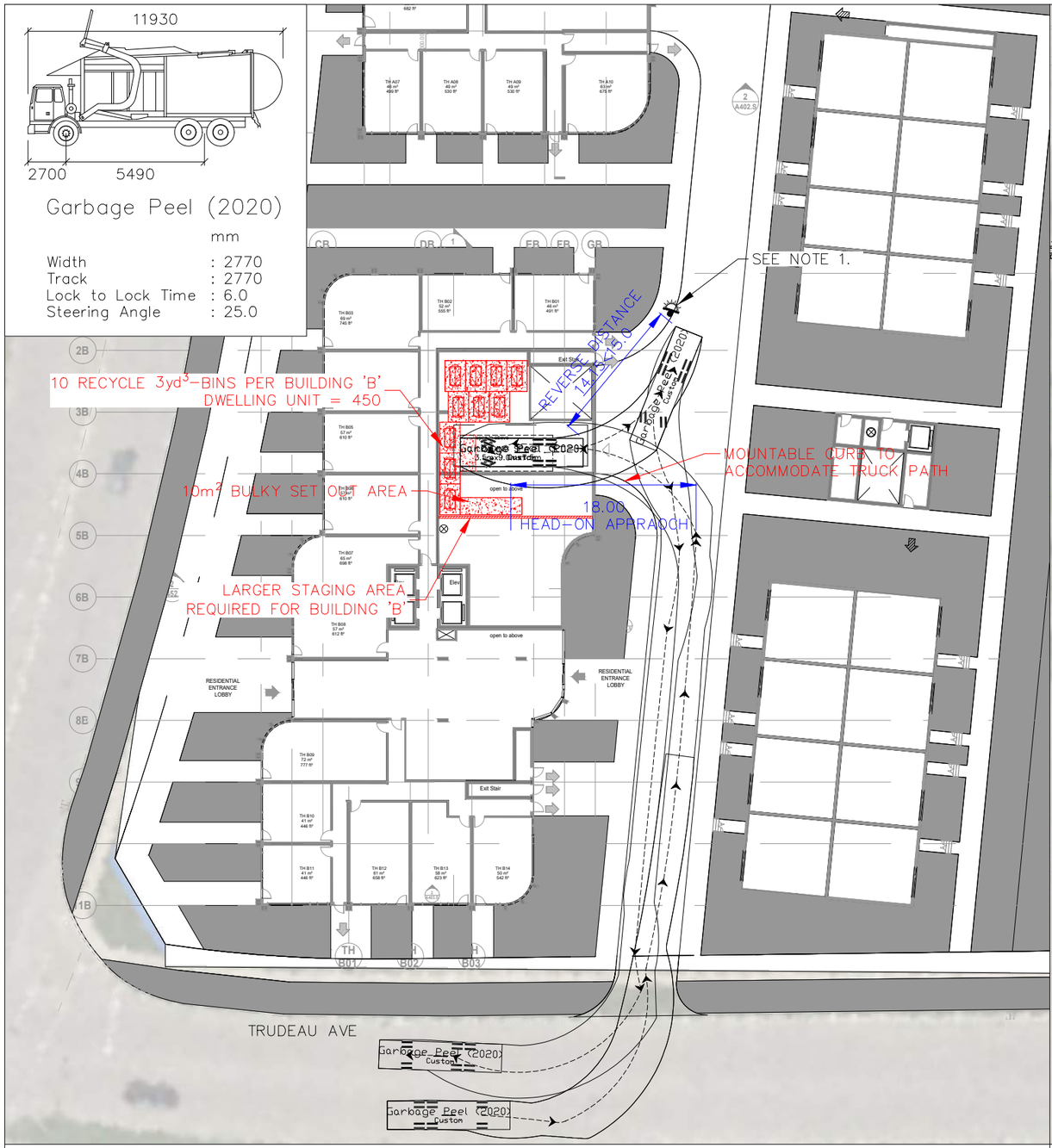
SITE PLAN
BLOCK 1 - 25, 35, 55 ELIA AVE
CITY GARBAGE TRUCK
ENTRY/EXIT PATH

Drawing No. 001

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\A

Garbage Peel (2020)

	mm
Width	: 2770
Track	: 2770
Lock to Lock Time	: 6.0
Steering Angle	: 25.0



BUILDING 'A' ENTRY/EXIT PATH

AS PER PEEL REGION WASTE GUIDELINES (2020):

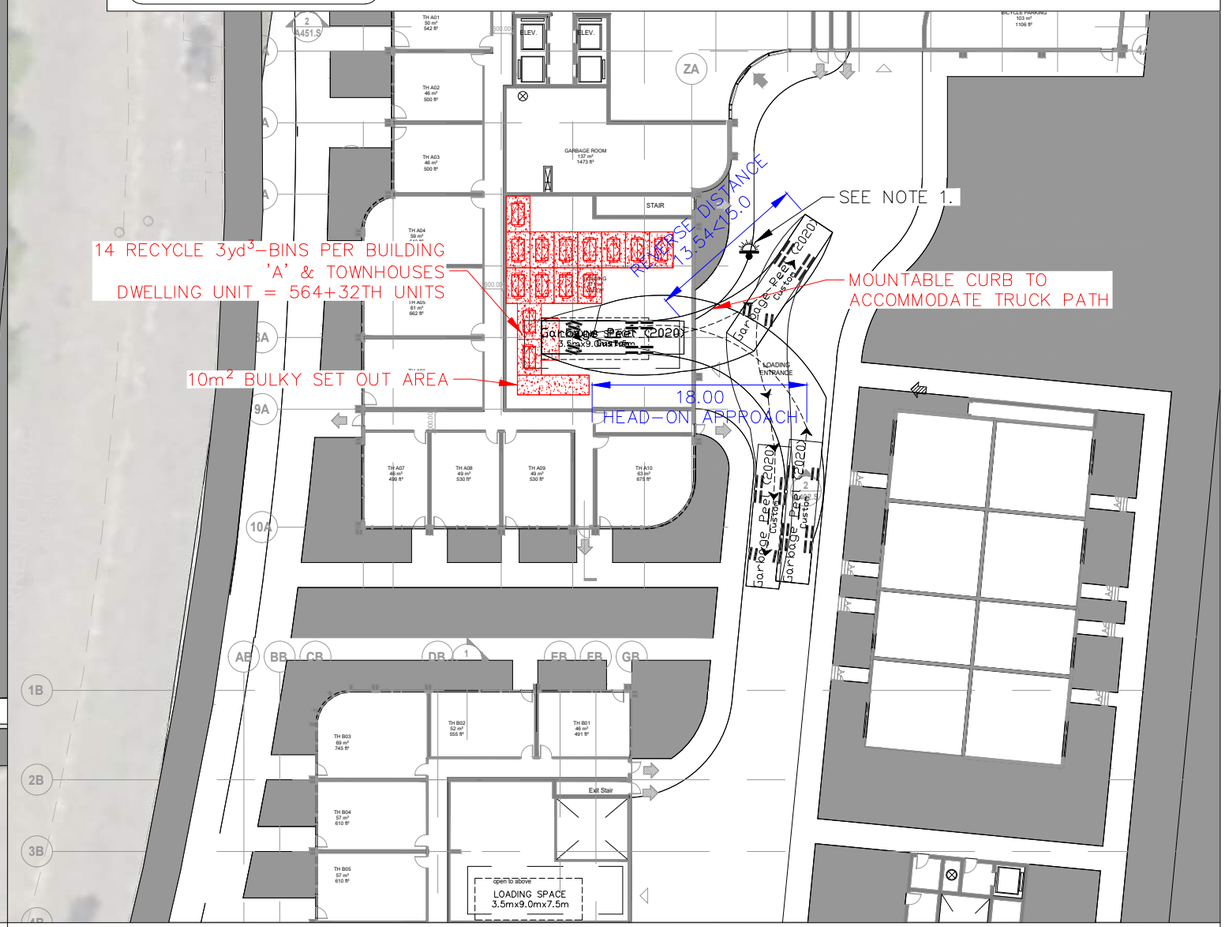
- MIN. 7.5m VERTICAL CLEARANCE FROM THE CONCRETE PAD MUST BE PROVIDED AT THE COLLECTION POINT.
- OUTSIDE THE COLLECTION POINT, VERTICAL CLEARANCE OF 4.4m FROM THE TOP OF THE ACCESS ROAD MUST BE PROVIDED ALONG THE WASTE COLLECTION VEHICLE ACCESS.

NOTE:

1. FLASHING WARNING LIGHTS TO BE ACTIVATED WHEN TRUCKS ENTER AND EXIT THE SITE. THE SYSTEM TO REMAIN ACTIVATED DURING THE CITY GARBAGE COLLECTION ACTIVITY AND UNTIL THE TRUCK EXITS THE SITE. WARNING SIGN TO BE MOUNTED BELOW THE FLASH LIGHT.

WATCH FOR
TURNING TRUCKS
WHEN FLASHING

(600x300)
BLACK LEGEND & BORDER,
YELLOW REFL. BACKGROUND.



BUILDING 'B' ENTRY/EXIT PATH

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No.
21173

Date
DEC. 11, 2020

ELIA LAND
MISSISSAUGA ONTARIO

5 0 5 10 15m
1:500

SITE PLAN
BLOCK 2 - 136 EGLINTON AVE E
CITY GARBAGE TRUCK
ENTRY/EXIT PATH

Drawing No.
002

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\A

Garbage Peel (2020)

	mm
Width	: 2770
Track	: 2770
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

AS PER PEEL REGION WASTE GUIDELINES (2020):

- MIN. 7.5m VERTICAL CLEARANCE FROM THE CONCRETE PAD MUST BE PROVIDED AT THE COLLECTION POINT.
- OUTSIDE THE COLLECTION POINT, VERTICAL CLEARANCE OF 4.4m FROM THE TOP OF THE ACCESS ROAD MUST BE PROVIDED ALONG THE WASTE COLLECTION VEHICLE ACCESS.

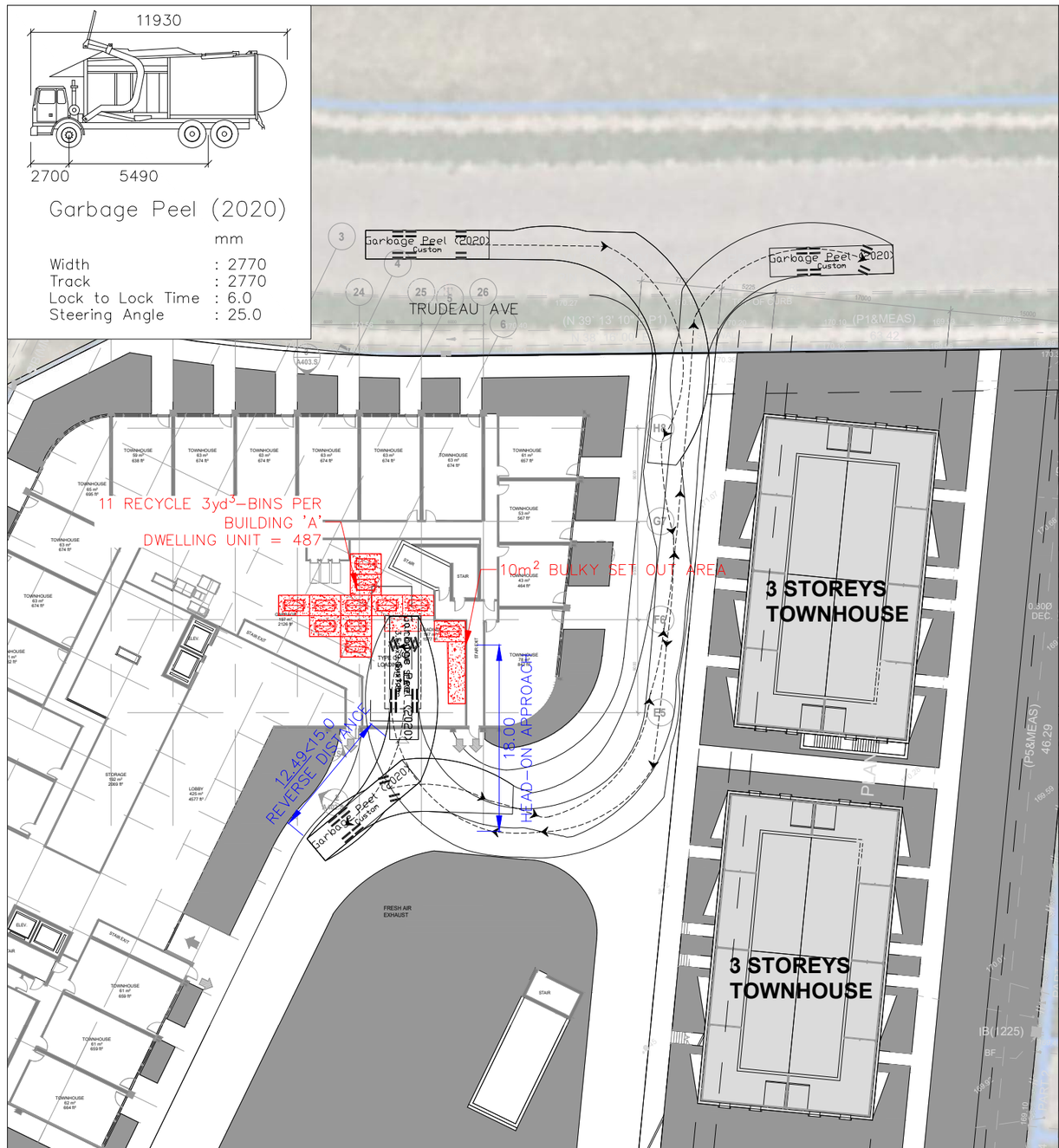
NOTE:

1. FLASHING WARNING LIGHTS TO BE ACTIVATED WHEN TRUCKS ENTER AND EXIT THE SITE. THE SYSTEM TO REMAIN ACTIVATED DURING THE CITY GARBAGE COLLECTION ACTIVITY AND UNTIL THE TRUCK EXITS THE SITE. WARNING SIGN TO BE MOUNTED BELOW THE FLASH LIGHT.

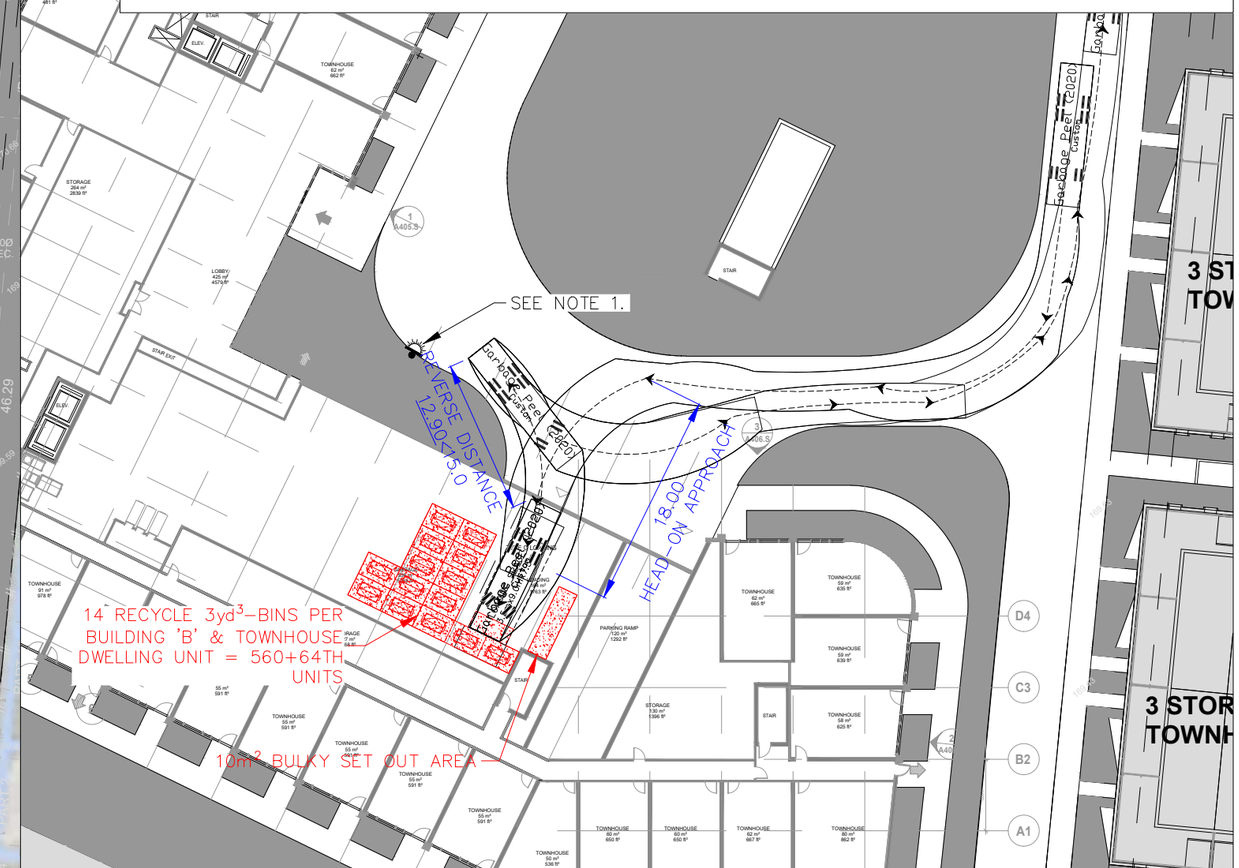
WATCH FOR
TURNING TRUCKS
WHEN FLASHING

(600x300)
BLACK LEGEND & BORDER,
YELLOW REFL. BACKGROUND.

2. PLEASE SHOW PEEL REGION STANDARD ENTRANCE ACCESS CURB ON TRUDEAU AVENUE



BUILDING 'A' ENTRY/EXIT PATH



BUILDING 'B' ENTRY/EXIT PATH

LEA Consulting Ltd.
Consulting Engineers
and Planners
www.LEA.ca

Project No.
21173

Date
DEC. 11, 2020

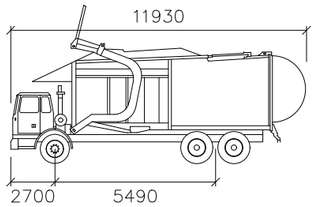
ELIA LAND
MISSISSAUGA ONTARIO

5 0 5 10 15m
1:500

SITE PLAN
BLOCK 3 - 105 ELIA AVE
CITY GARBAGE TRUCK
ENTRY/EXIT PATH

Drawing No.
003

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\A



Garbage Peel (2020)

	mm
Width	: 2770
Track	: 2770
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

AS PER PEEL REGION WASTE GUIDELINES (2020):

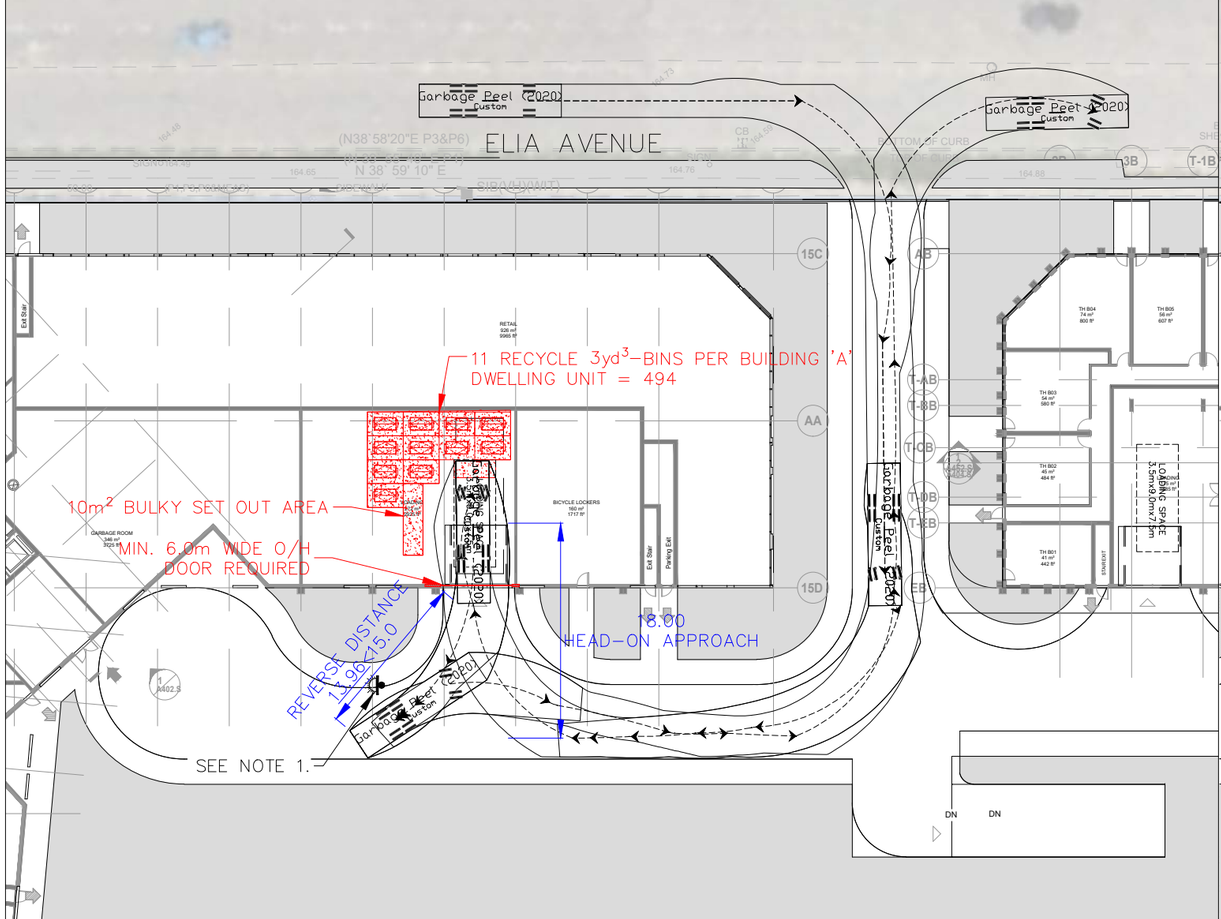
- MIN. 7.5m VERTICAL CLEARANCE FROM THE CONCRETE PAD MUST BE PROVIDED AT THE COLLECTION POINT.
- OUTSIDE THE COLLECTION POINT, VERTICAL CLEARANCE OF 4.4m FROM THE TOP OF THE ACCESS ROAD MUST BE PROVIDED ALONG THE WASTE COLLECTION VEHICLE ACCESS.

NOTE:

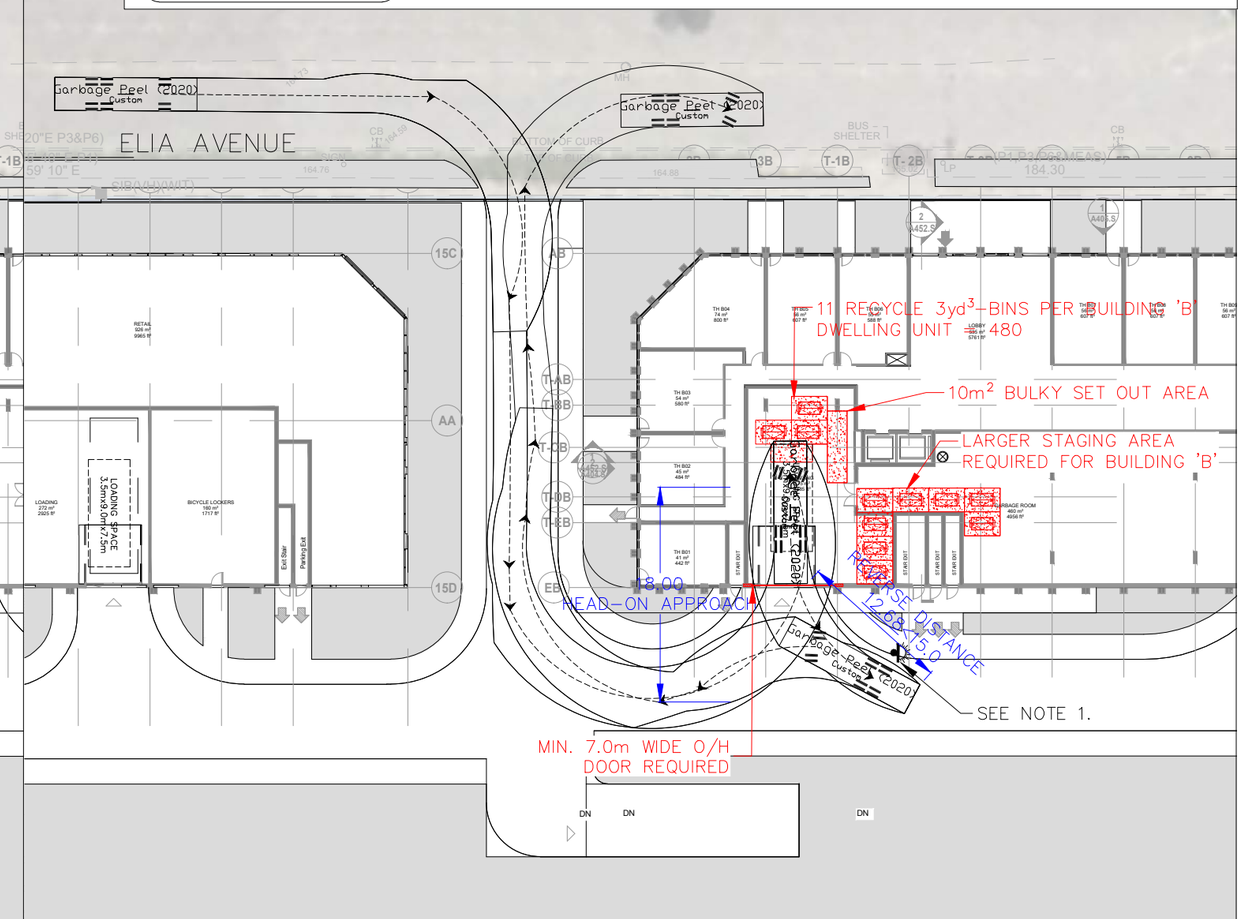
1. FLASHING WARNING LIGHTS TO BE ACTIVATED WHEN TRUCKS ENTER AND EXIT THE SITE. THE SYSTEM TO REMAIN ACTIVATED DURING THE CITY GARBAGE COLLECTION ACTIVITY AND UNTIL THE TRUCK EXITS THE SITE. WARNING SIGN TO BE MOUNTED BELOW THE FLASH LIGHT.

WATCH FOR
TURNING TRUCKS
WHEN FLASHING

(600x300)
BLACK LEGEND & BORDER,
YELLOW REFL. BACKGROUND.



BUILDING 'A' ENTRY/EXIT PATH



BUILDING 'B' ENTRY/EXIT PATH

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 21173

Date DEC. 11, 2020

ELIA LAND
MISSISSAUGA ONTARIO

5 0 5 10 15m
1:500

SITE PLAN
BLOCK 4 - 4615 HURONTARIO STREET
CITY GARBAGE TRUCK
ENTRY/EXIT PATH

Drawing No. 004

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\A

AS PER PEEL REGION WASTE GUIDELINES (2020):

- MIN. 7.5m VERTICAL CLEARANCE FROM THE CONCRETE PAD MUST BE PROVIDED AT THE COLLECTION POINT.
- OUTSIDE THE COLLECTION POINT, VERTICAL CLEARANCE OF 4.4m FROM THE TOP OF THE ACCESS ROAD MUST BE PROVIDED ALONG THE WASTE COLLECTION VEHICLE ACCESS.

NOTE:

1. FLASHING WARNING LIGHTS TO BE ACTIVATED WHEN TRUCKS ENTER AND EXIT THE SITE. THE SYSTEM TO REMAIN ACTIVATED DURING THE CITY GARBAGE COLLECTION ACTIVITY AND UNTIL THE TRUCK EXITS THE SITE. WARNING SIGN TO BE MOUNTED BELOW THE FLASH LIGHT.

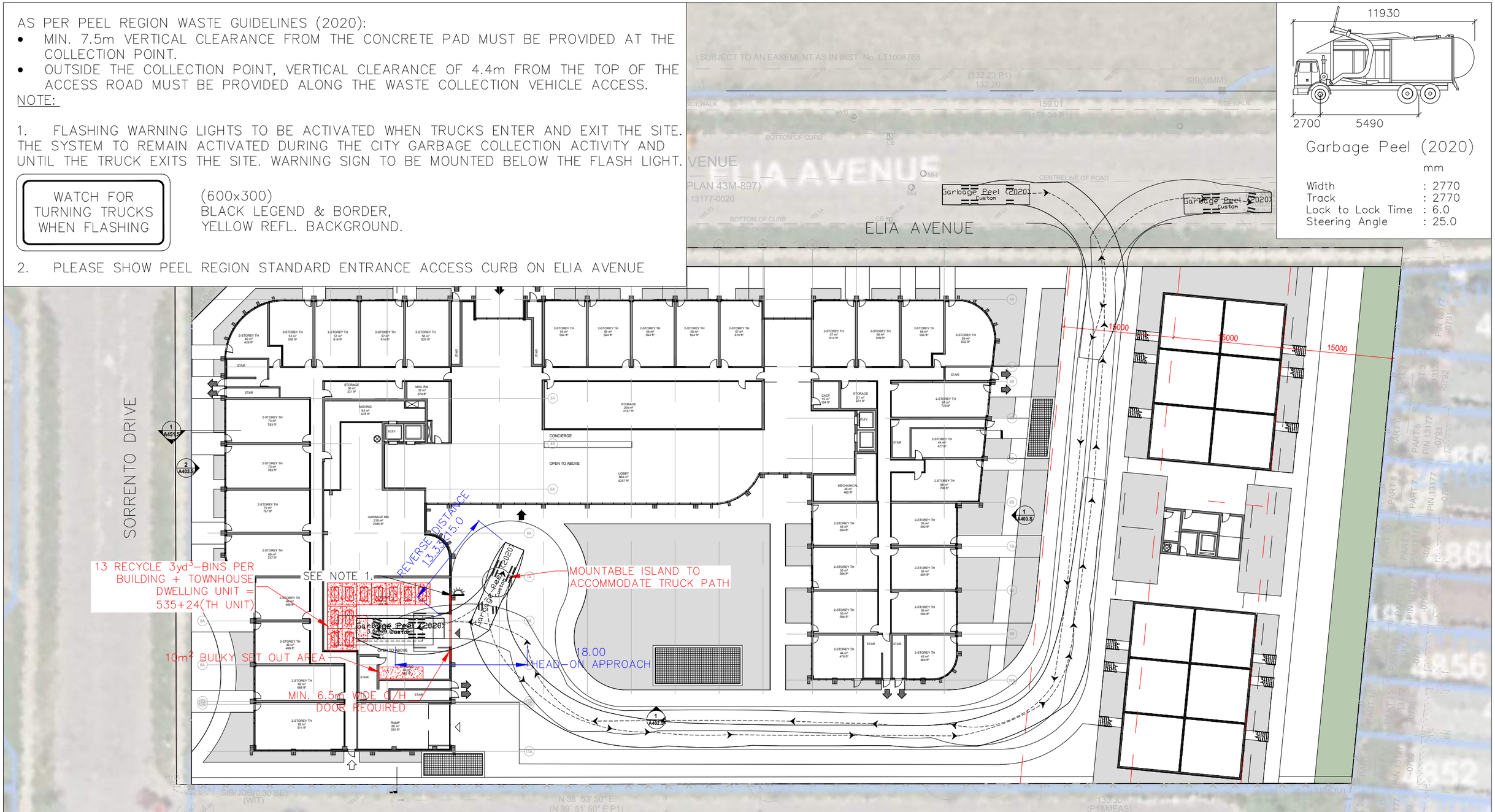
WATCH FOR TURNING TRUCKS WHEN FLASHING

(600x300)
BLACK LEGEND & BORDER,
YELLOW REFL. BACKGROUND.

2. PLEASE SHOW PEEL REGION STANDARD ENTRANCE ACCESS CURB ON ELIA AVENUE

Garbage Peel (2020)

	mm
Width	: 2770
Track	: 2770
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

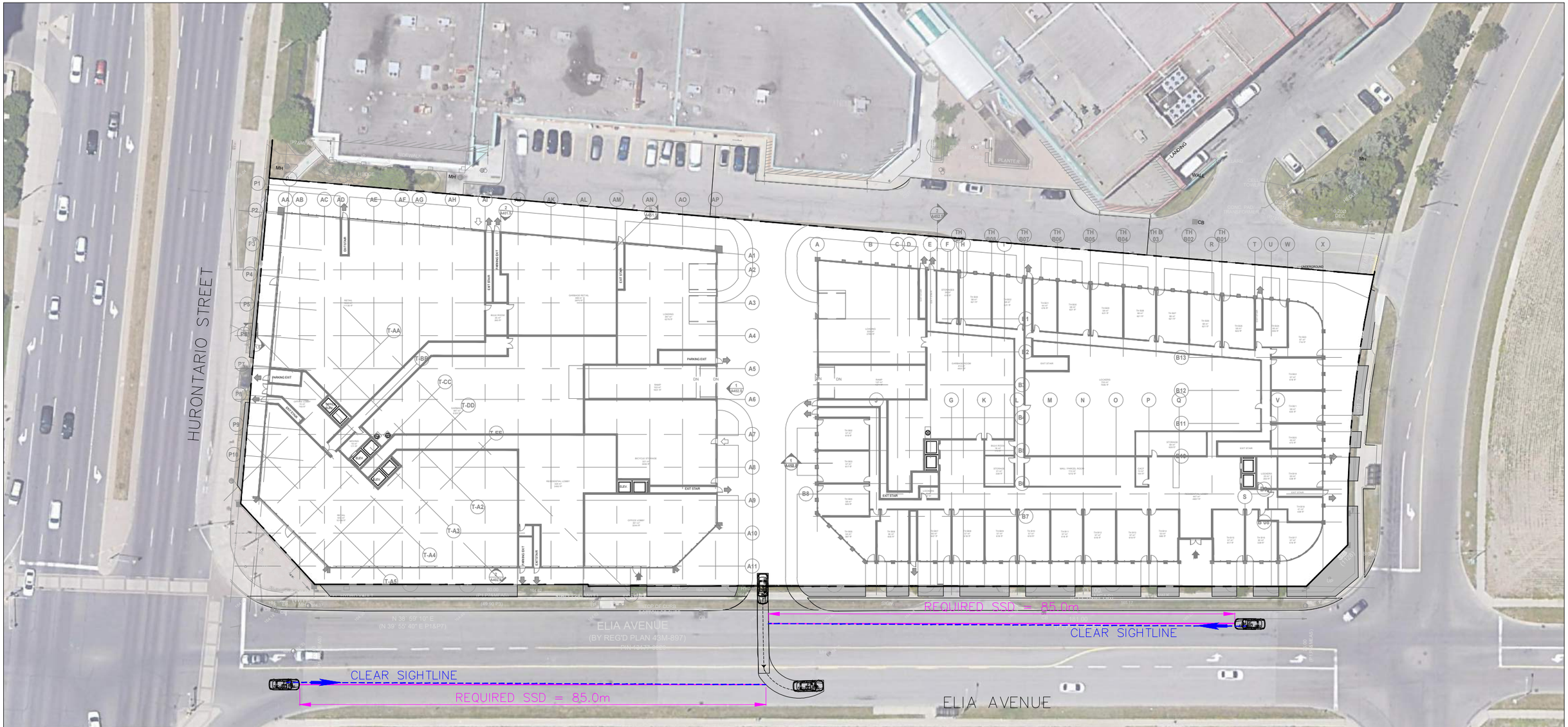


ENTRY/EXIT PATH

LEA Consulting Ltd. Consulting Engineers and Planners **www.LEA.ca**		Project No. 21173 Date DEC. 11, 2020		ELIA LAND MISSISSAUGA ONTARIO 5 0 5 10 15m 1:500	SITE PLAN BLOCK 5 - 110 ELIA AVE CITY GARBAGE TRUCK ENTRY/EXIT PATH	Drawing No. 005

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\A

Sightline Analysis



STOPPING SIGHT DISTANCES		
SIGHTLINES PER "TAC" TABLE 9.9.4 AND TABLE 9.9.6		
ASSUMED POSTED SPEED	50Km/h	
DESIGN SPEED	60Km/h	
STOPPING SIGHT DISTANCES	LEFT TURN (m)	RIGHT TURN (m)
DESIRED SSD	85	85
AVAILABLE SSD	>85	>85
REQUIRED SSD SATISFIED	YES	YES

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Project No. 21173

Date DEC. 11, 2020

LEGEND

- SIGHT LINE
- REQUIRED STOPPING SIGHT DISTANCE
- PROPERTY LINE

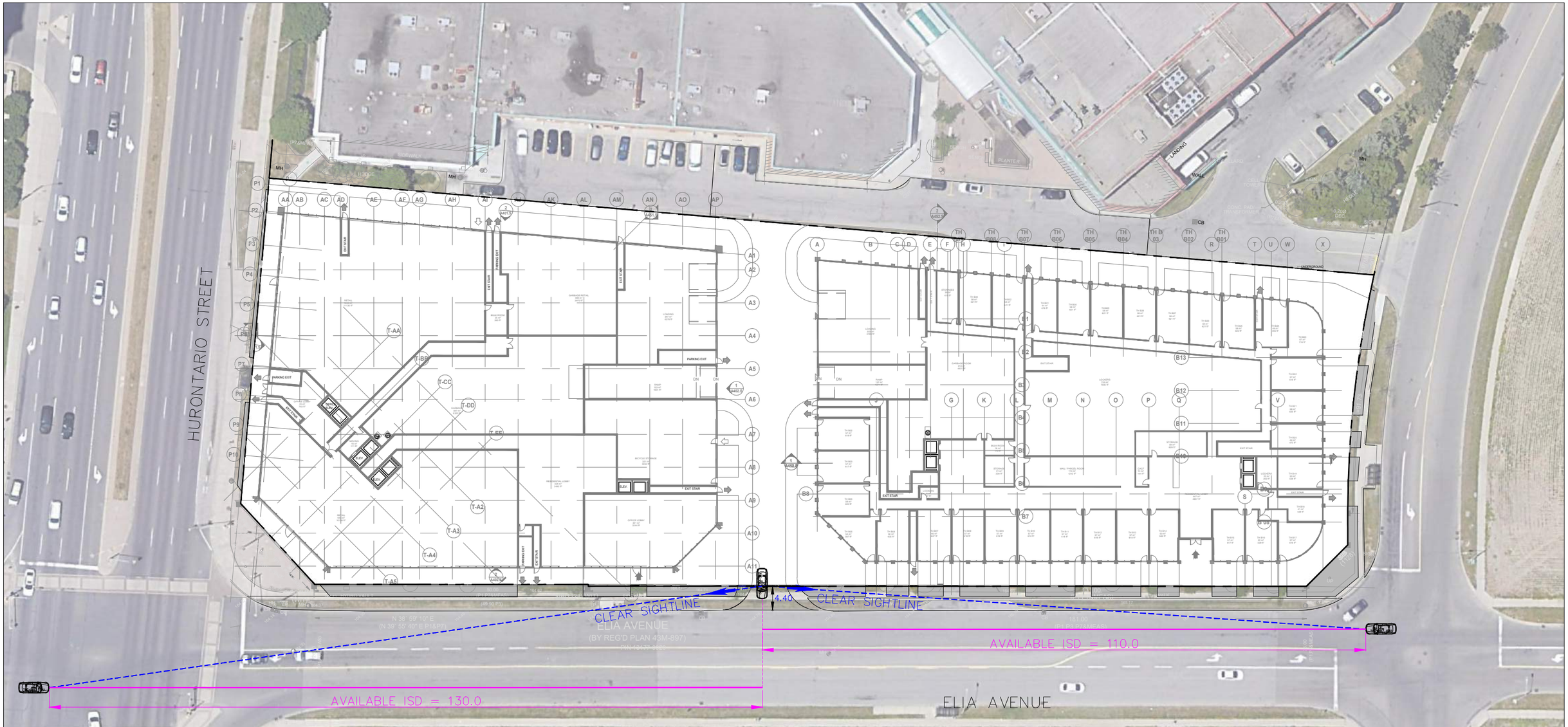
ELIA LAND
MISSISSAUGA ONTARIO

7 0 7 14 21m
1:700

ELIA AVENUE
BLOCK 1 - 25, 35, 55 ELIA AVE
SIGHT LINE ANALYSIS
STOPPING SIGHT DISTANCE

Drawing No. 001A

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\Ac



INTERSECTION SIGHT DISTANCE		
SIGHTLINES PER "TAC" TABLE 9.9.4 AND TABLE 9.9.6		
ASSUMED POSTED SPEED	50Km/h	
DESIGN SPEED	60Km/h	
INTERSECTION SIGHT DISTANCE	LEFT TURN (m)	RIGHT TURN (m)
DESIRED ISD	130	110
AVAILABLE ISD	>130	>110
DESIRED ISD SATISFIED	YES	YES

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Project No. 21173

Date DEC. 11, 2020

LEGEND
- SIGHT LINE
- INTERSECTION SIGHT DISTANCE
- PROPERTY LINE

ELIA LAND
MISSISSAUGA ONTARIO

7 0 7 14 21m
1:700

ELIA AVENUE
BLOCK 1 - 25, 35, 55 ELIA AVE
SIGHT LINE ANALYSIS
INTERSECTION SIGHT DISTANCE

Drawing No. 001B

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\A

STOPPING SIGHT DISTANCES		
SIGHTLINES PER "TAC" TABLE 9.9.4 AND TABLE 9.9.6		
ASSUMED POSTED SPEED	50Km/h	
DESIGN SPEED	60Km/h	
STOPPING SIGHT DISTANCES	LEFT TURN (m)	RIGHT TURN (m)
DESIRED SSD	85	85
AVAILABLE SSD	>85	>85
REQUIRED SSD SATISFIED	YES	YES

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Project No. 21173

Date DEC. 11, 2020

LEGEND

- SIGHT LINE
- REQUIRED STOPPING SIGHT DISTANCE
- PROPERTY LINE

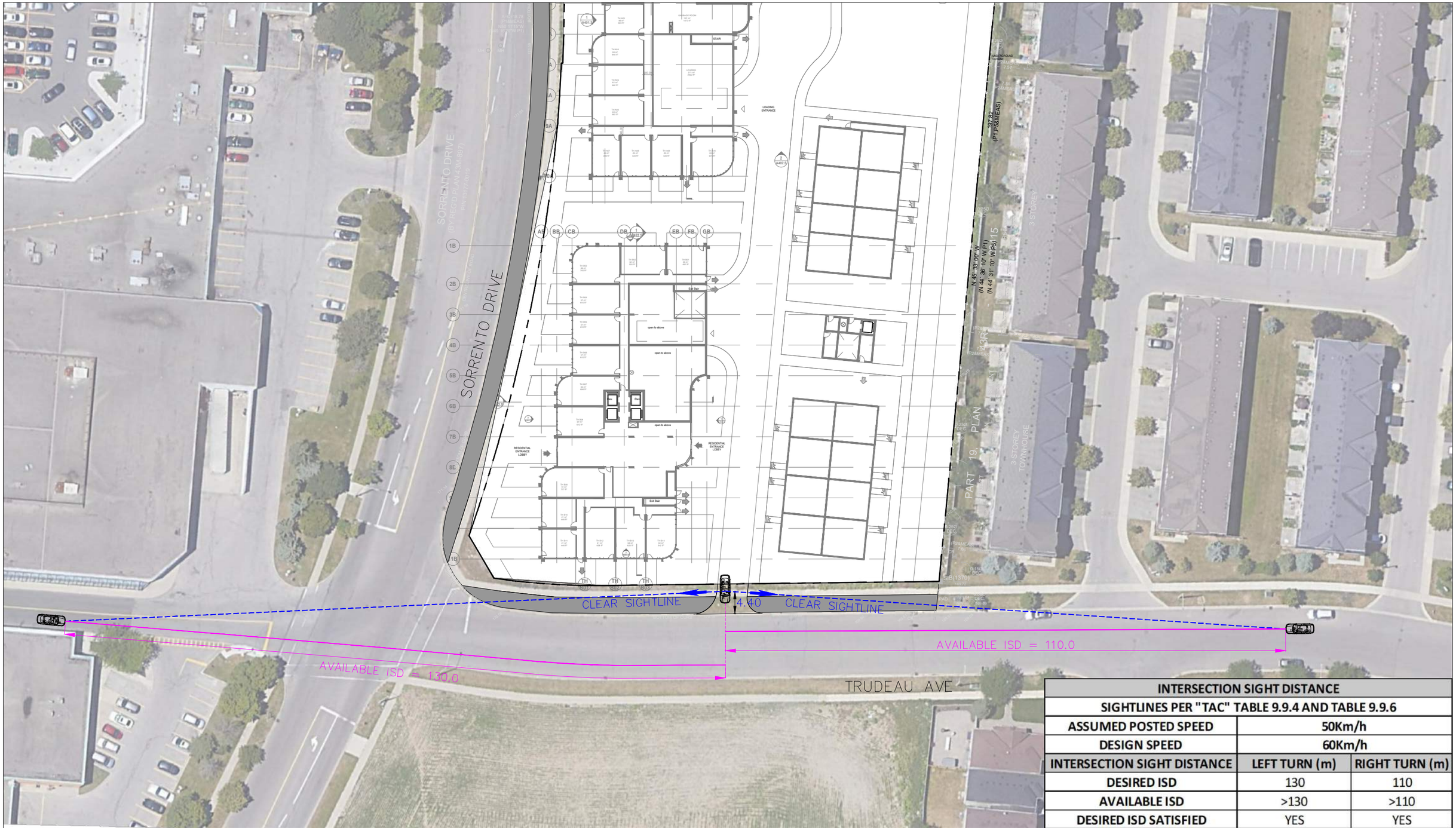
ELIA LAND
MISSISSAUGA ONTARIO

7 0 7 14 21m
1:700

TRUDEAU AVENUE
BLOCK 2 - 136 EGLINTON AVE E
SIGHT LINE ANALYSIS
STOPPING SIGHT DISTANCE

Drawing No. 002A

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\A



INTERSECTION SIGHT DISTANCE		
SIGHTLINES PER "TAC" TABLE 9.9.4 AND TABLE 9.9.6		
ASSUMED POSTED SPEED	50Km/h	
DESIGN SPEED	60Km/h	
INTERSECTION SIGHT DISTANCE	LEFT TURN (m)	RIGHT TURN (m)
DESIRED ISD	130	110
AVAILABLE ISD	>130	>110
DESIRED ISD SATISFIED	YES	YES

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Project No. 21173

Date DEC. 11, 2020

LEGEND

- SIGHT LINE
- INTERSECTION SIGHT DISTANCE
- PROPERTY LINE

ELIA LAND
MISSISSAUGA ONTARIO

7 0 7 14 21m
1:700

TRUDEAU AVENUE
BLOCK 2 - 136 EGLINTON AVE E
SIGHT LINE ANALYSIS
INTERSECTION SIGHT DISTANCE

Drawing No. 002B

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\A

STOPPING SIGHT DISTANCES		
SIGHTLINES PER "TAC" TABLE 9.9.4 AND TABLE 9.9.6		
ASSUMED POSTED SPEED	50Km/h	
DESIGN SPEED	60Km/h	
STOPPING SIGHT DISTANCES	LEFT TURN (m)	RIGHT TURN (m)
DESIRED SSD	85	85
AVAILABLE SSD	>85	>85
REQUIRED SSD SATISFIED	YES	YES

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Date DEC. 11, 2020

LEGEND
- SIGHT LINE
- REQUIRED STOPPING SIGHT DISTANCE
- PROPERTY LINE

ELIA LAND
MISSISSAUGA ONTARIO

7 0 7 14 21m
1:700

TRUDEAU AVENUE
BLOCK 3 - 105 ELIA AVE
SIGHT LINE ANALYSIS
STOPPING SIGHT DISTANCE

Drawing No. 003A

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\Ac

INTERSECTION SIGHT DISTANCE		
SIGHTLINES PER "TAC" TABLE 9.9.4 AND TABLE 9.9.6		
ASSUMED POSTED SPEED	50Km/h	
DESIGN SPEED	60Km/h	
INTERSECTION SIGHT DISTANCE	LEFT TURN (m)	RIGHT TURN (m)
DESIRED ISD	130	110
AVAILABLE ISD	>130	>110
DESIRED ISD SATISFIED	YES	YES

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Project No. 21173

Date DEC. 11, 2020

LEGEND
- SIGHT LINE
- INTERSECTION SIGHT DISTANCE
- PROPERTY LINE

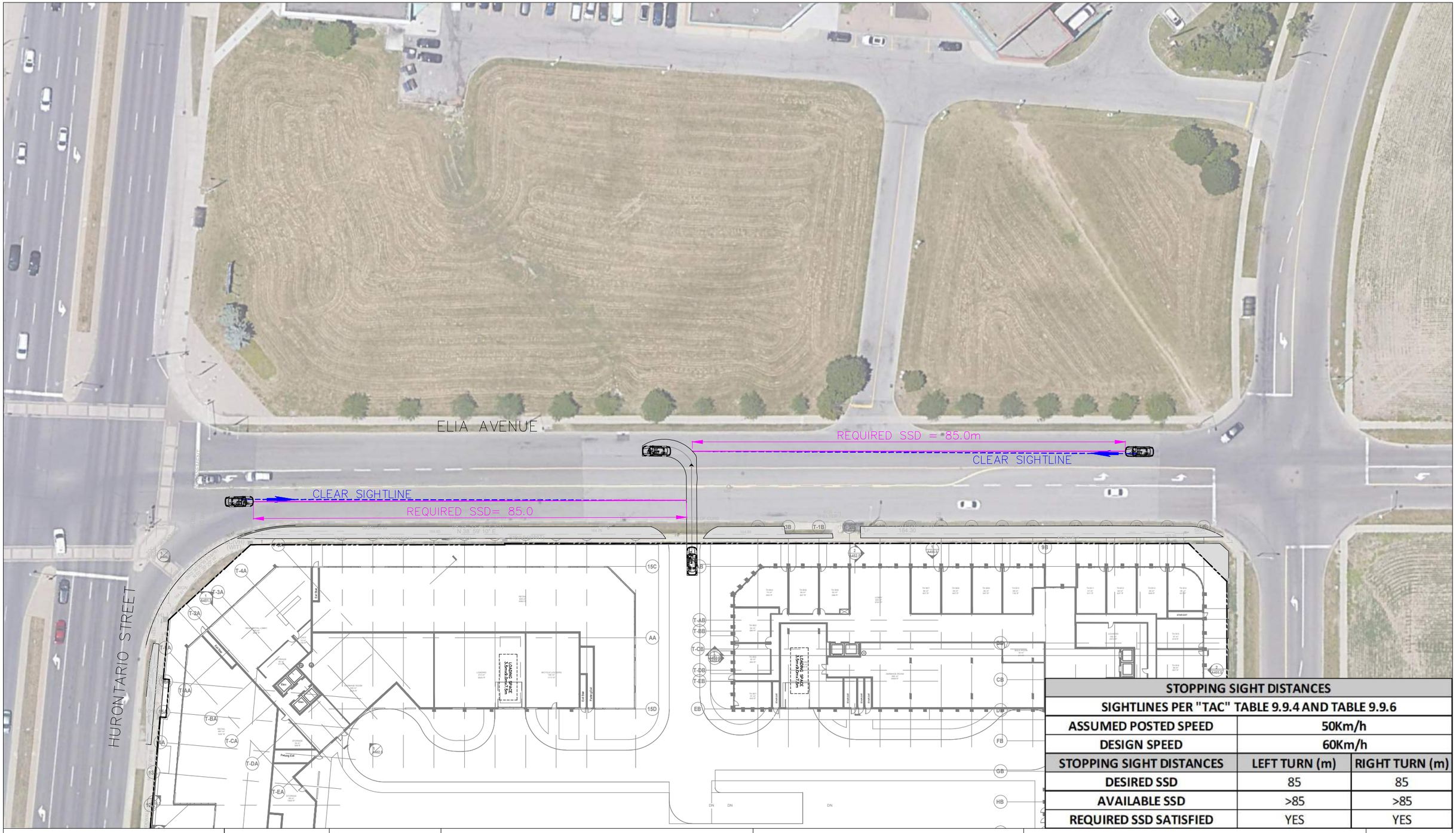
ELIA LAND
MISSISSAUGA ONTARIO

7 0 7 14 21m
1:700

TRUDEAU AVENUE
BLOCK 3 - 105 ELIA AVE
SIGHT LINE ANALYSIS
INTERSECTION SIGHT DISTANCE

Drawing No. 003B

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\A



STOPPING SIGHT DISTANCES		
SIGHTLINES PER "TAC" TABLE 9.9.4 AND TABLE 9.9.6		
ASSUMED POSTED SPEED	50Km/h	
DESIGN SPEED	60Km/h	
STOPPING SIGHT DISTANCES	LEFT TURN (m)	RIGHT TURN (m)
DESIRED SSD	85	85
AVAILABLE SSD	>85	>85
REQUIRED SSD SATISFIED	YES	YES

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Project No. 21173

Date DEC. 11, 2020

LEGEND

- SIGHT LINE
- REQUIRED STOPPING SIGHT DISTANCE
- PROPERTY LINE

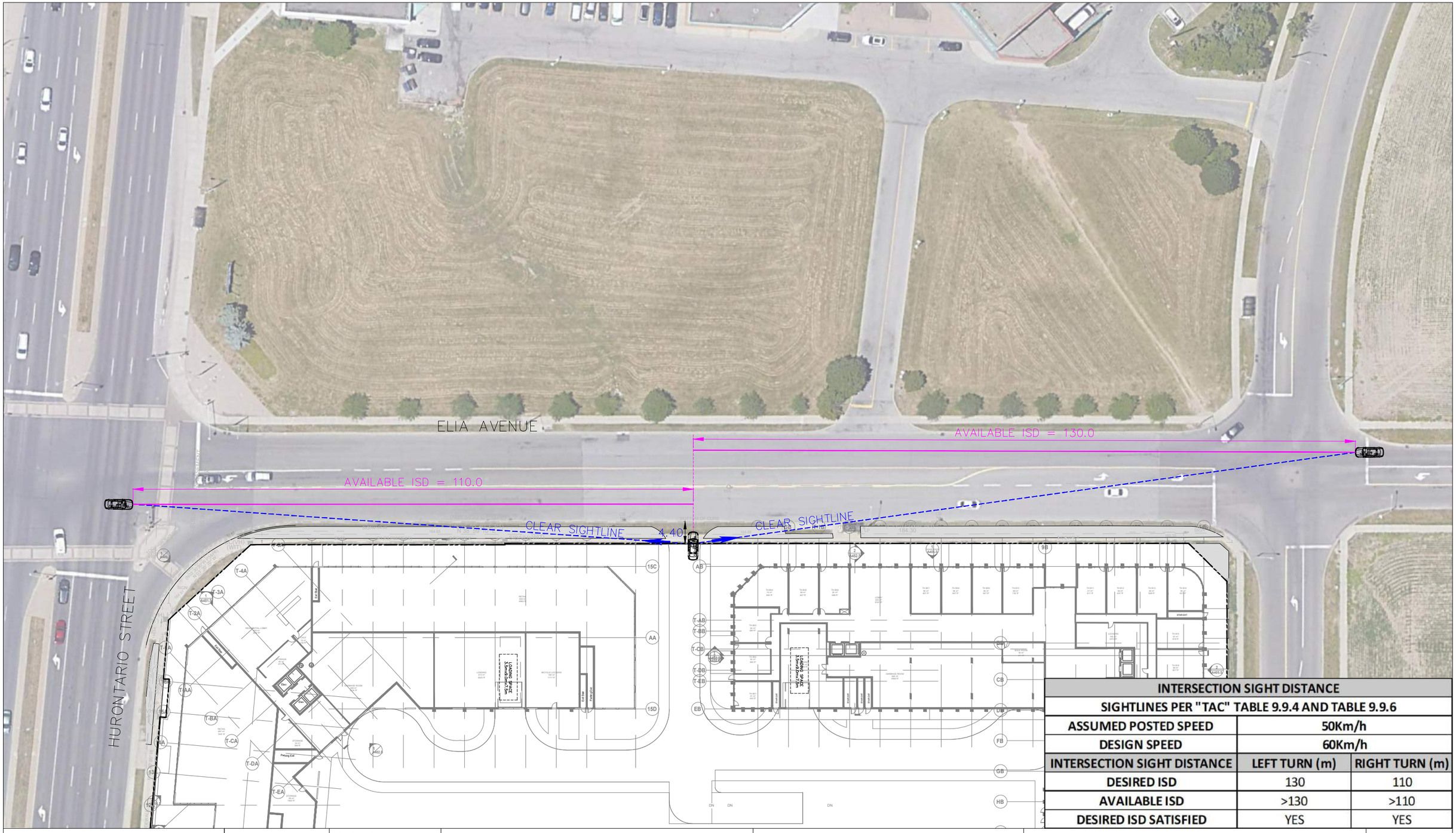
ELIA LAND
MISSISSAUGA ONTARIO

7 0 7 14 21m
1:700

ELIA AVENUE
BLOCK 4 - 4615 HURONTARIO STREET
SIGHT LINE ANALYSIS
STOPPING SIGHT DISTANCE

Drawing No. 004A

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\A



INTERSECTION SIGHT DISTANCE		
SIGHTLINES PER "TAC" TABLE 9.9.4 AND TABLE 9.9.6		
ASSUMED POSTED SPEED	50Km/h	
DESIGN SPEED	60Km/h	
INTERSECTION SIGHT DISTANCE	LEFT TURN (m)	RIGHT TURN (m)
DESIRED ISD	130	110
AVAILABLE ISD	>130	>110
DESIRED ISD SATISFIED	YES	YES

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Project No. 21173

Date DEC. 11, 2020

LEGEND
- SIGHT LINE
- INTERSECTION SIGHT DISTANCE
- PROPERTY LINE

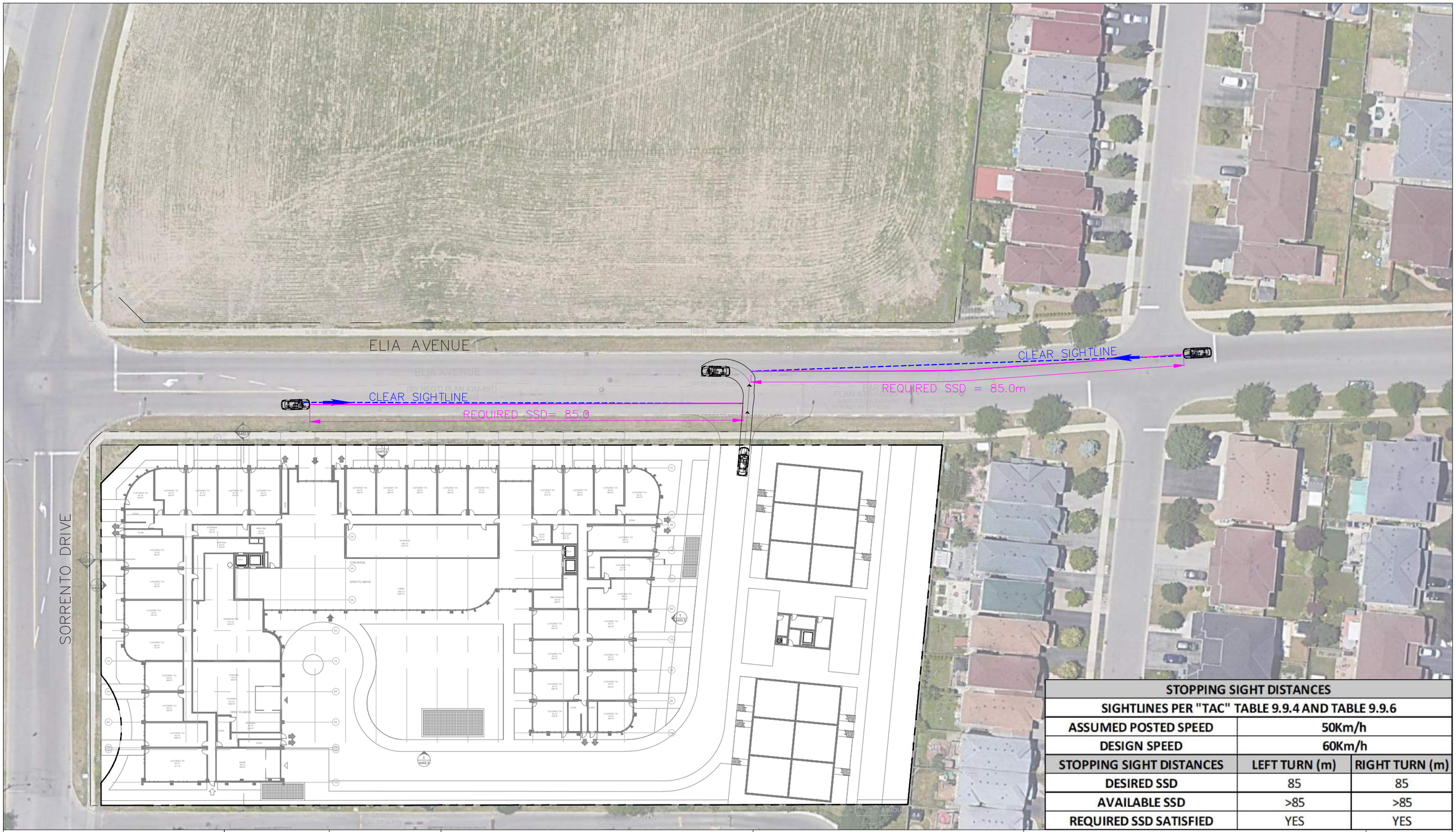
ELIA LAND
MISSISSAUGA ONTARIO

7 0 7 14 21m
1:700

ELIA AVENUE
BLOCK 4 - 4615 HURONTARIO STREET
SIGHT LINE ANALYSIS
INTERSECTION SIGHT DISTANCE

Drawing No. 004B

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\A



STOPPING SIGHT DISTANCES		
SIGHTLINES PER "TAC" TABLE 9.9.4 AND TABLE 9.9.6		
ASSUMED POSTED SPEED	50Km/h	
DESIGN SPEED	60Km/h	
STOPPING SIGHT DISTANCES	LEFT TURN (m)	RIGHT TURN (m)
DESIRED SSD	85	85
AVAILABLE SSD	>85	>85
REQUIRED SSD SATISFIED	YES	YES

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Project No. 21173

Date DEC. 11, 2020

LEGEND
- SIGHT LINE
- REQUIRED STOPPING SIGHT DISTANCE
- PROPERTY LINE

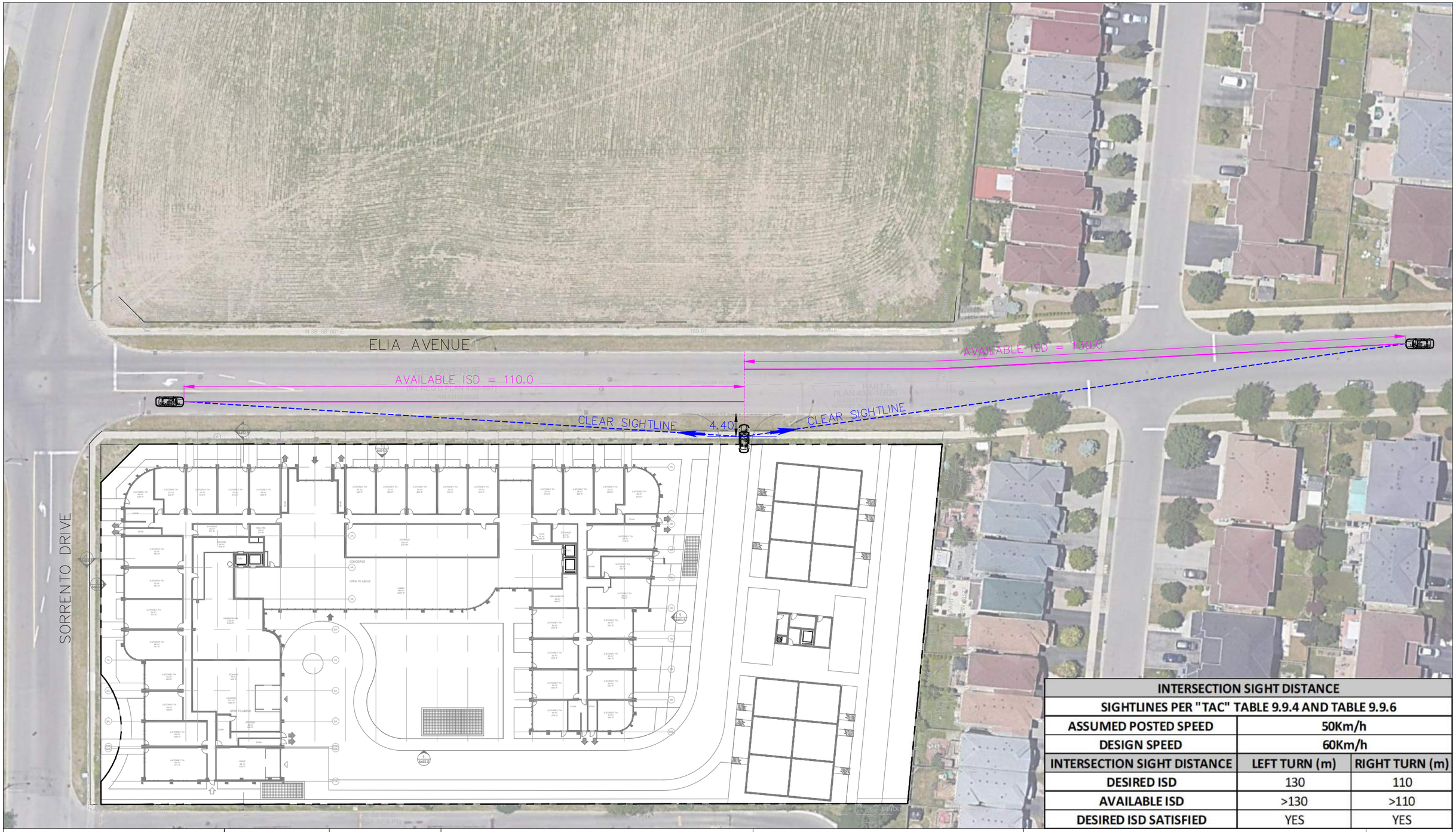
ELIA LAND
MISSISSAUGA ONTARIO

7 0 7 14 21m
1:700

ELIA AVENUE
BLOCK 5 - 110 ELIA AVE
SIGHT LINE ANALYSIS
STOPPING SIGHT DISTANCE

Drawing No. 005A

DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\Ac



INTERSECTION SIGHT DISTANCE		
SIGHTLINES PER "TAC" TABLE 9.9.4 AND TABLE 9.9.6		
ASSUMED POSTED SPEED	50Km/h	
DESIGN SPEED	60Km/h	
INTERSECTION SIGHT DISTANCE	LEFT TURN (m)	RIGHT TURN (m)
DESIRED ISD	130	110
AVAILABLE ISD	>130	>110
DESIRED ISD SATISFIED	YES	YES

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Project No. 21173

Date DEC. 11, 2020

LEGEND

- SIGHT LINE
- INTERSECTION SIGHT DISTANCE
- PROPERTY LINE

ELIA LAND
MISSISSAUGA ONTARIO

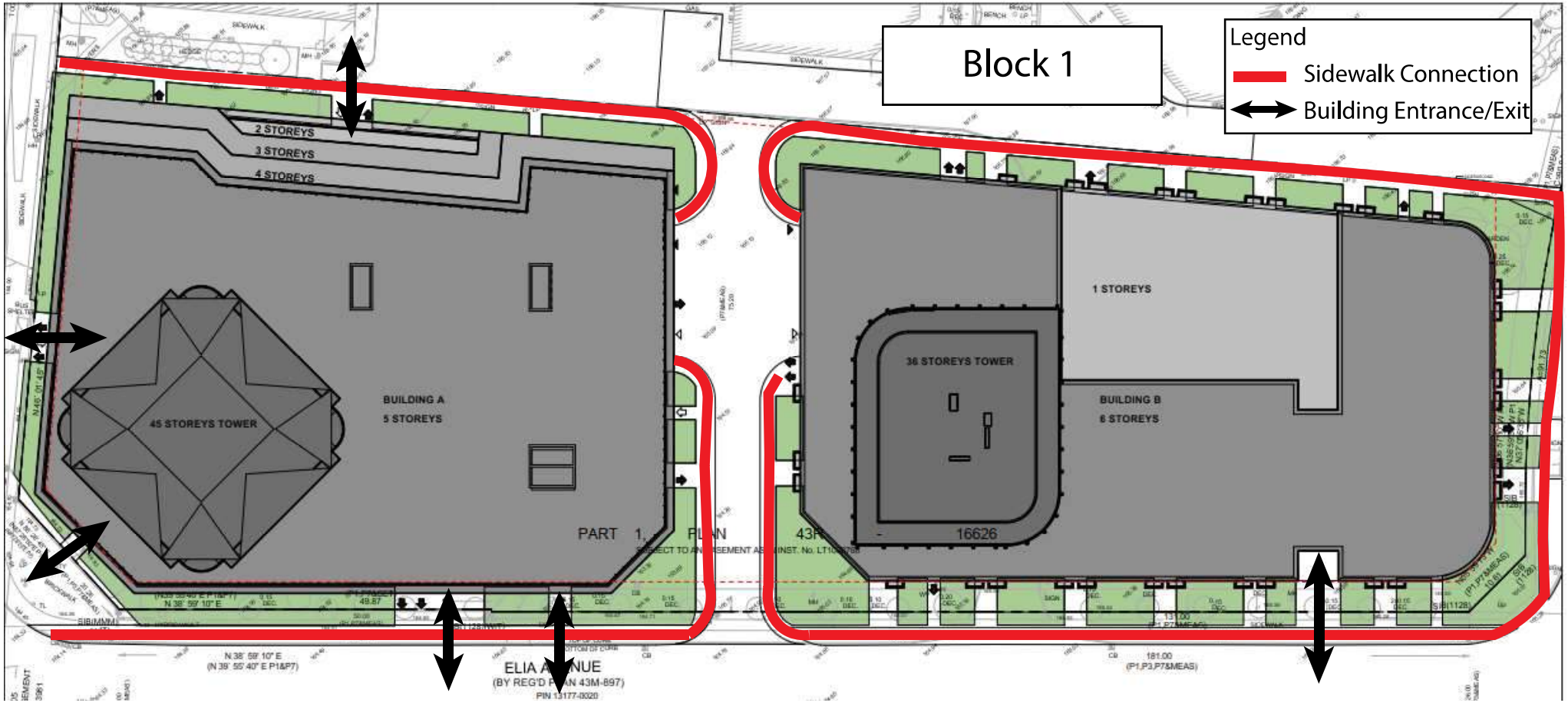
7 0 7 14 21m
1:700

ELIA AVENUE
BLOCK 5 - 110 ELIA AVE
SIGHT LINE ANALYSIS
INTERSECTION SIGHT DISTANCE

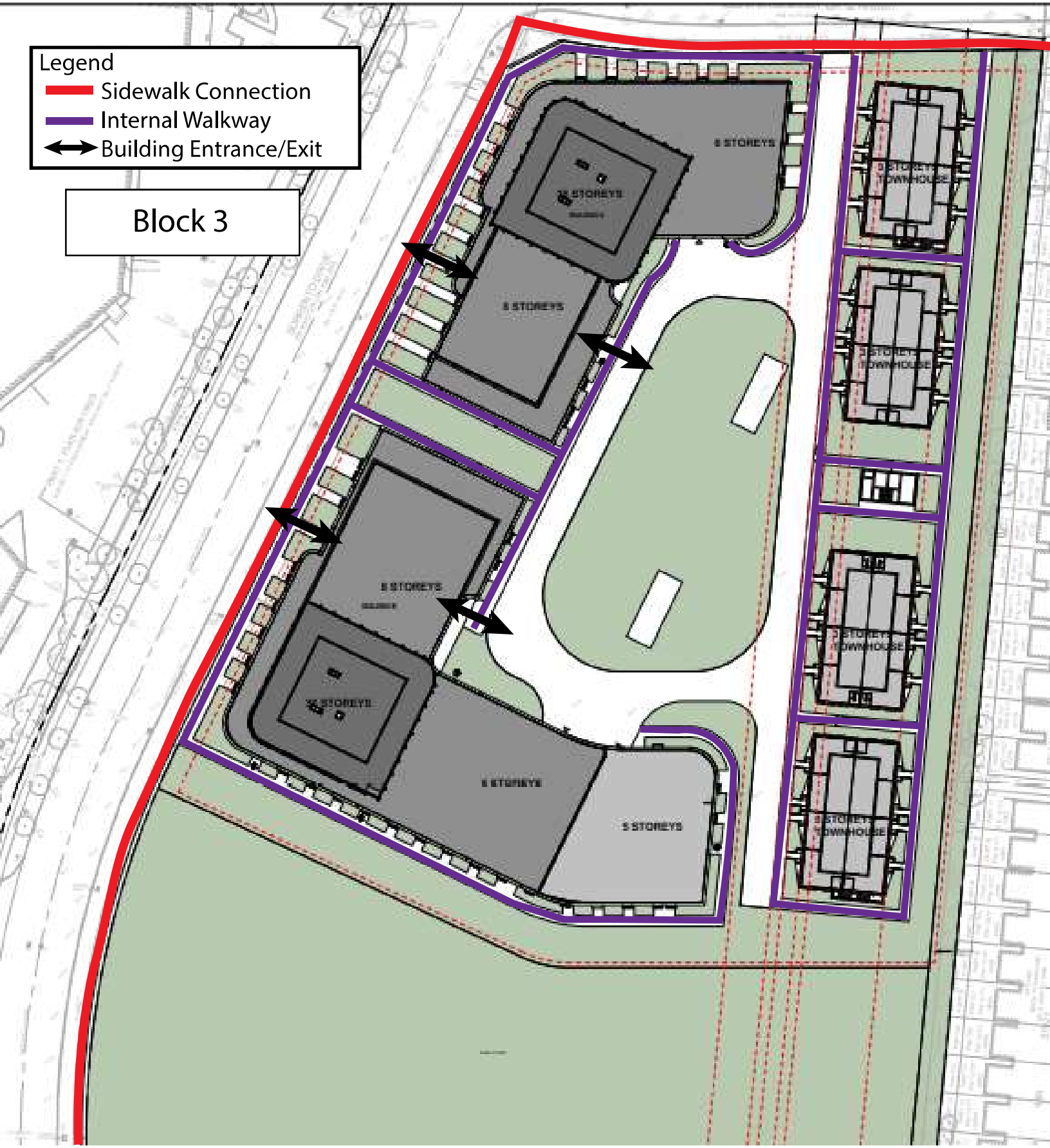
Drawing No. 005B

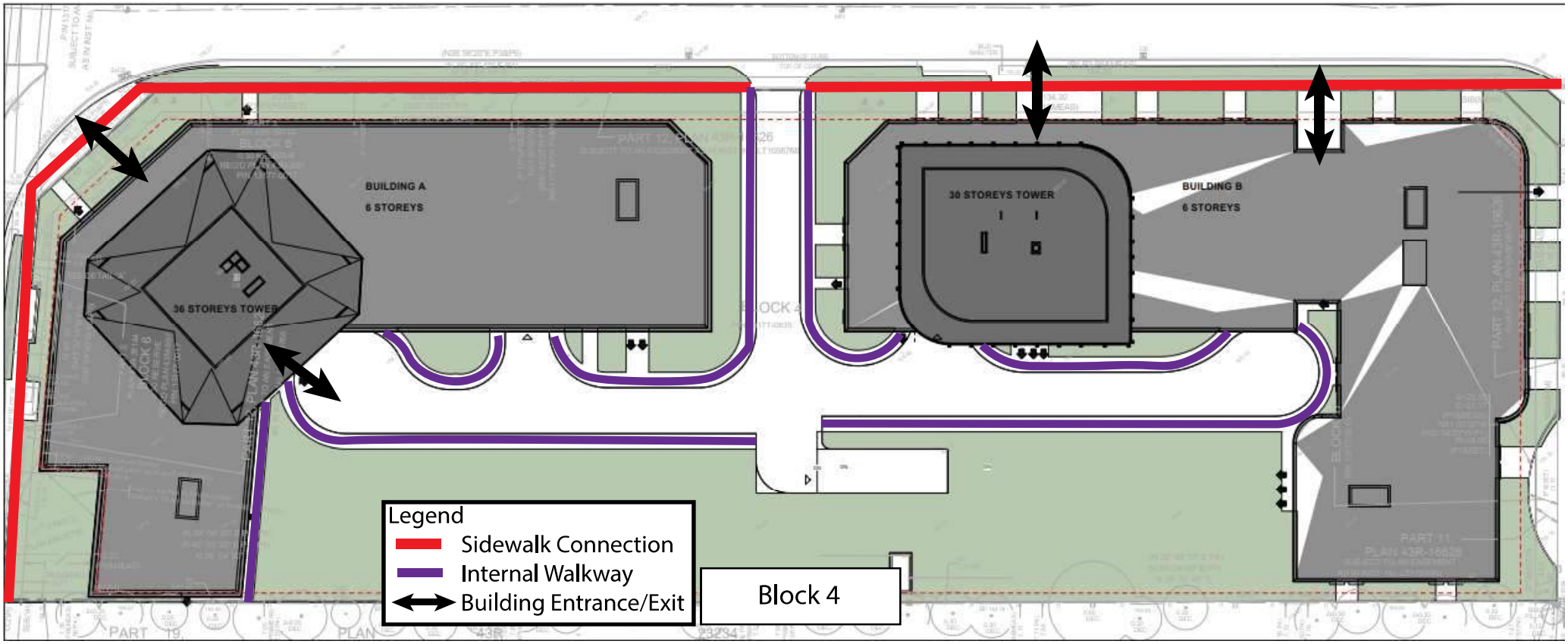
DRAWING NAME: C:\Users\DLim\AppData\Local\Temp\A

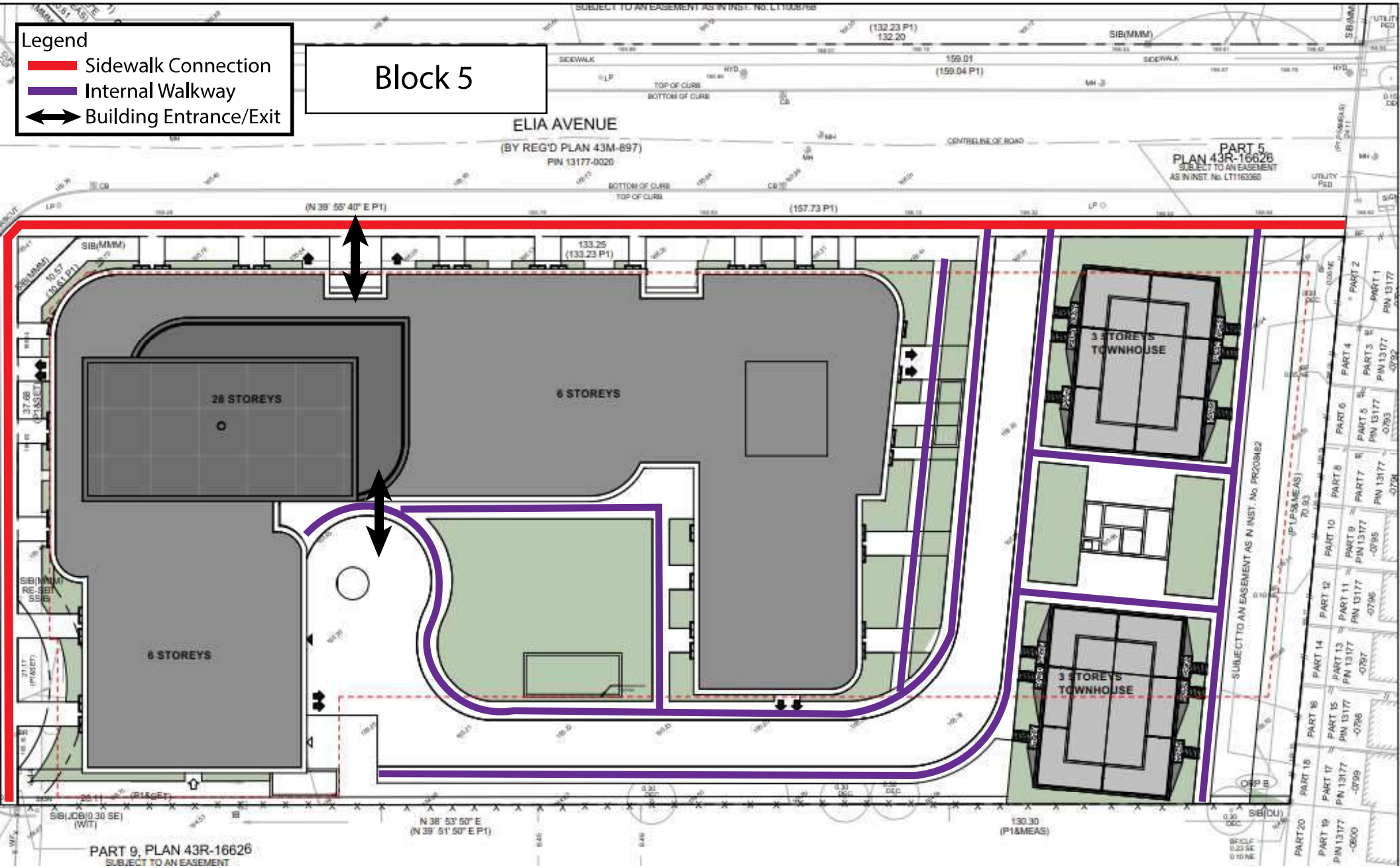
Pedestrian Circulation Plan


Block 1
Legend
Sidewalk Connection
Building Entrance/Exit
2 STOREYS
3 STOREYS
4 STOREYS
45 STOREYS TOWER
BUILDING A
5 STOREYS
1 STOREYS
36 STOREYS TOWER
BUILDING B
6 STOREYS
PART 1
16626
ELIA AVENUE
(BY REG'D PLAN 43M-897)
PIN 13177-0020
N 38° 59' 10" E
(N 39° 55' 40" E P1&P7)
181.00
(P1,P3,P7&MEAS)

Legend
Sidewalk Connection
Internal Walkway
Building Entrance/Exit
Block 2
8 STOREYS
4 STOREYS
42 STOREYS
8 STOREYS
3 STOREYS TOWNHOUSE
8 STOREYS
36 STOREYS
6 STOREYS
3 STOREYS TOWNHOUSE


Legend
Sidewalk Connection
Internal Walkway
Building Entrance/Exit
Block 3
6 STOREYS
6 STOREYS
6 STOREYS
6 STOREYS
6 STOREYS
6 STOREYS
6 STOREYS
6 STOREYS
3 STOREY TOWNHOUSE
3 STOREY TOWNHOUSE
3 STOREY TOWNHOUSE
3 STOREY TOWNHOUSE


BUILDING A
6 STOREYS
36 STOREYS TOWER
30 STOREYS TOWER
BUILDING B
6 STOREYS
Legend
Sidewalk Connection
Internal Walkway
Building Entrance/Exit
Block 4


Legend
Sidewalk Connection
Internal Walkway
Building Entrance/Exit
Block 5
ELIA AVENUE
(BY REG'D PLAN 43M-897)
PIN 13177-0020
PART 5
PLAN 43R-16626
28 STOREYS
6 STOREYS
6 STOREYS
3 STOREYS TOWNHOUSE
3 STOREYS TOWNHOUSE
PART 9, PLAN 43R-16626
SUBJECT TO AN EASEMENT