EMTC HOLDINGS INC.

5100 ERIN MILLS PARKWAY
ERIN MILLS TOWN CENTRE BLOCK 1
TRANSPORTATION IMPACT STUDY

OCTOBER 10, 2024

October 10, 2024

Barry Stern
Vice President - Development
50 Confederation Parkway
Concord, ON L4K 4T8

Dear Mr. Stern,

Subject: 5100 Erin Mills Parkway – Transportation Impact Study

WSP Canada Inc. (WSP) is pleased to present the findings of our Transportation Impact Study (TIS) for the proposed development of Erin Mills Town Centre Block 1, located at 5100 Erin Mills Parkway in the City of Mississauga.

Based on the enclosed study findings, the surrounding road network can adequately accommodate the proposed development during both the interim and ultimate buildout conditions. The proposed vehicular parking, loading and site layout arrangements can adequately serve the needs of the subject development.

We thank you for the opportunity to undertake this study. Please do not hesitate to contact us if you have any questions or comments.

Sincerely,

Peter Yu, P. Eng., PMP
Senior Project Manager
Transportation Planning and Science

WSP ref.: CA0018156.9516

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1 INTRODUCTION

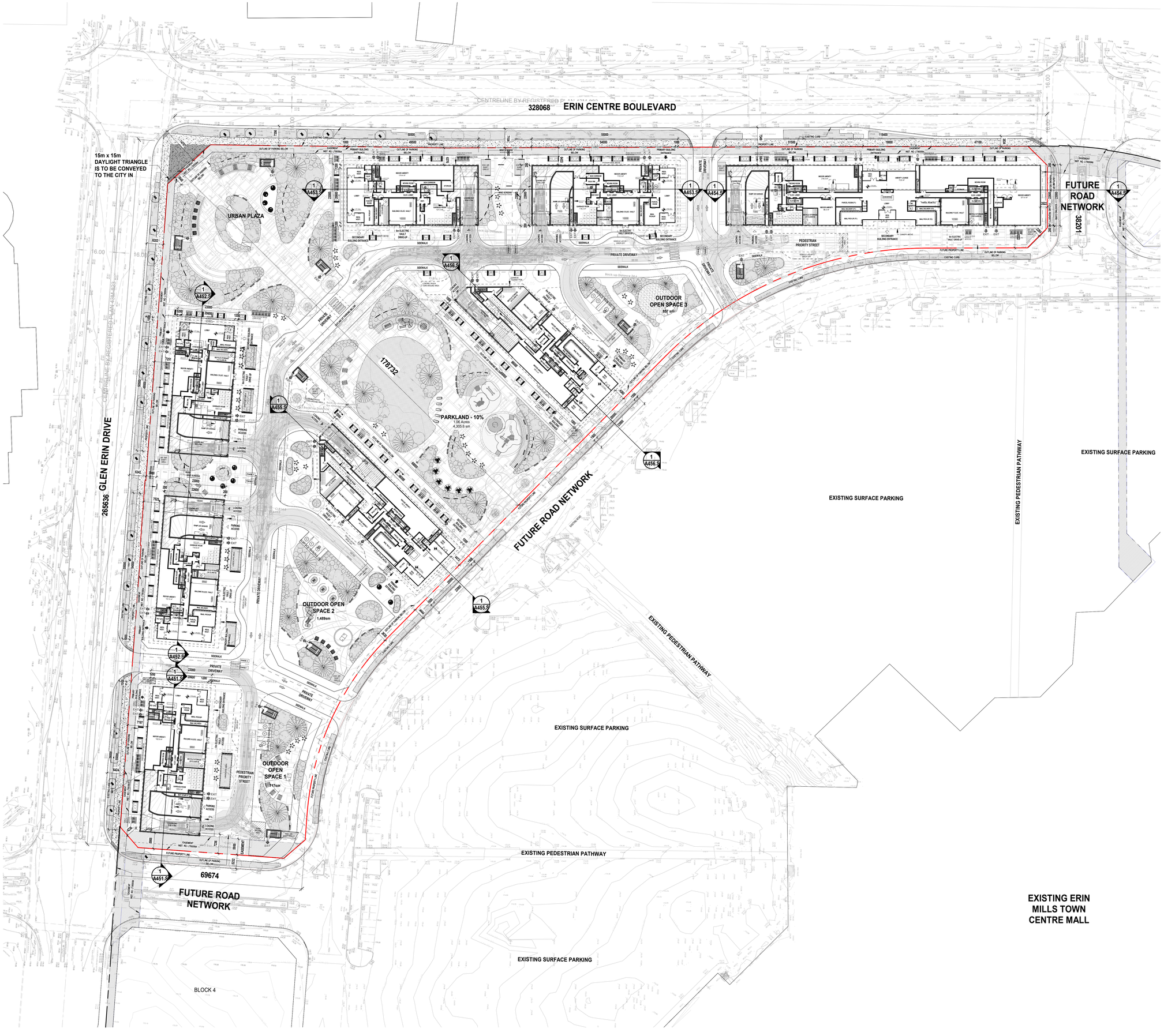
WSP was retained by EMTC Holdings Inc. to prepare a Transportation Impact Study (TIS) for the proposed residential development of Erin Mills Town Centre Block 1, located at 5100 Erin Mills Parkway in the City of Mississauga.

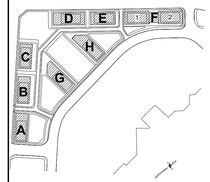
The site is currently occupied by two single-story commercial buildings and surface parking. The site location context is shown in **Figure 1-1** and the preliminary concept plan is shown in **Figure 1-2**.

The proposed development consists of 9 residential high-rise buildings featuring a total of 3,162 residential condo units. The existing commercial uses on site will be demolished once the development is fully built.

A terms of reference for the TIS was established with the City of Mississauga and Peel Region transportation staff as documented in **Appendix A**. In addition, as per the City's TIS requirements, a **certification form** has been filled out by the author of this study and provided in Appendix A.

Figure 1-1: Site Location





CONTEXT PLAN LEGEND

- ERIN MILLS TOWN CENTRE PROPERTY LINE
- PROPERTY LINE DEVELOPMENT LANDS (BLOCK 1)
- BUILDING ENVELOPE
- EASEMENT
- GREEN ROOF
- LANDSCAPED PAVING

Date	No.	Description

REVISION RECORD

Date	Rezoning Application

ISSUE RECORD

BDP. Quadrangle

Quadrangle Architects Limited
The Well, 8 Spadina Avenue, Suite 2100, Toronto, ON M5V 0S8
t 416 598 1240 www.bdpquadrangle.com

5100 - Erin Mills Town Centre

Mississauga, ON

for
Pemberton Group

23032	1 : 500	AT	MF
PROJECT	SCALE	DRAWN	REVIEWED

Ground Floor Plans - Overall

Figure 1-2

2024-09-27 4:37:29 PM

2 EXISTING CONDITIONS

2.1 BOUNDARY ROADWAYS

The following roadways make up the boundary road network that surrounds the subject site:

Erin Mills Parkway is a regional arterial road along the east of the site with a six-lane cross-section, generally along the north-south direction. It has a posted speed limit of 70 km/h. There is a multi-use path with bicycle crossings along the west side of the street and pedestrian sidewalks along the east side.

Glen Erin Drive is a north-south four-lane major collector adjacent the west border of site. It has a posted speed limit of 50 km/h and pedestrian sidewalks on both sides of the street.

Winston Churchill Boulevard is an arterial road in the north-south direction with a posted speed limit of 60 km/h. It has a six-lane cross-section with a multi-use path and pedestrian sidewalks.

Eglinton Avenue West is an east-west arterial road with a posted speed limit of 60 km/h and a six-lane cross-section. It has sidewalks on both sides with partial sections of multi-use paths near the site.

Erin Centre Boulevard is a four-lane major collector road in the east-west direction. It generally has a posted speed limit of 50 km/h with partial sections of 40 km/h near schools when amber lights are flashing. There are bicycle lanes in both directions.

Credit Valley Road is a minor collector road located south of the site. It has a posted speed limit of 40 km/h and bicycle lanes.

Hazelton Place is a four-lane local road opposite the west access to Erin Mills Town Centre.

Based on the magnitude of the development and the terms of reference, the following intersections are evaluated:

- Erin Centre Boulevard and Glen Erin Drive (signalized);
- Erin Centre Boulevard and Erin Mills Parkway (signalized);
- Erin Centre Boulevard and Winston Churchill Boulevard (signalized);
- Eglinton Avenue and Glen Erin Drive (signalized);
- Eglinton Avenue and Erin Mills Parkway (signalized);
- Eglinton Avenue and Winston Churchill Boulevard (signalized);

- Credit Valley Road and Erin Mills Parkway (signalized);
- Erin Mills Parkway and Highway 403 eastbound off-ramp (signalized);
- Erin Mills Parkway and Highway 403 westbound off-ramp/GO Station Driveway (signalized); and
- Signalized accesses to Erin Mills Town Centre; and
- Unsignalized site access driveways.

The existing lane configurations of the study intersections are illustrated in **Figures 2-1 and 2-2**.

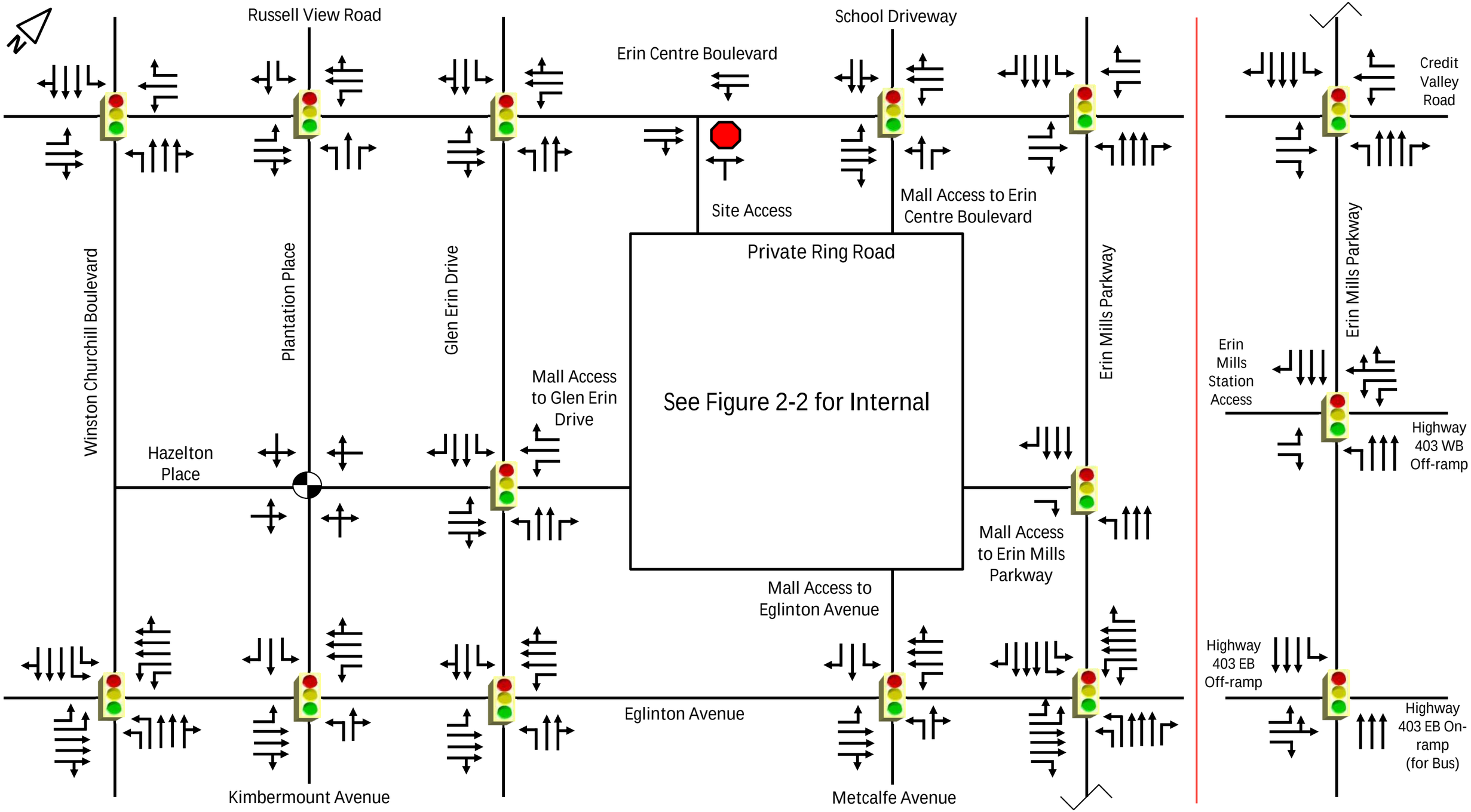
2.2 TRAFFIC DATA

New traffic data was collected at the study area intersections. The weekday counts were surveyed on Thursday, March 21, 2024 and Saturday counts on March 23 and April 6, 2024. The traffic data sources used for analysis are summarized in **Table 2-1**. The extracted peak hour volumes are shown in **Figures 2-3 to 2-6**. An additional aerial image-based context figure of the various site access points where traffic data was collected is shown in **Figure 2-7**.

Table 2-1: Traffic Data

Intersection	Weekday Count	Saturday Count	Source
Erin Centre Boulevard and Winston Churchill Boulevard	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Erin Centre Boulevard and Plantation Place / Russell View Road	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Erin Centre Boulevard and Glen Erin Drive	Thurs, March 21, 2024	Sat, April 6, 2024	Horizon Data Services
Erin Centre Boulevard and North Mall Access	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Erin Centre Boulevard and Erin Mills Parkway	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Hazelton Place and Plantation Place	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Glen Drin Drive and Hazelton Place / West Mall Access	Thurs, March 21, 2024	Sat, April 6, 2024	Horizon Data Services
Erin Mills Parkway and East Mall Access	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Eglinton Avenue and Winston Churchill Boulevard	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Eglinton Avenue and Plantation Place / Kimbermount Avenue	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Eglinton Avenue and Glen Erin Drive	Thurs, March 21, 2024	Sat, April 6, 2024	Horizon Data Services

Intersection	Weekday Count	Saturday Count	Source
Eglinton Avenue and South Mall Access	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Eglinton Avenue and Erin Mills Parkway	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Credit Valley Road and Erin Mills Parkway	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Erin Mills Parkway and Highway 403 WB off-ramp / GO Station Driveway	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Erin Mills Parkway and Highway 403 EB off-ramp	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Ring Road and North Mall Access to Erin Centre Boulevard	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Ring Road and West Mall Access to Glen Erin Drive	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Ring Road and West Site Driveway	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Ring Road and Centre Site Driveway	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services
Ring Road and East Site Driveway	Thurs, March 21, 2024	Sat, March 23, 2024	Horizon Data Services

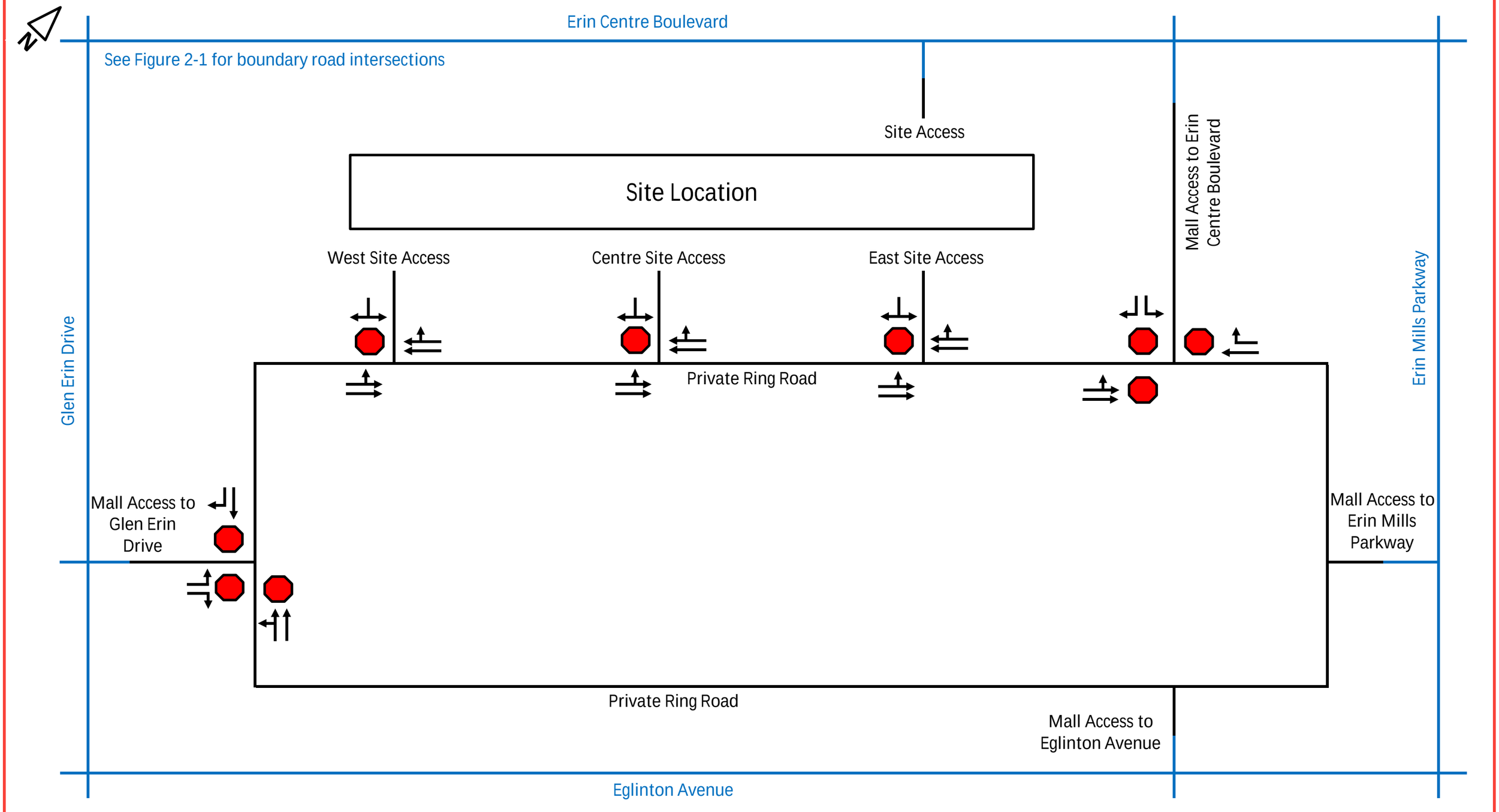


Legend

Signalized | Stop Control | Roundabout

Figure 2-1

Existing Lane Configurations - External



Legend

Signalized

Stop Control

Roundabout

Figure 2-2

Existing Lane Configurations - Internal

N

Russell View Road

School Driveway

Erin Centre Boulevard

Credit Valley Road

Winston Churchill Boulevard

Plantation Place

Glen Erin Drive

Mall Access to Glen Erin Drive

Private Ring Road

See Figure 2-4 for Internal

Mall Access to Erin Centre Boulevard

Erin Mills Parkway

Erin Mills Station Access

Hazelton Place

Mall Access to Eglinton Avenue

Mall Access to Erin Mills Parkway

Highway 403 WB Off-ramp

Highway 403 EB Off-ramp

Highway 403 EB On-ramp (for Bus)

Eglinton Avenue

Kimbermount Avenue

Metcalfe Avenue

Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 2-3

Existing Traffic Volumes - Weekday External

Erin Centre Boulevard

See Figure 2-3 for boundary road intersections

Site Location

West Site Access

Centre Site Access

East Site Access

Mall Access to Erin Centre Boulevard

Glen Erin Drive

Erin Mills Parkway

Private Ring Road

Mall Access to Glen Erin Drive

Mall Access to Erin Mills Parkway

Private Ring Road

Mall Access to Eglinton Avenue

Eglinton Avenue

Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 2-4

Existing Traffic Volumes - Weekday Internal

Russell View Road

School Driveway

Erin Centre Boulevard

Winston Churchill Boulevard

Plantation Place

Glen Erin Drive

Mall Access to Erin Centre Boulevard

Private Ring Road

Erin Mills Parkway

See Figure 2-6 for Internal

Mall Access to Glen Erin Drive

Hazelton Place

Mall Access to Erin Mills Parkway

Mall Access to Eglinton Avenue

Eglinton Avenue

Kimbermount Avenue

Metcalfe Avenue

Credit Valley Road

Erin Mills Station Access

Highway 403 WB Off-ramp

Highway 403 EB Off-ramp

Highway 403 EB On-ramp (for Bus)

Legend

xx Saturday Peak Hour Traffic Volumes

Figure 2-5

Existing Traffic Volumes Saturday Extern

Erin Centre Boulevard

See Figure 2-5 for boundary road intersections

Site Location

West Site Access

Centre Site Access

East Site Access

Mall Access to Erin Centre Boulevard

Glen Erin Drive

Erin Mills Parkway

124 30 2 182

89 229

50 55 43 134

70 189

22 22 46 155

46 198

124 137 178 59

165 97

Private Ring Road

Mall Access to Glen Erin Drive

199 107

229 176 89

290

Mall Access to Erin Mills Parkway

Private Ring Road

Mall Access to Eglinton Avenue

Eglinton Avenue

wsp

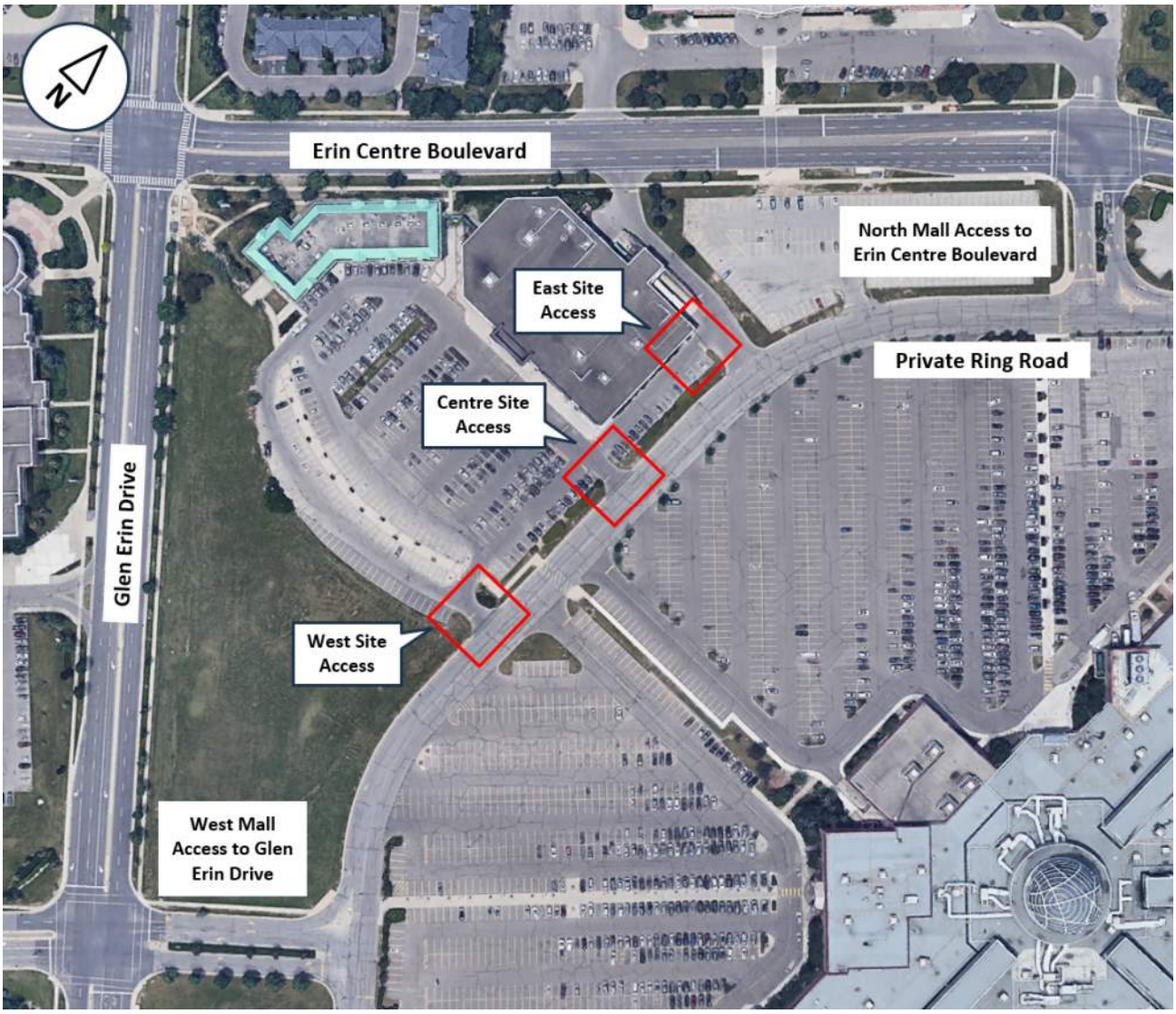
Legend

xx Saturday Peak Hour Traffic Volumes

Figure 2-6

Existing Traffic Volumes Saturday Intern

Figure 2-7: Context Map of Site Access Driveways



2.3 EXISTING TRANSIT SERVICES

The subject site is located within an urban town centre context with excellent transit services along nearby corridors. MiWay operates the following routes within 400 m of the site:

Route 9 Rathburn-Thomas connects Square One Transit Terminal in the east to the Churchill Meadows near the west municipal boundary. It has an approximately 25-minute headway.

Route 13 Glen Erin is a north-south route along Glen Erin Drive. It extends nearly the entire city from Meadowvale Town Centre to the Clarkson GO Station. It has a headway of 15-20 minutes.

Route 35 Eglinton operates along Eglinton Avenue in the east-direction. It starts from the west municipal boundary at Churchill Meadows and continues east to Renforth Station and then turning south to Kipling GO Station. It operates frequently during weekdays with a 10-minute headway.

Route 46 Tenth Line-Osprey is also a north-south route that connects Meadowvale Town Centre in the north with the Erin Mills GO Station in the south. It has a 40-minute headway.

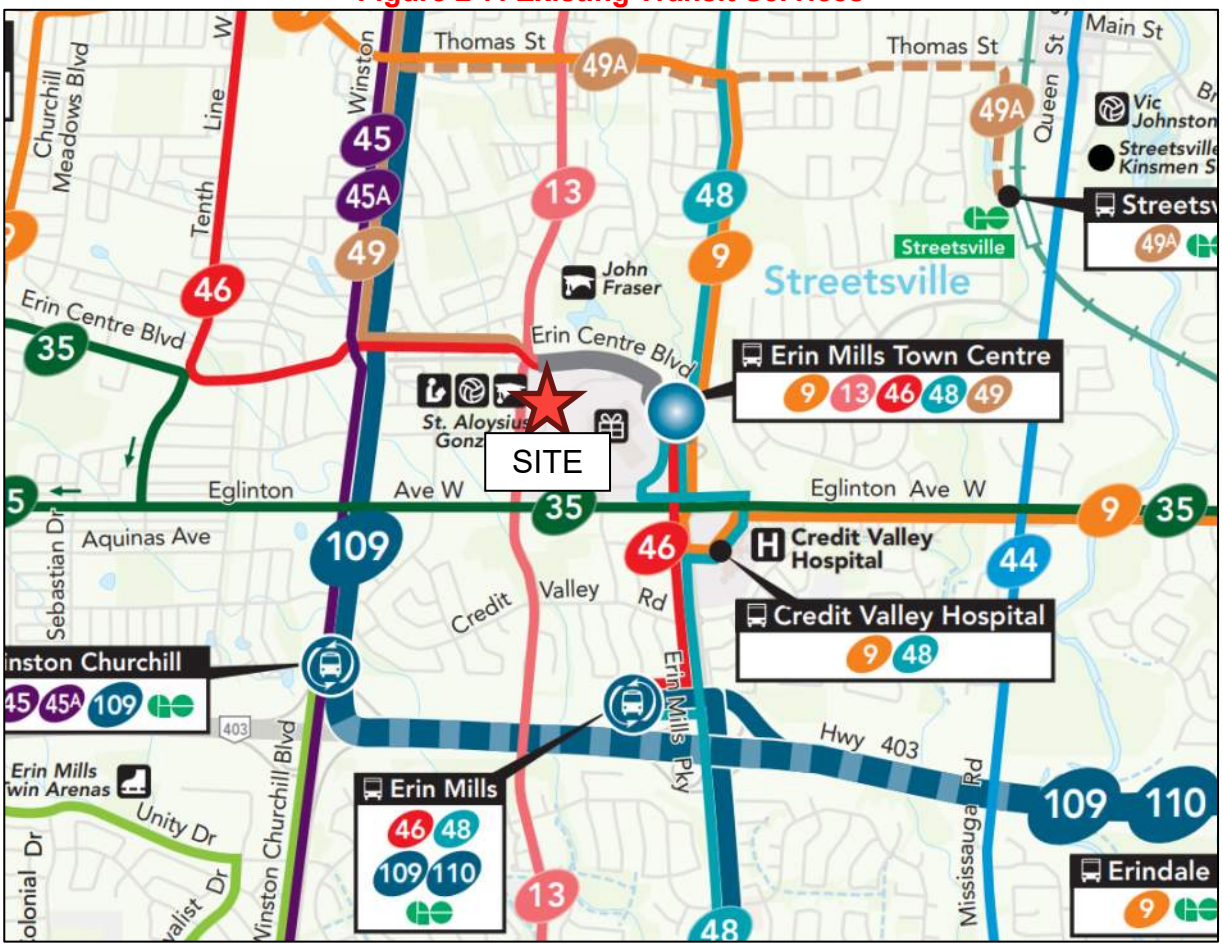
Route 48 Erin Mills travels along Erin Mills Parkway between the Meadowvale Town Centre and South Common Centre. It has an approximately 50-minute headway.

Route 49 McDowell primarily services the residential neighbourhoods to the west and terminates at the Erin Mills Town Centre station. It only operates during weekdays with 60-minute headways.

Moreover, the subject site is within 1.9 km from the Erin Mills Station, which is part of the 18 kilometre Mississauga Transitway. Mississauga Transitway is a dedicated bus corridor which has 12 stations running from east to west across the City. It begins from Winston Churchill Boulevard and ends at Renforth Drive. For context, this station is within a 25 minute walk, 7 minute bike ride or 8 minute local bus ride away from the site.

Based on the above context, the subject site is currently very well served by transit services that can access different parts of the City. The above transit services near the site are shown in **Figure 2-7**.

Figure 2-7: Existing Transit Services



Source: MiWay Weekday System Map (February 2024)

2.4 EXISTING CONDITIONS

METHODOLOGY

To analyze existing traffic conditions in the study area, capacity analyses were undertaken using the Synchro 11 traffic analysis software. This software incorporates the methodology outlined in the Highway Capacity Manual (HCM) 2000.

An intersection capacity analysis provides an indication of traffic operations based on calculations of volume-to-capacity (v/c) and delays for individual movements at an intersection. Level of Service (LOS) denoted by letters ‘A’ through ‘D’, represent satisfactory traffic operations. LOS denoted by the letters ‘E’ and ‘F’ represent congested traffic operations.

The Synchro parameters were set according to the Peel Region Synchro guidelines and City of Mississauga’s *Transportation Impact Study Guidelines (December 2022) Appendix D – Typical Synchro Analysis Parameters*, as summarized in **Table 2-2**.

Table 2-2: Synchro Parameters

Parameter	Value
Saturation flow rate	1,900 vphpl
Lane width	Regional: 3.7m for through lanes and 3.5m for turning lanes City: Unspecified (Synchro default – 3.6m)
Peak hour factor	Regional: 1.00 and City: 0.92
Total Lost Time	Region Intersections: No Adjustment Applied City Intersections: Advanced Green: 1.0 second Back-to-Back Lefts: 1.0 second Main Phase: 5.0 seconds

In addition to the typical parameters, an additional -1 second lost time adjustment was applied to the eastbound left-turn movement at Eglinton Avenue & Winston Churchill Boulevard during the p.m. peak hour. This was used to calibrate the movement for real-world driver behavior and traffic conditions from surveyed traffic counts. The v/c ratio decreased from 1.07 (which is theoretically impossible) to 0.97. Similarly, a lost time adjustment of -2 seconds was applied for the westbound left-turn at Erin Mills Parkway & Credit Valley Road, to calibrate the v/c ratio from 1.10 to 0.98. All Synchro assessment maintains these parameters to allow “Apples to Apples” comparisons.

EXISTING TRAFFIC OPERATIONS

The peak hour traffic volumes from Figures 2-3 to 2-6 were used for analysis. The resulting intersection operations are shown in **Table 2-3**. The detailed Synchro worksheets are provided in **Appendix C**.

Table 2-3: Existing Intersection Operations

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Mid-day Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)
Signalized						
Erin Centre Boulevard & Winston Churchill Blvd	D (36)	--	C (23)	--	C (27)	--
Erin Centre Blvd & Plantation Place / Russell View Road	B (14)	--	B (10)	--	A (8)	--
Erin Centre Boulevard & Glen Erin Drive	B (18)	--	B (17)	--	B (11)	--
Erin Centre Boulevard & North Mall Access	A (8)	--	A (10)	--	B (11)	--
Erin Centre Boulevard & Erin Mills Parkway	C (23)	--	C (24)	--	C (26)	--
Glen Drin Drive & Hazelton Place / West Mall Access	B (13)	--	B (15)	--	B (13)	--
Erin Mills Parkway & East Mall Access	A (4)	--	A (4)	--	A (5)	--
Eglinton Avenue & Winston Churchill Blvd	D (50)	--	E (62)	EB-L (0.97) NB-L (0.97)	D (53)	--

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Mid-day Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)
Eglinton Avenue & Plantation Place / Kimbermount Avenue	B (11)	--	B (15)	--	B (14)	--
Eglinton Avenue & Glen Erin Drive	C (29)	--	C (27)	--	C (30)	--
Eglinton Avenue & South Mall Access / Metcalfe Avenue	B (13)	--	B (12)	--	B (20)	--
Eglinton Avenue & Erin Mills Parkway	D (54)	--	D (53)	--	D (47)	--
Credit Valley Road & Erin Mills Parkway	C (20)	--	C (22)	WB-L (0.98)	B (19)	--
Erin Mills Parkway & Highway 403 WB off-ramp / GO Station Driveway	D (37)	WB-L (0.92)	D (39)	WB-L (0.98)	C (29)	--
Erin Mills Parkway & Highway 403 EB off-ramp	B (14)	--	B (12)	--	A (11)	--
Unsignalized						
Hazelton Place & Plantation Place	A (7)	--	A (7)	--	A (7)	--
Ring Road & North Mall Access	A (8)	EB-LT (0.21)	A (8)	WB-R (0.26)	A (10)	EB-LT (0.36)
Ring Road & West Mall Access	A (9)	EB-L (0.29)	B (11)	NB-LT (0.44)	B (12)	EB-L (0.46)
Ring Road & Site West Driveway	A (10)	SB-LR (0.01)	A (10)	SB-LR (0.06)	B (11)	SB-LR (0.07)
Ring Road & Site Centre Driveway	B (10)	SB-LR (0.03)	B (10)	SB-LR (0.11)	B (11)	SB-LR (0.17)
Ring Road & Site East Driveway	A (9)	SB-LR (0.03)	B (10)	SB-LR (0.16)	B (11)	SB-LR (0.22)

1 *For signalized intersections, the level of service is based on the overall delay of the intersection. For stop controlled intersections, the LOS is based on the delay associated with the critical movement.*

2 *At regional intersections, critical v/c ratios are only listed for movements with values over 0.90. At city intersections, critical v/c ratios are only listed for movements with values over 0.85.*

The results in Table 2-3 shows the study intersections are operating at an acceptable LOS ‘D’ or better under the weekday a.m. and Saturday mid-day peak hours. The busiest period is during the weekday p.m. peak hour, where the Eglinton Avenue at Winston Churchill Boulevard intersection is operating at LOS ‘E’. In addition, some of the left-turn movements are operating very close to capacity with v/c ratios ranging from 0.97 to 0.99. Based on our review, these critical movements can be improved with optimizations to the signal timing splits, as discussed in the future background conditions. The unsignalized intersections are all operating well at LOS ‘B’ or better.

3 FUTURE BACKGROUND CONDITIONS

3.1 HORIZON YEARS

For the purposes of traffic assessment, we have identified the 2032 major interim phase representing 50% buildout and ultimate buildout in 2040. Through the detailed analysis completed (Section 5), it was identified that both the 50% buildout and 100% buildout scenarios do not trigger any geometric improvements to the study network. Therefore, while the subject site may be subdivided into a few more interim phases (dependant of market and sales), the overall conclusions of the 50% and 100% buildout evaluations are applicable to any of the minor phases in between.

3.2 CORRIDOR GROWTH

The general growth rates for a.m. peak and p.m. peak along the surrounding roadways were provided by the City of Mississauga and Peel Region staff as part of the TOR correspondence. For the Saturday, the higher growth rate of the a.m. and p.m. rates were adopted, which is conservative. The corridor growth rates for each direction are summarized in **Table 3-1**.

Table 3-1: Corridor Growth Rates

Corridor	Direction	Annual Growth Rate		
		AM Peak	PM Peak	SAT Peak
Applied to the period between 2024 to 2029				
Erin Mills Parkway (Region)	Both	0.5%	0.5%	0.5%
Eglinton Avenue	Eastbound	0.5%	1.5%	1.5%
	Westbound	2.0%	0.5%	2.0%
Glen Erin Drive	Northbound	2.0%	0.5%	2.0%
	Southbound	1.5%	1.0%	1.5%
Winston Churchill Boulevard	Northbound	1.0%	0.5%	1.0%
	Southbound	0.5%	0.5%	0.5%
Erin Centre Boulevard	Eastbound	0.5%	0.5%	0.5%
	Westbound	1.0%	0.5%	1.0%

Corridor	Direction	Annual Growth Rate		
		AM Peak	PM Peak	SAT Peak
Applied to the period between 2030 to 2040				
Erin Mills Parkway (Region)	Both	0.5%	0.5%	0.5%
Eglinton Avenue	Eastbound	0.5%	2.0%	2.0%
	Westbound	1.5%	0.5%	1.5%
Glen Erin Drive	Northbound	0.5%	0.5%	0.5%
	Southbound	0.5%	0.5%	0.5%
Winston Churchill Boulevard	Northbound	2.0%	2.0%	2.0%
	Southbound	1.5%	2.0%	2.0%
Erin Centre Boulevard	Eastbound	0.5%	2.0%	2.0%
	Westbound	2.0%	1.0%	2.0%

The corridor growth volumes were calculated by applying the two sets of growth rates noted in Table 3-1 based on the horizon years and the resulting volumes are illustrated in **Figures 3-1 to 3-4**. For example, for the horizon year 2032, the first set of growth rates (2024-2029) were applied up to 2029, followed by the application of the second set of growth rates (2030-2040) up to 2032.

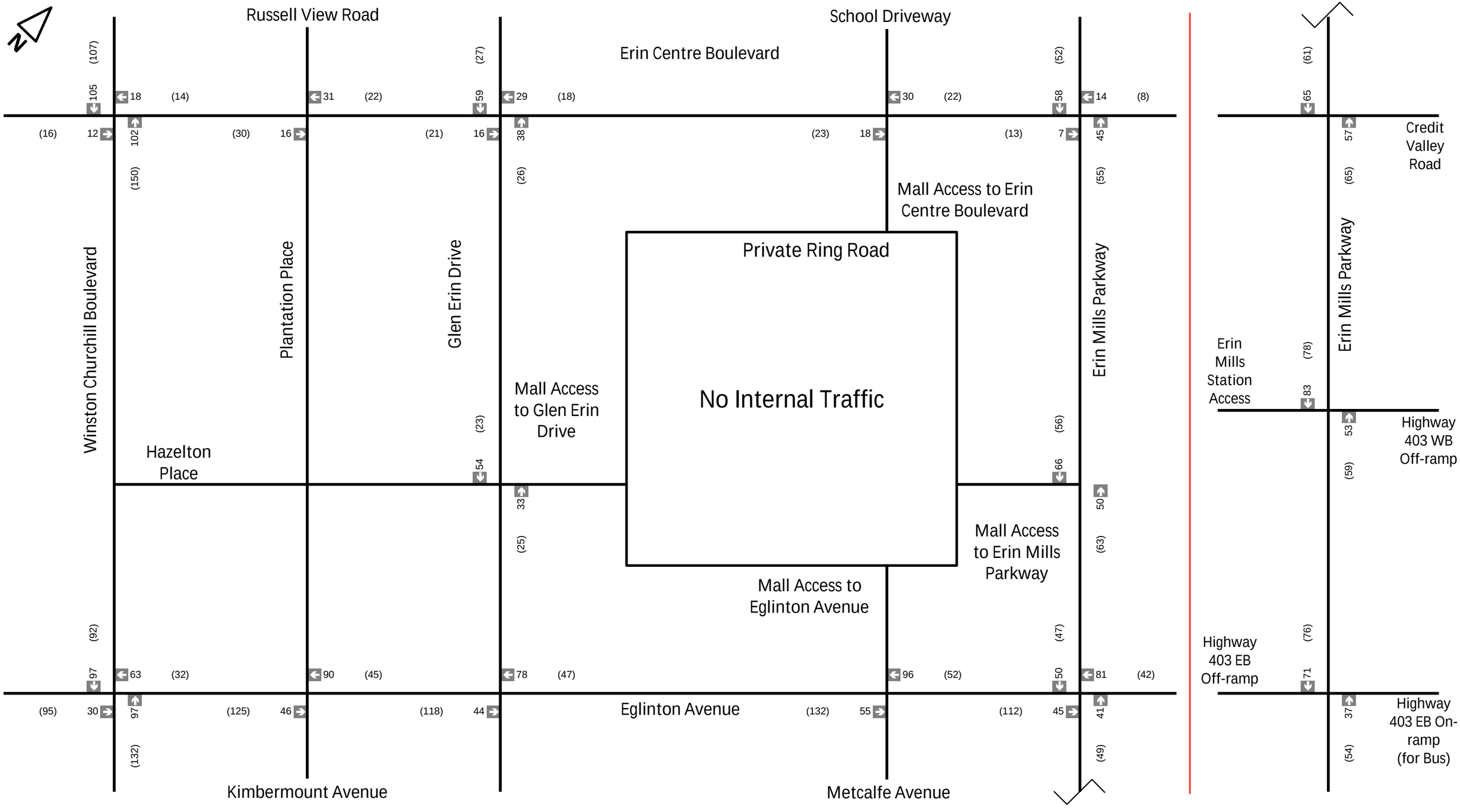
3.3 BACKGROUND DEVELOPMENTS

The surrounding background development information was obtained from the City of Mississauga *City Planning Data Hub*, which identified one nearby development shown in **Table 3-2**.

Table 3-2: Nearby Background Development

Background Development	Statistics	Source
2475 Eglinton Avenue	351 residential units	Generated by WSP

The auto trips associated with the background development were generated and distributed to the surrounding road network, as shown in **Figures 3-5 to 3-6**.



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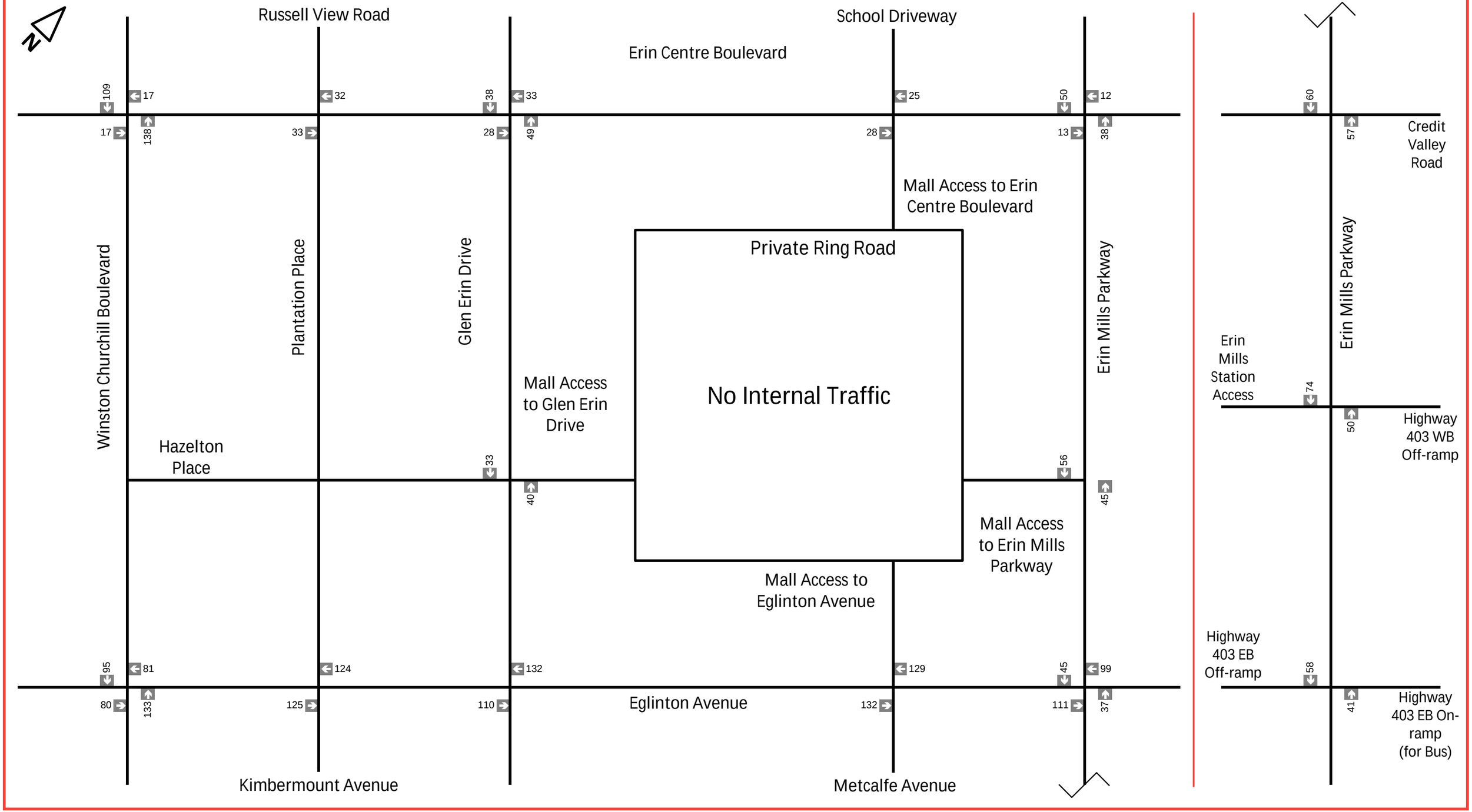
xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 3-1

2032 Corridor Growth Traffic Volumes - Weekday



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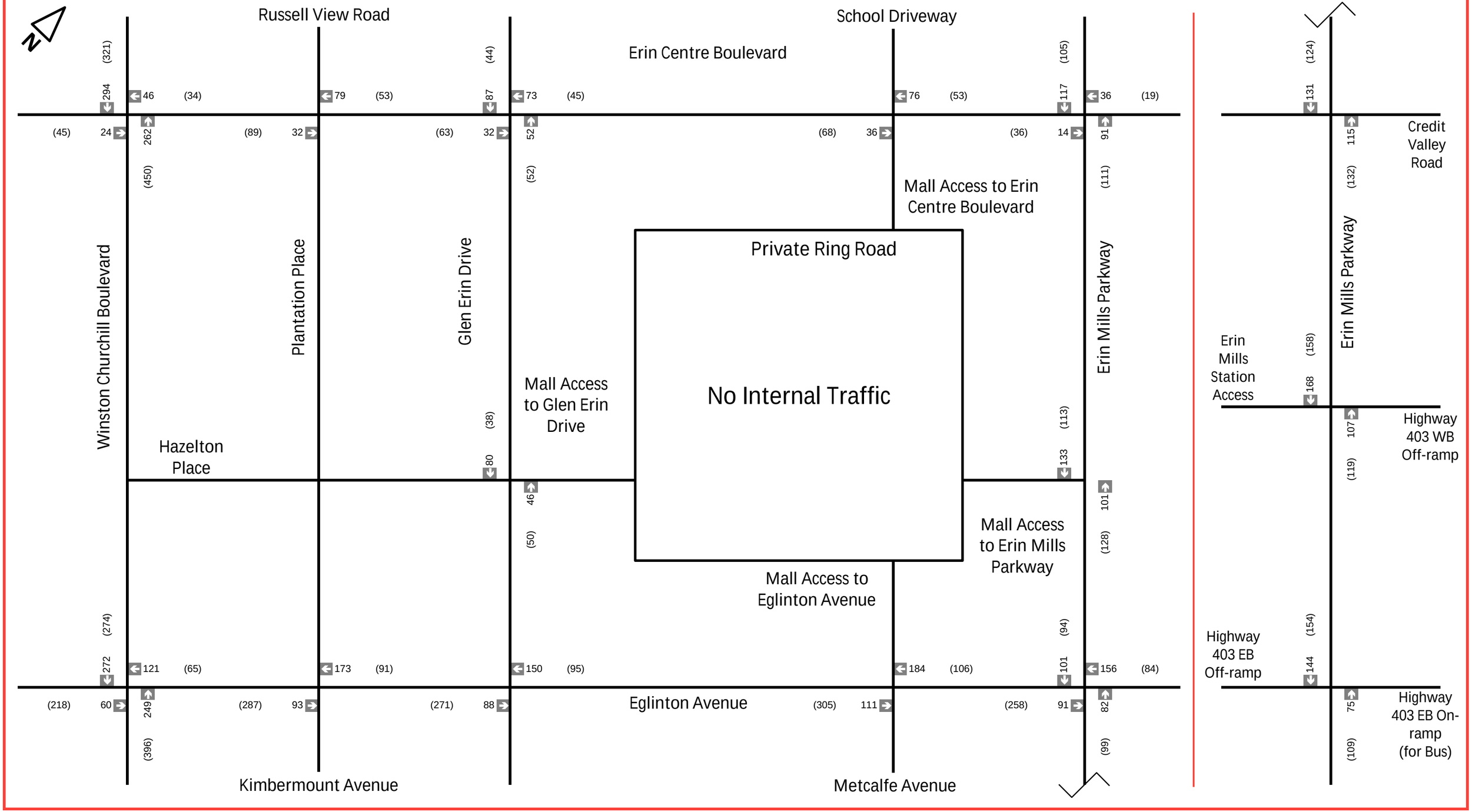
xx Saturday Peak Hour Traffic Volumes

Figure 3-2

2032 Corridor Growth Traffic Volumes - Saturday



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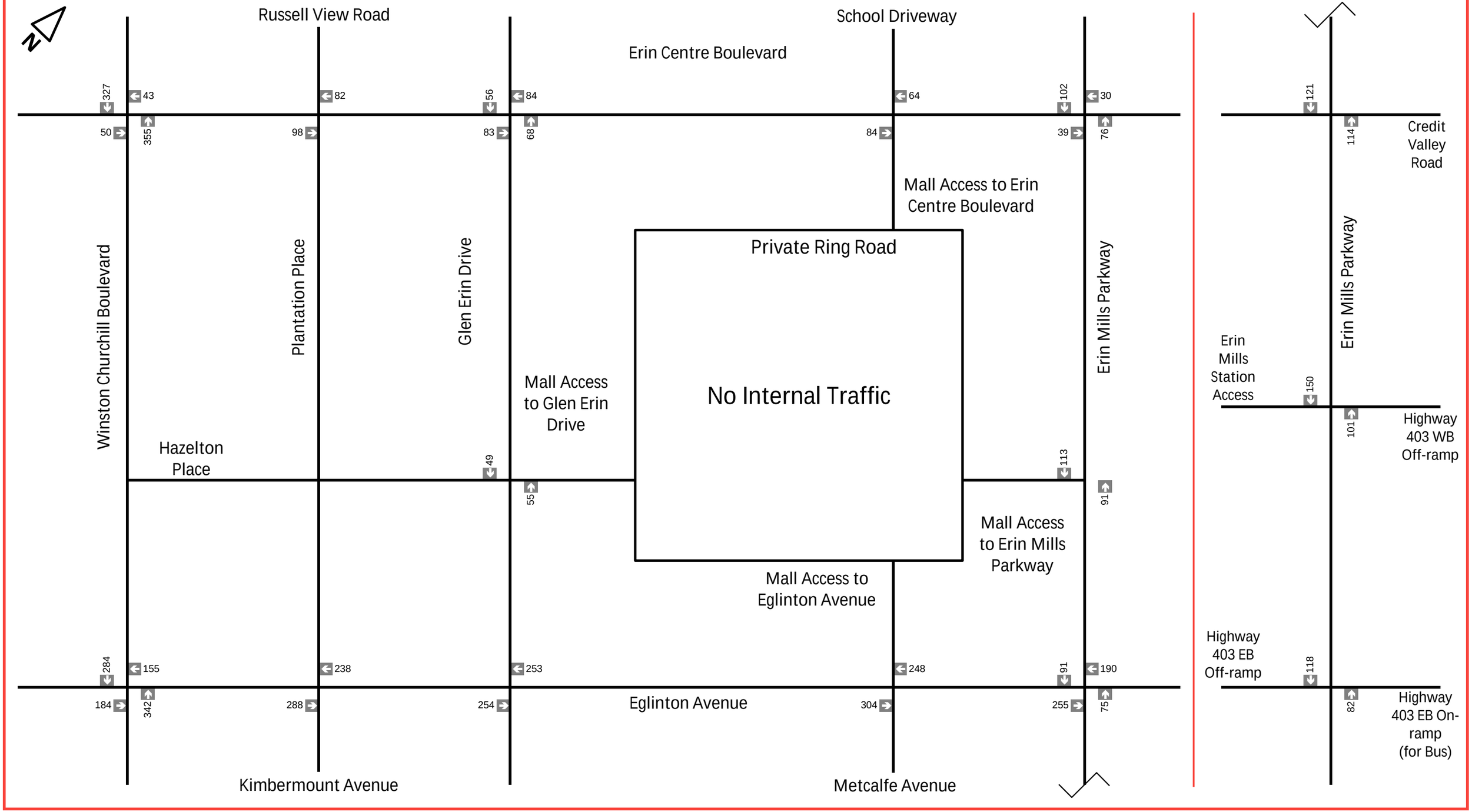
xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 3-3

2040 Corridor Growth Traffic Volumes - Weekday



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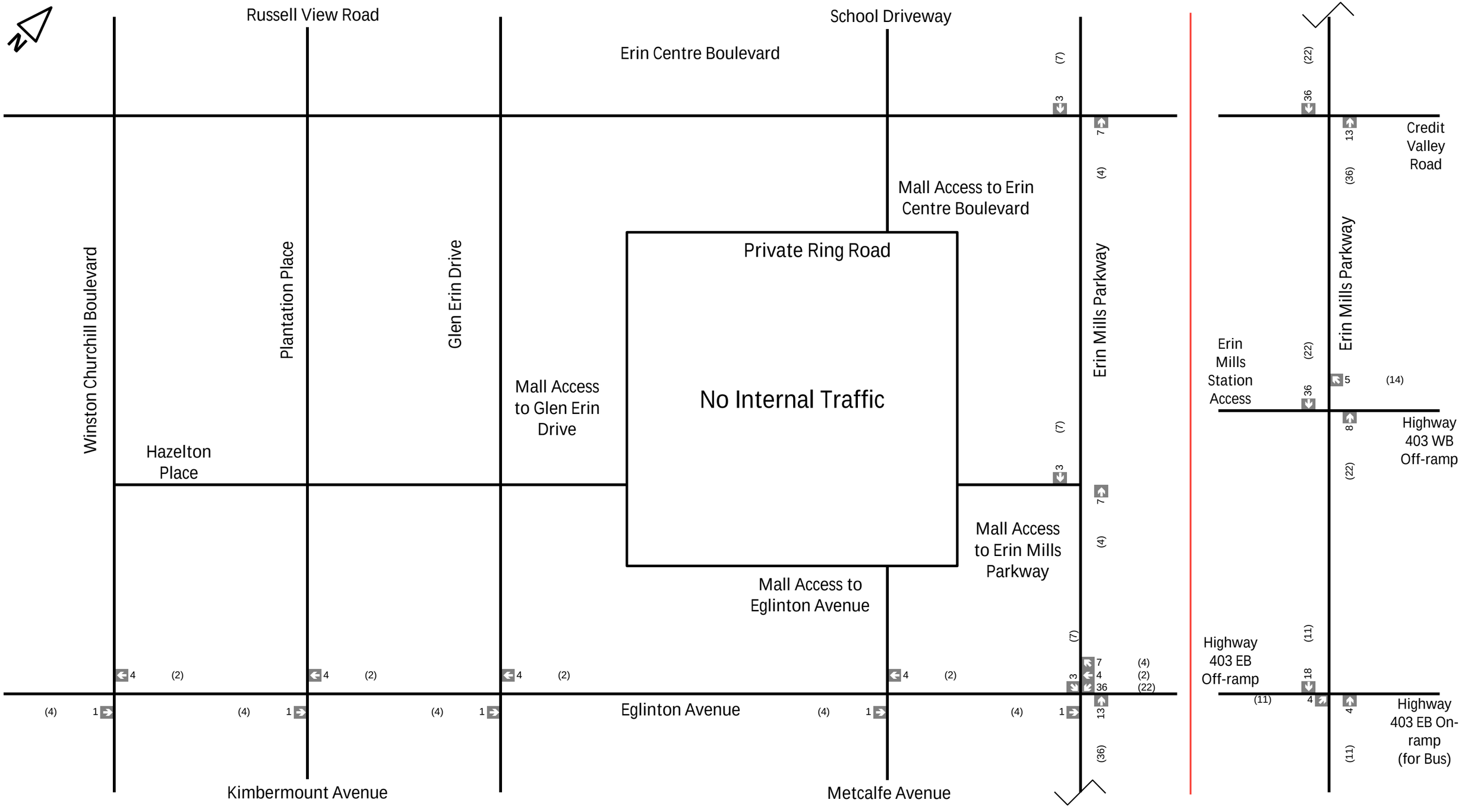
xx Saturday Peak Hour Traffic Volumes

Figure 3-4

2040 Corridor Growth Traffic Volumes - Saturday



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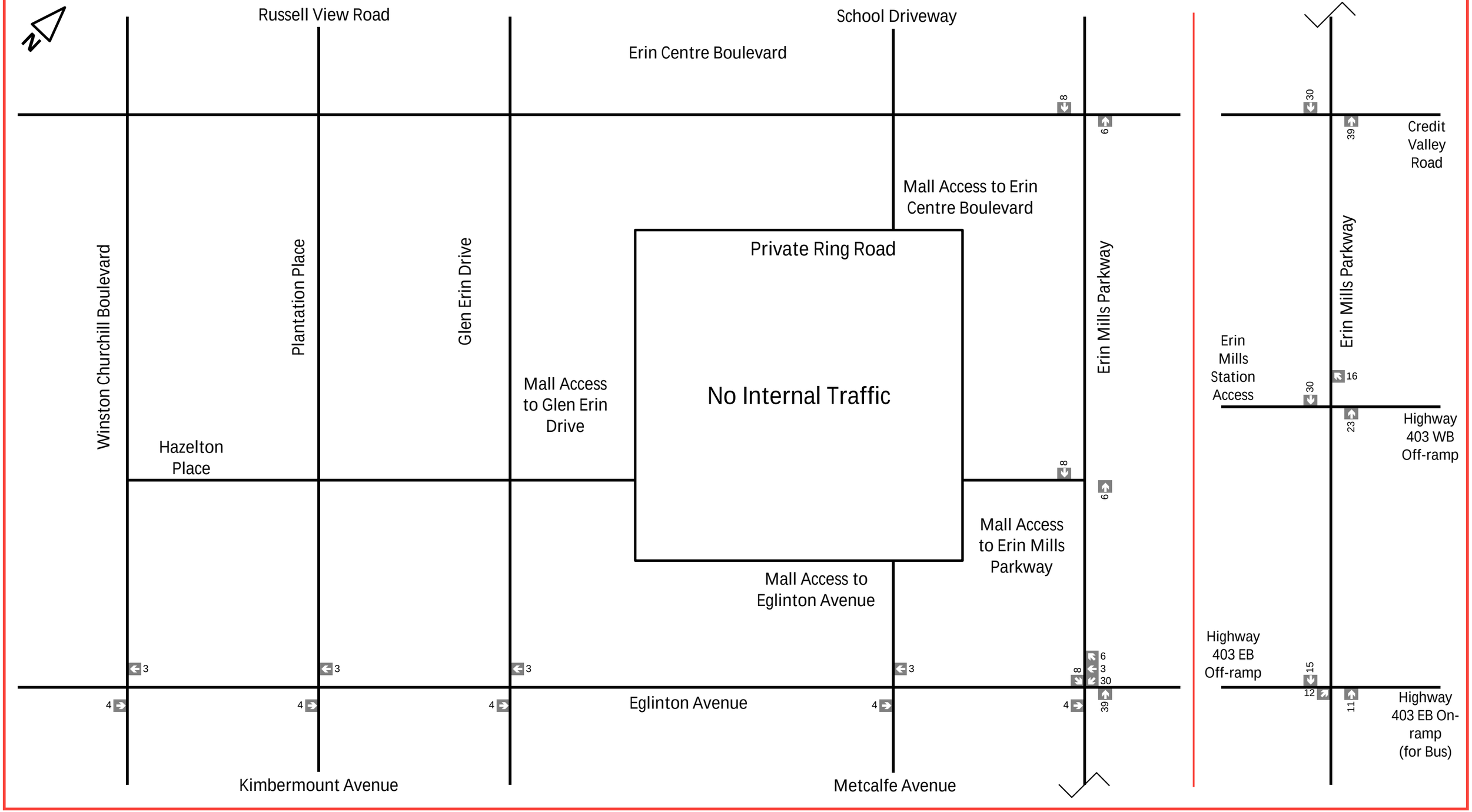
xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 3-5

Background Development Traffic Volumes - Weekday



Legend

xx Saturday Peak Hour Traffic Volumes

Figure 3-6

Background Development Traffic Volumes - Saturday

3.4 2032 FUTURE BACKGROUND OPERATIONS

The projected future background volumes for horizon 2032 were derived by combining the following:

- Existing traffic volumes (Figures 2-3 to 2-6);
- 2032 general growth volumes (Figures 3-1 to 3-2); and
- Background development volumes (Figure 3-5 to 3-6).

The resulting 2032 future background volumes are shown in **Figures 3-7 to 3-10**. The 2032 future background intersection operations are outlined in **Table 3-3.** Detailed Synchro worksheets are provided in **Appendix D-1**.

Table 3-3: 2032 Future Background Intersection Operations

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Mid-day Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)
Signalized						
Erin Centre Boulevard & Winston Churchill Blvd	D (38)	--	C (24)	--	C (29)	--
Erin Centre Blvd & Plantation Place / Russell View Road	B (14)	--	B (10)	--	A (8)	--
Erin Centre Boulevard & Glen Erin Drive	B (18)	--	B (18)	--	B (11)	--
Erin Centre Boulevard & North Mall Access	A (8)	--	A (10)	--	B (11)	--
Erin Centre Boulevard & Erin Mills Parkway	C (24)	--	C (24)	--	C (26)	--
Glen Drin Drive & Hazelton Place / West Mall Access	B (12)	--	B (13)	--	B (13)	--
Erin Mills Parkway & East Mall Access	A (4)	--	A (4)	--	A (5)	--
Eglinton Avenue & Winston Churchill Blvd	D (52)	--	E (65)	EB-L (0.97) NB-L (0.97) NB-TR (0.96) SB-L (0.88)	D (54)	WB-L (0.88)
Eglinton Avenue & Plantation Place / Kimbermount Avenue	B (11)	--	B (15)	--	B (13)	--
Eglinton Avenue & Glen Erin Drive	C (29)	--	C (26)	--	C (32)	--
Eglinton Avenue & South Mall Access / Metcalfe Avenue	B (12)	--	B (12)	--	B (19)	--
Eglinton Avenue & Erin Mills Parkway	E (55)	--	D (55)	--	D (49)	SB-L (0.91)

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Mid-day Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)
Credit Valley Road & Erin Mills Parkway (Existing Splits)	C (20)	--	C (22)	WB-L (0.98)	B (19)	--
Credit Valley Road & Erin Mills Parkway (Optimized Splits)	--	--	C (22)	WB-L (0.88)	--	--
Erin Mills Parkway & Highway 403 WB off-ramp / GO Station Driveway (Existing Splits)	D (37)	WB-L (0.92)	D (39)	WB-L (0.98)	C (29)	--
Erin Mills Parkway & Highway 403 WB off-ramp / GO Station Driveway (Optimized Splits)	--	--	D (38)	WB-L (0.90)	--	--
Erin Mills Parkway & Highway 403 EB off-ramp	B (13)	--	B (12)	--	B (11)	--
Unsignalized						
Hazelton Place & Plantation Place	A (7)	--	A (7)	--	A (7)	--
Ring Road & North Mall Access	A (8)	EB-LT (0.21)	A (8)	WB-R (0.26)	A (10)	EB-LT (0.36)
Ring Road & West Mall Access	A (9)	EB-L (0.29)	B (11)	NB-LT (0.44)	B (12)	EB-L (0.46)
Ring Road & Site West Driveway	A (10)	SB-LR (0.01)	A (10)	SB-LR (0.06)	B (11)	SB-LR (0.07)
Ring Road & Site Centre Driveway	B (10)	SB-LR (0.03)	B (10)	SB-LR (0.11)	B (11)	SB-LR (0.17)
Ring Road & Site East Driveway	A (9)	SB-LR (0.03)	B (10)	SB-LR (0.16)	B (11)	SB-LR (0.22)

1 For signalized intersections, the level of service is based on the overall delay of the intersection. For stop controlled intersections, the LOS is based on the delay associated with the critical movement.

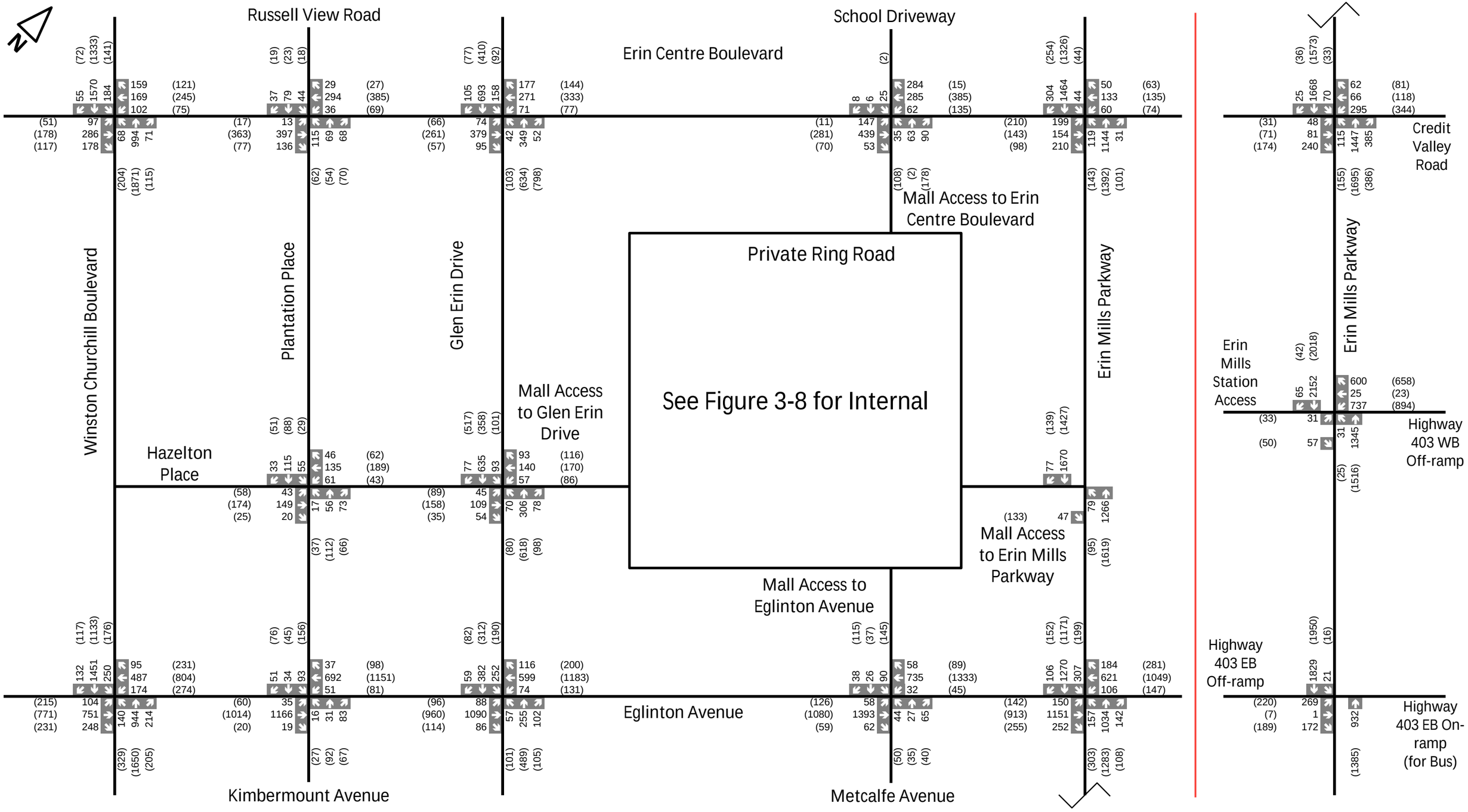
2 At regional intersections, critical v/c ratios are only listed for movements with values over 0.90. At city intersections, critical v/c ratios are only listed for movements with values over 0.85.

The 2032 future background results shown in Table 3-3 indicates that almost all of the study intersections are operating with the same Levels-of-Service as the existing conditions. All signalized intersections are forecast to operate at LOS ‘D’ or better, except for the intersections of Eglinton Avenue at Erin Mills Parkway and Eglinton Avenue at Winston Churchill Boulevard during the p.m. peak, which are operating at LOS ‘E’ during the weekday a.m. peak and p.m. peak.

During the p.m. peak hour, the two intersections at Erin Mills Parkway / Credit Valley Road and Erin Mills Parkway / Highway 403 Westbound Off-ramp have left-turn movements that are operating near capacity. These signal timing splits were slightly optimized by shifting 4 or 7 seconds from less critical phases to improve the critical movements, while maintaining the cycle length as summarized in **Table 3-4**. As shown in Table 3-3, the left-turn movements are improved after the signal optimization required as part of the future background (Do Nothing) scenario. All other signal timing splits remain the same as existing conditions. There is no change to the operation of the minor unsignalized intersections as they do not experience corridor general growth.

Table 3-4: 2032 Future Background Signal Timing Adjustments

Intersection	Movement	Existing Split	Change	Optimized Split
Erin Mills Parkway & Credit Valley Road (PM Peak Hour)	NBL / SBL	16	--	16
	NB / SB	81	-7s	74
	WBL / WB	13	+7s	20
	EB / WB	50	--	50
	Cycle Length	160	--	160
Erin Mills Parkway & Highway 403 Westbound Off-Ramp (PM Peak Hour)	NBL / NB	19	--	19
	NB / SB	64	--	64
	EB	26	-4s	22
	WB	51	+4s	55
	Cycle Length	160	--	160



Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 3-7

2032 Future Background Traffic Volumes - Weekday External

Erin Centre Boulevard

See Figure 3-7 for boundary road intersections

Site Location

West Site Access

Centre Site Access

East Site Access

Mall Access to Erin Centre Boulevard

Glen Erin Drive

Erin Mills Parkway

(102) (18) 22 223 (5) (178) (68) (165) 33 164

(42) (32) 9 10 12 214 (27) (141) (60) (123) 16 148

(22) (22) 5 5 14 221 (30) (146) (31) (124) 15 143

(107) (96) 75 41 81 59 (185) (44) (100) (49) 112 46

Private Ring Road

Mall Access to Glen Erin Drive

(176) (104) 202 43 (153) 163 88 34 (207) 120 (199) (80)

Mall Access to Erin Mills Parkway

Private Ring Road

Mall Access to Eglinton Avenue

Eglinton Avenue

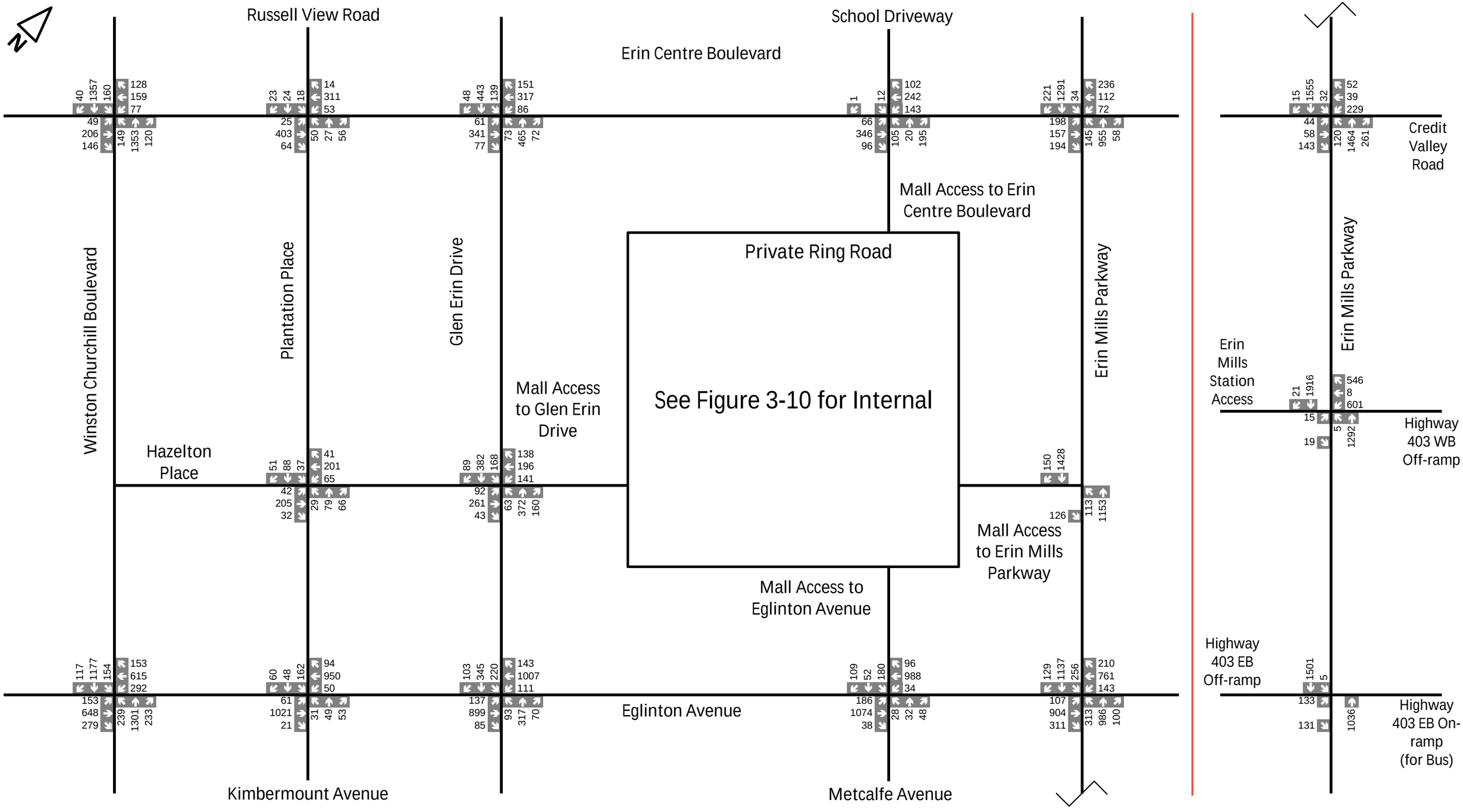
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 3-8

2032 Future Background Traffic Volumes - Weekday Internal

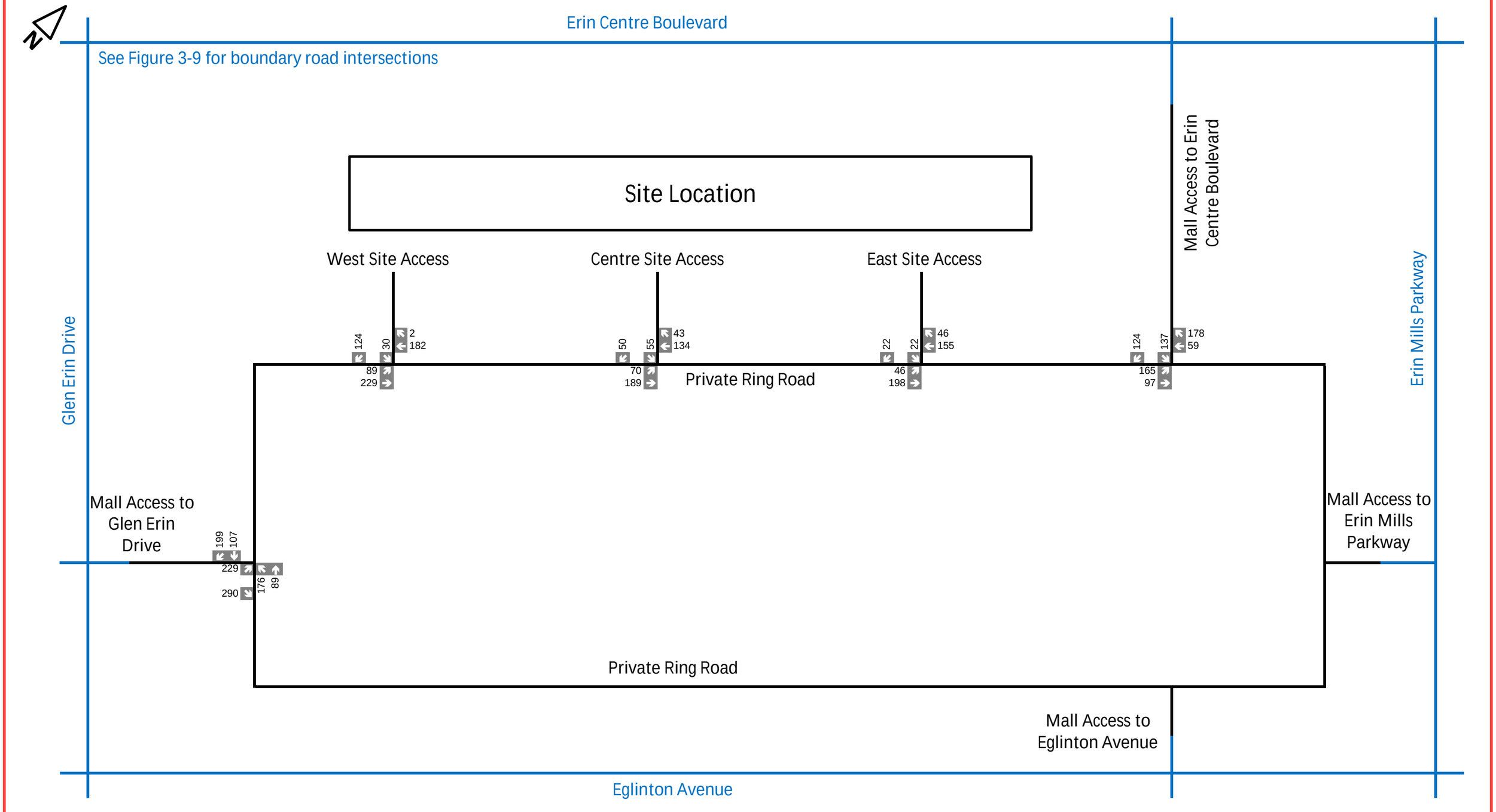


Legend

xx Saturday Peak Hour Traffic Volumes

Figure 3-9

2032 Future Background Traffic Volumes - Saturday External



Legend

xx Saturday Peak Hour Traffic Volumes

Figure 3-10

2032 Future Background Traffic Volumes - Saturday Internal

3.5 2040 FUTURE BACKGROUND OPERATIONS

The projected future background volumes for horizon 2040 were derived by combining the following:

- Existing traffic volumes (Figures 2-3 to 2-6);
- 2040 general growth volumes (Figures 3-3 to 3-4); and
- Background development volumes (Figure 3-5 to 3-6).

The resulting 2040 future background volumes are shown in **Figures 3-11 to 3-14**. The signal timing optimizations from the 2032 future background conditions were carried forward for this analysis. The 2040 future background intersection operations are outlined in **Table 3-5**. Detailed Synchro worksheets are provided in **Appendix D-2**.

Table 3-5: 2040 Future Background Intersection Operations

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Mid-day Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)
Signalized						
Erin Centre Boulevard & Winston Churchill Blvd	D (42)	--	C (26)	NB-L (0.87)	C (34)	--
Erin Centre Blvd & Plantation Place / Russell View Road	B (14)	--	A (10)	--	A (8)	--
Erin Centre Boulevard & Glen Erin Drive	B (18)	--	B (19)	SB-L (0.85)	B (13)	--
Erin Centre Boulevard & North Mall Access	A (8)	--	A (10)	--	B (11)	--
Erin Centre Boulevard & Erin Mills Parkway	C (24)	--	C (24)	--	C (26)	--
Glen Drin Drive & Hazelton Place / West Mall Access	B (12)	--	B (13)	--	B (13)	--
Erin Mills Parkway & East Mall Access	A (4)	--	A (4)	--	A (5)	--
Eglinton Avenue & Winston Churchill Blvd (with PHF 0.92 and existing splits)	D (55)	SB-T (0.93)	F (85)	EB-L (0.97) EB-T (0.93) NB-L (0.97) NB-T (1.14) SB-L (0.88) SB-T (0.86)	E (57)	WB-L (0.88) NB-T (0.94)

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Mid-day Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)
Eglinton Avenue & Winston Churchill Blvd (with PHF 0.92 and optimized splits)	--	--	E (71)	EB-T (0.95) WB-L (0.97) WB-T (0.86) NB-L (0.85) NB-T (1.04) SB-L (0.97)	--	--
Eglinton Avenue & Winston Churchill Blvd (with PHF 0.96 during PM and optimized splits)	--	--	E (65)	EB-T (0.92) WB-L (0.93) NB-T (0.99) SB-L (0.93)	--	--
Eglinton Avenue & Plantation Place / Kimbermount Avenue	B (10)	--	B (14)	--	B (13)	--
Eglinton Avenue & Glen Erin Drive	C (30)	--	C (27)	WB-L (0.93)	C (33)	EB-L (0.98)
Eglinton Avenue & South Mall Access / Metcalfe Avenue	B (12)	--	B (13)	EB-L (0.93)	B (19)	EB-L (0.92)
Eglinton Avenue & Erin Mills Parkway	E (56)	--	E (56)	--	D (50)	SB-L (0.91)
Credit Valley Road & Erin Mills Parkway	C (20)	--	C (21)	WB-L (0.91)	B (19)	--
Erin Mills Parkway & Highway 403 WB off-ramp / GO Station Driveway	D (38)	WB-L (0.92) SB-T (0.93)	D (39)	WB-L (0.90) SB-T (0.94)	C (28)	--
Erin Mills Parkway & Highway 403 EB off-ramp	B (13)	--	B (12)	--	B (10)	--
Unsignalized						
Hazelton Place & Plantation Place	A (7)	--	A (7)	--	A (7)	--
Ring Road & North Mall Access	A (8)	EB-LT (0.21)	A (8)	WB-R (0.26)	A (10)	EB-LT (0.36)
Ring Road & West Mall Access	A (9)	EB-L (0.29)	B (11)	NB-LT (0.44)	B (12)	EB-L (0.46)
Ring Road & Site West Driveway	A (10)	SB-LR (0.01)	A (10)	SB-LR (0.06)	B (11)	SB-LR (0.07)
Ring Road & Site Centre Driveway	B (10)	SB-LR (0.03)	B (10)	SB-LR (0.11)	B (11)	SB-LR (0.17)
Ring Road & Site East Driveway	A (9)	SB-LR (0.03)	B (10)	SB-LR (0.16)	B (11)	SB-LR (0.22)

1 For signalized intersections, the level of service is based on the overall delay of the intersection. For stop controlled intersections, the LOS is based on the delay associated with the critical movement.

2 At regional intersections, critical v/c ratios are only listed for movements with values over 0.90. At city intersections, critical v/c ratios are only listed for movements with values over 0.85.

As shown in Table 3-5, the intersection at Eglinton Avenue and Winston Churchill Boulevard has a critical movement exceeding capacity. For context, this intersection was already operating at LOS 'E' during the existing conditions with several movements close to capacity. As a result of 16-years of conservative general growth application along both the Eglinton and Winston Churchill corridors ranging from 0.5% to 2.0% per year, the northbound through movement is forecast to be over capacity with a v/c ratio of 1.14 during the p.m. peak hour.

The signal timing plan at Eglinton Avenue and Winston Churchill Boulevard was optimized while maintaining the cycle length to improve the critical movement. With reasonable signal split adjustments as shown in **Table 3-6**, the critical northbound through movement improves to a v/c ratio of 1.04.

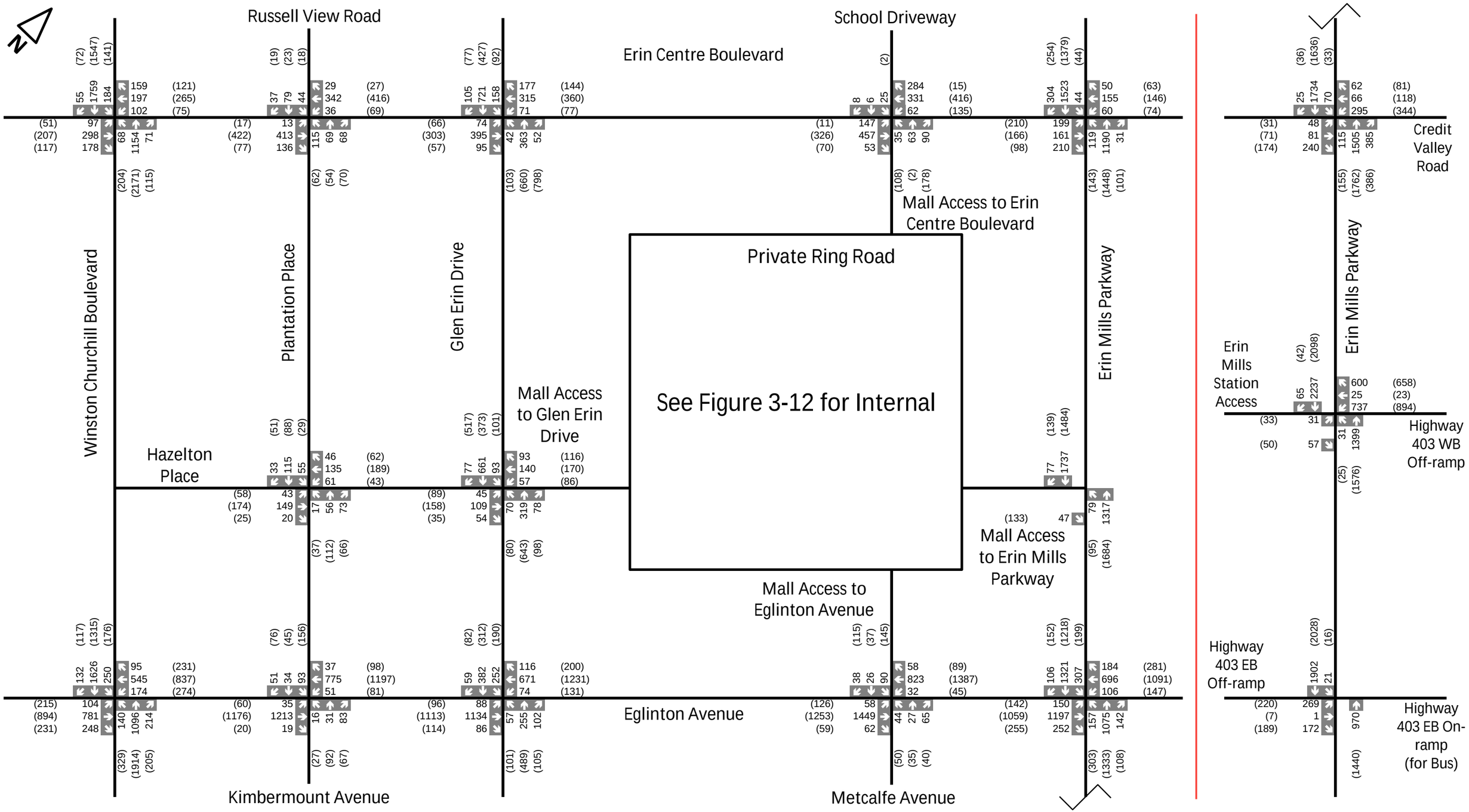
Table 3-6: 2040 Future Background Signal Timing Adjustments

Intersection	Movement	Existing Split	Change	Optimized Split
Eglinton Avenue & Winston Churchill Boulevard (PM Peak Hour)	NBL / SBL	22 / 15	+3 / -1	25 / 14
	SB / NB	59 / 66	+6 / +10	65 / 76
	EBL / WBL	15 / 27	+2 / -8	17 / 19
	WB / EB	64 / 52	-11 / -1	53 / 51
	Cycle Length	160	--	160

These intersection operations are based on a Peak Hour Factor (PHF) of 0.92 for both existing and future conditions, as specified by the City of Mississauga TIS Guidelines. This results in a conservative assessment as the PHF generally increases toward 1.00 as the intersection becomes busier and traffic flow pattern is more uniform. As a sensitivity test, the intersection was also assessed using the real-world PHF of 0.96 from recent traffic surveys, which shows all movements are within capacity.

Some of the intersections on Eglinton Avenue have observed their eastbound left-turn movements reaching the critical threshold during the weekday p.m. and Saturday peak hours, but they are still within capacity. These intersections adjacent to the mall utilize Leading Pedestrian Intervals (LPI) due to the high pedestrian volumes. As a result, the left-turns operate as permissive phases, which combined with higher corridor volumes along Eglinton Avenue result in higher delays.

All of the other signalized study intersections continue to operate at an acceptable LOS 'D' or better, except for Eglinton Avenue at Erin Mills Parkway, which has reached the threshold for LOS 'E' during the a.m. and p.m. peak hours but does not have capacity constrained movements. The unsignalized intersections remain the same as existing conditions as they do not have corridor growth.



Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 3-11

2040 Future Background Traffic Volumes - Weekday External

Erin Centre Boulevard

See Figure 3-11 for boundary road intersections

Glen Erin Drive

Erin Mills Parkway

Site Location

West Site Access

Centre Site Access

East Site Access

Mall Access to Erin Centre Boulevard

Private Ring Road

Mall Access to Glen Erin Drive

Mall Access to Erin Mills Parkway

Mall Access to Eglinton Avenue

Eglinton Avenue

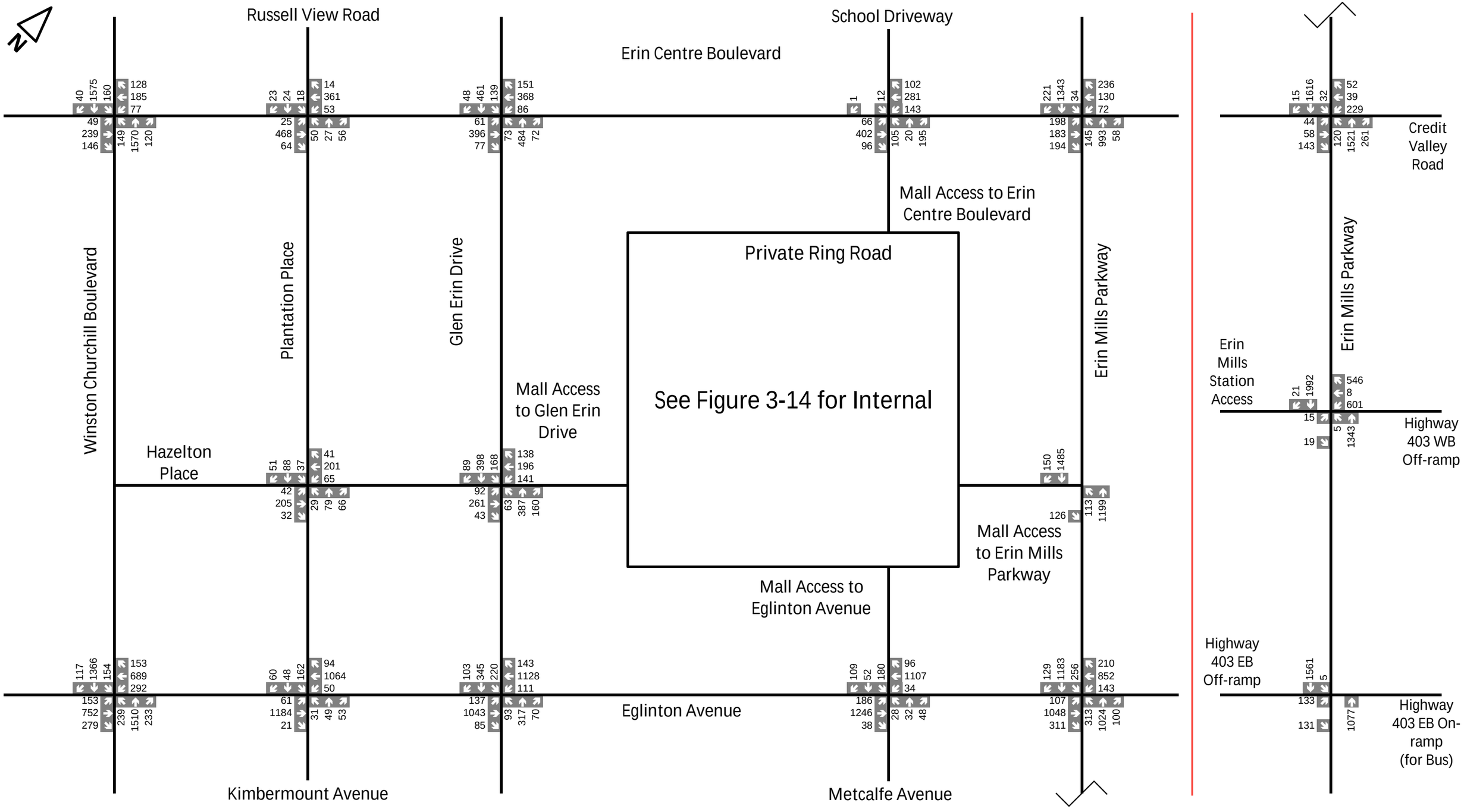
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 3-12

2040 Future Background Traffic Volumes - Weekday Internal



Legend

xx Saturday Peak Hour Traffic Volumes

Figure 3-13

2040 Future Background Traffic Volumes - Saturday External

Erin Centre Boulevard

See Figure 3-13 for boundary road intersections

Glen Erin Drive

Erin Mills Parkway

Site Location

West Site Access

Centre Site Access

East Site Access

Mall Access to Erin Centre Boulevard

124 30 2 182

89 229

50 55 43 134

70 189

22 22 46 155

46 198

124 137 178 59

165 97

Private Ring Road

Mall Access to Glen Erin Drive

199 107

229 176 89

290

Mall Access to Erin Mills Parkway

Private Ring Road

Mall Access to Eglinton Avenue

Eglinton Avenue

Legend

xx Saturday Peak Hour Traffic Volumes

Figure 3-14

2040 Future Background Traffic Volumes - Saturday Internal

4 SITE-GENERATED VOLUMES

4.1 SITE ACCESS

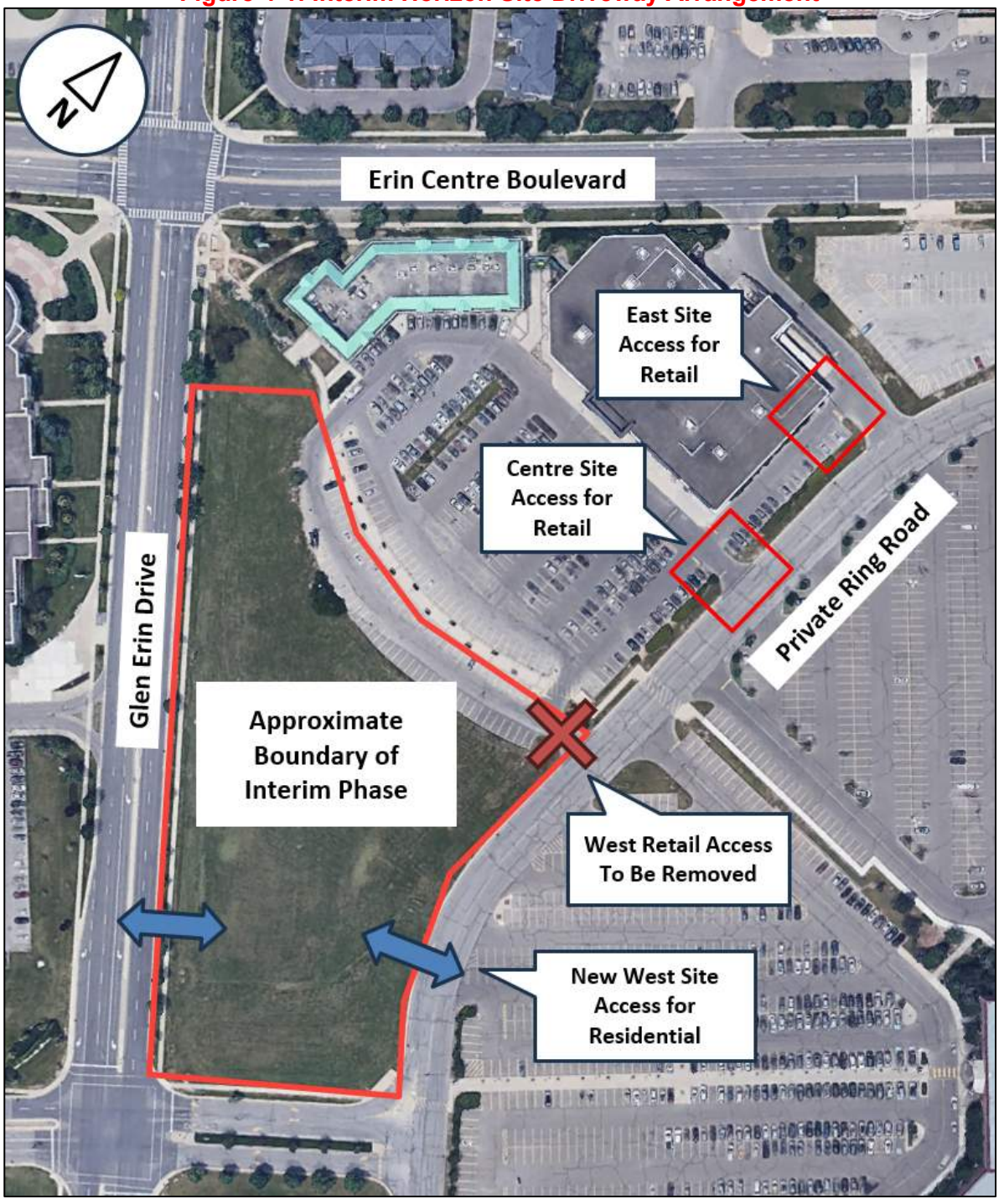
The existing retail uses on the subject site currently has three driveways fronting onto the internal private ring road and one full-moves driveway onto Erin Centre Boulevard. There is also a surface parking lot with a driveway onto the ring road. For the purpose identifying trips related to the existing retail component, only the three primary driveways were assessed, shown previously in Figure 4-7.

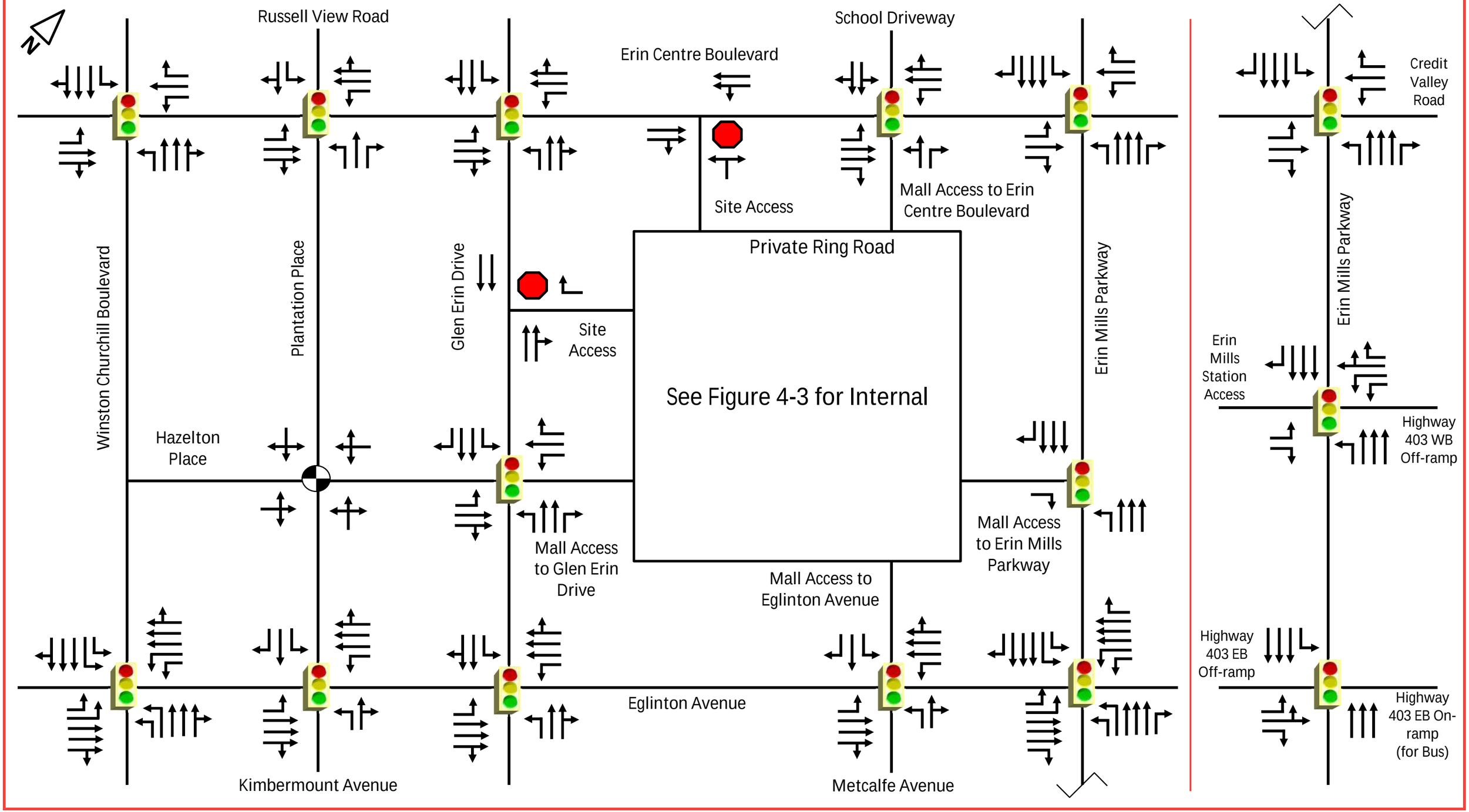
The full buildout of the proposed development features two driveways onto the ring road, a right-in/right-out driveway onto Glen Erin Drive, and a full-moves driveway onto Erin Centre Boulevard. This results in one less driveway along the ring road. The Glen Erin Drive driveway is a de-facto right-in/right-out due to the median along the public road. Sightline analyses supporting the proposed driveways onto both Glen Erin Drive and Erin Centre Boulevard are provided in the site plan review section.

During the interim 50% buildout horizon, the retail uses will remain on site while the adjacent parcel is developed. The existing west retail driveway will be removed and replaced by the new west driveway connected to the residential uses, as shown in **Figure 4-1**.

The future total lane configurations for the interim horizon representing 50% buildout and the ultimate horizon are shown in **Figures 4-2 and 4-3**, respectively**.** As requested by the City, all-way stop controlled warrants have been completed at the ring road intersection with the accesses connecting to Erin Centre Boulevard and Glen Erin Drive. Both of these intersections are already all-way stop controlled. The all-way stop control warrant was conducted based on the ultimate future total volumes and presented in Section 5. The other site driveways onto the ring road and external streets will all be minor-street stop-controlled. No new signal is required or justified from a spacing or needs perspective.

Figure 4-1: Interim Horizon Site Driveway Arrangement





Legend

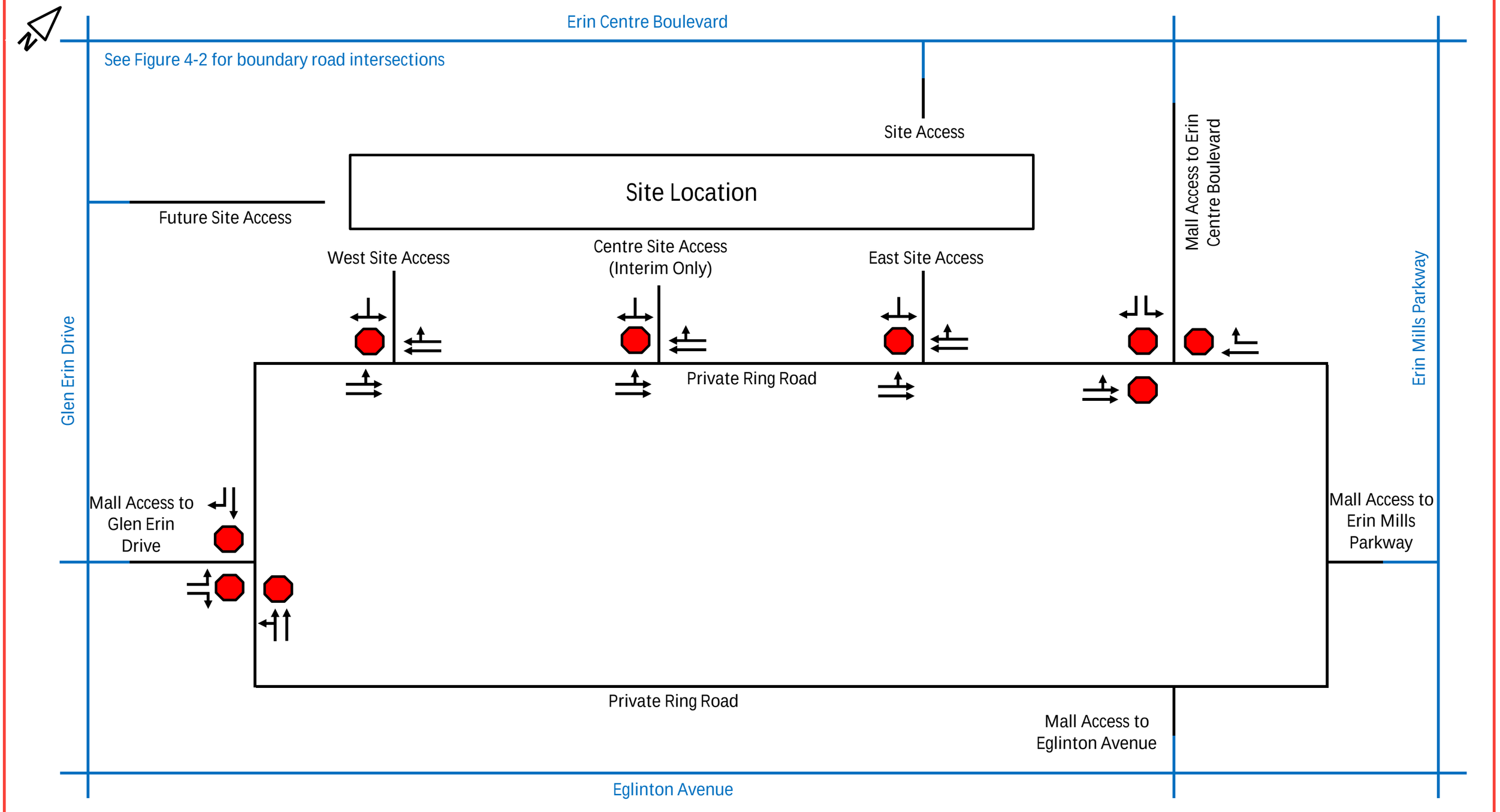
Signalized

Stop Control

Roundabout

Figure 4-2

Future Lane Configurations - External



Legend

Signalized | Stop Control | Roundabout

Figure 4-3

Future Lane Configurations - Internal

4.2 SITE TRIP GENERATION

The development statistics for each horizon year are summarized in **Table 4-1**. While it is recognized that the site may be further phased into 5 phases as noted in the architectural plan, **the future total traffic evaluation of the 50% and 100% buildout horizons indicate there are no geometric improvements required**. Moreover, the **lane configurations for any sub-phase will follow either of the 50% of 100% arrangements**. As noted earlier, during the interim horizon(s) leading up to 50% site buildout, the retail uses on the subject site will continue to operate. Therefore, the traffic generated by the existing retail uses have been studied as part of the interim 50% buildout horizon.

Table 4-1: Study Horizons and Development Phases

Horizon Year	Site Statistics
Interim 2032	1,581 residential units (50% completion) plus existing retail uses
Ultimate 2040	3,162 residential units (100% completion)

The residential site-generated traffic volumes were first calculated based the ultimate conditions, and then prorated based on the 50% buildout percentage for the interim horizon.

MODE SPLIT REDUCTION

The Toronto Transportation Survey (TTS) was used to determine the travel mode split within the study area for home-based trips, based on Zones 3601, 3602, 3638, 3837, and 3838. The resulting mode spilt distribution is summarized in **Table 4-2**. The TTS query inputs and outputs are provided in **Appendix E** for reference.

Table 4-2: TTS Mode Split for the Study Area

Travel Mode	AM In	AM Out	PM In	PM Out	SAT In	SAT Out
Auto Driver	86%	56%	71%	70%	68%	71%
Auto Passenger	2%	17%	12%	21%	18%	15%
Transit	2%	14%	14%	5%	13%	9%
Cycling	3%	1%	0%	3%	0%	0%
Walk	7%	12%	3%	1%	1%	5%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Non-Auto %	12%	27%	17%	9%	14%	14%

As shown in Table 4-2, the study area has a non-auto mode ranging from 9% to 27% depending on the time period and direction of travel. The non-auto reduction factor was applied as part of the trip generation.

These mode split percentages are conservative since it includes data from all residential types, including single detached dwellings, which typically have higher auto mode split since detached units have more parking spaces available that induce higher auto ownership and dependence. Moreover, the non-auto % does not consider auto passenger, who are not generating single occupant trips, which is conservative.

MULTI-USE REDUCTION

The site is located within 200 metres from the Erin Mills Town Centre, a major retail shopping centre in the area. Considering the size of the mall, diversity of land uses (grocery store, entertainment, employment opportunities, and retail) and the close proximity, there will likely be a modest degree of multi-use / internal capture interaction with residents walking to the mall for typical daily shopping, recreation or employment.

We have calculated the multi-use reduction factor based on the methodology described in the NCHRP Project 8-51 *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*. It accounts for multiple factors such as the types and proximity of different uses and trip correlations based on historical data. The resulting multi-use adjustment factors for each peak period are shown in **Table 4-3**. The NCHRP worksheet was used and inputs are provided in **Appendix E** for reference.

Table 4-3: Residential Multi-Use Reduction with Consideration of Erin Mills Town Centre Mall

	AM In	AM Out	PM In	PM Out	SAT In	SAT Out
Multi-Use Reduction	2%	1%	46%	23%	44%	31%

As shown in Table 4-3, the methodology estimates substantial multi-use interaction ranging from 23 to 46 percent during the weekday PM and Saturday midday peak hours. For the conservative nature of this submission, the **multi-use adjustments were not applied to the site generated traffic.** Therefore, the site trip generation and associated future total analyses **is very conservative and represent the worst-case scenario.**

TRIP GENERATION

The proposed development features 9 residential high-rise buildings with a total of 3,162 residential units. The Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition rates for Land Use 222 “Residential High-Rise” were used for trip generation. The weekday peaks use the “peak hour of adjacent street” equations while the Saturday peak hour forecast uses the “peak hour of generator” equation since the adjacent street data is not available.

During the interim horizon, the proposed development is expected to be at 50% buildout. It was assumed that the existing retail uses on site today remain operational during the interim horizon, albeit with one less driveway.

For the ultimate horizon, the development will be fully completed, and the existing retail uses will be demolished. During the review of the traffic survey videos at the site driveways fronting onto the ring road, some vehicles were observed entering and leaving the site to/from the Erin Mills Town Centre mall area. It is therefore assumed that these vehicles will continue to visit the mall after site buildout, while the remaining trips were removed. Based on the ITE equation rates and the above reduction factors, the resulting auto trip generation for the proposed development is summarized in **Table 4-4**. The excerpts of the ITE rates used are provided in **Appendix E** for reference.

Table 4-4: Site Trip Generation

Land Use (magnitude)	Parameter	AM Peak			PM Peak			SAT Peak		
		In	Out	Total	In	Out	Total	In	Out	Total
Residential High-Rise - ITE Code 222 (3,162 units)	Equation (x = # units)	T = 0.22 X + 18.85			T = 0.26 X + 23.12			T = 0.3 X + 30.34		
	In/Out	26%	74%	100%	62%	38%	100%	57%	43%	100%
	Rate	0.06	0.17	0.23	0.17	0.10	0.27	0.18	0.13	0.31
	Raw Generated Trips	186	529	715	525	322	847	558	421	979
	Mode Split Reduction	12%	27%	--	17%	9%	--	14%	14%	--
		-23	-143	-166	-90	-29	-119	-79	-59	-138
	Net Generated Trips	163	386	549	435	293	728	479	362	841
Interim Horizon Net Trips (50%)		**82**	**193**	**275**	**218**	**147**	**365**	**240**	**181**	**421**
Removed Existing Driveway Trips		-90	-51	-141	-221	-238	-459	-296	-303	-599
Observed Mall Interaction		--	--	--	21	11	32	33	36	69
ULTIMATE NET TRIPS		**73**	**335**	**408**	**235**	**66**	**301**	**216**	**95**	**311**

As shown in Table 4-4, during the interim horizon, the proposed development is forecast to generate 275, 365, and 421 trips during the weekday a.m., weekday p.m., and Saturday mid-day peak hours, respectively.

For the ultimate horizon, the removal of the existing retail uses results in similar net site trips compared to the interim conditions. At full buildout, the proposed development is forecast to generate a net of 408, 301, and 311 auto trips during the weekday a.m., weekday p.m., and Saturday mid-day peak hours, respectively.

4.3 SITE TRIP DISTRIBUTION

Trip distribution data for home-based trips in Traffic Analysis Zones 3601, 3602, 3683, 3837, 3838 from TTS were reviewed to determine the development traffic distribution. **Table 4-5** outlines the resulting TTS trip distribution.

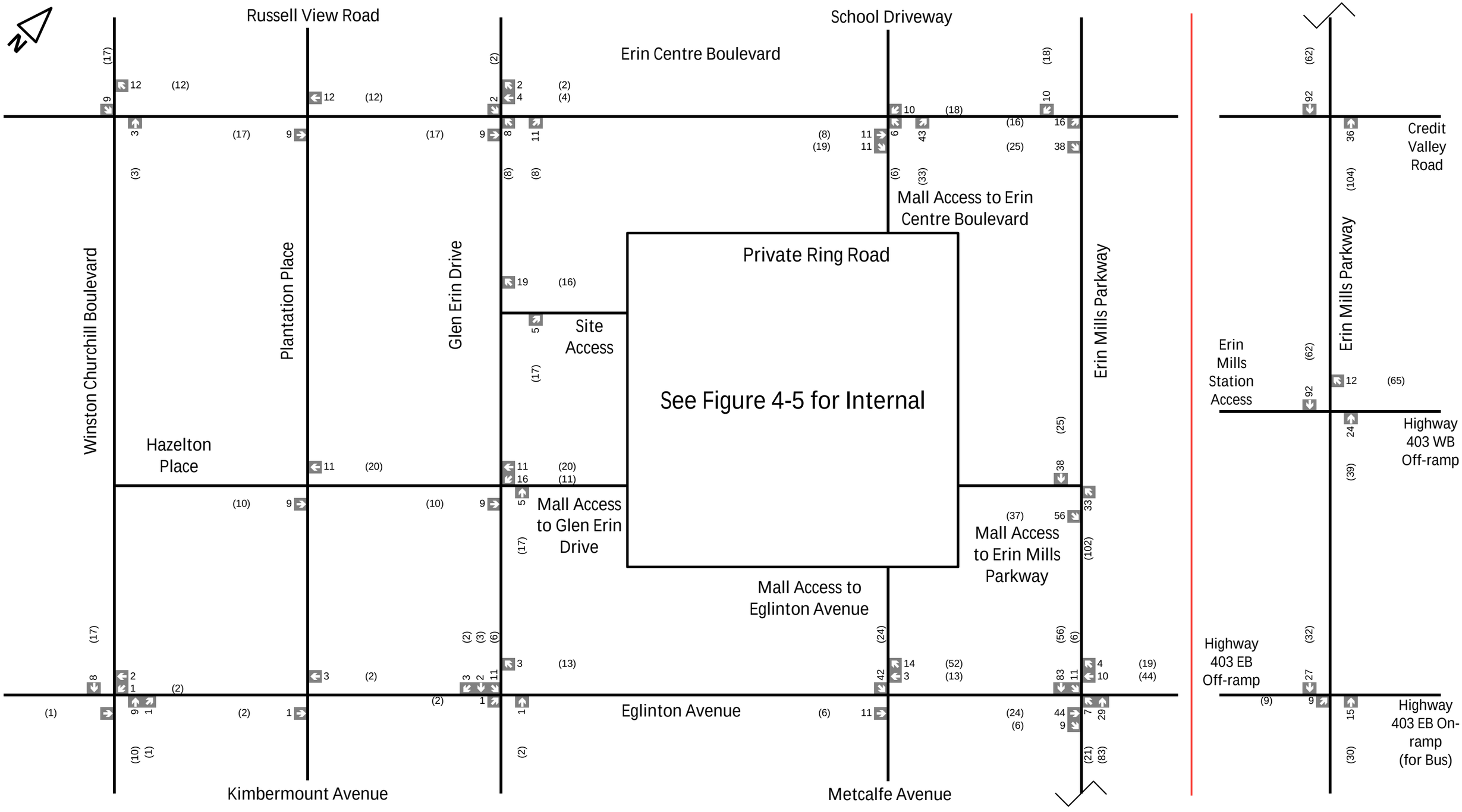
The site generated trips were assigned to the surrounding roadway network based these existing distributions and the most logical route to and from the multiple site driveways.

Table 4-5: TTS Trip Distribution for the Study Area

Direction	AM In	AM Out	PM In	PM Out	SAT In	SAT Out
Northwest	0%	3%	1%	1%	0%	3%
North	5%	6%	5%	8%	5%	6%
Northeast	36%	15%	18%	22%	36%	15%
East	12%	37%	37%	16%	12%	37%
Southeast	8%	24%	23%	24%	8%	24%
South	8%	3%	2%	7%	8%	3%
Southwest	31%	9%	12%	23%	31%	9%
West	0%	3%	2%	0%	0%	3%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

During the interim horizon, the west site access along the internal ring road will be relocated to provide resident access. The resulting interim residential trips are shown in **Figures 4-4 to 4-7**. As noted previously, the centre and east retail accesses along the ring road will remain while the existing retail uses remain operational. Accordingly, for the interim horizon analysis, the existing retail trips at the west driveway were reassigned to the centre driveway, as shown in **Figures 4-8 to 4-9**. This reassignment does not have an impact on the external boundary intersection operations.

The ultimate horizon trip assignment is shown in **Figures 4-10 to 4-13**. The centre driveway onto the ring road will be removed and the traffic was reassigned to the eastern driveway, as shown in **Figure 4-14 to 4-15**.



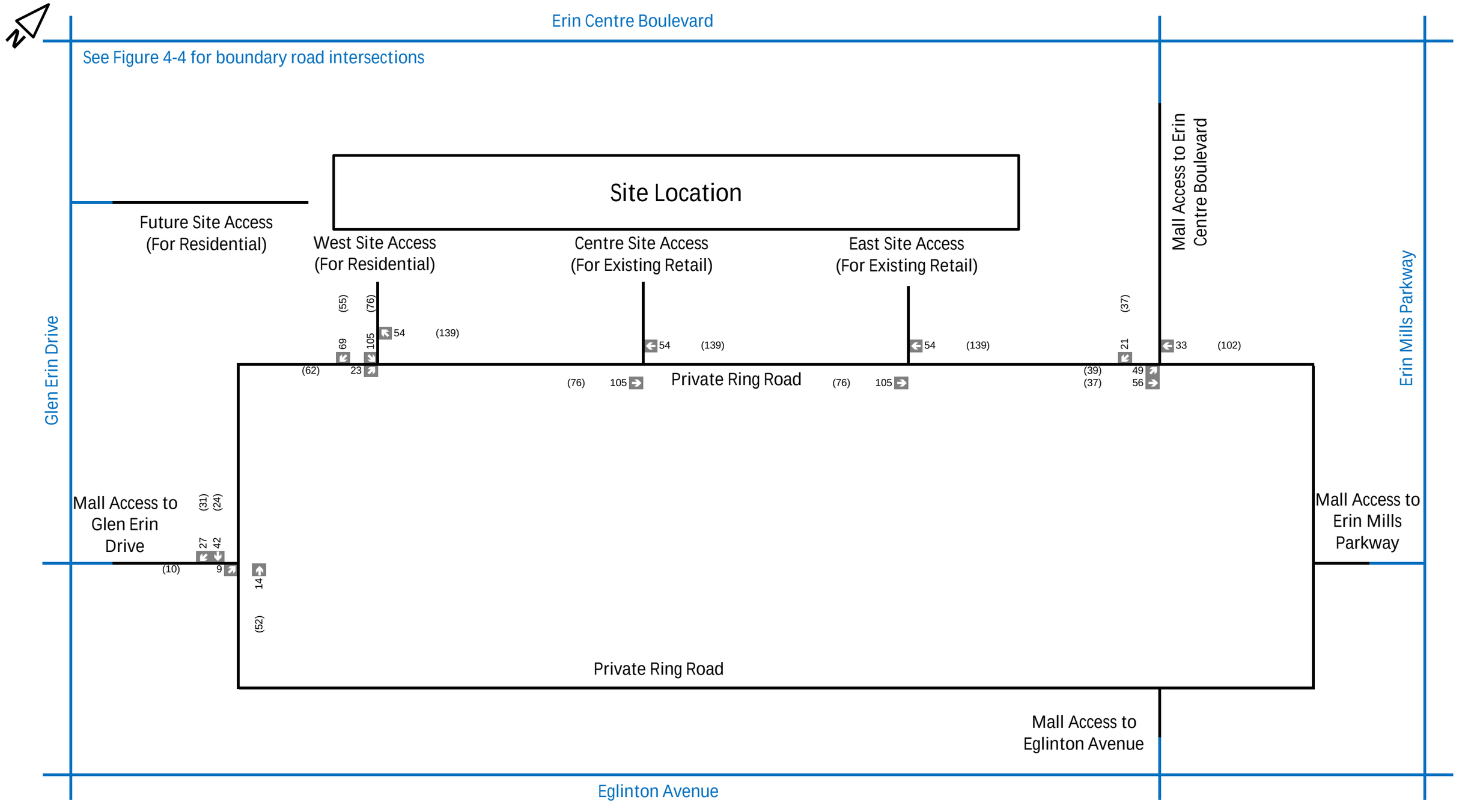
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 4-4

2032 Site Generated Traffic Volumes - Weekday External



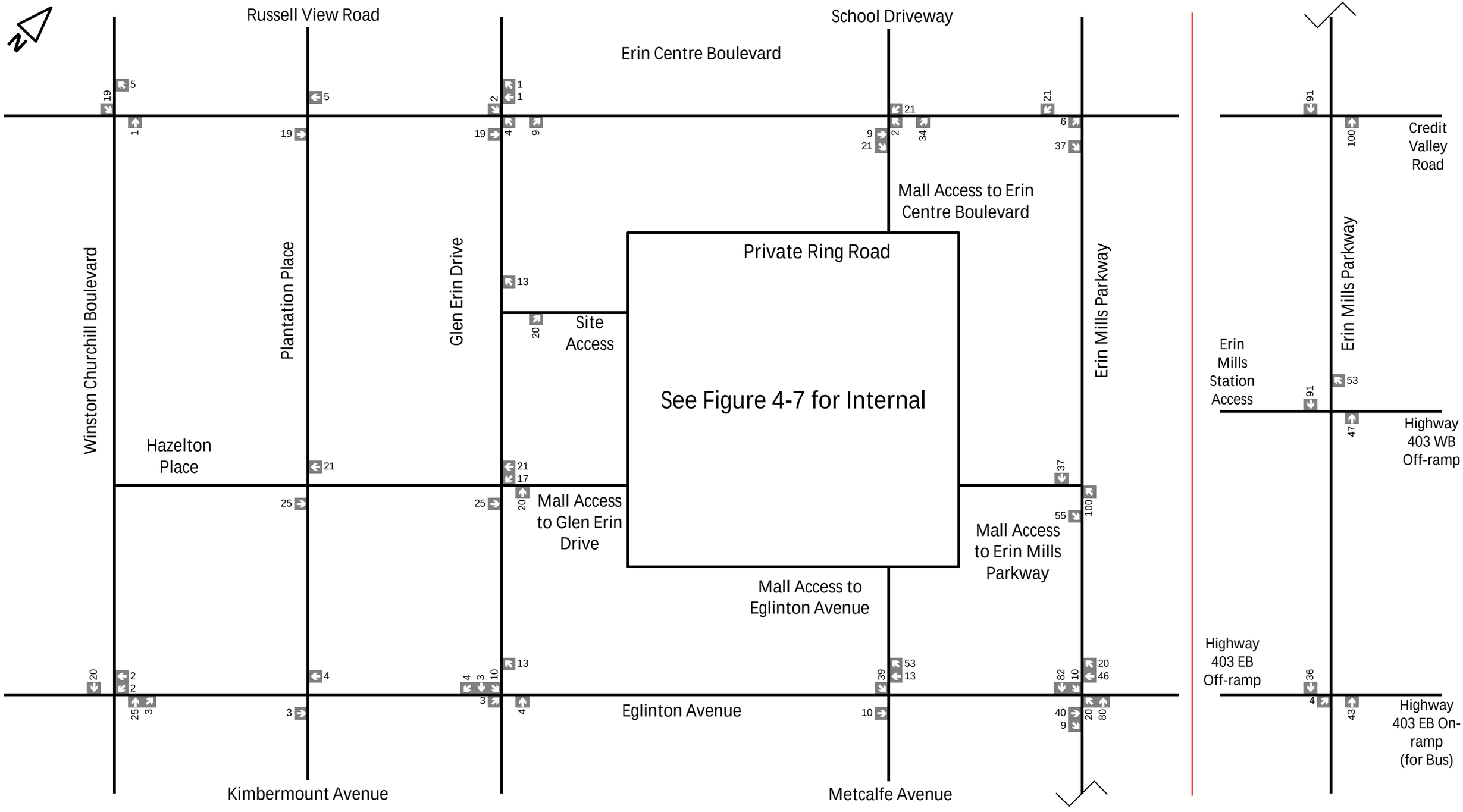
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 4-5

2032 Site Generated Traffic Volumes - Weekday Internal

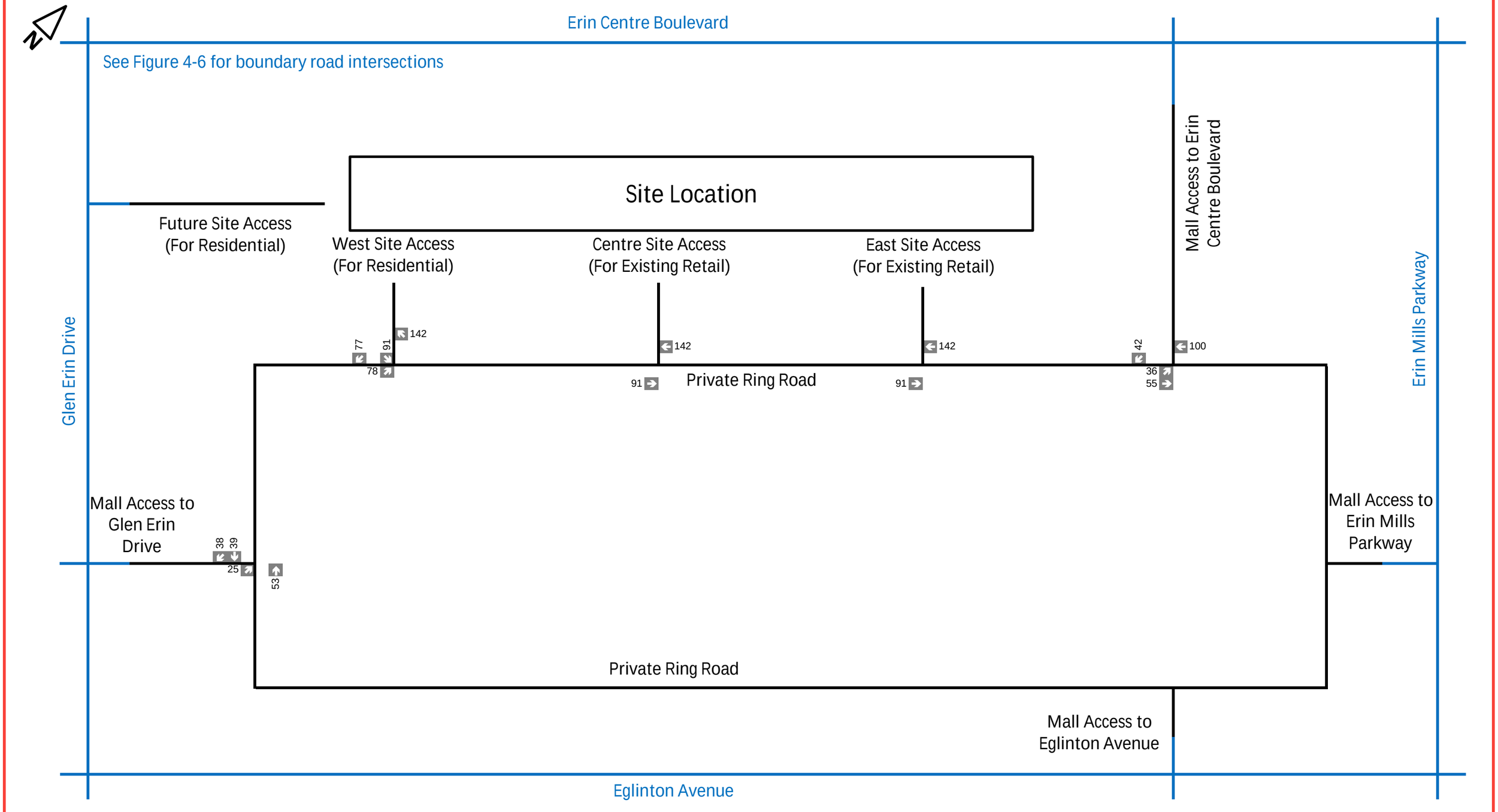


Legend

xx Saturday Peak Hour Traffic Volumes

Figure 4-6

2032 Site Generated Traffic Volumes - Saturday External

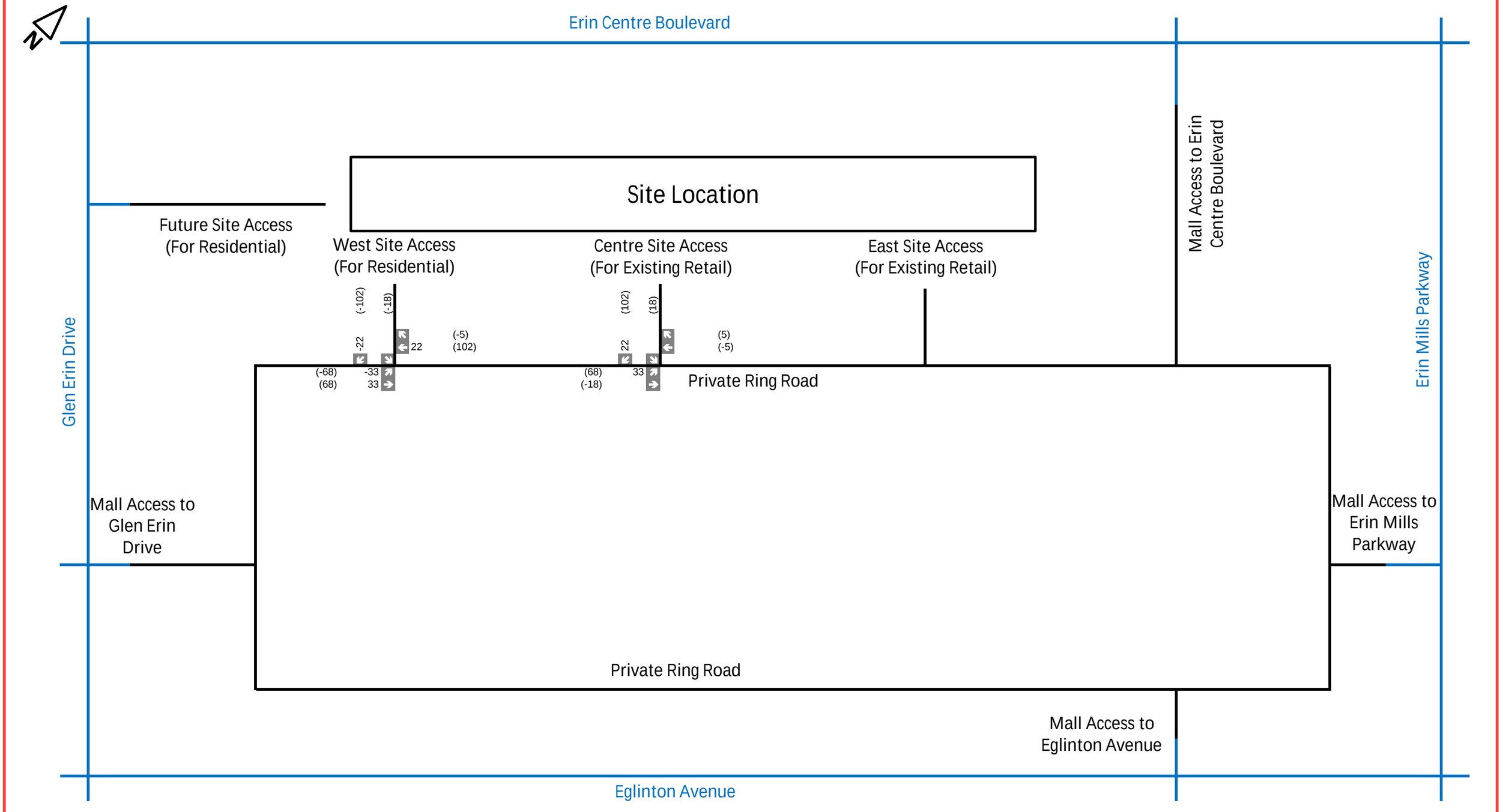


Legend

xx Saturday Peak Hour Traffic Volumes

Figure 4-7

2032 Site Generated Traffic Volumes - Saturday Internal



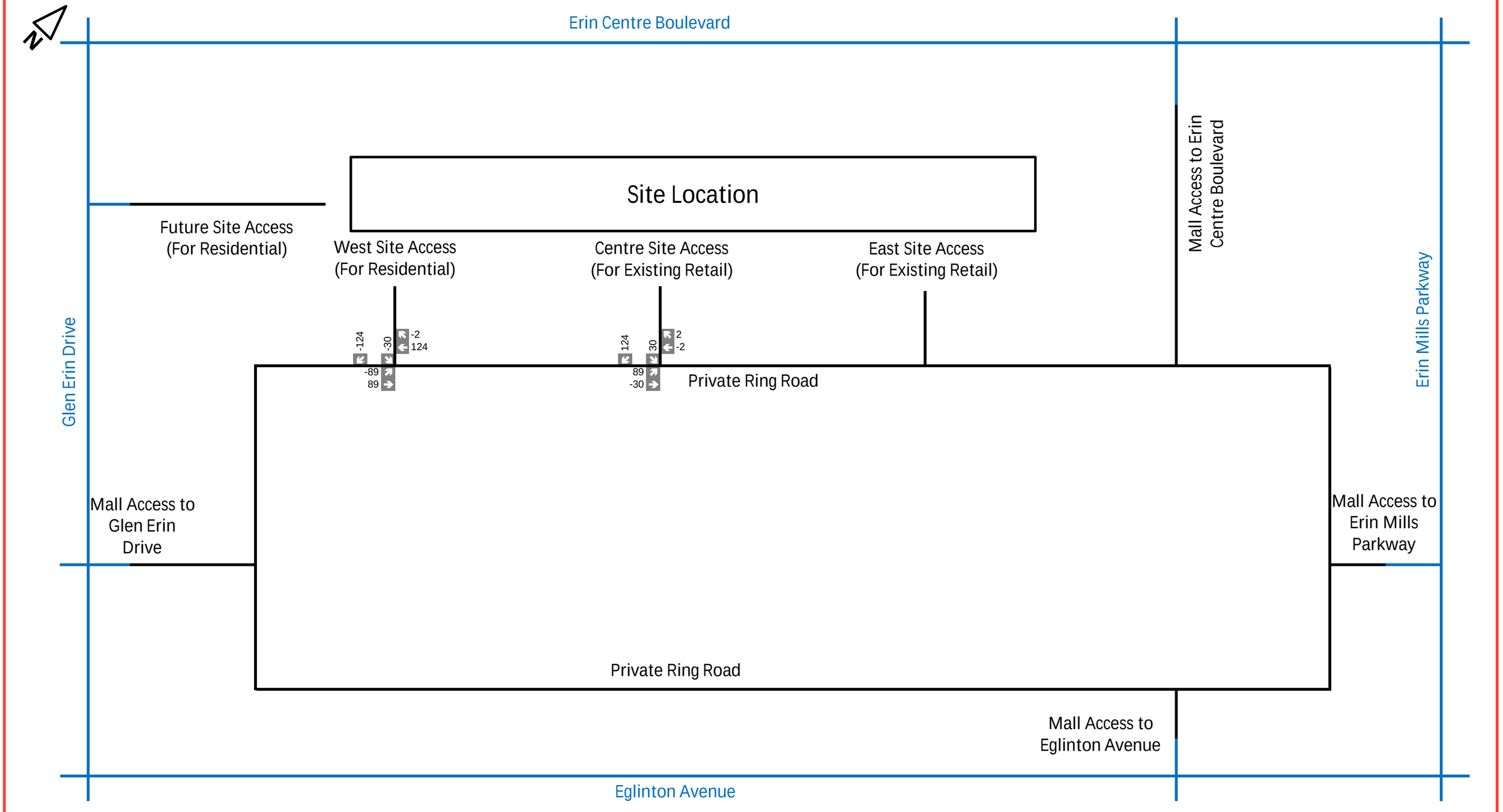
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 4-8

2032 Existing Retail Traffic Re-assignment - Weekday



Legend

xx Saturday Peak Hour Traffic Volumes

Figure 4-9

2032 Existing Retail Traffic Re-assignment - Saturday

Russell View Road

School Driveway

Erin Centre Boulevard

Winston Churchill Boulevard

Plantation Place

Glen Erin Drive

Site Access

Mall Access to Erin Centre Boulevard

Private Ring Road

Erin Mills Parkway

See Figure 4-11 for Internal

Credit Valley Road

Erin Mills Station Access

Hazelton Place

Site Access

Mall Access to Glen Erin Drive

Mall Access to Erin Mills Parkway

Mall Access to Eglinton Avenue

Highway 403 WB Off-ramp

Highway 403 EB Off-ramp

Highway 403 EB On-ramp (for Bus)

Eglinton Avenue

Kimbermount Avenue

Metcalfe Avenue

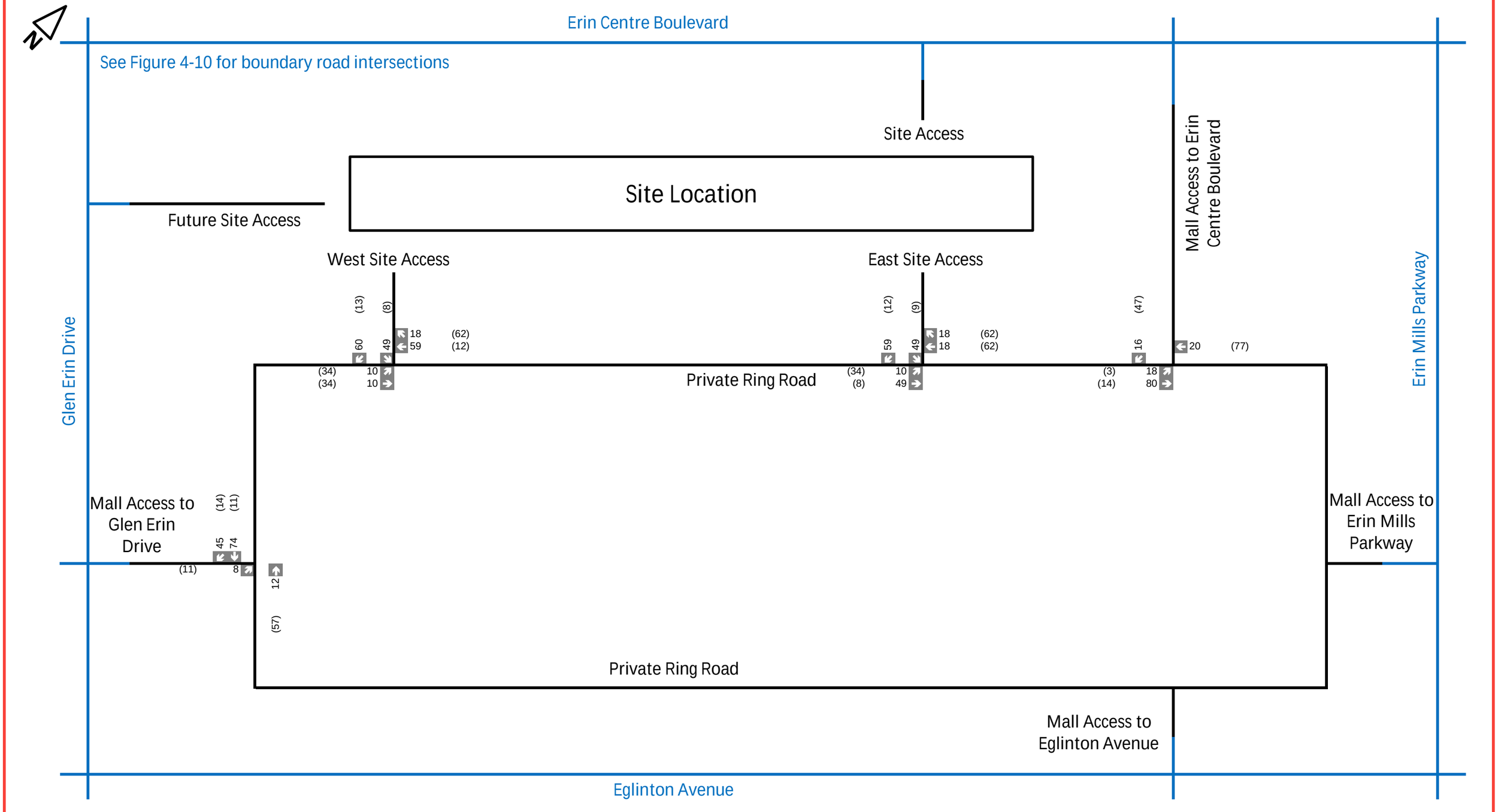
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 4-10

2040 Site Generated Traffic Volumes - Weekday External



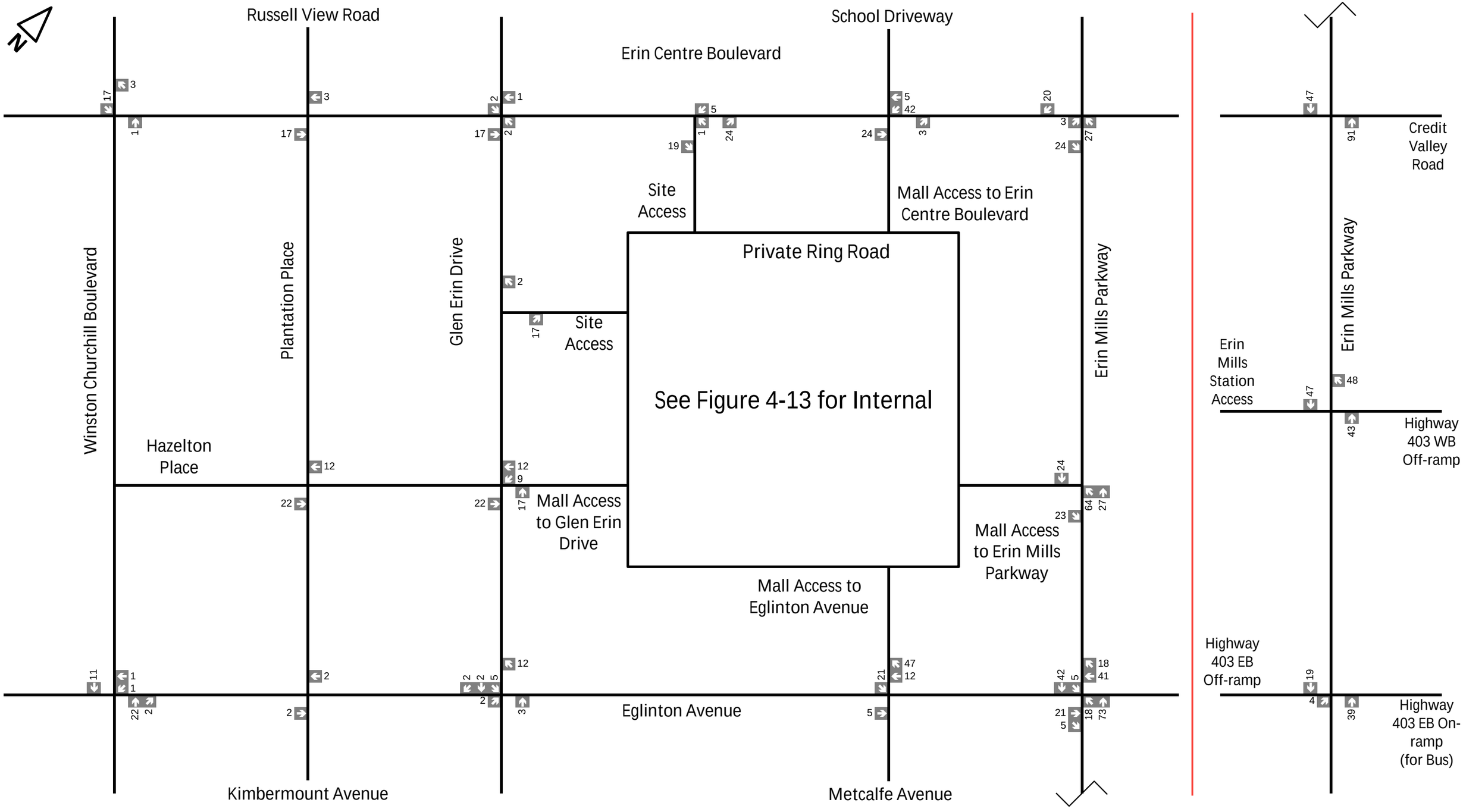
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 4-11

2040 Site Generated Traffic Volumes - Weekday Internal

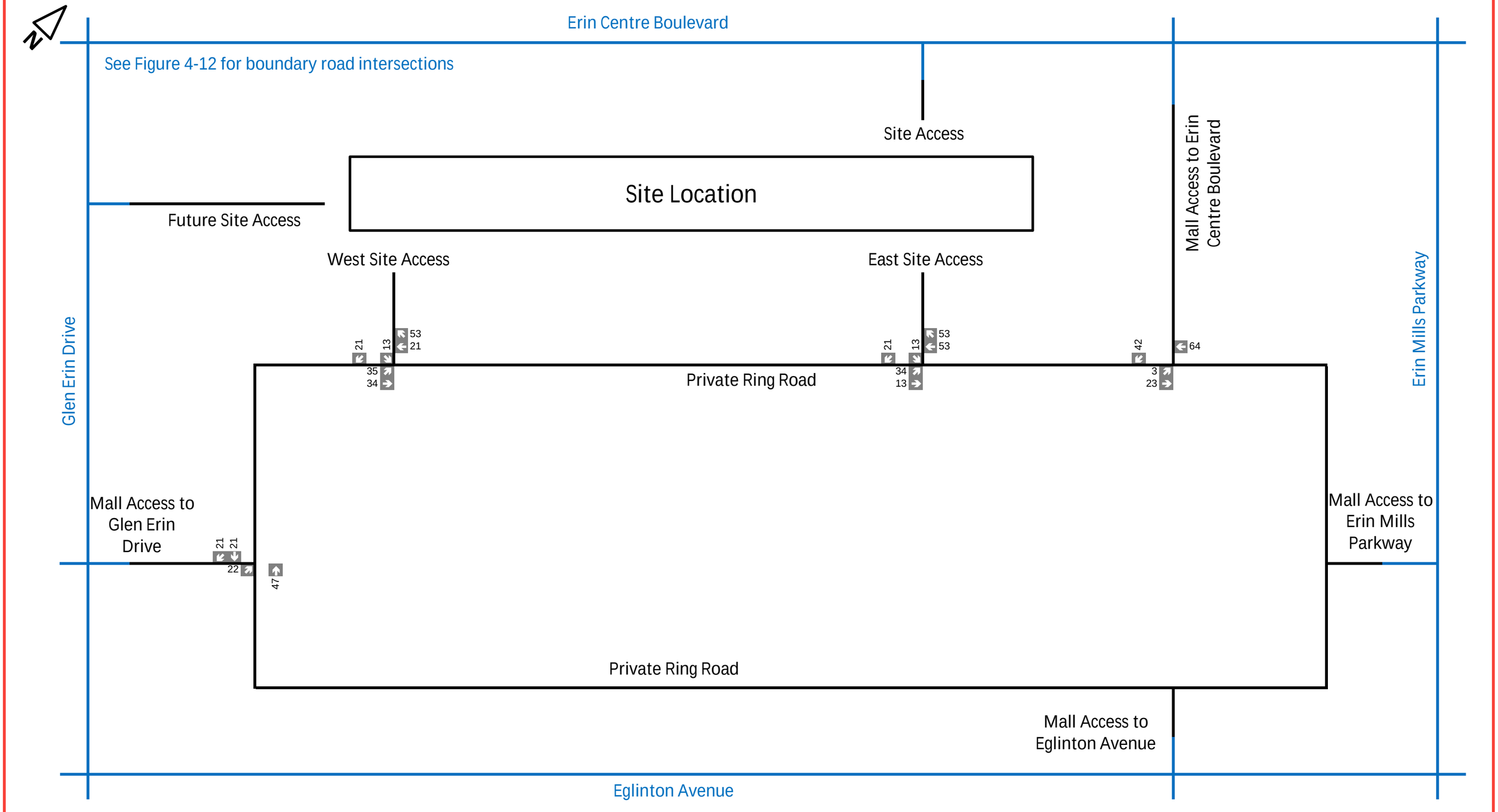


Legend

xx Saturday Peak Hour Traffic Volumes

Figure 4-12

2040 Site Generated Traffic Volumes - Saturday External

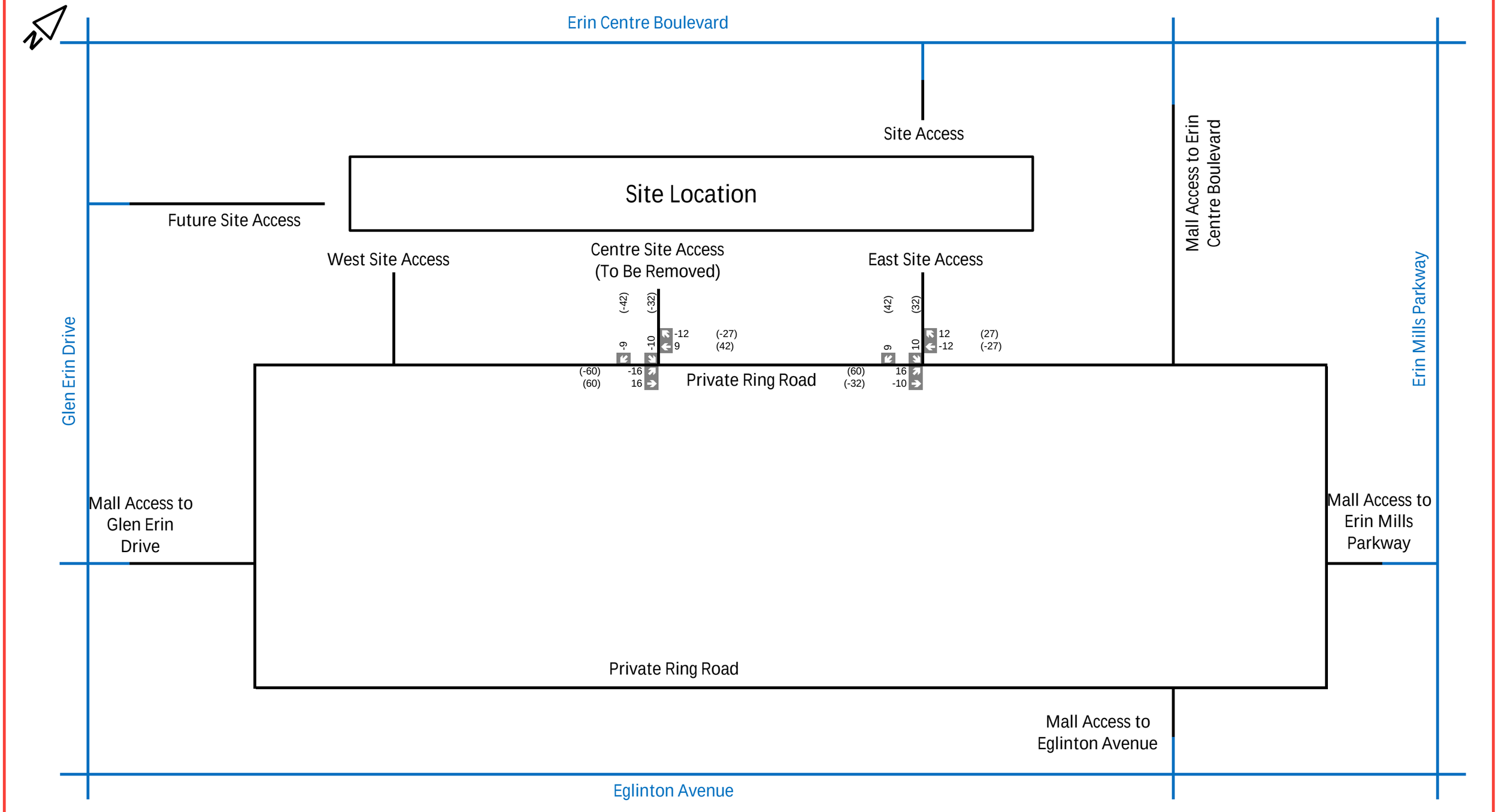


Legend

xx Saturday Peak Hour Traffic Volumes

Figure 4-13

2040 Site Generated Traffic Volumes - Saturday Internal



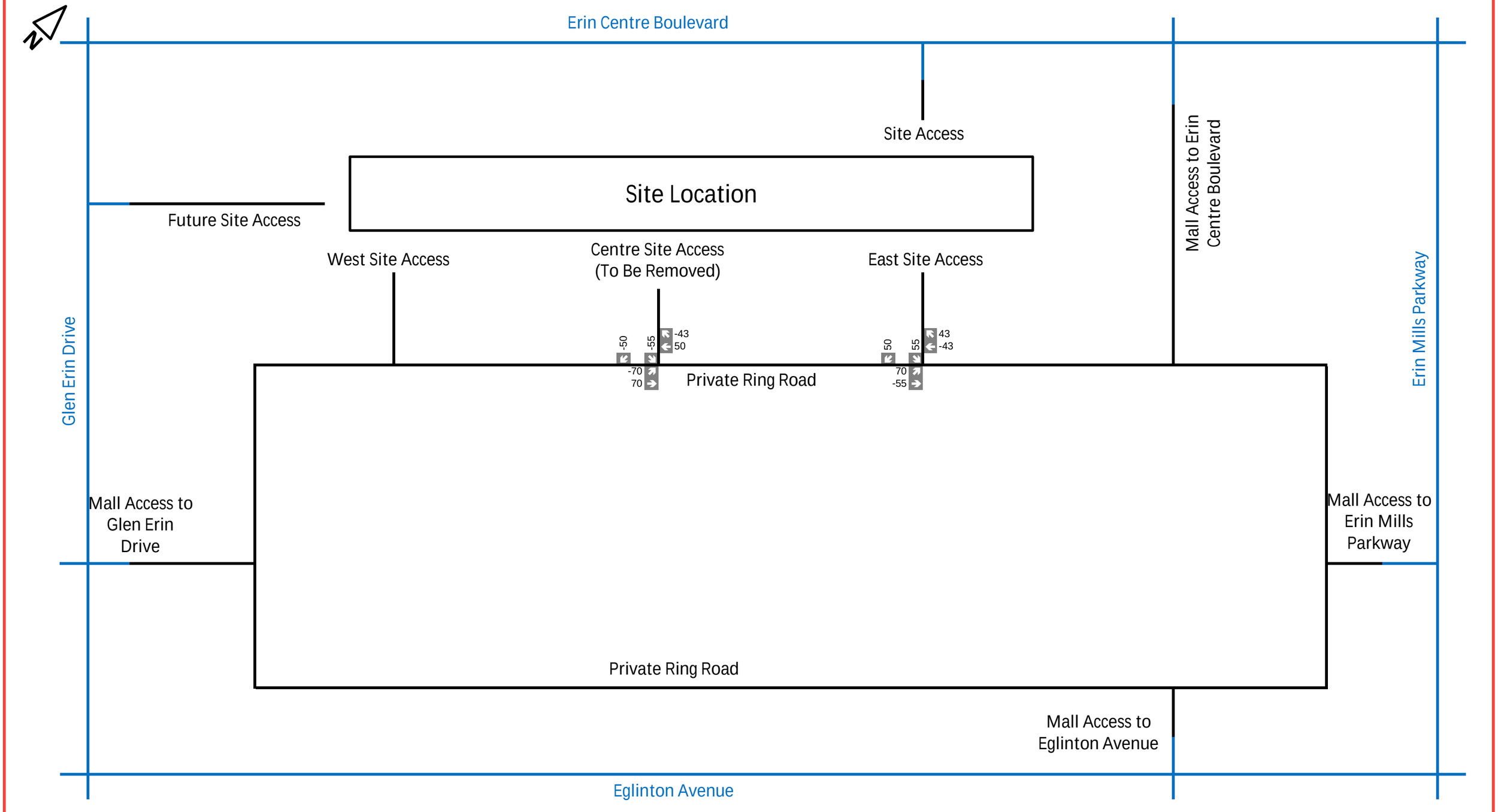
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 4-14

Reassigned Volumes from Removed Centre Driveway - Weekday



Legend

xx Saturday Peak Hour Traffic Volumes

Figure 4-15

Reassigned Volumes from Removed Centre Driveway - Saturday

5 FUTURE TOTAL CONDITIONS

5.1 2032 FUTURE TOTAL (50% BUILDOUT) OPERATIONS

The projected future total traffic volumes were developed by superimposing the volumes from 2032 future background conditions (Figures 3-7 to 3-10), 2032 site-generated traffic (Figures 4-4 to 4-7), and the reassigned retail traffic (Figures 4-8 to 4-9).

The select signal timing optimizations applied in the 2032 future background condition evaluations were carried forward for this analysis to allow for “Apples to Apples” comparison of the incremental level of impact the site will have on the boundary road network. All other signal timings remain unchanged from existing conditions.

The resulting future total volumes are shown in **Figures 5-1 to 5-4**. The future total intersection operations are outlined in **Table 5-1**. The Synchro worksheets are in **Appendix F-1**.

Table 5-1: 2032 Future Total Intersection Operations

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Mid-day Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)
Signalized						
Erin Centre Boulevard & Winston Churchill Blvd	D (38)	--	C (24)	--	C (30)	--
Erin Centre Blvd & Plantation Place / Russell View Road	B (14)	--	A (10)	--	A (8)	--
Erin Centre Boulevard & Glen Erin Drive	B (18)	--	B (18)	--	B (13)	--
Erin Centre Boulevard & North Mall Access	A (9)	--	B (10)	--	B (11)	--
Erin Centre Boulevard & Erin Mills Parkway	C (24)	--	C (24)	--	C (26)	--
Glen Drin Drive & Hazelton Place / West Mall Access	B (13)	--	B (14)	--	B (13)	--
Erin Mills Parkway & East Mall Access	A (6)	--	A (7)	--	A (8)	--
Eglinton Avenue & Winston Churchill Blvd	D (52)	--	E (66)	EB-L (0.97) NB-L (0.97) NB-T (0.97) SB-L (0.88)	D (54)	WB-L (0.88)
Eglinton Avenue & Plantation Place / Kimbermount Avenue	B (11)	--	B (15)	--	B (13)	--
Eglinton Avenue & Glen Erin Drive	C (30)	--	C (27)	--	C (32)	--

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Mid-day Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)
Eglinton Avenue & South Mall Access / Metcalfe Avenue	B (14)	--	B (14)	EB-L (0.96)	C (22)	EB-L (0.91)
Eglinton Avenue & Erin Mills Parkway	E (56)	SB-L (0.86)	D (55)	--	D (49)	NB-L (0.91) SB-L (0.95)
Credit Valley Road & Erin Mills Parkway	C (20)	--	C (21)	WB-L (0.91)	B (19)	--
Erin Mills Parkway & Highway 403 WB off-ramp / GO Station Driveway	D (38)	WB-L (0.92) SB-T (0.93)	D (39)	WB-L (0.90)	C (29)	--
Erin Mills Parkway & Highway 403 EB off-ramp	B (13)	--	B (12)	--	B (11)	--
Unsignalized						
Hazelton Place & Plantation Place	A (7)	--	A (8)	--	A (8)	--
Ring Road & North Mall Access	A (9)	EB-LT (0.32)	A (9)	EB-LT (0.31)	B (11)	EB-LT (0.48)
Ring Road & West Mall Access	A (9)	SB-R (0.34)	B (12)	NB-LT (0.48)	B (14)	EB-L (0.54)
Ring Road & New Residential West Driveway	B (13)	SB-LR (0.30)	C (15)	SB-LR (0.29)	C (19)	SB-LR (0.42)
Ring Road & Existing Retail Centre Driveway	B (10)	SB-LR (0.06)	B (14)	SB-LR (0.34)	C (21)	SB-LR (0.55)
Ring Road & Existing Retail East Driveway	B (11)	SB-LR (0.02)	B (11)	SB-LR (0.08)	B (12)	SB-LR (0.09)
Glen Erin Drive & RIRO Site Driveway	A (10)	WB-R (0.03)	B (15)	WB-R (0.04)	A (10)	WB-R (0.02)

1 For signalized intersections, the level of service is based on the overall delay of the intersection. For stop controlled intersections, the LOS is based on the delay associated with the critical movement.

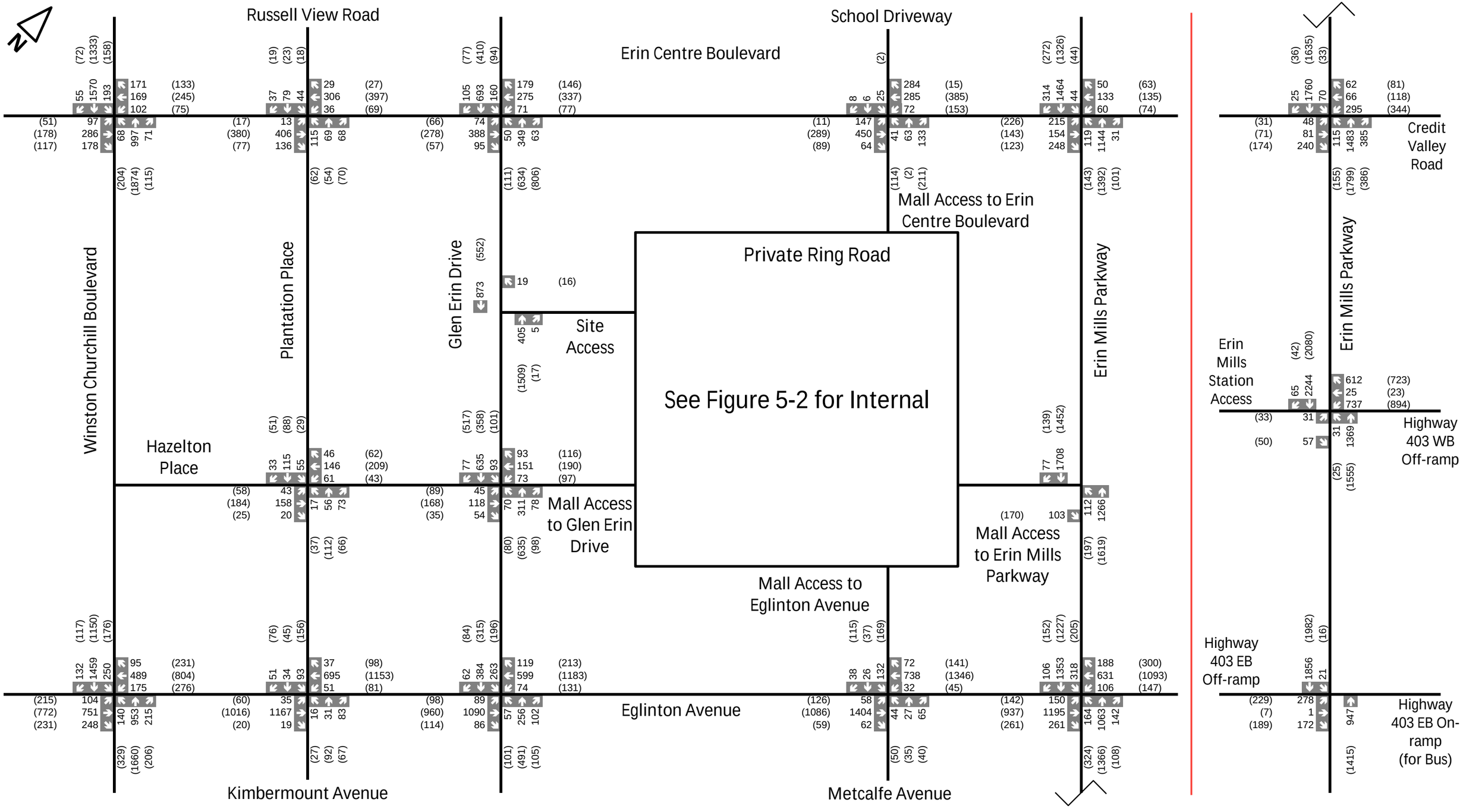
2 At regional intersections, critical v/c ratios are only listed for movements with values over 0.90. At city intersections, critical v/c ratios are only listed for movements with values over 0.85.

The 2032 future total assessment shown in Table 5-1 are very similar to the 2032 future background conditions and there are no critical movements exceeding capacity. For context, the average vehicle delay at all of the signalized intersections increases by 1 second per vehicle during each peak periods compared to the 2032 future background results, which indicates the site-generated traffic has minimal influence.

All of the unsignalized intersections are operating well at LOS ‘C’ or better and with all movements operating within capacity. The proposed residential access (“west driveway”) and the future right-in/right-our driveway onto Glen Erin Drive can accommodate the site generated residential traffic without any issues. The existing retail uses are not affected by the loss of one driveway.

Based on the acceptable levels of service at the study intersections, and the minimal influence the site-generated traffic will have, it is not expected that site-generated traffic will be motivated to infiltrate through other local streets in the neighbourhood, since they would be less direct, and encounter more stop-controls.

Overall, the 2032 future total results indicate that the study area network can readily accommodate the 50% buildout of the proposed development along with the current retail uses on the site today without the need for any geometric roadway improvements for the 2032 horizon.



Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 5-1

2032 Future Total Traffic Volumes - Weekday External

Erin Centre Boulevard

See Figure 5-1 for boundary road intersections

Site Location

Future Site Access
(For Residential)

West Site Access
(For Residential)

Centre Site Access
(For Existing Retail)

East Site Access
(For Existing Retail)

Mall Access to Erin
Centre Boulevard

Glen Erin Drive

Erin Mills Parkway

	West Site Access	Centre Site Access	East Site Access	Mall Access to Erin Centre Boulevard
Northbound	(55) (76)	(144) (50)	(22) (22)	(144) (96)
Eastbound	54 (139)	12 (32)	14 (30)	81 (185)
	245 (280)	268 (275)	275 (285)	92 (146)
Westbound	69 105	31 10	5 5	96 41
Southbound	(62) 23	(128) 49	(31) 15	(139) 161
	(233) 197	(181) 253	(200) 248	(86) 102

Private Ring Road

Mall Access to
Glen Erin
Drive

Northbound	(207) (128)
Eastbound	229 85
	(163) 172
	(207) 120
Westbound	88 48
Southbound	(199) (132)

Private Ring Road

Mall Access to
Erin Mills
Parkway

Mall Access to
Eglinton Avenue

Eglinton Avenue

wsp

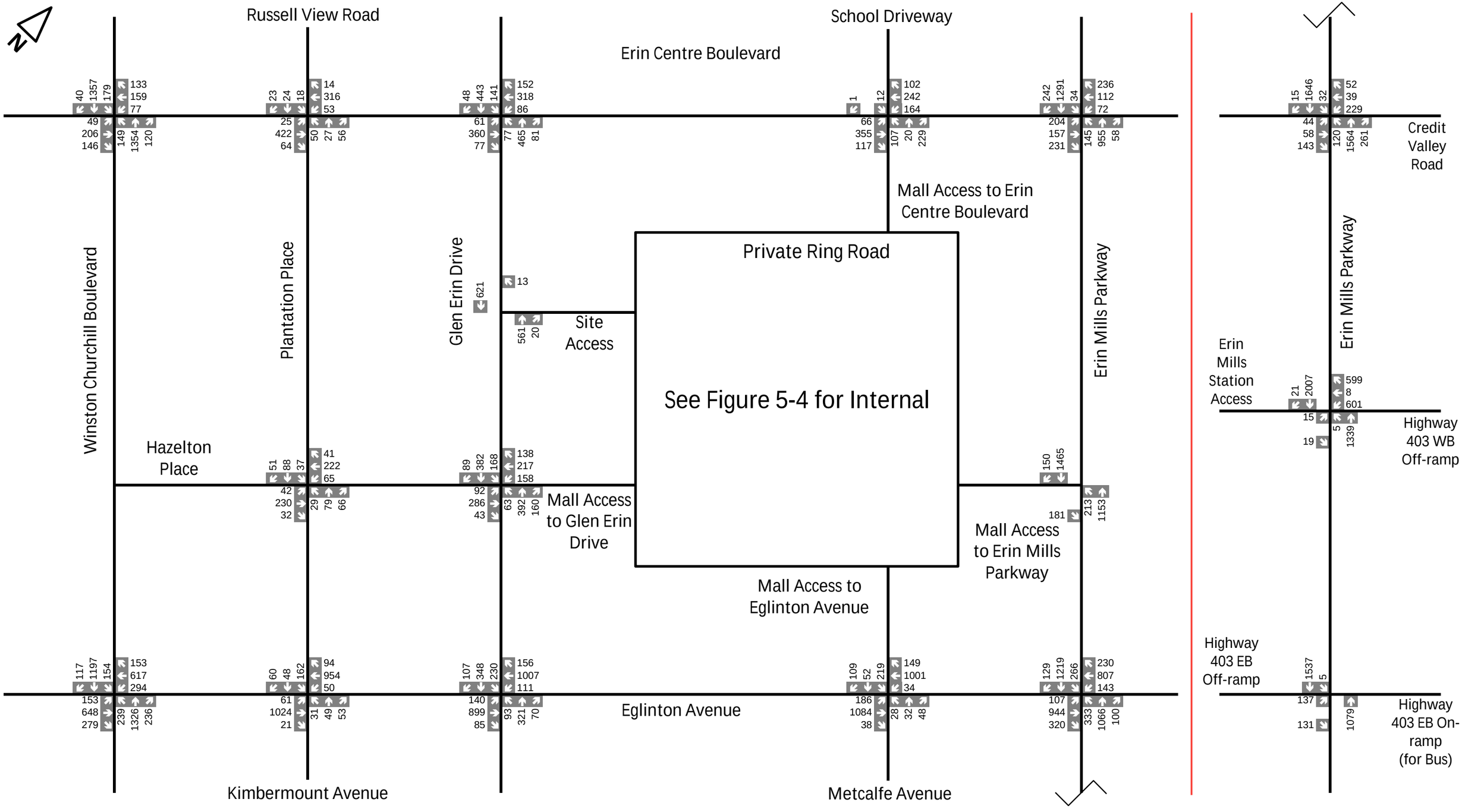
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 5-2

2032 Future Total Traffic Volumes - Weekday Internal

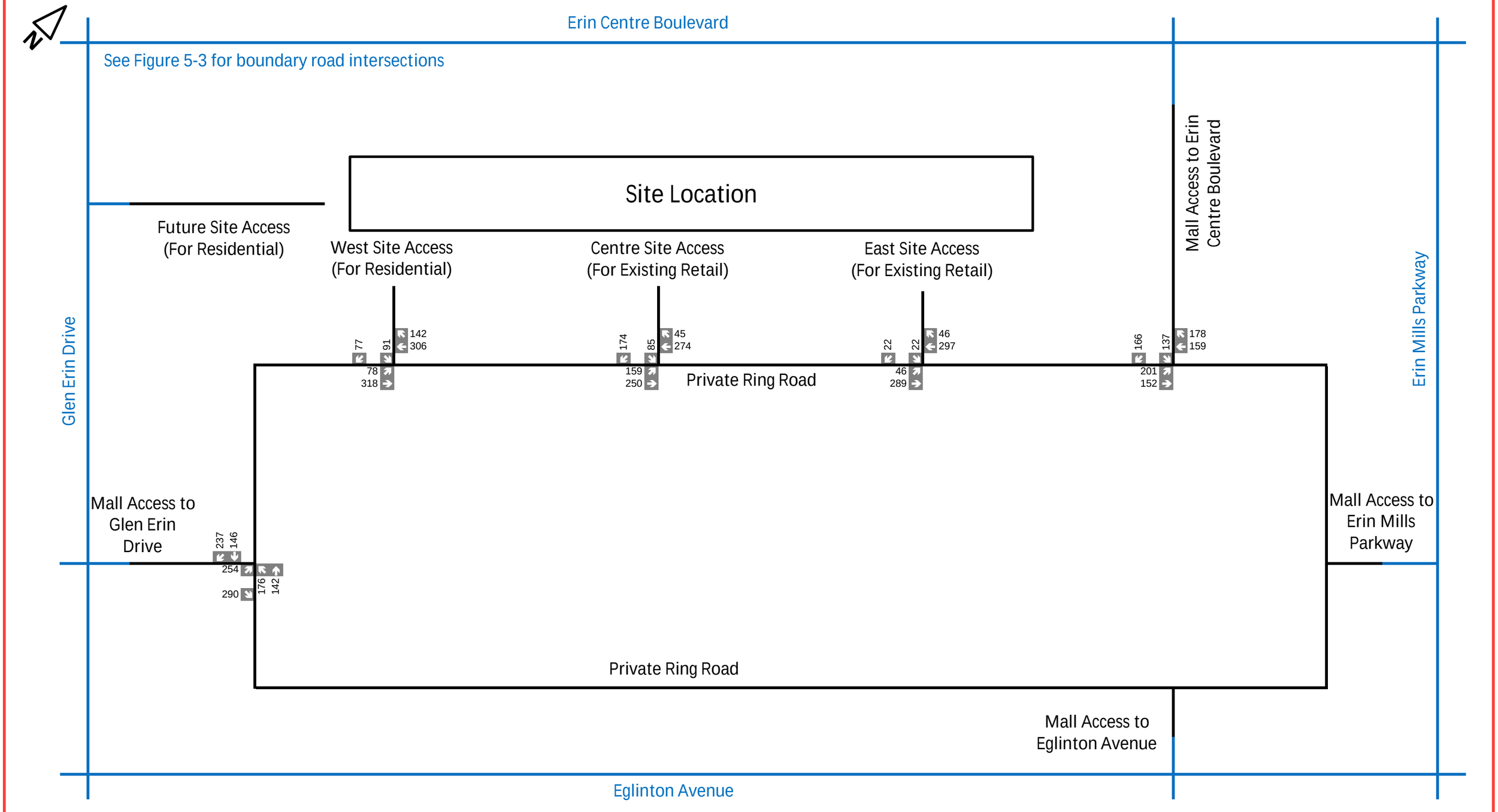


Legend

xx Saturday Peak Hour Traffic Volumes

Figure 5-3

2032 Future Total Traffic Volumes - Saturday External



Legend

xx Saturday Peak Hour Traffic Volumes

Figure 5-4

2032 Future Total Traffic Volumes - Saturday Internal

5.2 2040 FUTURE TOTAL (FULL BUILDOUT) OPERATIONS

The projected 2040 (full buildout) future total traffic volumes were developed by superimposing the volumes from 2040 future background conditions (Figures 3-11 to 3-14), 2040 site-generated traffic (Figures 4-10 to 4-13), and the re-assigned retail traffic (Figures 4-14 to 4-15).

The previous select signal timing optimizations and PHF sensitivity adjustments from the 2040 future background conditions were carried forward for future total analysis to allow “Apples to Apples” comparisons. All other signal timings remain unchanged from exiting conditions. The resulting future total volumes are shown in **Figures 5-5 to 5-8**. The future total intersection operations are outlined in **Table 5-2**. The Synchro worksheets are in **Appendix F-2**.

Table 5-2: 2040 Future Total Intersection Operations

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Mid-day Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)
Signalized						
Erin Centre Boulevard & Winston Churchill Blvd	D (42)	SB-L (0.88)	C (28)	NB-L (0.87)	C (34)	--
Erin Centre Blvd & Plantation Place / Russell View Road	B (13)	--	A (10)	--	A (8)	--
Erin Centre Boulevard & Glen Erin Drive	B (18)	--	B (19)	SB-L (0.87)	B (13)	--
Erin Centre Boulevard & North Mall Access	A (9)	--	A (10)	--	B (11)	--
Erin Centre Boulevard & Erin Mills Parkway	C (25)	--	C (26)	--	C (27)	--
Glen Drin Drive & Hazelton Place / West Mall Access	B (13)	--	B (13)	--	B (13)	--
Erin Mills Parkway & East Mall Access	A (7)	--	A (6)	--	A (7)	--
Eglinton Avenue & Winston Churchill Blvd (with PHF 0.96 during PM)	D (55)	SB-T (0.94)	E (66)	EB-T (0.92) WB-L (0.93) NB-T (0.99) SB-L (0.93)	E (57)	WB-L (0.87) NB-T (0.95)
Eglinton Avenue & Plantation Place / Kimbermount Avenue	B (10)	--	B (15)	--	B (13)	--
Eglinton Avenue & Glen Erin Drive (with PHF 0.92)	C (30)	--	C (27)	WB-L (0.93)	C (34)	EB-L (1.01)
Eglinton Avenue & Glen Erin Drive (with PHF 0.97 during SAT)	--	--	--	--	C (32)	EB-L (0.87)

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Mid-day Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)	LOS (Delay in Seconds)	Critical Movement (v/c Ratio)
Eglinton Avenue & South Mall Access / Metcalfe Avenue (with PHF 0.92)	B (15)	--	B (14)	EB-L (1.04)	C (21)	EB-L (1.03)
Eglinton Avenue & South Mall Access / Metcalfe Avenue (with PHF 0.95 during PM and PHF 0.97 during SAT)	--	--	B (12)	EB-L (0.94)	B (19)	EB-L (0.88)
Eglinton Avenue & Erin Mills Parkway	E (56)	--	E (56)	--	D (50)	NB-L (0.91) SB-L (0.93)
Credit Valley Road & Erin Mills Parkway	B (20)	--	C (21)	WB-L (0.91)	B (19)	--
Erin Mills Parkway & Highway 403 WB off-ramp / GO Station Driveway	D (42)	WB-L (0.92) SB-T (0.99)	D (40)	WB-L (0.90) SB-T (0.95)	C (29)	--
Erin Mills Parkway & Highway 403 EB off-ramp	B (13)	--	B (12)	--	B (10)	--
Unsignalized						
Hazelton Place & Plantation Place	A (7)	--	A (7)	--	A (8)	--
Ring Road & North Mall Access	A (8)	EB-LT (0.28)	A (9)	WB-R (0.27)	B (10)	EB-LT (0.40)
Ring Road & West Mall Access	A (10)	SB-R (0.37)	B (11)	NB-LT (0.48)	B (14)	EB-L (0.53)
Ring Road & Site West Driveway	B (12)	SB-LR (0.21)	B (11)	SB-LR (0.21)	B (13)	SB-LR (0.31)
Ring Road & Site East Driveway	B (12)	SB-LR (0.23)	B (14)	SB-LR (0.27)	C (17)	SB-LR (0.40)
Glen Erin Drive & Site Driveway	A (9)	WB-R (0.02)	B (14)	WB-R (0.01)	A (10)	WB-R (0.00)
Erin Centre Boulevard & Site Driveway	B (12)	NB-LR (0.18)	A (10)	NB-LR (0.03)	B (10)	NB-LR (0.04)

1 *For signalized intersections, the level of service is based on the overall delay of the intersection. For stop controlled intersections, the LOS is based on the delay associated with the critical movement.*

2 *At regional intersections, critical v/c ratios are only listed for movements with values over 0.90. At city intersections, critical v/c ratios are only listed for movements with values over 0.85.*

The 2040 future total results shown in Table 5-2 are very similar to the 2032 future total and the 2040 future background conditions. This is because the after removal of the existing retail trips, the net trip generation for 2040 full buildout is similar to the 2032 interim buildout.

Compared to the 2040 future background results, most of the signalized intersections continue to operate with the same LOS 'D' or better. The only exceptions are Eglinton Avenue at Erin Mills Parkway and Eglinton Avenue at Winston Churchill Boulevard, which continue to operate with LOS 'E' during some peak hours, same as the future

background conditions. For context, the average vehicle delay at all of the signalized intersections increases by 1 second per vehicle during each peak periods compared to the 2040 future background results, which indicates the site-generated traffic has minimal influence.

For Eglinton Avenue at Glen Erin Drive and Eglinton Avenue at Metcalfe Avenue / South Mall Access, despite the overall intersection operating well, the eastbound left-turn movements have v/c ratios slightly exceeding capacity during the weekday p.m. and Saturday peak hours, ranging from 1.01 to 1.04. It should be noted that the site generated trips have very little to no contribution to these over-capacity movements. As noted under the 2040 future background analysis, these intersections adjacent to the mall utilize Leading Pedestrian Intervals (LPI) due to the high pedestrian volumes. As a result, the left-turns operate as permissive phases. Furthermore, the intersection PHFs were set to 0.92 at both intersections, which is more conservative than the real-world PHF observed for these intersections under existing conditions based on the traffic counts. Similar to the 2040 future background assessment, sensitivity analyses were conducted at the busier intersections with the PHF set to their existing surveyed values of 0.95 or 0.97. This calibration to actual peaking patterns results in all movements operating within capacity. Therefore, there is no operational concern related to these busier intersections.

All of the site driveway intersections are forecast to operate well at LOS ‘C’ or better. Due to the internal mall roadways and the size of the development with multiple vehicular driveways, there are many alternative routes to the site where traffic can be distributed. All-way stop control warrants were conduced at the ring road intersection with the accesses connecting to Glen Erin Drive and Erin Mills Parkway based on the projected full buildout volumes in Figures 5-5 to 5-8. The results confirm that the current all-way stop control at both of these intersections continue to be appropriate in the future after full buildout. All of the site driveways will be stop-controlled onto the ring road or boundary streets. No new traffic signals are required nor justified.

Based on the acceptable levels of service at the study intersections, and the minimal influence the site-generated traffic will have, the site-generated traffic are not expected to infiltrate through other local streets in the neighbourhood (i.e. to the north or to the west), since they would be less direct, feature lower speed limit and encounter more stop-controls.

Overall, the 2040 future total assessment results indicate that the study area network can readily accommodate the proposed development without any geometric roadway improvements for the 2040 horizon.

Russell View Road

School Driveway

Erin Centre Boulevard

Winston Churchill Boulevard

Plantation Place

Glen Erin Drive

Erin Mills Parkway

Credit Valley Road

Site Access

Mall Access to Erin Centre Boulevard

Private Ring Road

See Figure 5-6 for Internal

Site Access

Hazelton Place

Mall Access to Glen Erin Drive

Mall Access to Erin Mills Parkway

Mall Access to Eglinton Avenue

Erin Mills Station Access

Highway 403 WB Off-ramp

Highway 403 EB Off-ramp

Highway 403 EB On-ramp (for Bus)

Eglinton Avenue

Kimbermount Avenue

Metcalfe Avenue

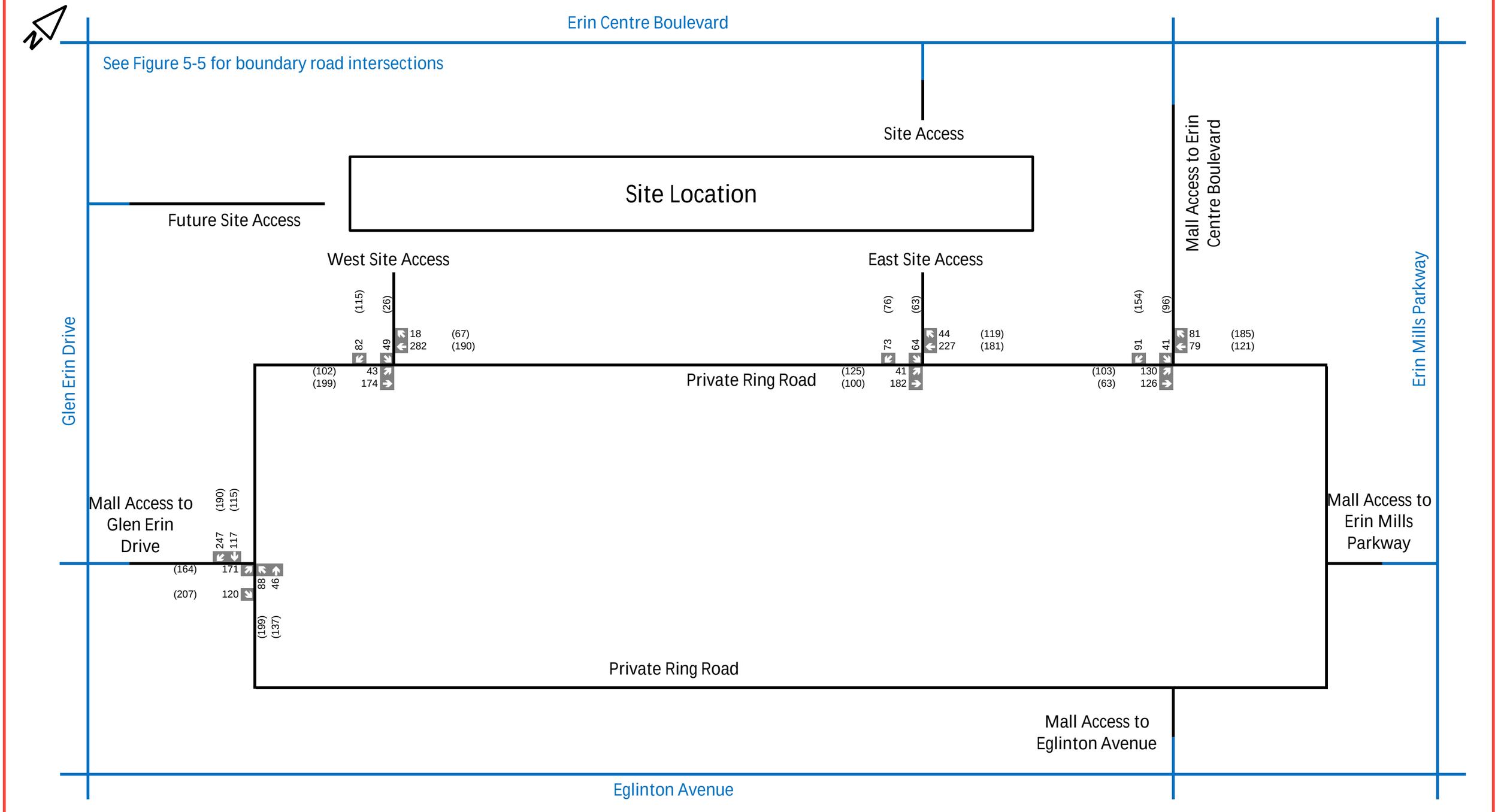
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 5-5

2040 Future Total Traffic Volumes - Weekday External



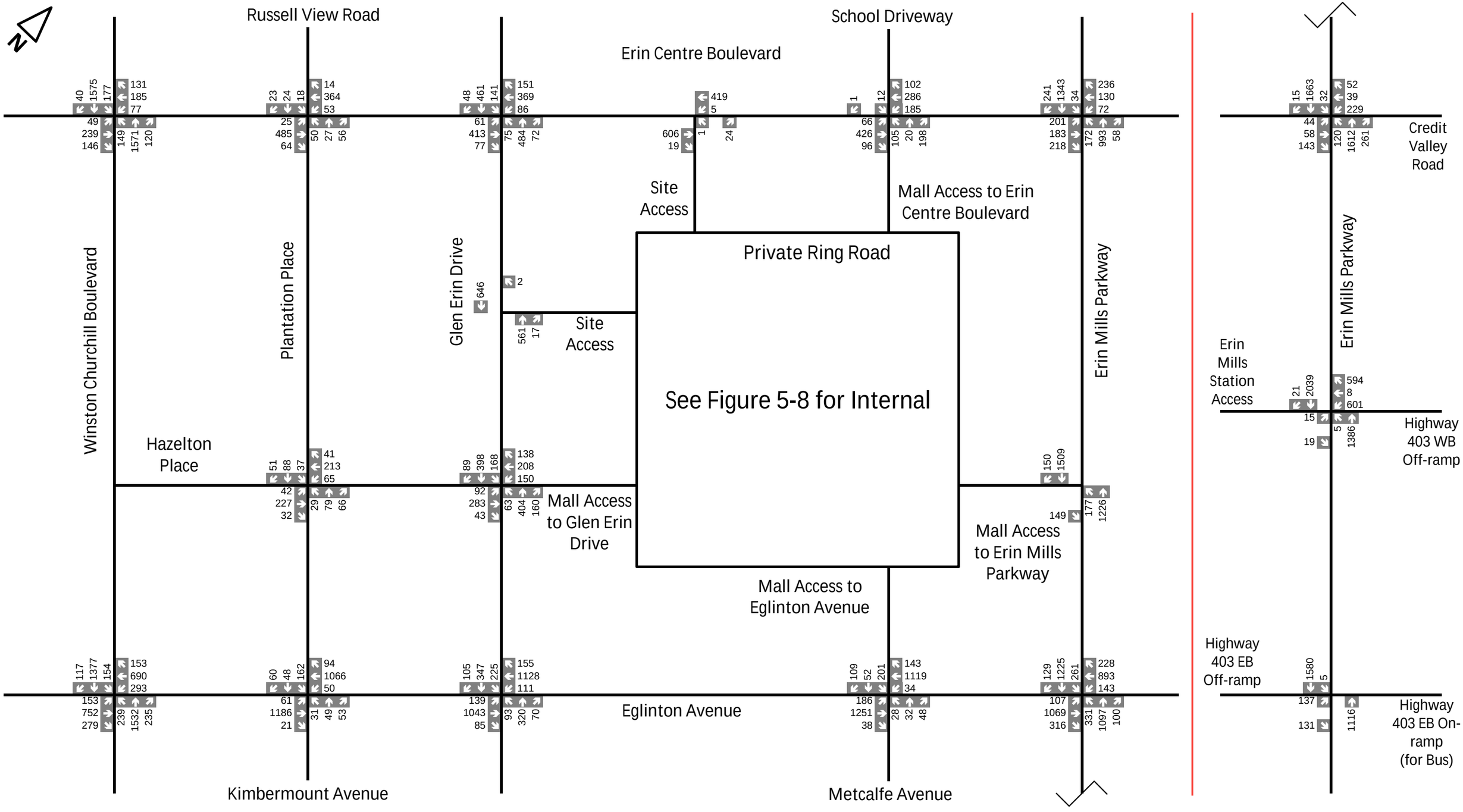
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 5-6

2040 Future Total Traffic Volumes - Weekday Internal

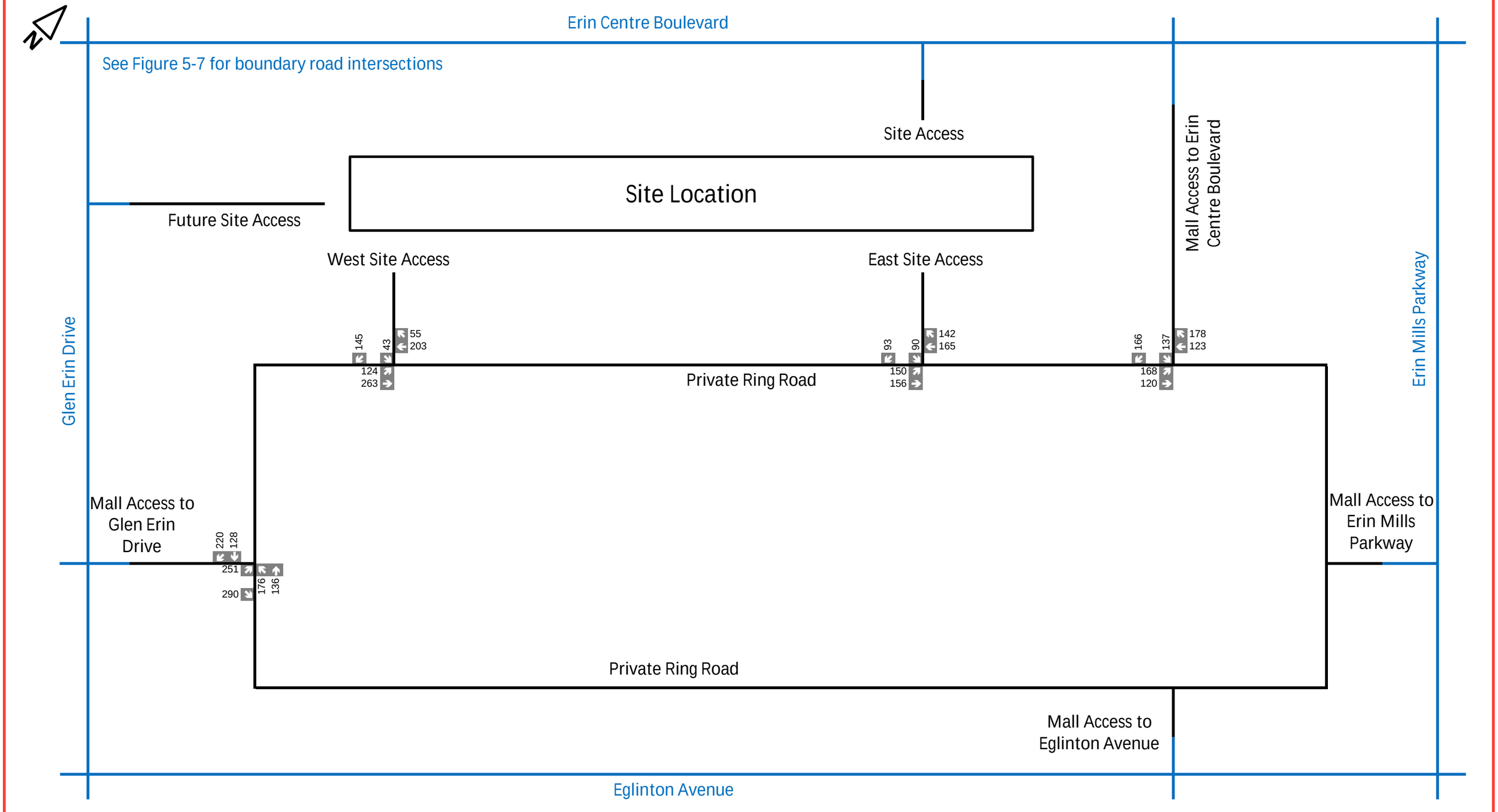


Legend

xx Saturday Peak Hour Traffic Volumes

Figure 5-7

2040 Future Total Traffic Volumes - Saturday External



Legend

xx Saturday Peak Hour Traffic Volumes

Figure 5-8

2040 Future Total Traffic Volumes - Saturday Internal

6 MULTI-MODAL ASSESSMENT

6.1 PEDESTRIAN LEVEL OF SERVICE

METHODOLOGY

The assessment of the pedestrian and bicycle Level of Service criteria is based on the requirements of the Transportation Mobility Plan Guidelines for Development Applications from the Regional Municipality of York. This methodology has been widely used in the GTHA due to its intuitive rating system (minimal black box theory) and applicability. The active transportation Level of Service (LOS) is evaluated based on the infrastructure provided to pedestrians, such as the width of sidewalks. The LOS criteria for pedestrians are summarized in **Table 6-1**.

Table 6-1: York Region Pedestrian LOS Criteria

Level of Service	Segment	Intersection
A	≥2.0 m sidewalk with minimum 3.5 m buffer including planting and edge zone; or ≥3.0 m multi-use path	≥2.0 m sidewalk with minimum 3.5 m buffer including planting and edge zone; or ≥3.0 m multi-use path. Pedestrian signal with sufficient pedestrian clearance time. Clearly delineated cross-walk.
B	≥1.5 m sidewalk with minimum 1.0 m buffer including edge zone; or <3.0 m multi-use path	≥1.5 m sidewalk with minimum 1.0 m buffer including edge zone; or <3.0 m multi-use path. Pedestrian signal with sufficient pedestrian clearance time. Clearly delineated cross-walk.
C	≥1.5 m curb-faced sidewalk (no buffer)	≥1.5 m curb-faced sidewalk (no buffer). Pedestrian signal with sufficient pedestrian clearance time. Clearly delineated cross-walk.
D	<1.5 m sidewalk	<1.5 m sidewalk. Pedestrian signal with sufficient pedestrian clearance time. No clearly delineated crosswalk.
E	Paved shoulder or no sidewalk provision	Paved shoulder or no sidewalk provision. No pedestrian signal head. No clearly delineated cross-walk.
F	No sidewalk provision	No sidewalk provision. No pedestrian signal head. No clearly delineated cross-walk.

EXISTING PEDESTRIAN LEVEL-OF-SERVICE

Based on Table 6-1 criteria, the existing pedestrian LOS are summarised in **Table 6-2**.

Table 6-2: Existing Pedestrian Level-of-Service

Intersection	Approach	Segment	Intersection
Erin Centre Boulevard & Glen Erin Drive	Northbound	B	B
	Southbound	B	B
	Eastbound	B	B
	Westbound	B	B
Erin Centre Boulevard & North Mall Access	Northbound	F	F
	Southbound	B	B
	Eastbound	B	B
	Westbound	B	B
Erin Centre Boulevard & Erin Mills Parkway	Northbound	C	C
	Southbound	A	A
	Eastbound	B	C
	Westbound	B	B
Glen Erin Drive & Hazelton Place / West Mall Access	Northbound	B	C
	Southbound	B	C
	Eastbound	F	F
	Westbound	B	B
Erin Mills Parkway & East Mall Access	Northbound	C	C
	Southbound	A	A
	Eastbound	F	F
	Westbound	B	B
Eglinton Avenue & Glen Erin Drive	Northbound	B	B
	Southbound	B	B
	Eastbound	A/B	B
	Westbound	B	B
Eglinton Avenue & Metcalfe Avenue / South Mall Access	Northbound	B	B
	Southbound	B	B
	Eastbound	A	A
	Westbound	B	B
Eglinton Avenue & Erin Mills Parkway	Northbound	C	C
	Southbound	A	A
	Eastbound	A/C	A
	Westbound	C	C

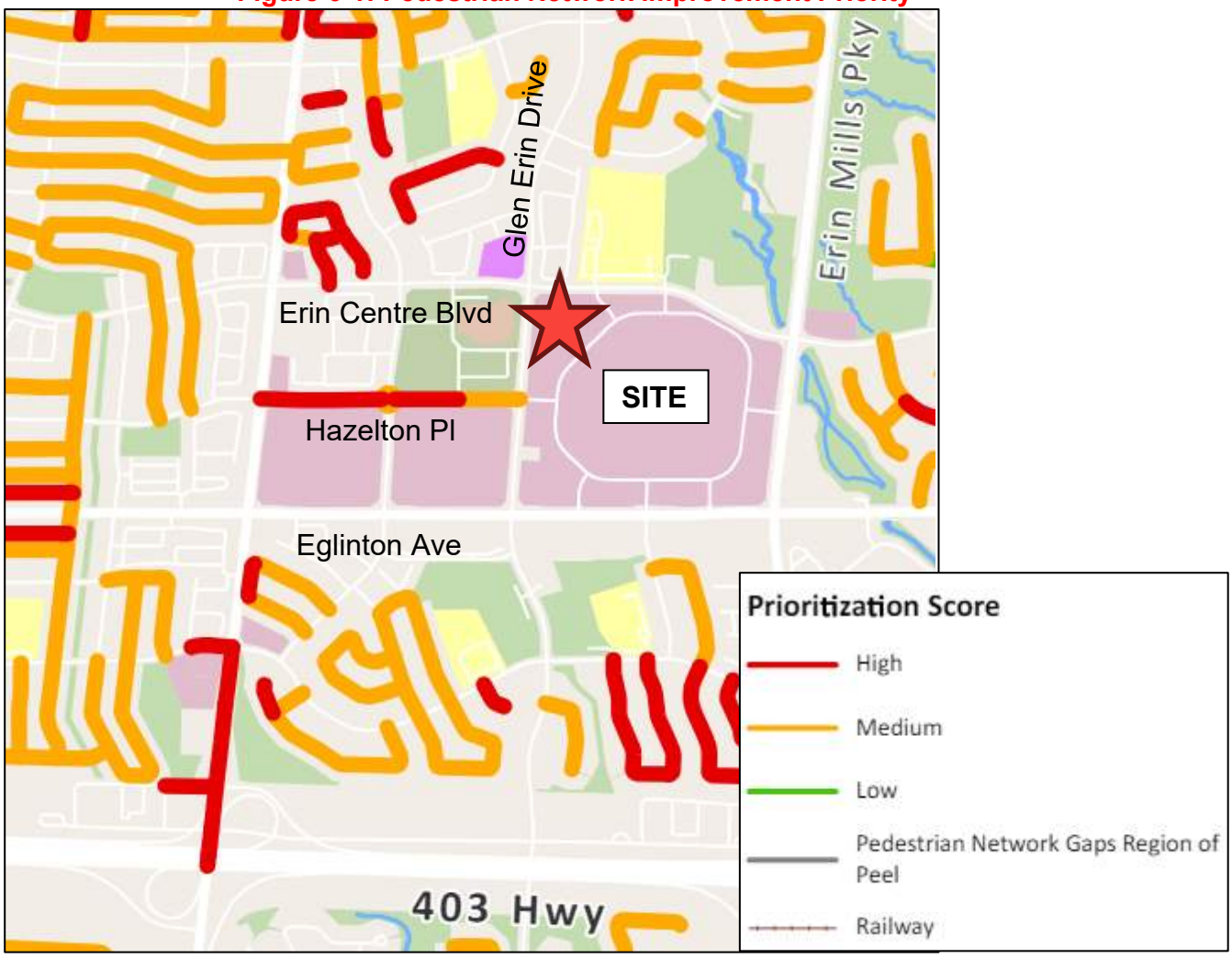
As shown in Table 6-2, the study area has decent sidewalk coverage under existing conditions. Most of the streets have pedestrian sidewalks at LOS B or C, depending on if they are buffered. The segments along Eglinton Avenue and Erin Mills Parkway have a multi-use path on one side, resulting in an excellent LOS A. Some of the mall access intersections are at LOS F where there are only sidewalks on one side of the street.

Overall, the road network surrounding the subject site has an excellent pedestrian network with good sidewalk coverage.

PLANNED IMPROVEMENTS

Based on a review of the City of Mississauga Pedestrian Master Plan, the missing sidewalks have been acknowledged by the city, as illustrated in **Figure 6-1**. The segment of Hazelton Place has a medium to high priority for improvement.

Figure 6-1: Pedestrian Network Improvement Priority



Source: Mississauga Pedestrian Master Plan (October 1, 2021)

FUTURE PEDESTRIAN LEVEL-OF-SERVICE

The future pedestrian LOS is forecast to be almost identical to the existing conditions. The only change is along Hazelton Place, as shown in **Table 6-2**. However, this route is not expected to be heavily relied upon by residents of the proposed development as it is does not form a obvious pedestrian desire line.

Table 6-2: Future Pedestrian Level-of-Service

Intersection	Approach	Segment	Intersection
Glen Erin Drive & Hazelton Place / West Mall Access	Northbound	B	C
	Southbound	B	C
	Eastbound	B	B
	Westbound	B	B

ACTIVE TRANSPORTATION CIRCULATION PLAN

As requested by the City's ToR requirements, an active transportation circulation plan has been prepared for the development as shown in **Figures 6-2** indicating the active transportation routes, primary pedestrian entrances, crossing opportunities, proximity to adjacent transit stops, etc.

6.2 CYCLING LEVEL OF SERVICE

Similar to pedestrians, the LOS for cyclists was assessed based on the bicycle Level of Service criteria requirements of the Transportation Mobility Plan Guidelines for Development Applications from the Regional Municipality of York. The LOS criteria for cyclists is summarized in **Table 6-3**.

Table 6-3: York Region Cyclist LOS Criteria

Level of Service	Segment	Intersection
A	Separated cycling facilities (e.g. cycle tracks, multi-use path)	Separated cycling facilities Bicycle box or clearly delineated bicycle treatment or bicycle signal head
B	≥1.8 m dedicated cycling facilities (e.g. bicycle lanes with and without buffer)	>1.8 m dedicated cycling facilities (e.g. bicycle lanes with and without buffer), Bicycle box, clearly delineated bicycle treatment or bicycle signal head
C	<1.8 m dedicated cycling facilities with no buffer	<1.8 m dedicated cycling facilities with no buffer. Bicycle box, clearly delineated bicycle treatment or bicycle signal head
D	≤1.5 m bicycle lane with no buffer	≤1.5 m bicycle lane and no buffer. Bicycle treatment.
E	Shared facilities (e.g. signed routes, sharrows or paved shoulder with minimum 1.2 m in constrained area)	Shared facilities (e.g. signed routes, sharrows or paved shoulder with minimum 1.2 m in constrained area) No clearly delineated bicycle treatment
F	No bicycle provision	No bicycle provision

EXISTING CYCLING LEVEL-OF-SERVICE

There are several existing cycling facilities along the surrounding road network, including dedicated bike lanes and multi-use trails, as shown in **Figure 6-3**.

Figure 6-3: Existing Cycling Network

Source: 2023 Mississauga Cycling Map

The existing cycling network was evaluated based on criteria in Table 6-3, and the resulting cycling LOS are summarized in **Table 6-4**.

Table 6-4: Existing Cycling Level-of-Service

Intersection	Approach	Segment	Intersection
Erin Centre Boulevard & Glen Erin Drive	Northbound	F	F
	Southbound	F	F
	Eastbound	C	C
	Westbound	C	C
Erin Centre Boulevard & North Mall Access	Northbound	F	F
	Southbound	F	F
	Eastbound	C	C
	Westbound	C	C
Erin Centre Boulevard & Erin Mills Parkway	Northbound	F	F
	Southbound	A	A
	Eastbound	C	C
	Westbound	C	C
Glen Erin Drive & Hazelton Place / West Mall Access	Northbound	F	F
	Southbound	F	F
	Eastbound	F	F
	Westbound	F	F
Erin Mills Parkway & East Mall Access	Northbound	F	F
	Southbound	A	A
	Eastbound	F	F
	Westbound	F	F
Eglinton Avenue & Glen Erin Drive	Northbound	F	F
	Southbound	F	F
	Eastbound	A/F	F
	Westbound	F	F
Eglinton Avenue & Metcalfe Avenue / South Mall Access	Northbound	F	F
	Southbound	F	F
	Eastbound	A	A
	Westbound	F	F
Eglinton Avenue & Erin Mills Parkway	Northbound	F	F
	Southbound	A	A
	Eastbound	A	A
	Westbound	F	F

As shown in Table 6-4, there are cycling facilities along three of the boundary roadways surrounding the site, including Erin Centre Boulevard, Erin Mills Parkway, and a section of Eglington Avenue. These cycling routes have LOS C or better. The remaining streets without cycling facilities are at LOS F. Overall, the subject site is well connected to the existing cycling network. In particular, there are existing cycling facilities that connect the subject site to the Erin Mills Town Centre Terminal Station that allow a resident or visitor to complete the last mile/first mile within an 8-minute bike ride to access the bus rapid way and several bus routes.

PLANNED IMPROVEMENTS

Figure 6-4 shows the proposed cycling network as illustrated in Mississauga Cycling Master Plan 2018.

Figure 6-4: Pedestrian Network Improvement Priority

Source: Mississauga Cycling Master Plan 2018

Several of the proposed cycling facilities from 2018 Cycling Master Plan has since been implemented under existing conditions, such as the multi-use path along Erin Mills Parkway. Of the remaining routes, the most notable are the dedicated cycling facilities along Glen Erin Drive and Eglinton Avenue.

The proposed cycle track/separated bike lane along Glen Erin Drive runs along the subject site's westerly frontage, connecting the site with the surrounding cycling network. The proposed multi-use trail along Eglinton Avenue is currently partially implemented near the site, as described previously. Once completed, the multi-use trail will extend east past Erin Mills Parkway and through the City of Mississauga.

FUTURE CYCLING LEVEL-OF-SERVICE

The future cycling LOS is summarized in **Table 6-5**.

Table 6-5: Future Cycling Level-of-Service

Intersection	Approach	Segment	Intersection
Erin Centre Boulevard & Glen Erin Drive	Northbound	A	A
	Southbound	A	A
	Eastbound	C	C
	Westbound	C	C
Erin Centre Boulevard & North Mall Access	Northbound	F	F
	Southbound	F	F
	Eastbound	C	C
	Westbound	C	C
Erin Centre Boulevard & Erin Mills Parkway	Northbound	F	F
	Southbound	A	A
	Eastbound	C	C
	Westbound	C	C
Glen Erin Drive & Hazelton Place / West Mall Access	Northbound	A	A
	Southbound	A	A
	Eastbound	F	F
	Westbound	F	F
Erin Mills Parkway & East Mall Access	Northbound	F	F
	Southbound	A	A
	Eastbound	F	F
	Westbound	F	F
Eglinton Avenue & Glen Erin Drive	Northbound	A	A
	Southbound	A	A
	Eastbound	A	A
	Westbound	A	A
Eglinton Avenue & Metcalfe Avenue / South Mall Access	Northbound	F	F
	Southbound	F	F
	Eastbound	A	A
	Westbound	F	F
Eglinton Avenue & Erin Mills Parkway	Northbound	F	F
	Southbound	A	A
	Eastbound	A	A
	Westbound	A	A

The future cycling LOS indicates that Glen Erin Drive will improve to LOS A after the dedicated cycling facilities are implemented. This will complete the cycling network within the site vicinity and provide cycling routes in all directions along major streets.

6.3 TRANSIT LEVEL OF SERVICE

METHODOLOGY

The LOS for transit services was assessed based on the transit Level of Service criteria of the Transportation Mobility Plan Guidelines for Development Applications from the Regional Municipality of York. The LOS criteria for transit are summarized in **Table 6-6**.

Table 6-6: York Region Transit LOS Criteria

Level of Service	Access to Transit Stops	Transit Headways	Intersection Approach (curb lane)	
			Delay (s)	v/c Ratio
A	90% within ≤200m	≤5 minutes	≤10	0 to 0.60
B	90% within ≤500m and 70% within ≤200m	>5-10 minutes	>10-20	0.61 to 0.70
C	90% within ≤500m and 50% within ≤200m	>10-15 minutes	>20-35	0.71 to 0.80
D	10% within ≤600m	>15-20 minutes	>35-55	0.81 to 0.90
E	10% within ≤800m	>20-30 minutes	>55-80	0.91 to 1.00
F	100% >800m	>30 minutes	>80	>1.00

EXISTING TRANSIT LEVEL-OF-SERVICE

The existing transit LOS are summarized in **Table 6-7**.

Table 6-7: Existing Transit Level of Service

Intersection	Direction	Access to Transit Stops	Transit Headways	Intersection Approach (curb lane)					
				AM		PM		SAT	
				Delay	v/c Ratio	Delay	v/c Ratio	Delay	v/c Ratio
Erin Centre Boulevard & Glen Erin Drive	Northbound	A	D	B	A	A	A	B	A
	Southbound	A	D	B	A	A	A	A	A
	Eastbound	A	E	B	A	C	A	B	A
	Westbound	A	E	B	A	C	A	B	A
Erin Centre Boulevard & North Mall Access	Northbound	n/a	--	--	--	--	--	--	--
	Southbound	n/a	--	--	--	--	--	--	--
	Eastbound	A	C	A	A	A	A	A	A
	Westbound	A	C	A	A	A	A	A	A

Intersection	Direction	Access to Transit Stops	Transit Headways	Intersection Approach (curb lane)					
				AM		PM		SAT	
				Delay	v/c Ratio	Delay	v/c Ratio	Delay	v/c Ratio
Erin Centre Boulevard & Erin Mills Parkway	Northbound	n/a	--	--	--	--	--	--	--
	Southbound	A	D	A	A	A	A	A	A
	Eastbound	A	D	A	A	A	A	B	A
	Westbound	n/a	--	--	--	--	--	--	--
Glen Erin Drive & Hazelton Place / West Mall Access	Northbound	A	D	A	A	A	A	A	A
	Southbound	A	D	A	A	A	A	A	A
	Eastbound	n/a	--	--	--	--	--	--	--
	Westbound	n/a	--	--	--	--	--	--	--
Eglinton Avenue & Glen Erin Drive	Northbound	A	D	B	A	E	C	D	A
	Southbound	A	D	C	A	D	A	D	A
	Eastbound	A	B	D	A	B	A	B	A
	Westbound	A	B	D	A	B	A	C	A
Eglinton Avenue & Metcalfe Avenue / South Mall Access	Northbound	n/a	--	--	--	--	--	--	--
	Southbound	n/a	--	--	--	--	--	--	--
	Eastbound	A	B	A	A	A	A	A	A
	Westbound	A	B	A	A	A	A	B	A
Eglinton Avenue & Erin Mills Parkway	Northbound	n/a	--	--	--	--	--	--	--
	Southbound	n/a	--	--	--	--	--	--	--
	Eastbound	A	B	A	A	C	A	B	A
	Westbound	A	B	A	A	A	A	A	A

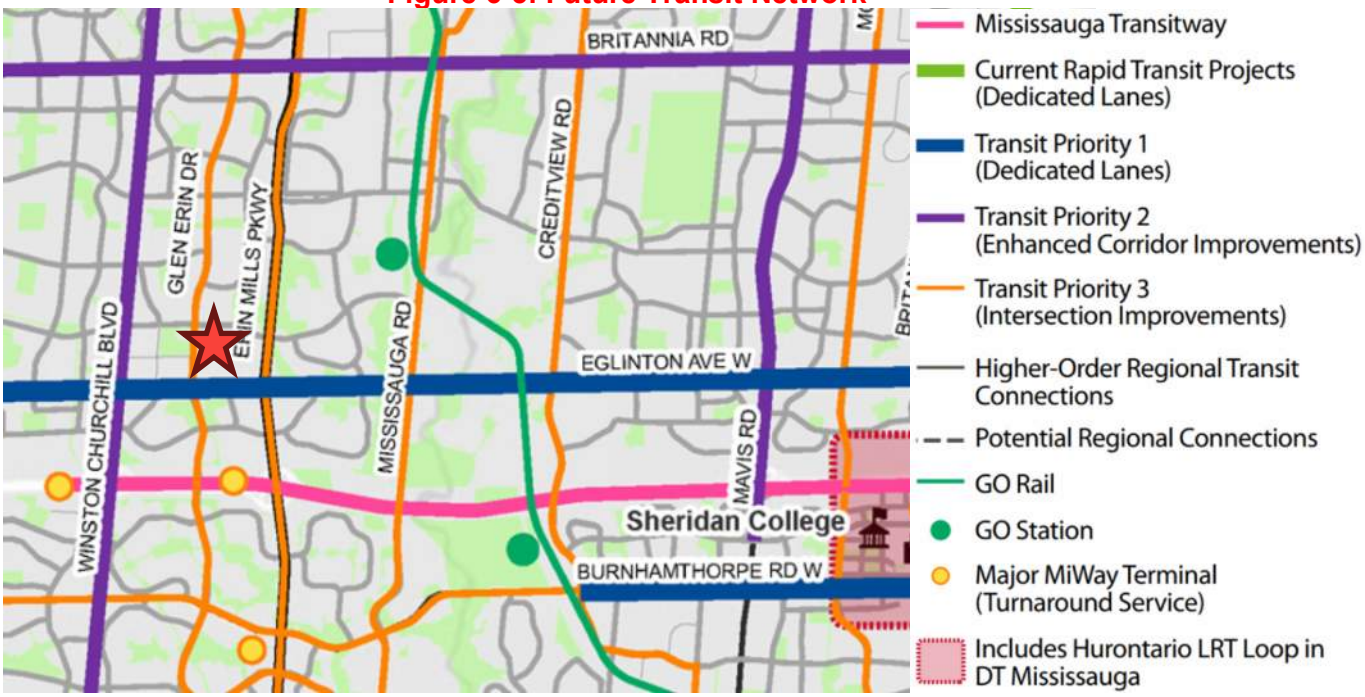
As previously mentioned in Section 2.3, there are numerous transit routes servicing the surrounding corridors and the Erin Mills Town Centre Terminal Station. The existing transit LOS in Table 6-7 indicates that most of the bus routes have decent headways of LOS D or better, except for Erin Centre Boulevard & Glen Erin Drive at LOS E. Route 35 along Eglinton Avenue operates more frequently at LOS B headways.

The curb lane approach at most transit stop intersections are also at LOS D or better and are not expected to cause delays for buses. Overall, the subject site is well serviced by the existing transit routes.

PLANNED IMPROVEMENTS

Several transit improvements are planned along the major corridors surrounding the subject site. The City of Mississauga is preparing a Transit and Road Infrastructure Plan and is currently in Phase 3 finalizing the preferred plan. The contemplated transit network is shown in **Figure 6-5**.

Figure 6-5: Future Transit Network

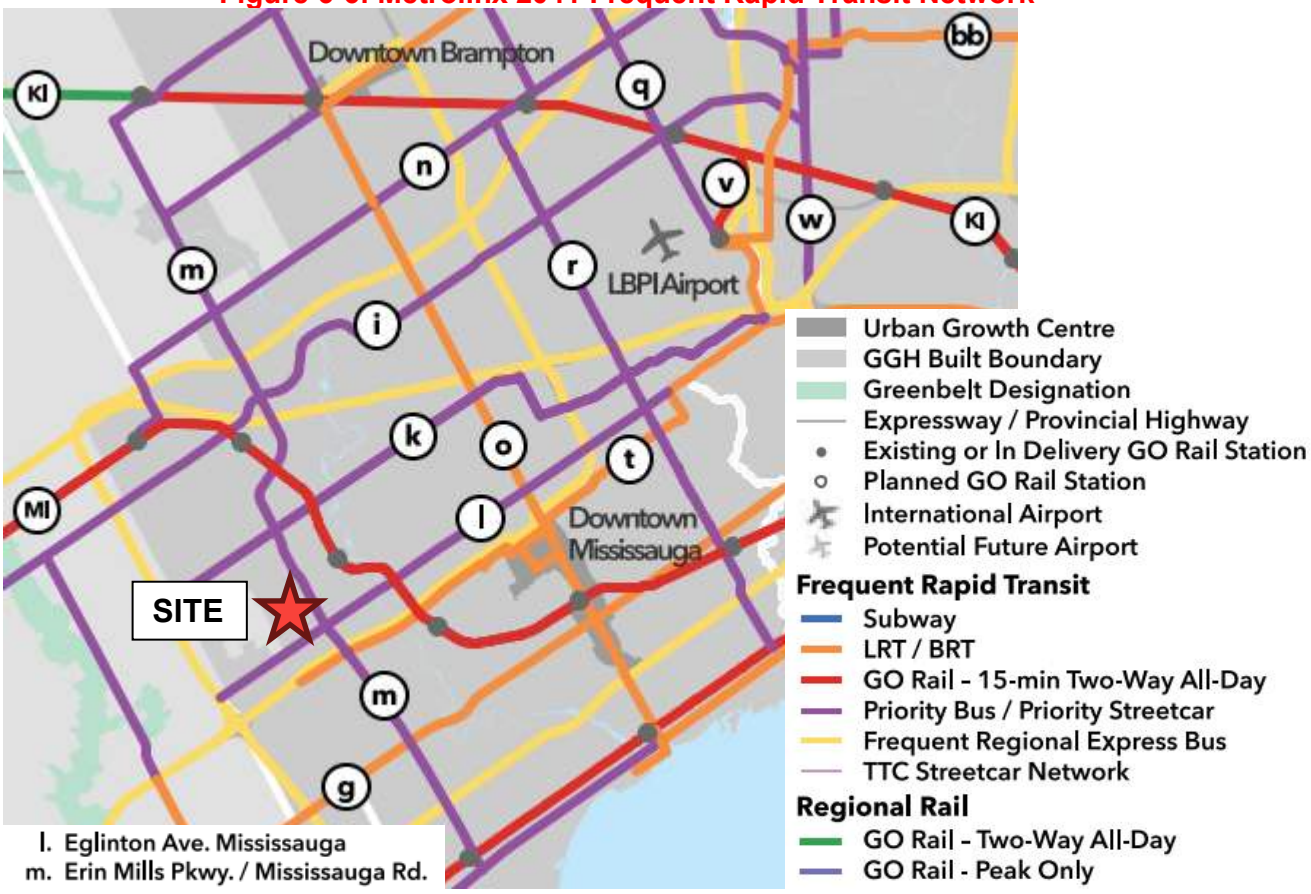


Source: Recommended Transit Network (www.mississaugatrip.ca)

As shown in Figure 6-4, Eglinton Avenue is designed as Transit Priority 1 with dedicated transit lanes. Glen Erin Drive and Erin Mills Parkway are also designed as Transit Priority 3 with intersection improvements, such as transit queue jump lanes.

These improvements are consistent with the Metrolinx 2041 Regional Transportation Plan, Frequent Rapid Transit Network, as shown in **Figure 6-6**. The regional routes will operate with 15-minute headways or better.

Figure 6-6: Metrolinx 2041 Frequent Rapid Transit Network



Source: Metrolinx 2041 Regional Transportation Plan, Complete 2041 Frequent Transit Network

FUTURE TRANSIT LEVEL-OF-SERVICE

Under future conditions, Eglinton Avenue and Erin Mills Parkway are expected to have improved headways with LOS C or better due to the regional transit network. The future transit level-of-service are shown in **Table 6-8**.

Table 6-8: Future Transit Level of Service

Intersection	Direction	Access to Transit Stops	Transit Headways	Intersection Approach (curb lane)					
				AM		PM		SAT	
				Delay	v/c Ratio	Delay	v/c Ratio	Delay	v/c Ratio
Erin Centre Boulevard & Erin Mills Parkway	Northbound	A	C	A	A	A	A	A	A
	Southbound	A	C	A	A	A	A	A	A
	Eastbound	A	D	C	A	A	A	B	A
	Westbound	n/a	--	--	--	--	--	--	--

Intersection	Direction	Access to Transit Stops	Transit Headways	Intersection Approach (curb lane)					
				AM		PM		SAT	
				Delay	v/c Ratio	Delay	v/c Ratio	Delay	v/c Ratio
Eglinton Avenue & Erin Mills Parkway	Northbound	A	C	B	A	B	A	A	A
	Southbound	A	C	C	A	A	A	A	A
	Eastbound	A	B	A	A	C	A	B	A
	Westbound	A	B	A	A	B	A	D	B
Eglinton Avenue & Glen Erin Drive	Northbound	A	D	D	A	E	C	D	A
	Southbound	A	D	D	A	D	A	D	A
	Eastbound	A	B	B	A	B	A	B	A
	Westbound	A	B	C	A	B	B	C	A

7 PARKING ASSESSMENT

7.1 AUTO PARKING

The parking requirements were assessed based on the Mississauga Zoning By-law 0225-2007. The subject site is located within Parking Precinct 3 as per Schedule B of the Zoning By-law (shown below) and WSP understands all of the units proposed will be condominiums. Based on the By-law residential and visitor parking are rounded down if the trailing decimal is less than 0.50.

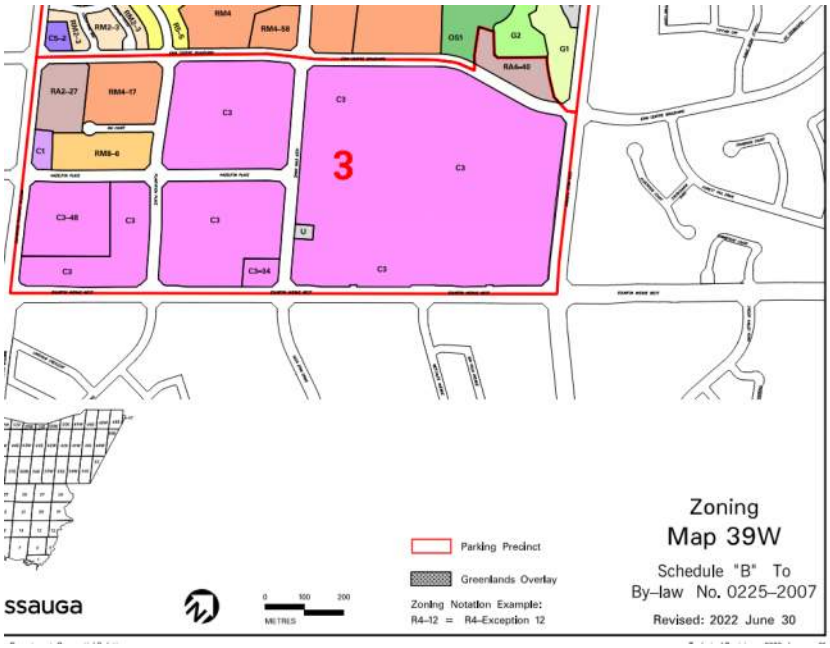


Table 3.1.2.1 - Required Number of Off-Street Parking Spaces for Residential Uses
(0207-2008), (0297-2013), (0174-2017), (0179-2018), (0181-2018/LPAT Order 2019 February 15), (0111-2019/LPAT Order 2021 March 09), (0018-2021), (0117-2022), (0213-2022)

Column	A	B	C	D	E	F
Line 1.0	TYPE OF USE	UNIT OF MEASUREMENT	PRECINCT 1	PRECINCT 2	PRECINCT 3	PRECINCT 4
2.0	Condominium **Apartment**	resident spaces per unit	0.8	0.9	1.0	1.1
		visitor spaces per unit	0.2	0.2	0.2	0.2

Table 7-1: Parking Requirements and Supply

Type (Magnitude)	Minimum Rate	Required Spaces	Proposed Spaces
Condominium Residents (3,162 units)	1.0	3,162	3,191
Visitor (3,162 units)	0.2	632	496
Total	1.20	3,794	3,687

The results show that the proposed residential parking meets the intent of the residential parking minimum requirement. A minor reduction in visitor and residential parking to rates of 0.15 spaces/unit and 0.95 spaces/unit, respectively are proposed. The following justification has been prepared.

Visitor Parking

WSP has reviewed proxy parking survey information for other residential developments with similar access to a transit station (i.e., Erin Mills Station). Care has been taken to select sites that are not served through other higher order means of transit (i.e., streetcar or subway). The summary of the proxy survey information is provided in **Table 7-2**. The details of the reference sites and proxy surveys are provided in **Appendix G**.

Table 7-2: Proxy Visitor Parking Survey Information

Site Location /Municipality (Survey date)	Peak Visitor Demand Surveyed	Proximity to Transit
UC Tower Condo-2550 Simcoe Street (UC Tower 1) in Oshawa (surveyed on Friday and Saturday September 15-16, 2023 while development was 100% occupied)	0.08 spaces/unit	2.4 km away from the Nearest GO Bus stop at Durham College 13 minute bus ride
1750 Bloor Street East, Mississauga (surveyed on Friday and Saturday September 20-21, 2018 while development was 100% occupied)	0.11 spaces/unit	2.6 km away from the Dixie GO Station / 26 minute bus ride
3315 Fieldgate, Mississauga (surveyed on Friday and Saturday September 20-21, 2018 while development was 100% occupied)	0.10 spaces/unit	2.5 km away from the Dixie GO Station / 25 minute bus ride
Average	***0.10 spaces/unit***	***2.5 km from GO Station/local bus route***
Proposed	***0.15 spaces/unit***	***2 km from Erin Mills Station***

The results show that the proposed visitor parking rate of 0.15 spaces/unit is 50% higher than the peak survey conducted at the three other sites. The proposed visitor

supply is also supported by 8 at-grade lay-by areas for pick-up/drop-off functions, which is important given the growing popularity of private transport such as Uber and Lyft.

WSP completed a thorough review of the approved exceptions in RA1 to RA5 Zones with reduced visitor parking rates for apartment buildings (lower than 0.20 spaces per unit) listed under Sections 4.15.2 to 4.15.6 in Zoning By-law 0225-2007. **Table 7-3** summarizes the Exception Zones that have been approved with reduced residential visitor parking rates in Parking Precincts 3 and 4. Approvals in Precincts 3 and 4 are selected since the subject site is in Precinct 3, which has the second highest parking requirements in the City, next to Precinct 4.

Table 7-3: Exceptions Zones with Reduced Visitor Parking Rates in Precincts 3 and 4

Exception Zone	Municipal Address[1]	Precinct	Approved Min. Residential Visitor Parking Rate	Site Context
RA1-37	5610 Winston Churchill Boulevard	4	0.15 spaces per unit	Minor commercial within 500 metres.
RA4-43	1315 Rathburn Road West	4	0.15 spaces per unit	Currently a parking lot for Erindale GO Station.
RA4-47	2700 Aquitaine Avenue	4	0.15 spaces per unit	Close to Meadowvale Town Centre. Approximately 1 kilometre from Meadowvale GO.
RA4-49	6570 Glen Erin Drive	4	0.15 spaces per unit	Near Meadowvale Town Centre. Approximately 2 kilometres from Meadowvale GO.
RA5-40	670 Courtney Valley Road	4	0.15 spaces per unit	Some commercials within 500 metres.
RA5-48	2530 Eglinton Avenue West	3	0.15 spaces per unit	Near Erin Mills Town Centre and other commercial establishments.
RA5-50	4072 Dixie Road	3	0.15 spaces per unit	Near Rockwood Mall and other commercial establishments.

1 Some Exceptions Zones include multiple municipal addresses on the same parcel. The listed address represents one of the municipal addresses contained in the same parcel.

As indicated above, many developments in Precincts 3 and 4 have received approval for reduced residential visitor parking supply rates. The proposed visitor parking rate of 0.15 spaces per unit is consistent with the approved reductions, except for RA1-33.

Based on the above findings, the proposed visitor parking rate of 0.15 spaces/unit is adequate for the site context.

Residential Parking

The proposed minimum residential parking rate of 0.95 spaces/unit is only 5% lower than the By-law requirement for the site. WSP has reviewed several sites in the GTA that have access to good transit (non-subway or LRT) and documented the findings in **Table 7-4**. The survey findings are provided in **Appendix G**. It should be noted that all of the proxy sites are condominium apartments, which is the same tenure as the subject site. The results show that there the proposed residential rate of 0.95 spaces/unit is 15% higher than the average of the peak surveyed rates. In addition, a package of tangible TDM measures is proposed as detailed in Section 9 to support the minor 5% reduction in residential parking.

The development is also focused on a mixed-use community concept, where there is a critical mass of retail, employment, institutional and recreational uses within the Erin Mills Town Centre and surrounding area. It is reasonable for some purchasers of the development to want to live a car-free lifestyle and take advantage of the proximity to the mixed-use community. It is also worth noting that the City's rental apartment residential rate is 0.90 spaces/unit. It is also plausible that some of the units from the development are rented out eventually and thus a rate of 0.95 spaces/unit would still more than fulfill this requirement. **Given the desire to reduce reliance on auto modes, the proposed minimum residential parking rate of 0.95 spaces/unit is adequate for the development.**

Table 7-4: Exceptions Zones with Reduced Visitor Parking Rates in Precincts 3 and 4

Development Description Source	Peak Residential Parking Demand Surveyed	Proximity to Transit
191 Nonquon Road, Oshawa	0.76 spaces/unit	2.8 km walk from Durham College GO stop and local bus services
1221 Simcoe Street North, Oshawa	0.72 spaces/unit	2.5 km walk from Durham College GO stop and local bus services
177 Nonquon Road, Oshawa	0.96 spaces/unit	2.9 km walk from Durham College GO stop and local bus services
Olvia Marie Gardens at Mississauga Road and Olivia Marie Road, Brampton	0.92 spaces/unit	350 m from regular/express bus services along Steeles Avenue
9500 Markham road, Markham	0.73 spaces/unit	270 m of the Mt. Joy GO Station and bus services
Average	**0.82 spaces/unit**	
Subject Development	**0.95 paces/unit**	1.65 km from Erin Mills Station and several bus routes

From an accessible parking perspective, the By-law states that accessible parking spaces for residential uses shall only apply to the total number of visitor parking spaces required and in compliance with Table 3.1.3.1 – Accessible Parking Regulations. Accordingly, since the number of visitor spaces proposed is 496 spaces, the minimum quantity of accessible parking space is calculated as 2 spaces plus 2% of the total visitor supply. Therefore for 496 spaces, 12 accessible parking spaces are required. In comparison, the supply includes 49 accessible parking spaces, which more than satisfies the minimum requirement.

3.1.3.1B **Accessible parking spaces** for residential **uses** shall only apply to the total number of visitor **parking spaces** required and shall be provided in compliance with Table 3.1.3.1 - Accessible Parking Regulations. *(0144-2016)*

Table 3.1.3.1 - Accessible Parking Regulations
(0190-2014), (0144-2016), (0018-2021)

Column	A	B	C
Line 1.0	TOTAL NUMBER OF REQUIRED NON-RESIDENTIAL PARKING SPACES	TOTAL NUMBER OF REQUIRED VISITOR PARKING SPACES	MINIMUM NUMBER OF REQUIRED ACCESSIBLE PARKING SPACES
2.0	1-12	1-12	1.0 space (1)
3.0	13-100	13-100	4% of the total (1)(2)
4.0	101-200	101-200	1.0 space plus 3% of the total (2)
5.0	201-1 000	201-1 000	2.0 spaces plus 2% of the total (2)
6.0	1 001 and greater	1 001 and greater	11.0 spaces plus 1% of the total (2)

7.2 AUTO PARKING FOR THE MALL

The original parking By-law for the Erin Mills Town Centre mall stipulated a minimum rate of 5.4 spaces/100 sq.m. However, through the more recent City-wide update in January 2023, the retail parking rate for retail centres within a precinct 3 is 4.5 spaces/100 sq.m. The following summarizes the parking provision for the mall based on the more recent 4.5 spaces/100 sq.m. rate.

- Current retail centre GFA: 87,437.55 sq.m.
- Retail parking required (4.5 spaces/100 sq.m.): 3,935 spaces
- Retail centre GFA after proposed residential development: 82,015.82 sq.m.
- Retail parking required (post residential development): **3,691 spaces**

In contrast, the current parking supply for the entire mall is 4,727 spaces and the proposed residential development will displace 532 retail spaces, resulting in a total of 4,195 spaces. Therefore, the remaining retail supply after the proposed residential development would still satisfy the 3,691 space requirement.

7.3 BICYCLE PARKING

The bicycle parking requirements were assessed based on Table 3.1.6.5.1 of the By-law (excerpt below) which states the site would require a long-term bike parking of 0.6 spaces/unit plus 0.05 short-term spaces/unit. Therefore for 3,162 residential units, 1,898 long-term and 159 short-term bicycle parking spaces are required. In comparison, 1,943 long-term and 166 short-term bicycle parking spaces are proposed, which satisfies the By-law requirement and is an excellent TDM measure.

Table 3.1.6.5.1 - Required Number of Bicycle Parking Spaces for Residential Uses

Column	A	B	C
Line 1.0	**TYPE OF USE**	**BICYCLE PARKING - CLASS A**	**BICYCLE PARKING - CLASS B**
2.0	**Apartment** and **stacked townhouse** without exclusive **garages**	0.6 spaces per unit	The greater of 0.05 spaces per unit or 6.0 spaces

8 SITE PLAN REVIEW

8.1 SITE ACCESS REVIEW

The sight line availability at the proposed driveways onto the ring road and onto the boundary roadways have been reviewed based on TAC standards on the posted speed limits. The turning sightline analyses are documented in **Figures 8-1 to 8-8.** The results indicate there is sufficient sightline available at the proposed site accesses. For some of the accesses, a two-stage turn is required. The first stage involves a car checking if there are any pedestrians in the sidewalk area. The second stage involves the car edging forward past the sidewalk to check for oncoming vehicles further away. This arrangement is common in urban settings with tree planting in the boulevard. As noted earlier, the site already has a full-moves driveway onto Erin Centre Boulevard which will be replaced by a full-moves access that is approximately 35 m east of the existing driveway location. This removes the off-set that is currently in place with the driveway to the north serving the John Faser Secondary School. In addition, the access onto Glen Erin Drive will be a right-in/right-out access since there is a median along Glen Erin Drive over the site access frontage. The availability of these accesses supports the density proposed from a network resiliency perspective.

8.2 LOADING ASSESSMENT

Eight large loading bays with a minimum dimension of 6m wide and 18m length are proposed to serve the development, which will accommodate a Peel Region front loading garbage truck and standard moving trucks. Drawing A140.S of the architectural set outlines the waste management plan details of the development.

8.3 SITE CIRCULATION ASSESSMENT

The site plan has been reviewed using AutoTURN version 10 to simulate the various manoeuvres of design vehicles that will need to access and egress the site.

8.3.1 FIRE TRUCK

The internal road within the development is proposed to be a private road that will serve as the fire route for the development. The private road has a minimum pavement width of 6m and the inside and centre radius along the private road have been designed as 9m and 12m, respectively. A typical 12.1m long fire truck template has been evaluated entering the site, circulating the internal roads and egressing. As shown in **Figures 8-9** to **8-12**, all of the manoeuvres will work adequately.

8.3.2 GARBAGE TRUCK

A typical 12m long Peel Region front loading garbage truck template has been tested entering the site, circulating the internal road network, fronting into the loading bays, and egressing towards the ring road and public streets in a forward motion. As shown in **Figures 8-13 to 8-21**, all of the maneuvers work adequately with the movements at the loading bay contained within a 3-point turn.

8.3.3 MOVING VEHICLE MOVEMENTS

Given the residential nature of the development, a medium single unit (MSU) truck has been tested reversing into the loading bays proposed and leaving the site in a forward motion. As shown in **Figures 8-22 to 8-28**, all of the maneuvers work adequately.

8.3.4 PASSENGER VEHICLE MOVEMENTS

A P-TAC passenger vehicle was tested entering and egressing the parking ramps. As shown in **Figure 8-29 to 8-31** all of the manoeuvres work adequately.

8.3.5 PARKING SPACE AND DRIVE AISLE DESIGN

The underground parking levels have been reviewed at a high-level given the zoning-level submission. The circulation and critical parking space reviews are documented in **Figures 8-32 to 8-34**. The review indicates the circulation and general parking layout is functional and will continue to be refined during the SPA stage of application.

First Stage, Vehicle stopped behind sidewalk

Second Stage, Vehicle pulled forward to edge of roadway

85.0 STOPPING SIGHT DISTANCE

85.0 STOPPING SIGHT DISTANCE

POSTED SPEED OF 50km/h
DESIGN SPEED OF 60 km/h

Date Site Plan Received: 2024-10-08

Scale: 1:500

Figure 8-1
Stopping Sight Distance - Driveway at Glen Erin Drive
Erin Mills Town Centre Mall Redevelopment

wsp - Erin Mills Town Centre Mall (Ground Level).dwg_8-1

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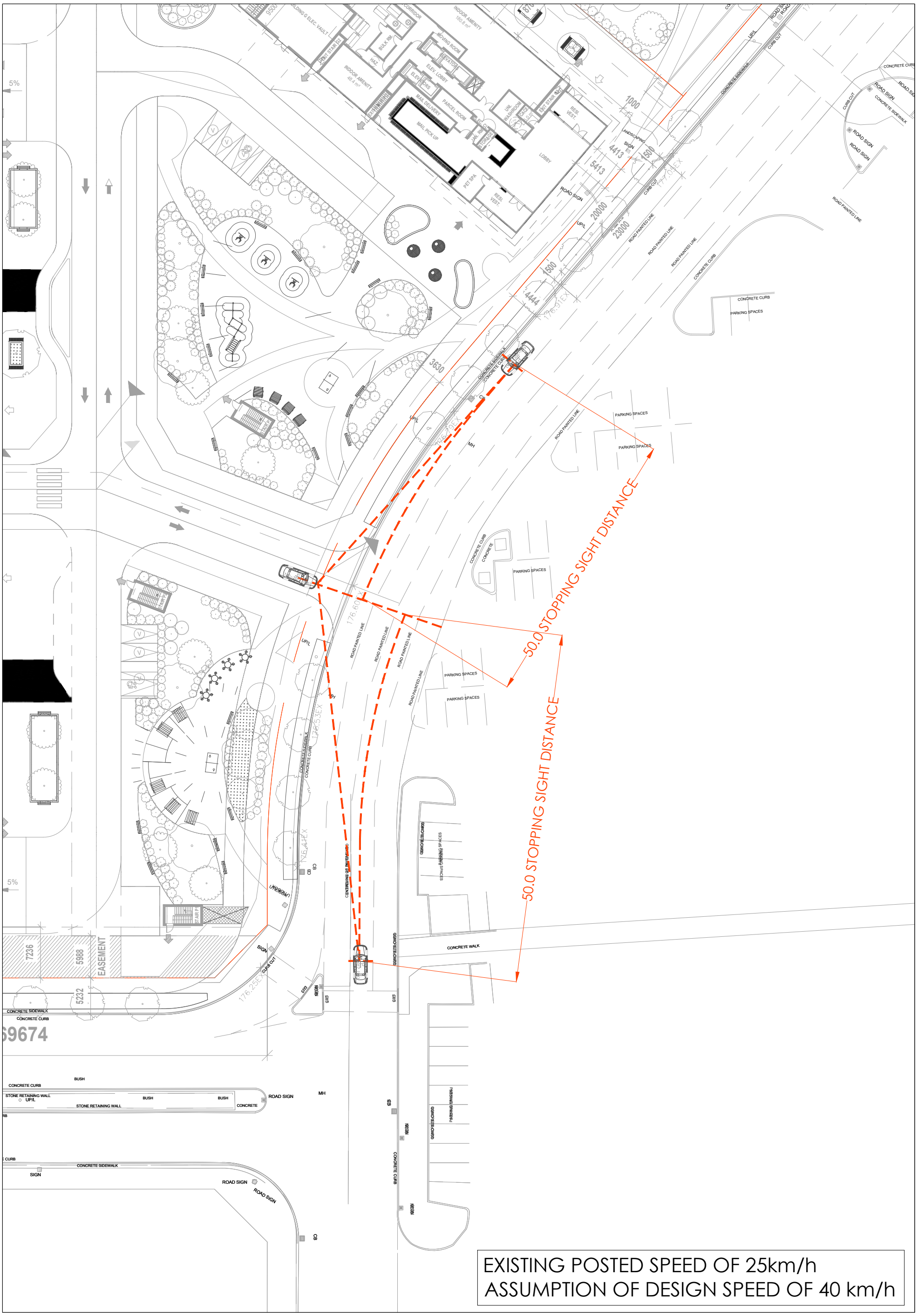

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Date Site Plan Received: 2024-10-08

Scale: 1:500

Figure 8-2
Stopping Sight Distance - Southeasterly Driveway at EMTC Ring Road
Erin Mills Town Centre Mall Redevelopment

wsp - Erin Mills Town Centre Mall (Ground Level).dwg_8-2

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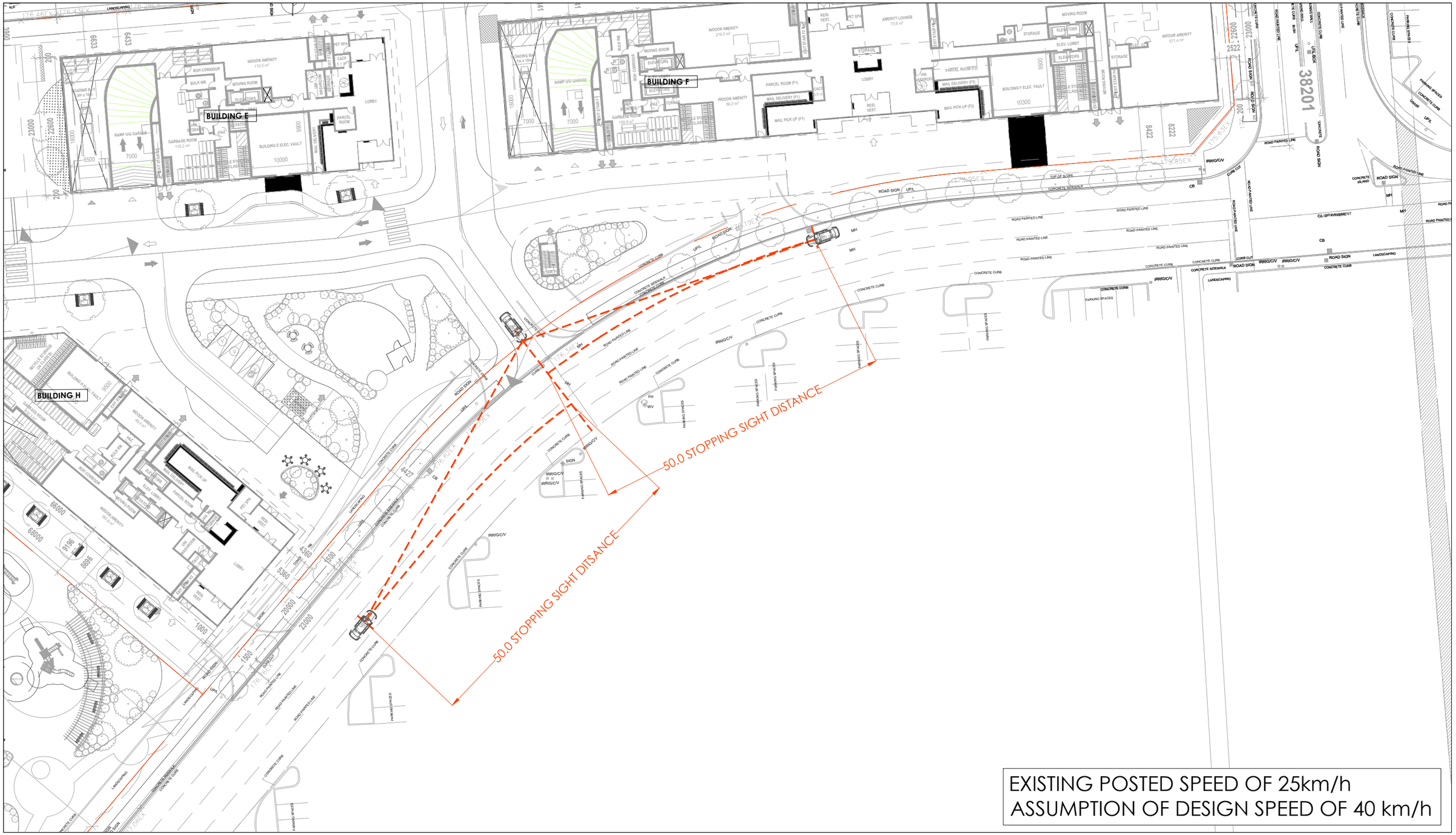

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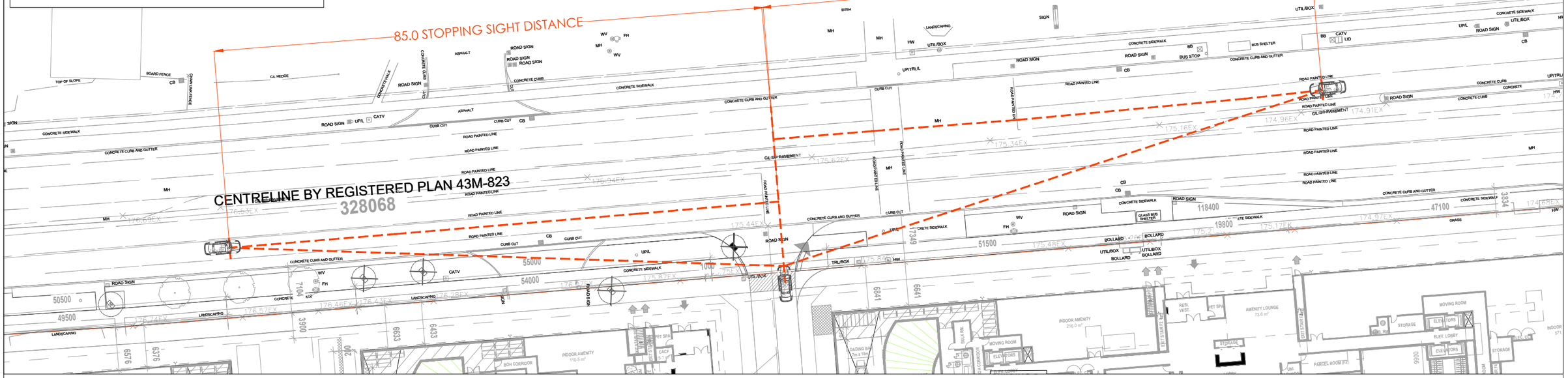
Date Site Plan Received: 2024-10-08

Scale: 1:600

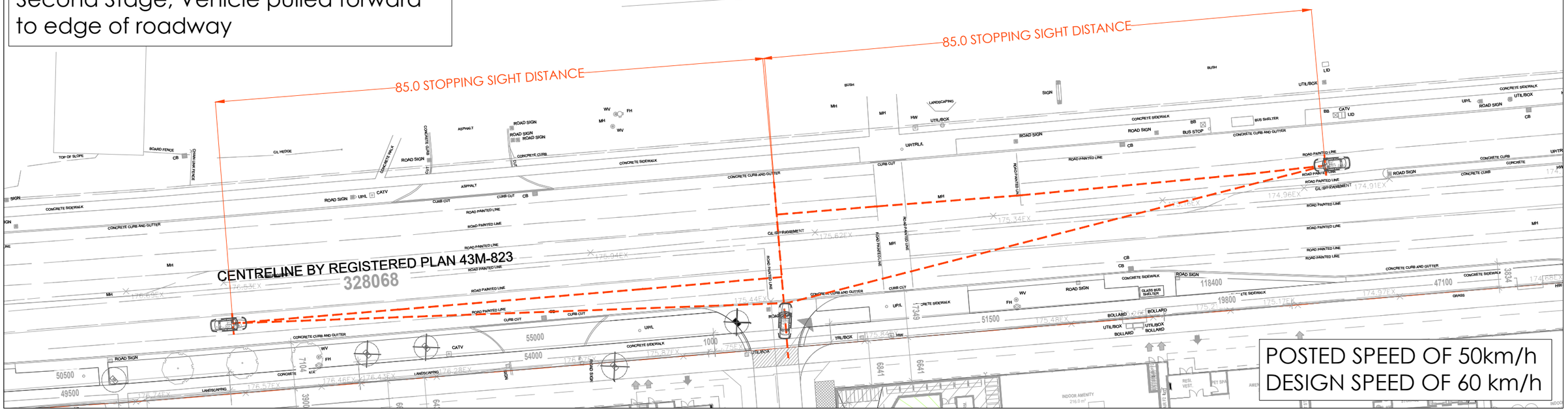
wsp

Figure 8-3
Stopping Sight Distance - Northwesterly Driveway at EMTC Ring Road
Erin Mills Town Centre Mall Redevelopment

First Stage, Vehicle stopped behind sidewalk



Second Stage, Vehicle pulled forward to edge of roadway



Date Site Plan Received: 2024-10-08

Scale: 1:600

Figure 8-4
Stopping Sight Distance - Driveway at Erin Centre Boulevard
Erin Mills Town Centre Mall Redevelopment

First Stage, Vehicle stopped behind sidewalk

Second Stage, Vehicle pulled forward to edge of roadway

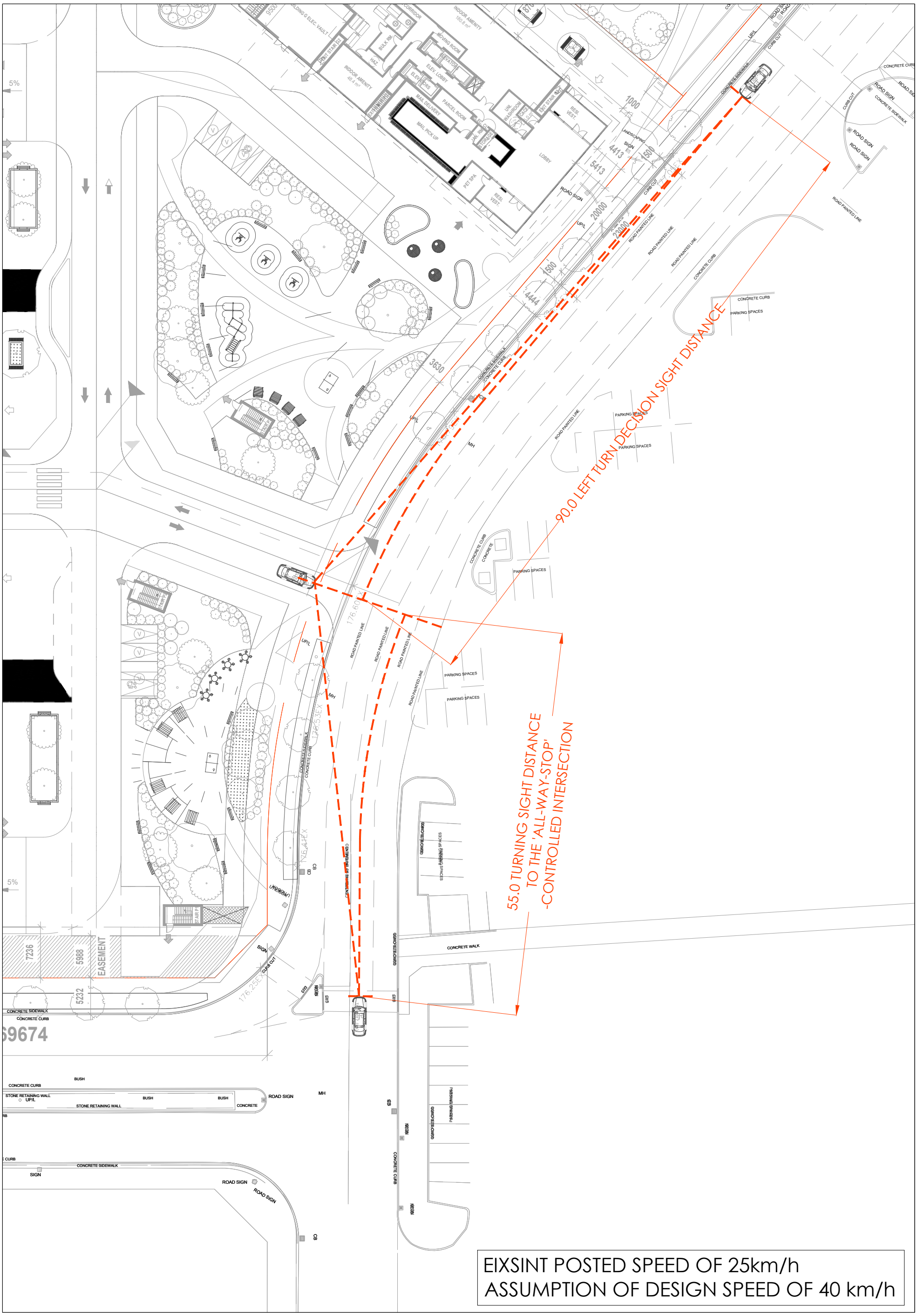
110.0 RIGHT TURN DECISION SIGHT DISTANCE

POSTED SPEED OF 50km/h
DESIGN SPEED OF 60 km/h

Date Site Plan Received: 2024-10-08

Scale: 1:500

Figure 8-5
Right Turn Decision Sight Distance - Driveway at Glen Erin Drive
Erin Mills Town Centre Mall Redevelopment



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Scale: 1:500

Figure 8-6
Left Turn Sight Distance - Southeasterly Driveway at EMTC Ring Road
Erin Mills Town Centre Mall Redevelopment

wsp - Erin Mills Town Centre Mall (Ground Level).dwg_8-6

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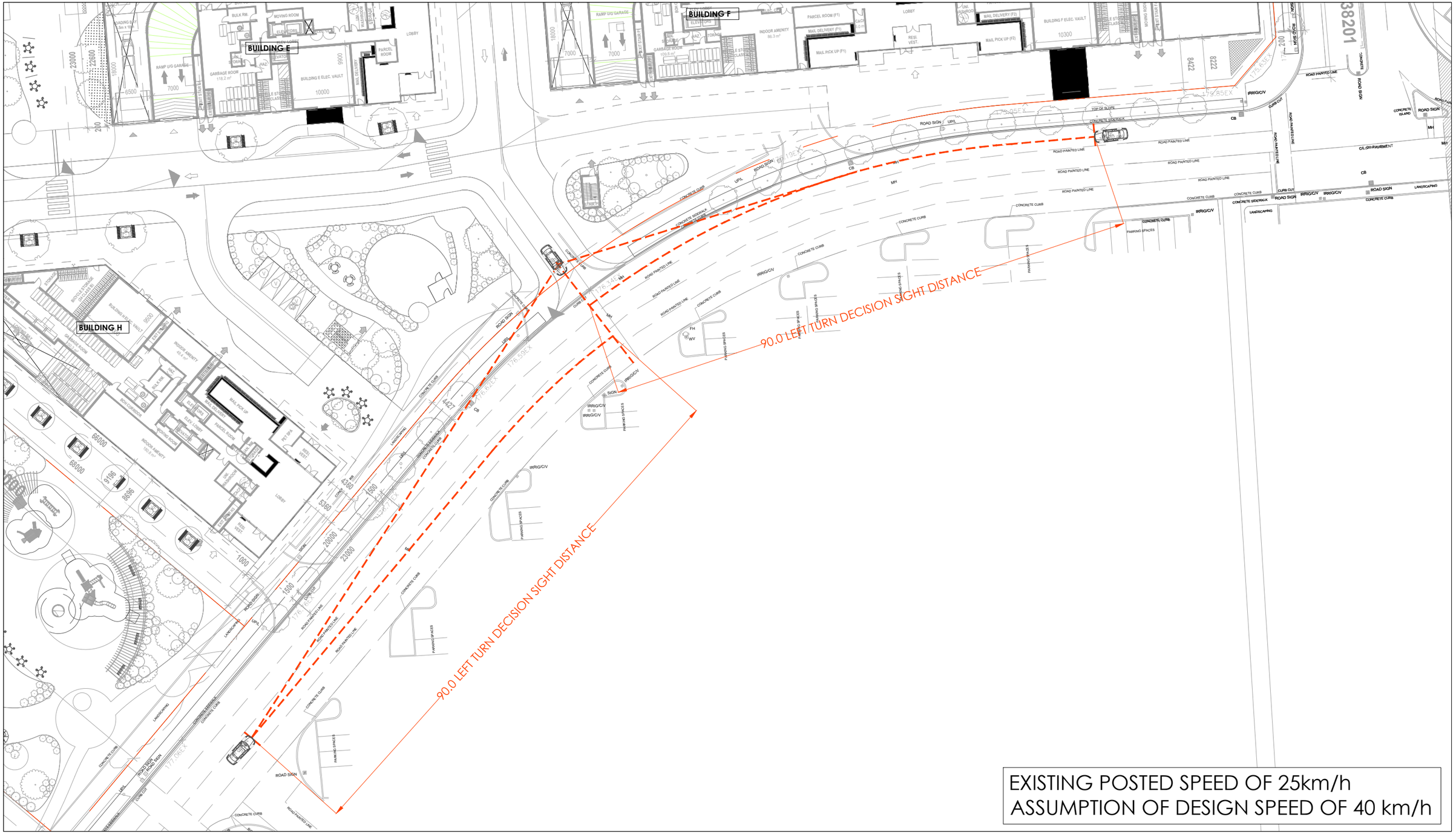

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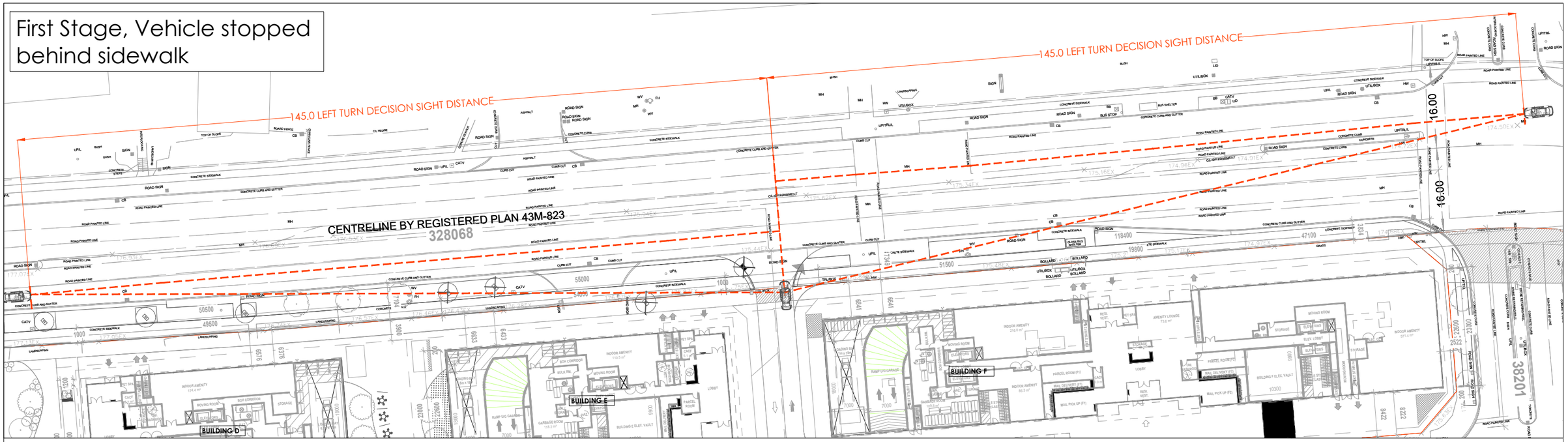
Scale: 1:600

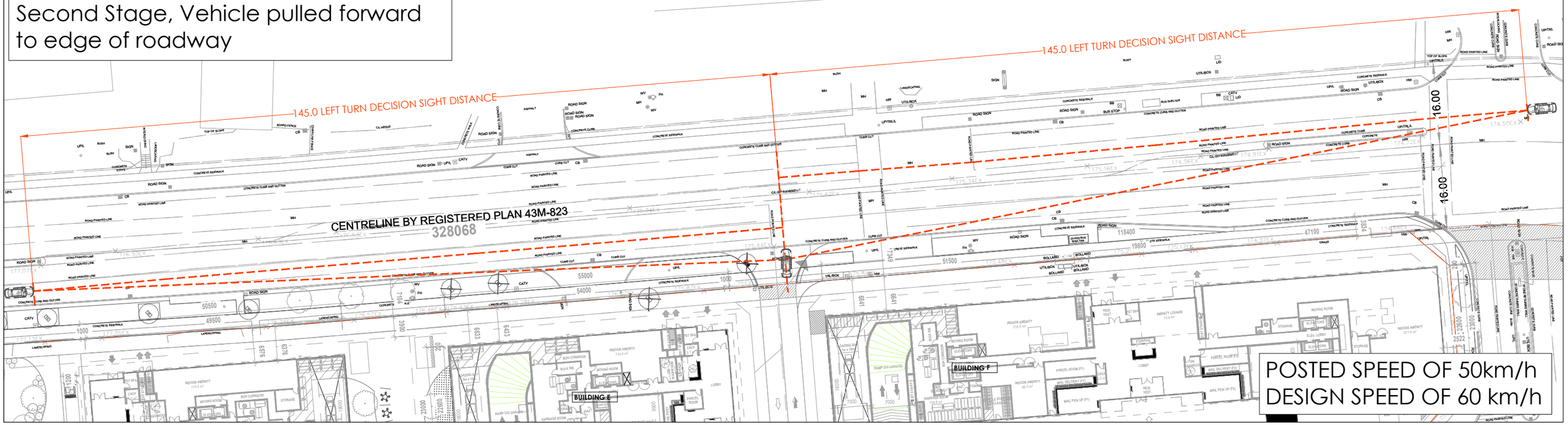
wsp

Figure 8-7
Left Turn Sight Distance - Northwesterly Driveway at EMTC Ring Road
Erin Mills Town Centre Mall Redevelopment

First Stage, Vehicle stopped behind sidewalk



Second Stage, Vehicle pulled forward to edge of roadway



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Scale: 1:750

Figure 8-8
Left Turn Sight Distance - Driveway at Erin Centre Boulevard
Erin Mills Town Centre Mall Redevelopment

wsp - Erin Mills Town Centre Mall (Ground Level).dwg_8-8

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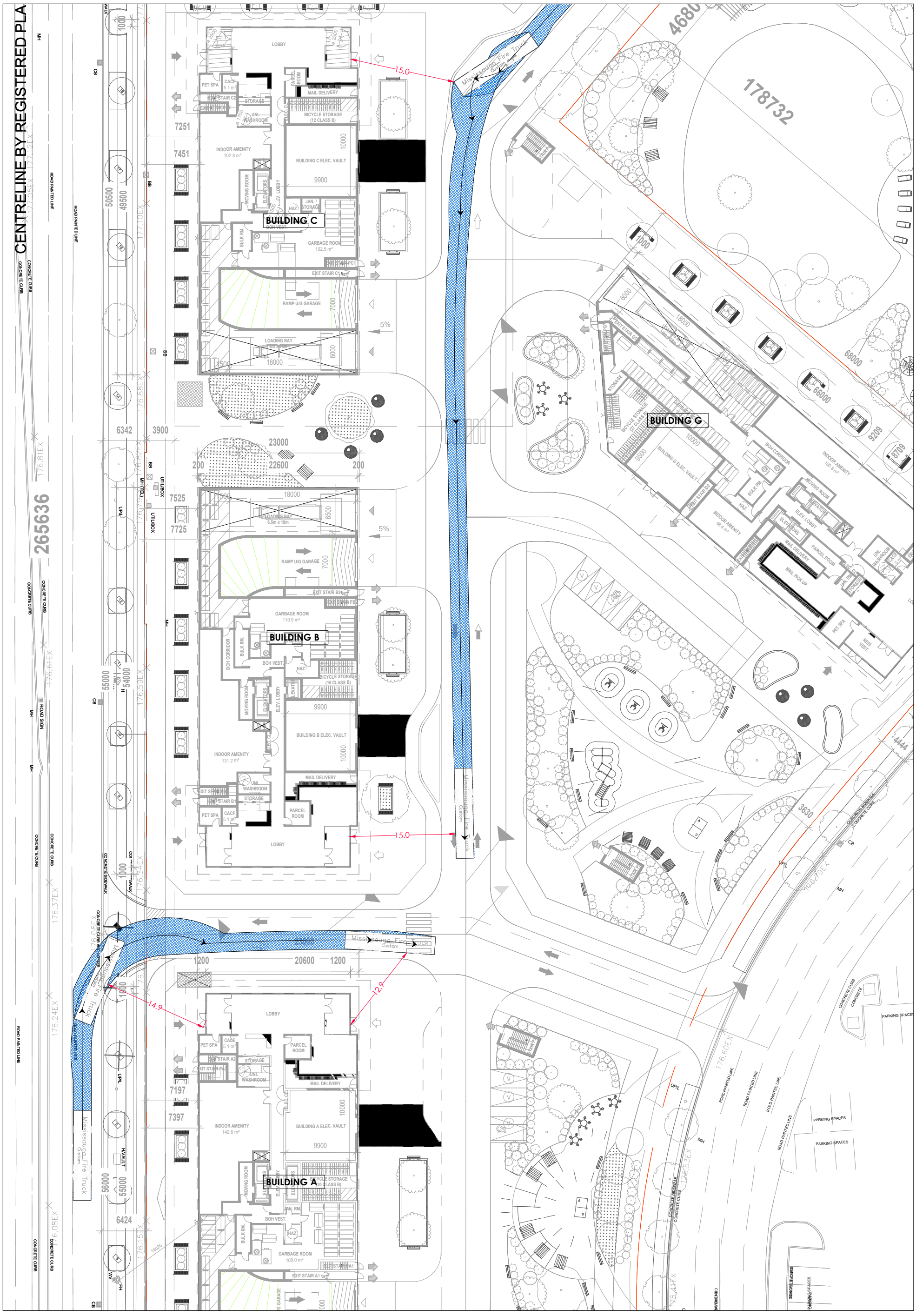

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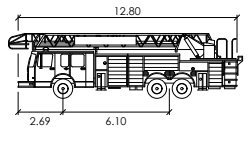


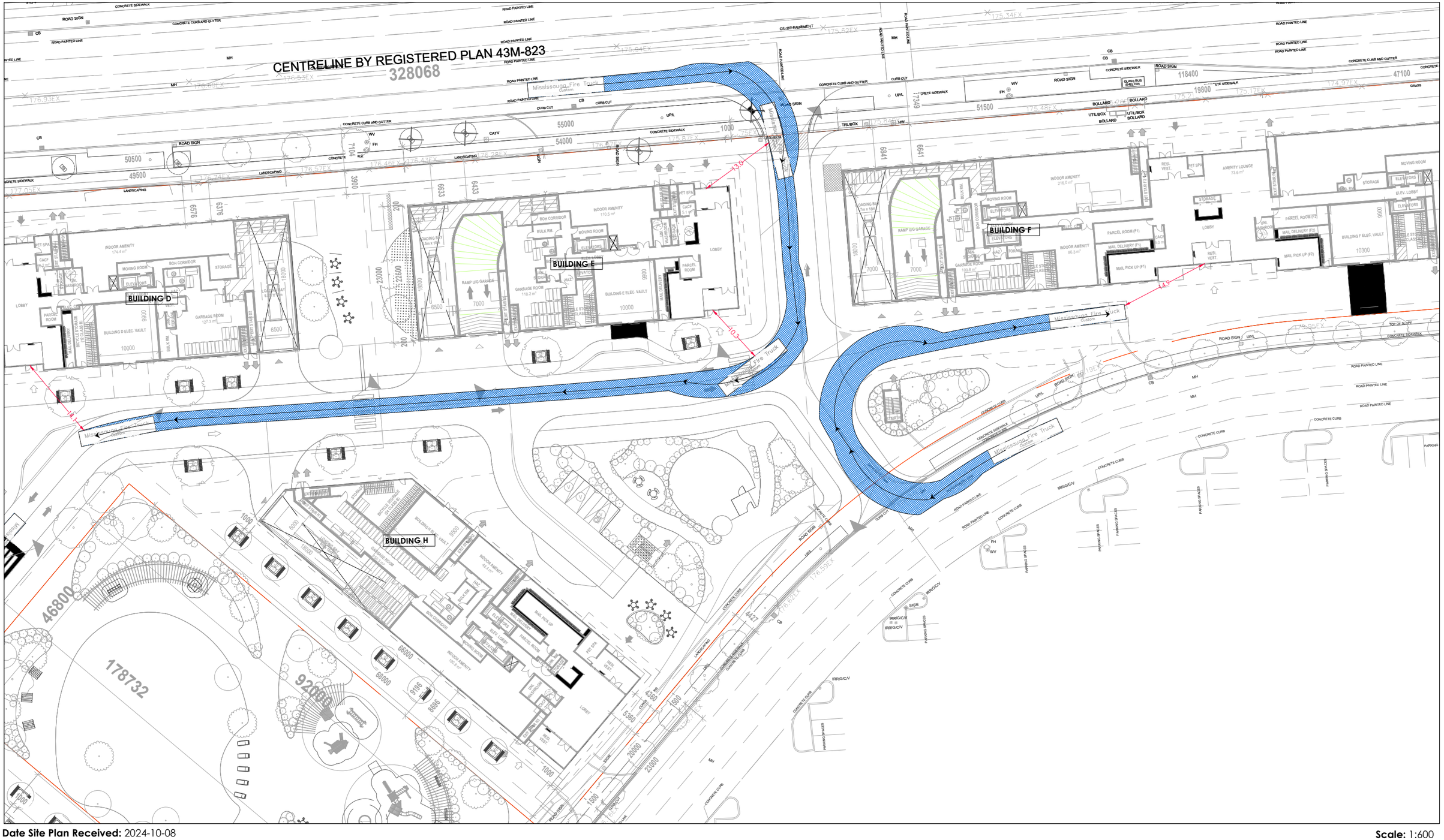
Mississauga Fire Truck

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

Figure 8-9
Fire Truck Access Maneuver Review - Buildings A, B, C
Erin Mills Town Centre Mall Redevelopment

wsp - Erin Mills Town Centre Mall (Ground Level).dwg_8-9

Modified: 10/8/2024 5:32 PM By: nima.farid Plot Date: 2024/10/09



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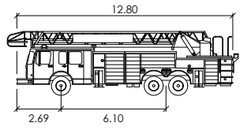

Mississauga Fire Truck

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

Figure 8-10
Fire Truck Access Maneuver Review - Buildings D, E, F
Erin Mills Town Centre Mall Redevelopment

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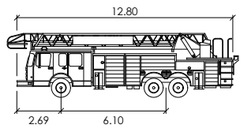

Mississauga Fire Truck

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

Figure 8-11
Fire Truck Access Maneuvers - Building G
Erin Mills Town Centre Mall Redevelopment

wsp - Erin Mills Town Centre Mall (Ground Level).dwg_8-11

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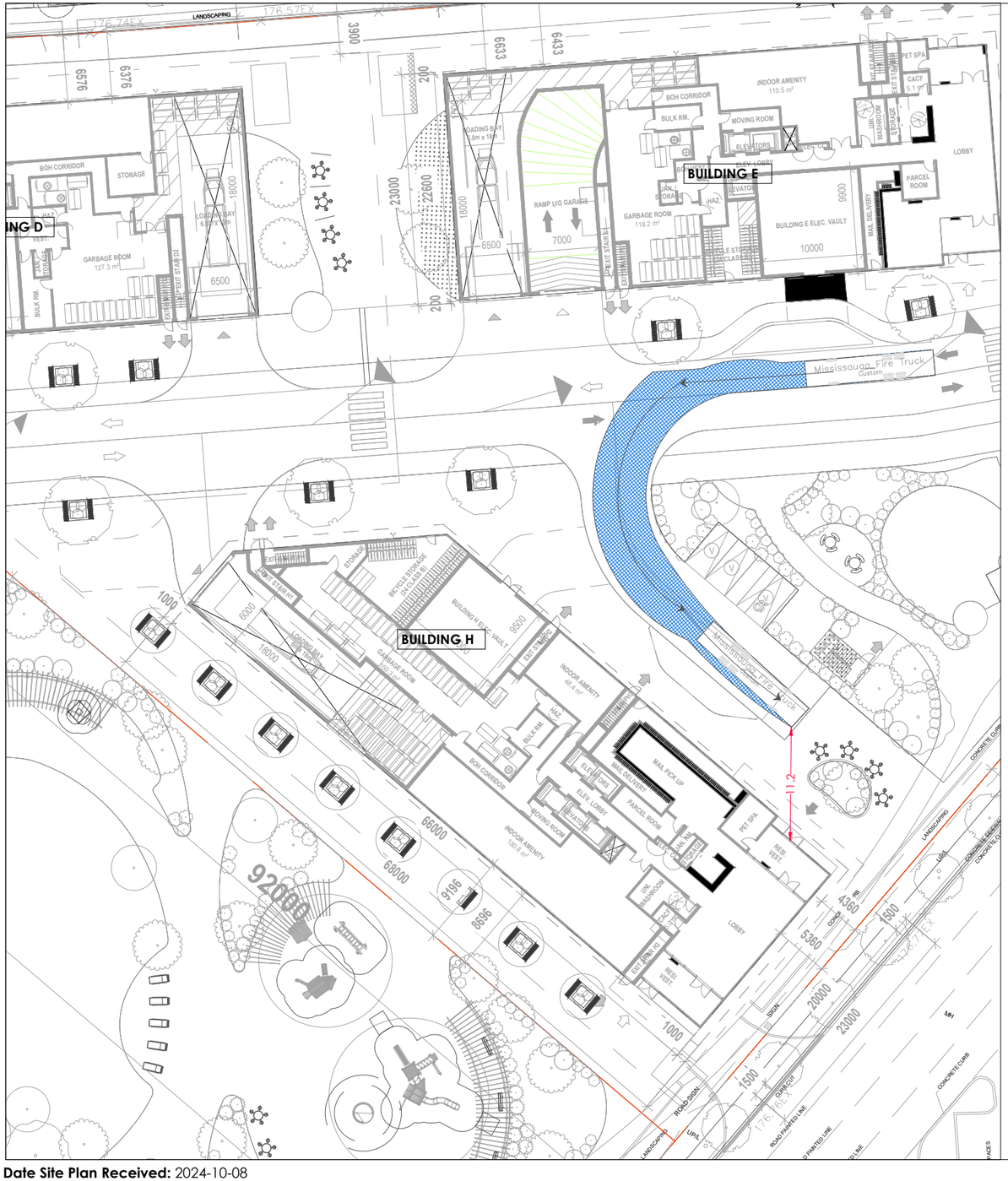

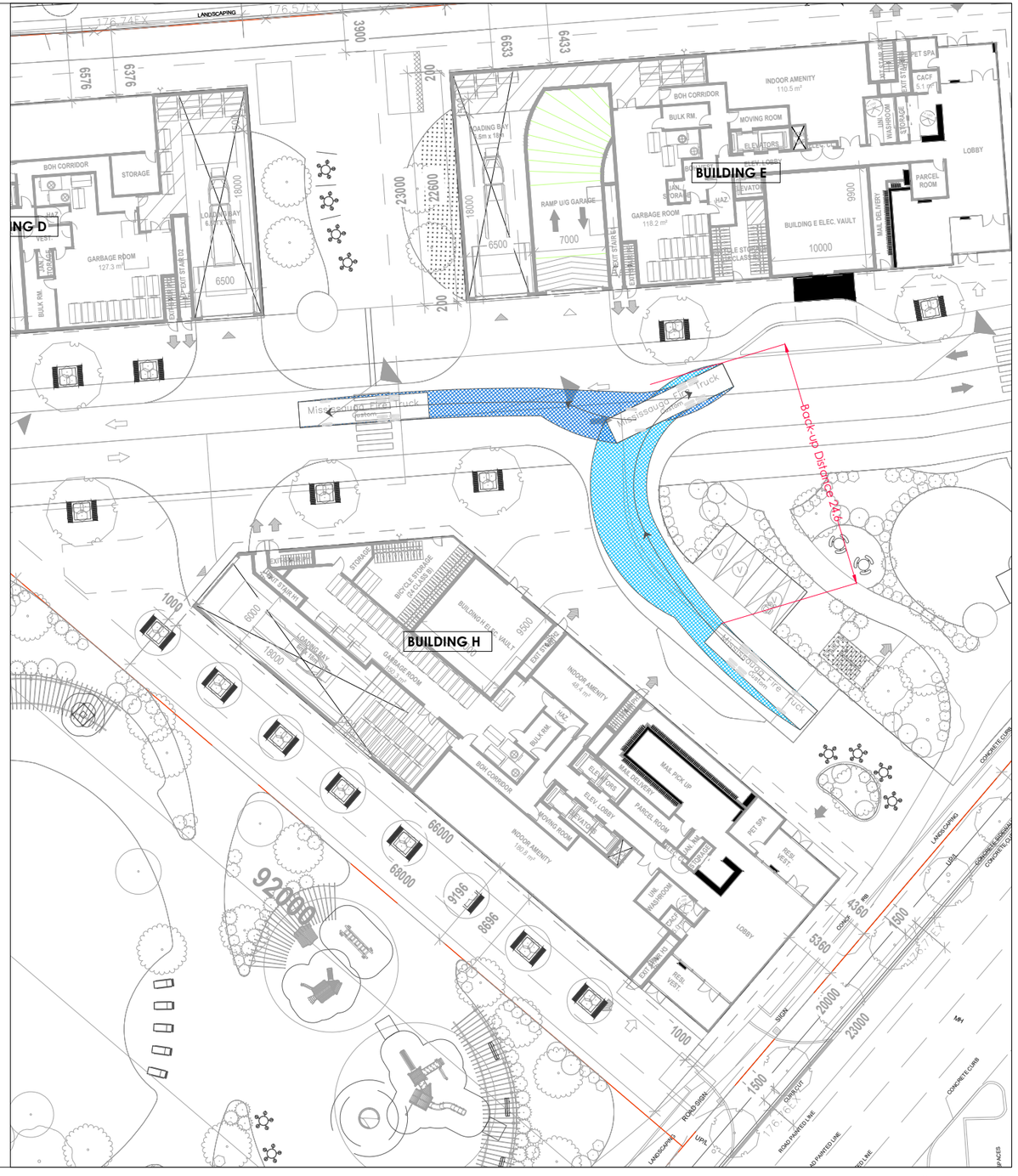

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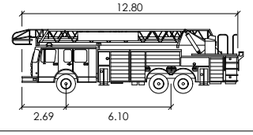
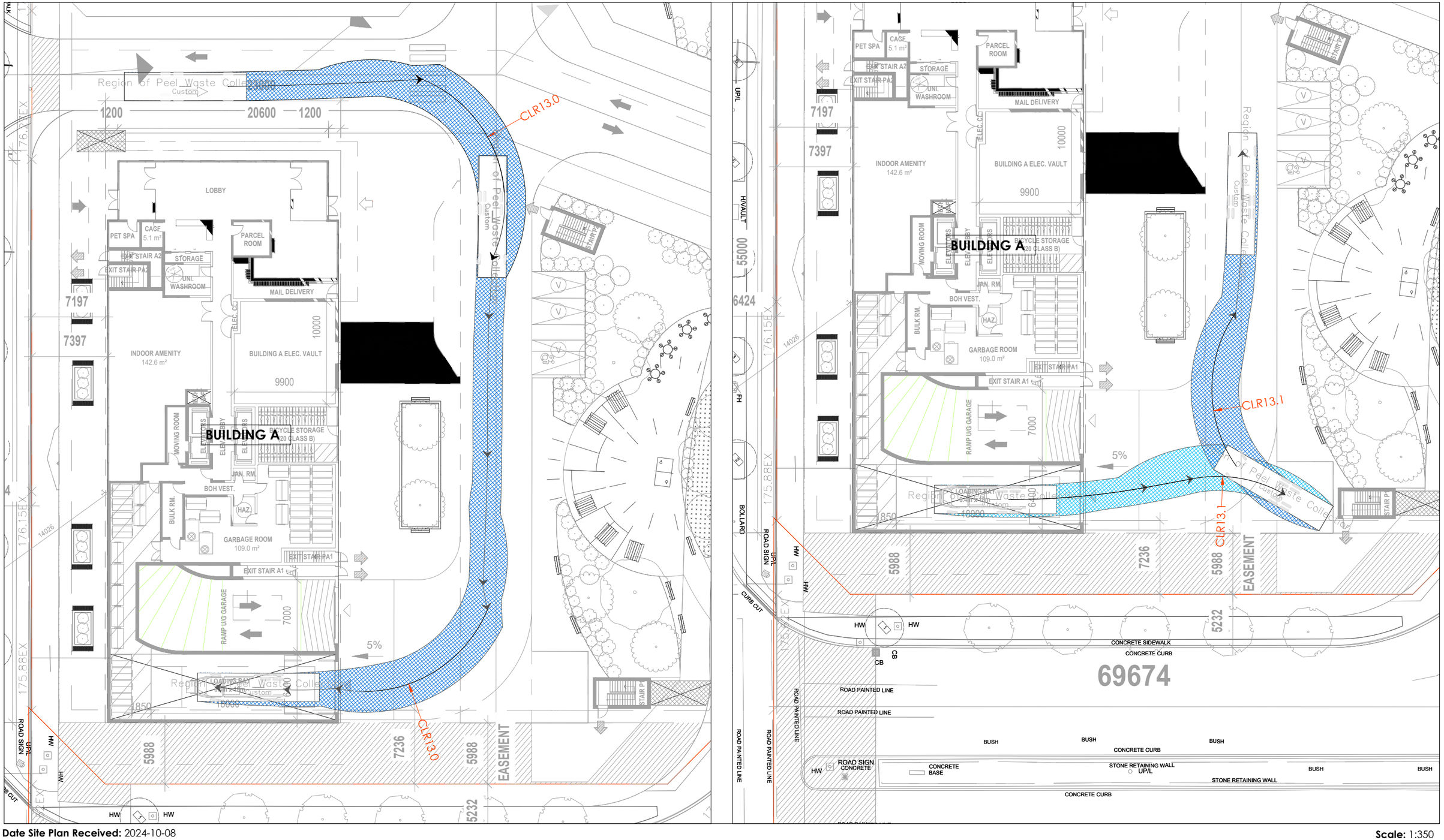


Mississauga Fire Truck

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

Figure 8-12
Fire Truck Access Maneuvers - Building H
Erin Mills Town Centre Mall Redevelopment



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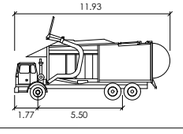
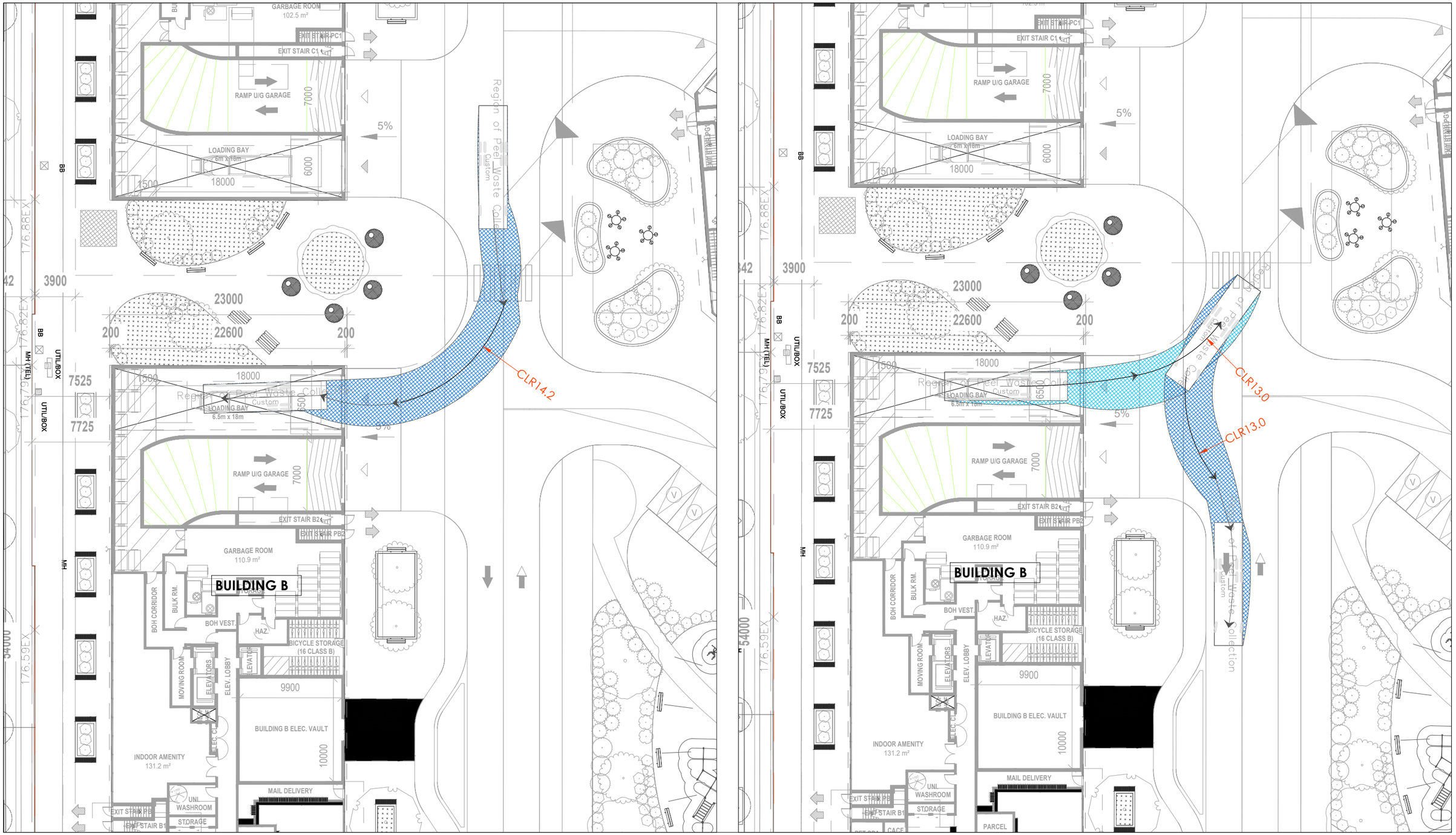


Region of Peel Waste Collection

meters

Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

Figure 8-13
Garbage Truck Access Maneuvers - Building A
Erin Mills Town Centre Mall Redevelopment



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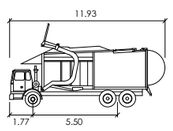
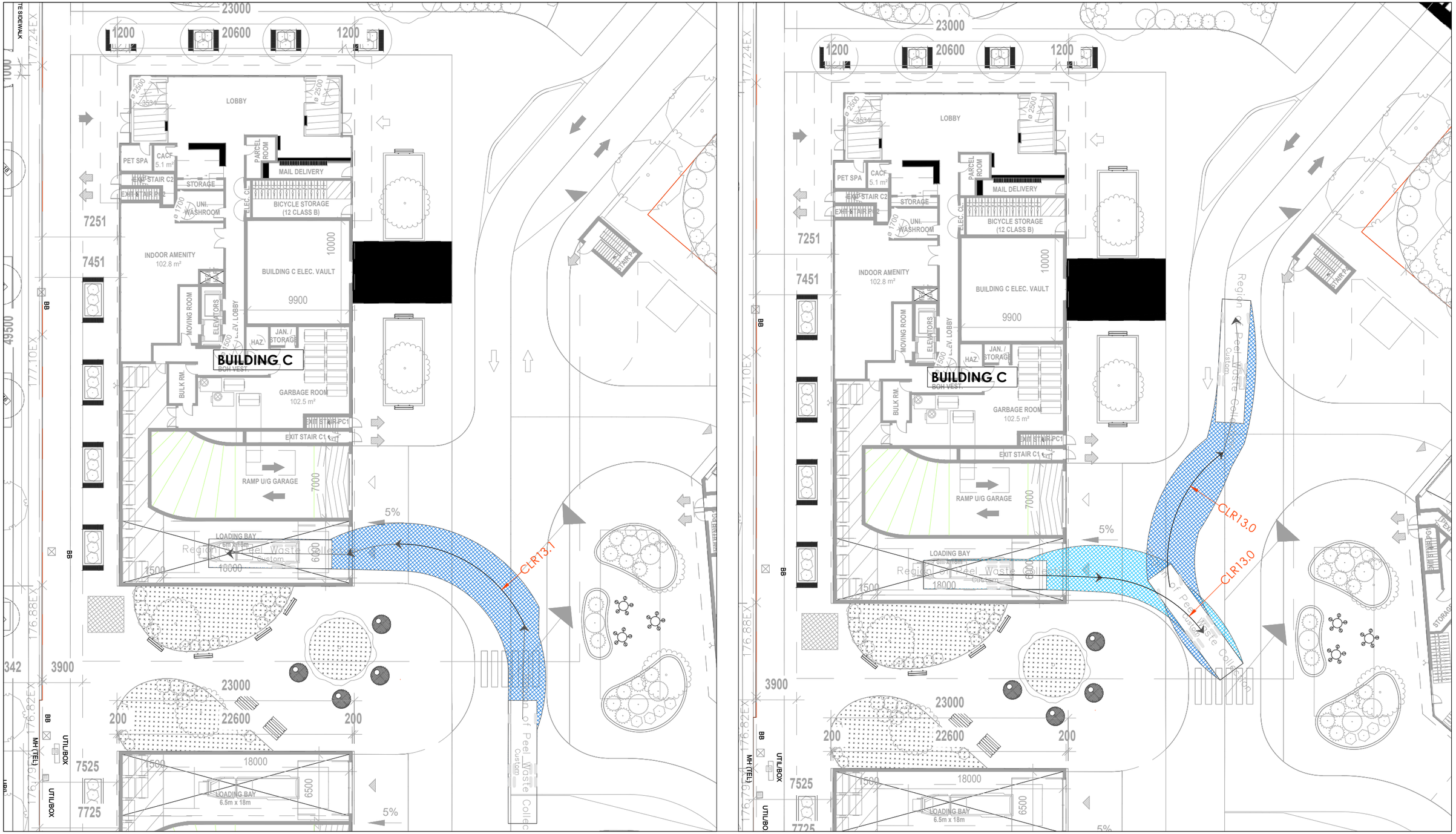
Scale: 1:350



Region of Peel Waste Collection

	meters
Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

Figure 8-14
Garbage Truck Access Maneuvers - Building B
Erin Mills Town Centre Mall Redevelopment



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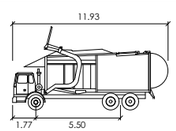

Region of Peel Waste Collection

	meters
Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

Figure 8-15
Garbage Truck Access Maneuvers - Building C
Erin Mills Town Centre Mall Redevelopment

wsp - Erin Mills Town Centre Mall (Ground Level).dwg_8-15

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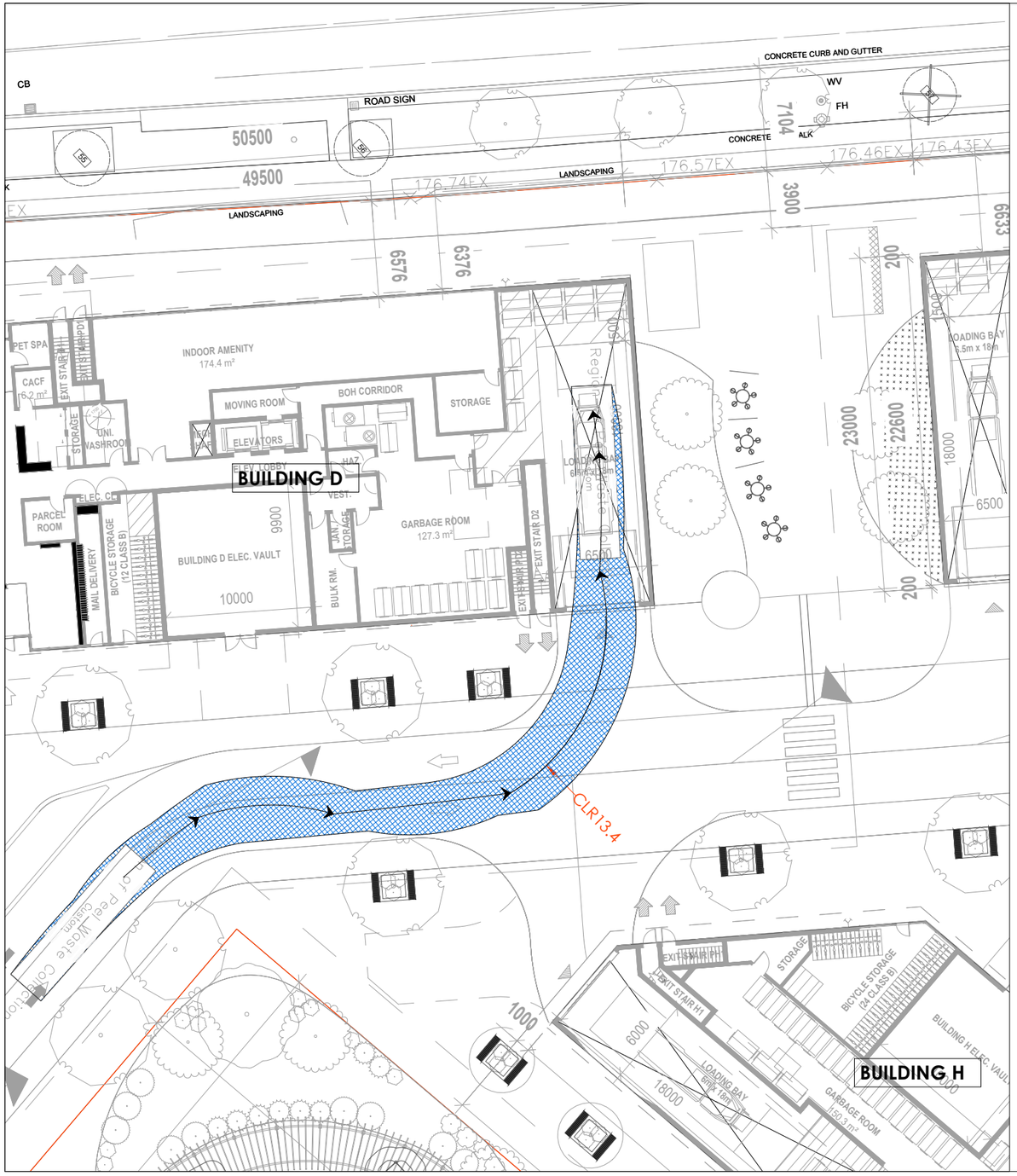

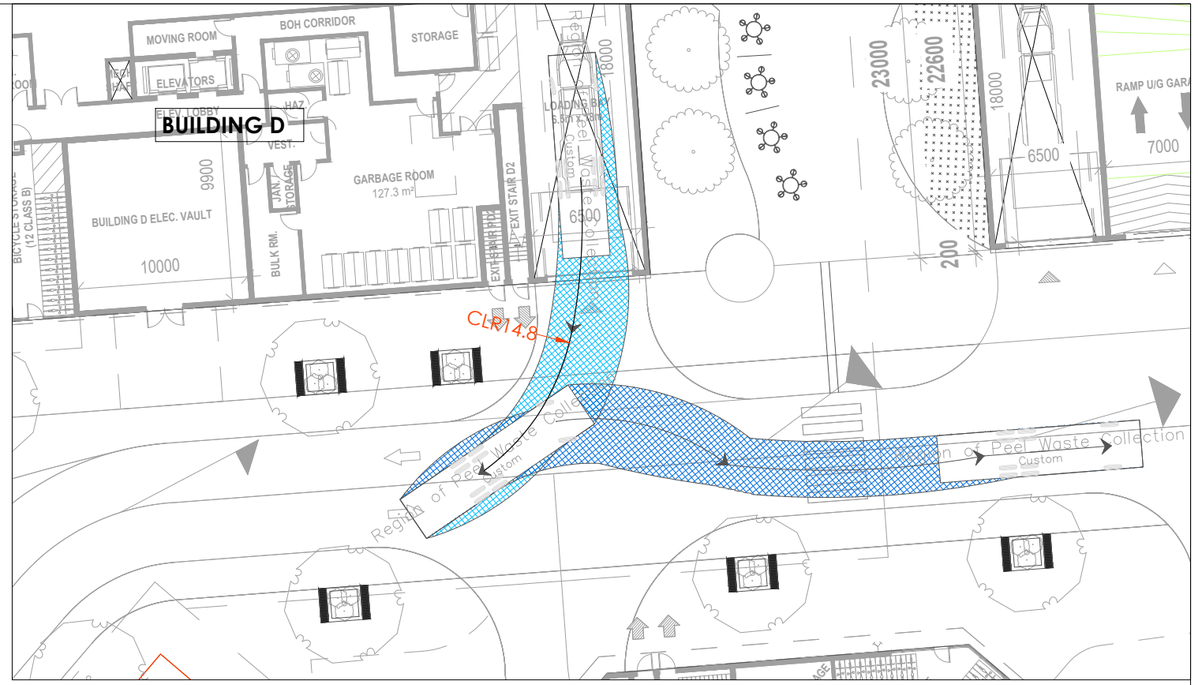

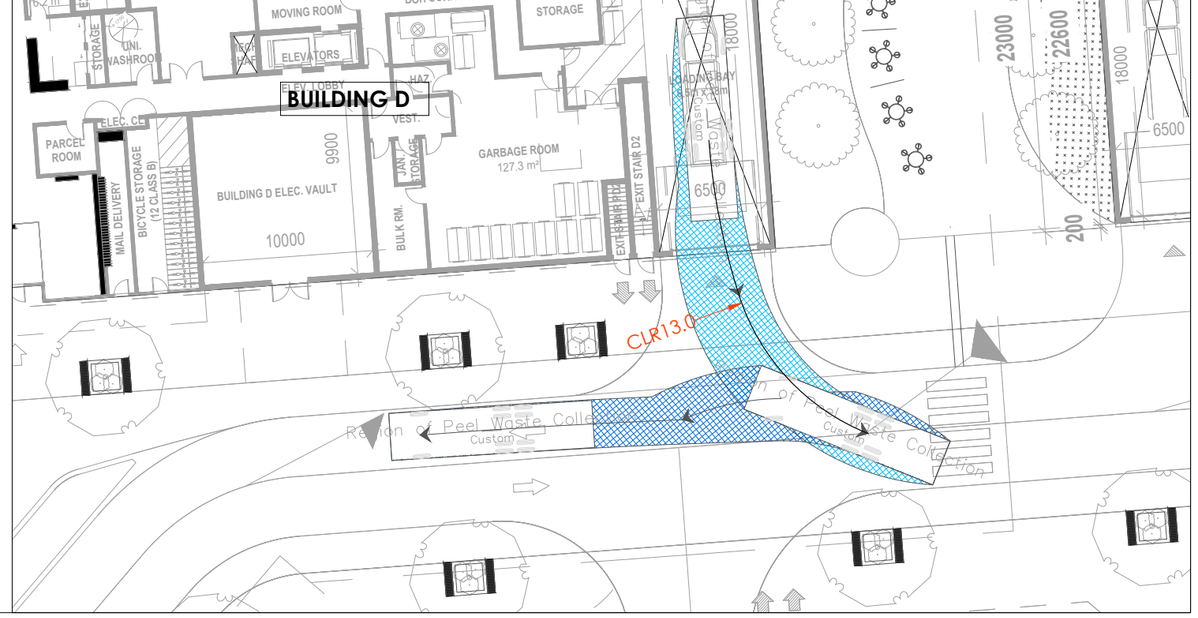

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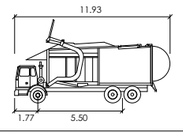
wsp



Region of Peel Waste Collection

meters

Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

Figure 8-16
Garbage Truck Access Maneuvers - Building D
Erin Mills Town Centre Mall Redevelopment

wsp - Erin Mills Town Centre Mall (Ground Level).dwg_8-16

Modified: 10/8/2024 5:32 PM By: nima.farid Plot Date: 2024/10/09

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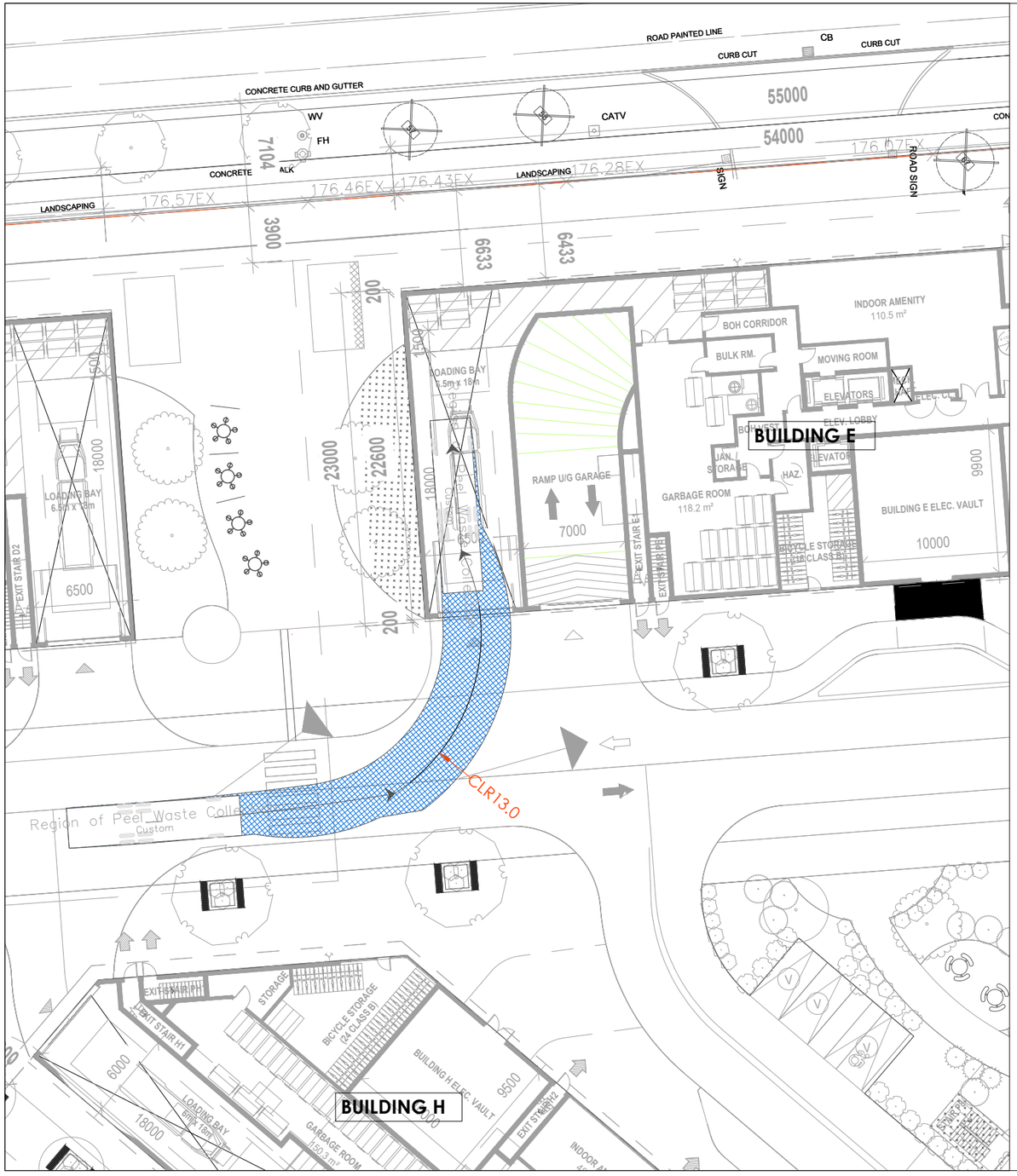
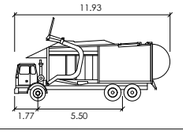


Date Site Plan Received: 2024-10-08

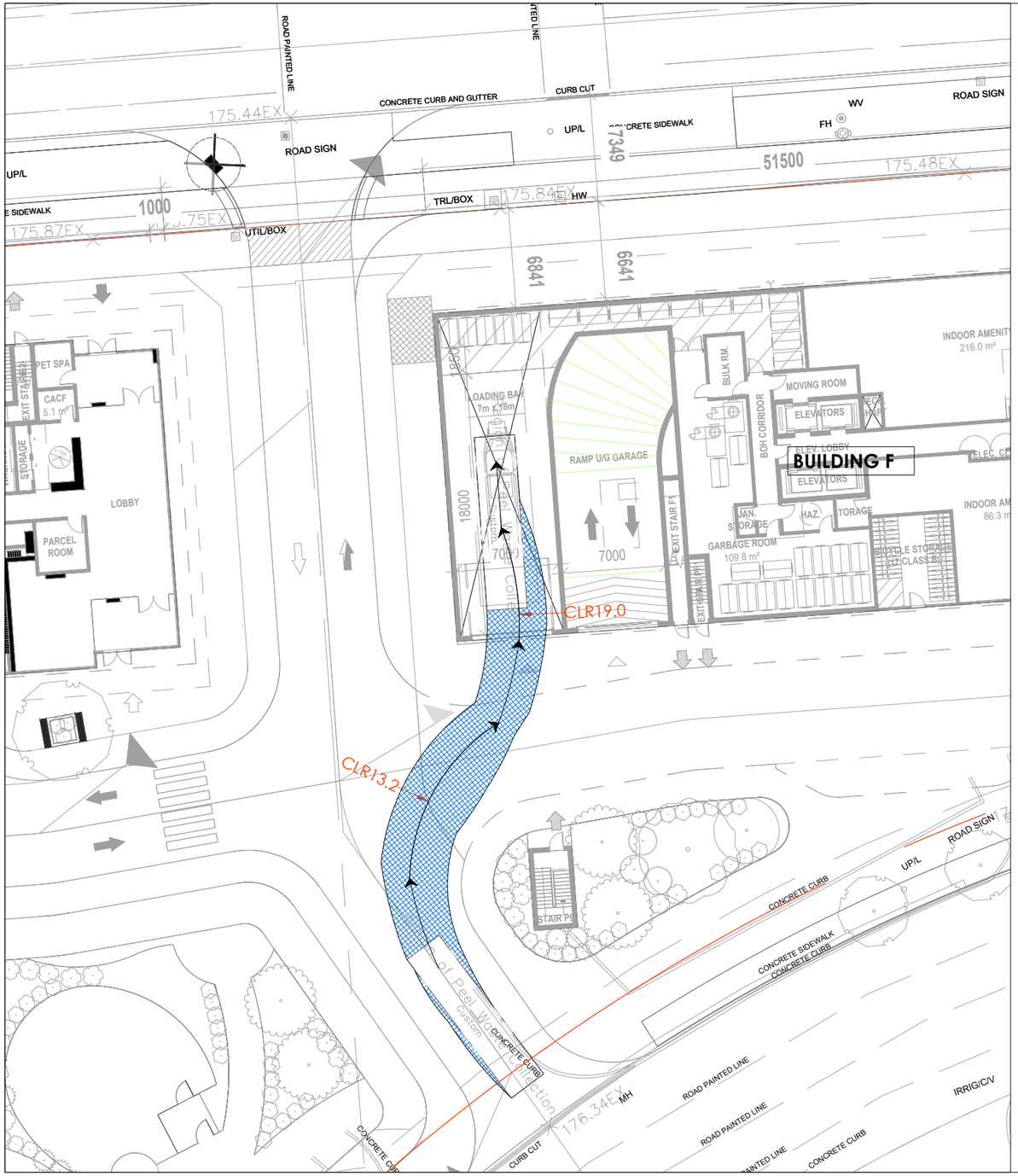
Scale: 1:500

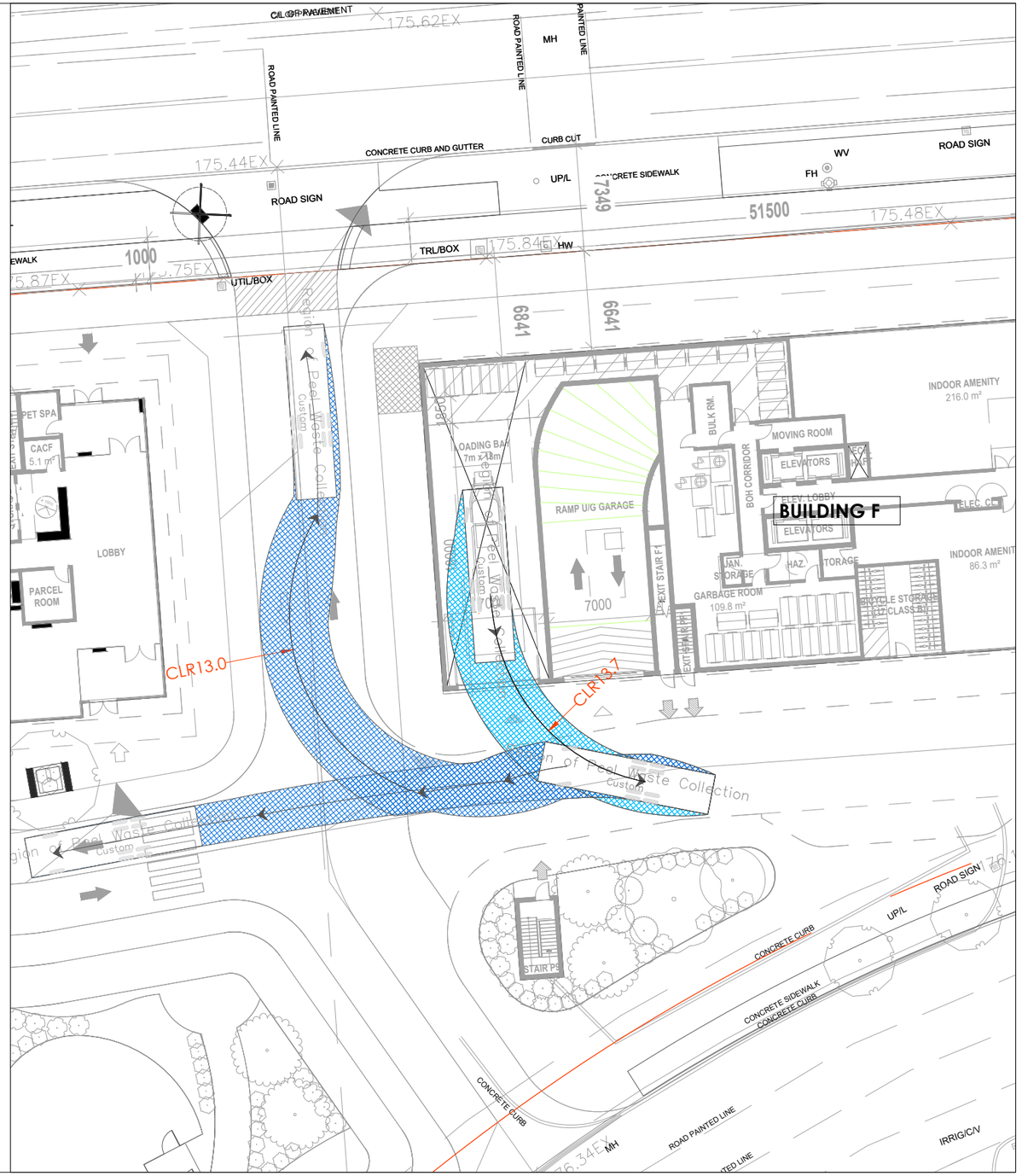


Region of Peel Waste Collection

	meters
Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

Figure 8-17
Garbage Truck Access Maneuvers - Building E
Erin Mills Town Centre Mall Redevelopment





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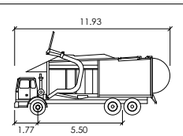
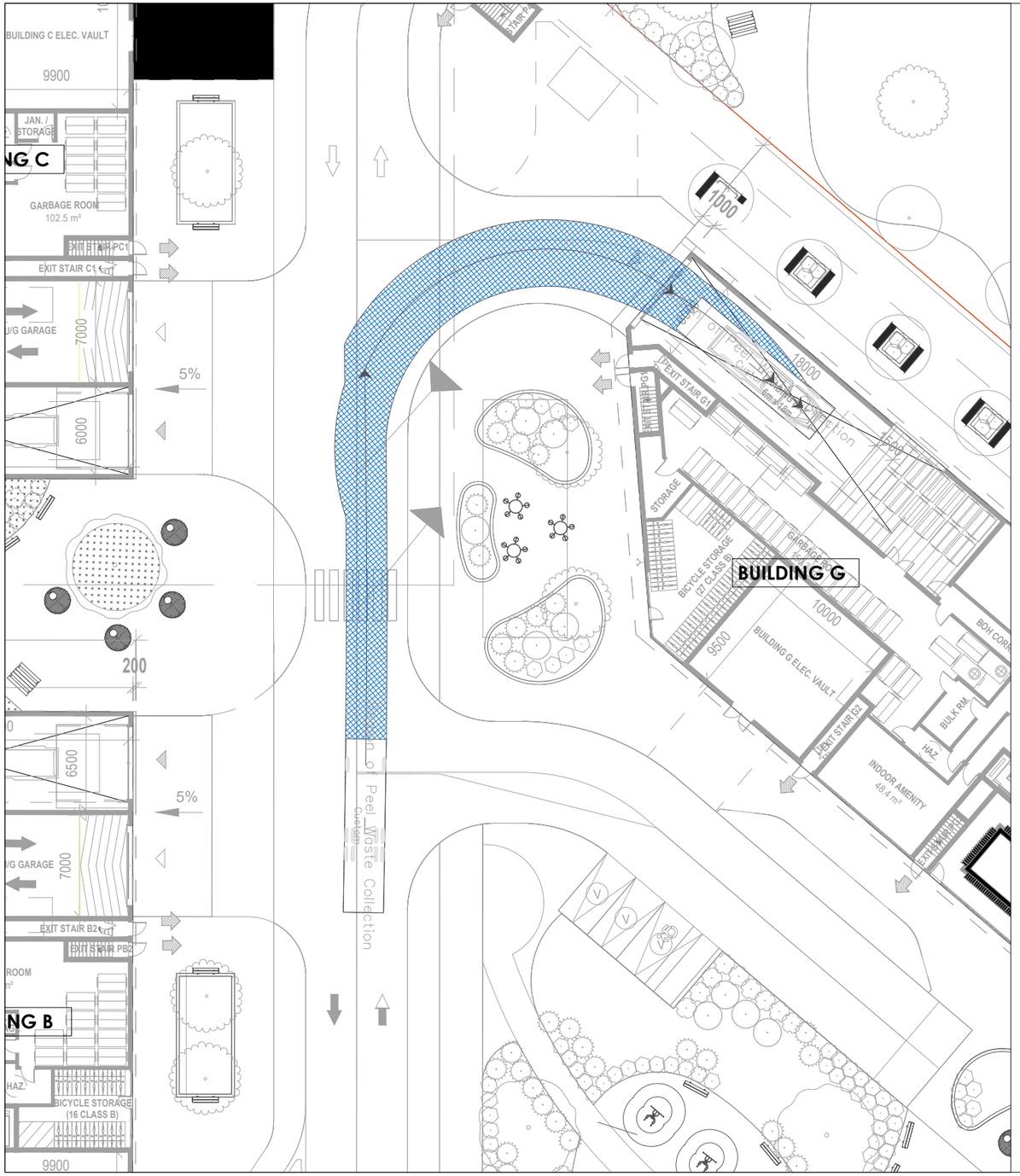
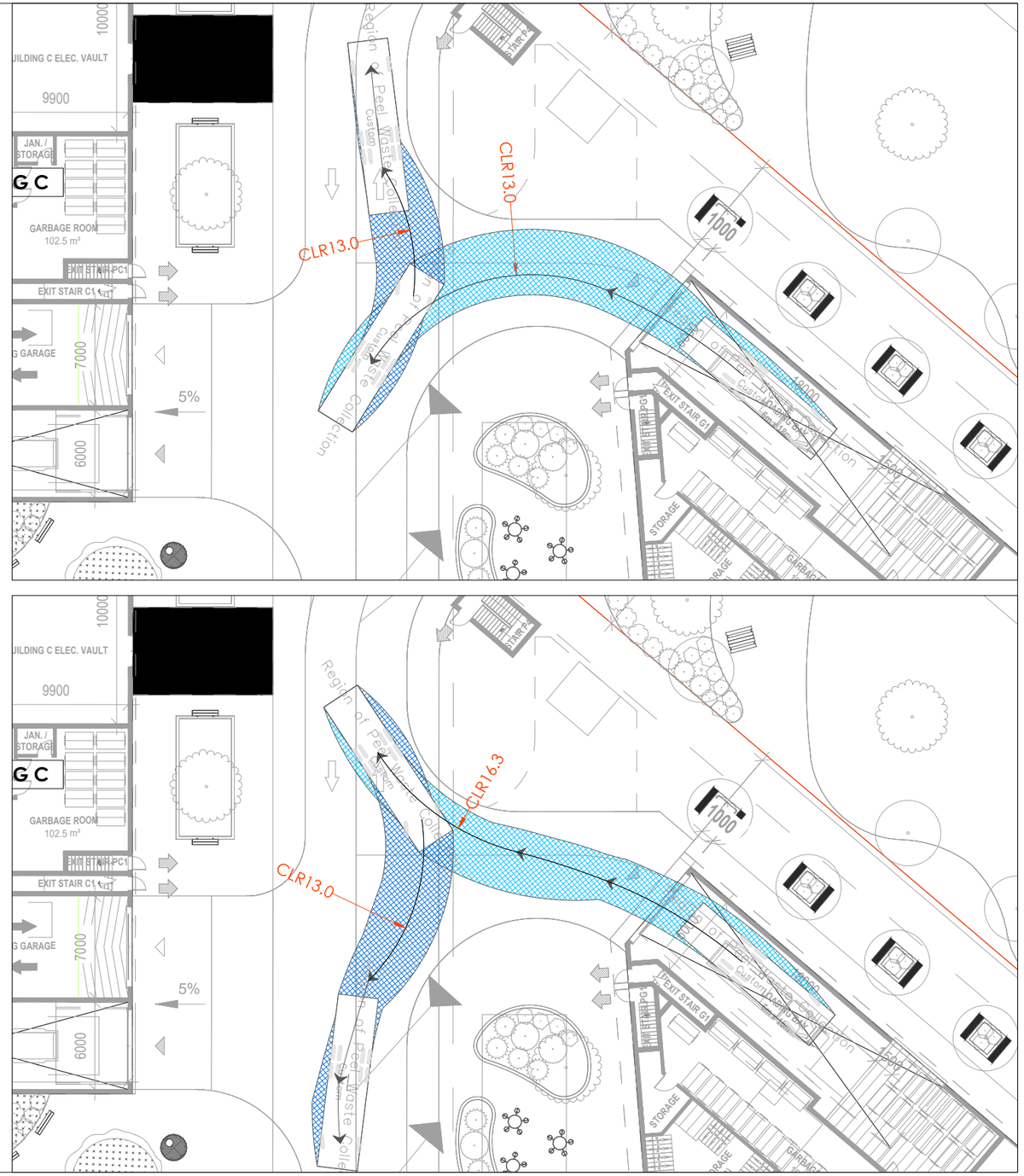


Region of Peel Waste Collection

	meters
Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

Figure 8-18
Garbage Truck Access Maneuvers - Building F
Erin Mills Town Centre Mall Redevelopment





Date Site Plan Received: 2024-10-08

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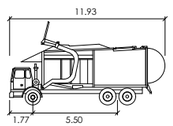
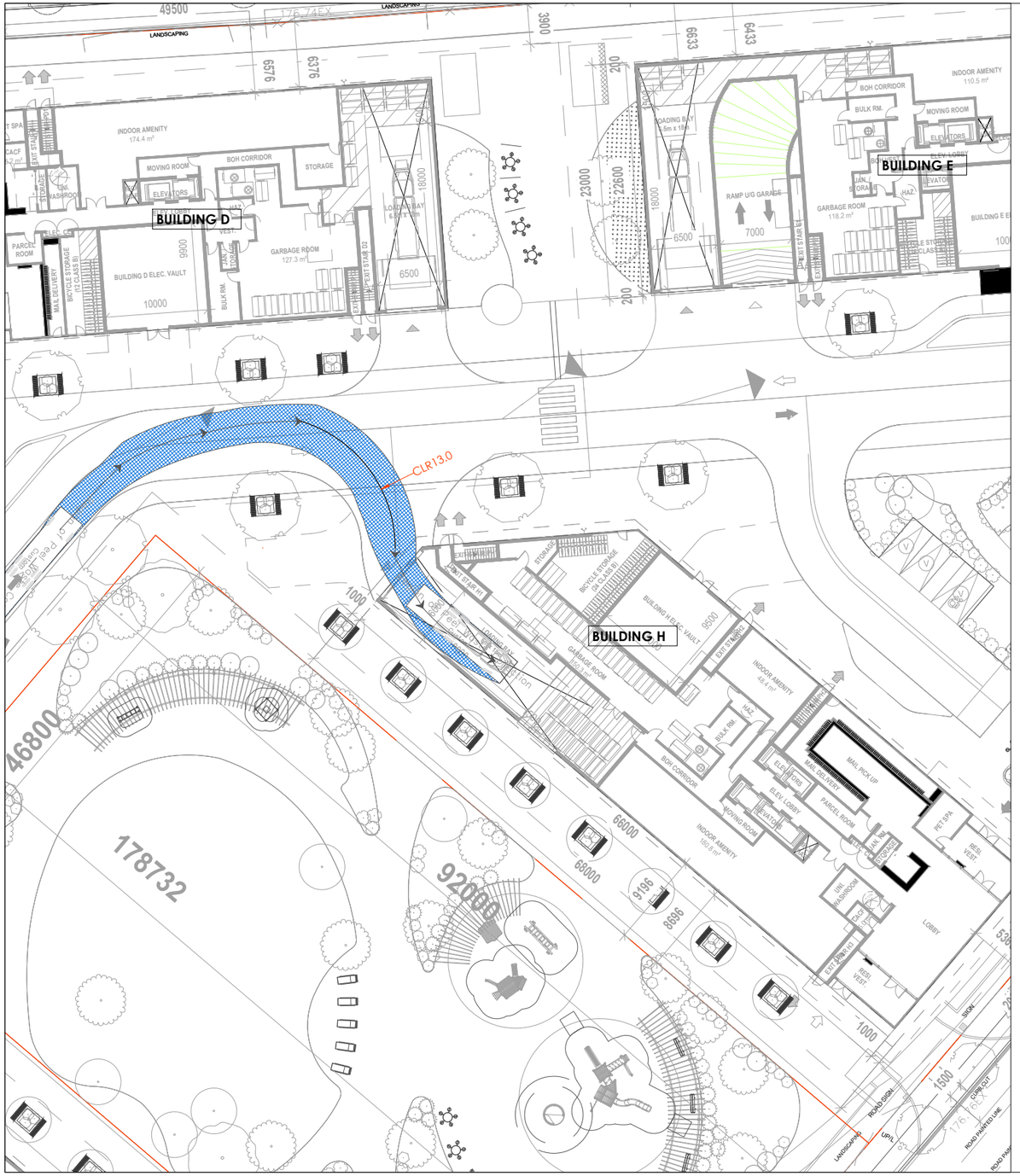


Region of Peel Waste Collection

	meters
Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

Figure 8-19
Garbage Truck Access Maneuvers - Building G
Erin Mills Town Centre Mall Redevelopment



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Date Site Plan Received: 2024-10-08

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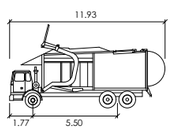

Region of Peel Waste Collection

	meters
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Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

Figure 8-20
Garbage Truck Access Maneuvers - Building H
Erin Mills Town Centre Mall Redevelopment

wsp - Erin Mills Town Centre Mall (Ground Level).dwg_8-20

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Date Site Plan Received: 2024-10-08

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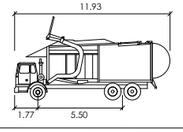

Region of Peel Waste Collection

meters

Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

Figure 8-12
Garbage Truck Access Maneuvers - Building H
Erin Mills Town Centre Mall Redevelopment

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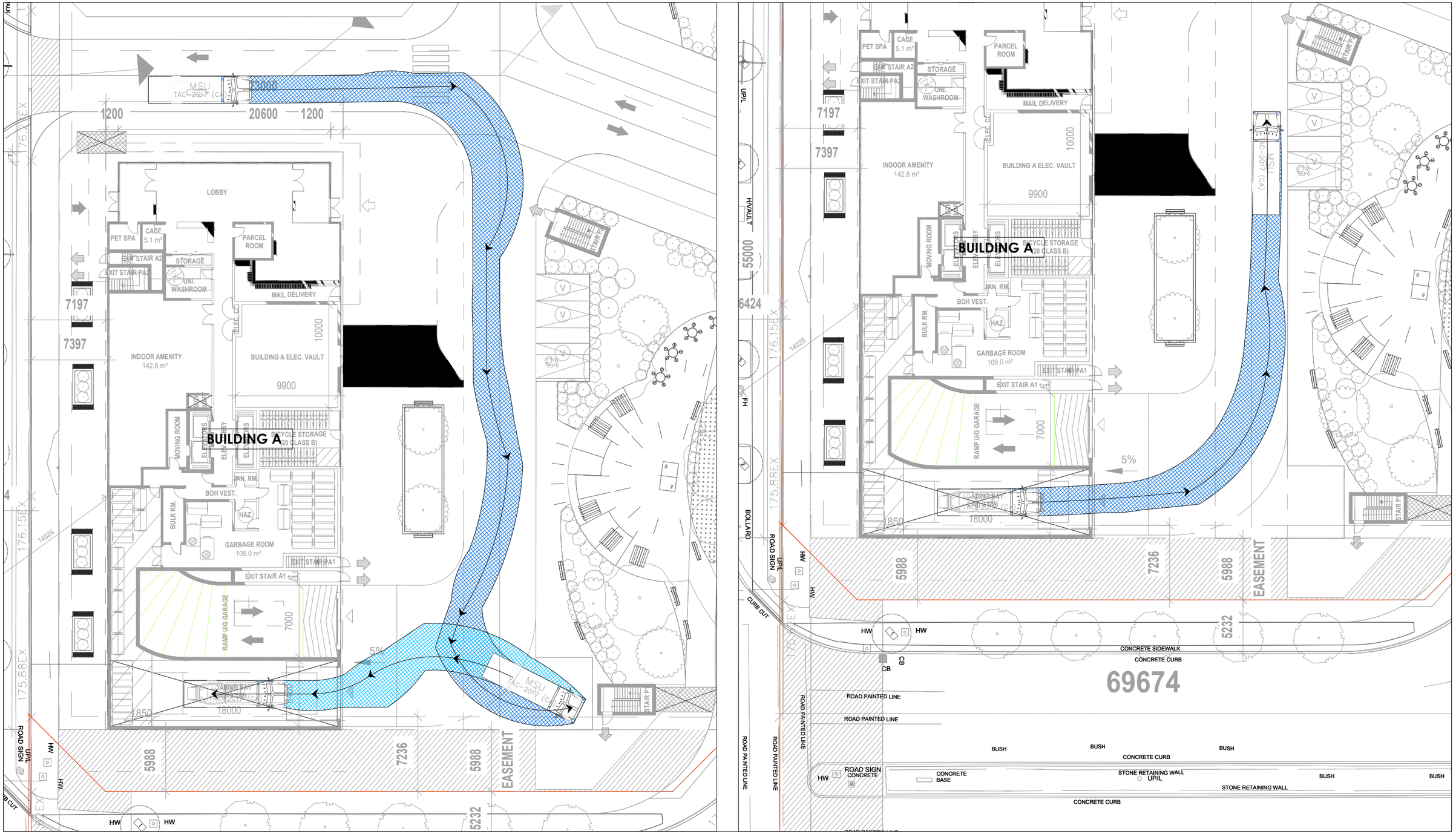

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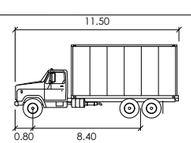
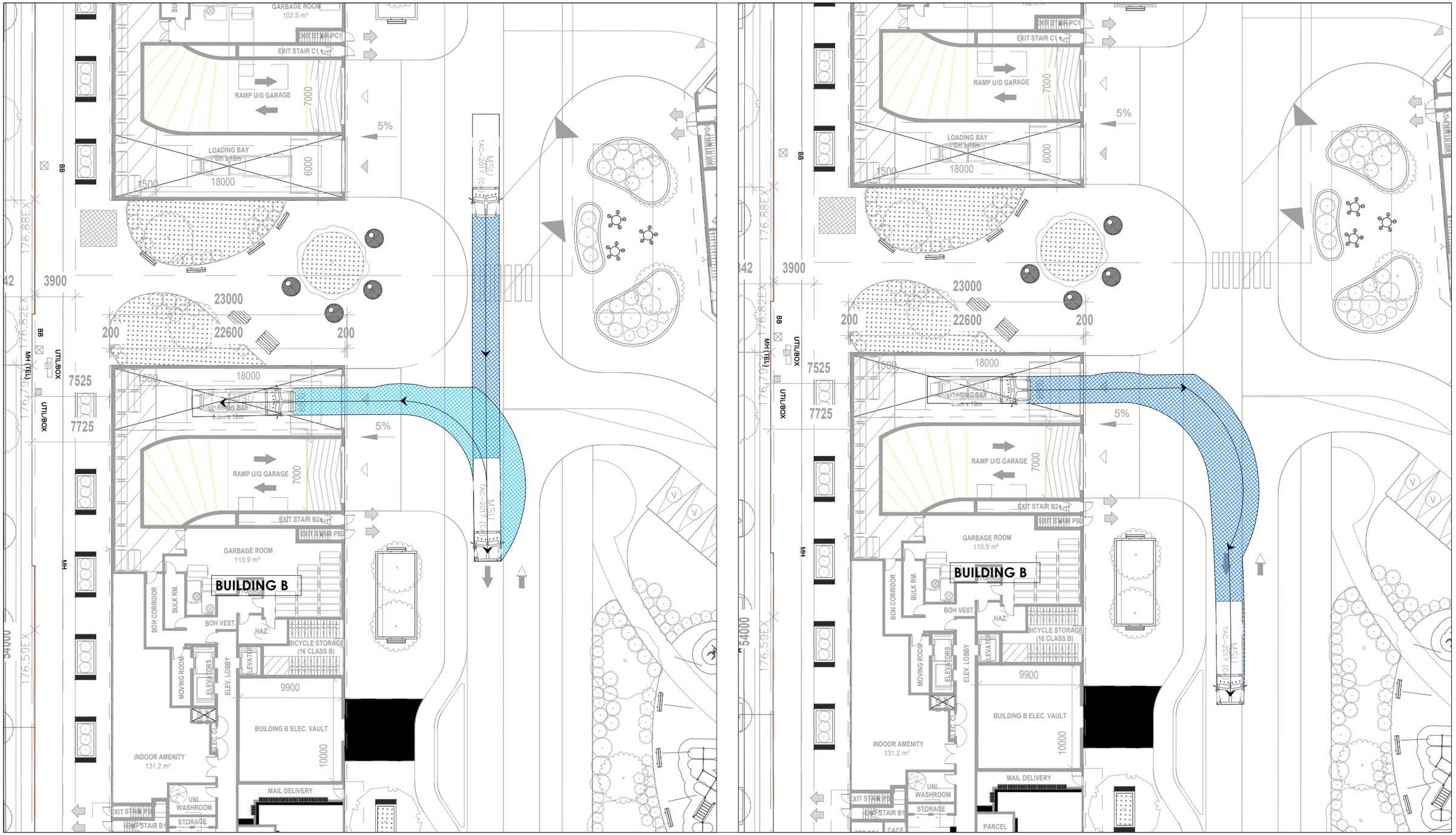


HSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

Figure 8-22
Loading Truck Access Maneuvers - Building A
Erin Mills Town Centre Mall Redevelopment

C:\Users\nima.farid\OneDrive - WSP O365\Desktop\Projects\CA0018156.9516 Erin Mills Town Centre Mall Redevelopment (Peter)\2024-10-08\CAD



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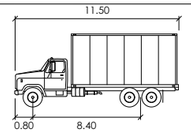

HSU

	meters
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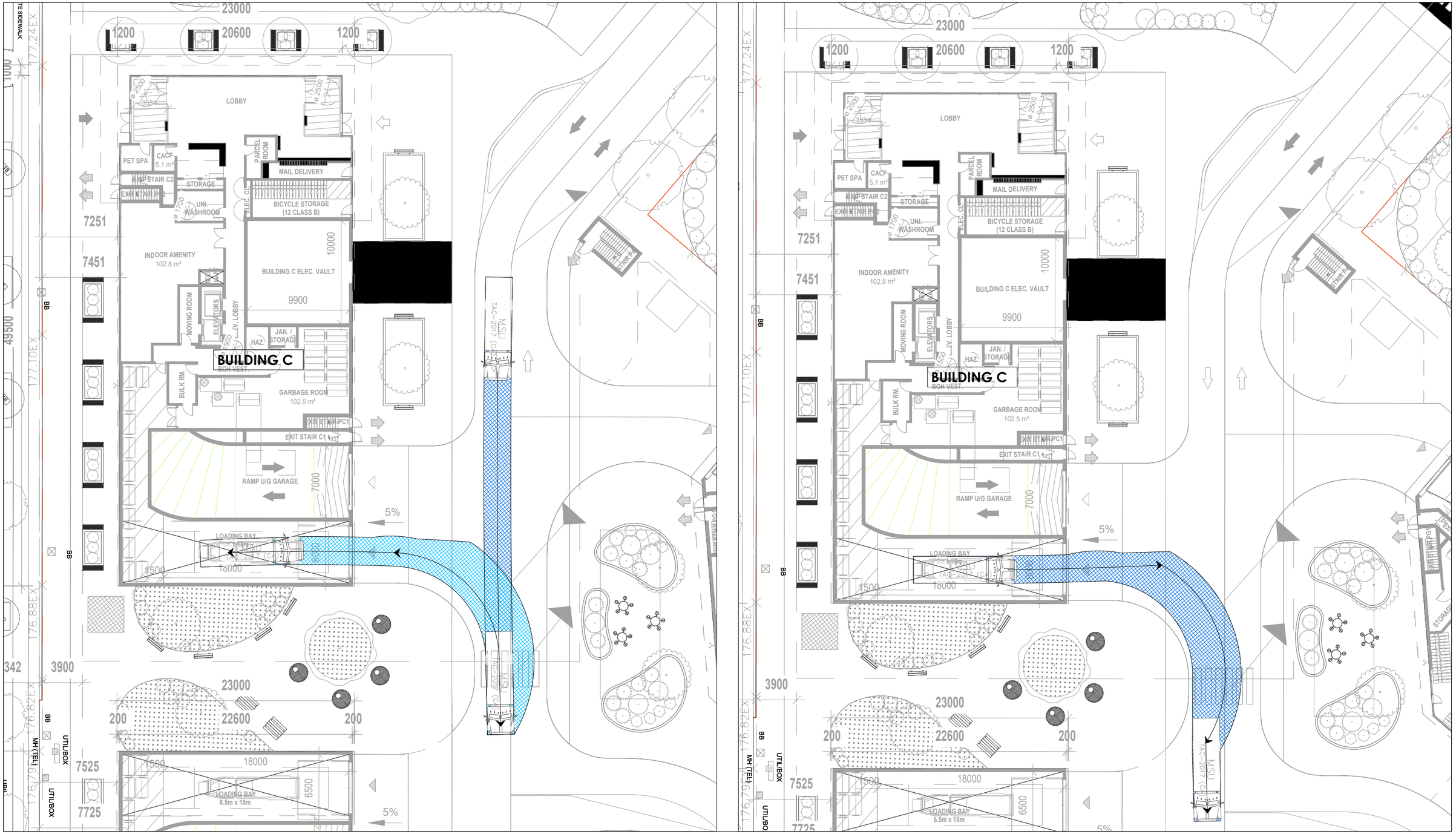
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

Figure 8-23
Loading Truck Access Maneuvers - Building B
Erin Mills Town Centre Mall Redevelopment



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Date Site Plan Received: 2024-10-08

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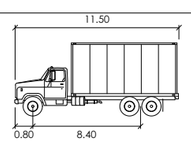

HSU

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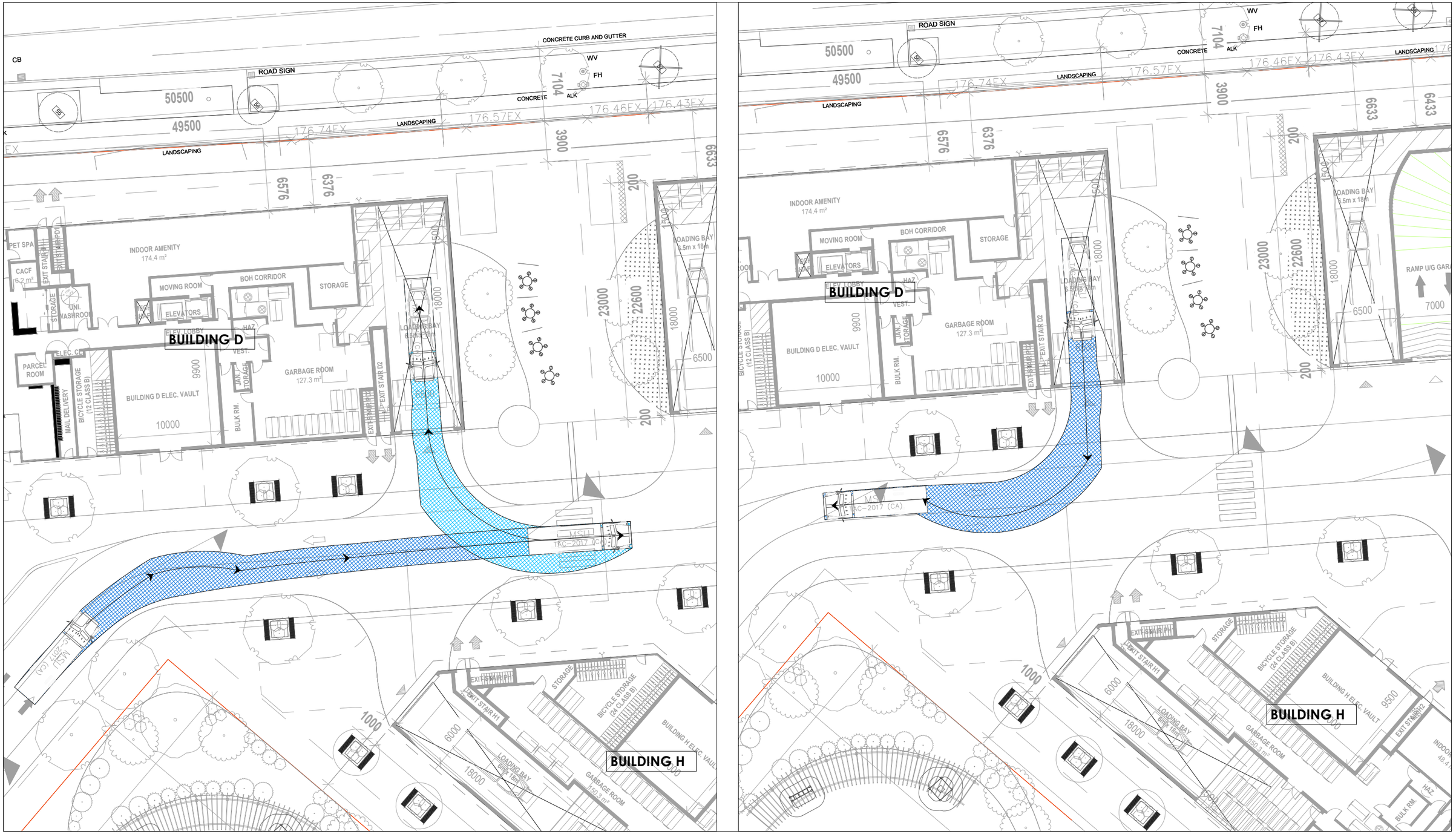
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

Figure 8-24
Loading Truck Access Maneuvers - Building C
Erin Mills Town Centre Mall Redevelopment

wsp - Erin Mills Town Centre Mall (Ground Level).dwg_8-24

Modified: 10/8/2024 5:32 PM By: nima.farid Plot Date: 2024/10/09



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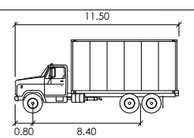
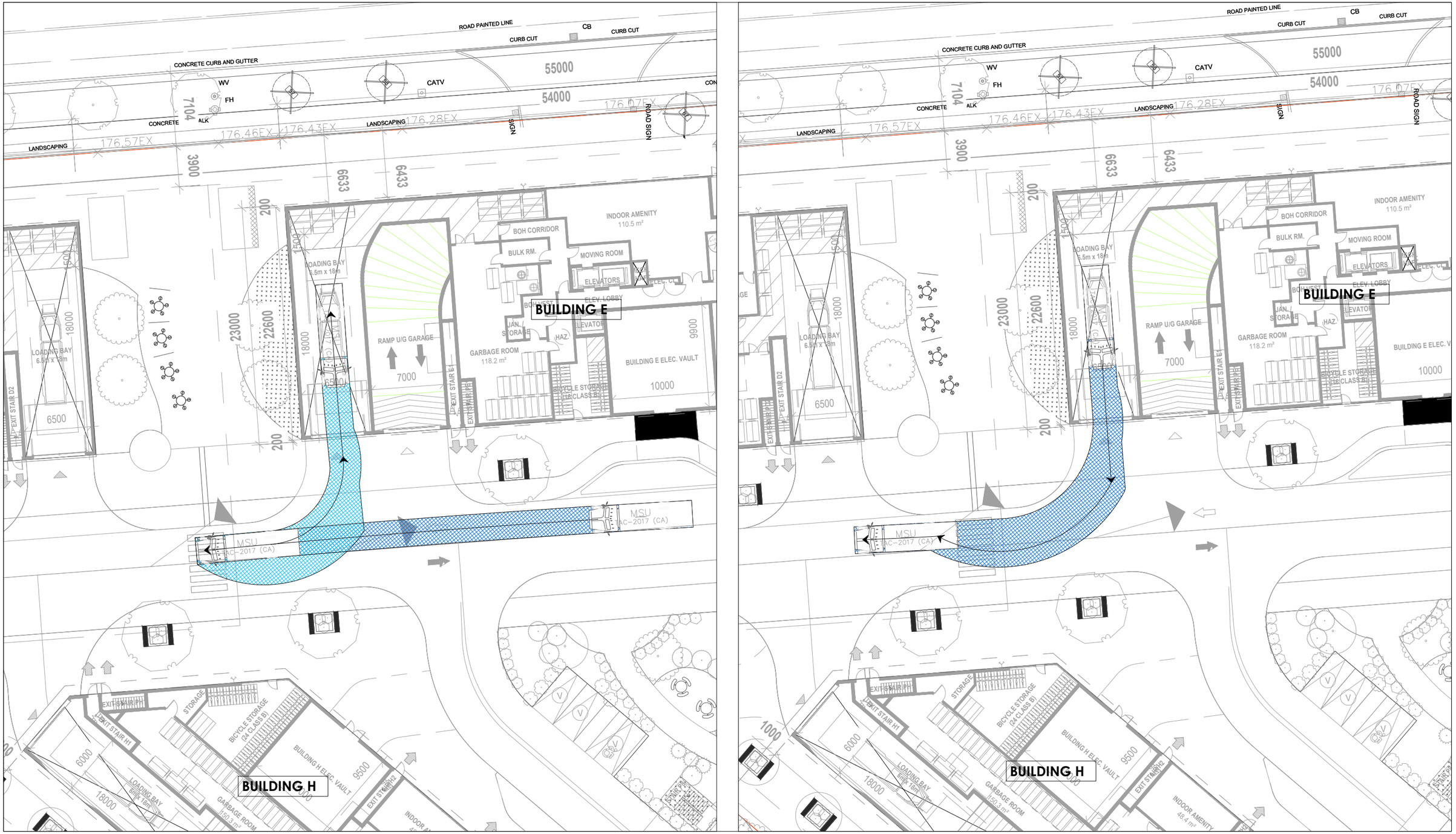


HSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

Figure 8-25
Loading Truck Access Maneuvers - Building D
Erin Mills Town Centre Mall Redevelopment



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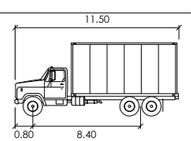

HSU

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Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

Figure 8-26
Loading Truck Access Maneuvers - Building E
Erin Mills Town Centre Mall Redevelopment

C:\Users\nima.farid\OneDrive - WSP O365\Desktop\Projects\CA0018156.9516 Erin Mills Town Centre Mall Redevelopment (Peter)\2024-10-08\CAD

Date Site Plan Received: 2024-10-08

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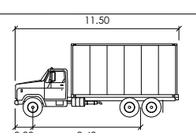

HSU

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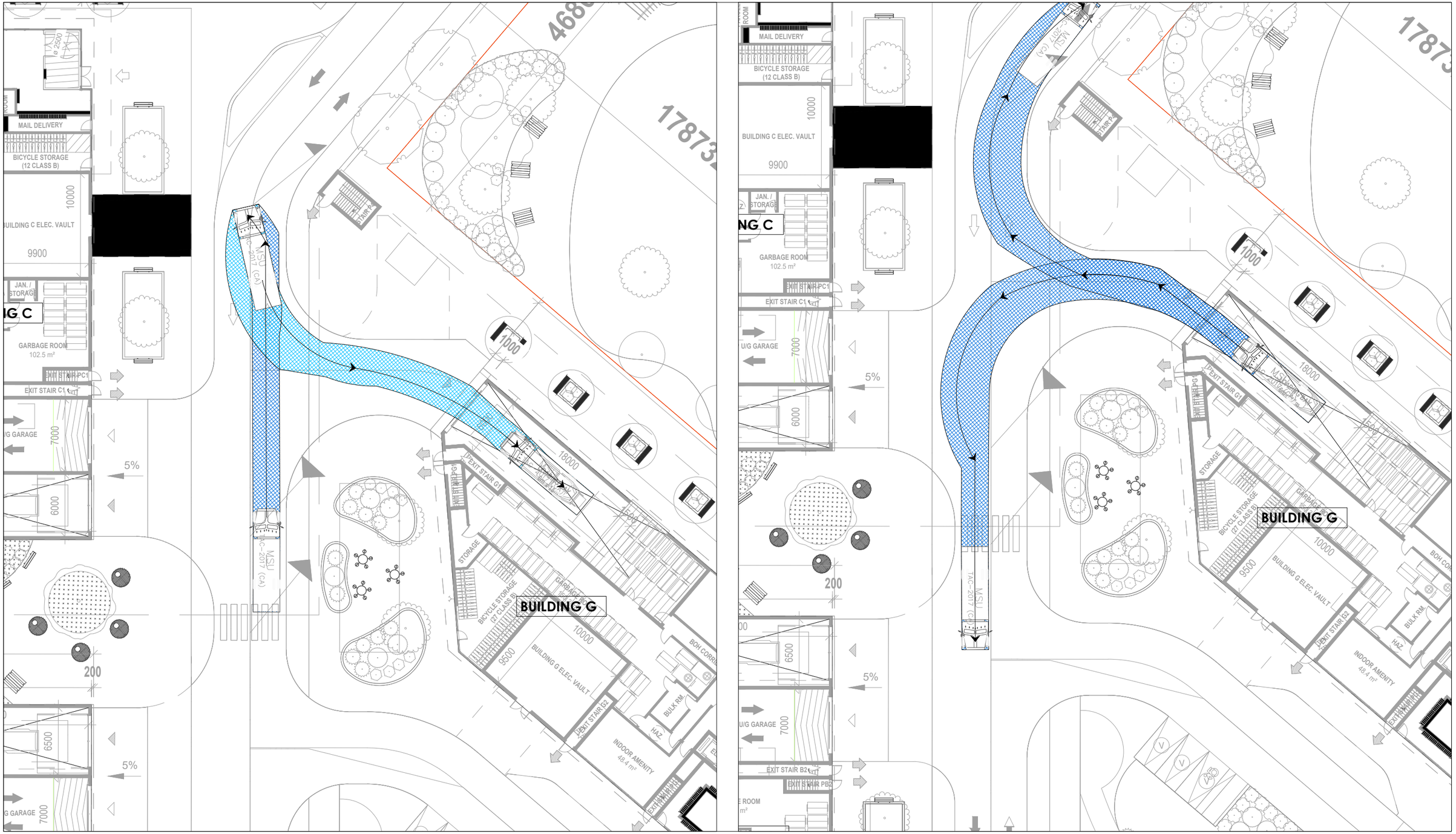
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

Figure 8-27
Loading Truck Access Maneuvers - Building F
Erin Mills Town Centre Mall Redevelopment



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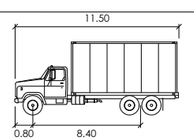

HSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

Figure 8-28
Loading Truck Access Maneuvers - Building G
Erin Mills Town Centre Mall Redevelopment

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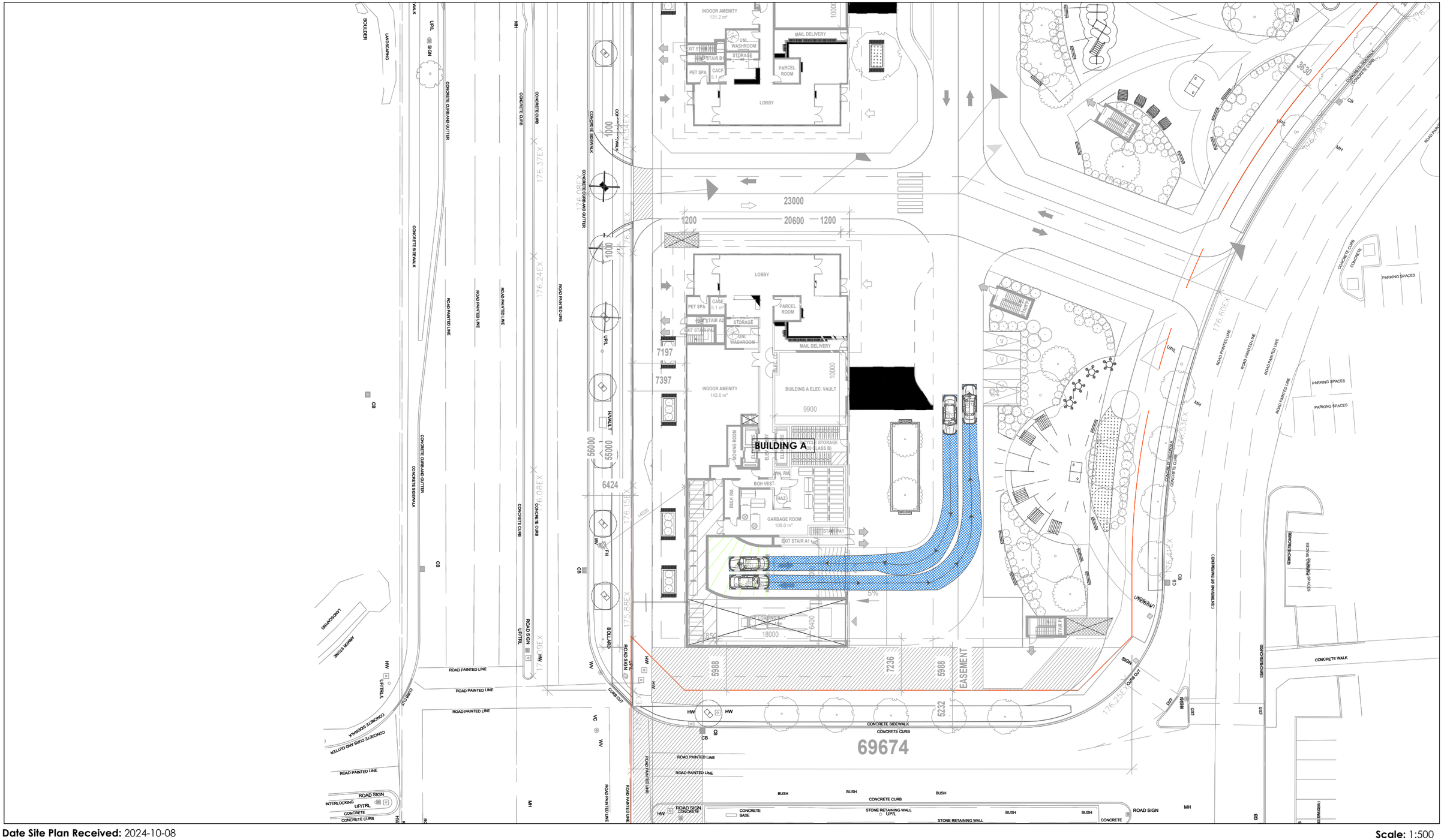

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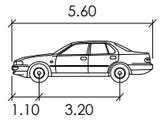
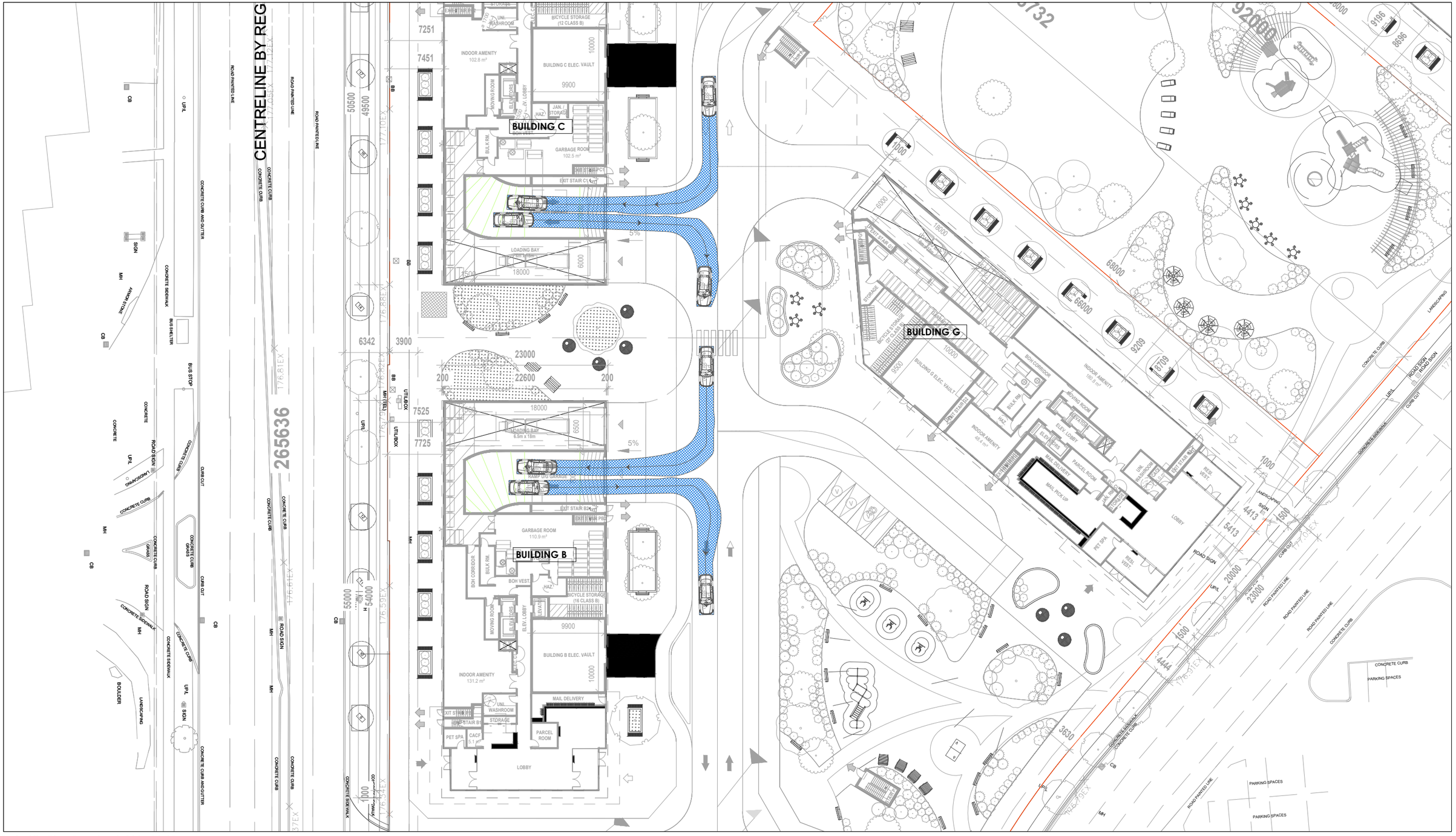


P

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

Figure 8-29
Passenger Vehicle Access Maneuver to Parking Garage Ramp - Building A
Erin Mills Town Centre Mall Redevelopment

C:\Users\nima.farid\OneDrive - WSP O365\Desktop\Projects\CA0018156.9516 Erin Mills Town Centre Mall Redevelopment (Peter)\2024-10-08\CAD



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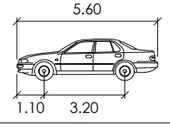
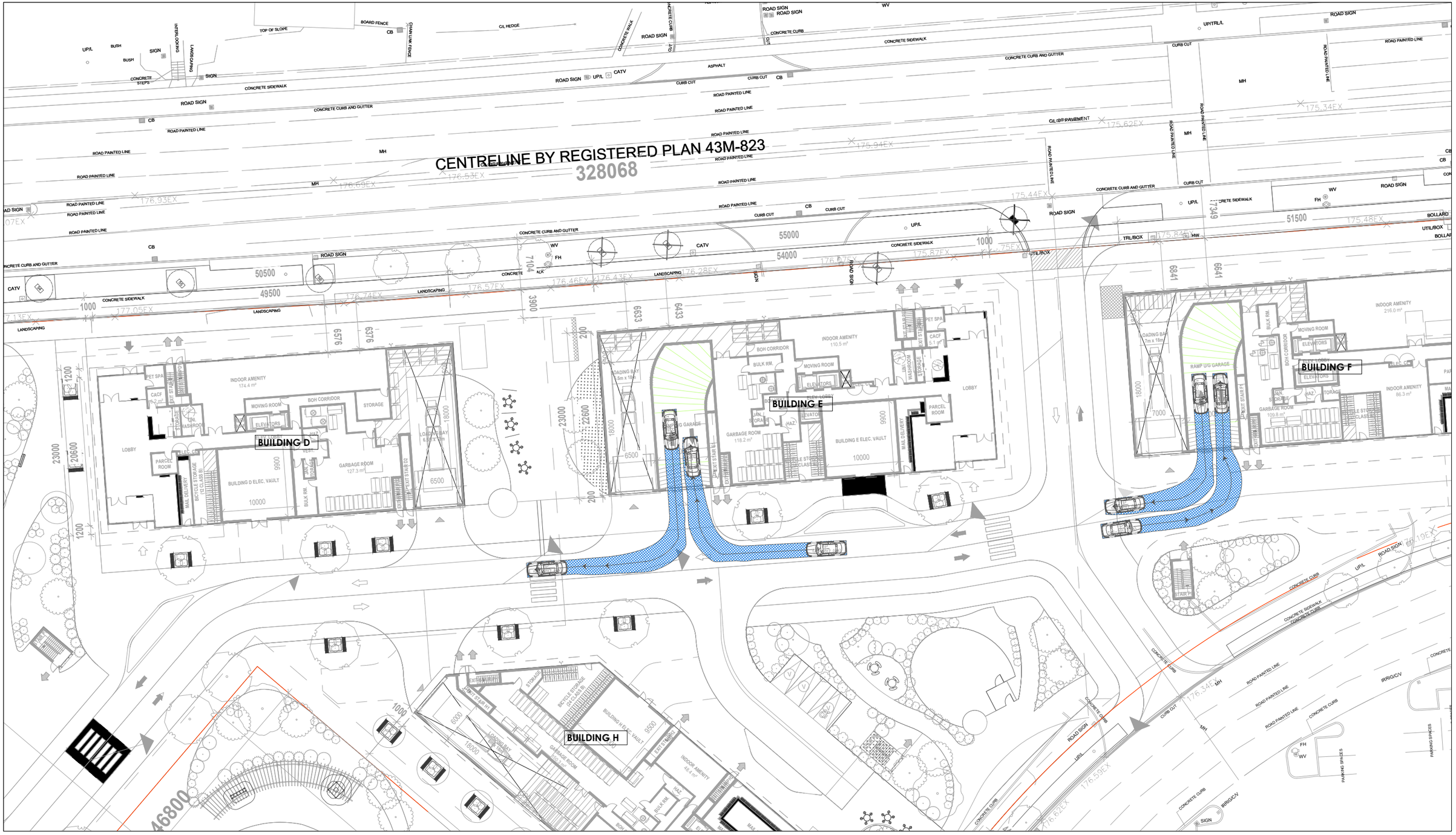


P

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

Figure 8-30
Passenger Vehicle Access Maneuver to Parking Garage Ramp - Buildings B and C
Erin Mills Town Centre Mall Redevelopment



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Date Site Plan Received: 2024-10-08

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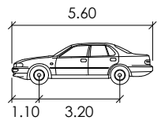
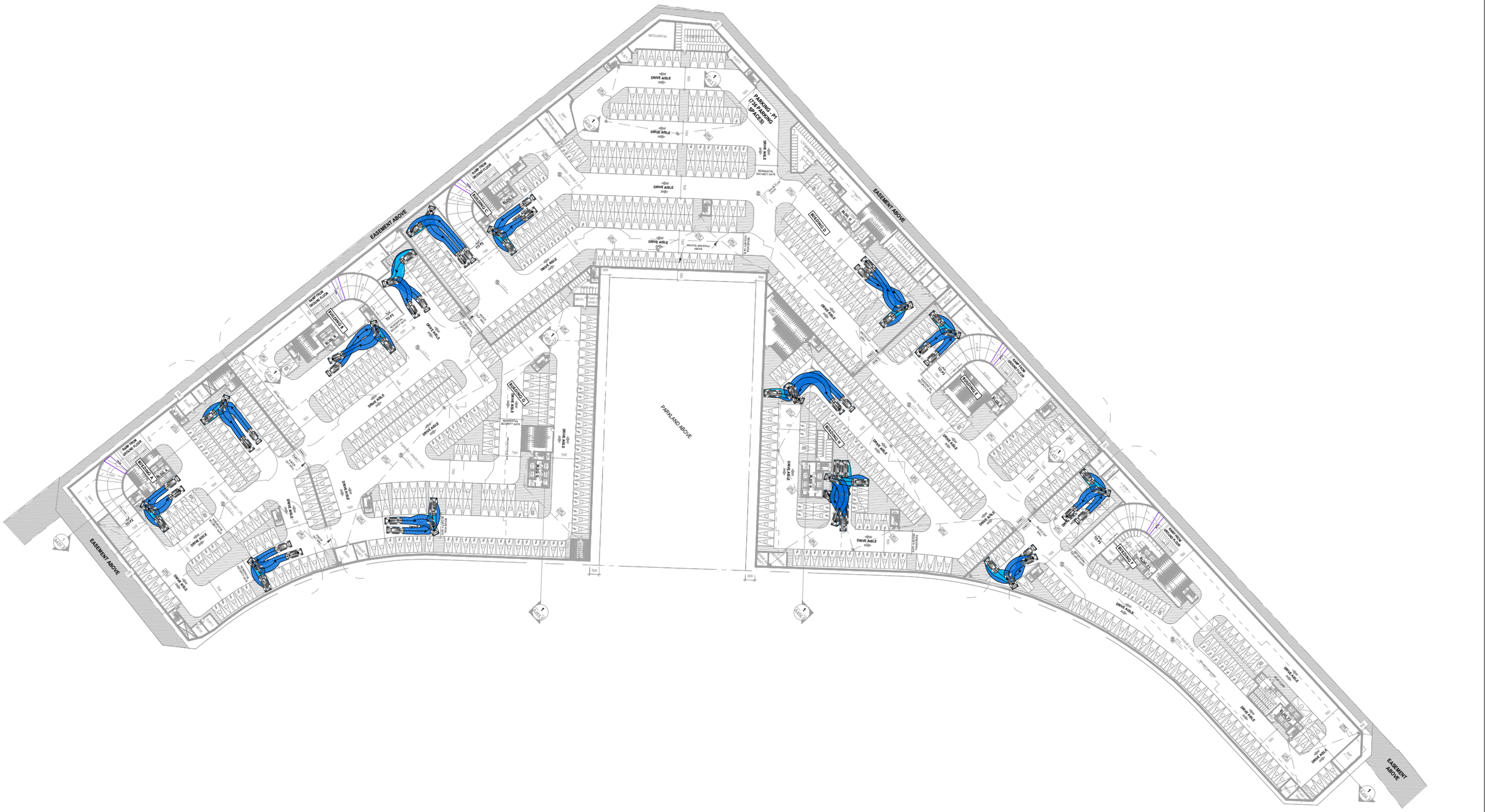


P

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

Figure 8-31
Passenger Vehicle Access Maneuver to Parking Garage Ramp - Buildings E and F
Erin Mills Town Centre Mall Redevelopment

C:\Users\nima.farid\OneDrive - WSP O365\Desktop\Projects\CA0018156.9516 Erin Mills Town Centre Mall Redevelopment (Peter)\2024-10-08\CAD



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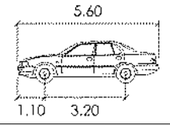


P

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

Figure 8-32
P1 Level Overview
Erin Mills Town Centre Mall Redevelopment

Date Site Plan Received: 2024-06-18

Scale: 1:1500

P

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

Figure 8-33
P2 Level Overview
Erin Mills Town Centre Mall Redevelopment

C:\Users\nima.farid\OneDrive - WSP O365\Desktop\Projects\CA0018156.9516 Erin Mills Town Centre Mall Redevelopment (Peter)\2024-10-08\CAD

Date Site Plan Received: 2024-06-18

Scale: 1:1500

wsp

Figure 8-34
P5 Level Overview
Erin Mills Town Centre Mall Redevelopment

9 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) is a concept that includes various strategies that increase transportation system efficiency by managing the demand for travel. TDM treats mobility as a means to an end, rather than an end in itself, and emphasizes the movement of people and goods rather than motor vehicles. The following sections outline the soft and hard measures proposed, responsibilities, costs and a general implementation strategy. Given the zoning stage of application, some of the TDM details will be further defined through the SPA stage of application.

9.1 PROPOSED TDM MEASURES

The following TDM Plan was developed based on the strategies and toolkit described in the City of Mississauga's *TDM Strategy and Implementation Plan (2018).*

UNBUNDLED PARKING (SOFT MEASURE)

This TDM measure allows residents to purchase vehicle parking spaces separately from the residential unit, reducing the purchase costs for residents who do not require vehicle parking. This incentivizes residents to reduce dependency on private single-occupancy vehicles and consider alternative travel modes. The cost reduction must reflect the realistic and actual cost of the parking space to encourage purchasers to consider an unbundled parking option. This is a common TDM strategy for medium and high-density residential developments within the GTA.

PARKING PRICING (SOFT MEASURE)

This TDM measure means the applicant will market the sales of each parking space at prevailing market pricing. This helps with the transparency and disclosure of purchasers regarding the cost of auto ownership, and whether the cost can be invested in other means of non-auto transportation.

ENCOURAGE TRANSIT USAGE (SOFT AND HARD MEASURES)

The site is centrally located within many transit routes that currently service Erin Mills Town Centre and there are also various planned transit improvements along the surrounding corridors. Promoting usage of public transit is an excellent way of reducing single-occupancy vehicles and can be very effective for transit-oriented locations. The applicant will provide new owners with a transit information package for new residents. Moreover, a centralized TDM screen will be installed for each building to allow residents and visitors to see real-time transit routing and schedule information. This allows them to better judge when to walk out of a building towards a bus stop / plan for their trip.

ENCOURAGE CYCLING (SOFT AND HARD MEASURES)

The site is well suited to take advantage of the existing and planned active transportation network in the surrounding area. There are currently existing bike facilities along Erin Centre Boulevard and Erin Mills Parkway that provide cycling connections in all directions. As per the Mississauga Cycling Master Plan 2018, the cycling network is also planned to expand along Glen Erin Drive and Eglinton Avenue surrounding the site.

New owners will be provided with information regarding the available cycling features, such as the location of short-term and long-term bicycle parking and repair stations, and maps of the surrounding cycling network. Cycling tutorials could also be offered upon building occupancy to encourage new or novice riders. One on-site bike repair station is proposed for each building. The centralized TDM screen within each building will also provide wayfinding and direction to the above-noted cycling features.

WAYFINDING TO UTILITARIAN USES NEARBY

Given the residential nature of the development, the primary trip purposes include work, shop, school and leisure purposes. In the vicinity of the subject site there are several uses within walk or cycle distances as outlined below. Wayfinding to these uses will be included as part of the welcome package and displayed in the TDM screen so residents and visitors know that they can access the utilitarian uses without having to drive.

- Restaurants within Erin Mills Town Centre mall
- Small to large retail shops within Erin Mills Town Centre mall
- Grocery stores: Walmart and Loblaws
- Entertainment uses – Cineplex within Erin Mills Town Centre mall
- Financial institutions within Erin Mills Town Centre mall
- Healthcare uses: Lifelabs and Credit Valley Hospital
- School institutions: John Fraser Secondary School, St. Aloysius Gonzaga Secondary School, and Blessed Trinity Catholic Education Centre
- Community uses: Erin Meadows Library, Erin Meadows Community Centre and Quenippepon Meadows Community Park

LAYBY (HARD MEASURE)

The site proposes 8 lay-by areas along the internal private road to allow taxi, Uber, Lyft or wheel-trans vehicle offered by Peel Region to pick-up/drop-off residents or visitors from each building conveniently. This is an effective TDM design since residents do not need to own a car and instead for occasional need order an alternative mode of private transport. This also helps to minimize illegal pick-up/drop-off from occurring along public streets (i.e., Erin Centre Boulevard) and risk blocking cyclists in the bike lanes.

CAR-SHARE AND EV PARKING

The TDM checklist from the list note the option of providing 3% of the parking as either car-share or EV/alternative fuel spaces. In contrast, the following is proposed:

- 20% of residential spaces will be EVs
- 10% of visitor spaces will be EVs
- The applicant will discuss with car-share operators on the viability of providing 1 car-share space per building. Based on market demand the quantity of car-share space may increase in the future. There are 12 at-grade parking spaces, which may be used for car-share space pending discussions with car-share providers.

The above reduces the traditional emission issues related to cars and allow residents who do not need regular access to a vehicle to access a vehicle for occasional errands.

9.2 TDM IMPLEMENTATION AND MONITORING

The proposed TDM measures are summarized in **Table 9-1**. Typically the soft TDM measures are implemented by the condo board of each building, while the hard measures are designed and built by the applicant. The distribution of TDM-related information (welcome package and wayfinding) will be completed during the sales process and be included in the welcome package (digitally or hard copy). For TDM-related events held on-site (i.e., cycling tutorial or transit session with MiWay staff), these are recommended once the building is critically occupied. In terms of monitoring the effectiveness of TDM measures, a pre and post-occupancy TDM survey is recommended such that residents can provide feedback on the existing TDM measures offered, how they tend to travel and any future recommendations. This monitoring helps to track the effectiveness of different measures and changes in mode choices.

Table 9-1: Proposed TDM Measures and Estimated Costs

TDM Measure	Responsibility	Approx. Cost	Implementation
Unbundled parking sales	Applicant	Marketing	During advertising & sales
Strategic parking pricing	Applicant	Marketing	During advertising & sales
Bike repair stations (9)	Applicant	$13,500	Development construction
Welcome package with transit, cycling and pedestrian information	Applicant + Condo Board	$5,000	During building occupancy
TDM information screen	Applicant	$18,000	Development construction
Provision of laybys	Applicant	Construction costs	Development construction
Car-share (9) and EV parking	Applicant	Construction costs	During building occupancy

10 CONCLUSIONS

This Transportation Impact Study has assessed the trip generation, traffic operations, parking, loading, and site layout aspects of the proposed development of Erin Mills Town Centre Block 1, located at 5100 Erin Mills Parkway in the City of Mississauga.

During the interim horizon, the proposed development is forecast to generate 275, 365, and 421 net auto trips during the weekday a.m., weekday p.m., and Saturday mid-day peak hours, respectively. The future total 2032 assessment results indicate that the study area network can readily accommodate the 50% buildout of the proposed development along with the current retail uses on the site today without the need for any geometric roadway improvements

For the ultimate horizon, the removal of the existing retail uses results in similar net site trips compared to interim conditions. As a result, after full buildout, the proposed development is forecast to generate a net of 408, 301, and 311 auto trips during the weekday a.m., weekday p.m., and Saturday mid-day peak hours, respectively. The future total 2040 assessment results indicate that the study area network can readily accommodate full buildout of the development with the proposed site access arrangements.

The parking assessment indicates the proposed residential auto parking, long-term and short-term bicycle parking supplies satisfy the City's minimum requirements. A minor reduction is sought for the residential and visitor parking to rates of 0.95 spaces/unit and 0.15 spaces/unit, respectively which is supported by proxy information and with consideration of the site's context in a mixed-use community with good access to transit, and the popularity of private transport modes such as UBER and Lyft. In addition, the resulting parking supply for the Erin Mills Town Centre retail centre will continue to be adequate relative to the current City-wide parking requirements.

The site plan review confirms that the various design vehicles can adequately access, circulate and egress the site in a logical fashion. No vehicle has to reverse onto a public street. The sightline review of the site driveways onto the public streets or the internal ring road confirm there is sufficient sightline to allow the driveway to function.

A tangible package of TDM measures is proposed to support residents adopting a non-auto mode of transportation.

APPENDIX

A TERMS OF REFERENCE

Appendix A

Certification Form

Individuals submitting reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Mississauga's Official Plan, Transportation Master Plan, and Transportation Impact Study Guidelines.

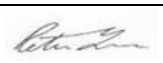
By submitting the attached report (and any associated documents) and signing this document, I acknowledge that:

- I have reviewed and have a sound understanding of the objectives, needs, and requirements of the City of Mississauga's Official Plan, Transportation Master Plan, and the Transportation Impact Study Guidelines as they apply to this submission;
- I have sound knowledge of industry standard practices pertaining to the preparation of development-related transportation study reports;
- I have substantial experience (more than five years) in completing development-related transportation studies and strong background knowledge of the transportation planning and engineering principles underpinning these studies; and
- I am registered as a Professional Engineer (P.Eng.), Licensed Engineering Technologist (LET), Certified Engineering Technologist (C.E.T.), or Registered Professional Planner (RPP) in good standing in the Province of Ontario with specific training in transportation planning and engineering.

Dated at Toronto (City) this 10 day of October, 2024.

Name: Peter Yu

Professional Title: Senior Project Manager

Signature: 

Office Contact Information (Please Print)

Address: 25 York Street

City/Postal Code: Toronto, M5J 2V5

Telephone/Extension: 416-508-3248

E-mail Address: peter.yu@wsp.com

Appendix B

Pre-Study Consultation Checklist

APPROVED
By Michael Turco at 10:16 am, Mar 01, 2024

Description	Information	Section Reference
Development Information		
Development Description (land use, size, and number of phases of development)	Full build: approximately 2,600 residential units, displacing commercial uses at the north-west quadrant of Erin Mills Town Centre. The development is currently planned for 5 sub-phases. The exact unit count and timing of each phase is still subject to change due to fluctuation of market conditions.	2.3.6
Transportation Impact Assessment		
Step 1 – Screening		
Type of Application (attach a drawing)	■ Official Plan Amendment ■ Zoning Amendment ☐ Site Plan Control Application ■ Plan of Subdivision ☐ Other_____	2.3.5
Screening Criteria	■ Trip Generation Trigger Satisfied ☐ Location Trigger Satisfied ☐ Operational/Safety Trigger Satisfied	2.2.1
Type of Study	■ Transportation Impact Study ☐ Access Review ☐ No Additional Study Required	2.2.1
Step 2 – Scoping		
Study Area (intersections to be analyzed) Note: The Transportation Consultant is responsible to identify any further intersections impacted as the study progresses.	• Erin Centre Boulevard and Glen Erin Drive (signalized); • Erin Centre Boulevard and Erin Mills Parkway (signalized); • Erin Centre Boulevard and Winston Churchill Boulevard (signalized); • Erin Centre Boulevard and Plantation Place (signalized); • Eglinton Avenue and Glen Erin Drive (signalized); • Eglinton Avenue and Erin Mills Parkway (signalized); • Eglinton Avenue and Winston Churchill Boulevard (signalized); • Eglinton Avenue and Plantation Place (signalized); • Credit Valley Road and Erin Mills Parkway (signalized); • Erin Mills Parkway and Highway 403 EB off-ramp (signalized); • Erin Mills Parkway and Highway 403 WB off-ramp/GO Station Driveway (signalized); • Plantation Place & Hazelton Place (roundabout) and	2.3.8

Description	Information	Section Reference
	• ~~Existing signalized site access driveways.~~ All site accesses and all new public road intersections	
Horizon Years	■ Existing conditions ■ 5 years from date of TIS ~~■ Interim years: 50% buildout horizon 2032 and full buildout horizon 2040~~ ■ Other – Each major phase of the development, including an ultimate buildout phase	2.3.9
Analysis Periods	■ AM weekday peak hour of adjacent roadway ■ PM weekday peak hour of adjacent roadway ■ Saturday peak hour of adjacent roadway ☐ AM weekday peak hour of development ☐ PM weekday peak hour of development ☐ Saturday peak hour of development ☐ Other _____	2.3.10
Input Parameters and Assumptions (potential deviations)	• • • •	2.3.13
Existing Transportation Conditions	~~■ City data sources (if available)~~ ■ New data collection ~~at the following intersection~~: ~~• Eglinton Avenue and Erin Mills Parkway~~ ~~• Eglinton Avenue and Winston Churchill Boulevard~~ ~~• Erin Centre Boulevard and Erin Mills Parkway~~ ~~■ Other __pre-COVID traffic counts from 2018/2019___~~	2.3.14
Planned Network Improvements (with timing)	• Based on inquiry with Region and City for the proposed horizon years. • Site-triggered improvements are to be determined through TIS. • Cycle Tracks (both sides) – Glen Erin Drive from Eglinton Avenue West to Dundas Street West (~2025) More info: • Multi-Use Trail (south side) – Eglinton Avenue West from Metcalf Avenue to driveway east of Metcalf Avenue (~2024) • Multi-Use Trail (north side) – Eglinton Avenue West from Erin Mills Parkway to Summersky Court (~2024) • Bus Queue Jump Lanes - Eglinton Avenue West & Erin Mills Parkway and Eglinton Avenue West & Winston Churchill Boulevard (~2025)	2.3.16
Other Planned Developments (per City's Website)	• 2475 Eglinton Avenue West (351 units) • •	2.3.17

Description	Information	Section Reference
	• •	
Identification of Mitigation Improvement Measures	☐ Neighbourhood Traffic Management Plan ☐ Other_____	2.3.23
Safety Analysis (any special issues)	• • • •	2.3.25
Site Access and Circulation (design vehicles)	■ Passenger Car (P) ☐ Light Single Unit Truck (LSU) ■ Medium Single Unit Truck (MSU) ■ Heavy Single Unit Truck (HSU) ■ Pumper Fire Truck ☐ WB-20 Tractor Semi-Trailer Truck ■ Other Peel Waste Collection Truck	2.3.26
Impacts During Construction (any special issues)	• • • •	2.3.27
Step 3 – Forecasting		
Growth Rate	■ Obtained from City ■ Historical traffic counts ☐ Travel demand forecasts ☐ Proposed Growth Rate: _____	2.3.15
Site Trip Generation	■ ITE Trip Generation Manual ■ "First Principles" → for the removal of commercial trips. Detailed documentation and justification regarding methodology required within the report. ☐ Observed rates for similar developments in area ☐ Other _____	2.3.19
Trip Reductions	■ Internal capture reductions for mixed-use developments → with consideration of critical mass of retail/commercial uses near by. Detailed documentation and justification regarding methodology required within the report. ☐ Pass-by reductions ■ Modal split adjustments ☐ Other _____	2.3.19
Trip Distribution	■ Local traffic patterns ■ TTS ☐ Travel demand model ☐ Population and employment distribution ☐ Market analysis of catchment area	2.3.20

Description	Information	Section Reference
	☐ Other _____	
Trip Assignment	■ Local traffic patterns ■ Shortest distance ■ Site layout, access design and logical routing ■ Existing turning movements ☐ Other _____	2.3.21
Transportation Demand Management Plan		
Format	■ Within a TIA Report ☐ Standalone	3.2.1
Type of Transportation Demand Management Plan	☐ TDM Statement ■ TDM Scheme	3.2.2
Pedestrian Circulation Plan		
Format	■ Within a TIA Report ☐ Standalone	4.2.1

Additional Comments

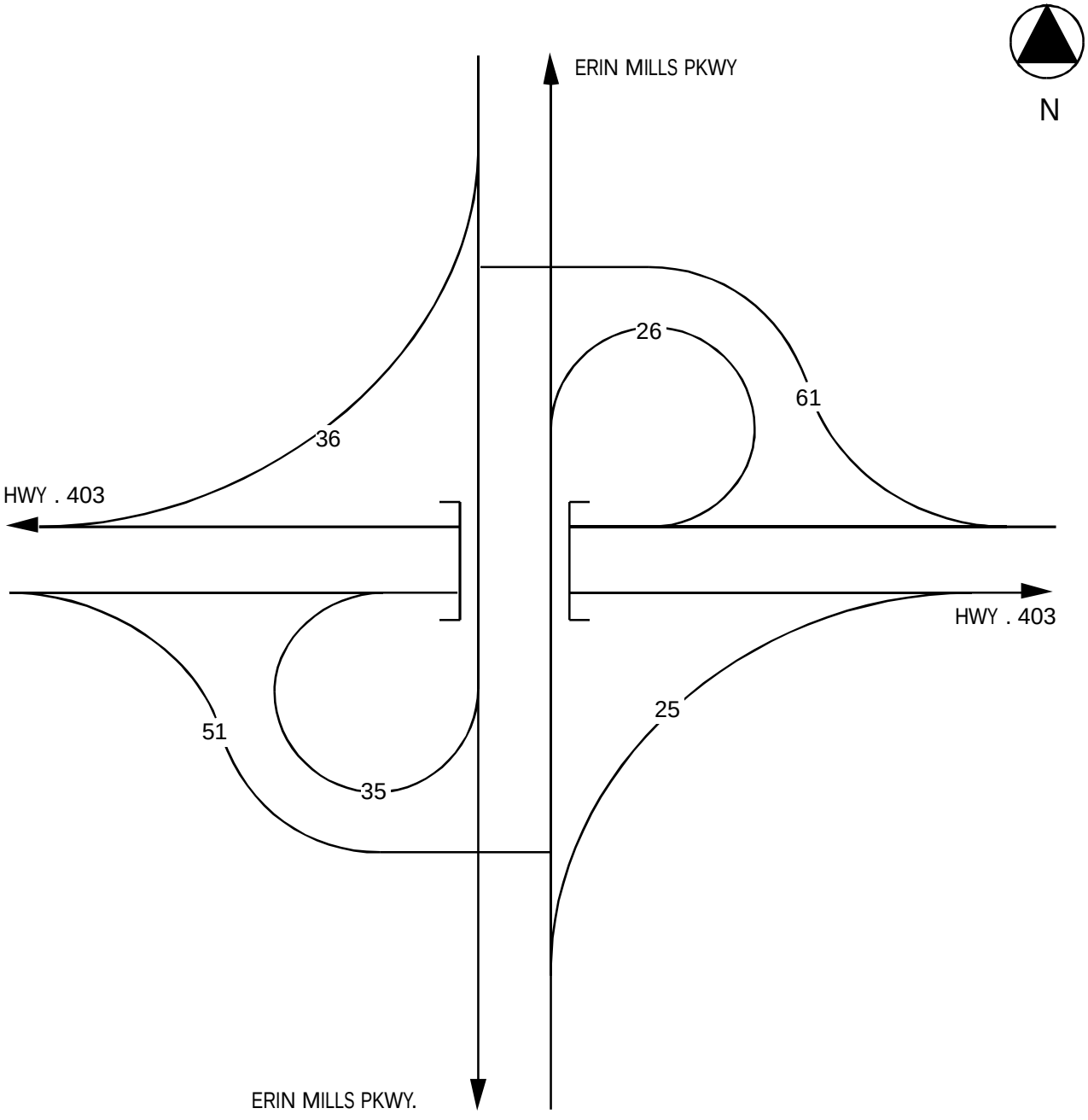
- **Phased Traffic Analysis:** A Phased Traffic Analysis that is supported by technical studies, including a Traffic Analysis to ensure there is adequate infrastructure available and to understand what infrastructure is required for each phase of development is required. The Phasing Plan / Study shall include but not be limited to:
  - (i) The cumulative impacts for each phase of development on the existing and proposed road network;
  - (ii) The required existing and proposed road network improvements for each phase of development;
  - (iii) Any road network improvements that are not available to the developer (i.e. external private lands) that are required to support the development shall be identified.
- **Community Impacts**: Any transportation related impacts on the existing community and comments from the public through the planning approvals process shall be addressed in the report.
- **Traffic Infiltration**: Assess potential for traffic infiltration through adjacent residential streets
- **Access Review**: Ensure that the proposed site accesses conform to all TAC standards (e.g. corner clearances, clear throat lengths, veh & ped sight line distances for ingress/egress, proximity/alignment to other driveways/roads, etc.); Provide confirmation and technical justification of whether the site access locations and designs are safe for all roadway users and why.
- **Traffic Control Warrants**: (e.g. all-way stop, traffic control signals): Traffic Control Warrants are to be provided, where applicable, for all three scenarios (existing, future background, future total) including for internal public road intersections
- **Recommendations**: Detailed Recommendations regarding on-site/off-site roadway improvements, site access, site circulation, and TDM measures shall be made.

APPENDIX

B TRAFFIC DATA

MINISTRY OF TRANSPORTATION
INTERCHANGE FILE

HWY.	**403 IC**	KEYPOINT NUMBER	48266/000
AT	**ERIN MILLS PKWY.**	M.T.O. DISTRICT	TORONTO
		O.P.P. DISTRICT	5 AURORA



UPDATED 81 - 11 - 17 PROGRAM DEVELOPMENT & EVALUATION OFFICE 81 - 11 - 17

DATE

Ontario

TES - Traffic Engineering System
Turning Movement Count Period Report - Full Study

Description: HWY 403 @ ERIN MILLS PKY - RAMP 51

Region CENTRAL

Hwy #: HWY 403

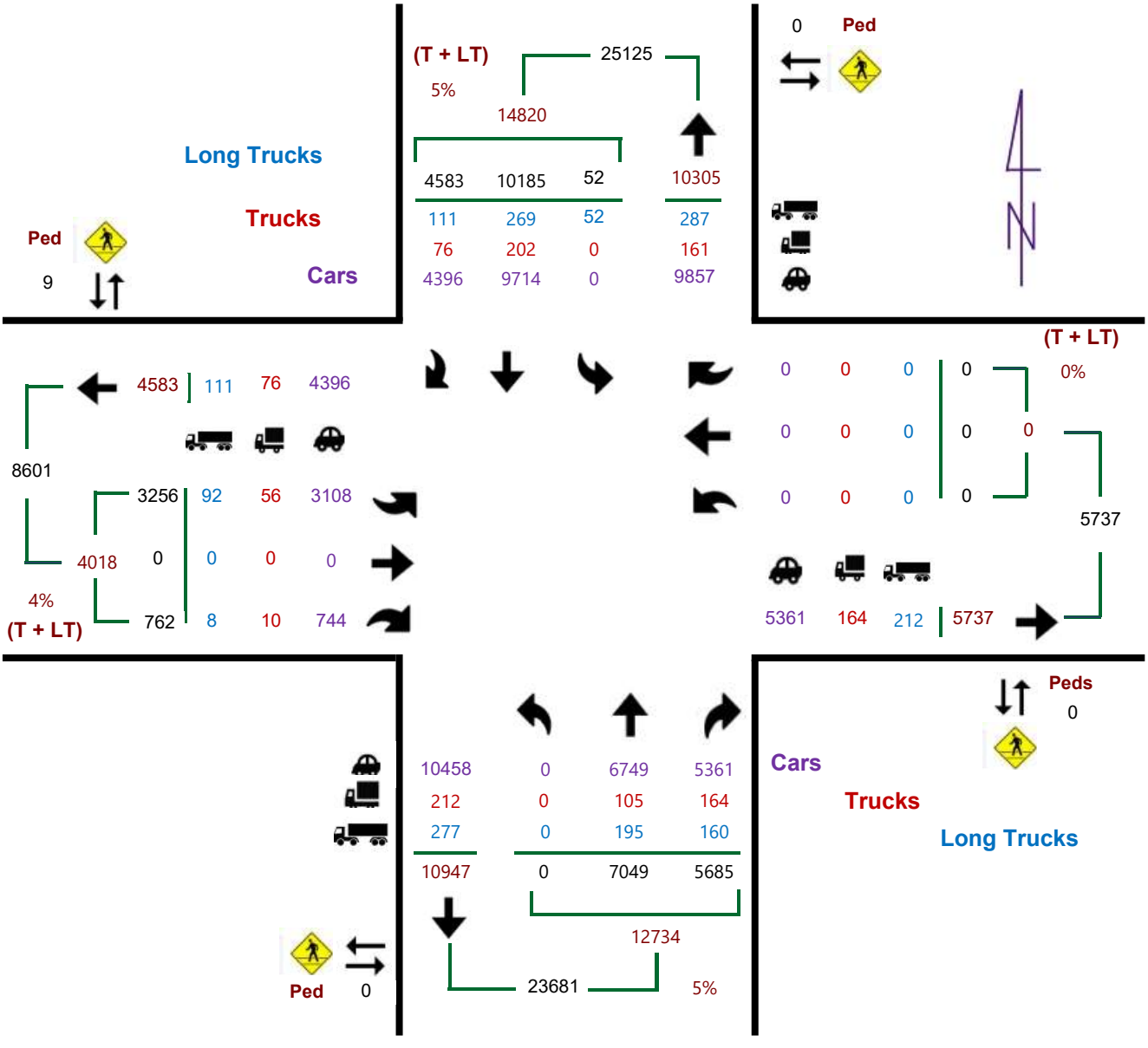
LHRS_Offset: 48266_0000_51T

Count Period: 5/3/2022 07:00 AM to 5/3/2022 06:00 PM

Count Start Date: Tuesday, 03 May, 2022

Int. Type: Cross

Full Study



Ontario

TES - Traffic Engineering System
Turning Movement Count Period Report - AM Period

Description: HWY 403 @ ERIN MILLS PKY - RAMP 51

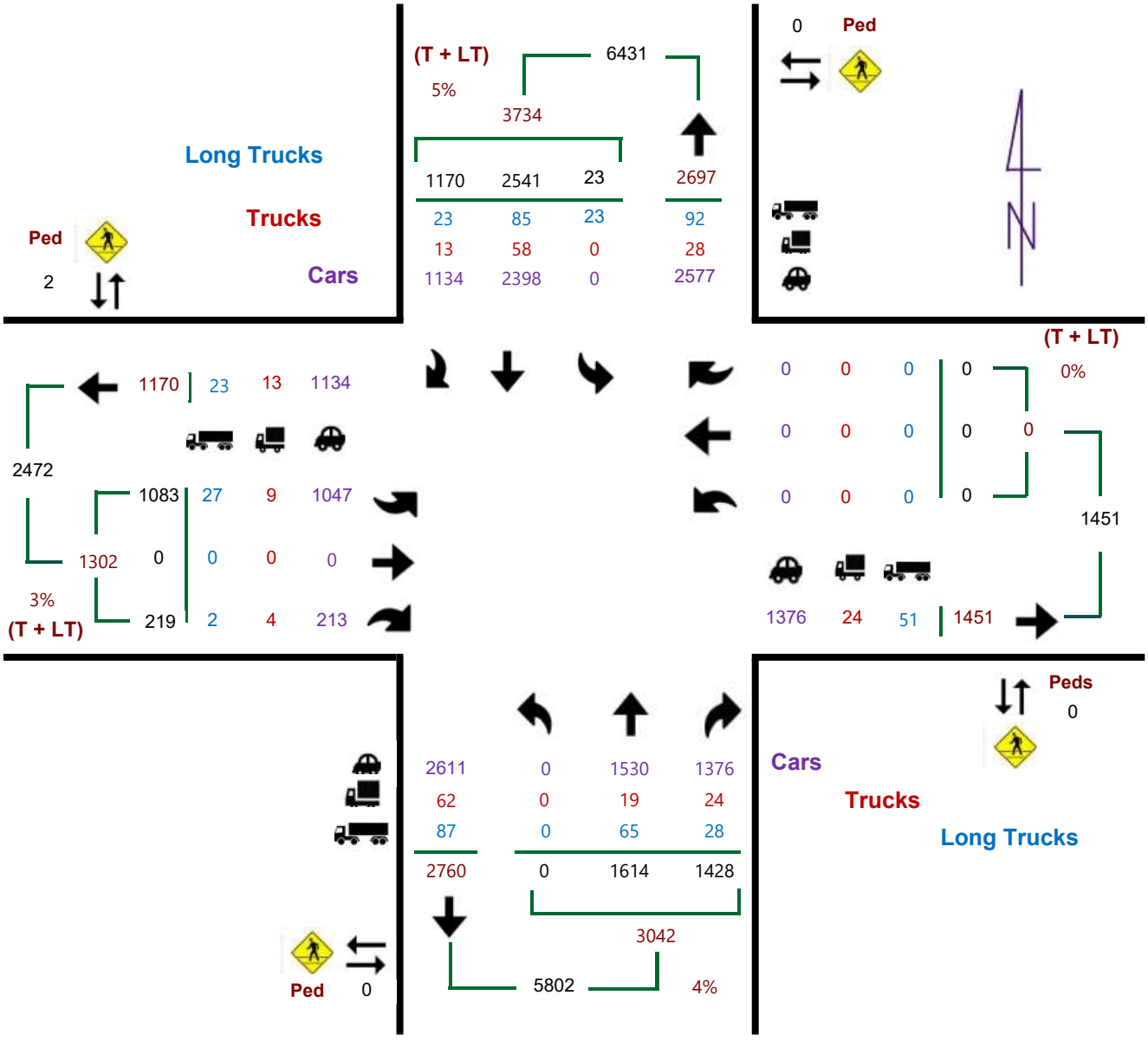
Region CENTRAL **Hwy #:** HWY 403

LHRS_Offset: 48266_0000_51T **Count Period:** 5/3/2022 07:00 AM to 5/3/2022 09:00 AM

Count Start Date: Tuesday, 03 May, 2022

Int. Type: Cross

AM Period



Ontario

TES - Traffic Engineering System
Turning Movement Count Period Report - MD Period

Description: HWY 403 @ ERIN MILLS PKY - RAMP 51

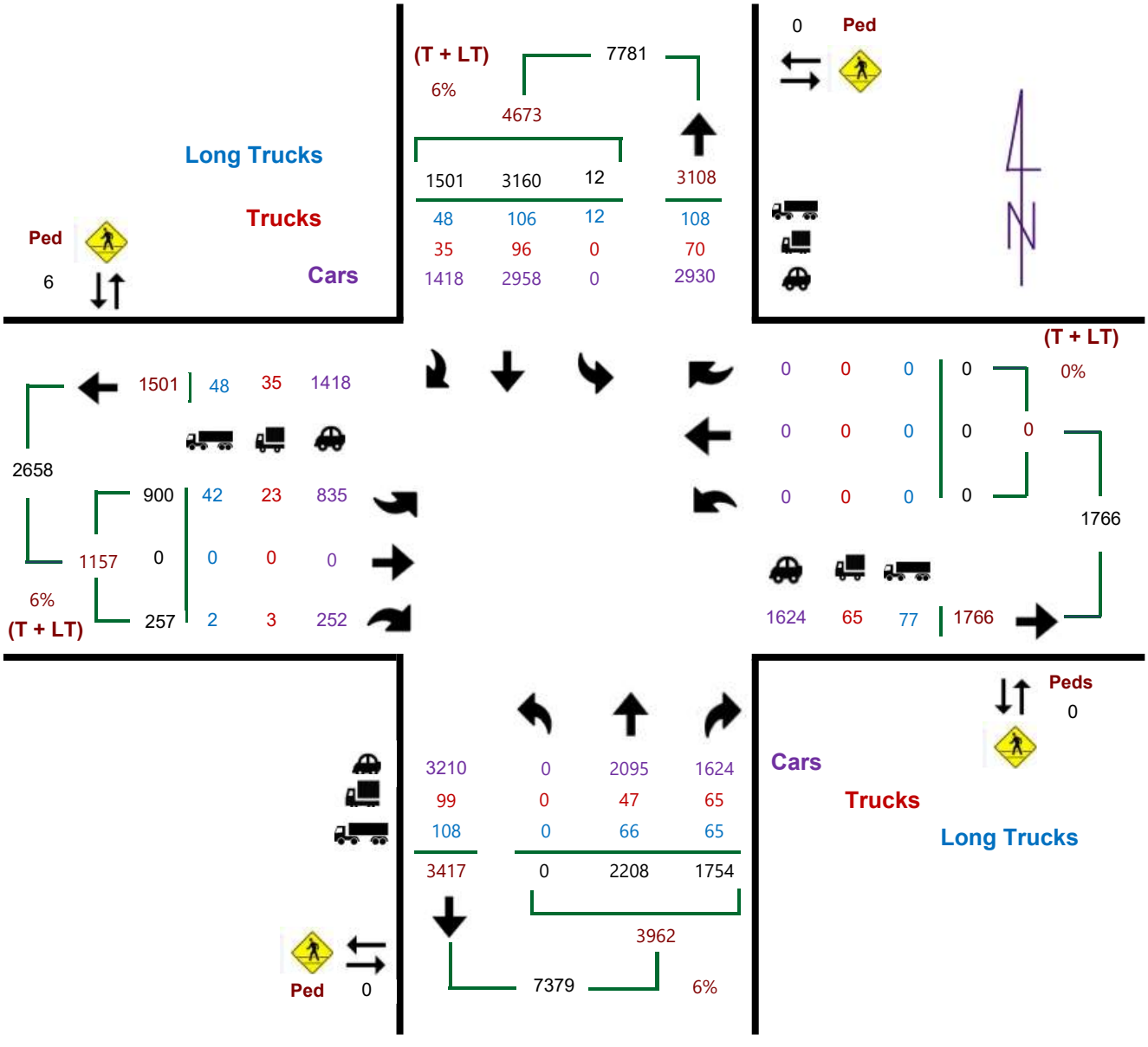
Region CENTRAL **Hwy #:** HWY 403

LHRS_Offset: 48266_0000_51T **Count Period:** 5/3/2022 11:00 AM to 5/3/2022 02:00 PM

Count Start Date: Tuesday, 03 May, 2022

Int. Type: Cross

MD Period



Ontario

TES - Traffic Engineering System
Turning Movement Count Period Report - PM Period

Description: HWY 403 @ ERIN MILLS PKY - RAMP 51

Region CENTRAL

Hwy #: HWY 403

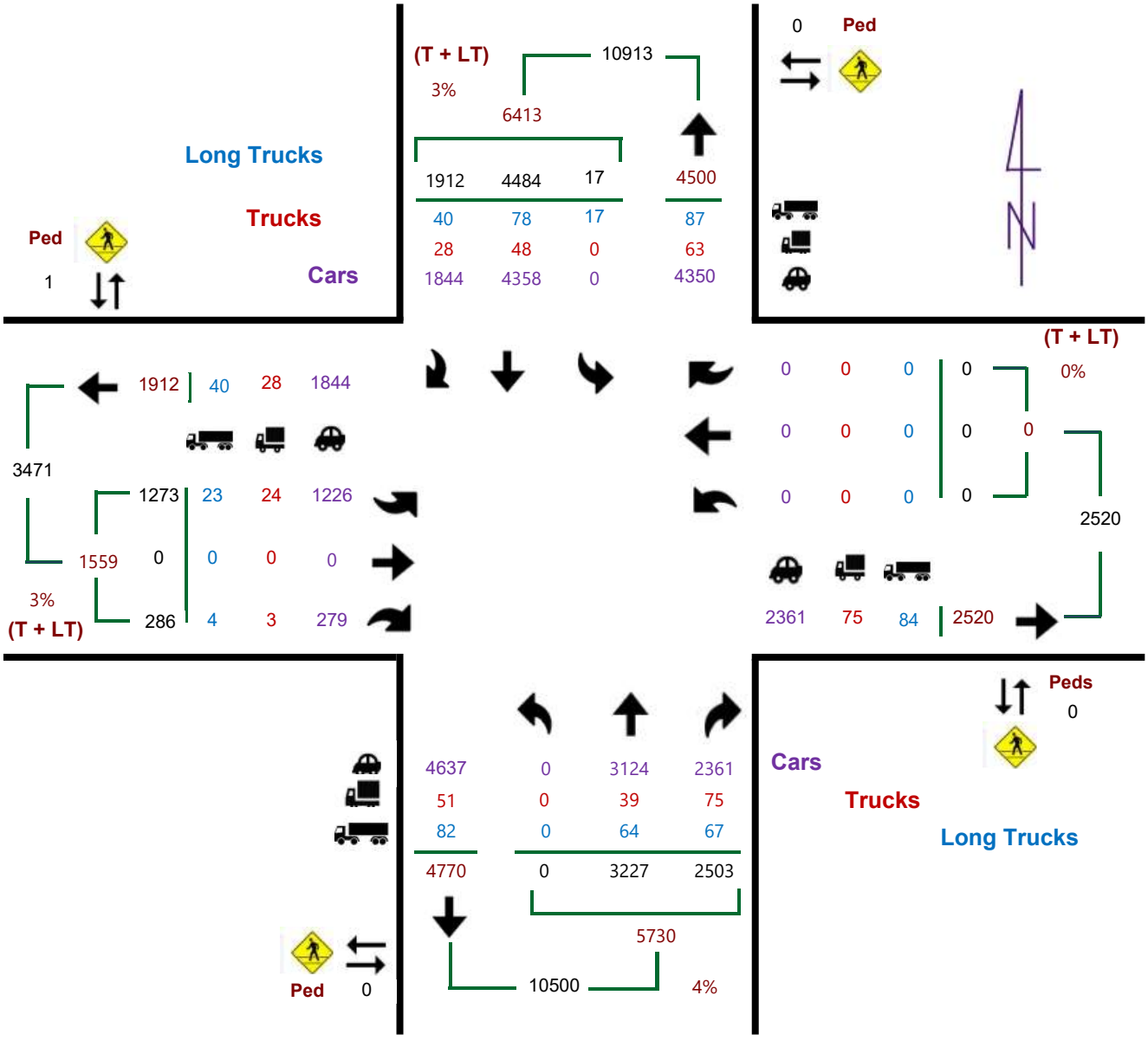
LHRS_Offset: 48266_0000_51T

Count Period: 5/3/2022 03:00 PM to 5/3/2022 06:00 PM

Count Start Date: Tuesday, 03 May, 2022

Int. Type: Cross

PM Period



Ontario

TES - Traffic Engineering System
Turning Movement Count Period Report - Full Study

Description: HWY 403 @ ERIN MILLS PKY - RAMP 61

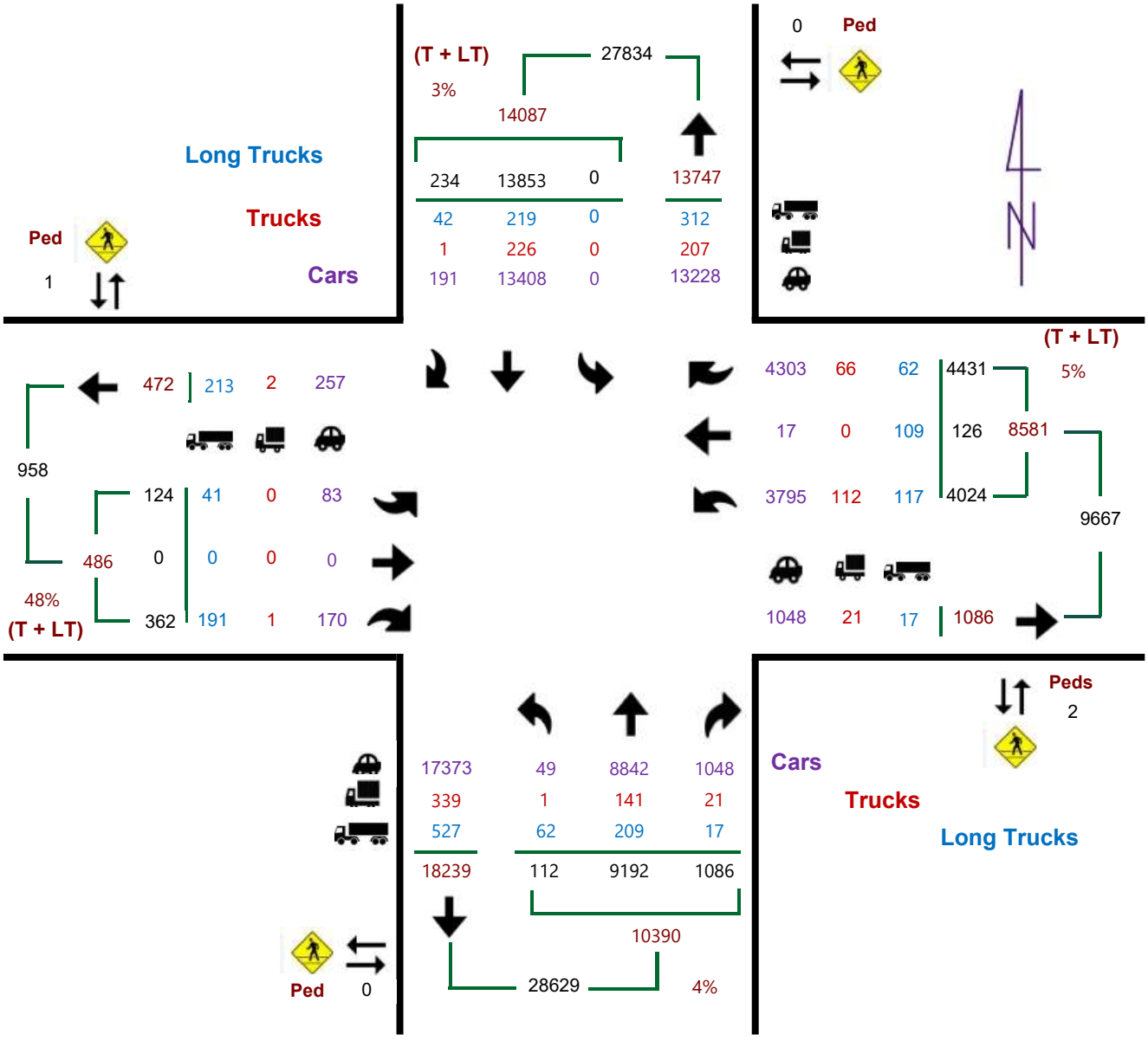
Region CENTRAL **Hwy #:** HWY 403

LHRS_Offset: 48266_0000_61T **Count Period:** 5/3/2022 07:00 AM to 5/3/2022 06:00 PM

Count Start Date: Tuesday, 03 May, 2022

Int. Type: Cross

Full Study



Ontario

TES - Traffic Engineering System
Turning Movement Count Period Report - AM Period

Description: HWY 403 @ ERIN MILLS PKY - RAMP 61

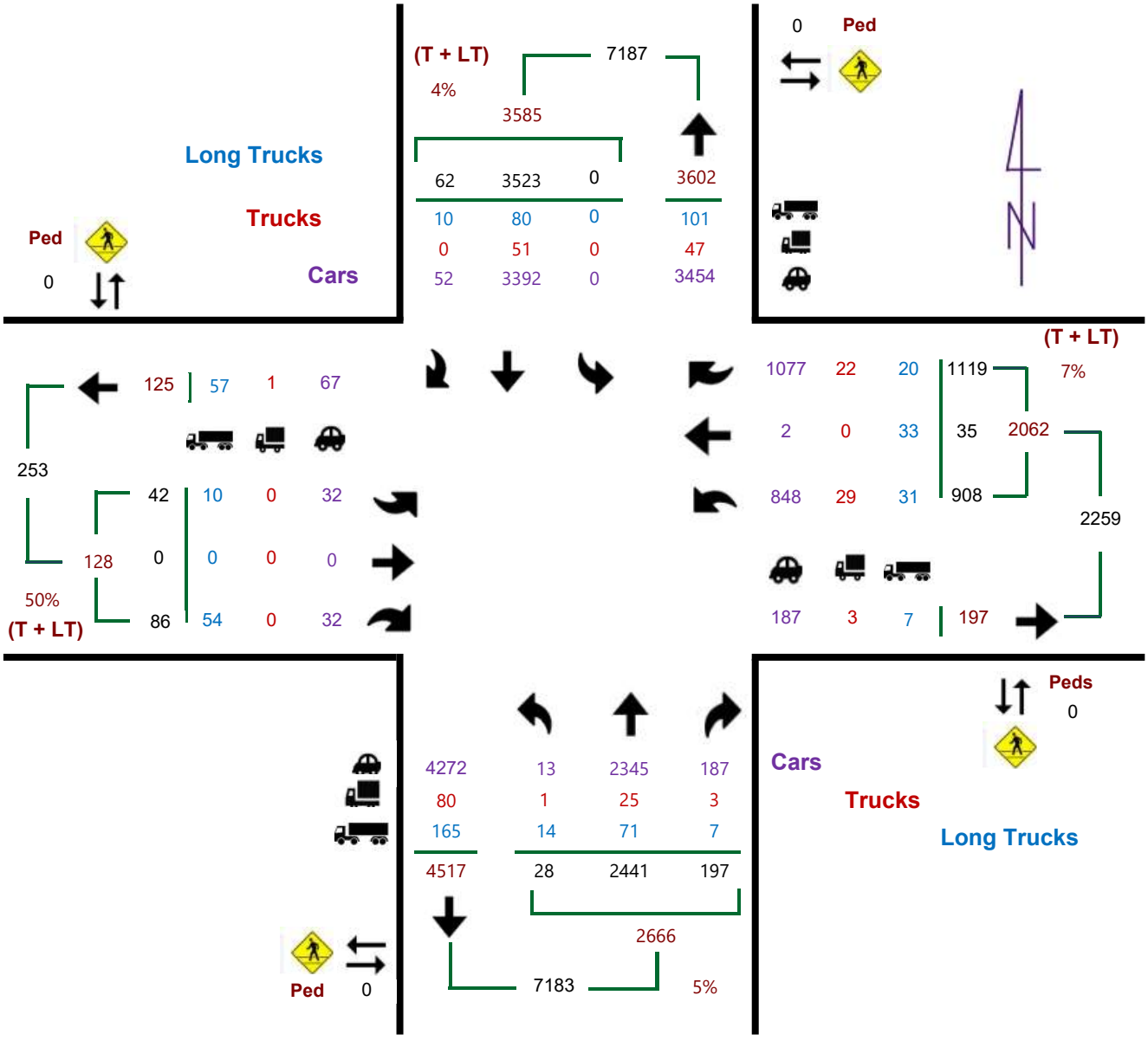
Region CENTRAL **Hwy #:** HWY 403

LHRS_Offset: 48266_0000_61T **Count Period:** 5/3/2022 07:00 AM to 5/3/2022 09:00 AM

Count Start Date: Tuesday, 03 May, 2022

Int. Type: Cross

AM Period



Ontario

TES - Traffic Engineering System
Turning Movement Count Period Report - MD Period

Description: HWY 403 @ ERIN MILLS PKY - RAMP 61

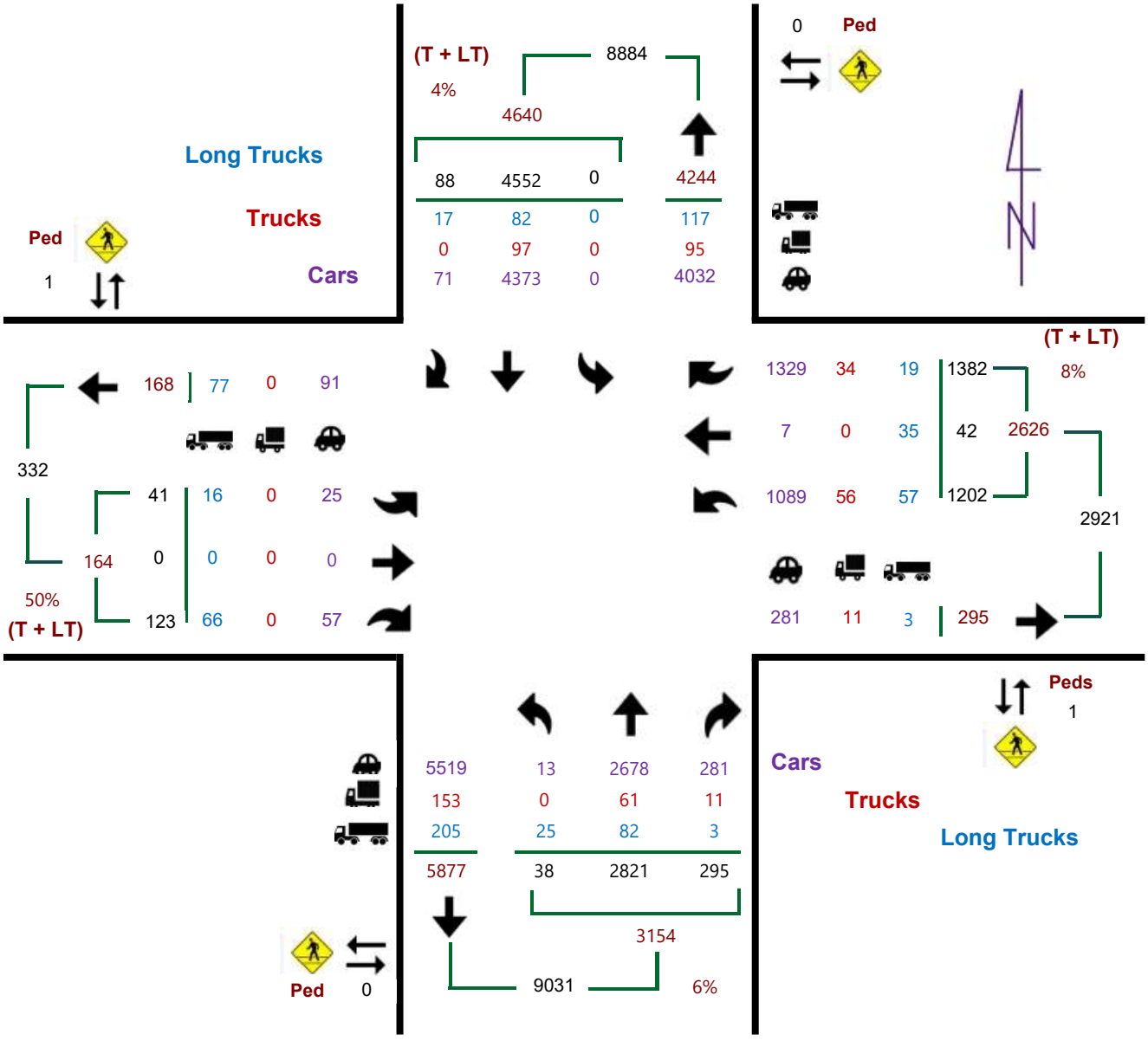
Region CENTRAL **Hwy #:** HWY 403

LHRS_Offset: 48266_0000_61T **Count Period:** 5/3/2022 11:00 AM to 5/3/2022 02:00 PM

Count Start Date: Tuesday, 03 May, 2022

Int. Type: Cross

MD Period



Ontario

TES - Traffic Engineering System
Turning Movement Count Period Report - PM Period

Description: HWY 403 @ ERIN MILLS PKY - RAMP 61

Region CENTRAL

Hwy #: HWY 403

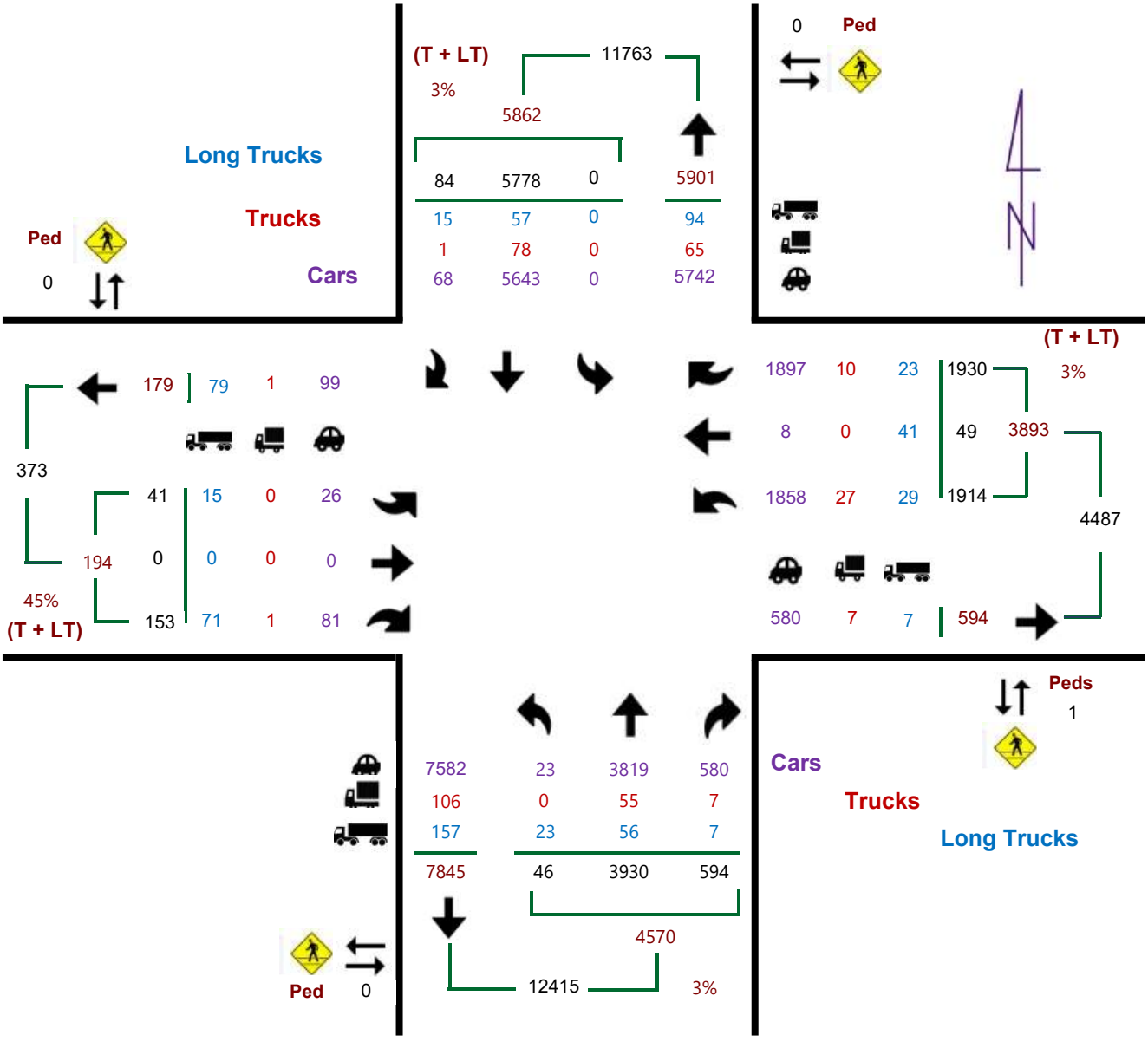
LHRS_Offset: 48266_0000_61T

Count Period: 5/3/2022 03:00 PM to 5/3/2022 06:00 PM

Count Start Date: Tuesday, 03 May, 2022

Int. Type: Cross

PM Period



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Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Glen Erin Dr From North					Eglinton Ave From East					Glen Erin Dr From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	3	32	18	2	55	19	79	5	2	105	4	20	9	4	37	2	145	7	1	155	352
07:15 AM	4	31	27	0	62	12	61	6	2	81	17	22	7	12	58	9	95	9	4	117	318
07:30 AM	8	39	41	5	93	7	98	12	0	117	15	20	8	2	45	13	194	13	2	222	477
07:45 AM	5	92	41	7	145	19	112	16	3	150	25	52	11	3	91	23	256	12	5	296	682
Total	20	194	127	14	355	57	350	39	7	453	61	114	35	21	231	47	690	41	12	790	1829
08:00 AM	12	82	57	9	160	31	102	12	25	170	20	80	11	20	131	15	207	23	5	250	711
08:15 AM	20	104	79	8	211	33	144	17	7	201	29	70	12	11	122	19	275	33	6	333	867
08:30 AM	20	98	67	2	187	26	143	23	2	194	31	44	10	8	93	28	285	23	0	336	810
08:45 AM	7	98	49	4	158	26	128	22	4	180	22	61	24	6	113	24	278	9	2	313	764
Total	59	382	252	23	716	116	517	74	38	745	102	255	57	45	459	86	1045	88	13	1232	3152
09:00 AM	7	53	49	7	116	20	126	14	4	164	26	51	23	12	112	22	261	15	4	302	694
09:15 AM	7	56	32	6	101	17	114	23	6	160	13	57	15	6	91	20	184	9	4	217	569
09:30 AM	8	48	33	3	92	24	141	12	1	178	16	55	12	6	89	15	164	15	5	199	558
09:45 AM	8	47	31	7	93	23	110	24	4	161	27	61	15	6	109	11	128	16	2	157	520
Total	30	204	145	23	402	84	491	73	15	663	82	224	65	30	401	68	737	55	15	875	2341
04:00 PM	9	72	40	15	136	31	262	31	7	331	20	85	26	2	133	26	228	21	6	281	881
04:15 PM	11	65	51	5	132	45	261	41	6	353	18	105	27	5	155	19	168	28	3	218	858
04:30 PM	16	58	41	9	124	41	289	37	8	375	17	100	36	8	161	32	179	16	11	238	898
04:45 PM	26	84	50	9	169	48	263	34	7	352	20	119	34	8	181	32	196	29	8	265	967
Total	62	279	182	38	561	165	1075	143	28	1411	75	409	123	23	630	109	771	94	28	1002	3604
05:00 PM	17	83	46	7	153	45	267	21	4	337	28	119	22	6	175	22	175	27	10	234	899
05:15 PM	24	80	44	7	155	59	314	37	8	418	32	116	28	6	182	30	252	28	9	319	1074
05:30 PM	17	76	50	10	153	51	272	30	8	361	23	137	25	6	191	25	195	20	7	247	952
05:45 PM	24	73	50	10	157	45	281	43	5	374	22	117	26	5	170	37	216	21	6	280	981
Total	82	312	190	34	618	200	1134	131	25	1490	105	489	101	23	718	114	838	96	32	1080	3906
06:00 PM	17	68	34	8	127	42	252	37	4	335	27	96	27	9	159	22	209	21	5	257	878
06:15 PM	18	86	52	6	162	34	237	30	8	309	19	102	19	5	145	26	187	20	3	236	852
06:30 PM	19	58	59	2	138	34	265	32	5	336	24	80	15	4	123	21	191	20	2	234	831
06:45 PM	13	56	35	5	109	37	253	35	5	330	33	95	20	6	154	17	191	22	5	235	828
Total	67	268	180	21	536	147	1007	134	22	1310	103	373	81	24	581	86	778	83	15	962	3389

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 2

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Glen Erin Dr From North					Eglinton Ave From East					Glen Erin Dr From South					Eglinton Ave From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	320	1639	1076	153	3188	769	4574	594	135	6072	528	1864	462	166	3020	510	4859	457	115	5941	18221
Apprch %	10	51.4	33.8	4.8		12.7	75.3	9.8	2.2		17.5	61.7	15.3	5.5		8.6	81.8	7.7	1.9		
Total %	1.8	9	5.9	0.8	17.5	4.2	25.1	3.3	0.7	33.3	2.9	10.2	2.5	0.9	16.6	2.8	26.7	2.5	0.6	32.6	
Cars	316	1600	1059	153	3128	756	4477	589	135	5957	513	1833	453	166	2965	498	4760	453	115	5826	17876
% Cars	98.8	97.6	98.4	100	98.1	98.3	97.9	99.2	100	98.1	97.2	98.3	98.1	100	98.2	97.6	98	99.1	100	98.1	98.1
Trucks	2	13	7	0	22	4	34	2	0	40	11	8	6	0	25	10	27	3	0	40	127
% Trucks	0.6	0.8	0.7	0	0.7	0.5	0.7	0.3	0	0.7	2.1	0.4	1.3	0	0.8	2	0.6	0.7	0	0.7	0.7
Heavys	2	25	9	0	36	9	63	3	0	75	4	22	3	0	29	2	72	1	0	75	215
% Heavys	0.6	1.5	0.8	0	1.1	1.2	1.4	0.5	0	1.2	0.8	1.2	0.6	0	1	0.4	1.5	0.2	0	1.3	1.2
Cyclists	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
% Cyclists	0	0.1	0.1	0	0.1	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0

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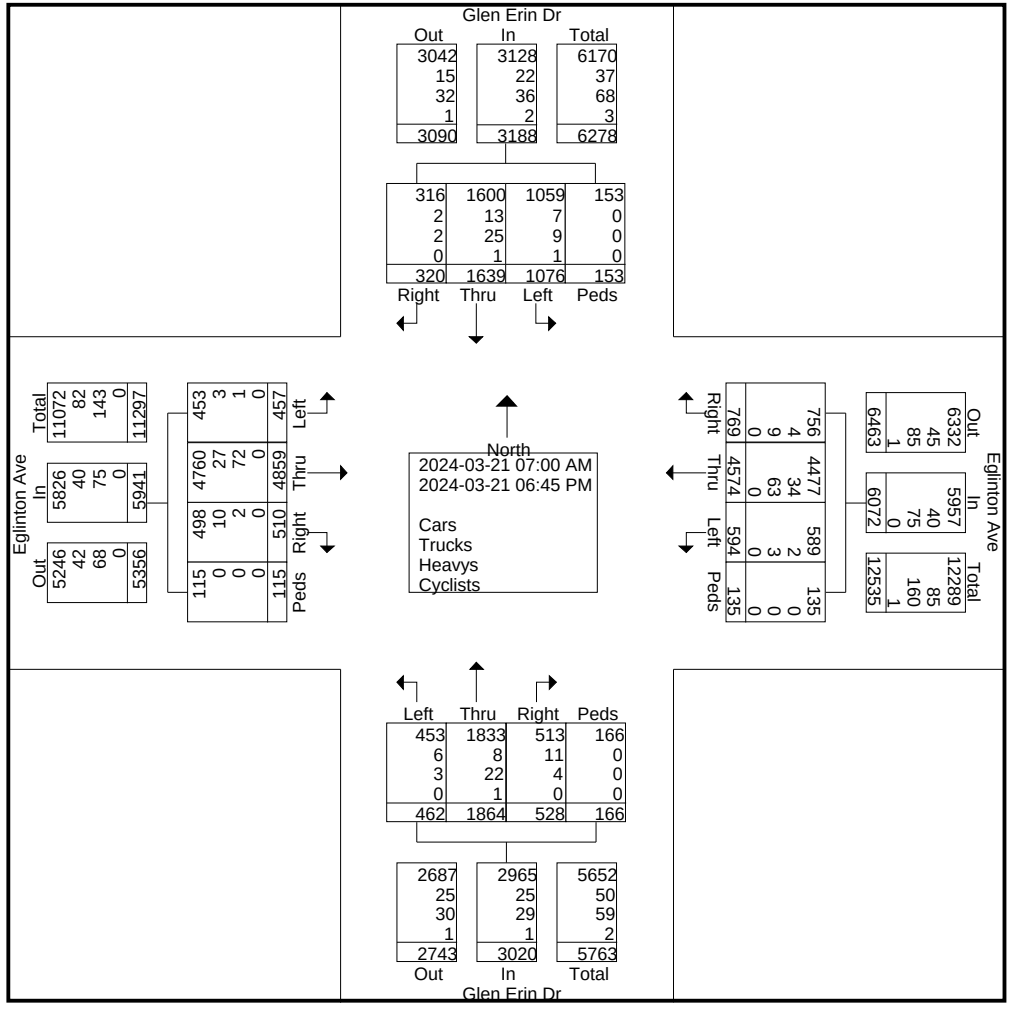
Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



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Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 4

	Glen Erin Dr From North					Eglinton Ave From East					Glen Erin Dr From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	12	82	57	**9**	160	31	102	12	**25**	170	20	**80**	11	**20**	**131**	15	207	23	5	250	711
08:15 AM	**20**	**104**	**79**	8	**211**	**33**	**144**	17	7	**201**	29	70	12	11	122	19	275	**33**	**6**	333	**867**
08:30 AM	20	98	67	2	187	26	143	**23**	2	194	**31**	44	10	8	93	**28**	**285**	23	0	**336**	810
08:45 AM	7	98	49	4	158	26	128	22	4	180	22	61	**24**	6	113	24	278	9	2	313	764
Total Volume	59	382	252	23	716	116	517	74	38	745	102	255	57	45	459	86	1045	88	13	1232	3152
% App. Total	8.2	53.4	35.2	3.2		15.6	69.4	9.9	5.1		22.2	55.6	12.4	9.8		7	84.8	7.1	1.1		
PHF	.738	.918	.797	.639	.848	.879	.898	.804	.380	.927	.823	.797	.594	.563	.876	.768	.917	.667	.542	.917	.909
Cars	59	367	251	23	700	111	490	72	38	711	100	245	55	45	445	82	1019	85	13	1199	3055
% Cars	100	96.1	99.6	100	97.8	95.7	94.8	97.3	100	95.4	98.0	96.1	96.5	100	96.9	95.3	97.5	96.6	100	97.3	96.9
Trucks	0	6	1	0	7	1	12	1	0	14	1	4	2	0	7	3	8	2	0	13	41
% Trucks	0	1.6	0.4	0	1.0	0.9	2.3	1.4	0	1.9	1.0	1.6	3.5	0	1.5	3.5	0.8	2.3	0	1.1	1.3
Heavys	0	8	0	0	8	4	15	1	0	20	1	6	0	0	7	1	18	1	0	20	55
% Heavys	0	2.1	0	0	1.1	3.4	2.9	1.4	0	2.7	1.0	2.4	0	0	1.5	1.2	1.7	1.1	0	1.6	1.7
Cyclists	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Cyclists	0	0.3	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0

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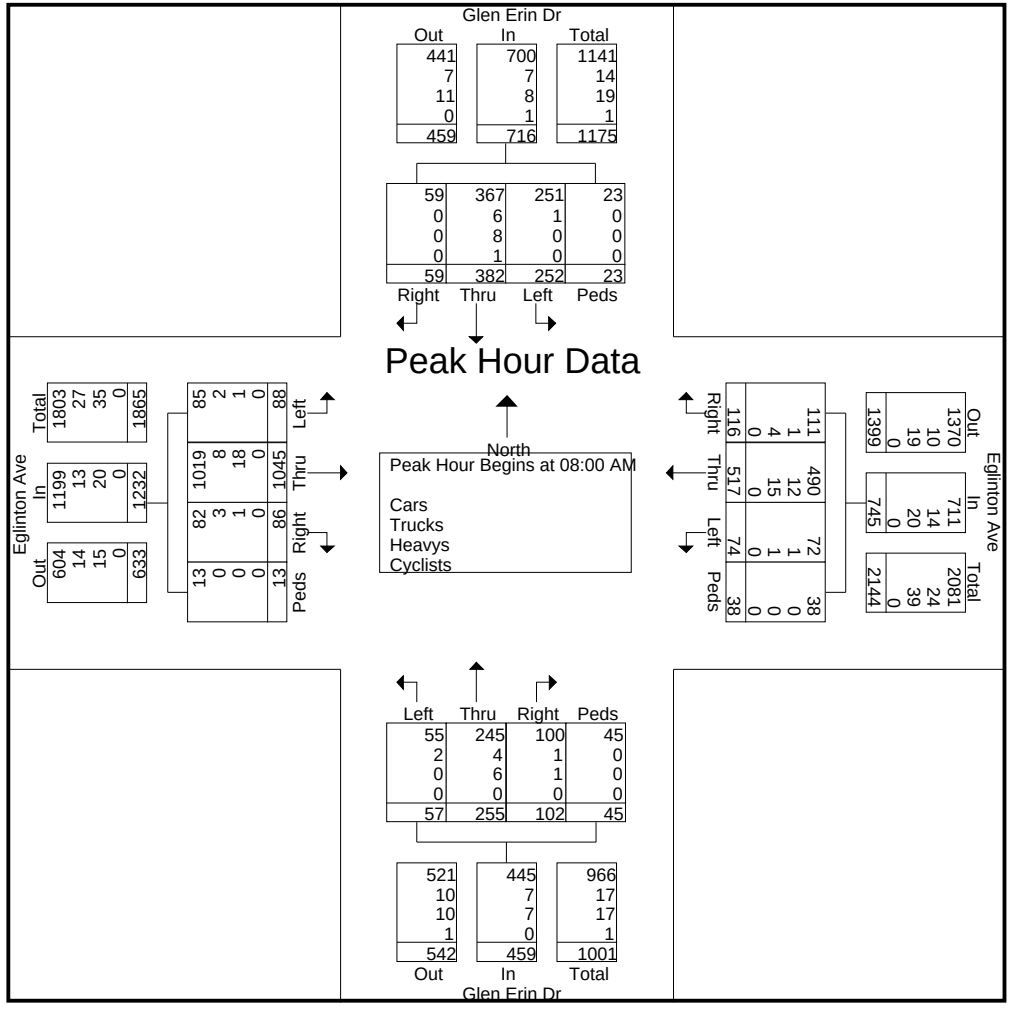
Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 5



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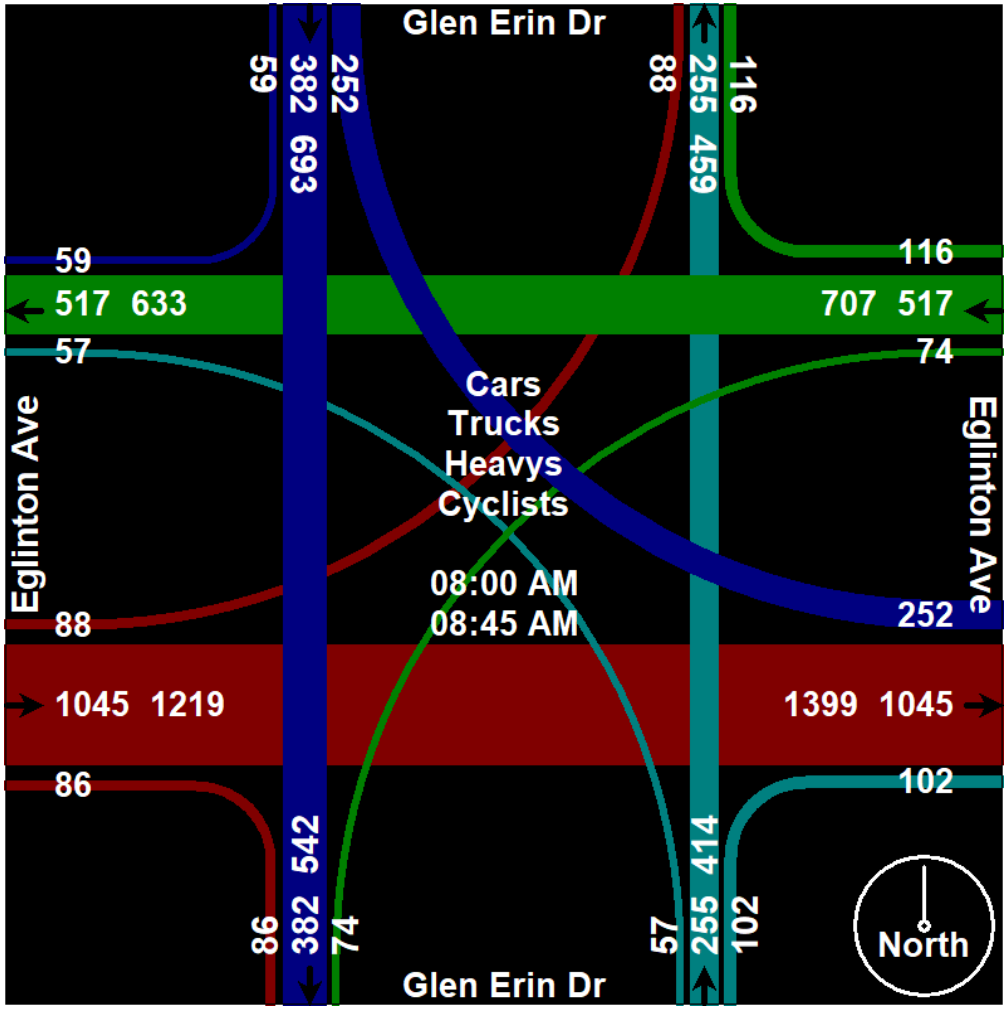
Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



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Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 7

	Glen Erin Dr From North					Eglinton Ave From East					Glen Erin Dr From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	17	**83**	46	7	153	45	267	21	4	337	28	119	22	**6**	175	22	175	27	**10**	234	899
05:15 PM	**24**	80	44	7	155	**59**	**314**	37	**8**	**418**	**32**	116	**28**	6	182	30	**252**	**28**	9	**319**	**1074**
05:30 PM	17	76	**50**	**10**	153	51	272	30	8	361	23	**137**	25	6	**191**	25	195	20	7	247	952
05:45 PM	24	73	50	10	**157**	45	281	**43**	5	374	22	117	26	5	170	**37**	216	21	6	280	981
Total Volume	82	312	190	34	618	200	1134	131	25	1490	105	489	101	23	718	114	838	96	32	1080	3906
% App. Total	13.3	50.5	30.7	5.5		13.4	76.1	8.8	1.7		14.6	68.1	14.1	3.2		10.6	77.6	8.9	3		
PHF	.854	.940	.950	.850	.984	.847	.903	.762	.781	.891	.820	.892	.902	.958	.940	.770	.831	.857	.800	.846	.909
Cars	82	308	188	34	612	200	1123	130	25	1478	105	486	101	23	715	114	829	96	32	1071	3876
% Cars	100	98.7	98.9	100	99.0	100	99.0	99.2	100	99.2	100	99.4	100	100	99.6	100	98.9	100	100	99.2	99.2
Trucks	0	1	1	0	2	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	6
% Trucks	0	0.3	0.5	0	0.3	0	0.2	0	0	0.1	0	0	0	0	0	0	0.2	0	0	0.2	0.2
Heavys	0	3	0	0	3	0	9	1	0	10	0	3	0	0	3	0	7	0	0	7	23
% Heavys	0	1.0	0	0	0.5	0	0.8	0.8	0	0.7	0	0.6	0	0	0.4	0	0.8	0	0	0.6	0.6
Cyclists	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Cyclists	0	0	0.5	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0

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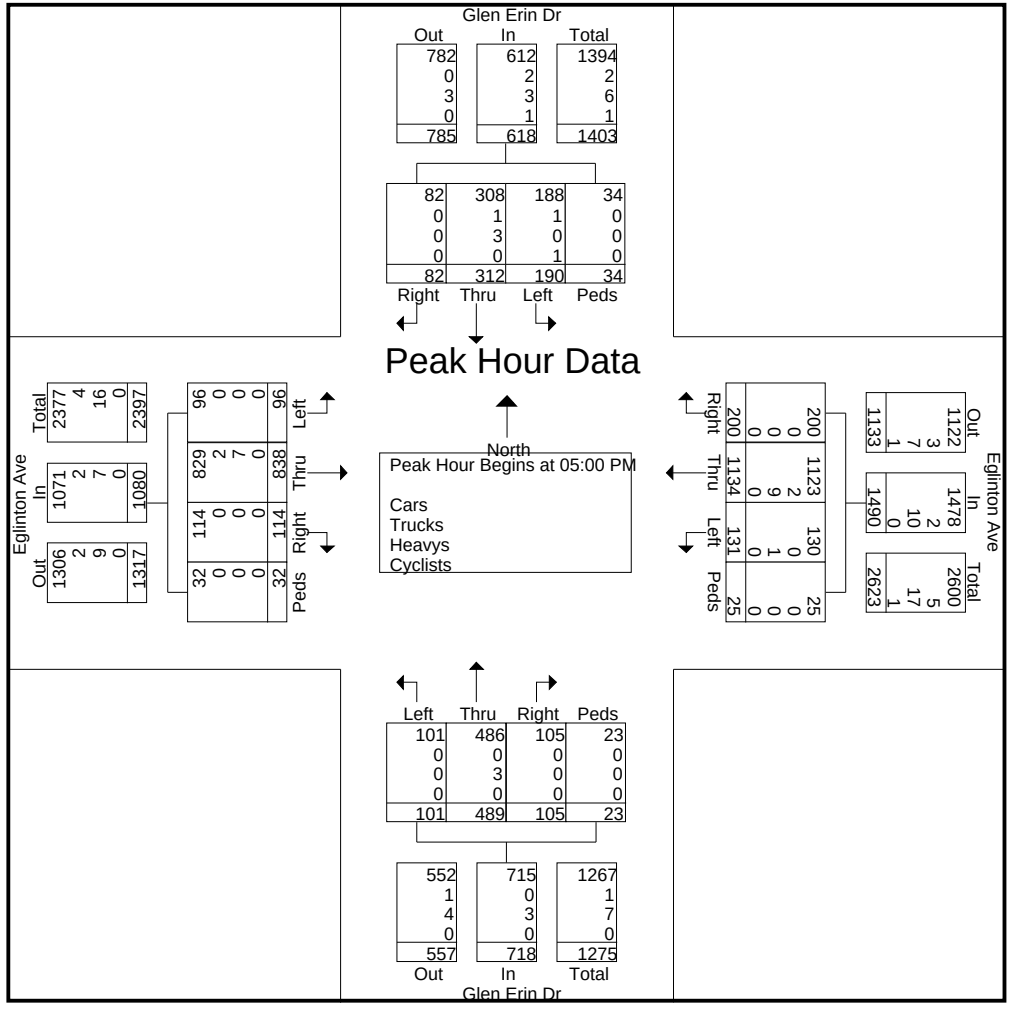
Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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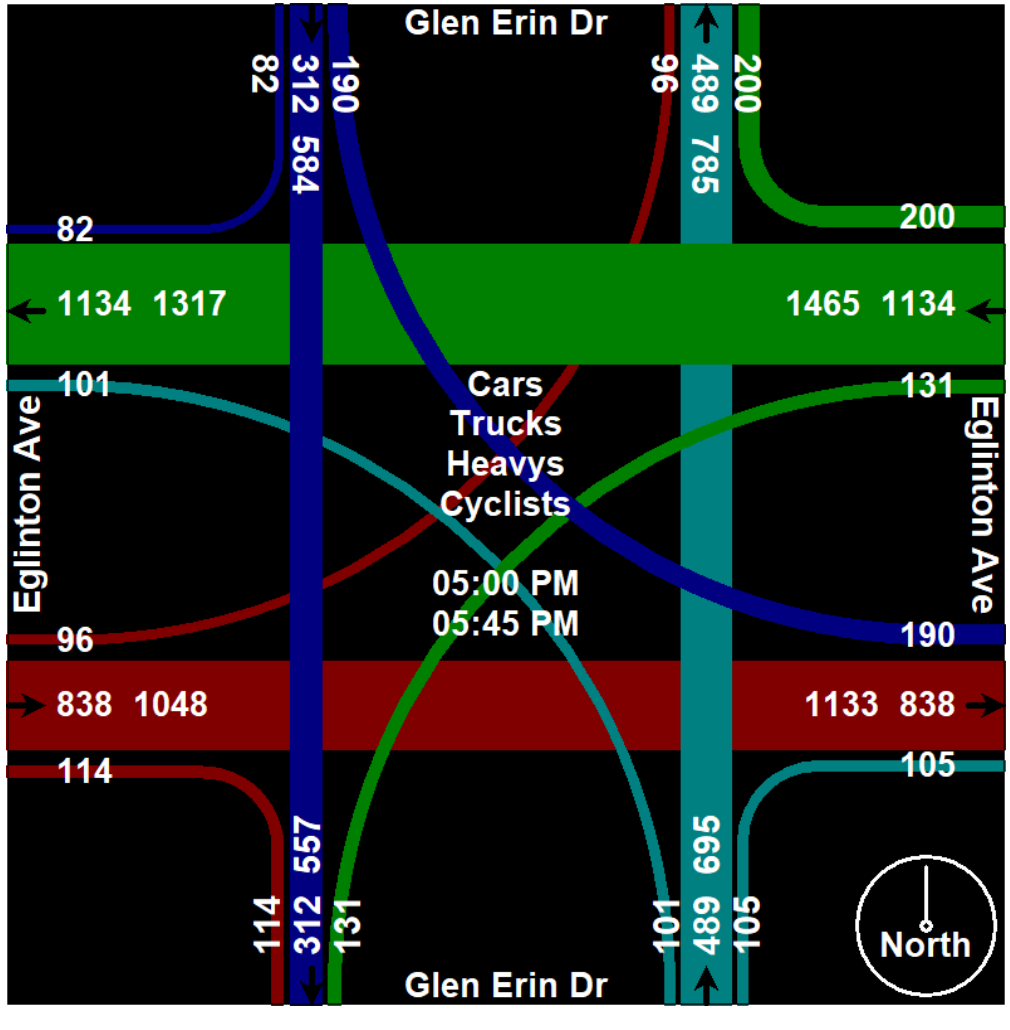
Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive-SAT
Site Code : 00000000
Start Date : 2024-04-06
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Glen Erin Dr From North					Eglinton Ave From East					Glen Erin Dr From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	26	75	62	10	173	36	138	10	7	191	17	62	19	5	103	17	141	30	8	196	663
11:15 AM	20	48	39	10	117	40	190	22	8	260	18	75	23	7	123	27	174	31	9	241	741
11:30 AM	17	63	50	19	149	34	183	24	3	244	18	66	24	8	116	21	206	28	5	260	769
11:45 AM	17	91	64	11	183	37	190	20	8	255	19	74	26	7	126	20	171	27	4	222	786
Total	80	277	215	50	622	147	701	76	26	950	72	277	92	27	468	85	692	116	26	919	2959
12:00 PM	17	50	40	13	120	41	200	21	7	269	17	62	27	8	114	14	211	24	8	257	760
12:15 PM	22	67	57	6	152	24	213	21	6	264	20	122	28	5	175	14	207	21	3	245	836
12:30 PM	23	80	61	10	174	39	199	32	4	274	14	69	23	2	108	27	182	39	8	256	812
12:45 PM	24	74	48	9	155	37	212	32	4	285	17	64	23	10	114	21	230	43	11	305	859
Total	86	271	206	38	601	141	824	106	21	1092	68	317	101	25	511	76	830	127	30	1063	3267
01:00 PM	34	94	57	13	198	31	214	29	9	283	18	89	26	1	134	17	166	29	11	223	838
01:15 PM	21	70	54	16	161	40	210	28	4	282	14	65	22	7	108	23	231	39	9	302	853
01:30 PM	14	82	53	7	156	44	221	24	3	292	18	70	17	7	112	21	218	33	14	286	846
01:45 PM	34	99	56	11	200	28	227	30	11	296	20	93	28	4	145	24	170	36	8	238	879
Total	103	345	220	47	715	143	872	111	27	1153	70	317	93	19	499	85	785	137	42	1049	3416
Grand Total	269	893	641	135	1938	431	2397	293	74	3195	210	911	286	71	1478	246	2307	380	98	3031	9642
Apprch %	13.9	46.1	33.1	7		13.5	75	9.2	2.3		14.2	61.6	19.4	4.8		8.1	76.1	12.5	3.2		
Total %	2.8	9.3	6.6	1.4	20.1	4.5	24.9	3	0.8	33.1	2.2	9.4	3	0.7	15.3	2.6	23.9	3.9	1	31.4	
Cars	268	885	638	135	1926	429	2386	292	74	3181	208	903	283	71	1465	244	2292	379	98	3013	9585
% Cars	99.6	99.1	99.5	100	99.4	99.5	99.5	99.7	100	99.6	99	99.1	99	100	99.1	99.2	99.3	99.7	100	99.4	99.4
Trucks	1	2	2	0	5	1	5	0	0	6	2	1	2	0	5	1	6	0	0	7	23
% Trucks	0.4	0.2	0.3	0	0.3	0.2	0.2	0	0	0.2	1	0.1	0.7	0	0.3	0.4	0.3	0	0	0.2	0.2
Heavys	0	6	1	0	7	1	6	1	0	8	0	6	0	0	6	1	8	1	0	10	31
% Heavys	0	0.7	0.2	0	0.4	0.2	0.3	0.3	0	0.3	0	0.7	0	0	0.4	0.4	0.3	0.3	0	0.3	0.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	1	0	0	1	3
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	0	0.1	0	0	0	0	0	0

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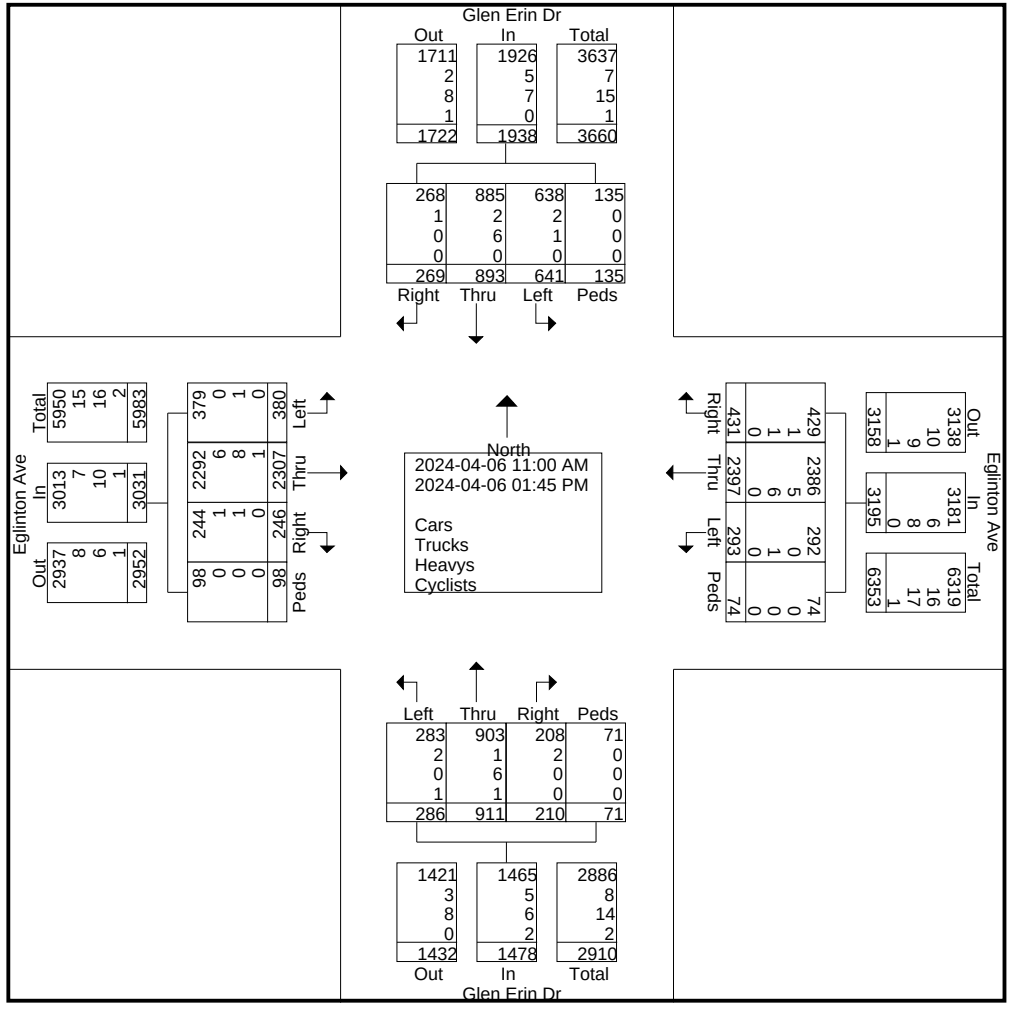
Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive-SAT
Site Code : 00000000
Start Date : 2024-04-06
Page No : 2



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Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive-SAT
Site Code : 00000000
Start Date : 2024-04-06
Page No : 3

	Glen Erin Dr From North					Eglinton Ave From East					Glen Erin Dr From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	**34**	94	**57**	13	198	31	214	29	9	283	18	89	26	1	134	17	166	29	11	223	838
01:15 PM	21	70	54	**16**	161	40	210	28	4	282	14	65	22	**7**	108	23	**231**	**39**	9	**302**	853
01:30 PM	14	82	53	7	156	**44**	221	24	3	292	18	70	17	7	112	21	218	33	**14**	286	846
01:45 PM	34	**99**	56	11	**200**	28	**227**	**30**	**11**	**296**	**20**	**93**	**28**	4	**145**	**24**	170	36	8	238	**879**
Total Volume	103	345	220	47	715	143	872	111	27	1153	70	317	93	19	499	85	785	137	42	1049	3416
% App. Total	14.4	48.3	30.8	6.6		12.4	75.6	9.6	2.3		14	63.5	18.6	3.8		8.1	74.8	13.1	4		
PHF	.757	.871	.965	.734	.894	.813	.960	.925	.614	.974	.875	.852	.830	.679	.860	.885	.850	.878	.750	.868	.972
Cars	103	342	220	47	712	143	869	111	27	1150	68	315	93	19	495	84	782	137	42	1045	3402
% Cars	100	99.1	100	100	99.6	100	99.7	100	100	99.7	97.1	99.4	100	100	99.2	98.8	99.6	100	100	99.6	99.6
Trucks	0	1	0	0	1	0	1	0	0	1	2	0	0	0	2	1	0	0	0	1	5
% Trucks	0	0.3	0	0	0.1	0	0.1	0	0	0.1	2.9	0	0	0	0.4	1.2	0	0	0	0.1	0.1
Heavys	0	2	0	0	2	0	2	0	0	2	0	2	0	0	2	0	3	0	0	3	9
% Heavys	0	0.6	0	0	0.3	0	0.2	0	0	0.2	0	0.6	0	0	0.4	0	0.4	0	0	0.3	0.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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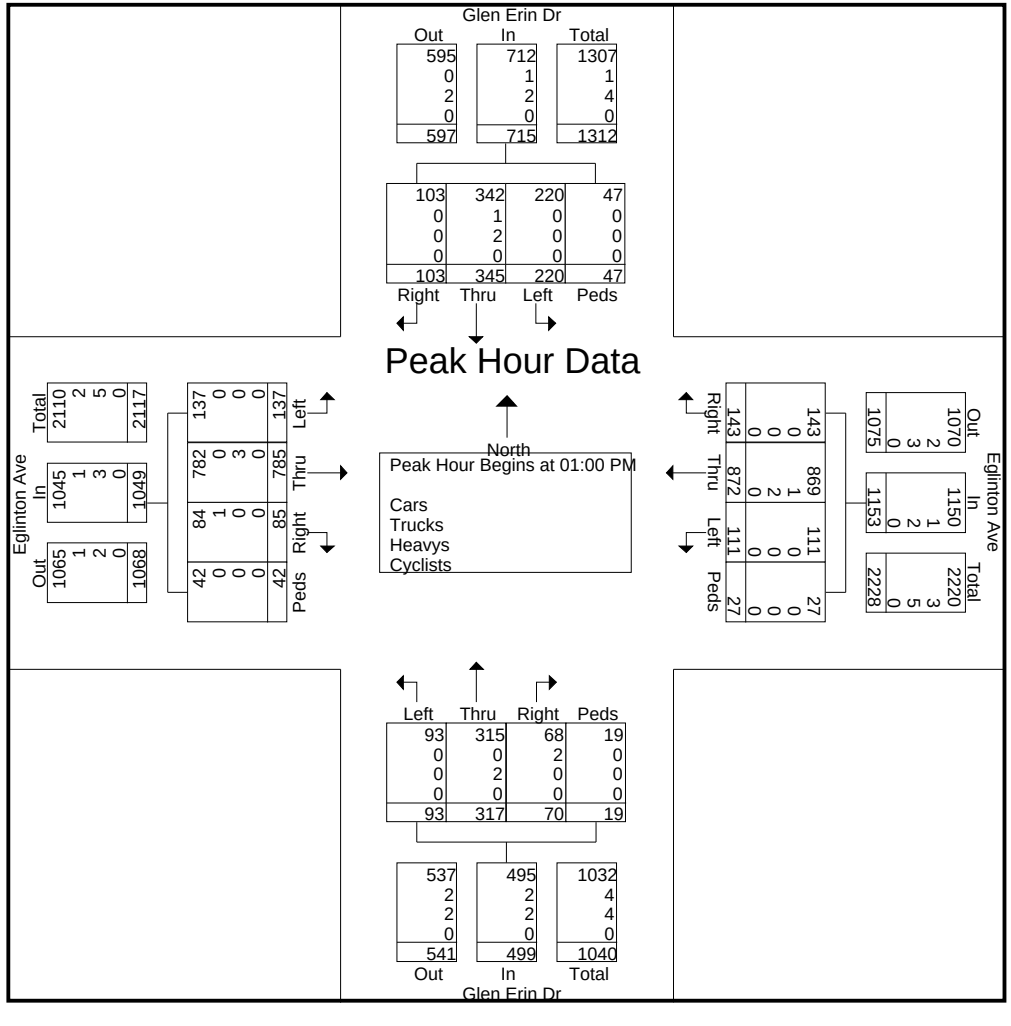
Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive-SAT
Site Code : 00000000
Start Date : 2024-04-06
Page No : 4



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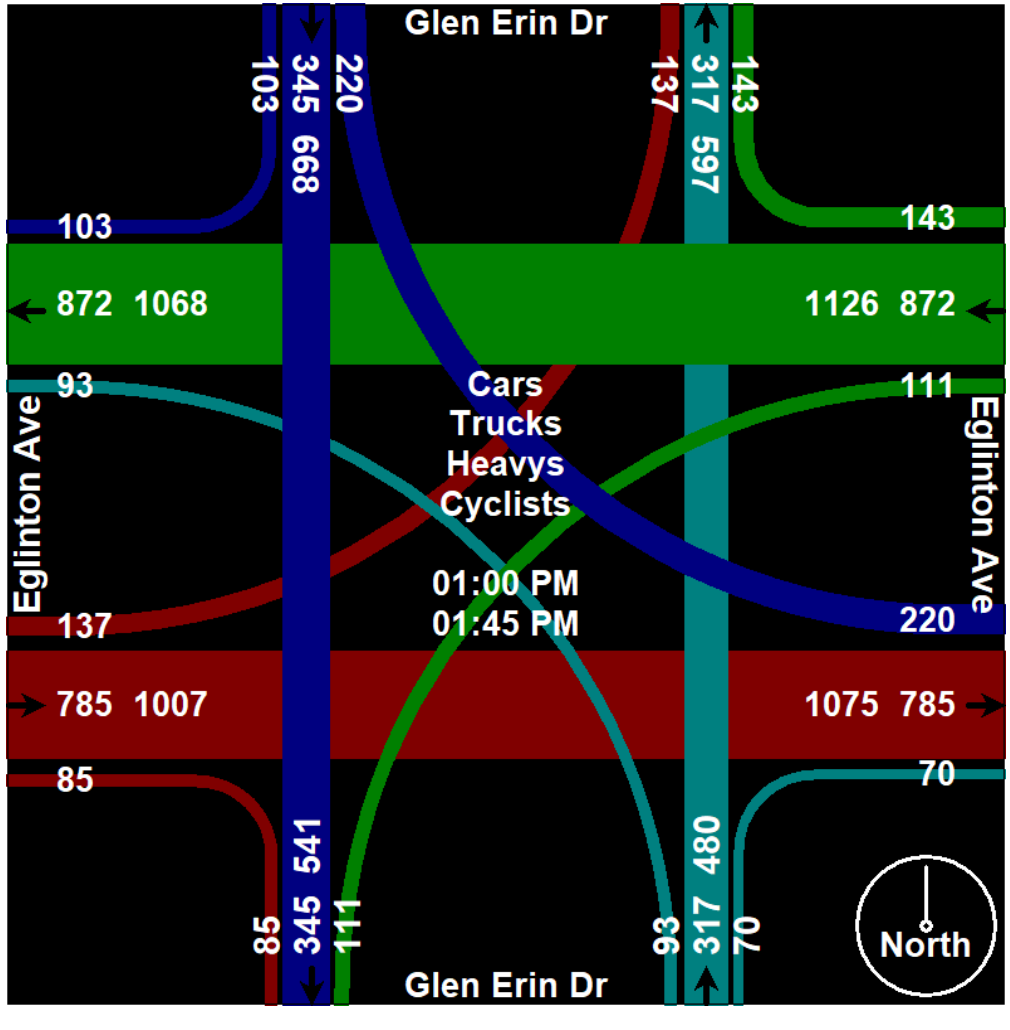
Your Traffic Count Specialist

File Name : Eglinton Avenue at Glen Erin Drive-SAT
Site Code : 00000000
Start Date : 2024-04-06
Page No : 5



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Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Plantation Pl From North					Eglinton Ave From East					Kimbermount Ave From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	7	3	6	3	19	2	77	7	0	86	14	1	3	1	19	0	138	4	1	143	267
07:15 AM	3	1	13	1	18	0	75	0	0	75	8	3	3	2	16	3	113	2	1	119	228
07:30 AM	7	2	17	0	26	3	104	4	1	112	22	7	6	1	36	6	173	2	1	182	356
07:45 AM	12	7	8	3	30	8	113	8	0	129	12	6	5	2	25	4	276	11	1	292	476
Total	29	13	44	7	93	13	369	19	1	402	56	17	17	6	96	13	700	19	4	736	1327
08:00 AM	21	8	12	1	42	10	102	4	5	121	18	29	9	4	60	0	225	19	1	245	468
08:15 AM	22	16	26	0	64	10	162	18	2	192	24	18	5	1	48	6	270	15	1	292	596
08:30 AM	19	5	28	4	56	6	153	17	0	176	23	6	5	0	34	2	311	6	2	321	587
08:45 AM	6	9	23	3	41	10	149	8	2	169	17	4	5	2	28	6	275	3	2	286	524
Total	68	38	89	8	203	36	566	47	9	658	82	57	24	7	170	14	1081	43	6	1144	2175
09:00 AM	4	4	16	5	29	11	134	8	2	155	19	3	1	5	28	5	263	11	1	280	492
09:15 AM	6	4	24	1	35	14	107	8	1	130	12	3	4	2	21	3	198	6	0	207	393
09:30 AM	10	1	19	3	33	14	135	10	2	161	10	2	4	4	20	1	152	14	1	168	382
09:45 AM	5	11	17	5	38	7	119	7	1	134	14	6	3	0	23	4	137	12	0	153	348
Total	25	20	76	14	135	46	495	33	6	580	55	14	12	11	92	13	750	43	2	808	1615
04:00 PM	10	16	32	10	68	37	253	17	7	314	12	10	3	5	30	7	240	18	2	267	679
04:15 PM	14	17	42	5	78	20	256	11	2	289	9	18	1	2	30	10	196	9	3	218	615
04:30 PM	19	17	37	5	78	33	290	18	2	343	15	15	2	1	33	3	170	15	1	189	643
04:45 PM	15	8	29	3	55	16	278	15	0	309	13	13	4	1	31	6	224	10	4	244	639
Total	58	58	140	23	279	106	1077	61	11	1255	49	56	10	9	124	26	830	52	10	918	2576
05:00 PM	28	12	38	1	79	18	254	21	2	295	14	22	6	6	48	8	211	14	4	237	659
05:15 PM	14	11	42	2	69	28	304	16	3	351	23	28	6	0	57	7	221	21	6	255	732
05:30 PM	18	13	41	2	74	27	274	17	2	320	13	22	6	1	42	3	234	11	1	249	685
05:45 PM	16	9	35	6	66	25	272	27	1	325	17	20	9	4	50	2	219	14	0	235	676
Total	76	45	156	11	288	98	1104	81	8	1291	67	92	27	11	197	20	885	60	11	976	2752
06:00 PM	25	9	19	5	58	20	245	21	2	288	16	12	3	3	34	12	226	22	2	262	642
06:15 PM	11	15	38	3	67	17	244	12	1	274	13	19	10	1	43	7	213	20	3	243	627
06:30 PM	10	15	30	4	59	26	245	21	4	296	15	20	9	1	45	6	188	9	3	206	606
06:45 PM	18	13	25	4	60	23	253	19	2	297	13	13	5	7	38	3	197	11	3	214	609
Total	64	52	112	16	244	86	987	73	9	1155	57	64	27	12	160	28	824	62	11	925	2484

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Plantation Pl From North					Eglinton Ave From East					Kimbermount Ave From South					Eglinton Ave From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	320	226	617	79	1242	385	4598	314	44	5341	366	300	117	56	839	114	5070	279	44	5507	12929
Apprch %	25.8	18.2	49.7	6.4		7.2	86.1	5.9	0.8		43.6	35.8	13.9	6.7		2.1	92.1	5.1	0.8		
Total %	2.5	1.7	4.8	0.6	9.6	3	35.6	2.4	0.3	41.3	2.8	2.3	0.9	0.4	6.5	0.9	39.2	2.2	0.3	42.6	
Cars	318	221	609	79	1227	377	4503	309	44	5233	360	298	113	56	827	110	4970	275	44	5399	12686
% Cars	99.4	97.8	98.7	100	98.8	97.9	97.9	98.4	100	98	98.4	99.3	96.6	100	98.6	96.5	98	98.6	100	98	98.1
Trucks	1	2	3	0	6	5	33	2	0	40	4	1	2	0	7	0	32	2	0	34	87
% Trucks	0.3	0.9	0.5	0	0.5	1.3	0.7	0.6	0	0.7	1.1	0.3	1.7	0	0.8	0	0.6	0.7	0	0.6	0.7
Heavys	1	3	5	0	9	3	62	3	0	68	2	1	2	0	5	4	68	2	0	74	156
% Heavys	0.3	1.3	0.8	0	0.7	0.8	1.3	1	0	1.3	0.5	0.3	1.7	0	0.6	3.5	1.3	0.7	0	1.3	1.2
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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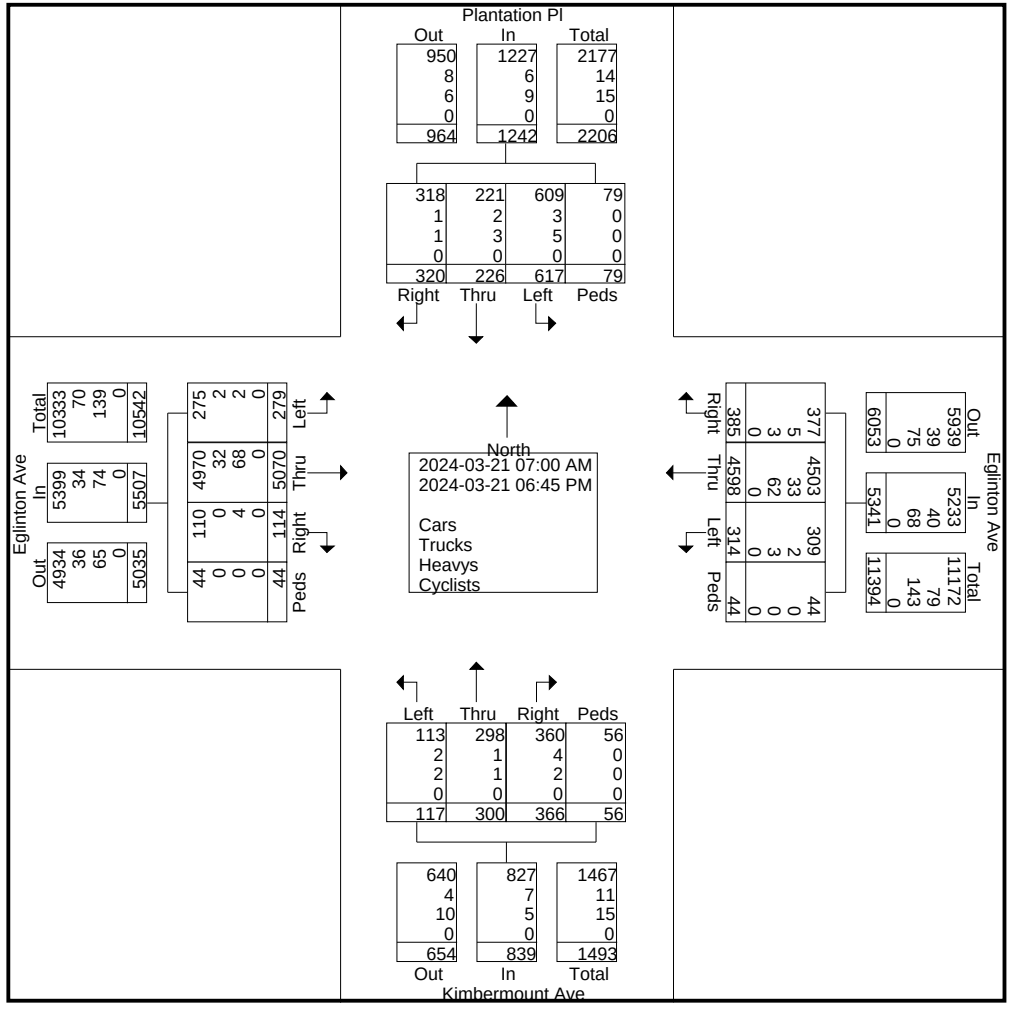
Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21

	Plantation Pl From North					Eglinton Ave From East					Kimbermount Ave From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	**22**	**16**	26	0	**64**	10	**162**	**18**	**2**	**192**	**24**	**18**	**5**	1	**48**	**6**	270	**15**	1	292	**596**
08:30 AM	19	5	**28**	4	56	6	153	17	0	176	23	6	5	0	34	2	**311**	6	**2**	**321**	587
08:45 AM	6	9	23	3	41	10	149	8	2	169	17	4	5	2	28	6	275	3	2	286	524
09:00 AM	4	4	16	**5**	29	**11**	134	8	2	155	19	3	1	**5**	28	5	263	11	1	280	492
Total Volume	51	34	93	12	190	37	598	51	6	692	83	31	16	8	138	19	1119	35	6	1179	2199
% App. Total	26.8	17.9	48.9	6.3		5.3	86.4	7.4	0.9		60.1	22.5	11.6	5.8		1.6	94.9	3	0.5		
PHF	.580	.531	.830	.600	.742	.841	.923	.708	.750	.901	.865	.431	.800	.400	.719	.792	.900	.583	.750	.918	.922
Cars	50	32	91	12	185	35	577	50	6	668	82	31	16	8	137	18	1086	34	6	1144	2134
% Cars	98.0	94.1	97.8	100	97.4	94.6	96.5	98.0	100	96.5	98.8	100	100	100	99.3	94.7	97.1	97.1	100	97.0	97.0
Trucks	0	1	1	0	2	1	10	0	0	11	1	0	0	0	1	0	13	1	0	14	28
% Trucks	0	2.9	1.1	0	1.1	2.7	1.7	0	0	1.6	1.2	0	0	0	0.7	0	1.2	2.9	0	1.2	1.3
Heavys	1	1	1	0	3	1	11	1	0	13	0	0	0	0	0	1	20	0	0	21	37
% Heavys	2.0	2.9	1.1	0	1.6	2.7	1.8	2.0	0	1.9	0	0	0	0	0	5.3	1.8	0	0	1.8	1.7
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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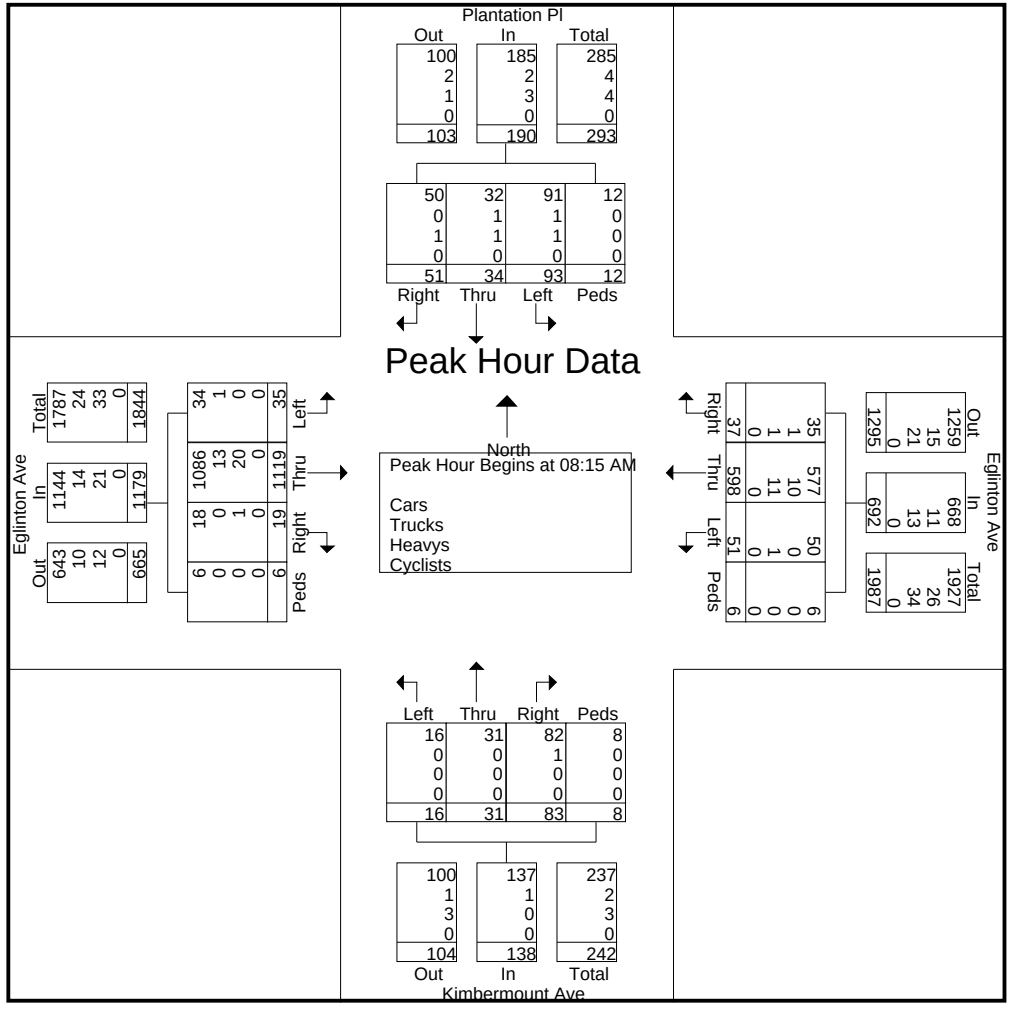
Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 5



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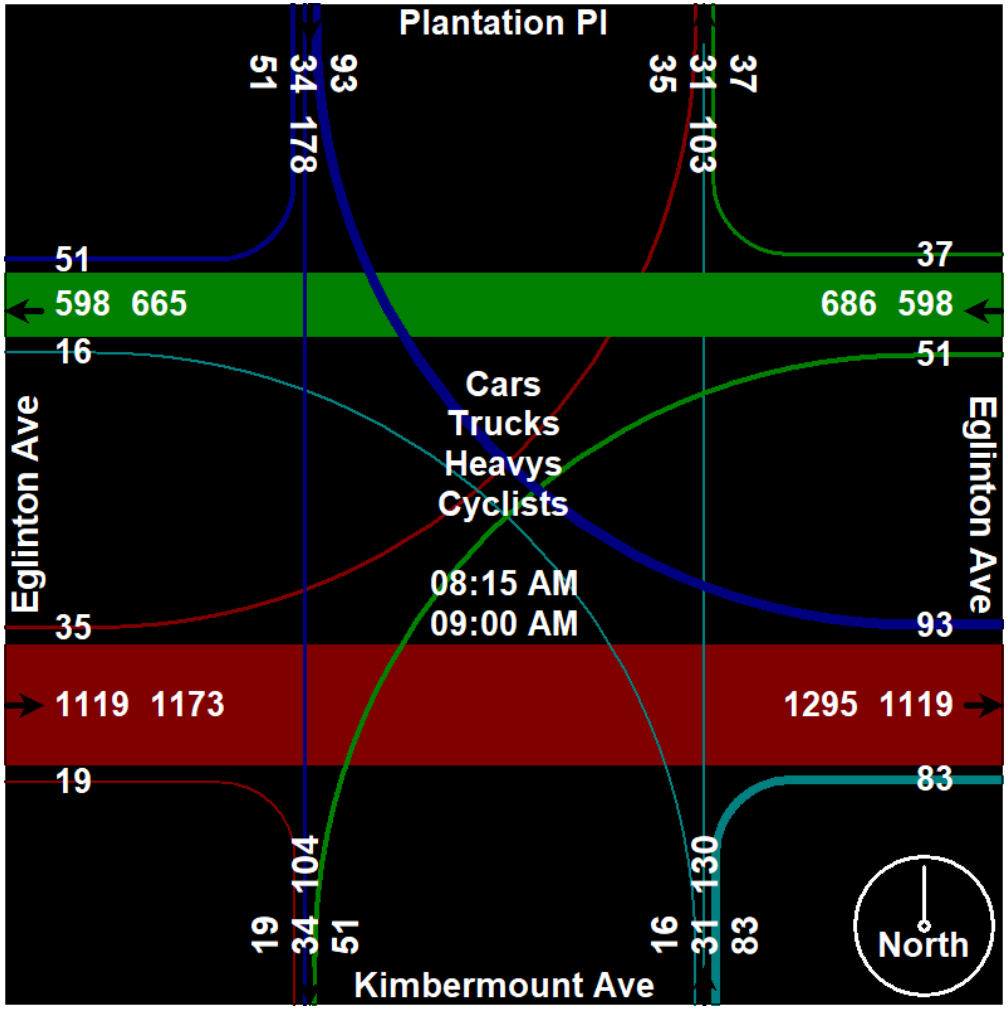
Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



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Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 7

	Plantation Pl From North					Eglinton Ave From East					Kimbermount Ave From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**28**	12	38	1	**79**	18	254	21	2	295	14	22	6	**6**	48	**8**	211	14	4	237	659
05:15 PM	14	11	**42**	2	69	**28**	**304**	16	**3**	**351**	**23**	**28**	6	0	**57**	7	221	**21**	**6**	**255**	**732**
05:30 PM	18	**13**	41	2	74	27	274	17	2	320	13	22	6	1	42	3	**234**	11	1	249	685
05:45 PM	16	9	35	**6**	66	25	272	**27**	1	325	17	20	**9**	4	50	2	219	14	0	235	676
Total Volume	76	45	156	11	288	98	1104	81	8	1291	67	92	27	11	197	20	885	60	11	976	2752
% App. Total	26.4	15.6	54.2	3.8		7.6	85.5	6.3	0.6		34	46.7	13.7	5.6		2	90.7	6.1	1.1		
PHF	.679	.865	.929	.458	.911	.875	.908	.750	.667	.920	.728	.821	.750	.458	.864	.625	.946	.714	.458	.957	.940
Cars	76	45	154	11	286	98	1092	81	8	1279	67	92	27	11	197	20	877	60	11	968	2730
% Cars	100	100	98.7	100	99.3	100	98.9	100	100	99.1	100	100	100	100	100	100	99.1	100	100	99.2	99.2
Trucks	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	6
% Trucks	0	0	0.6	0	0.3	0	0.3	0	0	0.2	0	0	0	0	0	0	0.2	0	0	0.2	0.2
Heavys	0	0	1	0	1	0	9	0	0	9	0	0	0	0	0	0	6	0	0	6	16
% Heavys	0	0	0.6	0	0.3	0	0.8	0	0	0.7	0	0	0	0	0	0	0.7	0	0	0.6	0.6
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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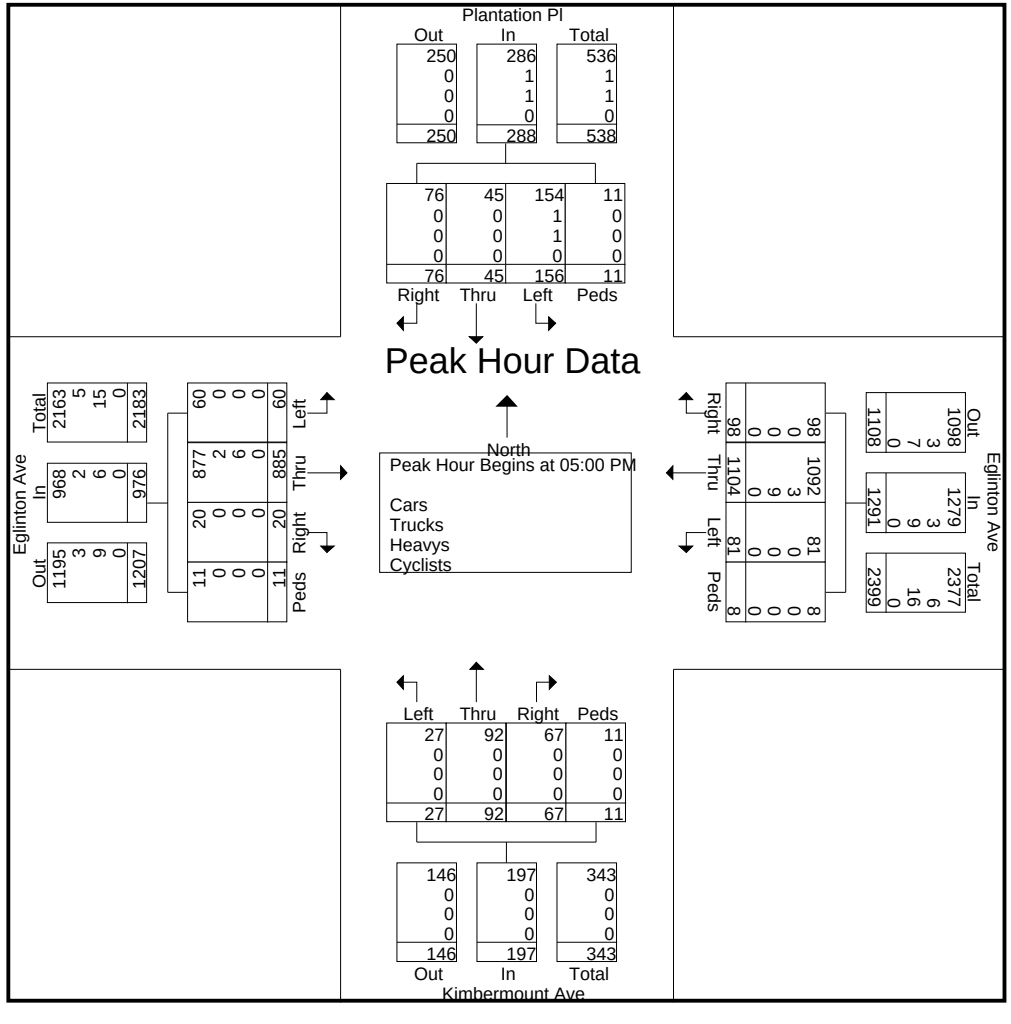
Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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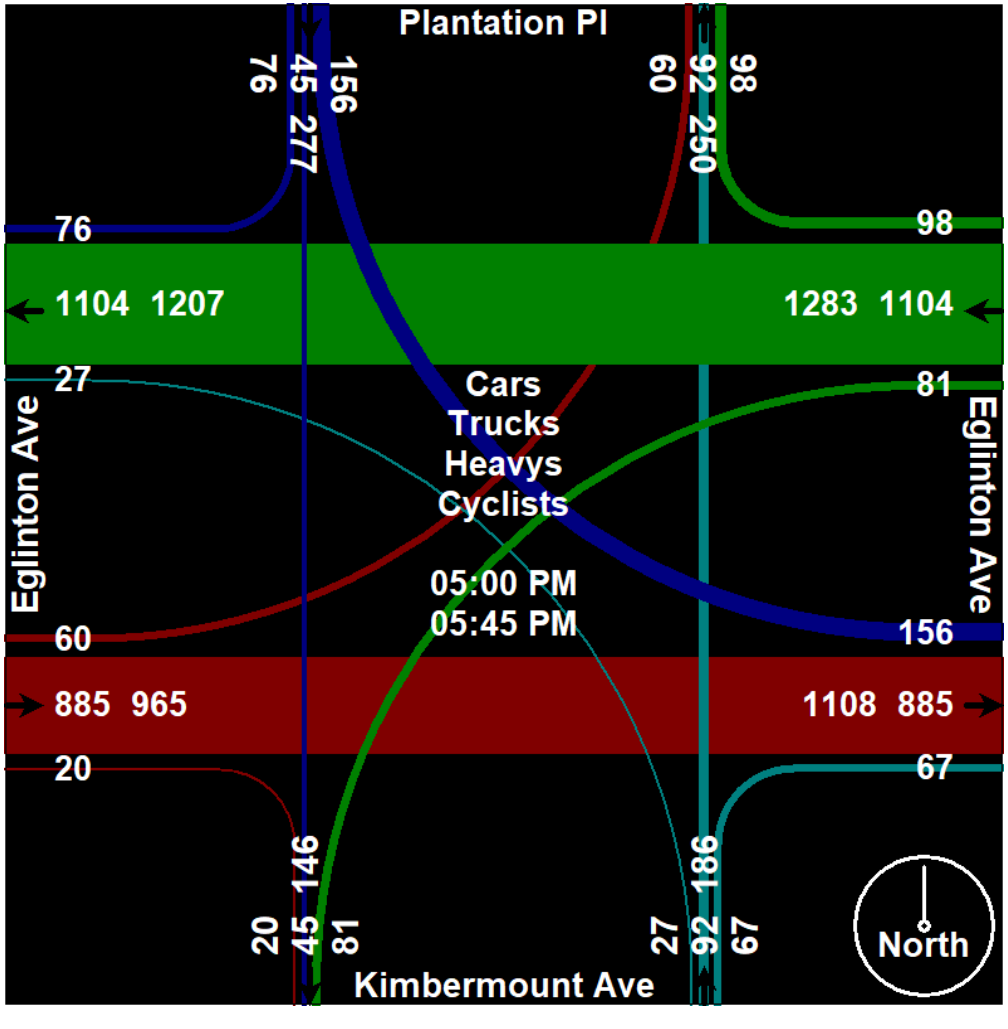
Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Plantation Pl From North					Eglinton Ave From East					Kimbermount Ave From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	9	13	28	2	52	20	156	10	3	189	8	8	5	1	22	4	170	9	2	185	448
11:15 AM	10	7	17	3	37	13	175	12	3	203	15	6	2	1	24	3	210	8	1	222	486
11:30 AM	9	10	34	0	53	21	187	11	4	223	12	11	11	3	37	5	214	18	5	242	555
11:45 AM	20	14	45	7	86	13	155	5	1	174	13	15	5	4	37	2	196	23	3	224	521
Total	48	44	124	12	228	67	673	38	11	789	48	40	23	9	120	14	790	58	11	873	2010
12:00 PM	18	6	35	6	65	24	167	11	0	202	10	13	4	2	29	8	222	19	2	251	547
12:15 PM	14	16	35	7	72	13	186	12	6	217	14	12	10	2	38	7	198	11	1	217	544
12:30 PM	16	18	44	12	90	17	178	15	4	214	20	9	5	4	38	5	192	17	2	216	558
12:45 PM	14	14	40	3	71	25	207	12	3	247	17	8	8	0	33	6	248	19	2	275	626
Total	62	54	154	28	298	79	738	50	13	880	61	42	27	8	138	26	860	66	7	959	2275
01:00 PM	17	13	45	4	79	25	198	9	3	235	11	21	8	2	42	5	234	14	4	257	613
01:15 PM	18	12	31	11	72	17	207	13	1	238	14	11	7	2	34	6	220	16	2	244	588
01:30 PM	11	9	46	5	71	27	211	16	1	255	11	9	8	2	30	4	190	12	9	215	571
01:45 PM	13	22	51	8	94	13	201	7	4	225	6	13	3	2	24	2	177	15	0	194	537
Total	59	56	173	28	316	82	817	45	9	953	42	54	26	8	130	17	821	57	15	910	2309
Grand Total	169	154	451	68	842	228	2228	133	33	2622	151	136	76	25	388	57	2471	181	33	2742	6594
Apprch %	20.1	18.3	53.6	8.1		8.7	85	5.1	1.3		38.9	35.1	19.6	6.4		2.1	90.1	6.6	1.2		
Total %	2.6	2.3	6.8	1	12.8	3.5	33.8	2	0.5	39.8	2.3	2.1	1.2	0.4	5.9	0.9	37.5	2.7	0.5	41.6	
Cars	167	154	450	68	839	226	2209	133	33	2601	151	136	76	25	388	57	2454	179	33	2723	6551
% Cars	98.8	100	99.8	100	99.6	99.1	99.1	100	100	99.2	100	100	100	100	100	100	99.3	98.9	100	99.3	99.3
Trucks	2	0	0	0	2	2	10	0	0	12	0	0	0	0	0	0	7	1	0	8	22
% Trucks	1.2	0	0	0	0.2	0.9	0.4	0	0	0.5	0	0	0	0	0	0	0.3	0.6	0	0.3	0.3
Heavys	0	0	1	0	1	0	9	0	0	9	0	0	0	0	0	0	10	1	0	11	21
% Heavys	0	0	0.2	0	0.1	0	0.4	0	0	0.3	0	0	0	0	0	0	0.4	0.6	0	0.4	0.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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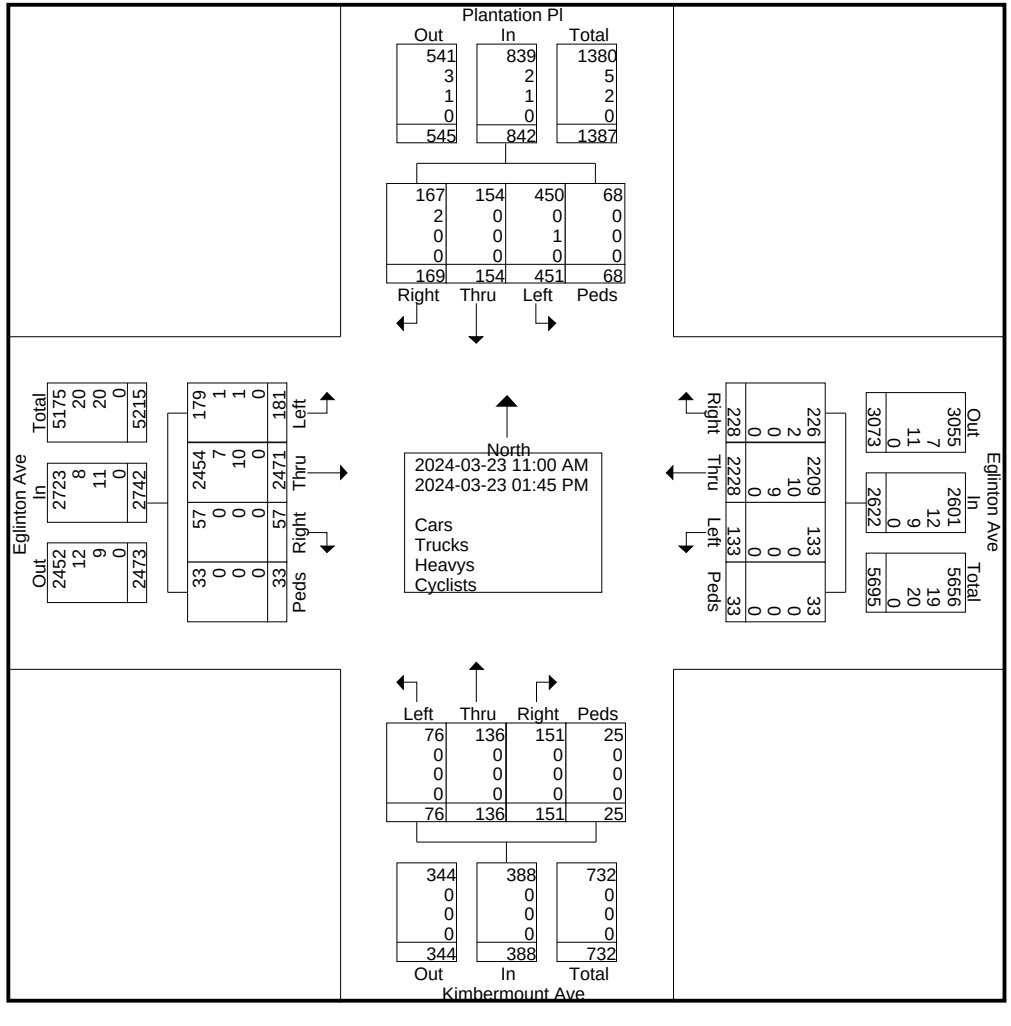
Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 2



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Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23

	Plantation Pl From North					Eglinton Ave From East					Kimbermount Ave From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:45 PM																					
12:45 PM	14	**14**	40	3	71	25	207	12	**3**	247	**17**	8	**8**	0	33	**6**	**248**	**19**	2	**275**	**626**
01:00 PM	17	13	45	4	**79**	25	198	9	3	235	11	**21**	8	**2**	**42**	5	234	14	4	257	613
01:15 PM	**18**	12	31	**11**	72	17	207	13	1	238	14	11	7	2	34	6	220	16	2	244	588
01:30 PM	11	9	**46**	5	71	**27**	**211**	**16**	1	**255**	11	9	8	2	30	4	190	12	**9**	215	571
Total Volume	60	48	162	23	293	94	823	50	8	975	53	49	31	6	139	21	892	61	17	991	2398
% App. Total	20.5	16.4	55.3	7.8		9.6	84.4	5.1	0.8		38.1	35.3	22.3	4.3		2.1	90	6.2	1.7		
PHF	.833	.857	.880	.523	.927	.870	.975	.781	.667	.956	.779	.583	.969	.750	.827	.875	.899	.803	.472	.901	.958
Cars	60	48	162	23	293	94	820	50	8	972	53	49	31	6	139	21	885	60	17	983	2387
% Cars	100	100	100	100	100	100	99.6	100	100	99.7	100	100	100	100	100	100	99.2	98.4	100	99.2	99.5
Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	1	0	5	6
% Trucks	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0.4	1.6	0	0.5	0.3
Heavys	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
% Heavys	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0.3	0	0	0.3	0.2
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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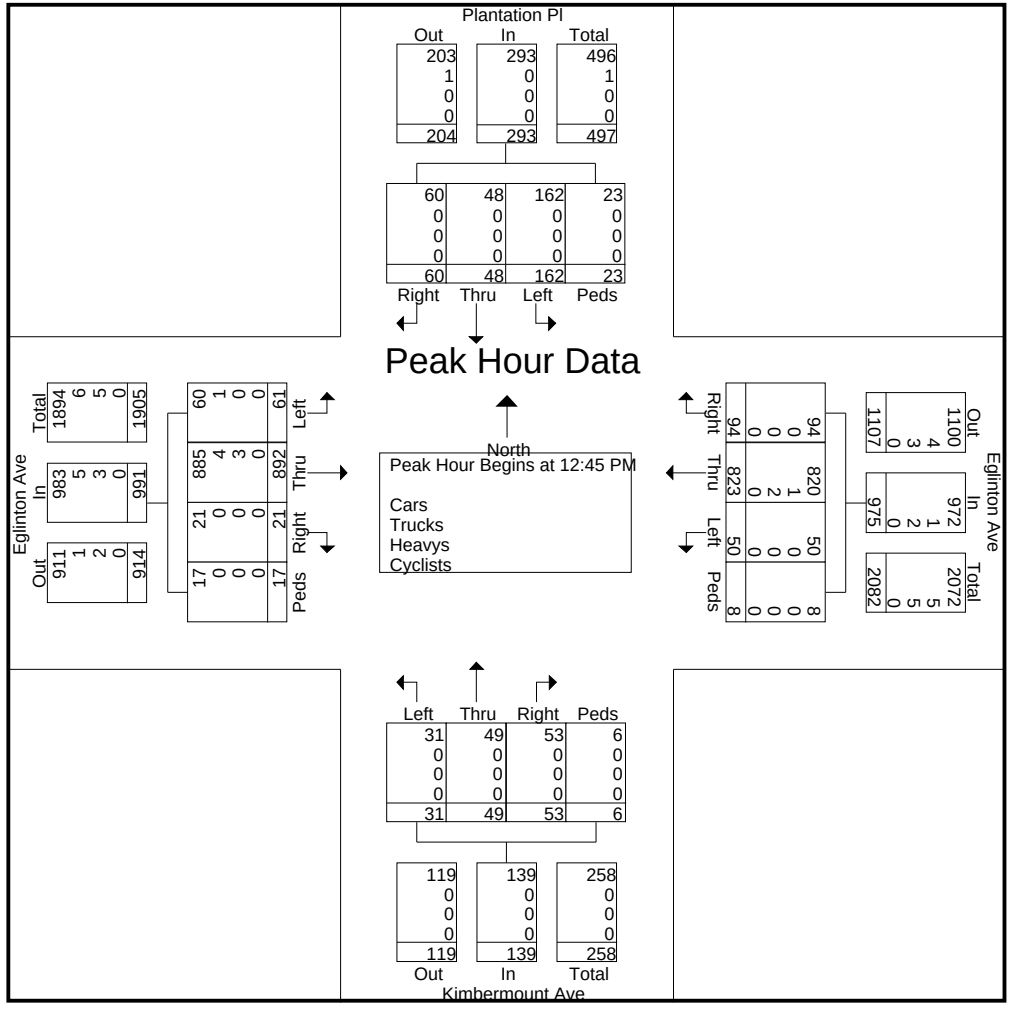
Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 4



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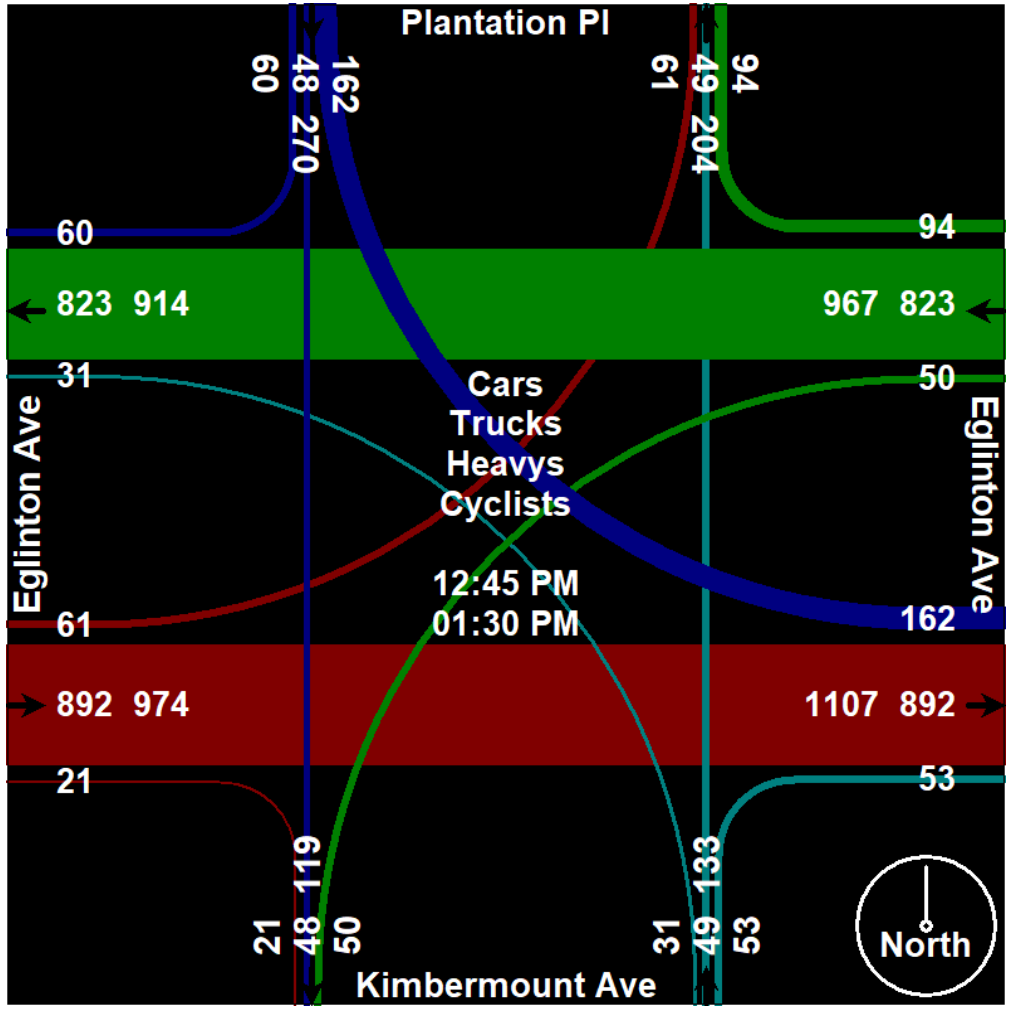
Your Traffic Count Specialist

File Name : Eglinton Avenue at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 5



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Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	South Mall Access From North					Eglinton Ave From East					Metcalfe Ave From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	6	2	7	1	16	5	81	6	1	93	6	3	6	0	15	2	159	9	1	171	295
07:15 AM	3	4	8	1	16	14	72	2	1	89	13	1	3	1	18	6	133	10	0	149	272
07:30 AM	7	2	21	3	33	12	110	3	0	125	13	4	5	1	23	6	228	8	1	243	424
07:45 AM	3	4	12	5	24	8	119	7	0	134	13	6	3	4	26	2	310	12	5	329	513
Total	19	12	48	10	89	39	382	18	2	441	45	14	17	6	82	16	830	39	7	892	1504
08:00 AM	4	8	19	4	35	17	170	5	19	211	10	25	4	2	41	8	254	10	19	291	578
08:15 AM	13	13	27	3	56	20	193	5	15	233	14	12	7	0	33	14	369	8	2	393	715
08:30 AM	10	5	16	0	31	10	140	5	2	157	19	1	13	0	33	13	371	12	4	400	621
08:45 AM	7	2	23	3	35	17	164	4	2	187	19	8	14	1	42	15	296	15	2	328	592
Total	34	28	85	10	157	64	667	19	38	788	62	46	38	3	149	50	1290	45	27	1412	2506
09:00 AM	8	6	24	3	41	11	138	18	2	169	13	6	10	3	32	20	301	23	7	351	593
09:15 AM	14	3	14	3	34	17	137	8	1	163	18	8	8	2	36	5	210	27	2	244	477
09:30 AM	7	2	26	2	37	17	145	6	4	172	13	4	9	2	28	8	169	21	1	199	436
09:45 AM	9	5	23	0	37	25	149	2	2	178	14	4	2	4	24	6	159	24	2	191	430
Total	38	16	87	8	149	70	569	34	9	682	58	22	29	11	120	39	839	95	12	985	1936
04:00 PM	29	18	36	4	87	22	274	8	6	310	8	12	11	5	36	11	233	41	8	293	726
04:15 PM	40	12	32	3	87	28	329	12	6	375	6	9	5	1	21	7	209	29	6	251	734
04:30 PM	36	14	39	1	90	23	269	15	9	316	3	7	5	4	19	9	190	27	4	230	655
04:45 PM	23	8	32	4	67	37	326	10	0	373	14	8	14	2	38	17	222	31	9	279	757
Total	128	52	139	12	331	110	1198	45	21	1374	31	36	35	12	114	44	854	128	27	1053	2872
05:00 PM	31	13	39	4	87	21	309	16	5	351	7	5	9	2	23	8	213	27	9	257	718
05:15 PM	31	8	41	5	85	18	305	6	2	331	10	18	15	4	47	15	270	39	12	336	799
05:30 PM	30	8	33	4	75	13	339	13	6	371	9	4	12	5	30	19	239	29	5	292	768
05:45 PM	24	13	34	4	75	26	308	19	4	357	13	8	12	2	35	17	219	36	8	280	747
Total	116	42	147	17	322	78	1261	54	17	1410	39	35	48	13	135	59	941	131	34	1165	3032
06:00 PM	33	10	30	6	79	24	254	10	3	291	5	12	12	2	31	9	223	33	15	280	681
06:15 PM	23	9	22	2	56	31	296	18	3	348	12	7	11	4	34	12	233	27	1	273	711
06:30 PM	16	7	49	3	75	19	263	20	3	305	12	9	4	4	29	16	220	31	7	274	683
06:45 PM	31	10	37	3	81	17	287	9	4	317	15	13	10	1	39	17	201	35	1	254	691
Total	103	36	138	14	291	91	1100	57	13	1261	44	41	37	11	133	54	877	126	24	1081	2766

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Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	South Mall Access From North					Eglinton Ave From East					Metcalfe Ave From South					Eglinton Ave From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	438	186	644	71	1339	452	5177	227	100	5956	279	194	204	56	733	262	5631	564	131	6588	14616
Apprch %	32.7	13.9	48.1	5.3		7.6	86.9	3.8	1.7		38.1	26.5	27.8	7.6		4	85.5	8.6	2		
Total %	3	1.3	4.4	0.5	9.2	3.1	35.4	1.6	0.7	40.7	1.9	1.3	1.4	0.4	5	1.8	38.5	3.9	0.9	45.1	
Cars	435	184	640	71	1330	451	5083	223	100	5857	273	194	193	56	716	257	5513	557	131	6458	14361
% Cars	99.3	98.9	99.4	100	99.3	99.8	98.2	98.2	100	98.3	97.8	100	94.6	100	97.7	98.1	97.9	98.8	100	98	98.3
Trucks	1	2	1	0	4	1	31	2	0	34	1	0	5	0	6	1	39	4	0	44	88
% Trucks	0.2	1.1	0.2	0	0.3	0.2	0.6	0.9	0	0.6	0.4	0	2.5	0	0.8	0.4	0.7	0.7	0	0.7	0.6
Heavys	2	0	3	0	5	0	63	2	0	65	5	0	6	0	11	4	78	3	0	85	166
% Heavys	0.5	0	0.5	0	0.4	0	1.2	0.9	0	1.1	1.8	0	2.9	0	1.5	1.5	1.4	0.5	0	1.3	1.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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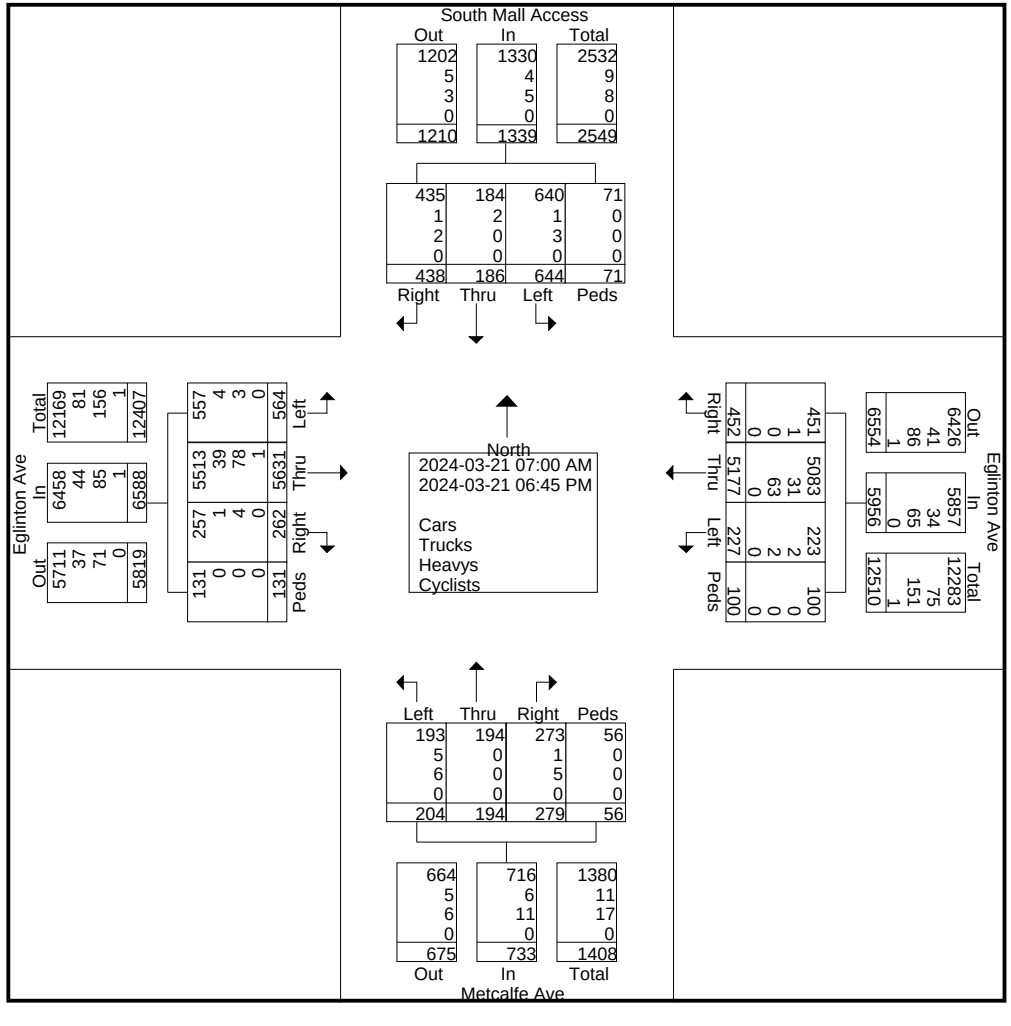
Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



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Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access
Site Code : 00000000
Start Date : 2024-03-21

	South Mall Access From North					Eglinton Ave From East					Metcalfe Ave From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	**13**	**13**	**27**	**3**	**56**	**20**	**193**	5	**15**	**233**	14	**12**	7	0	33	14	369	8	2	393	**715**
08:30 AM	10	5	16	0	31	10	140	5	2	157	**19**	1	13	0	33	13	**371**	12	4	**400**	621
08:45 AM	7	2	23	3	35	17	164	4	2	187	19	8	**14**	1	**42**	15	296	15	2	328	592
09:00 AM	8	6	24	3	41	11	138	**18**	2	169	13	6	10	**3**	32	**20**	301	**23**	**7**	351	593
Total Volume	38	26	90	9	163	58	635	32	21	746	65	27	44	4	140	62	1337	58	15	1472	2521
% App. Total	23.3	16	55.2	5.5		7.8	85.1	4.3	2.8		46.4	19.3	31.4	2.9		4.2	90.8	3.9	1		
PHF	.731	.500	.833	.750	.728	.725	.823	.444	.350	.800	.855	.563	.786	.333	.833	.775	.901	.630	.536	.920	.881
Cars	37	26	89	9	161	57	611	32	21	721	64	27	40	4	135	60	1302	58	15	1435	2452
% Cars	97.4	100	98.9	100	98.8	98.3	96.2	100	100	96.6	98.5	100	90.9	100	96.4	96.8	97.4	100	100	97.5	97.3
Trucks	1	0	0	0	1	1	10	0	0	11	0	0	1	0	1	0	17	0	0	17	30
% Trucks	2.6	0	0	0	0.6	1.7	1.6	0	0	1.5	0	0	2.3	0	0.7	0	1.3	0	0	1.2	1.2
Heavys	0	0	1	0	1	0	14	0	0	14	1	0	3	0	4	2	18	0	0	20	39
% Heavys	0	0	1.1	0	0.6	0	2.2	0	0	1.9	1.5	0	6.8	0	2.9	3.2	1.3	0	0	1.4	1.5
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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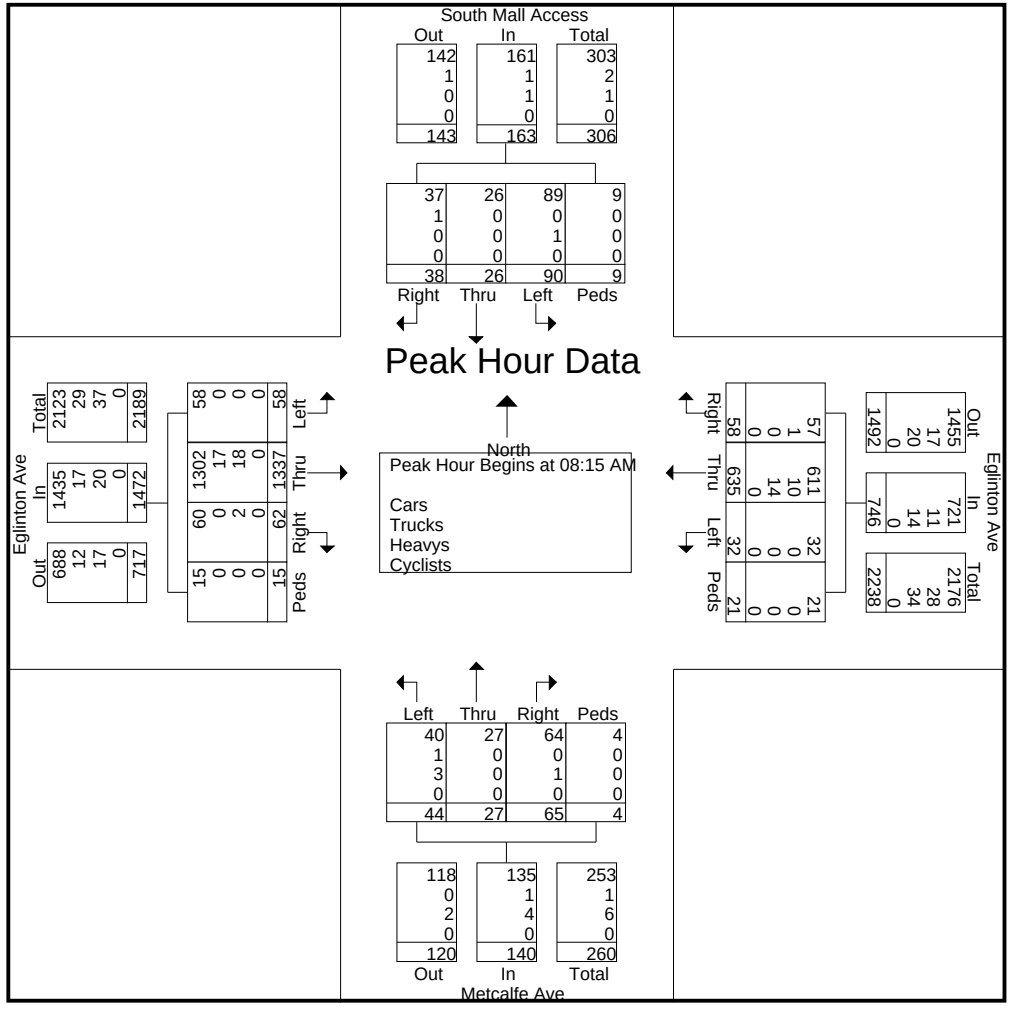
Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 5



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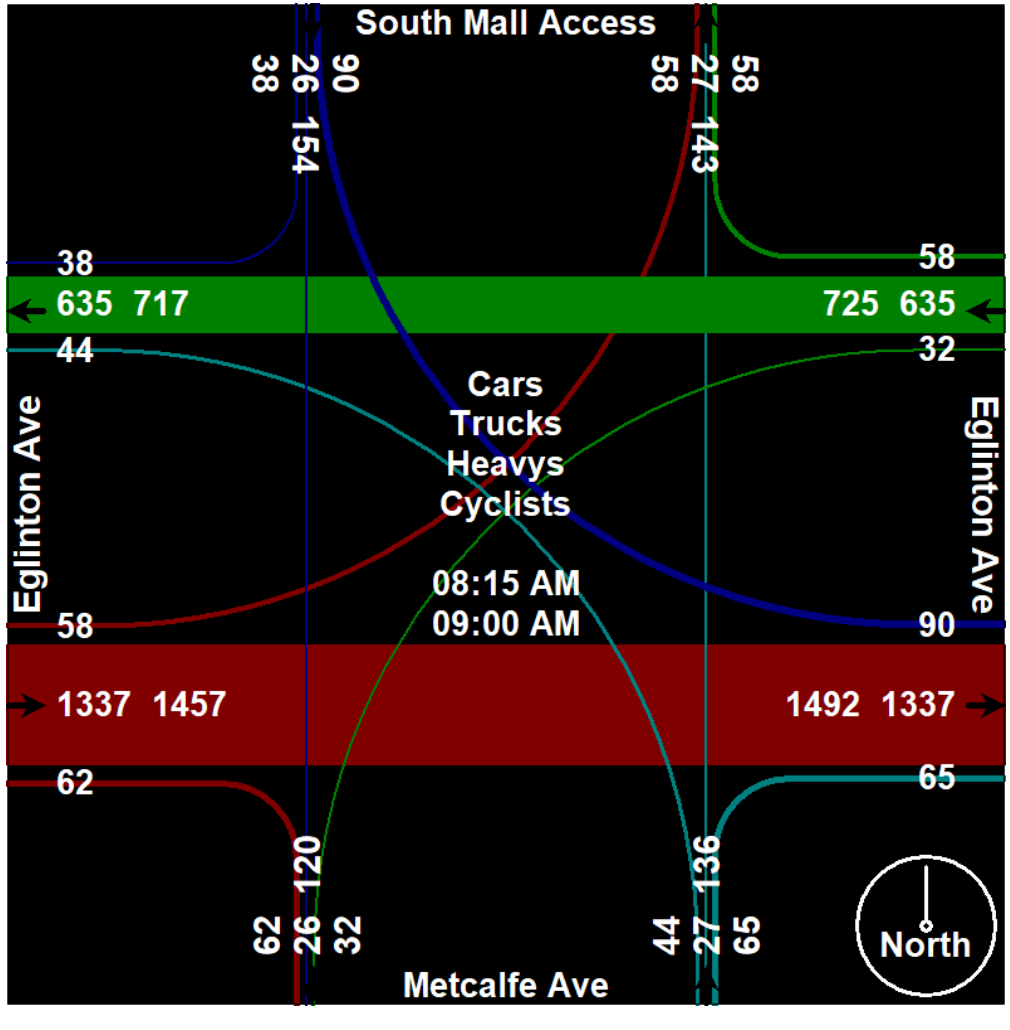
Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



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Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 7

	South Mall Access From North					Eglinton Ave From East					Metcalfe Ave From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	23	8	32	4	67	**37**	326	10	0	**373**	**14**	8	14	2	38	17	222	31	9	279	757
05:00 PM	**31**	**13**	39	4	**87**	21	309	**16**	5	351	7	5	9	2	23	8	213	27	9	257	718
05:15 PM	31	8	**41**	**5**	85	18	305	6	2	331	10	**18**	**15**	4	**47**	15	**270**	**39**	**12**	**336**	**799**
05:30 PM	30	8	33	4	75	13	**339**	13	**6**	371	9	4	12	**5**	30	**19**	239	29	5	292	768
Total Volume	115	37	145	17	314	89	1279	45	13	1426	40	35	50	13	138	59	944	126	35	1164	3042
% App. Total	36.6	11.8	46.2	5.4		6.2	89.7	3.2	0.9		29	25.4	36.2	9.4		5.1	81.1	10.8	3		
PHF	.927	.712	.884	.850	.902	.601	.943	.703	.542	.956	.714	.486	.833	.650	.734	.776	.874	.808	.729	.866	.952
Cars	115	37	145	17	314	89	1268	45	13	1415	40	35	50	13	138	59	933	125	35	1152	3019
% Cars	100	100	100	100	100	100	99.1	100	100	99.2	100	100	100	100	100	100	98.8	99.2	100	99.0	99.2
Trucks	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	1	0	3	6
% Trucks	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0.2	0.8	0	0.3	0.2
Heavys	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	16
% Heavys	0	0	0	0	0	0	0.6	0	0	0.6	0	0	0	0	0	0	0.8	0	0	0.7	0.5
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0.0

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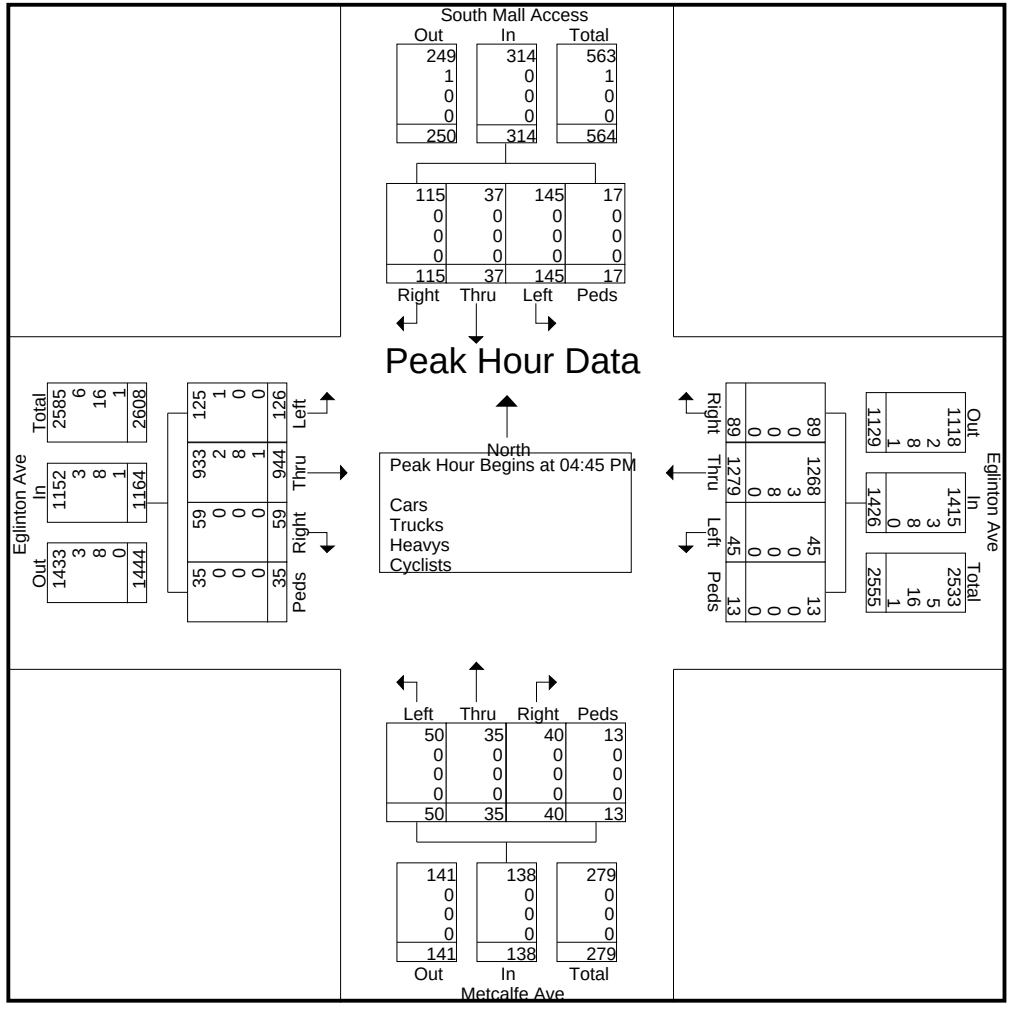
Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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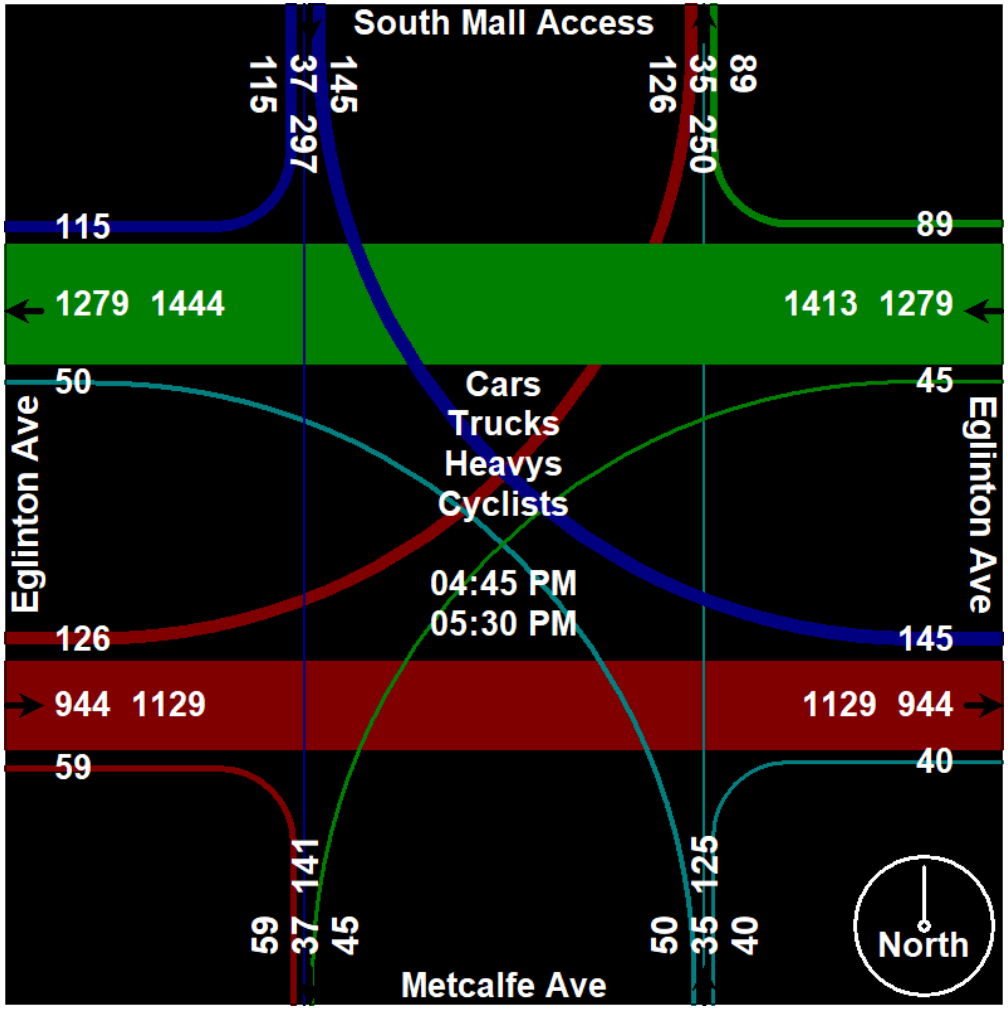
Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	South Mall Access From North					Eglinton Ave From East					Metcalfe Ave From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	17	11	34	3	65	14	166	4	1	185	10	8	4	1	23	5	198	33	2	238	511
11:15 AM	25	5	36	1	67	24	184	7	3	218	16	6	10	2	34	14	186	26	4	230	549
11:30 AM	22	4	47	2	75	24	190	7	3	224	6	3	11	2	22	11	227	46	4	288	609
11:45 AM	21	3	40	0	64	24	155	2	1	182	10	11	8	0	29	7	208	45	3	263	538
Total	85	23	157	6	271	86	695	20	8	809	42	28	33	5	108	37	819	150	13	1019	2207
12:00 PM	34	14	35	2	85	35	190	8	1	234	7	7	9	3	26	7	199	38	4	248	593
12:15 PM	25	4	46	1	76	30	191	2	3	226	8	6	7	3	24	3	209	34	4	250	576
12:30 PM	15	12	45	4	76	20	201	6	1	228	15	11	7	2	35	5	199	39	3	246	585
12:45 PM	31	12	42	3	88	23	203	5	11	242	12	7	9	6	34	10	258	49	6	323	687
Total	105	42	168	10	325	108	785	21	16	930	42	31	32	14	119	25	865	160	17	1067	2441
01:00 PM	31	13	41	2	87	18	219	14	4	255	11	8	10	5	34	8	246	49	2	305	681
01:15 PM	28	16	44	2	90	31	202	8	6	247	9	7	7	3	26	10	225	45	2	282	645
01:30 PM	19	11	53	0	83	24	232	7	1	264	16	10	2	1	29	10	209	43	6	268	644
01:45 PM	40	15	48	6	109	25	204	3	9	241	5	8	6	6	25	5	156	34	2	197	572
Total	118	55	186	10	369	98	857	32	20	1007	41	33	25	15	114	33	836	171	12	1052	2542
Grand Total	308	120	511	26	965	292	2337	73	44	2746	125	92	90	34	341	95	2520	481	42	3138	7190
Apprch %	31.9	12.4	53	2.7		10.6	85.1	2.7	1.6		36.7	27	26.4	10		3	80.3	15.3	1.3		
Total %	4.3	1.7	7.1	0.4	13.4	4.1	32.5	1	0.6	38.2	1.7	1.3	1.3	0.5	4.7	1.3	35	6.7	0.6	43.6	
Cars	306	120	509	26	961	291	2315	73	44	2723	124	92	90	34	340	95	2499	481	42	3117	7141
% Cars	99.4	100	99.6	100	99.6	99.7	99.1	100	100	99.2	99.2	100	100	100	99.7	100	99.2	100	100	99.3	99.3
Trucks	2	0	1	0	3	1	14	0	0	15	1	0	0	0	1	0	11	0	0	11	30
% Trucks	0.6	0	0.2	0	0.3	0.3	0.6	0	0	0.5	0.8	0	0	0	0.3	0	0.4	0	0	0.4	0.4
Heavys	0	0	1	0	1	0	8	0	0	8	0	0	0	0	0	0	10	0	0	10	19
% Heavys	0	0	0.2	0	0.1	0	0.3	0	0	0.3	0	0	0	0	0	0	0.4	0	0	0.3	0.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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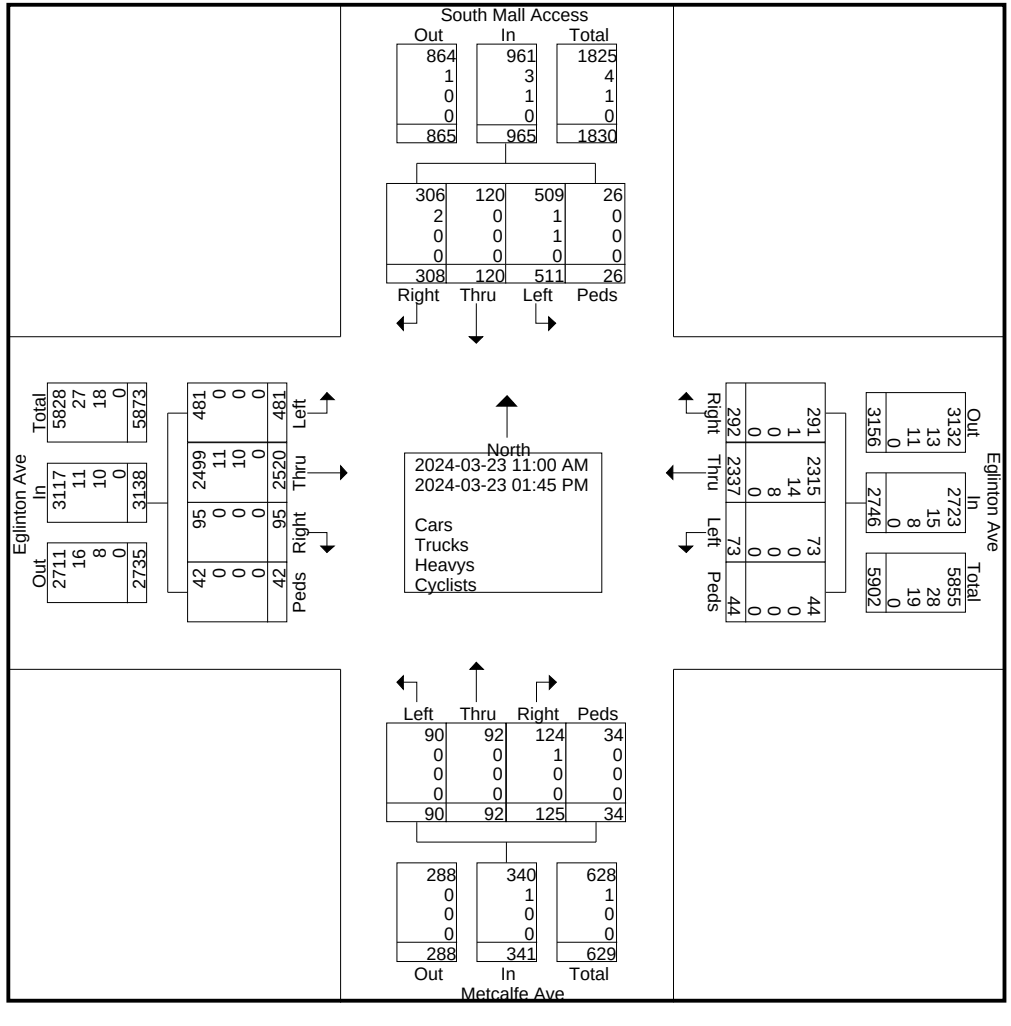
Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 2



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Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 3

	South Mall Access From North					Eglinton Ave From East					Metcalfe Ave From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:45 PM																					
12:45 PM	**31**	12	42	**3**	88	23	203	5	**11**	242	12	7	9	**6**	**34**	**10**	**258**	**49**	**6**	**323**	**687**
01:00 PM	31	13	41	2	87	18	219	**14**	4	255	11	8	**10**	5	34	8	246	49	2	305	681
01:15 PM	28	**16**	44	2	**90**	**31**	202	8	6	247	9	7	7	3	26	10	225	45	2	282	645
01:30 PM	19	11	**53**	0	83	24	**232**	7	1	**264**	**16**	**10**	2	1	29	10	209	43	6	268	644
Total Volume	109	52	180	7	348	96	856	34	22	1008	48	32	28	15	123	38	938	186	16	1178	2657
% App. Total	31.3	14.9	51.7	2		9.5	84.9	3.4	2.2		39	26	22.8	12.2		3.2	79.6	15.8	1.4		
PHF	.879	.813	.849	.583	.967	.774	.922	.607	.500	.955	.750	.800	.700	.625	.904	.950	.909	.949	.667	.912	.967
Cars	109	52	179	7	347	96	853	34	22	1005	48	32	28	15	123	38	929	186	16	1169	2644
% Cars	100	100	99.4	100	99.7	100	99.6	100	100	99.7	100	100	100	100	100	100	99.0	100	100	99.2	99.5
Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	7
% Trucks	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0.5	0	0	0.4	0.3
Heavys	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	6
% Heavys	0	0	0.6	0	0.3	0	0.1	0	0	0.1	0	0	0	0	0	0	0.4	0	0	0.3	0.2
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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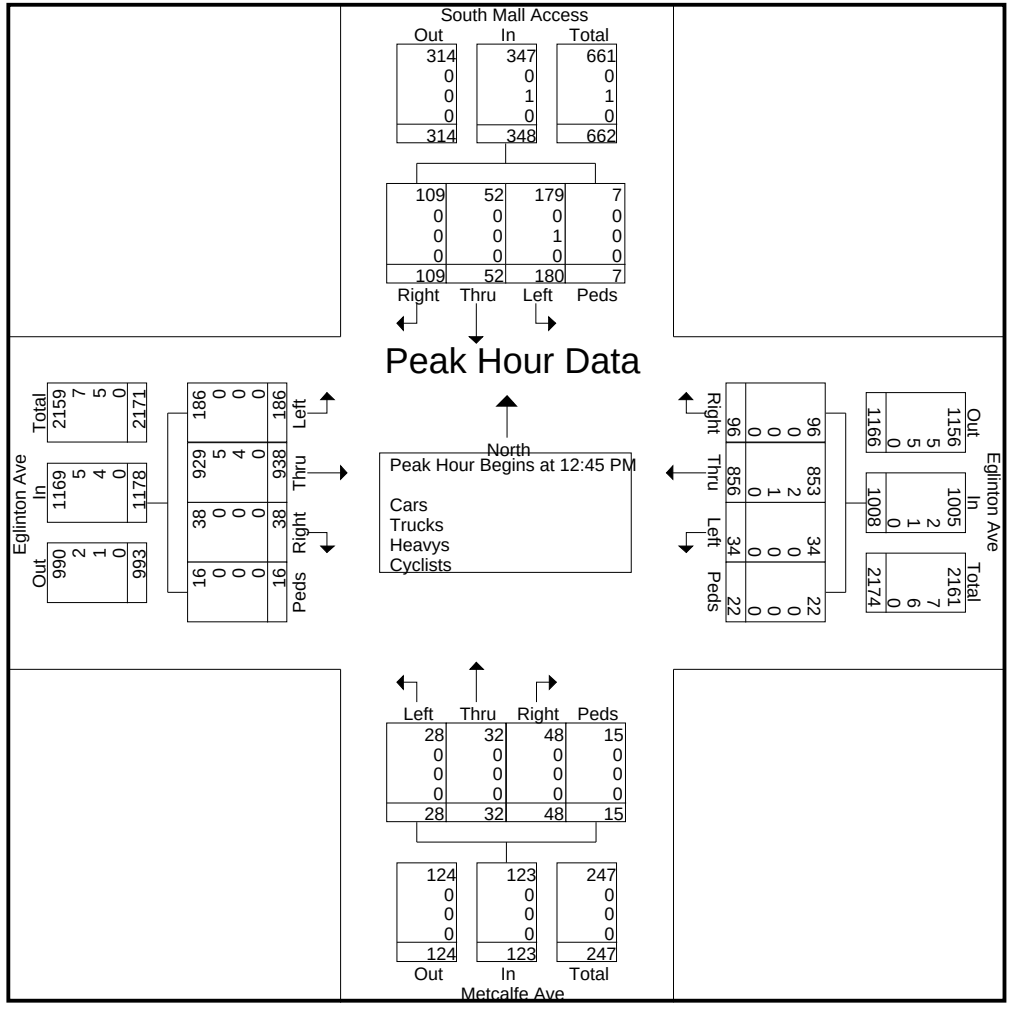
Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 4



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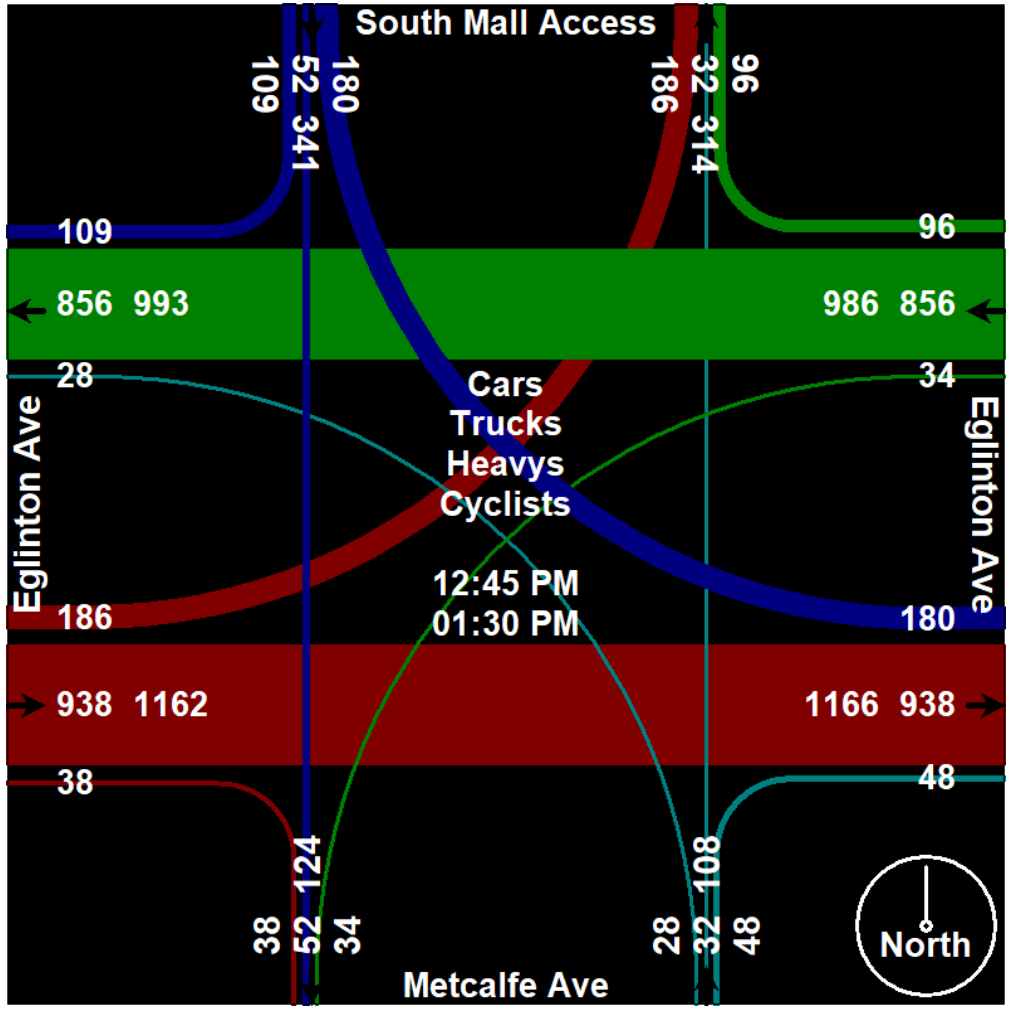
Your Traffic Count Specialist

File Name : Eglinton Avenue at South Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 5



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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Winston Churchill Blvd From North					Eglinton Ave From East					Winston Churchill Blvd From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	11	312	30	6	359	17	44	20	4	85	17	114	20	1	152	47	89	17	1	154	750
07:15 AM	18	322	28	10	378	13	55	26	3	97	19	135	29	1	184	75	71	13	2	161	820
07:30 AM	25	344	35	9	413	20	71	25	4	120	31	161	20	1	213	69	134	10	3	216	962
07:45 AM	29	319	70	8	426	19	66	32	7	124	46	210	31	4	291	64	179	13	2	258	1099
Total	83	1297	163	33	1576	69	236	103	18	426	113	620	100	7	840	255	473	53	8	789	3631
08:00 AM	35	305	46	4	390	17	90	40	6	153	39	225	32	3	299	73	187	31	4	295	1137
08:15 AM	36	361	68	5	470	25	100	61	1	187	58	215	43	6	322	59	147	31	4	241	1220
08:30 AM	33	331	66	7	437	23	127	33	2	185	53	180	37	1	271	64	211	13	4	292	1185
08:45 AM	28	357	70	6	461	30	103	40	5	178	64	227	28	3	322	52	175	29	4	260	1221
Total	132	1354	250	22	1758	95	420	174	14	703	214	847	140	13	1214	248	720	104	16	1088	4763
09:00 AM	31	306	68	5	410	27	65	29	5	126	70	204	42	7	323	52	136	10	5	203	1062
09:15 AM	20	237	56	9	322	24	73	41	2	140	37	166	28	1	232	44	124	20	1	189	883
09:30 AM	21	289	26	6	342	36	70	28	5	139	44	170	29	0	243	61	97	13	1	172	896
09:45 AM	21	242	24	3	290	24	76	39	1	140	40	206	30	1	277	64	105	23	1	193	900
Total	93	1074	174	23	1364	111	284	137	13	545	191	746	129	9	1075	221	462	66	8	757	3741
04:00 PM	22	194	57	5	278	50	146	39	6	241	61	352	81	4	498	37	148	51	0	236	1253
04:15 PM	27	190	37	19	273	60	184	65	9	318	47	337	79	5	468	45	140	49	3	237	1296
04:30 PM	31	233	33	9	306	75	178	67	13	333	44	389	80	3	516	58	145	51	6	260	1415
04:45 PM	46	239	38	6	329	49	187	63	12	311	44	416	73	7	540	42	149	42	2	235	1415
Total	126	856	165	39	1186	234	695	234	40	1203	196	1494	313	19	2022	182	582	193	11	968	5379
05:00 PM	30	242	36	12	320	53	199	74	8	334	55	383	65	7	510	59	165	60	6	290	1454
05:15 PM	31	317	40	4	392	55	172	76	8	311	60	393	84	1	538	65	161	59	3	288	1529
05:30 PM	24	240	50	7	321	55	198	59	10	322	41	365	98	6	510	46	166	52	1	265	1418
05:45 PM	32	242	50	6	330	68	201	65	5	339	49	377	82	2	510	61	180	44	0	285	1464
Total	117	1041	176	29	1363	231	770	274	31	1306	205	1518	329	16	2068	231	672	215	10	1128	5865
06:00 PM	40	240	44	8	332	46	149	47	12	254	49	362	65	0	476	57	154	38	3	252	1314
06:15 PM	26	217	53	4	300	58	189	68	12	327	38	326	82	4	450	74	170	51	0	295	1372
06:30 PM	22	216	31	0	269	46	172	55	6	279	40	358	66	6	470	62	151	43	1	257	1275
06:45 PM	33	258	37	6	334	45	166	61	10	282	42	345	106	5	498	61	133	31	2	227	1341
Total	121	931	165	18	1235	195	676	231	40	1142	169	1391	319	15	1894	254	608	163	6	1031	5302

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard
Site Code : 00000000
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Groups Printed- Cars - Trucks - Heavys - Cyclists

	Winston Churchill Blvd From North					Eglinton Ave From East					Winston Churchill Blvd From South					Eglinton Ave From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	672	6553	1093	164	8482	935	3081	1153	156	5325	1088	6616	1330	79	9113	1391	3517	794	59	5761	28681
Apprch %	7.9	77.3	12.9	1.9		17.6	57.9	21.7	2.9		11.9	72.6	14.6	0.9		24.1	61	13.8	1		
Total %	2.3	22.8	3.8	0.6	29.6	3.3	10.7	4	0.5	18.6	3.8	23.1	4.6	0.3	31.8	4.8	12.3	2.8	0.2	20.1	
Cars	667	6396	1073	164	8300	920	3002	1143	156	5221	1067	6429	1297	79	8872	1363	3451	782	59	5655	28048
% Cars	99.3	97.6	98.2	100	97.9	98.4	97.4	99.1	100	98	98.1	97.2	97.5	100	97.4	98	98.1	98.5	100	98.2	97.8
Trucks	4	53	11	0	68	11	23	8	0	42	13	78	17	0	108	15	12	8	0	35	253
% Trucks	0.6	0.8	1	0	0.8	1.2	0.7	0.7	0	0.8	1.2	1.2	1.3	0	1.2	1.1	0.3	1	0	0.6	0.9
Heavys	1	104	9	0	114	4	56	2	0	62	8	109	16	0	133	13	54	4	0	71	380
% Heavys	0.1	1.6	0.8	0	1.3	0.4	1.8	0.2	0	1.2	0.7	1.6	1.2	0	1.5	0.9	1.5	0.5	0	1.2	1.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21
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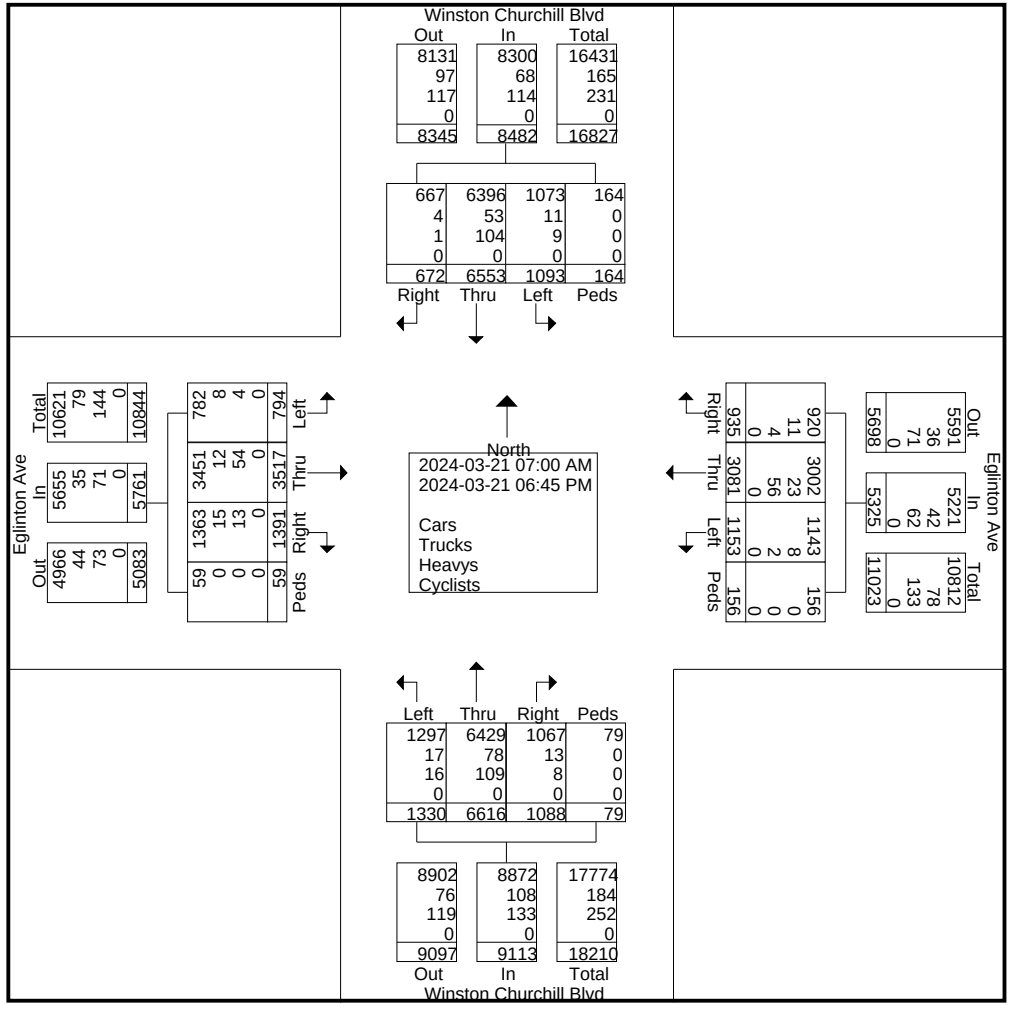

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21
Page No : 4

	Winston Churchill Blvd From North					Eglinton Ave From East					Winston Churchill Blvd From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	35	305	46	4	390	17	90	40	**6**	153	39	225	32	3	299	**73**	187	**31**	**4**	**295**	1137
08:15 AM	**36**	**361**	68	5	**470**	25	100	**61**	1	**187**	58	215	**43**	**6**	**322**	59	147	31	4	241	1220
08:30 AM	33	331	66	**7**	437	23	**127**	33	2	185	53	180	37	1	271	64	**211**	13	4	292	1185
08:45 AM	28	357	**70**	6	461	**30**	103	40	5	178	**64**	**227**	28	3	322	52	175	29	4	260	**1221**
Total Volume	132	1354	250	22	1758	95	420	174	14	703	214	847	140	13	1214	248	720	104	16	1088	4763
% App. Total	7.5	77	14.2	1.3		13.5	59.7	24.8	2		17.6	69.8	11.5	1.1		22.8	66.2	9.6	1.5		
PHF	.917	.938	.893	.786	.935	.792	.827	.713	.583	.940	.836	.933	.814	.542	.943	.849	.853	.839	1.00	.922	.975
Cars	129	1313	244	22	1708	89	404	171	14	678	208	817	127	13	1165	242	700	102	16	1060	4611
% Cars	97.7	97.0	97.6	100	97.2	93.7	96.2	98.3	100	96.4	97.2	96.5	90.7	100	96.0	97.6	97.2	98.1	100	97.4	96.8
Trucks	2	12	3	0	17	5	5	2	0	12	4	16	6	0	26	4	6	2	0	12	67
% Trucks	1.5	0.9	1.2	0	1.0	5.3	1.2	1.1	0	1.7	1.9	1.9	4.3	0	2.1	1.6	0.8	1.9	0	1.1	1.4
Heavys	1	29	3	0	33	1	11	1	0	13	2	14	7	0	23	2	14	0	0	16	85
% Heavys	0.8	2.1	1.2	0	1.9	1.1	2.6	0.6	0	1.8	0.9	1.7	5.0	0	1.9	0.8	1.9	0	0	1.5	1.8
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21
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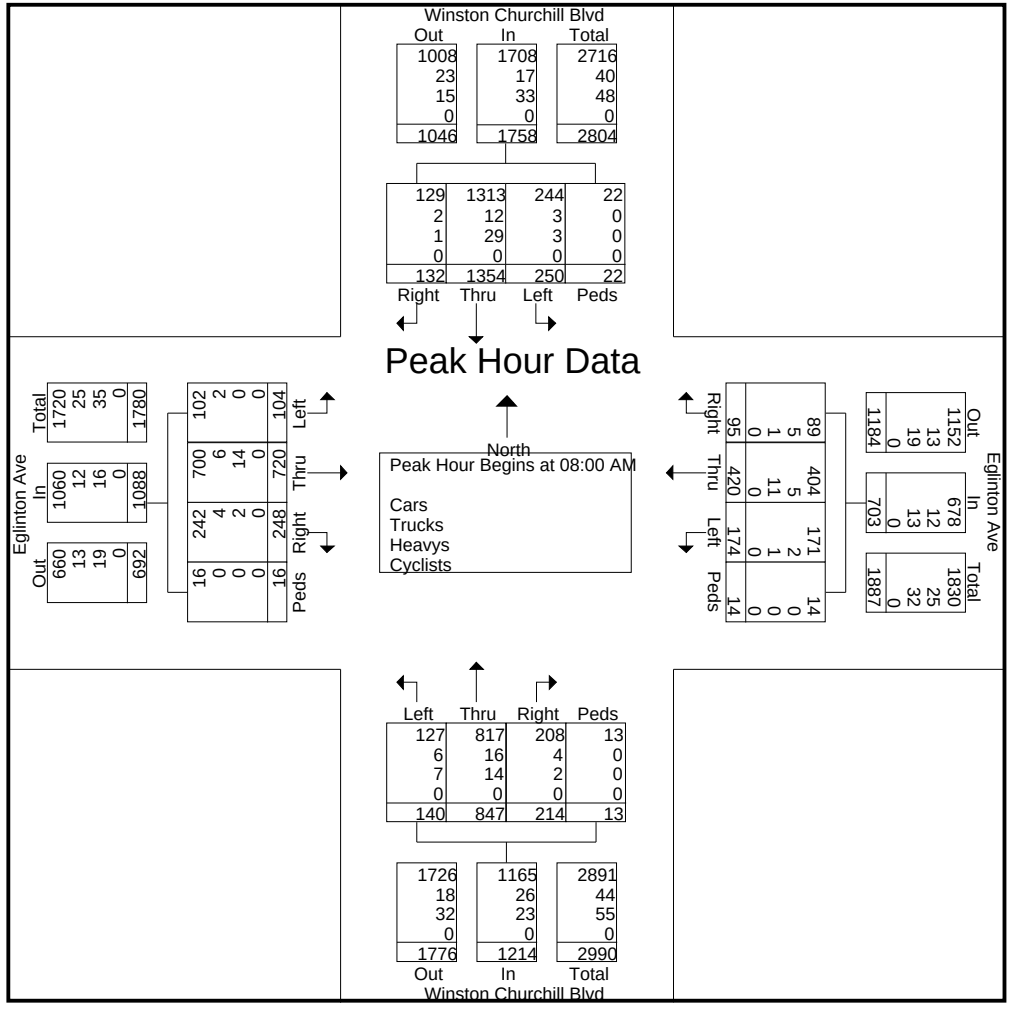

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard
Site Code : 00000000
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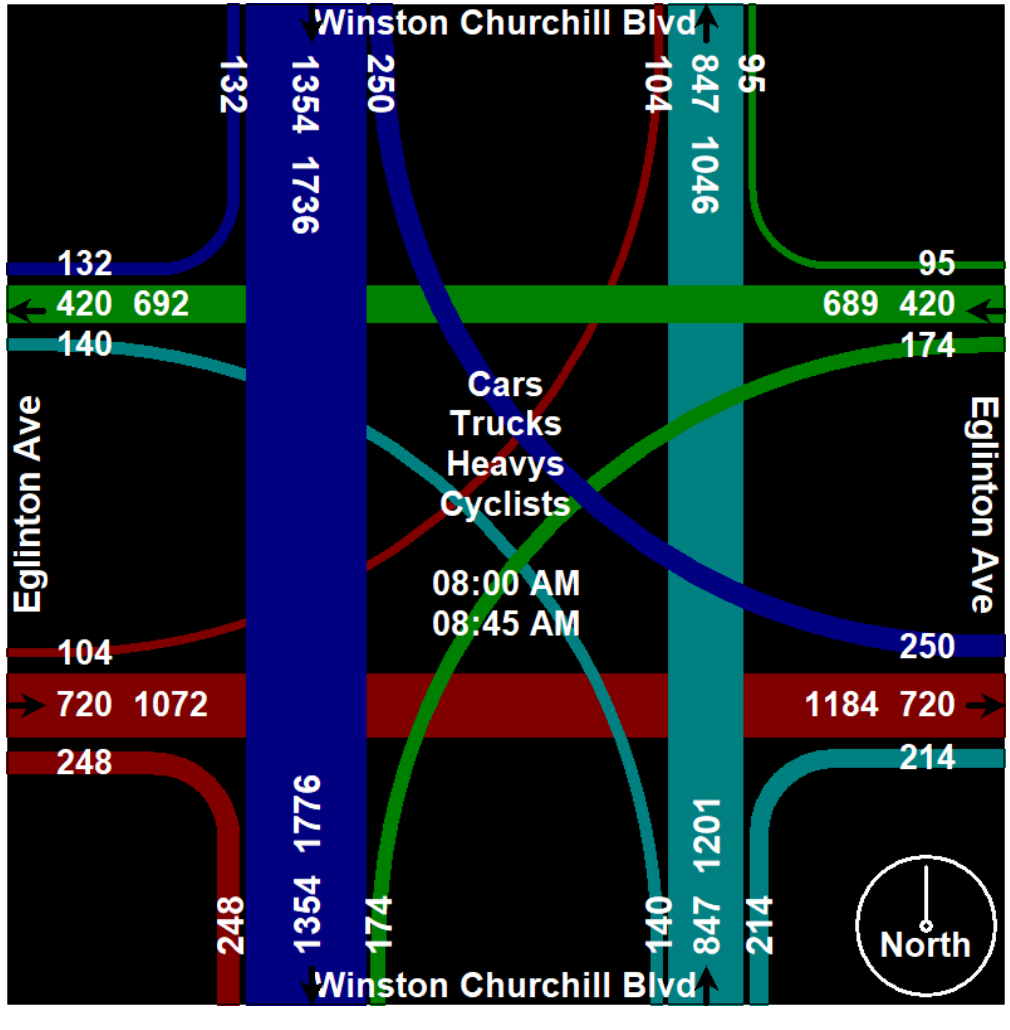

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21

	Winston Churchill Blvd From North					Eglinton Ave From East					Winston Churchill Blvd From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	30	242	36	**12**	320	53	199	74	8	334	55	383	65	**7**	510	59	165	**60**	**6**	**290**	1454
05:15 PM	31	**317**	40	4	**392**	55	172	**76**	8	311	**60**	**393**	84	1	**538**	**65**	161	59	3	288	**1529**
05:30 PM	24	240	**50**	7	321	55	198	59	**10**	322	41	365	**98**	6	510	46	166	52	1	265	1418
05:45 PM	**32**	242	50	6	330	**68**	**201**	65	5	**339**	49	377	82	2	510	61	**180**	44	0	285	1464
Total Volume	117	1041	176	29	1363	231	770	274	31	1306	205	1518	329	16	2068	231	672	215	10	1128	5865
% App. Total	8.6	76.4	12.9	2.1		17.7	59	21	2.4		9.9	73.4	15.9	0.8		20.5	59.6	19.1	0.9		
PHF	.914	.821	.880	.604	.869	.849	.958	.901	.775	.963	.854	.966	.839	.571	.961	.888	.933	.896	.417	.972	.959
Cars	117	1025	176	29	1347	230	761	272	31	1294	203	1496	327	16	2042	227	666	214	10	1117	5800
% Cars	100	98.5	100	100	98.8	99.6	98.8	99.3	100	99.1	99.0	98.6	99.4	100	98.7	98.3	99.1	99.5	100	99.0	98.9
Trucks	0	6	0	0	6	1	1	2	0	4	2	10	1	0	13	3	0	1	0	4	27
% Trucks	0	0.6	0	0	0.4	0.4	0.1	0.7	0	0.3	1.0	0.7	0.3	0	0.6	1.3	0	0.5	0	0.4	0.5
Heavys	0	10	0	0	10	0	8	0	0	8	0	12	1	0	13	1	6	0	0	7	38
% Heavys	0	1.0	0	0	0.7	0	1.0	0	0	0.6	0	0.8	0.3	0	0.6	0.4	0.9	0	0	0.6	0.6
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard
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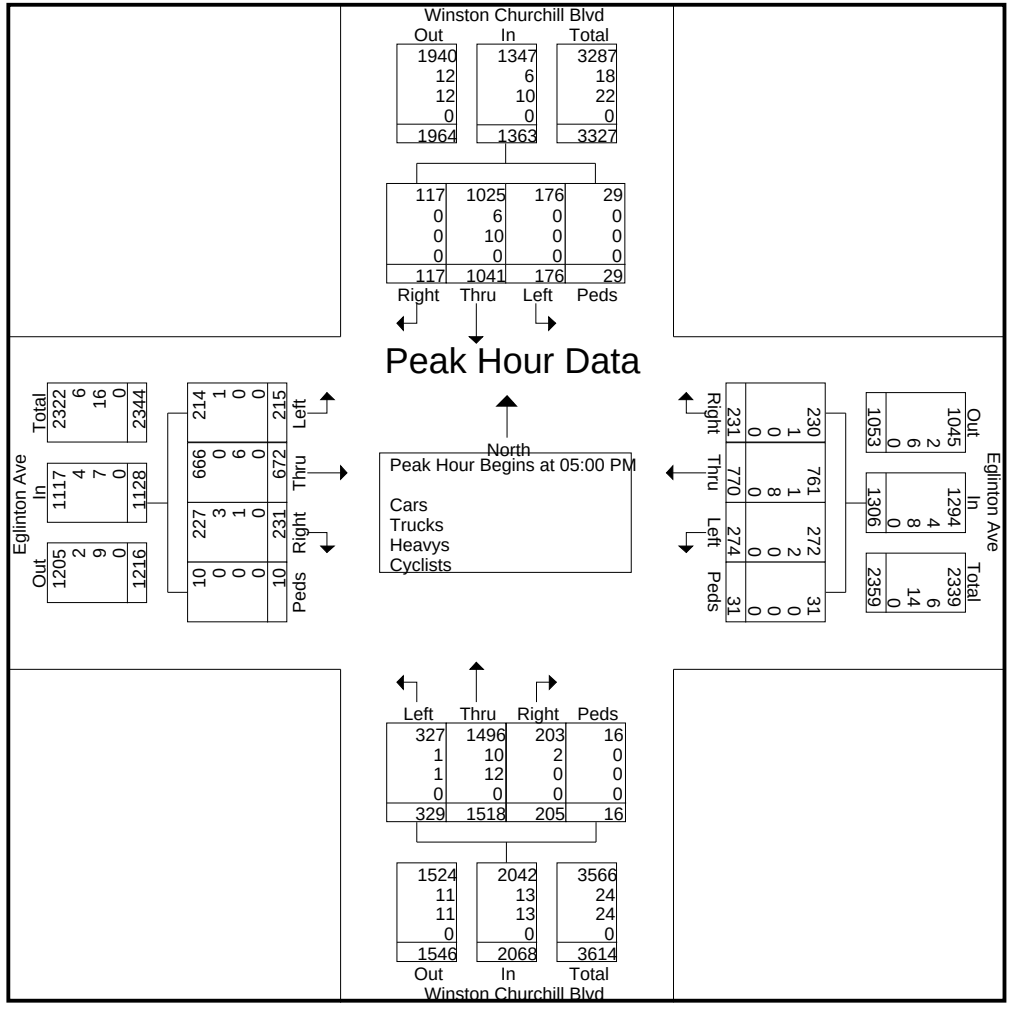

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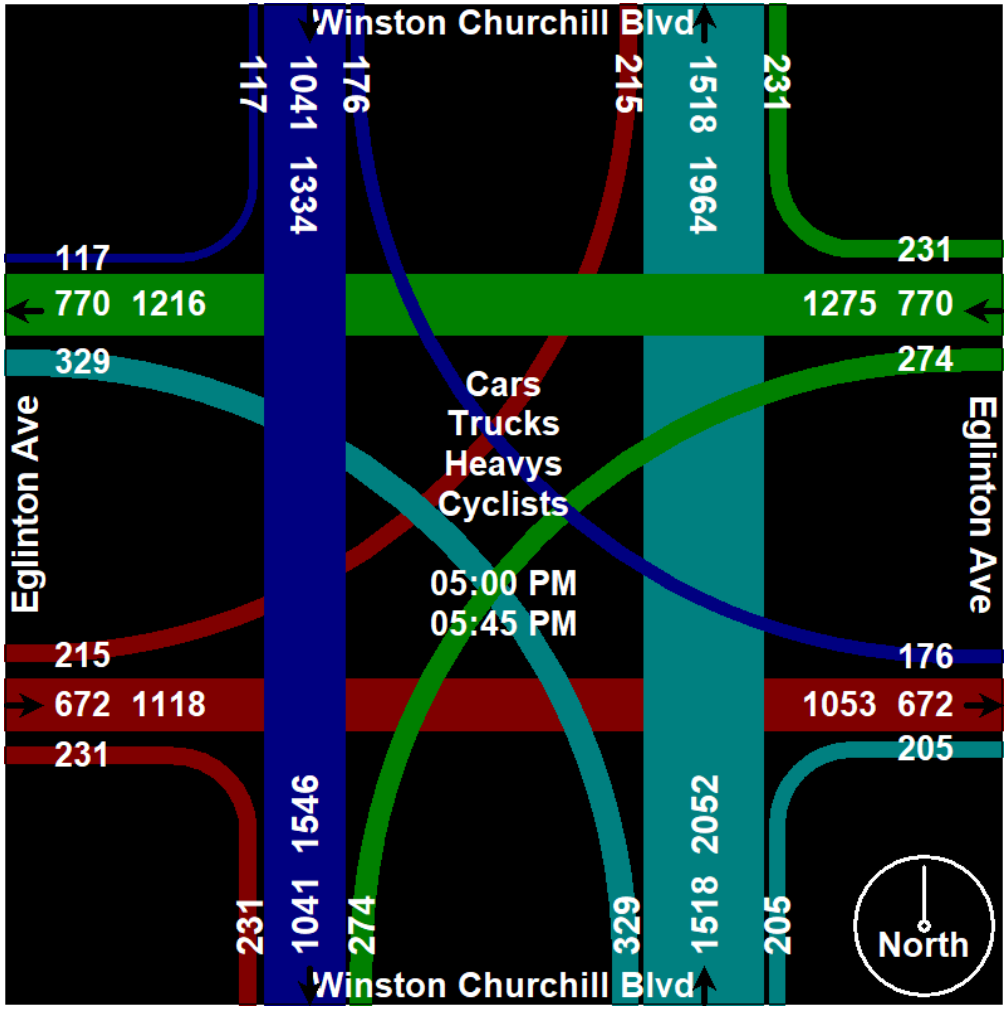
Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21



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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Winston Churchill Blvd From North					Eglinton Ave From East					Winston Churchill Blvd From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	22	235	25	6	288	24	84	63	10	181	71	237	41	3	352	52	103	25	3	183	1004
11:15 AM	21	248	36	11	316	31	92	44	9	176	95	294	41	2	432	65	88	25	5	183	1107
11:30 AM	18	257	21	6	302	40	114	64	4	222	89	240	53	3	385	50	121	41	0	212	1121
11:45 AM	27	280	37	4	348	30	89	65	6	190	79	258	39	1	377	52	131	37	1	221	1136
Total	88	1020	119	27	1254	125	379	236	29	769	334	1029	174	9	1546	219	443	128	9	799	4368
12:00 PM	24	269	47	8	348	40	94	52	5	191	87	283	44	4	418	60	131	32	1	224	1181
12:15 PM	21	242	42	7	312	28	124	75	6	233	55	231	54	7	347	66	146	50	1	263	1155
12:30 PM	26	315	43	6	390	44	104	75	9	232	69	276	59	1	405	71	98	25	1	195	1222
12:45 PM	25	272	52	1	350	34	118	60	5	217	91	279	72	2	444	75	145	36	1	257	1268
Total	96	1098	184	22	1400	146	440	262	25	873	302	1069	229	14	1614	272	520	143	4	939	4826
01:00 PM	19	270	36	6	331	41	146	80	5	272	86	300	54	1	441	52	177	46	0	275	1319
01:15 PM	36	268	39	8	351	39	105	56	2	202	55	309	52	3	419	77	125	31	5	238	1210
01:30 PM	29	231	48	2	310	29	141	75	5	250	33	281	70	0	384	75	132	34	3	244	1188
01:45 PM	33	313	31	8	385	44	139	81	6	270	59	278	63	3	403	75	130	42	5	252	1310
Total	117	1082	154	24	1377	153	531	292	18	994	233	1168	239	7	1647	279	564	153	13	1009	5027
Grand Total	301	3200	457	73	4031	424	1350	790	72	2636	869	3266	642	30	4807	770	1527	424	26	2747	14221
Apprch %	7.5	79.4	11.3	1.8		16.1	51.2	30	2.7		18.1	67.9	13.4	0.6		28	55.6	15.4	0.9		
Total %	2.1	22.5	3.2	0.5	28.3	3	9.5	5.6	0.5	18.5	6.1	23	4.5	0.2	33.8	5.4	10.7	3	0.2	19.3	
Cars	301	3155	456	73	3985	424	1333	786	72	2615	862	3222	635	30	4749	767	1517	423	26	2733	14082
% Cars	100	98.6	99.8	100	98.9	100	98.7	99.5	100	99.2	99.2	98.7	98.9	100	98.8	99.6	99.3	99.8	100	99.5	99
Trucks	0	17	1	0	18	0	9	3	0	12	4	17	6	0	27	1	3	1	0	5	62
% Trucks	0	0.5	0.2	0	0.4	0	0.7	0.4	0	0.5	0.5	0.5	0.9	0	0.6	0.1	0.2	0.2	0	0.2	0.4
Heavys	0	28	0	0	28	0	8	1	0	9	3	27	1	0	31	2	7	0	0	9	77
% Heavys	0	0.9	0	0	0.7	0	0.6	0.1	0	0.3	0.3	0.8	0.2	0	0.6	0.3	0.5	0	0	0.3	0.5
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard-SAT
Site Code : 00000000
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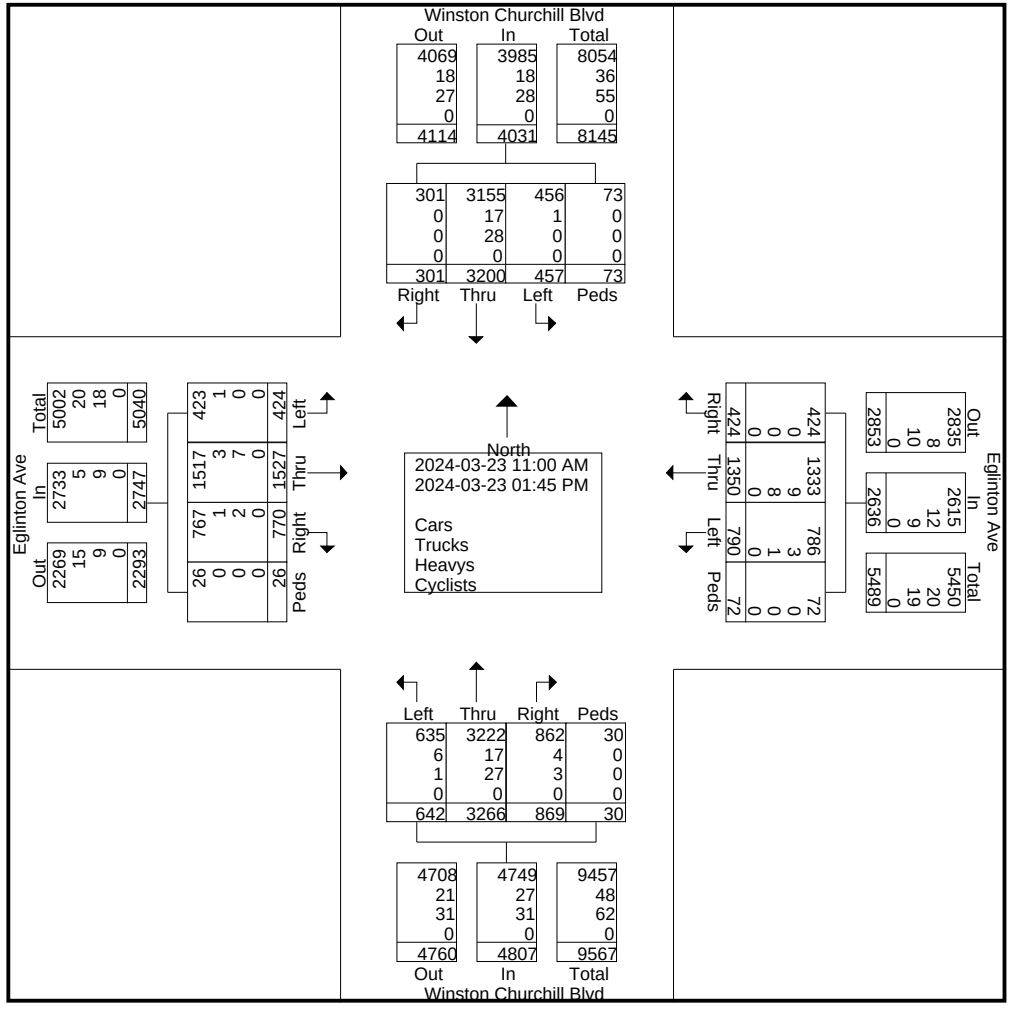

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard-SAT
Site Code : 00000000
Start Date : 2024-03-23
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	Winston Churchill Blvd From North					Eglinton Ave From East					Winston Churchill Blvd From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	19	270	36	6	331	41	**146**	80	5	**272**	**86**	300	54	1	**441**	52	**177**	**46**	0	**275**	**1319**
01:15 PM	**36**	268	39	**8**	351	39	105	56	2	202	55	**309**	52	**3**	419	**77**	125	31	**5**	238	1210
01:30 PM	29	231	**48**	2	310	29	141	75	5	250	33	281	**70**	0	384	75	132	34	3	244	1188
01:45 PM	33	**313**	31	8	**385**	**44**	139	**81**	**6**	270	59	278	63	3	403	75	130	42	5	252	1310
Total Volume	117	1082	154	24	1377	153	531	292	18	994	233	1168	239	7	1647	279	564	153	13	1009	5027
% App. Total	8.5	78.6	11.2	1.7		15.4	53.4	29.4	1.8		14.1	70.9	14.5	0.4		27.7	55.9	15.2	1.3		
PHF	.813	.864	.802	.750	.894	.869	.909	.901	.750	.914	.677	.945	.854	.583	.934	.906	.797	.832	.650	.917	.953
Cars	117	1064	154	24	1359	153	529	291	18	991	232	1154	234	7	1627	278	559	152	13	1002	4979
% Cars	100	98.3	100	100	98.7	100	99.6	99.7	100	99.7	99.6	98.8	97.9	100	98.8	99.6	99.1	99.3	100	99.3	99.0
Trucks	0	7	0	0	7	0	0	0	0	0	1	4	4	0	9	1	2	1	0	4	20
% Trucks	0	0.6	0	0	0.5	0	0	0	0	0	0.4	0.3	1.7	0	0.5	0.4	0.4	0.7	0	0.4	0.4
Heavys	0	11	0	0	11	0	2	1	0	3	0	10	1	0	11	0	3	0	0	3	28
% Heavys	0	1.0	0	0	0.8	0	0.4	0.3	0	0.3	0	0.9	0.4	0	0.7	0	0.5	0	0	0.3	0.6
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard-SAT
Site Code : 00000000
Start Date : 2024-03-23
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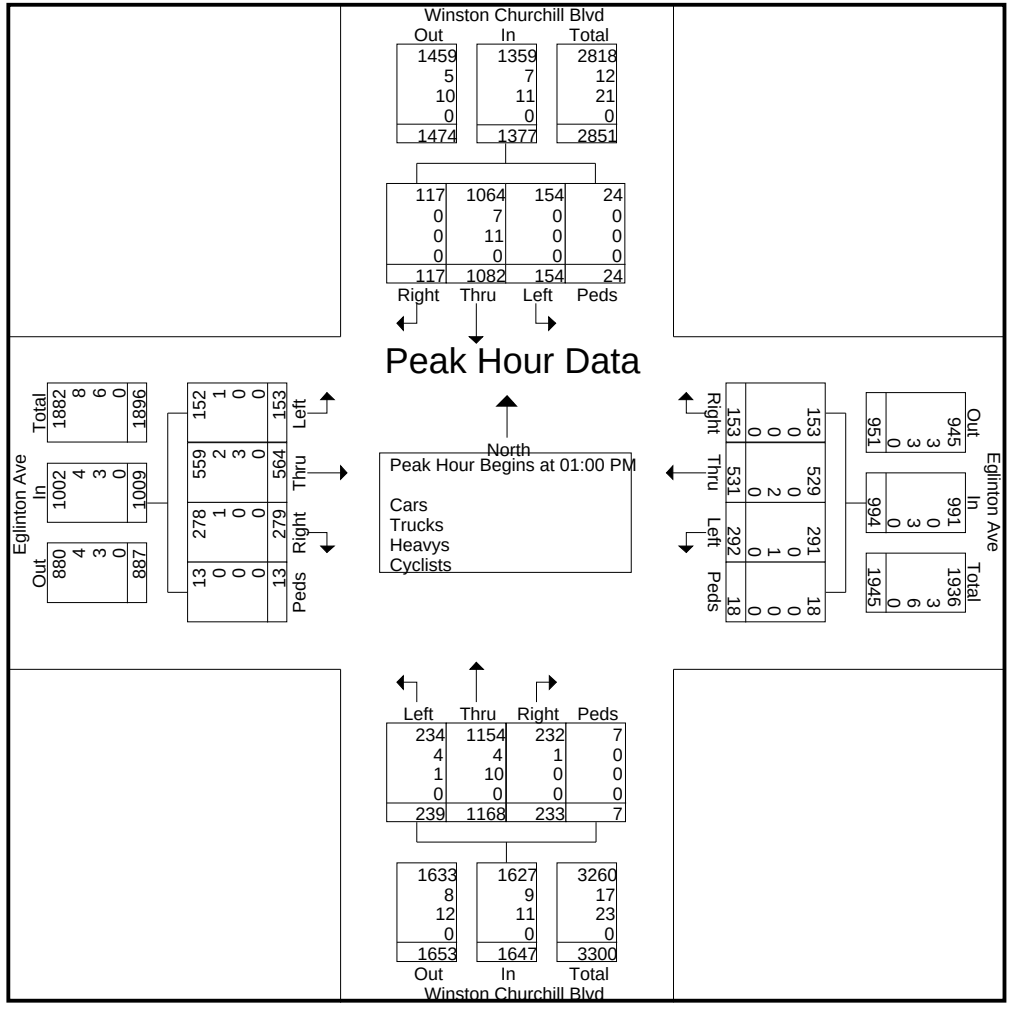

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Your Traffic Count Specialist

File Name : Eglinton Avenue at Winston Churchill Boulevard-SAT
Site Code : 00000000
Start Date : 2024-03-23
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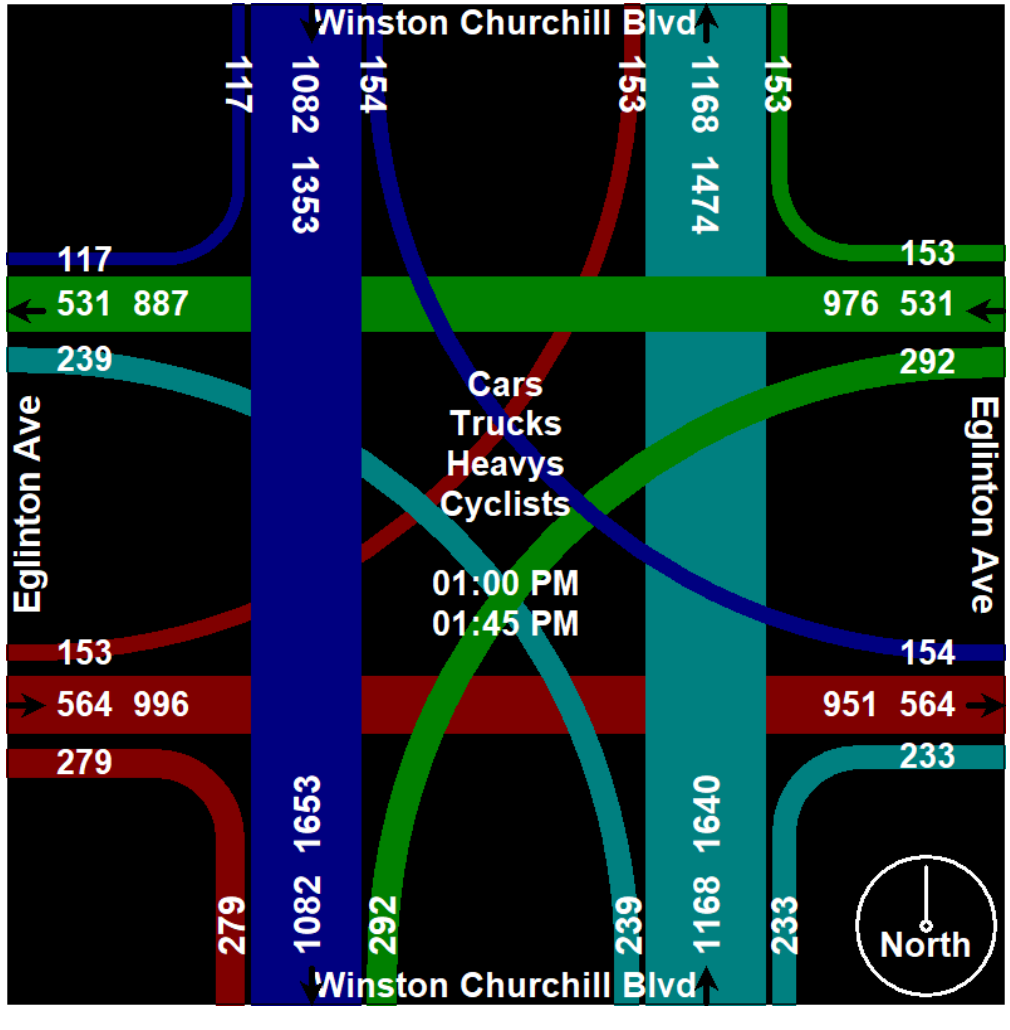

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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway
Site Code : 00000000
Start Date : 2024-03-21
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					Erin Centre Blvd From East					Erin Mills Pkwy From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	17	310	3	0	330	0	2	6	0	8	1	159	7	0	167	22	6	17	0	45	550
07:15 AM	11	248	0	0	259	3	5	13	0	21	0	195	18	0	213	23	24	20	1	68	561
07:30 AM	17	313	2	0	332	5	14	15	0	34	6	240	12	0	258	35	21	27	0	83	707
07:45 AM	60	371	9	1	441	2	17	8	0	27	2	223	26	0	251	33	14	33	0	80	799
Total	105	1242	14	1	1362	10	38	42	0	90	9	817	63	0	889	113	65	97	1	276	2617
08:00 AM	117	358	8	4	487	11	52	10	0	73	8	261	28	2	299	56	33	58	2	149	1008
08:15 AM	129	379	10	9	527	13	40	13	2	68	4	287	43	0	334	77	66	64	1	208	1137
08:30 AM	35	296	11	4	346	7	15	22	0	44	6	252	25	1	284	44	29	53	0	126	800
08:45 AM	23	370	15	0	408	19	12	15	0	46	13	292	23	1	329	33	19	24	1	77	860
Total	304	1403	44	17	1768	50	119	60	2	231	31	1092	119	4	1246	210	147	199	4	560	3805
09:00 AM	33	293	11	2	339	5	14	18	0	37	13	199	13	1	226	24	23	41	0	88	690
09:15 AM	25	309	10	4	348	8	12	11	0	31	7	233	18	0	258	19	14	19	1	53	690
09:30 AM	39	287	6	1	333	4	13	17	0	34	7	195	16	2	220	28	10	24	2	64	651
09:45 AM	33	226	6	3	268	10	8	10	0	28	10	204	14	0	228	22	17	39	3	81	605
Total	130	1115	33	10	1288	27	47	56	0	130	37	831	61	3	932	93	64	123	6	286	2636
04:00 PM	45	276	4	0	325	14	31	17	2	64	14	307	37	2	360	22	27	72	0	121	870
04:15 PM	44	338	16	3	401	13	25	12	2	52	23	374	37	2	436	22	24	43	4	93	982
04:30 PM	43	289	10	2	344	2	32	20	0	54	24	340	32	0	396	27	33	49	3	112	906
04:45 PM	48	324	15	2	389	11	23	20	0	54	12	298	42	0	352	14	23	40	5	82	877
Total	180	1227	45	7	1459	40	111	69	4	224	73	1319	148	4	1544	85	107	204	12	408	3635
05:00 PM	55	301	6	1	363	20	39	23	2	84	26	340	34	2	402	32	32	45	2	111	960
05:15 PM	79	372	15	1	467	15	32	13	0	60	20	338	34	2	394	17	29	59	4	109	1030
05:30 PM	58	316	10	3	387	12	25	23	0	60	29	330	38	0	397	24	37	53	1	115	959
05:45 PM	62	278	13	2	355	16	31	15	2	64	26	325	36	2	389	25	32	53	1	111	919
Total	254	1267	44	7	1572	63	127	74	4	268	101	1333	142	6	1582	98	130	210	8	446	3868
06:00 PM	55	320	8	1	384	20	35	19	0	74	24	322	33	0	379	23	42	60	2	127	964
06:15 PM	59	316	10	0	385	8	41	29	1	79	30	292	33	1	356	30	42	49	4	125	945
06:30 PM	38	292	7	0	337	14	24	18	3	59	24	302	32	0	358	28	31	50	2	111	865
06:45 PM	38	291	12	1	342	8	37	18	4	67	30	267	32	5	334	23	41	50	2	116	859
Total	190	1219	37	2	1448	50	137	84	8	279	108	1183	130	6	1427	104	156	209	10	479	3633

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					Erin Centre Blvd From East					Erin Mills Pkwy From South					Erin Centre Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	1163	7473	217	44	8897	240	579	385	18	1222	359	6575	663	23	7620	703	669	1042	41	2455	20194
Apprch %	13.1	84	2.4	0.5		19.6	47.4	31.5	1.5		4.7	86.3	8.7	0.3		28.6	27.3	42.4	1.7		
Total %	5.8	37	1.1	0.2	44.1	1.2	2.9	1.9	0.1	6.1	1.8	32.6	3.3	0.1	37.7	3.5	3.3	5.2	0.2	12.2	
Cars	1124	7250	211	44	8629	236	574	382	18	1210	354	6335	655	23	7367	654	665	1007	41	2367	19573
% Cars	96.6	97	97.2	100	97	98.3	99.1	99.2	100	99	98.6	96.3	98.8	100	96.7	93	99.4	96.6	100	96.4	96.9
Trucks	8	73	1	0	82	1	0	2	0	3	2	89	3	0	94	9	2	8	0	19	198
% Trucks	0.7	1	0.5	0	0.9	0.4	0	0.5	0	0.2	0.6	1.4	0.5	0	1.2	1.3	0.3	0.8	0	0.8	1
Heavys	31	150	5	0	186	3	5	1	0	9	3	151	5	0	159	40	2	27	0	69	423
% Heavys	2.7	2	2.3	0	2.1	1.2	0.9	0.3	0	0.7	0.8	2.3	0.8	0	2.1	5.7	0.3	2.6	0	2.8	2.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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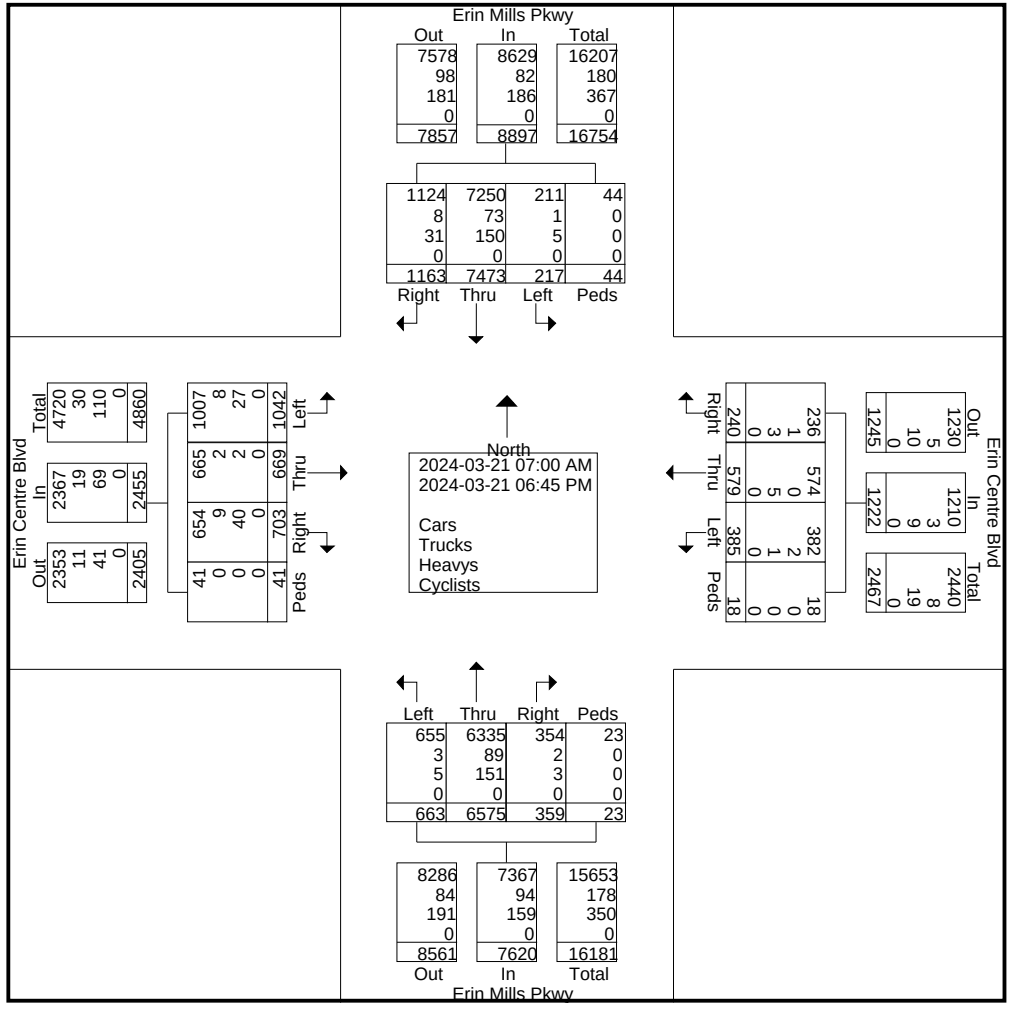
(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



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(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway
Site Code : 00000000
Start Date : 2024-03-21

	Erin Mills Pkwy From North					Erin Centre Blvd From East					Erin Mills Pkwy From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	117	358	8	4	487	11	**52**	10	0	**73**	8	261	28	**2**	299	56	33	58	**2**	149	1008
08:15 AM	**129**	**379**	10	**9**	**527**	13	40	13	**2**	68	4	287	**43**	0	**334**	**77**	**66**	**64**	1	**208**	**1137**
08:30 AM	35	296	11	4	346	7	15	**22**	0	44	6	252	25	1	284	44	29	53	0	126	800
08:45 AM	23	370	**15**	0	408	**19**	12	15	0	46	**13**	**292**	23	1	329	33	19	24	1	77	860
Total Volume	304	1403	44	17	1768	50	119	60	2	231	31	1092	119	4	1246	210	147	199	4	560	3805
% App. Total	17.2	79.4	2.5	1		21.6	51.5	26	0.9		2.5	87.6	9.6	0.3		37.5	26.2	35.5	0.7		
PHF	.589	.925	.733	.472	.839	.658	.572	.682	.250	.791	.596	.935	.692	.500	.933	.682	.557	.777	.500	.673	.837
Cars	295	1347	40	17	1699	47	117	58	2	224	29	1049	117	4	1199	197	145	193	4	539	3661
% Cars	97.0	96.0	90.9	100	96.1	94.0	98.3	96.7	100	97.0	93.5	96.1	98.3	100	96.2	93.8	98.6	97.0	100	96.3	96.2
Trucks	4	16	1	0	21	1	0	1	0	2	1	13	1	0	15	7	1	1	0	9	47
% Trucks	1.3	1.1	2.3	0	1.2	2.0	0	1.7	0	0.9	3.2	1.2	0.8	0	1.2	3.3	0.7	0.5	0	1.6	1.2
Heavys	5	40	3	0	48	2	2	1	0	5	1	30	1	0	32	6	1	5	0	12	97
% Heavys	1.6	2.9	6.8	0	2.7	4.0	1.7	1.7	0	2.2	3.2	2.7	0.8	0	2.6	2.9	0.7	2.5	0	2.1	2.5
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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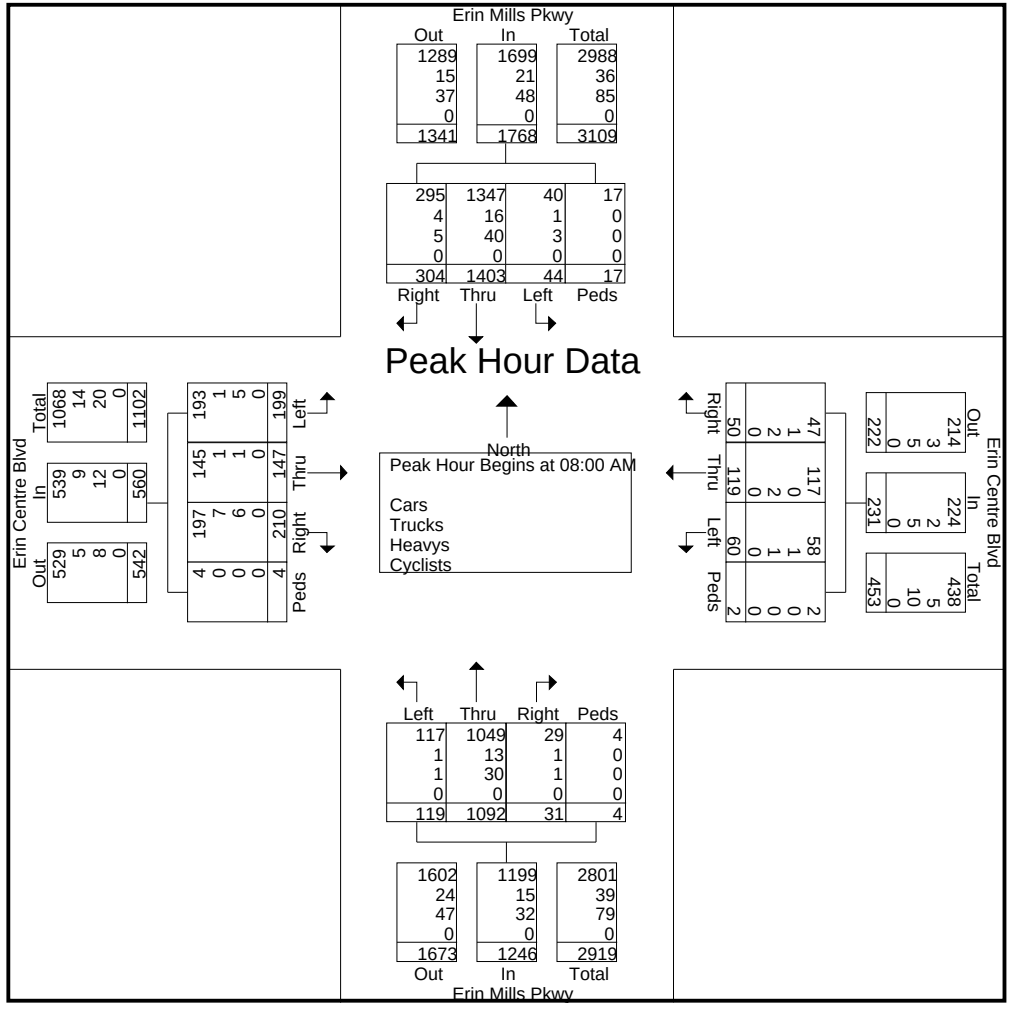
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway
Site Code : 00000000
Start Date : 2024-03-21
Page No : 5



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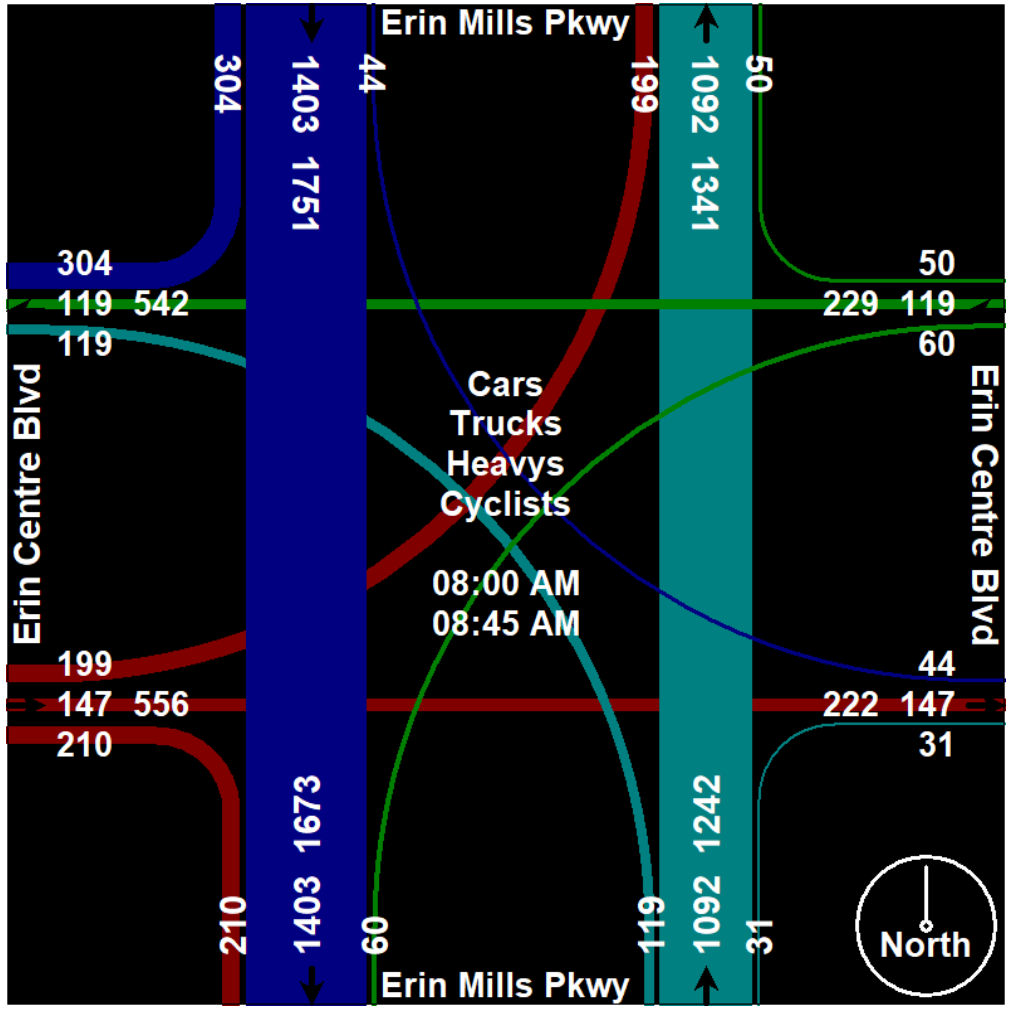
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway
Site Code : 00000000
Start Date : 2024-03-21

	Erin Mills Pkwy From North					Erin Centre Blvd From East					Erin Mills Pkwy From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	55	301	6	1	363	**20**	**39**	**23**	**2**	**84**	26	**340**	34	**2**	**402**	**32**	32	45	2	111	960
05:15 PM	**79**	**372**	**15**	1	**467**	15	32	13	0	60	20	338	34	2	394	17	29	**59**	**4**	109	**1030**
05:30 PM	58	316	10	**3**	387	12	25	23	0	60	**29**	330	**38**	0	397	24	**37**	53	1	**115**	959
05:45 PM	62	278	13	2	355	16	31	15	2	64	26	325	36	2	389	25	32	53	1	111	919
Total Volume	254	1267	44	7	1572	63	127	74	4	268	101	1333	142	6	1582	98	130	210	8	446	3868
% App. Total	16.2	80.6	2.8	0.4		23.5	47.4	27.6	1.5		6.4	84.3	9	0.4		22	29.1	47.1	1.8		
PHF	.804	.851	.733	.583	.842	.788	.814	.804	.500	.798	.871	.980	.934	.750	.984	.766	.878	.890	.500	.970	.939
Cars	249	1244	44	7	1544	63	127	74	4	268	101	1307	142	6	1556	91	130	204	8	433	3801
% Cars	98.0	98.2	100	100	98.2	100	100	100	100	100	100	98.0	100	100	98.4	92.9	100	97.1	100	97.1	98.3
Trucks	0	7	0	0	7	0	0	0	0	0	0	8	0	0	8	1	0	1	0	2	17
% Trucks	0	0.6	0	0	0.4	0	0	0	0	0	0	0.6	0	0	0.5	1.0	0	0.5	0	0.4	0.4
Heavys	5	16	0	0	21	0	0	0	0	0	0	18	0	0	18	6	0	5	0	11	50
% Heavys	2.0	1.3	0	0	1.3	0	0	0	0	0	0	1.4	0	0	1.1	6.1	0	2.4	0	2.5	1.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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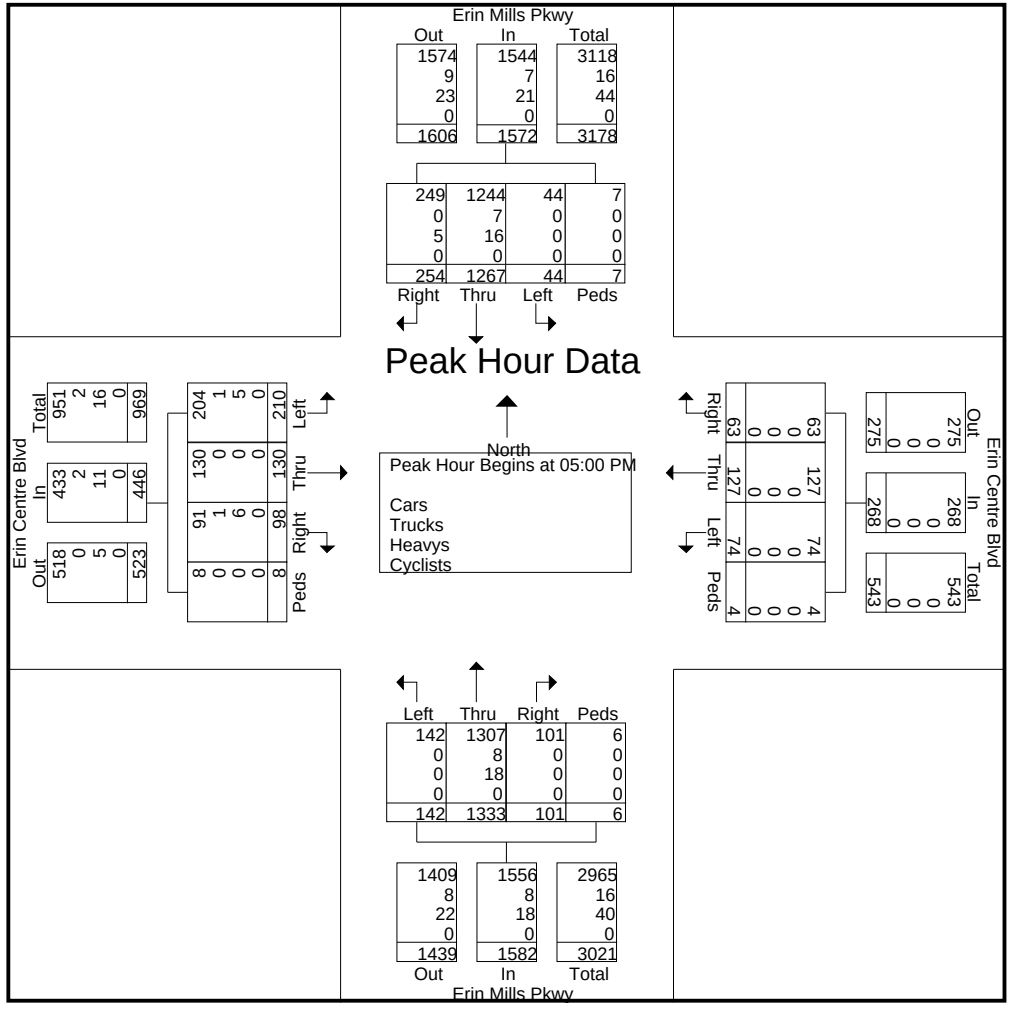
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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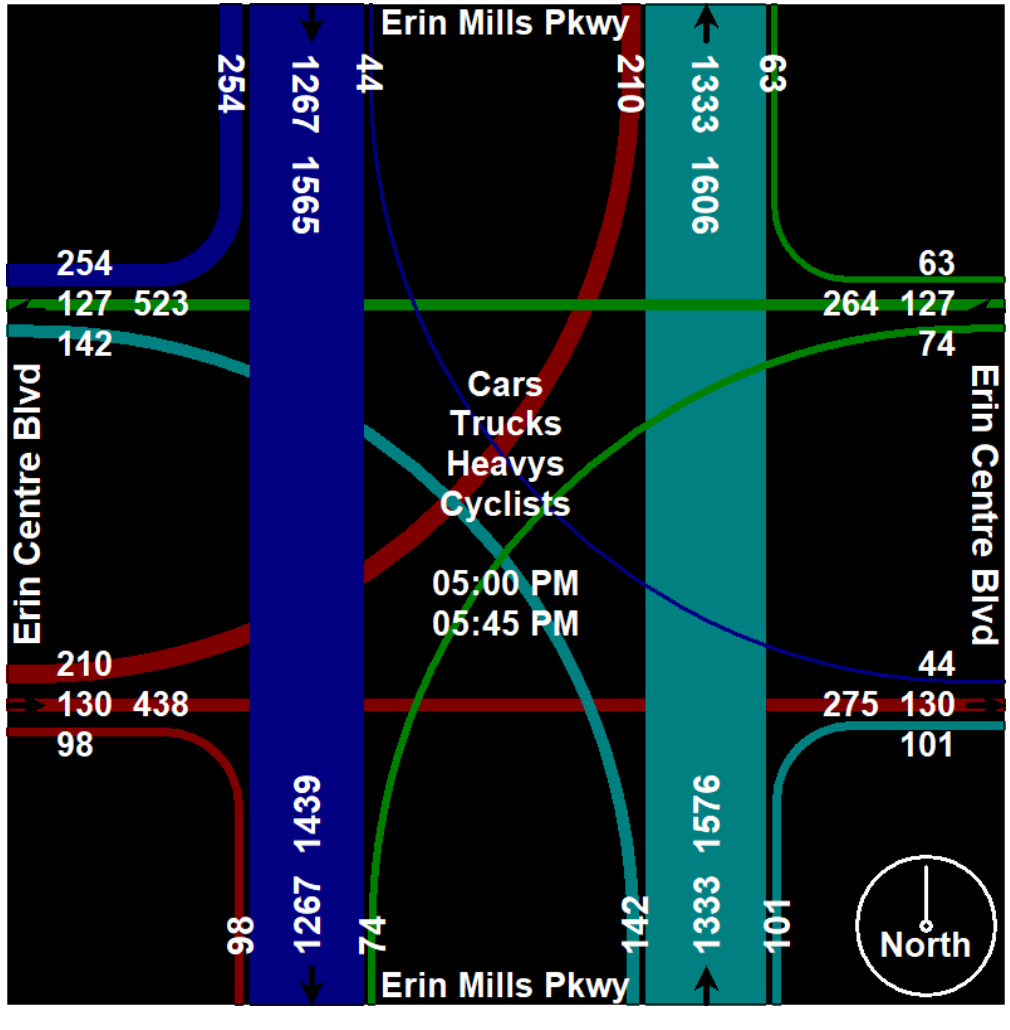
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

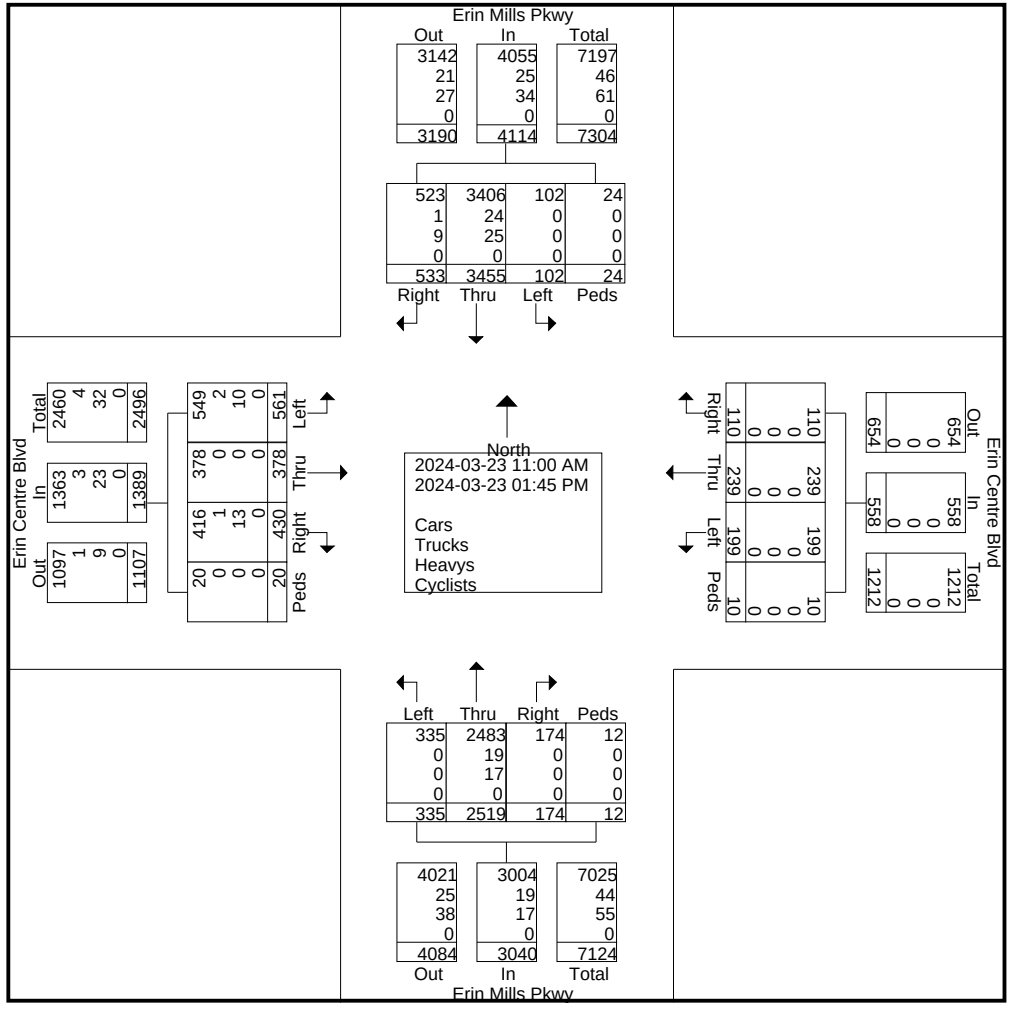
	Erin Mills Pkwy From North					Erin Centre Blvd From East					Erin Mills Pkwy From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	37	299	15	2	353	4	9	13	2	28	11	177	22	1	211	28	13	30	2	73	665
11:15 AM	39	243	5	1	288	5	19	12	1	37	8	173	20	2	203	23	27	47	2	99	627
11:30 AM	29	277	7	1	314	7	18	15	0	40	17	169	24	1	211	29	24	40	0	93	658
11:45 AM	51	293	7	5	356	10	15	9	1	35	14	219	24	2	259	30	31	50	4	115	765
Total	156	1112	34	9	1311	26	61	49	4	140	50	738	90	6	884	110	95	167	8	380	2715
12:00 PM	37	252	12	0	301	11	20	22	1	54	24	151	26	0	201	35	38	55	1	129	685
12:15 PM	80	331	9	2	422	9	36	20	1	66	10	228	60	1	299	22	24	24	0	70	857
12:30 PM	55	269	10	8	342	16	29	19	2	66	17	186	25	1	229	93	51	68	1	213	850
12:45 PM	44	335	6	1	386	10	25	19	1	55	15	252	30	1	298	41	38	60	3	142	881
Total	216	1187	37	11	1451	46	110	80	5	241	66	817	141	3	1027	191	151	207	5	554	3273
01:00 PM	42	298	9	1	350	11	10	14	0	35	16	245	30	1	292	38	31	46	1	116	793
01:15 PM	34	285	9	0	328	12	21	23	0	56	10	230	16	1	257	26	35	48	1	110	751
01:30 PM	40	272	7	2	321	7	16	14	1	38	12	267	30	1	310	29	35	49	2	115	784
01:45 PM	45	301	6	1	353	8	21	19	0	48	20	222	28	0	270	36	31	44	3	114	785
Total	161	1156	31	4	1352	38	68	70	1	177	58	964	104	3	1129	129	132	187	7	455	3113
Grand Total	533	3455	102	24	4114	110	239	199	10	558	174	2519	335	12	3040	430	378	561	20	1389	9101
Apprch %	13	84	2.5	0.6		19.7	42.8	35.7	1.8		5.7	82.9	11	0.4		31	27.2	40.4	1.4		
Total %	5.9	38	1.1	0.3	45.2	1.2	2.6	2.2	0.1	6.1	1.9	27.7	3.7	0.1	33.4	4.7	4.2	6.2	0.2	15.3	
Cars	523	3406	102	24	4055	110	239	199	10	558	174	2483	335	12	3004	416	378	549	20	1363	8980
% Cars	98.1	98.6	100	100	98.6	100	100	100	100	100	100	98.6	100	100	98.8	96.7	100	97.9	100	98.1	98.7
Trucks	1	24	0	0	25	0	0	0	0	0	0	19	0	0	19	1	0	2	0	3	47
% Trucks	0.2	0.7	0	0	0.6	0	0	0	0	0	0	0.8	0	0	0.6	0.2	0	0.4	0	0.2	0.5
Heavys	9	25	0	0	34	0	0	0	0	0	0	17	0	0	17	13	0	10	0	23	74
% Heavys	1.7	0.7	0	0	0.8	0	0	0	0	0	0	0.7	0	0	0.6	3	0	1.8	0	1.7	0.8
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 2



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway-SAT
Site Code : 00000000
Start Date : 2024-03-23

	Erin Mills Pkwy From North					Erin Centre Blvd From East					Erin Mills Pkwy From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:15 PM																					
12:15 PM	**80**	331	9	2	**422**	9	**36**	**20**	1	**66**	10	228	**60**	**1**	**299**	22	24	24	0	70	857
12:30 PM	55	269	**10**	**8**	342	**16**	29	19	**2**	66	**17**	186	25	1	229	**93**	**51**	**68**	1	**213**	850
12:45 PM	44	**335**	6	1	386	10	25	19	1	55	15	**252**	30	1	298	41	38	60	**3**	142	**881**
01:00 PM	42	298	9	1	350	11	10	14	0	35	16	245	30	1	292	38	31	46	1	116	793
Total Volume	221	1233	34	12	1500	46	100	72	4	222	58	911	145	4	1118	194	144	198	5	541	3381
% App. Total	14.7	82.2	2.3	0.8		20.7	45	32.4	1.8		5.2	81.5	13	0.4		35.9	26.6	36.6	0.9		
PHF	.691	.920	.850	.375	.889	.719	.694	.900	.500	.841	.853	.904	.604	1.00	.935	.522	.706	.728	.417	.635	.959
Cars	217	1216	34	12	1479	46	100	72	4	222	58	899	145	4	1106	189	144	194	5	532	3339
% Cars	98.2	98.6	100	100	98.6	100	100	100	100	100	100	98.7	100	100	98.9	97.4	100	98.0	100	98.3	98.8
Trucks	1	10	0	0	11	0	0	0	0	0	0	6	0	0	6	1	0	0	0	1	18
% Trucks	0.5	0.8	0	0	0.7	0	0	0	0	0	0	0.7	0	0	0.5	0.5	0	0	0	0.2	0.5
Heavys	3	7	0	0	10	0	0	0	0	0	0	6	0	0	6	4	0	4	0	8	24
% Heavys	1.4	0.6	0	0	0.7	0	0	0	0	0	0	0.7	0	0	0.5	2.1	0	2.0	0	1.5	0.7
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway-SAT
Site Code : 00000000
Start Date : 2024-03-23
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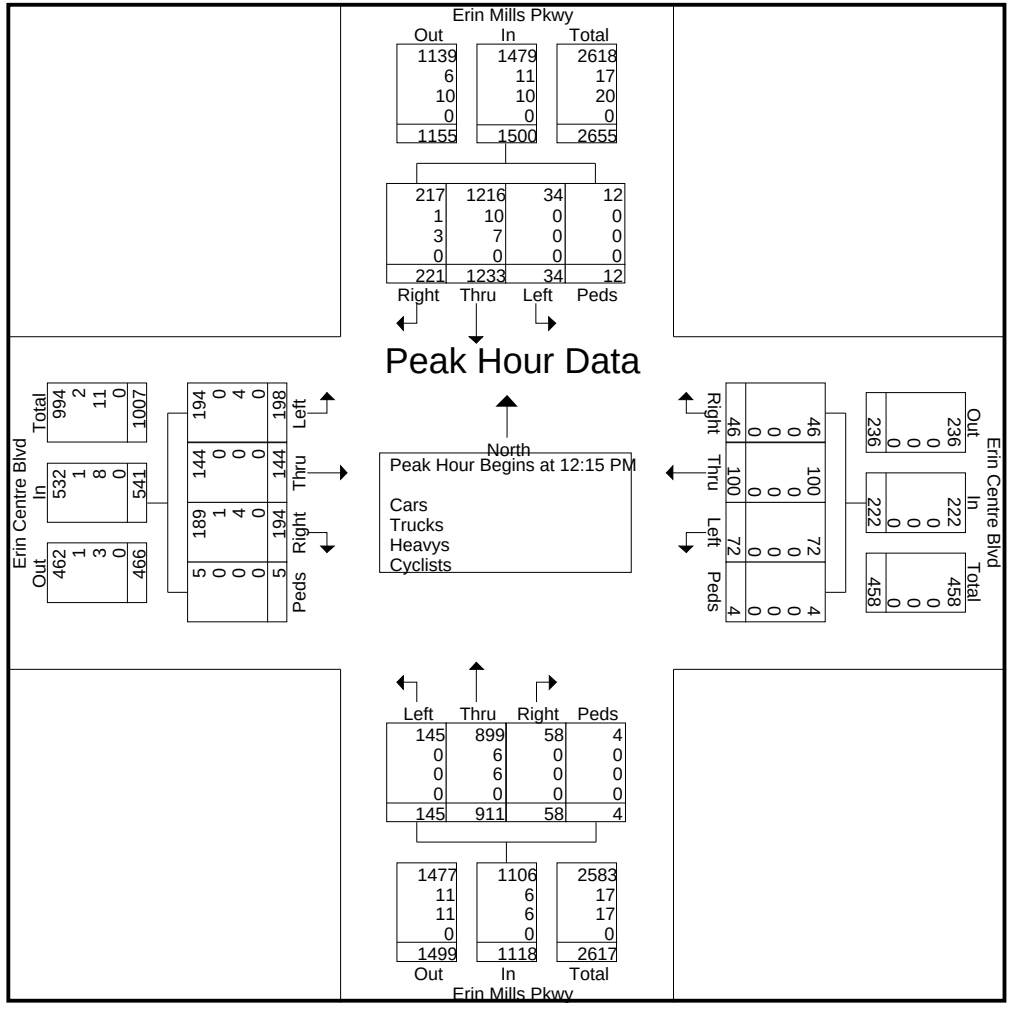

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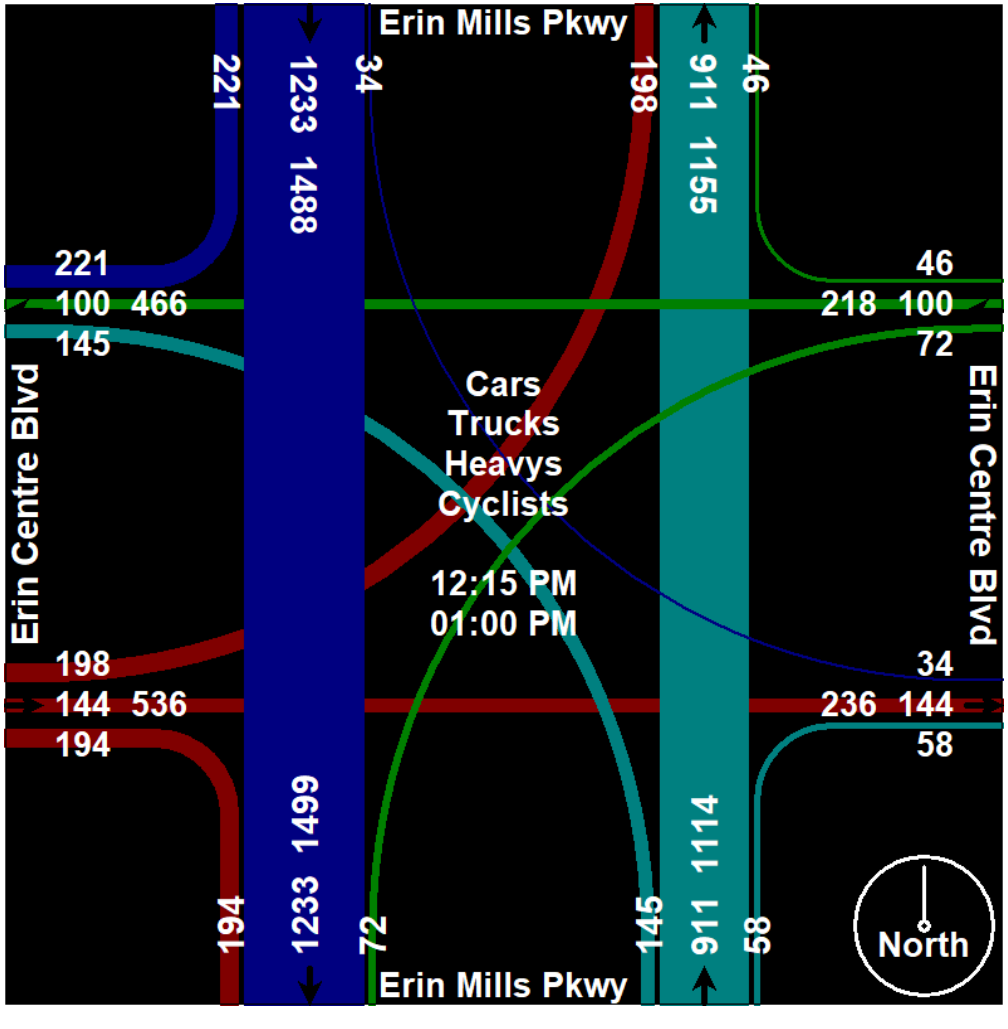
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Erin Mills Parkway-SAT
Site Code : 00000000
Start Date : 2024-03-23



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Glen Erin Dr From North					Erin Centre Blvd From East					Glen Erin Dr From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	7	51	8	1	67	8	12	4	0	24	7	31	4	0	42	8	24	6	0	38	171
07:15 AM	8	48	16	1	73	10	11	6	0	27	5	23	1	2	31	6	33	3	2	44	175
07:30 AM	12	73	17	0	102	8	20	6	0	34	13	24	1	5	43	15	52	6	2	75	254
07:45 AM	12	113	18	1	144	8	44	22	3	77	12	40	0	2	54	13	74	14	19	120	395
Total	39	285	59	3	386	34	87	38	3	162	37	118	6	9	170	42	183	29	23	277	995
08:00 AM	50	161	47	16	274	27	78	12	3	120	12	66	7	2	87	33	129	33	25	220	701
08:15 AM	18	173	58	32	281	92	87	23	2	204	16	139	17	10	182	31	142	20	39	232	899
08:30 AM	18	122	32	5	177	43	50	21	1	115	13	50	10	2	75	9	42	10	6	67	434
08:45 AM	19	179	21	1	220	15	27	15	0	57	11	56	8	1	76	22	50	11	0	83	436
Total	105	635	158	54	952	177	242	71	6	496	52	311	42	15	420	95	363	74	70	602	2470
09:00 AM	5	85	21	3	114	12	26	11	1	50	11	45	7	1	64	17	45	8	2	72	300
09:15 AM	10	81	21	1	113	12	31	5	1	49	9	44	10	4	67	11	34	5	6	56	285
09:30 AM	12	77	25	2	116	26	41	10	0	77	11	63	11	5	90	11	51	12	1	75	358
09:45 AM	7	71	17	0	95	13	35	14	0	62	9	59	7	1	76	16	42	8	2	68	301
Total	34	314	84	6	438	63	133	40	2	238	40	211	35	11	297	55	172	33	11	271	1244
04:00 PM	14	81	18	9	122	35	71	14	0	120	0	110	23	14	147	14	80	12	8	114	503
04:15 PM	11	83	14	5	113	28	76	20	0	124	0	135	25	5	165	17	62	19	5	103	505
04:30 PM	11	87	24	4	126	33	74	19	0	126	0	115	15	11	141	13	49	12	8	82	475
04:45 PM	15	93	18	3	129	36	75	17	0	128	0	135	20	4	159	11	45	14	3	73	489
Total	51	344	74	21	490	132	296	70	0	498	0	495	83	34	612	55	236	57	24	372	1972
05:00 PM	16	88	28	3	135	33	83	17	0	133	0	142	22	4	168	13	50	14	4	81	517
05:15 PM	19	94	21	0	134	35	79	18	0	132	0	159	31	4	194	15	63	18	1	97	557
05:30 PM	20	98	26	3	147	38	77	20	0	135	0	165	28	1	194	16	55	21	1	93	569
05:45 PM	22	103	17	3	145	38	76	22	0	136	0	142	22	0	164	14	73	13	5	105	550
Total	77	383	92	9	561	144	315	77	0	536	0	608	103	9	720	58	241	66	11	376	2193
06:00 PM	15	84	15	6	120	40	80	11	0	131	0	127	26	2	155	17	65	19	3	104	510
06:15 PM	21	85	26	4	136	48	83	20	0	151	0	122	17	6	145	14	75	20	6	115	547
06:30 PM	16	75	35	1	127	31	75	10	0	116	0	126	11	5	142	15	69	14	2	100	485
06:45 PM	16	60	24	2	102	30	86	5	0	121	0	96	30	2	128	14	62	19	2	97	448
Total	68	304	100	13	485	149	324	46	0	519	0	471	84	15	570	60	271	72	13	416	1990

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Glen Erin Dr From North					Erin Centre Blvd From East					Glen Erin Dr From South					Erin Centre Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	374	2265	567	106	3312	699	1397	342	11	2449	129	2214	353	93	2789	365	1466	331	152	2314	10864
Apprch %	11.3	68.4	17.1	3.2		28.5	57	14	0.4		4.6	79.4	12.7	3.3		15.8	63.4	14.3	6.6		
Total %	3.4	20.8	5.2	1	30.5	6.4	12.9	3.1	0.1	22.5	1.2	20.4	3.2	0.9	25.7	3.4	13.5	3	1.4	21.3	
Cars	371	2241	547	106	3265	676	1376	313	11	2376	119	2195	349	93	2756	358	1440	327	152	2277	10674
% Cars	99.2	98.9	96.5	100	98.6	96.7	98.5	91.5	100	97	92.2	99.1	98.9	100	98.8	98.1	98.2	98.8	100	98.4	98.3
Trucks	1	11	1	0	13	2	3	5	0	10	2	8	3	0	13	2	10	1	0	13	49
% Trucks	0.3	0.5	0.2	0	0.4	0.3	0.2	1.5	0	0.4	1.6	0.4	0.8	0	0.5	0.5	0.7	0.3	0	0.6	0.5
Heavys	2	12	19	0	33	21	18	24	0	63	8	10	1	0	19	4	15	3	0	22	137
% Heavys	0.5	0.5	3.4	0	1	3	1.3	7	0	2.6	6.2	0.5	0.3	0	0.7	1.1	1	0.9	0	1	1.3
Cyclists	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	1	0	0	2	4
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.1	0	0	0.1	0

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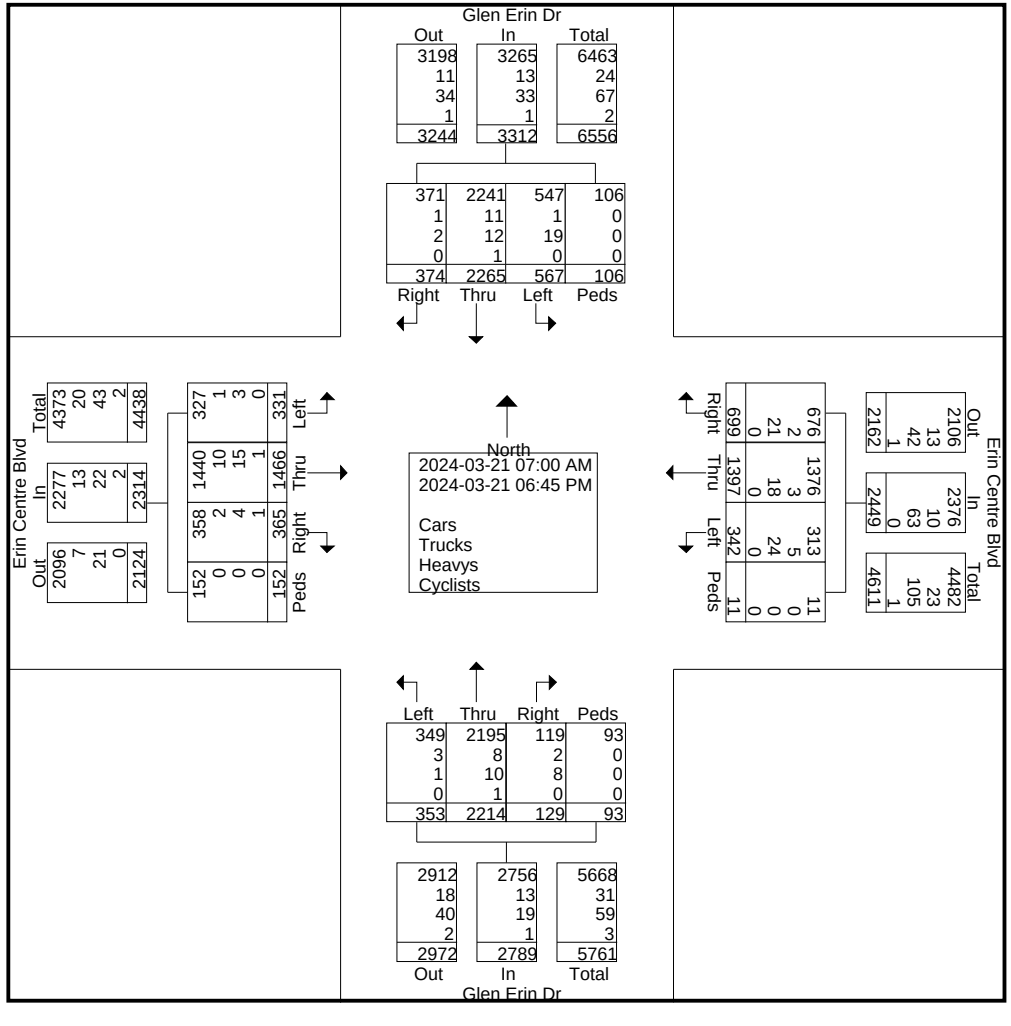
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 4

	Glen Erin Dr From North					Erin Centre Blvd From East					Glen Erin Dr From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	**50**	161	47	16	274	27	78	12	**3**	120	12	66	7	2	87	**33**	129	**33**	25	220	701
08:15 AM	18	173	**58**	**32**	**281**	**92**	**87**	**23**	2	**204**	**16**	**139**	**17**	**10**	**182**	31	**142**	20	**39**	**232**	**899**
08:30 AM	18	122	32	5	177	43	50	21	1	115	13	50	10	2	75	9	42	10	6	67	434
08:45 AM	19	**179**	21	1	220	15	27	15	0	57	11	56	8	1	76	22	50	11	0	83	436
Total Volume	105	635	158	54	952	177	242	71	6	496	52	311	42	15	420	95	363	74	70	602	2470
% App. Total	11	66.7	16.6	5.7		35.7	48.8	14.3	1.2		12.4	74	10	3.6		15.8	60.3	12.3	11.6		
PHF	.525	.887	.681	.422	.847	.481	.695	.772	.500	.608	.813	.559	.618	.375	.577	.720	.639	.561	.449	.649	.687
Cars	103	626	154	54	937	173	238	64	6	481	50	301	41	15	407	94	356	71	70	591	2416
% Cars	98.1	98.6	97.5	100	98.4	97.7	98.3	90.1	100	97.0	96.2	96.8	97.6	100	96.9	98.9	98.1	95.9	100	98.2	97.8
Trucks	1	5	1	0	7	1	1	3	0	5	0	2	1	0	3	1	4	1	0	6	21
% Trucks	1.0	0.8	0.6	0	0.7	0.6	0.4	4.2	0	1.0	0	0.6	2.4	0	0.7	1.1	1.1	1.4	0	1.0	0.9
Heavys	1	3	3	0	7	3	3	4	0	10	2	8	0	0	10	0	3	2	0	5	32
% Heavys	1.0	0.5	1.9	0	0.7	1.7	1.2	5.6	0	2.0	3.8	2.6	0	0	2.4	0	0.8	2.7	0	0.8	1.3
Cyclists	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Cyclists	0	0.2	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0

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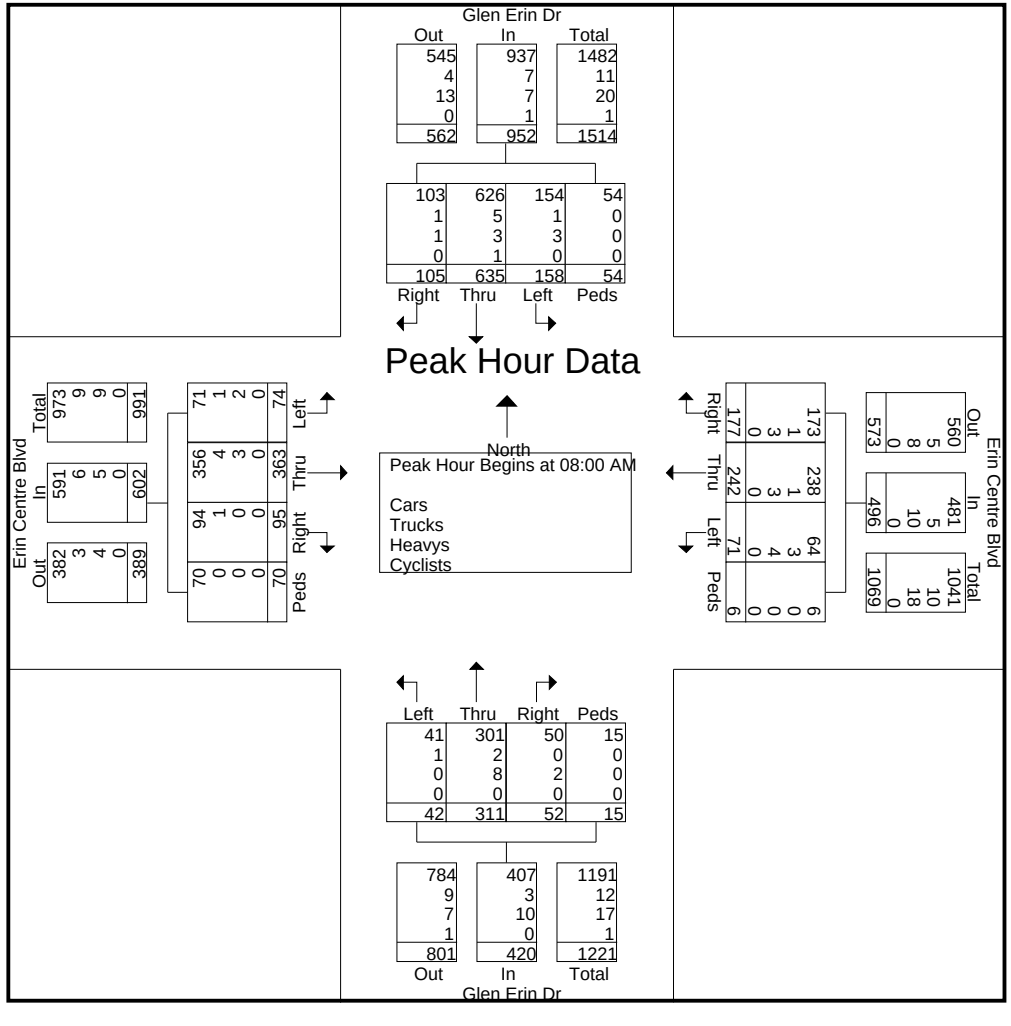
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 5



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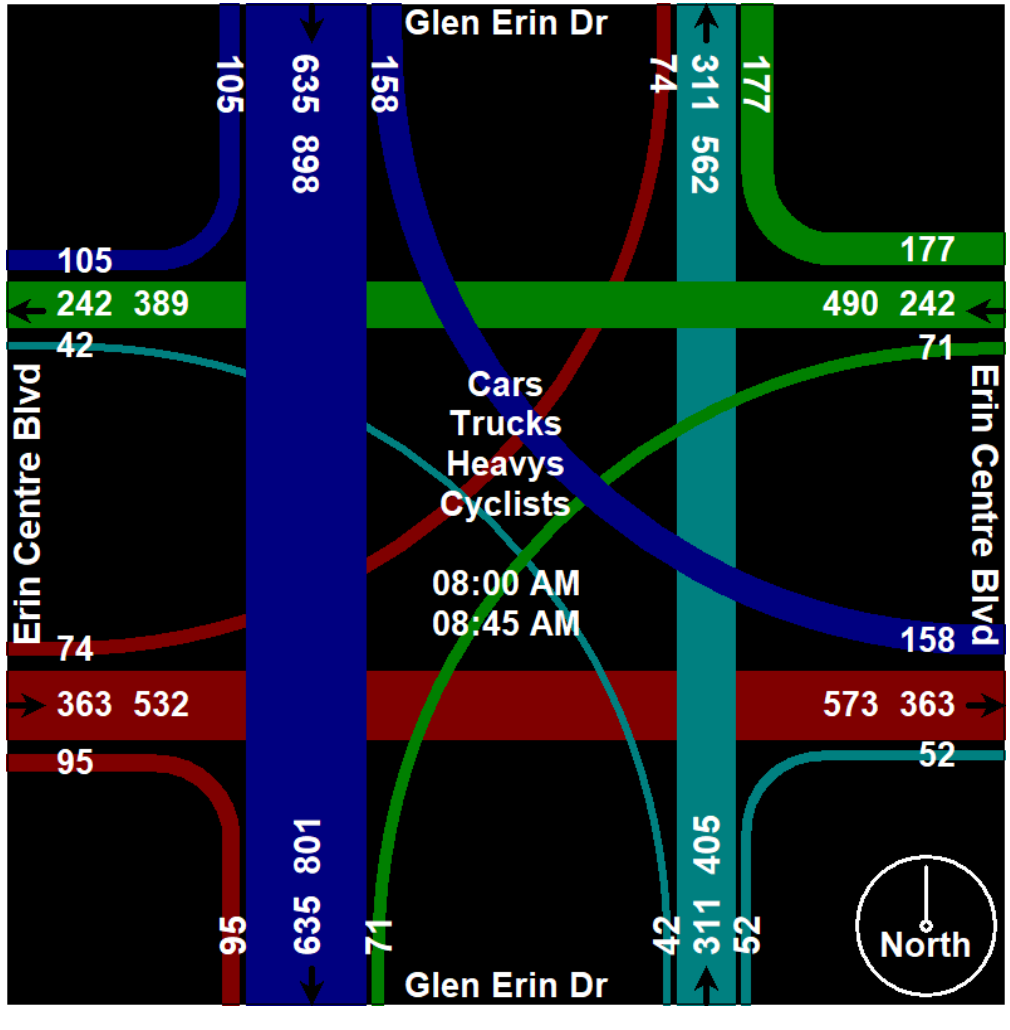
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21

	Glen Erin Dr From North					Erin Centre Blvd From East					Glen Erin Dr From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	16	88	**28**	**3**	135	33	**83**	17	0	133	0	142	22	**4**	168	13	50	14	4	81	517
05:15 PM	19	94	21	0	134	35	79	18	0	132	0	159	**31**	4	**194**	15	63	18	1	97	557
05:30 PM	20	98	26	3	**147**	**38**	77	20	0	135	0	**165**	28	1	194	**16**	55	**21**	1	93	**569**
05:45 PM	**22**	**103**	17	3	145	38	76	**22**	0	**136**	0	142	22	0	164	14	**73**	13	**5**	**105**	550
Total Volume	77	383	92	9	561	144	315	77	0	536	0	608	103	9	720	58	241	66	11	376	2193
% App. Total	13.7	68.3	16.4	1.6		26.9	58.8	14.4	0		0	84.4	14.3	1.2		15.4	64.1	17.6	2.9		
PHF	.875	.930	.821	.750	.954	.947	.949	.875	.000	.985	.000	.921	.831	.563	.928	.906	.825	.786	.550	.895	.964
Cars	77	382	90	9	558	141	312	74	0	527	0	608	103	9	720	57	238	66	11	372	2177
% Cars	100	99.7	97.8	100	99.5	97.9	99.0	96.1	0	98.3	0	100	100	100	100	98.3	98.8	100	100	98.9	99.3
Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0.3	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Heavys	0	0	2	0	2	3	3	3	0	9	0	0	0	0	0	0	2	0	0	2	13
% Heavys	0	0	2.2	0	0.4	2.1	1.0	3.9	0	1.7	0	0	0	0	0	0	0.8	0	0	0.5	0.6
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.7	0.4	0	0	0.5	0.1

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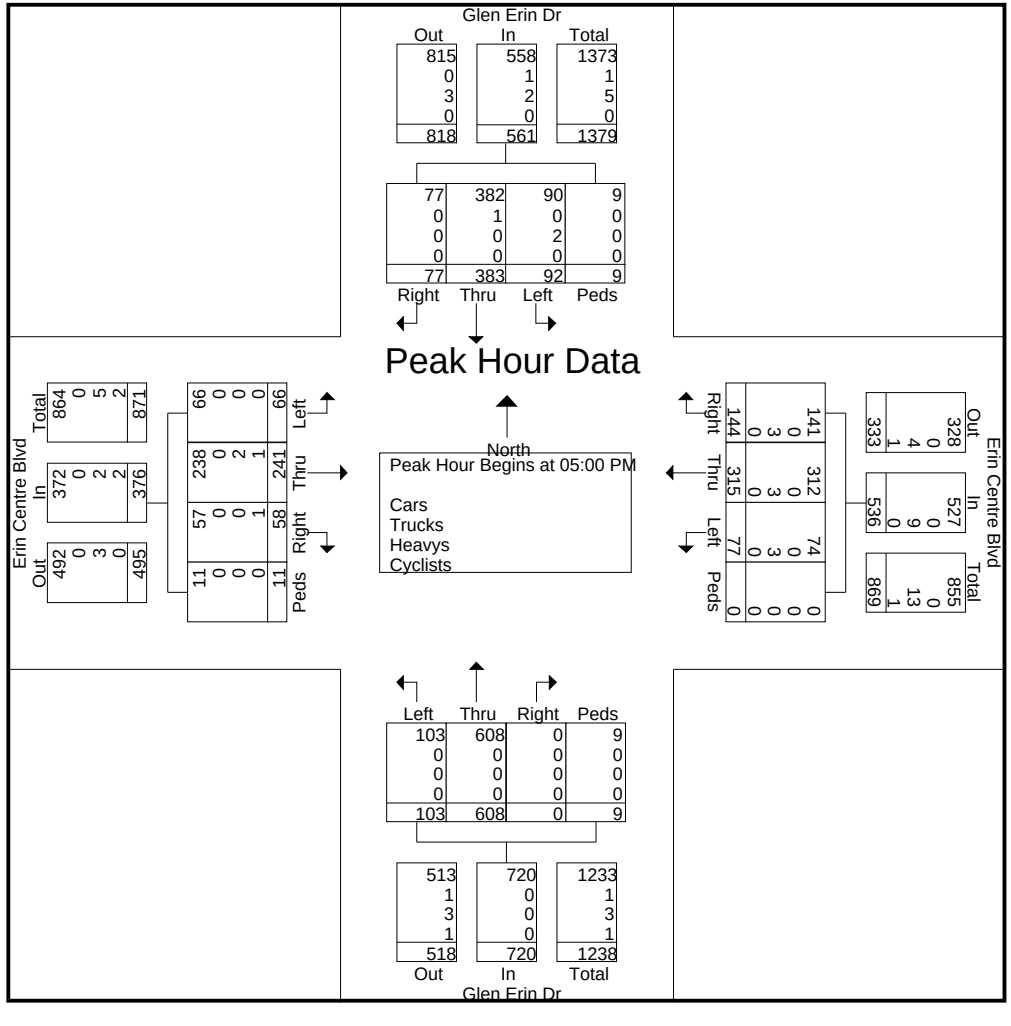
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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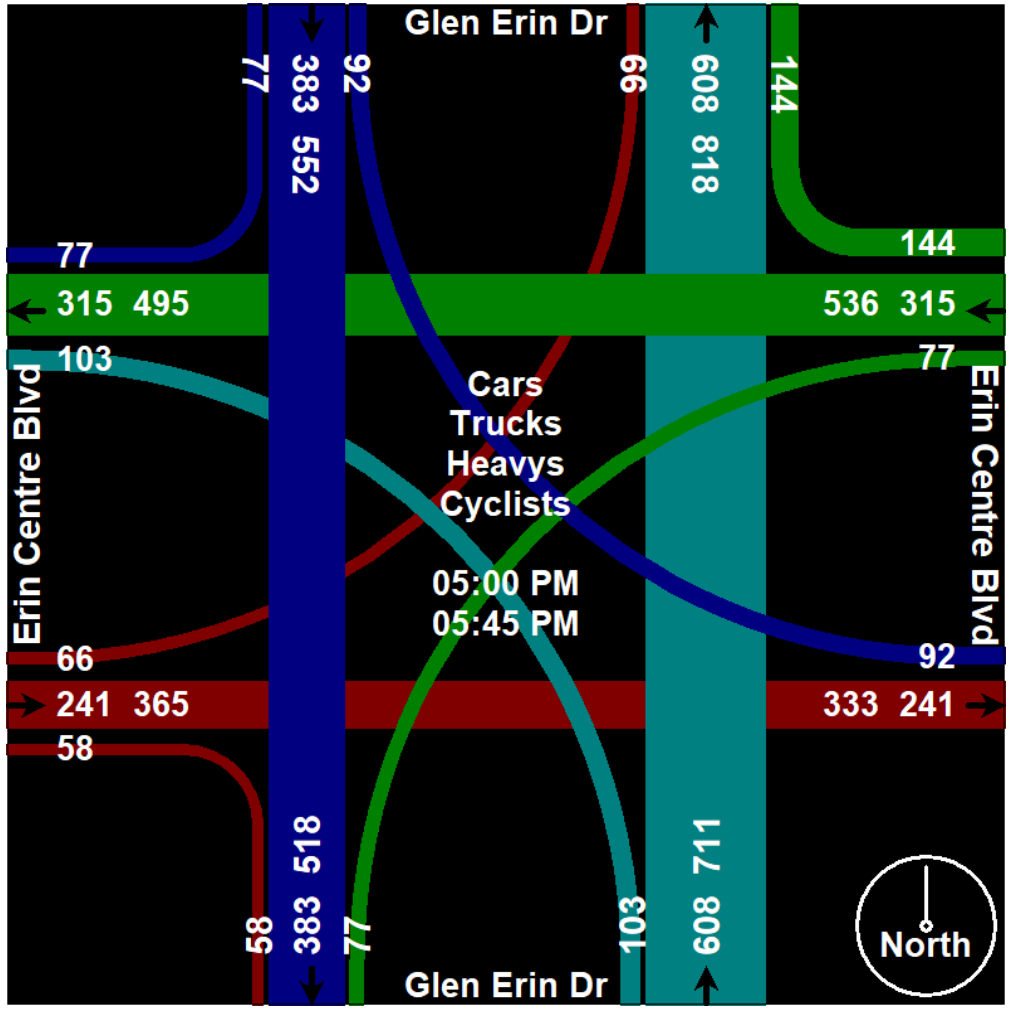
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive-SAT
Site Code : 00000000
Start Date : 2024-04-06
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

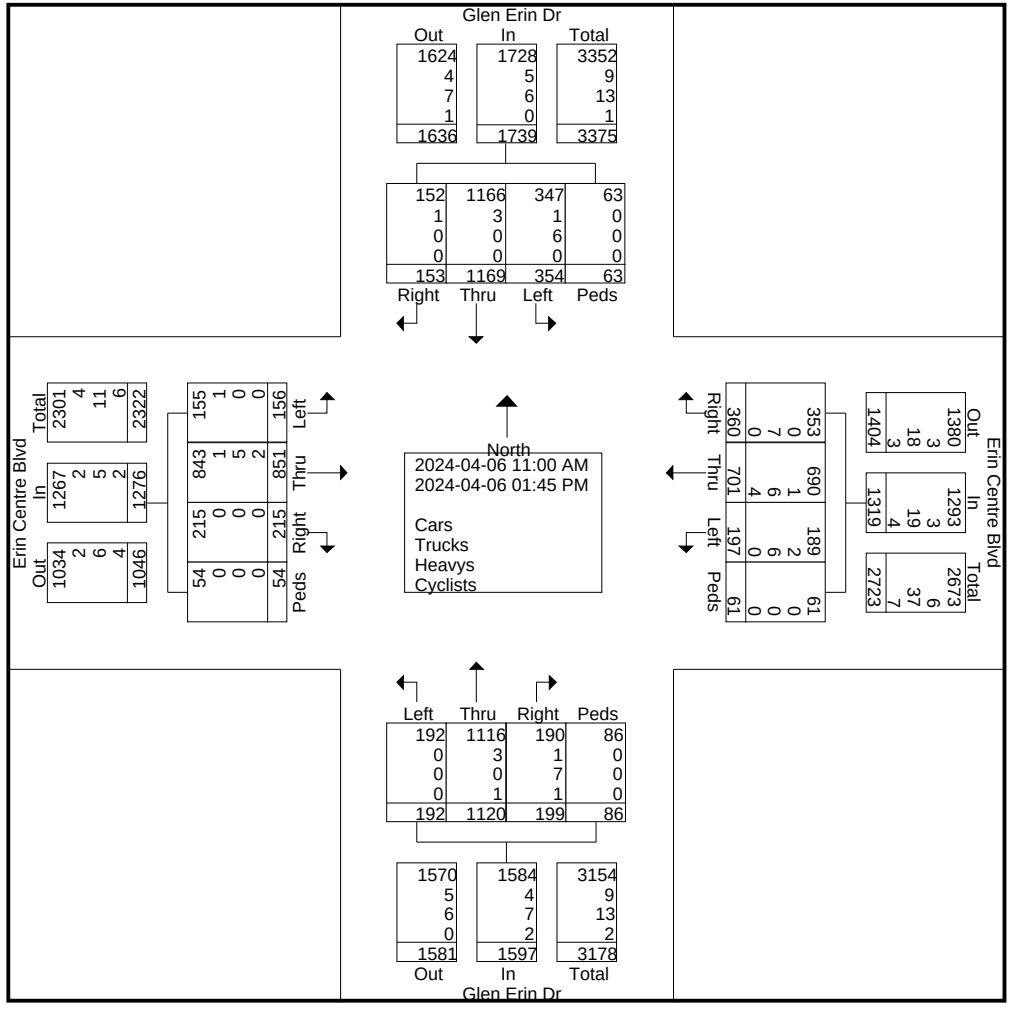
	Glen Erin Dr From North					Erin Centre Blvd From East					Glen Erin Dr From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	7	89	24	4	124	24	52	16	3	95	9	74	8	7	98	23	54	9	3	89	406
11:15 AM	12	84	31	4	131	21	45	15	10	91	18	94	11	4	127	17	51	7	3	78	427
11:30 AM	11	108	25	7	151	27	42	15	6	90	19	85	21	6	131	11	62	9	2	84	456
11:45 AM	11	129	31	4	175	21	57	17	2	97	14	74	12	4	104	12	89	10	5	116	492
Total	41	410	111	19	581	93	196	63	21	373	60	327	52	21	460	63	256	35	13	367	1781
12:00 PM	12	67	28	6	113	23	57	11	2	93	12	93	14	4	123	20	69	11	4	104	433
12:15 PM	13	99	43	10	165	23	61	15	8	107	26	100	10	12	148	16	105	17	3	141	561
12:30 PM	12	89	42	7	150	73	98	38	8	217	14	102	21	16	153	20	60	15	6	101	621
12:45 PM	16	98	29	3	146	30	69	19	3	121	17	107	22	10	156	24	76	14	5	119	542
Total	53	353	142	26	574	149	285	83	21	538	69	402	67	42	580	80	310	57	18	465	2157
01:00 PM	7	119	25	5	156	25	56	14	3	98	15	107	20	5	147	17	72	15	4	108	509
01:15 PM	18	77	22	8	125	37	52	11	5	105	21	89	22	6	138	13	71	18	7	109	477
01:30 PM	14	97	24	5	140	29	49	7	6	91	15	100	15	4	134	14	74	13	6	107	472
01:45 PM	20	113	30	0	163	27	63	19	5	114	19	95	16	8	138	28	68	18	6	120	535
Total	59	406	101	18	584	118	220	51	19	408	70	391	73	23	557	72	285	64	23	444	1993
Grand Total	153	1169	354	63	1739	360	701	197	61	1319	199	1120	192	86	1597	215	851	156	54	1276	5931
Apprch %	8.8	67.2	20.4	3.6		27.3	53.1	14.9	4.6		12.5	70.1	12	5.4		16.8	66.7	12.2	4.2		
Total %	2.6	19.7	6	1.1	29.3	6.1	11.8	3.3	1	22.2	3.4	18.9	3.2	1.5	26.9	3.6	14.3	2.6	0.9	21.5	
Cars	152	1166	347	63	1728	353	690	189	61	1293	190	1116	192	86	1584	215	843	155	54	1267	5872
% Cars	99.3	99.7	98	100	99.4	98.1	98.4	95.9	100	98	95.5	99.6	100	100	99.2	100	99.1	99.4	100	99.3	99
Trucks	1	3	1	0	5	0	1	2	0	3	1	3	0	0	4	0	1	1	0	2	14
% Trucks	0.7	0.3	0.3	0	0.3	0	0.1	1	0	0.2	0.5	0.3	0	0	0.3	0	0.1	0.6	0	0.2	0.2
Heavys	0	0	6	0	6	7	6	6	0	19	7	0	0	0	7	0	5	0	0	5	37
% Heavys	0	0	1.7	0	0.3	1.9	0.9	3	0	1.4	3.5	0	0	0	0.4	0	0.6	0	0	0.4	0.6
Cyclists	0	0	0	0	0	0	4	0	0	4	1	1	0	0	2	0	2	0	0	2	8
% Cyclists	0	0	0	0	0	0	0.6	0	0	0.3	0.5	0.1	0	0	0.1	0	0.2	0	0	0.2	0.1

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive-SAT
Site Code : 00000000
Start Date : 2024-04-06
Page No : 2



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive-SAT
Site Code : 00000000
Start Date : 2024-04-06

	Glen Erin Dr From North					Erin Centre Blvd From East					Glen Erin Dr From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:15 PM																					
12:15 PM	13	99	**43**	**10**	**165**	23	61	15	**8**	107	**26**	100	10	12	148	16	**105**	**17**	3	**141**	561
12:30 PM	12	89	42	7	150	**73**	**98**	**38**	8	**217**	14	102	21	**16**	153	20	60	15	**6**	101	**621**
12:45 PM	**16**	98	29	3	146	30	69	19	3	121	17	**107**	**22**	10	**156**	**24**	76	14	5	119	542
01:00 PM	7	**119**	25	5	156	25	56	14	3	98	15	107	20	5	147	17	72	15	4	108	509
Total Volume	48	405	139	25	617	151	284	86	22	543	72	416	73	43	604	77	313	61	18	469	2233
% App. Total	7.8	65.6	22.5	4.1		27.8	52.3	15.8	4.1		11.9	68.9	12.1	7.1		16.4	66.7	13	3.8		
PHF	.750	.851	.808	.625	.935	.517	.724	.566	.688	.626	.692	.972	.830	.672	.968	.802	.745	.897	.750	.832	.899
Cars	48	404	136	25	613	149	282	84	22	537	68	415	73	43	599	77	310	61	18	466	2215
% Cars	100	99.8	97.8	100	99.4	98.7	99.3	97.7	100	98.9	94.4	99.8	100	100	99.2	100	99.0	100	100	99.4	99.2
Trucks	0	1	1	0	2	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	4
% Trucks	0	0.2	0.7	0	0.3	0	0	0	0	0	1.4	0.2	0	0	0.3	0	0	0	0	0	0.2
Heavys	0	0	2	0	2	2	1	2	0	5	2	0	0	0	2	0	2	0	0	2	11
% Heavys	0	0	1.4	0	0.3	1.3	0.4	2.3	0	0.9	2.8	0	0	0	0.3	0	0.6	0	0	0.4	0.5
Cyclists	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	3
% Cyclists	0	0	0	0	0	0	0.4	0	0	0.2	1.4	0	0	0	0.2	0	0.3	0	0	0.2	0.1

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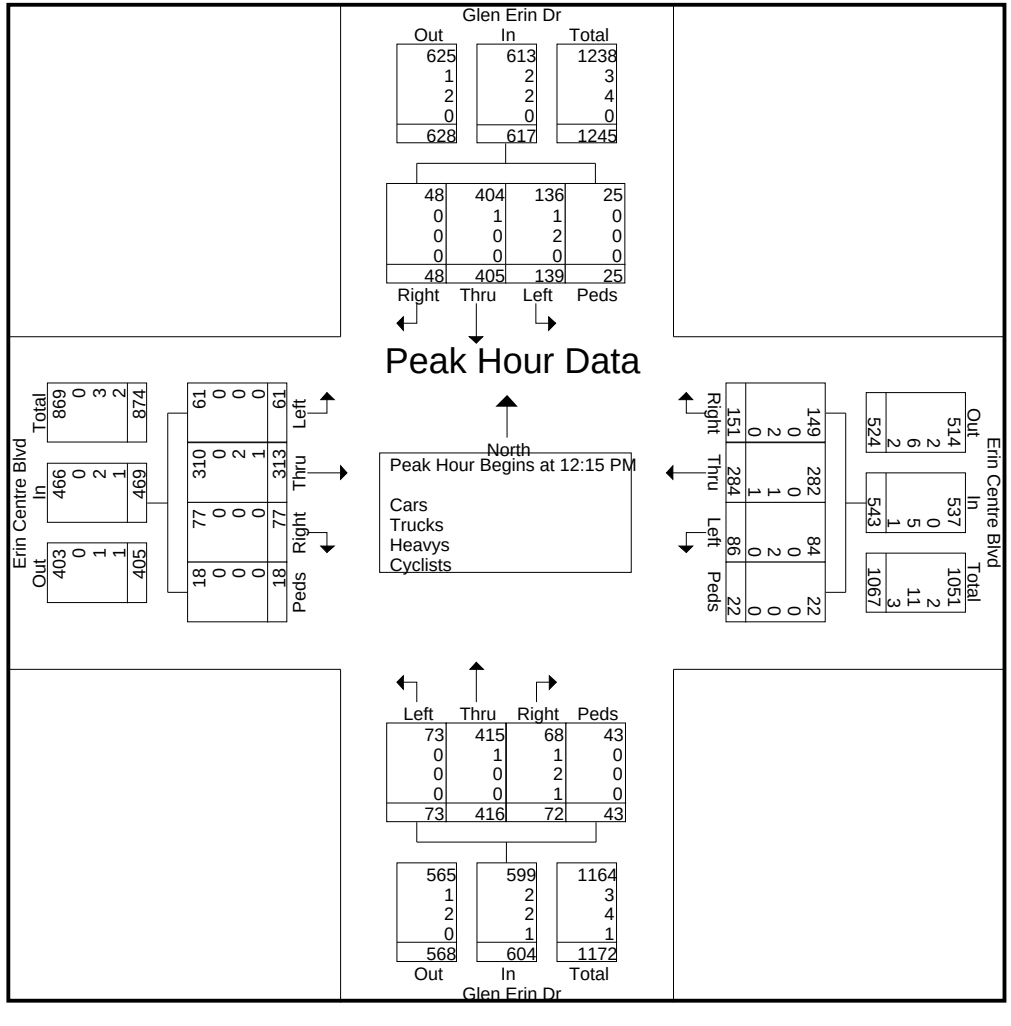
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive-SAT
Site Code : 00000000
Start Date : 2024-04-06
Page No : 4



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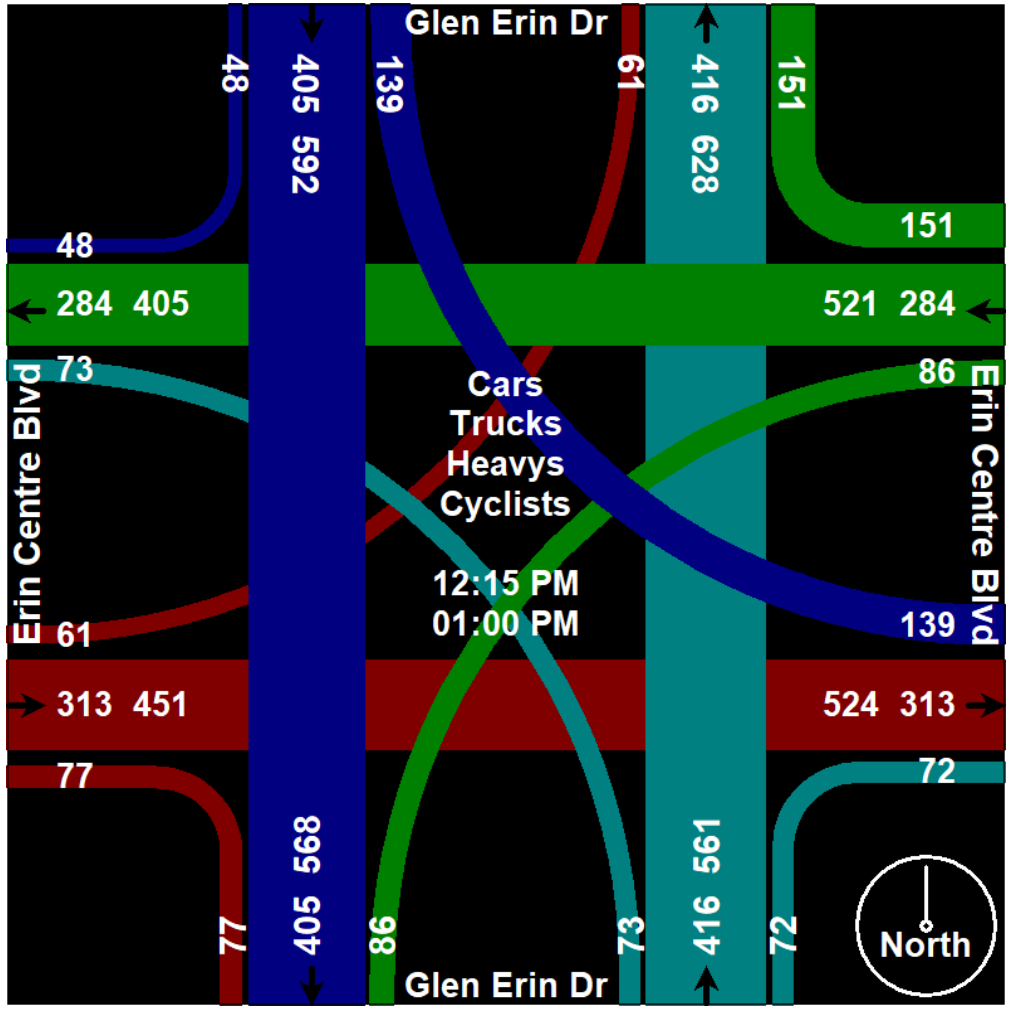
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Glen Erin Drive-SAT
Site Code : 00000000
Start Date : 2024-04-06
Page No : 5



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Driveway From North					Erin Centre Blvd From East					North Mall Access From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	1	1	4	19	2	0	25	7	1	5	0	13	3	32	5	0	40	79
07:15 AM	0	0	0	0	0	7	24	2	0	33	3	0	1	0	4	1	50	2	0	53	90
07:30 AM	0	0	0	0	0	10	30	7	0	47	11	1	4	1	17	2	64	6	0	72	136
07:45 AM	0	0	0	1	1	32	58	10	0	100	9	4	2	0	15	5	66	33	0	104	220
Total	0	0	0	2	2	53	131	21	0	205	30	6	12	1	49	11	212	46	0	269	525
08:00 AM	1	0	8	5	14	89	72	31	0	192	23	19	7	2	51	13	118	37	4	172	429
08:15 AM	4	5	13	2	24	130	86	16	2	234	42	30	21	1	94	26	157	43	8	234	586
08:30 AM	3	1	4	0	8	33	39	5	1	78	16	10	5	2	33	9	80	34	2	125	244
08:45 AM	0	0	0	4	4	6	36	12	2	56	18	4	4	0	26	8	61	14	1	84	170
Total	8	6	25	11	50	258	233	64	5	560	99	63	37	5	204	56	416	128	15	615	1429
09:00 AM	0	0	1	0	1	8	44	11	0	63	17	1	4	2	24	8	58	9	2	77	165
09:15 AM	0	0	0	0	0	6	32	15	0	53	6	0	7	2	15	6	47	8	0	61	129
09:30 AM	0	0	0	2	2	17	38	18	0	73	18	2	10	1	31	11	45	20	1	77	183
09:45 AM	2	0	1	1	4	9	36	16	1	62	25	2	6	0	33	12	47	3	1	63	162
Total	2	0	2	3	7	40	150	60	1	251	66	5	27	5	103	37	197	40	4	278	639
04:00 PM	1	0	0	0	1	12	72	29	2	115	45	0	26	3	74	17	77	6	1	101	291
04:15 PM	0	0	0	3	3	14	72	23	5	114	36	5	28	0	69	20	70	11	1	102	288
04:30 PM	0	0	2	4	6	16	62	22	0	100	37	5	24	0	66	13	62	15	1	91	263
04:45 PM	0	0	3	2	5	6	75	28	0	109	45	0	28	1	74	15	36	6	5	62	250
Total	1	0	5	9	15	48	281	102	7	438	163	10	106	4	283	65	245	38	8	356	1092
05:00 PM	0	0	0	1	1	2	78	35	1	116	47	0	25	2	74	18	54	2	1	75	266
05:15 PM	0	0	1	7	8	5	102	36	1	144	48	0	21	1	70	13	59	2	6	80	302
05:30 PM	0	0	0	3	3	5	91	34	2	132	40	2	24	1	67	13	77	7	1	98	300
05:45 PM	0	0	1	2	3	3	92	30	1	126	43	0	38	1	82	26	68	0	1	95	306
Total	0	0	2	13	15	15	363	135	5	518	178	2	108	5	293	70	258	11	9	348	1174
06:00 PM	0	0	0	2	2	0	88	32	3	123	51	0	31	3	85	21	79	0	3	103	313
06:15 PM	0	0	0	1	1	1	100	32	1	134	44	0	37	0	81	29	70	0	0	99	315
06:30 PM	1	0	0	1	2	0	63	20	0	83	46	0	37	1	84	19	77	0	1	97	266
06:45 PM	0	0	0	2	2	0	84	19	0	103	49	0	25	1	75	22	67	2	1	92	272
Total	1	0	0	6	7	1	335	103	4	443	190	0	130	5	325	91	293	2	5	391	1166

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Driveway From North					Erin Centre Blvd From East					North Mall Access From South					Erin Centre Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	12	6	34	44	96	415	1493	485	22	2415	726	86	420	25	1257	330	1621	265	41	2257	6025
Apprch %	12.5	6.2	35.4	45.8		17.2	61.8	20.1	0.9		57.8	6.8	33.4	2		14.6	71.8	11.7	1.8		
Total %	0.2	0.1	0.6	0.7	1.6	6.9	24.8	8	0.4	40.1	12	1.4	7	0.4	20.9	5.5	26.9	4.4	0.7	37.5	
Cars	12	6	34	44	96	409	1469	461	22	2361	694	86	373	25	1178	319	1562	261	41	2183	5818
% Cars	100	100	100	100	100	98.6	98.4	95.1	100	97.8	95.6	100	88.8	100	93.7	96.7	96.4	98.5	100	96.7	96.6
Trucks	0	0	0	0	0	2	10	1	0	13	8	0	0	0	8	0	13	3	0	16	37
% Trucks	0	0	0	0	0	0.5	0.7	0.2	0	0.5	1.1	0	0	0	0.6	0	0.8	1.1	0	0.7	0.6
Heavys	0	0	0	0	0	4	14	23	0	41	24	0	47	0	71	10	45	1	0	56	168
% Heavys	0	0	0	0	0	1	0.9	4.7	0	1.7	3.3	0	11.2	0	5.6	3	2.8	0.4	0	2.5	2.8
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.1	0	0	0.1	0

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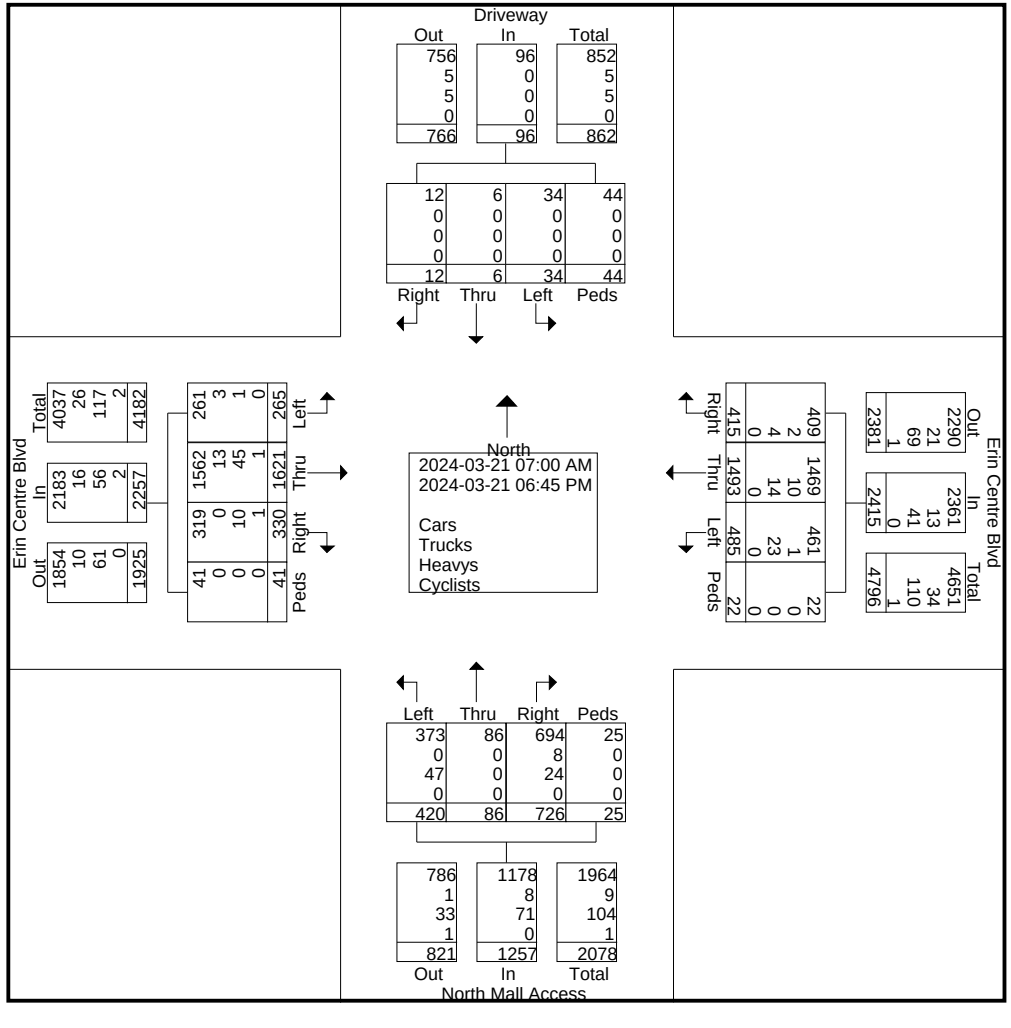
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21

	Driveway From North					Erin Centre Blvd From East					North Mall Access From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	1	1	32	58	10	0	100	9	4	2	0	15	5	66	33	0	104	220
08:00 AM	1	0	8	**5**	14	89	72	**31**	0	192	23	19	7	**2**	51	13	118	37	4	172	429
08:15 AM	**4**	**5**	**13**	2	**24**	**130**	**86**	16	**2**	**234**	**42**	**30**	**21**	1	**94**	**26**	**157**	**43**	**8**	**234**	**586**
08:30 AM	3	1	4	0	8	33	39	5	1	78	16	10	5	2	33	9	80	34	2	125	244
Total Volume	8	6	25	8	47	284	255	62	3	604	90	63	35	5	193	53	421	147	14	635	1479
% App. Total	17	12.8	53.2	17		47	42.2	10.3	0.5		46.6	32.6	18.1	2.6		8.3	66.3	23.1	2.2		
PHF	.500	.300	.481	.400	.490	.546	.741	.500	.375	.645	.536	.525	.417	.625	.513	.510	.670	.855	.438	.678	.631
Cars	8	6	25	8	47	283	245	59	3	590	83	63	27	5	178	50	405	144	14	613	1428
% Cars	100	100	100	100	100	99.6	96.1	95.2	100	97.7	92.2	100	77.1	100	92.2	94.3	96.2	98.0	100	96.5	96.6
Trucks	0	0	0	0	0	1	3	0	0	4	2	0	0	0	2	0	7	3	0	10	16
% Trucks	0	0	0	0	0	0.4	1.2	0	0	0.7	2.2	0	0	0	1.0	0	1.7	2.0	0	1.6	1.1
Heavys	0	0	0	0	0	0	7	3	0	10	5	0	8	0	13	3	9	0	0	12	35
% Heavys	0	0	0	0	0	0	2.7	4.8	0	1.7	5.6	0	22.9	0	6.7	5.7	2.1	0	0	1.9	2.4
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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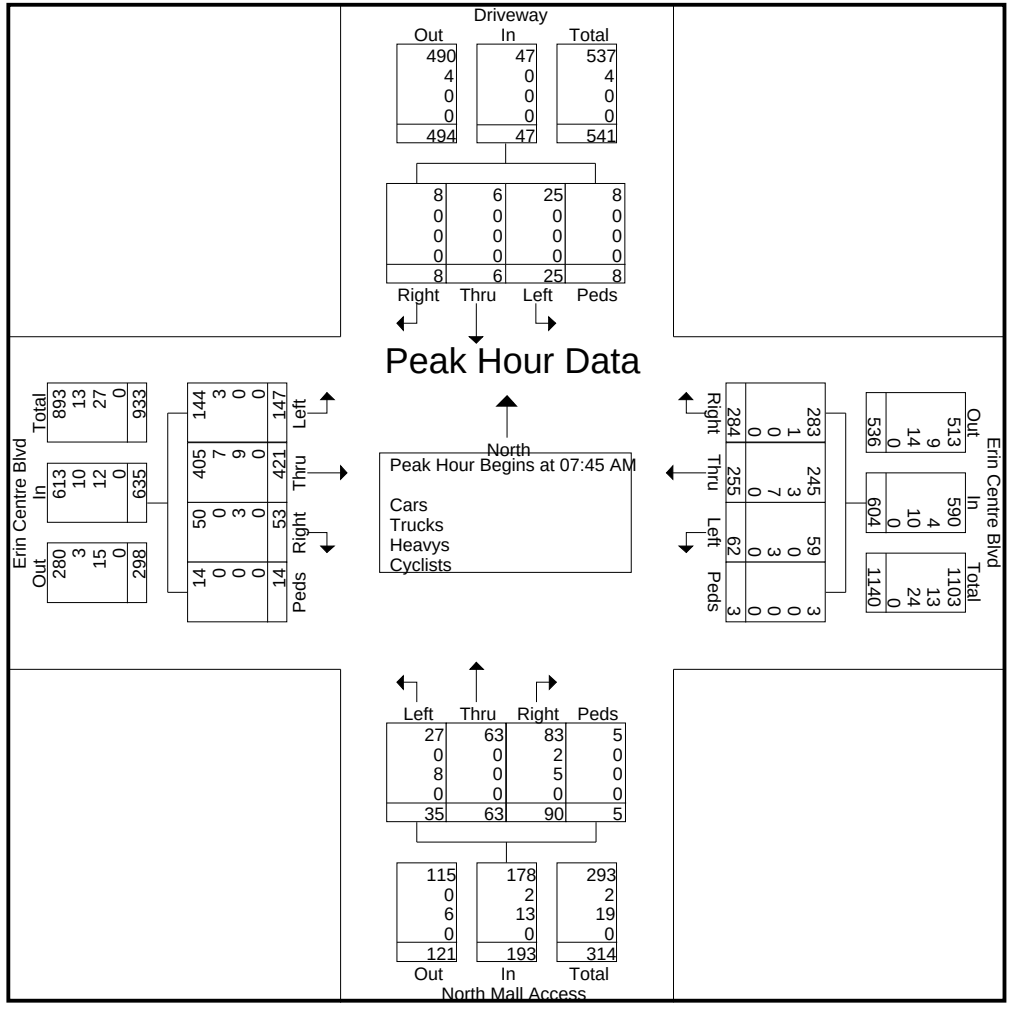
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 5



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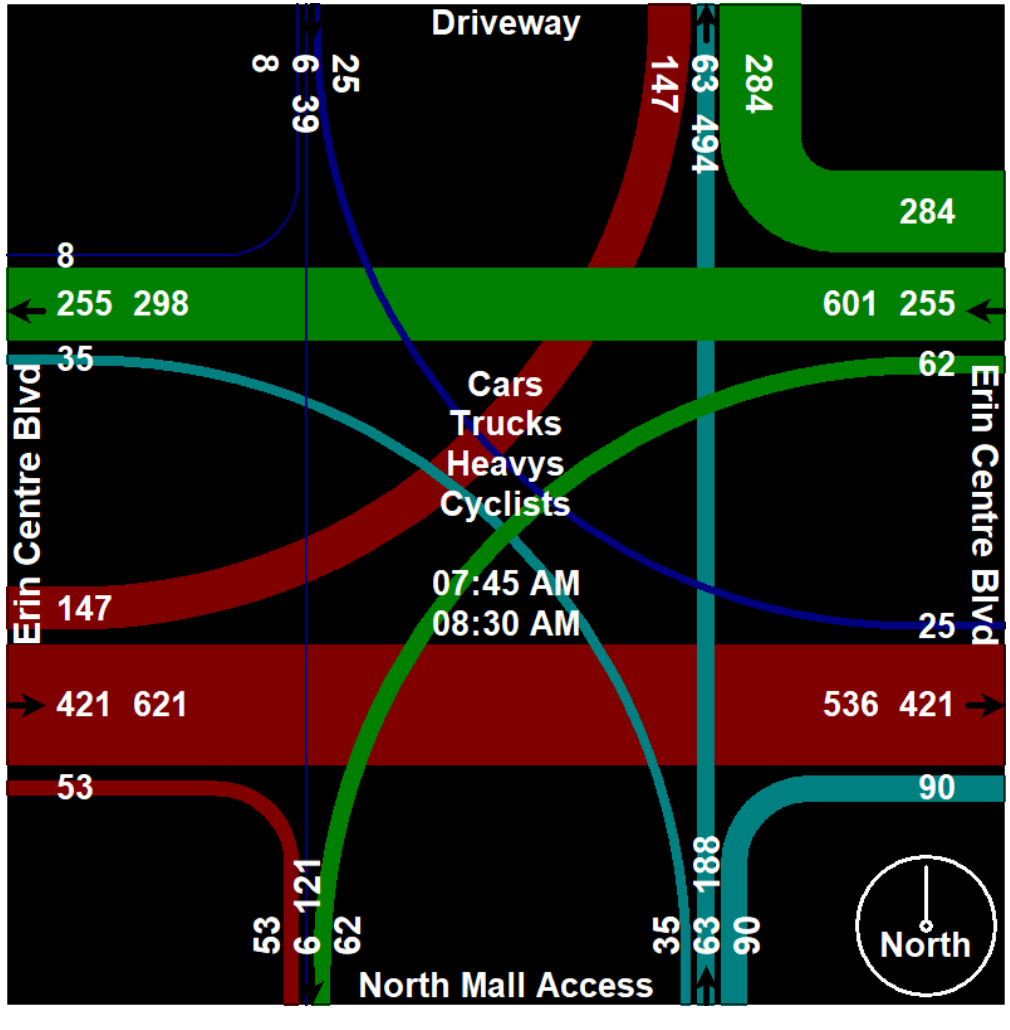
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21

	Driveway From North					Erin Centre Blvd From East					North Mall Access From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	1	1	2	78	35	1	116	47	0	25	**2**	74	18	54	2	1	75	266
05:15 PM	0	0	**1**	**7**	**8**	**5**	**102**	**36**	1	**144**	**48**	0	21	1	70	13	59	2	**6**	80	302
05:30 PM	0	0	0	3	3	5	91	34	**2**	132	40	**2**	24	1	67	13	**77**	**7**	1	**98**	300
05:45 PM	0	0	1	2	3	3	92	30	1	126	43	0	**38**	1	**82**	**26**	68	0	1	95	**306**
Total Volume	0	0	2	13	15	15	363	135	5	518	178	2	108	5	293	70	258	11	9	348	1174
% App. Total	0	0	13.3	86.7		2.9	70.1	26.1	1		60.8	0.7	36.9	1.7		20.1	74.1	3.2	2.6		
PHF	.000	.000	.500	.464	.469	.750	.890	.938	.625	.899	.927	.250	.711	.625	.893	.673	.838	.393	.375	.888	.959
Cars	0	0	2	13	15	15	362	131	5	513	172	2	101	5	280	68	250	11	9	338	1146
% Cars	0	0	100	100	100	100	99.7	97.0	100	99.0	96.6	100	93.5	100	95.6	97.1	96.9	100	100	97.1	97.6
Trucks	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
% Trucks	0	0	0	0	0	0	0	0	0	0	1.1	0	0	0	0.7	0	0	0	0	0	0.2
Heavys	0	0	0	0	0	0	1	4	0	5	4	0	7	0	11	2	7	0	0	9	25
% Heavys	0	0	0	0	0	0	0.3	3.0	0	1.0	2.2	0	6.5	0	3.8	2.9	2.7	0	0	2.6	2.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0.3	0.1

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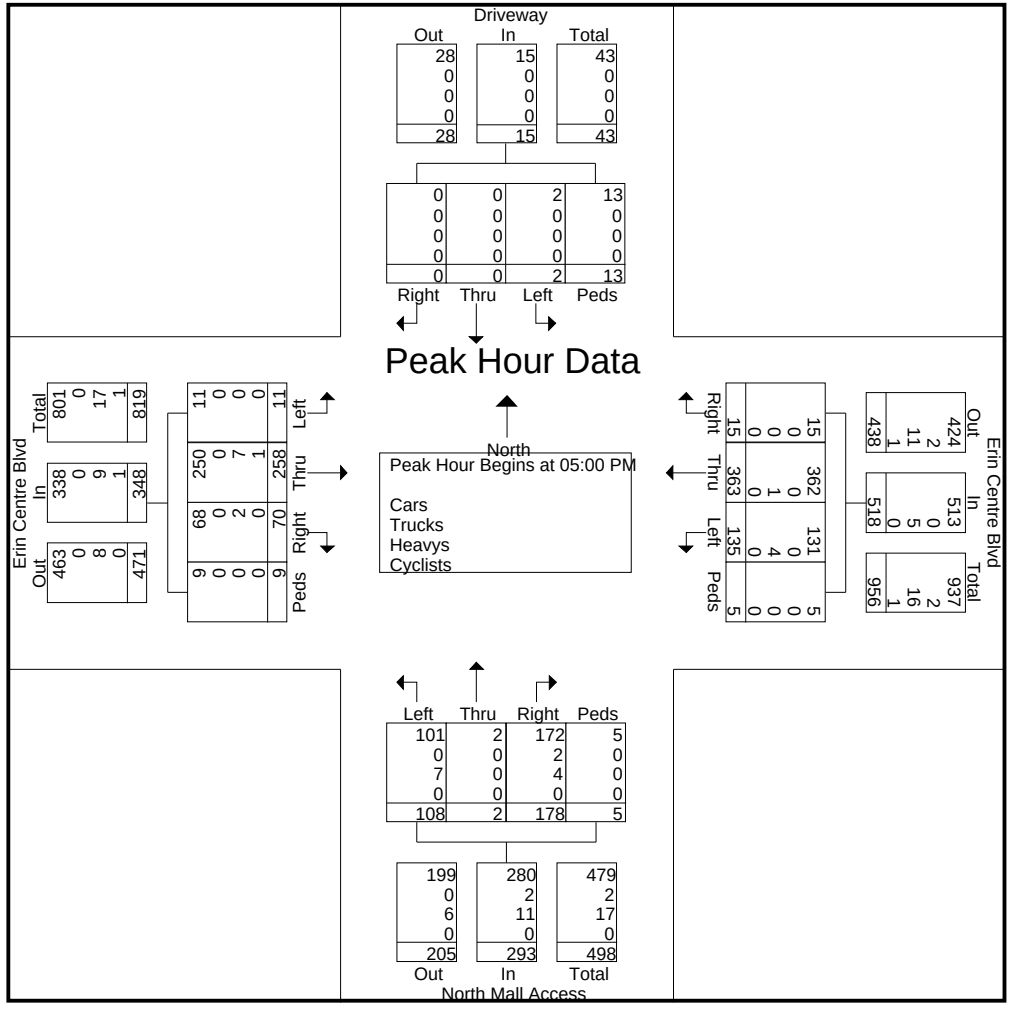
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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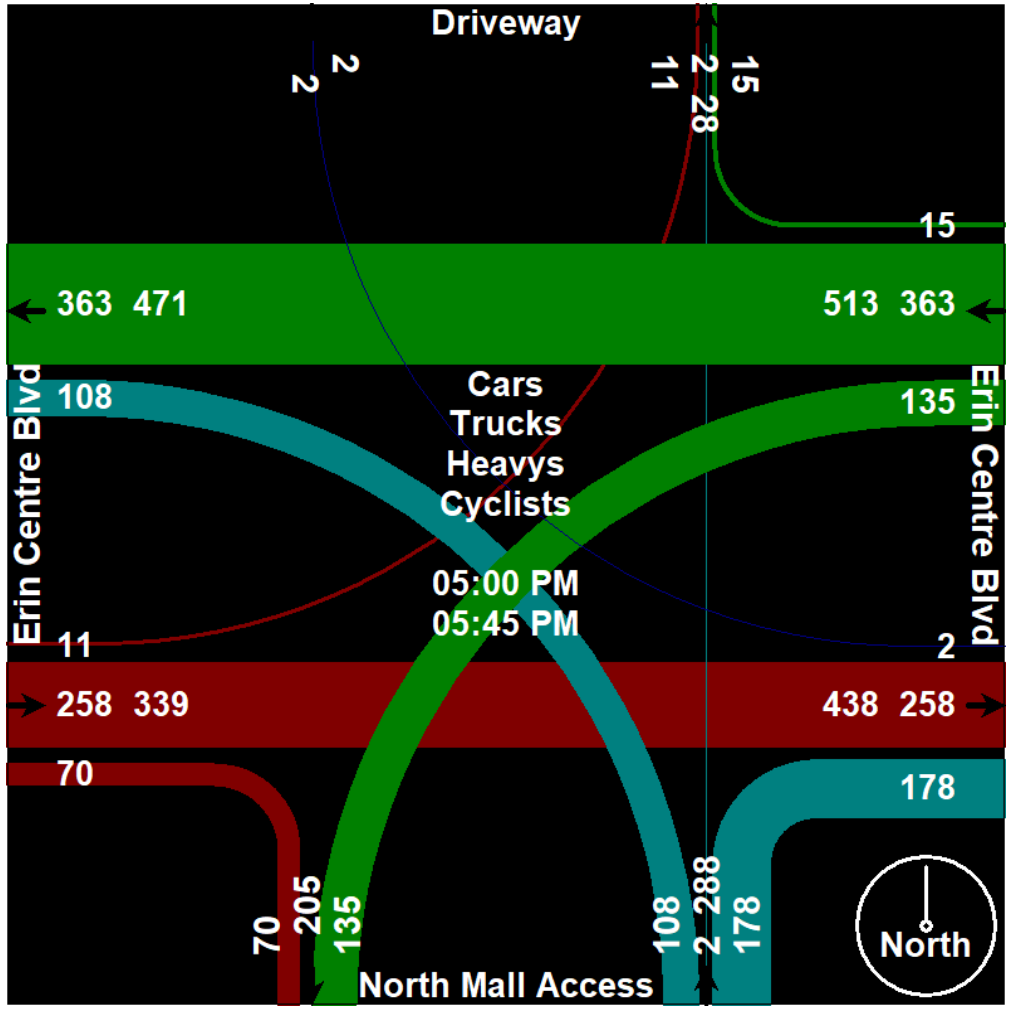
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Driveway From North					Erin Centre Blvd From East					North Mall Access From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	0	0	3	3	2	35	34	0	71	29	0	17	1	47	22	51	2	3	78	199
11:15 AM	0	0	0	1	1	2	47	27	0	76	33	1	25	0	59	17	55	1	0	73	209
11:30 AM	0	0	0	3	3	2	46	26	0	74	35	0	13	0	48	25	53	5	1	84	209
11:45 AM	0	0	0	4	4	6	47	32	1	86	41	1	31	3	76	31	72	0	6	109	275
Total	0	0	0	11	11	12	175	119	1	307	138	2	86	4	230	95	231	8	10	344	892
12:00 PM	0	0	0	0	0	8	53	33	0	94	41	9	22	2	74	15	71	15	5	106	274
12:15 PM	0	0	1	3	4	69	62	34	0	165	35	6	21	0	62	28	38	37	2	105	336
12:30 PM	1	0	11	7	19	19	55	44	5	123	78	4	31	4	117	22	137	14	8	181	440
12:45 PM	0	0	3	2	5	3	55	33	0	91	41	0	29	0	70	26	70	1	1	98	264
Total	1	0	15	12	28	99	225	144	5	473	195	19	103	6	323	91	316	67	16	490	1314
01:00 PM	0	0	1	4	5	0	53	34	0	87	51	0	22	1	74	27	70	1	2	100	266
01:15 PM	0	0	0	3	3	0	47	33	0	80	57	0	28	0	85	42	56	0	2	100	268
01:30 PM	0	0	0	4	4	0	60	26	1	87	58	0	25	2	85	19	58	0	1	78	254
01:45 PM	0	0	0	2	2	2	63	29	0	94	61	0	28	3	92	31	60	7	2	100	288
Total	0	0	1	13	14	2	223	122	1	348	227	0	103	6	336	119	244	8	7	378	1076
Grand Total	1	0	16	36	53	113	623	385	7	1128	560	21	292	16	889	305	791	83	33	1212	3282
Apprch %	1.9	0	30.2	67.9		10	55.2	34.1	0.6		63	2.4	32.8	1.8		25.2	65.3	6.8	2.7		
Total %	0	0	0.5	1.1	1.6	3.4	19	11.7	0.2	34.4	17.1	0.6	8.9	0.5	27.1	9.3	24.1	2.5	1	36.9	
Cars	1	0	15	36	52	113	623	375	7	1118	549	21	274	16	860	300	777	83	33	1193	3223
% Cars	100	0	93.8	100	98.1	100	100	97.4	100	99.1	98	100	93.8	100	96.7	98.4	98.2	100	100	98.4	98.2
Trucks	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	2	0	0	2	4
% Trucks	0	0	0	0	0	0	0	0.3	0	0.1	0.2	0	0	0	0.1	0	0.3	0	0	0.2	0.1
Heavys	0	0	0	0	0	0	0	9	0	9	10	0	18	0	28	5	12	0	0	17	54
% Heavys	0	0	0	0	0	0	0	2.3	0	0.8	1.8	0	6.2	0	3.1	1.6	1.5	0	0	1.4	1.6
Cyclists	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Cyclists	0	0	6.2	0	1.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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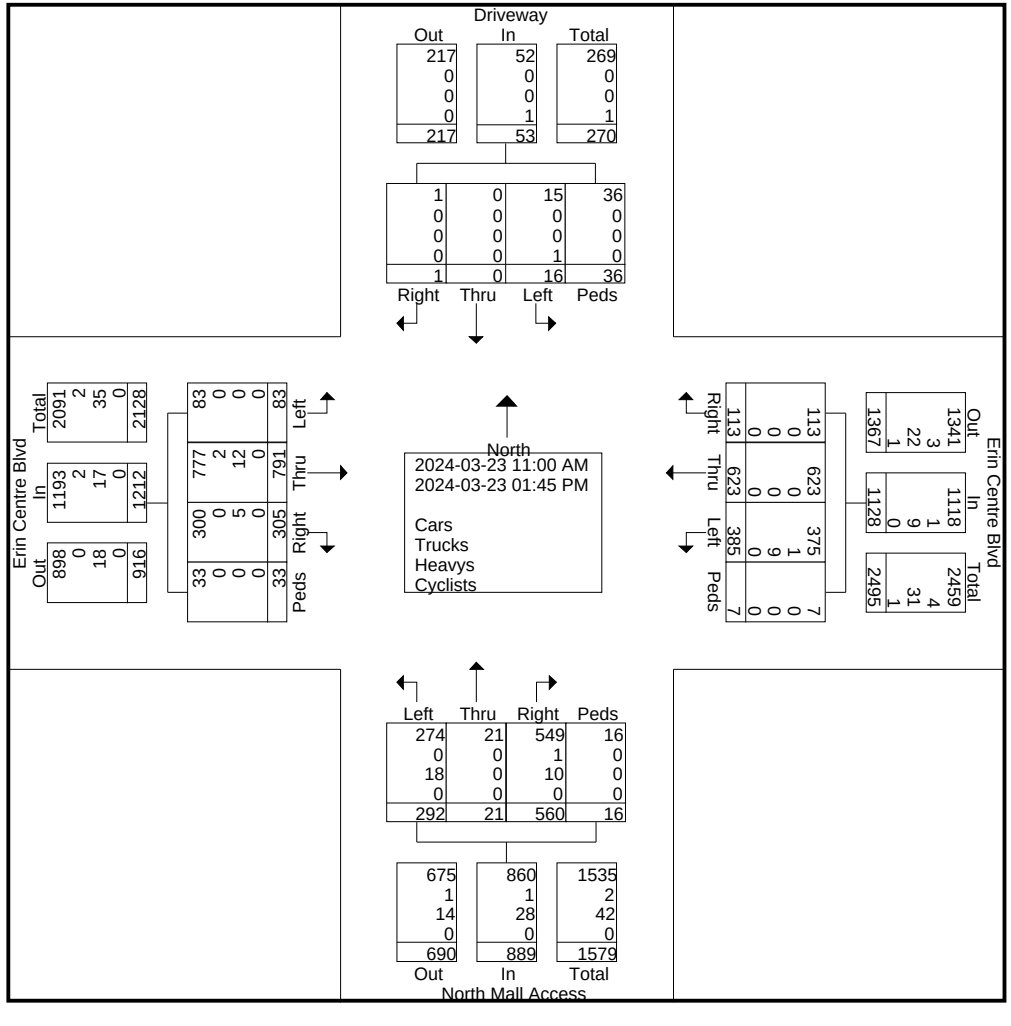
(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 2



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23

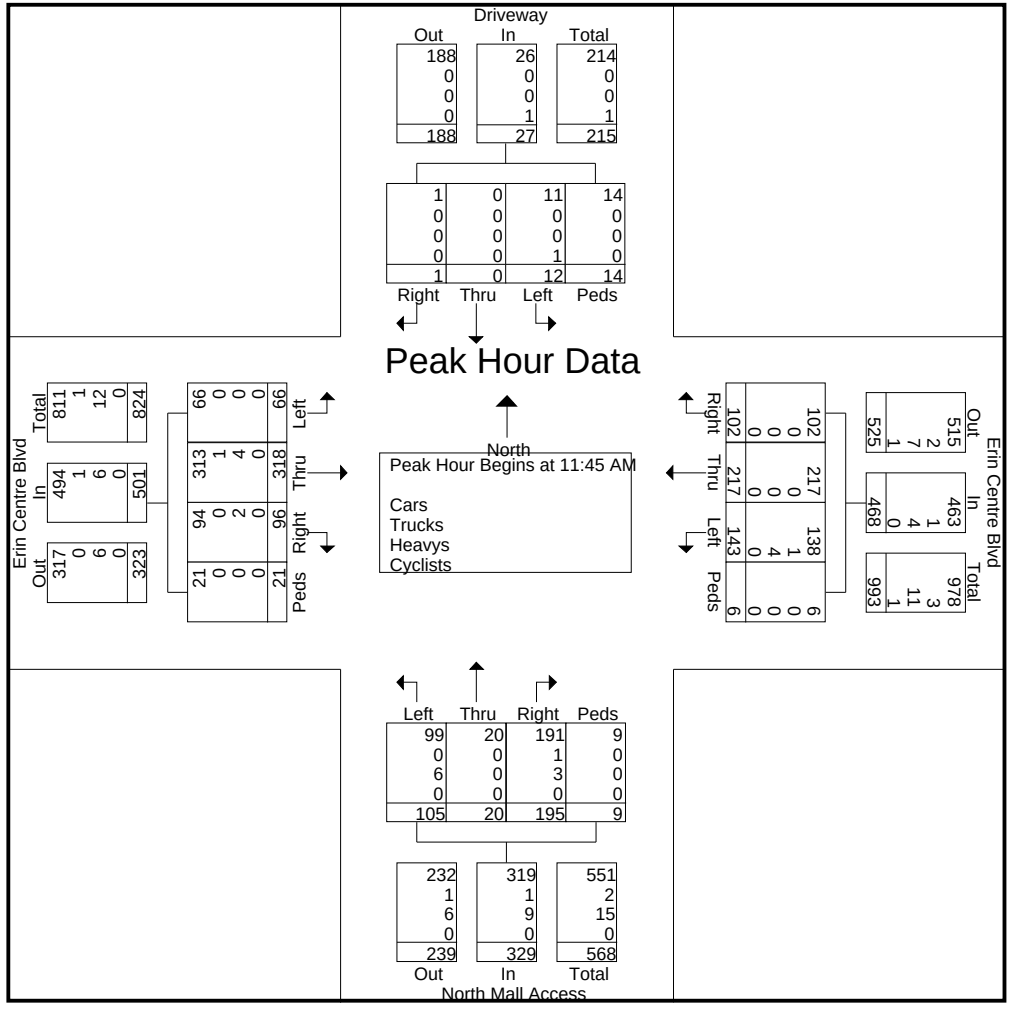
	Driveway From North					Erin Centre Blvd From East					North Mall Access From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	0	0	0	4	4	6	47	32	1	86	41	1	**31**	3	76	**31**	72	0	6	109	275
12:00 PM	0	0	0	0	0	8	53	33	0	94	41	**9**	22	2	74	15	71	15	5	106	274
12:15 PM	0	0	1	3	4	**69**	**62**	34	0	**165**	35	6	21	0	62	28	38	**37**	2	105	336
12:30 PM	**1**	0	**11**	**7**	**19**	19	55	**44**	**5**	123	**78**	4	31	**4**	**117**	22	**137**	14	**8**	**181**	**440**
Total Volume	1	0	12	14	27	102	217	143	6	468	195	20	105	9	329	96	318	66	21	501	1325
% App. Total	3.7	0	44.4	51.9		21.8	46.4	30.6	1.3		59.3	6.1	31.9	2.7		19.2	63.5	13.2	4.2		
PHF	.250	.000	.273	.500	.355	.370	.875	.813	.300	.709	.625	.556	.847	.563	.703	.774	.580	.446	.656	.692	.753
Cars	1	0	11	14	26	102	217	138	6	463	191	20	99	9	319	94	313	66	21	494	1302
% Cars	100	0	91.7	100	96.3	100	100	96.5	100	98.9	97.9	100	94.3	100	97.0	97.9	98.4	100	100	98.6	98.3
Trucks	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	1	0	0	1	3
% Trucks	0	0	0	0	0	0	0	0.7	0	0.2	0.5	0	0	0	0.3	0	0.3	0	0	0.2	0.2
Heavys	0	0	0	0	0	0	0	4	0	4	3	0	6	0	9	2	4	0	0	6	19
% Heavys	0	0	0	0	0	0	0	2.8	0	0.9	1.5	0	5.7	0	2.7	2.1	1.3	0	0	1.2	1.4
Cyclists	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Cyclists	0	0	8.3	0	3.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 4

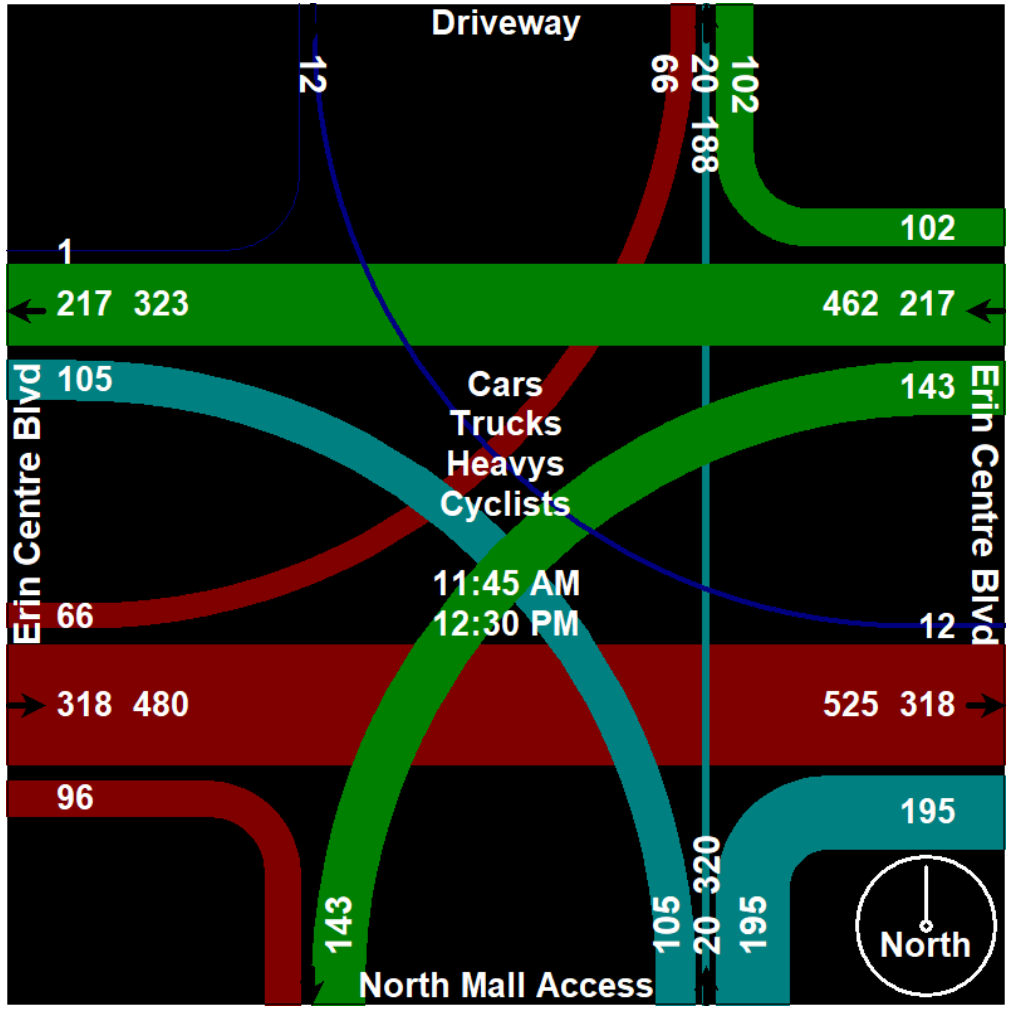


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at North Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Russell View Rd From North					Erin Centre Blvd From East					Plantation Pl From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	5	2	2	0	9	1	19	7	0	27	7	1	1	0	9	7	39	0	0	46	91
07:15 AM	7	2	1	0	10	1	19	0	0	20	3	0	4	0	7	6	46	0	0	52	89
07:30 AM	13	2	6	1	22	2	31	1	2	36	7	1	11	1	20	12	66	0	2	80	158
07:45 AM	7	6	6	5	24	1	32	6	1	40	13	4	14	7	38	35	79	2	1	117	219
Total	32	12	15	6	65	5	101	14	3	123	30	6	30	8	74	60	230	2	3	295	557
08:00 AM	10	24	21	11	66	11	83	9	4	107	23	20	40	21	104	50	132	4	8	194	471
08:15 AM	9	31	14	7	61	12	93	9	5	119	24	35	52	22	133	33	116	5	5	159	472
08:30 AM	11	18	3	5	37	5	55	12	0	72	8	10	9	5	32	18	54	2	2	76	217
08:45 AM	7	7	5	2	21	2	38	9	0	49	7	5	5	2	19	12	61	1	1	75	164
Total	37	80	43	25	185	30	269	39	9	347	62	70	106	50	288	113	363	12	16	504	1324
09:00 AM	7	4	2	2	15	4	28	7	1	40	10	2	8	2	22	11	55	3	0	69	146
09:15 AM	8	6	5	2	21	2	38	8	0	48	8	2	11	2	23	13	49	2	1	65	157
09:30 AM	10	7	4	1	22	6	48	7	1	62	9	3	7	6	25	14	55	1	2	72	181
09:45 AM	6	3	2	0	11	2	37	13	0	52	8	3	7	4	22	14	51	2	5	72	157
Total	31	20	13	5	69	14	151	35	2	202	35	10	33	14	92	52	210	8	8	278	641
04:00 PM	2	8	3	5	18	9	95	13	3	120	17	10	19	7	53	21	77	2	9	109	300
04:15 PM	8	6	5	1	20	3	98	9	1	111	17	11	11	7	46	15	70	2	6	93	270
04:30 PM	2	8	6	7	23	8	75	17	1	101	19	12	16	1	48	17	57	3	0	77	249
04:45 PM	4	5	4	7	20	4	89	9	0	102	18	7	9	6	40	22	56	5	1	84	246
Total	16	27	18	20	81	24	357	48	5	434	71	40	55	21	187	75	260	12	16	363	1065
05:00 PM	3	8	7	2	20	8	95	21	1	125	16	11	17	1	45	23	71	5	0	99	289
05:15 PM	4	0	1	2	7	6	91	14	0	111	20	11	17	1	49	27	88	3	3	121	288
05:30 PM	6	10	3	0	19	10	84	14	0	108	17	18	12	3	50	14	95	2	0	111	288
05:45 PM	6	5	7	0	18	3	93	20	2	118	17	14	16	2	49	13	79	7	2	101	286
Total	19	23	18	4	64	27	363	69	3	462	70	54	62	7	193	77	333	17	5	432	1151
06:00 PM	4	7	1	3	15	6	89	16	0	111	18	10	17	4	49	24	88	5	1	118	293
06:15 PM	4	7	5	5	21	2	97	19	0	118	19	17	17	6	59	12	88	5	1	106	304
06:30 PM	3	5	3	2	13	5	90	10	1	106	15	10	21	5	51	7	69	5	2	83	253
06:45 PM	9	4	7	0	20	6	96	20	0	122	19	8	18	0	45	12	92	7	2	113	300
Total	20	23	16	10	69	19	372	65	1	457	71	45	73	15	204	55	337	22	6	420	1150

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

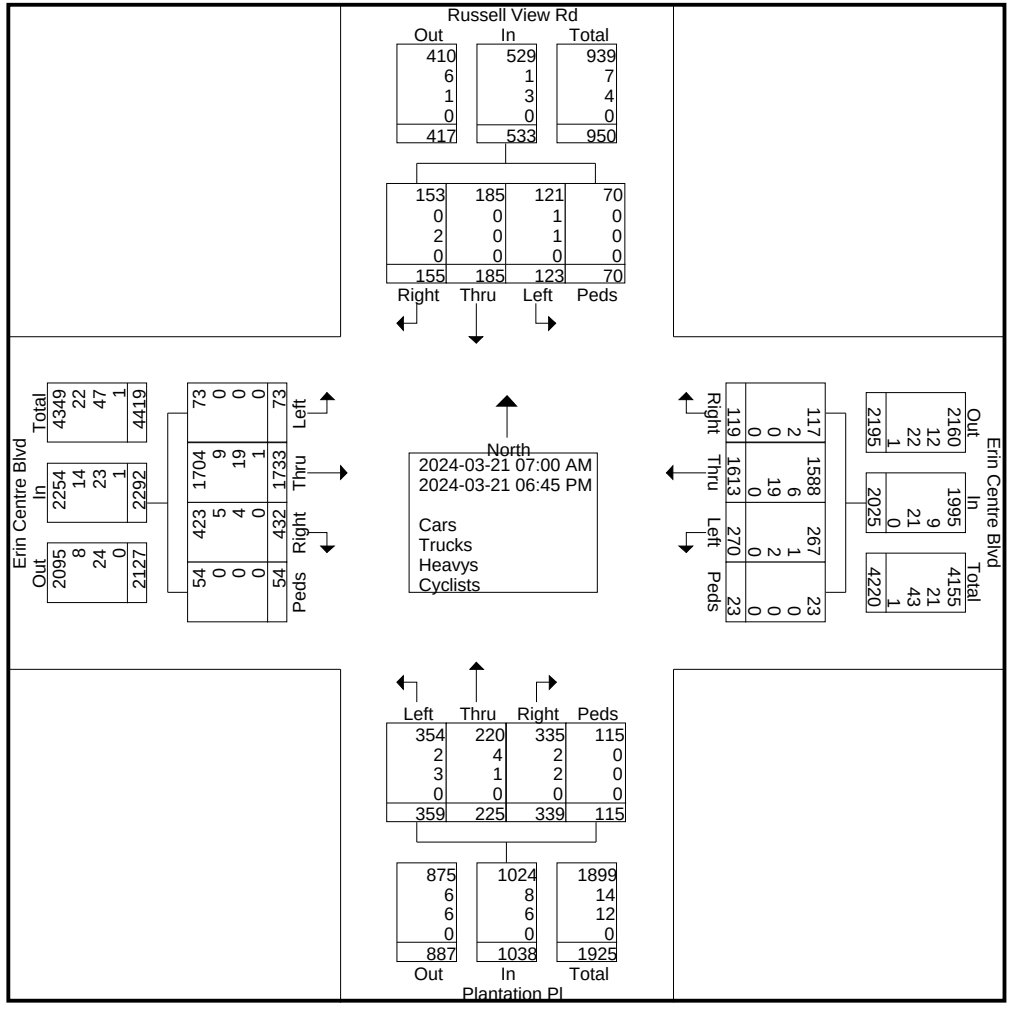
	Russell View Rd From North					Erin Centre Blvd From East					Plantation Pl From South					Erin Centre Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	155	185	123	70	533	119	1613	270	23	2025	339	225	359	115	1038	432	1733	73	54	2292	5888
Apprch %	29.1	34.7	23.1	13.1		5.9	79.7	13.3	1.1		32.7	21.7	34.6	11.1		18.8	75.6	3.2	2.4		
Total %	2.6	3.1	2.1	1.2	9.1	2	27.4	4.6	0.4	34.4	5.8	3.8	6.1	2	17.6	7.3	29.4	1.2	0.9	38.9	
Cars	153	185	121	70	529	117	1588	267	23	1995	335	220	354	115	1024	423	1704	73	54	2254	5802
% Cars	98.7	100	98.4	100	99.2	98.3	98.5	98.9	100	98.5	98.8	97.8	98.6	100	98.7	97.9	98.3	100	100	98.3	98.5
Trucks	0	0	1	0	1	2	6	1	0	9	2	4	2	0	8	5	9	0	0	14	32
% Trucks	0	0	0.8	0	0.2	1.7	0.4	0.4	0	0.4	0.6	1.8	0.6	0	0.8	1.2	0.5	0	0	0.6	0.5
Heavys	2	0	1	0	3	0	19	2	0	21	2	1	3	0	6	4	19	0	0	23	53
% Heavys	1.3	0	0.8	0	0.6	0	1.2	0.7	0	1	0.6	0.4	0.8	0	0.6	0.9	1.1	0	0	1	0.9
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



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(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21

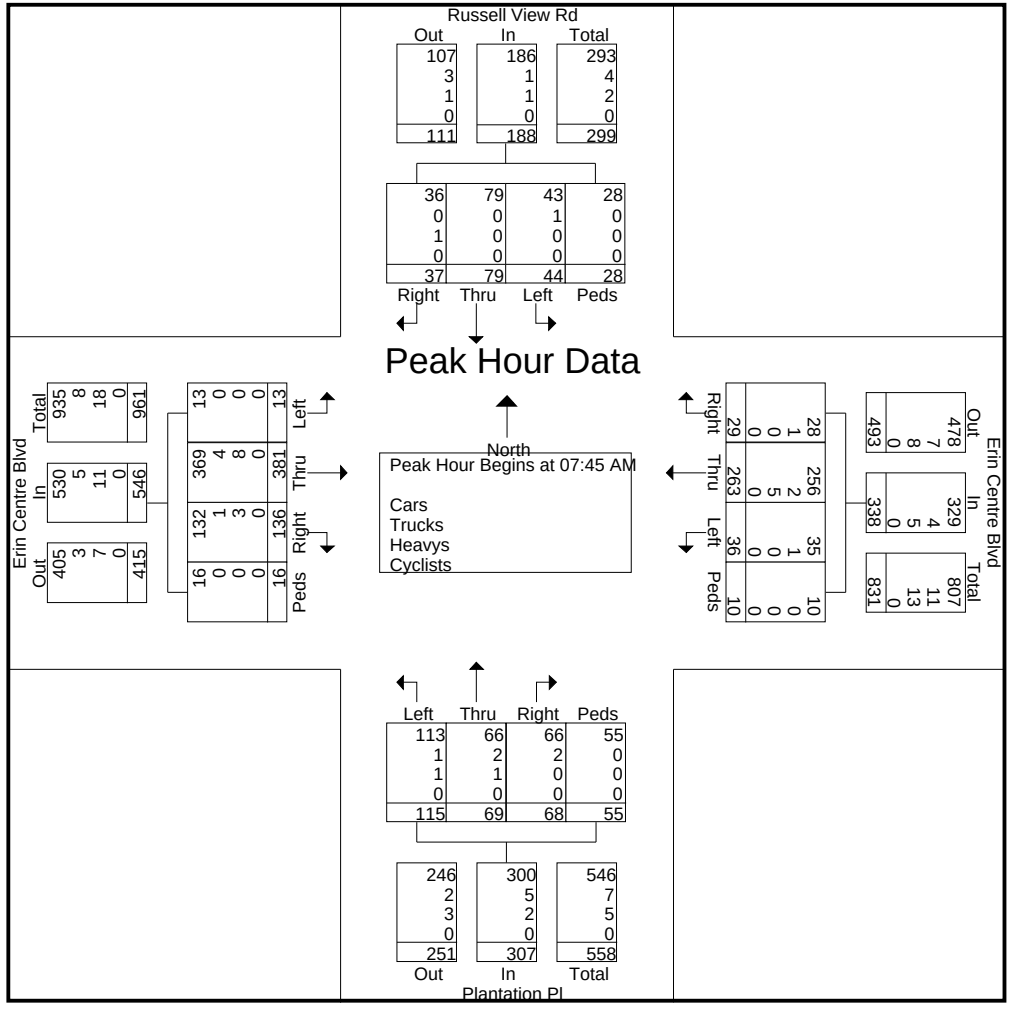
	Russell View Rd From North					Erin Centre Blvd From East					Plantation Pl From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	7	6	6	5	24	1	32	6	1	40	13	4	14	7	38	35	79	2	1	117	219
08:00 AM	10	24	**21**	**11**	**66**	11	83	9	4	107	23	20	40	21	104	**50**	**132**	4	**8**	**194**	471
08:15 AM	9	**31**	14	7	61	**12**	**93**	9	**5**	**119**	**24**	**35**	**52**	**22**	**133**	33	116	**5**	5	159	**472**
08:30 AM	**11**	18	3	5	37	5	55	**12**	0	72	8	10	9	5	32	18	54	2	2	76	217
Total Volume	37	79	44	28	188	29	263	36	10	338	68	69	115	55	307	136	381	13	16	546	1379
% App. Total	19.7	42	23.4	14.9		8.6	77.8	10.7	3		22.1	22.5	37.5	17.9		24.9	69.8	2.4	2.9		
PHF	.841	.637	.524	.636	.712	.604	.707	.750	.500	.710	.708	.493	.553	.625	.577	.680	.722	.650	.500	.704	.730
Cars	36	79	43	28	186	28	256	35	10	329	66	66	113	55	300	132	369	13	16	530	1345
% Cars	97.3	100	97.7	100	98.9	96.6	97.3	97.2	100	97.3	97.1	95.7	98.3	100	97.7	97.1	96.9	100	100	97.1	97.5
Trucks	0	0	1	0	1	1	2	1	0	4	2	2	1	0	5	1	4	0	0	5	15
% Trucks	0	0	2.3	0	0.5	3.4	0.8	2.8	0	1.2	2.9	2.9	0.9	0	1.6	0.7	1.0	0	0	0.9	1.1
Heavys	1	0	0	0	1	0	5	0	0	5	0	1	1	0	2	3	8	0	0	11	19
% Heavys	2.7	0	0	0	0.5	0	1.9	0	0	1.5	0	1.4	0.9	0	0.7	2.2	2.1	0	0	2.0	1.4
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 5



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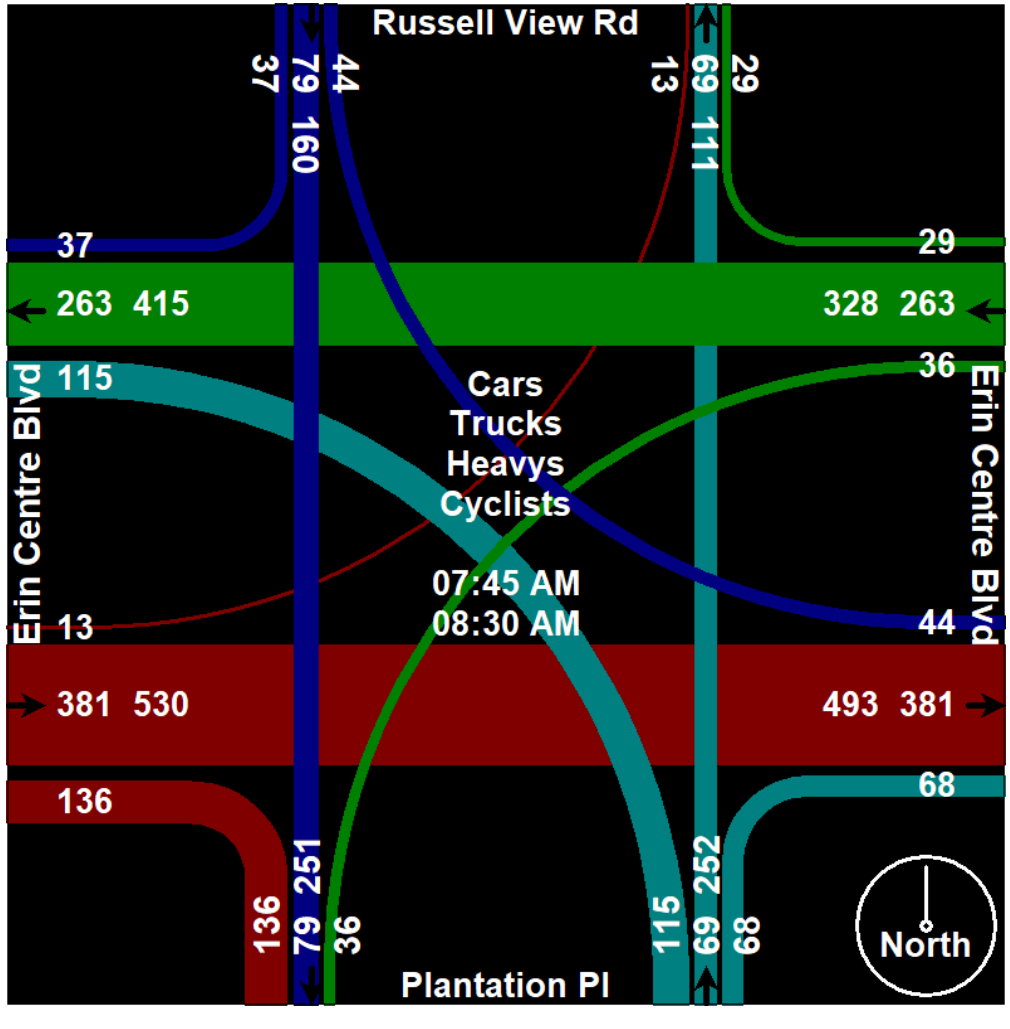
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



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(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21

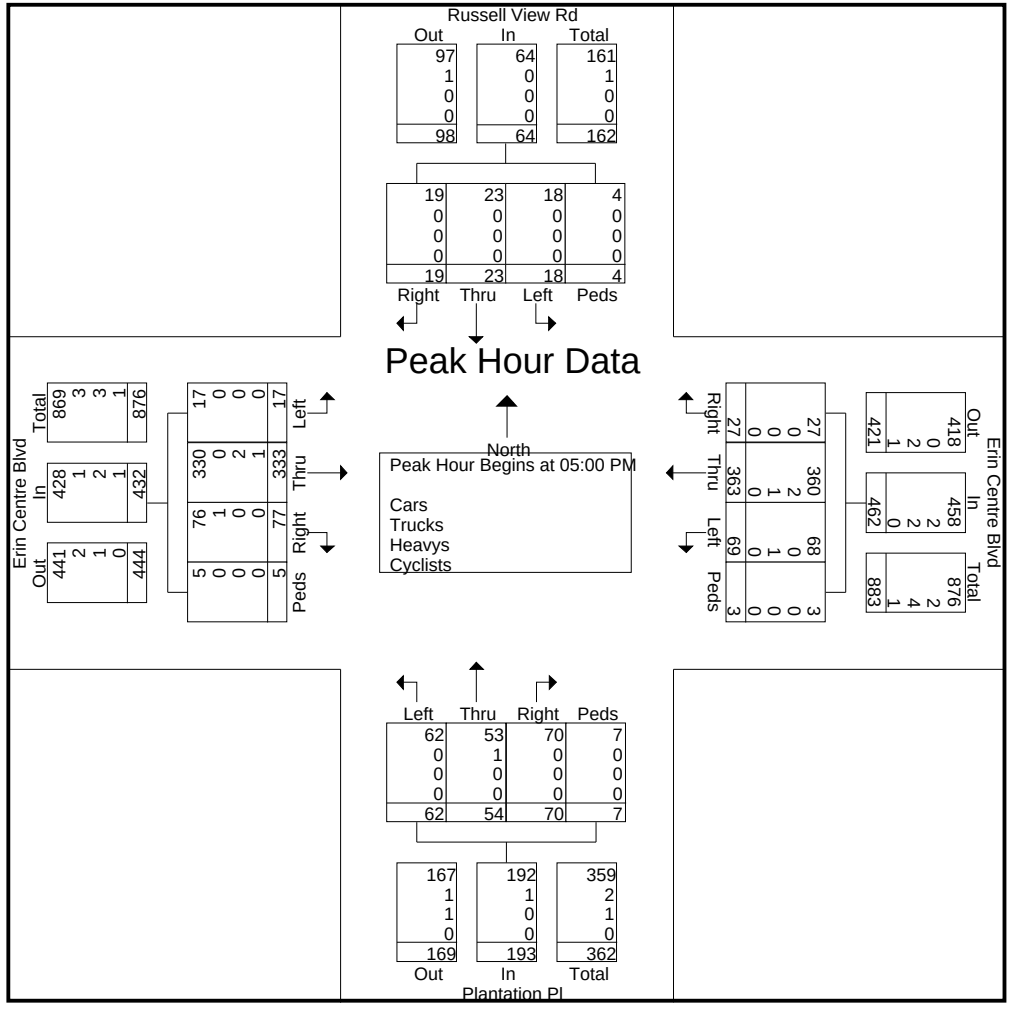
	Russell View Rd From North					Erin Centre Blvd From East					Plantation Pl From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	3	8	**7**	**2**	**20**	8	**95**	**21**	1	**125**	16	11	**17**	1	45	23	71	5	0	99	**289**
05:15 PM	4	0	1	2	7	6	91	14	0	111	**20**	11	17	1	49	**27**	88	3	**3**	**121**	288
05:30 PM	**6**	**10**	3	0	19	**10**	84	14	0	108	17	**18**	12	**3**	**50**	14	**95**	2	0	111	288
05:45 PM	6	5	7	0	18	3	93	20	**2**	118	17	14	16	2	49	13	79	**7**	2	101	286
Total Volume	19	23	18	4	64	27	363	69	3	462	70	54	62	7	193	77	333	17	5	432	1151
% App. Total	29.7	35.9	28.1	6.2		5.8	78.6	14.9	0.6		36.3	28	32.1	3.6		17.8	77.1	3.9	1.2		
PHF	.792	.575	.643	.500	.800	.675	.955	.821	.375	.924	.875	.750	.912	.583	.965	.713	.876	.607	.417	.893	.996
Cars	19	23	18	4	64	27	360	68	3	458	70	53	62	7	192	76	330	17	5	428	1142
% Cars	100	100	100	100	100	100	99.2	98.6	100	99.1	100	98.1	100	100	99.5	98.7	99.1	100	100	99.1	99.2
Trucks	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	1	0	0	0	1	4
% Trucks	0	0	0	0	0	0	0.6	0	0	0.4	0	1.9	0	0	0.5	1.3	0	0	0	0.2	0.3
Heavys	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	4
% Heavys	0	0	0	0	0	0	0.3	1.4	0	0.4	0	0	0	0	0	0	0.6	0	0	0.5	0.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.2	0.1

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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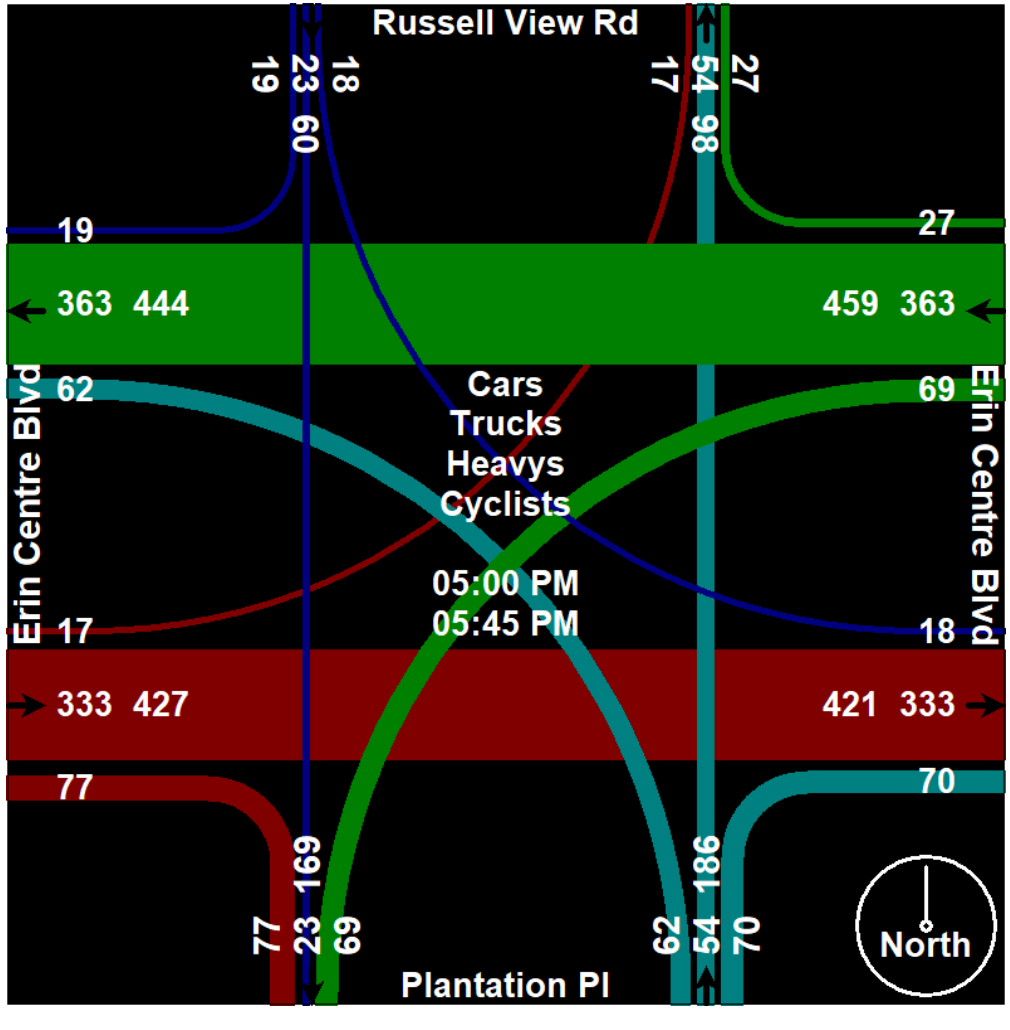
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Russell View Rd From North					Erin Centre Blvd From East					Plantation Pl From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	6	3	4	3	16	3	51	11	2	67	11	3	10	0	24	13	80	2	0	95	202
11:15 AM	2	7	3	2	14	5	56	4	0	65	15	6	9	0	30	10	62	3	0	75	184
11:30 AM	6	8	4	1	19	8	38	9	1	56	11	7	10	0	28	14	88	2	4	108	211
11:45 AM	5	10	7	3	25	4	53	13	0	70	23	10	19	4	56	14	76	4	3	97	248
Total	19	28	18	9	74	20	198	37	3	258	60	26	48	4	138	51	306	11	7	375	845
12:00 PM	3	5	2	2	12	3	57	11	0	71	25	5	16	0	46	16	83	1	6	106	235
12:15 PM	6	6	9	0	21	4	62	14	0	80	12	7	14	0	33	16	87	3	0	106	240
12:30 PM	6	11	3	2	22	5	94	15	1	115	15	7	12	1	35	10	62	7	2	81	253
12:45 PM	5	7	7	3	22	4	70	14	7	95	14	6	11	2	33	17	109	8	6	140	290
Total	20	29	21	7	77	16	283	54	8	361	66	25	53	3	147	59	341	19	14	433	1018
01:00 PM	3	3	3	0	9	0	65	13	0	78	11	9	13	4	37	7	90	9	0	106	230
01:15 PM	5	10	4	1	20	6	62	12	1	81	11	7	14	4	36	22	91	5	0	118	255
01:30 PM	10	4	4	5	23	4	82	14	2	102	20	5	12	5	42	18	80	3	0	101	268
01:45 PM	3	10	4	3	20	1	89	24	0	114	9	8	15	2	34	21	83	3	2	109	277
Total	21	27	15	9	72	11	298	63	3	375	51	29	54	15	149	68	344	20	2	434	1030
Grand Total	60	84	54	25	223	47	779	154	14	994	177	80	155	22	434	178	991	50	23	1242	2893
Apprch %	26.9	37.7	24.2	11.2		4.7	78.4	15.5	1.4		40.8	18.4	35.7	5.1		14.3	79.8	4	1.9		
Total %	2.1	2.9	1.9	0.9	7.7	1.6	26.9	5.3	0.5	34.4	6.1	2.8	5.4	0.8	15	6.2	34.3	1.7	0.8	42.9	
Cars	60	83	54	25	222	47	773	153	14	987	177	79	155	22	433	177	984	49	23	1233	2875
% Cars	100	98.8	100	100	99.6	100	99.2	99.4	100	99.3	100	98.8	100	100	99.8	99.4	99.3	98	100	99.3	99.4
Trucks	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	2	1	0	4	5
% Trucks	0	0	0	0	0	0	0	0.6	0	0.1	0	0	0	0	0	0.6	0.2	2	0	0.3	0.2
Heavys	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	11
% Heavys	0	0	0	0	0	0	0.8	0	0	0.6	0	0	0	0	0	0	0.5	0	0	0.4	0.4
Cyclists	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Cyclists	0	1.2	0	0	0.4	0	0	0	0	0	0	1.2	0	0	0.2	0	0	0	0	0	0.1

Horizon Data Services Ltd

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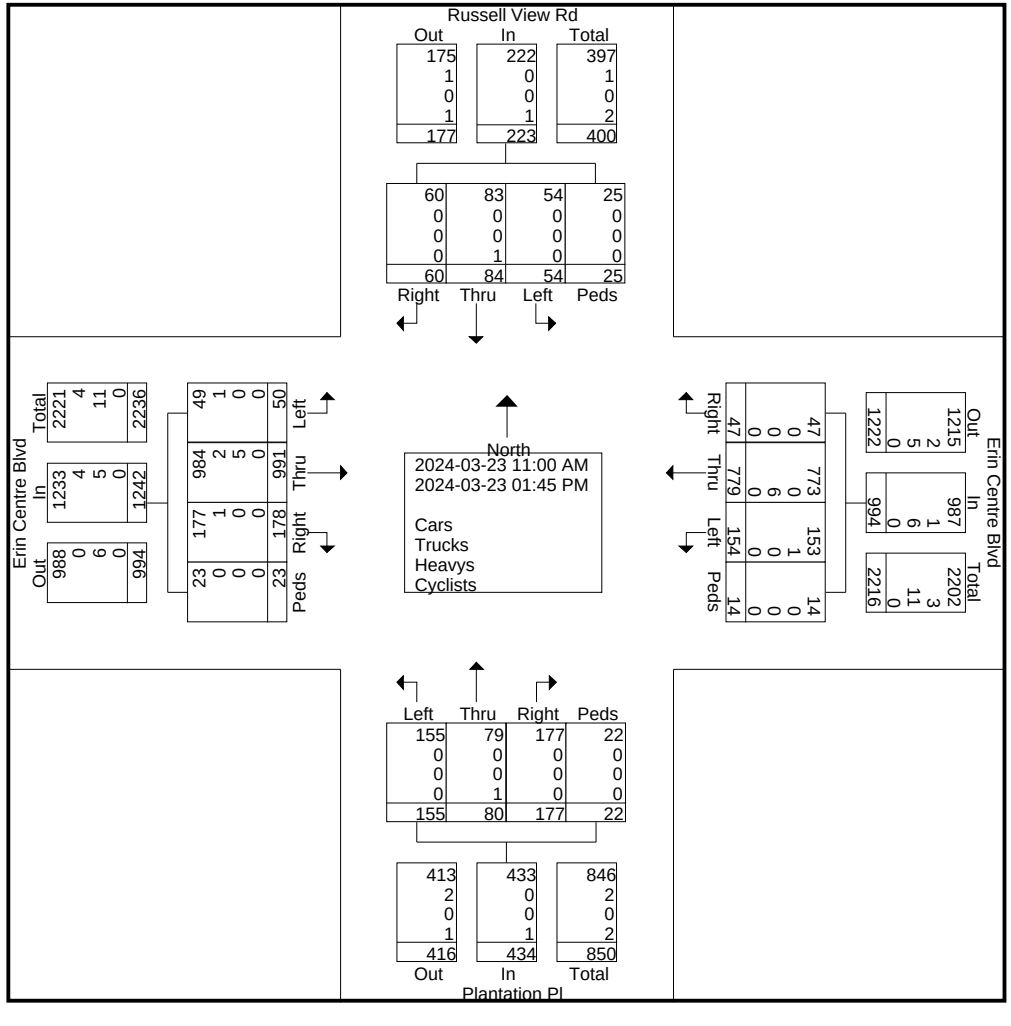
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 2



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 3

	Russell View Rd From North					Erin Centre Blvd From East					Plantation Pl From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:45 PM																					
12:45 PM	5	7	**7**	3	22	4	70	**14**	**7**	95	14	6	11	2	33	17	**109**	8	**6**	**140**	**290**
01:00 PM	3	3	3	0	9	0	65	13	0	78	11	**9**	13	4	37	7	90	**9**	0	106	230
01:15 PM	5	**10**	4	1	20	**6**	62	12	1	81	11	7	**14**	4	36	**22**	91	5	0	118	255
01:30 PM	**10**	4	4	**5**	**23**	4	**82**	14	2	**102**	**20**	5	12	**5**	**42**	18	80	3	0	101	268
Total Volume	23	24	18	9	74	14	279	53	10	356	56	27	50	15	148	64	370	25	6	465	1043
% App. Total	31.1	32.4	24.3	12.2		3.9	78.4	14.9	2.8		37.8	18.2	33.8	10.1		13.8	79.6	5.4	1.3		
PHF	.575	.600	.643	.450	.804	.583	.851	.946	.357	.873	.700	.750	.893	.750	.881	.727	.849	.694	.250	.830	.899
Cars	23	24	18	9	74	14	277	52	10	353	56	26	50	15	147	64	367	25	6	462	1036
% Cars	100	100	100	100	100	100	99.3	98.1	100	99.2	100	96.3	100	100	99.3	100	99.2	100	100	99.4	99.3
Trucks	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
% Trucks	0	0	0	0	0	0	0	1.9	0	0.3	0	0	0	0	0	0	0.3	0	0	0.2	0.2
Heavys	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
% Heavys	0	0	0	0	0	0	0.7	0	0	0.6	0	0	0	0	0	0	0.5	0	0	0.4	0.4
Cyclists	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	3.7	0	0	0.7	0	0	0	0	0	0.1

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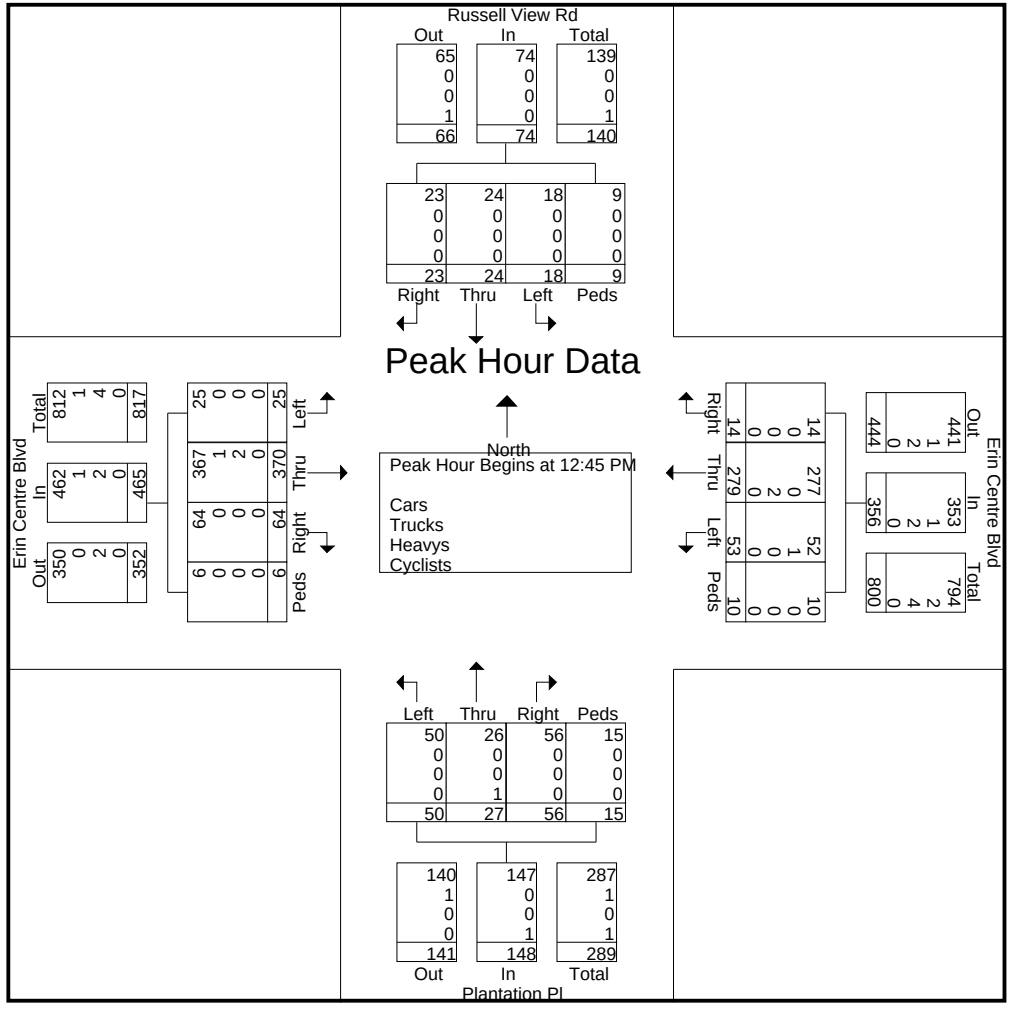
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 4



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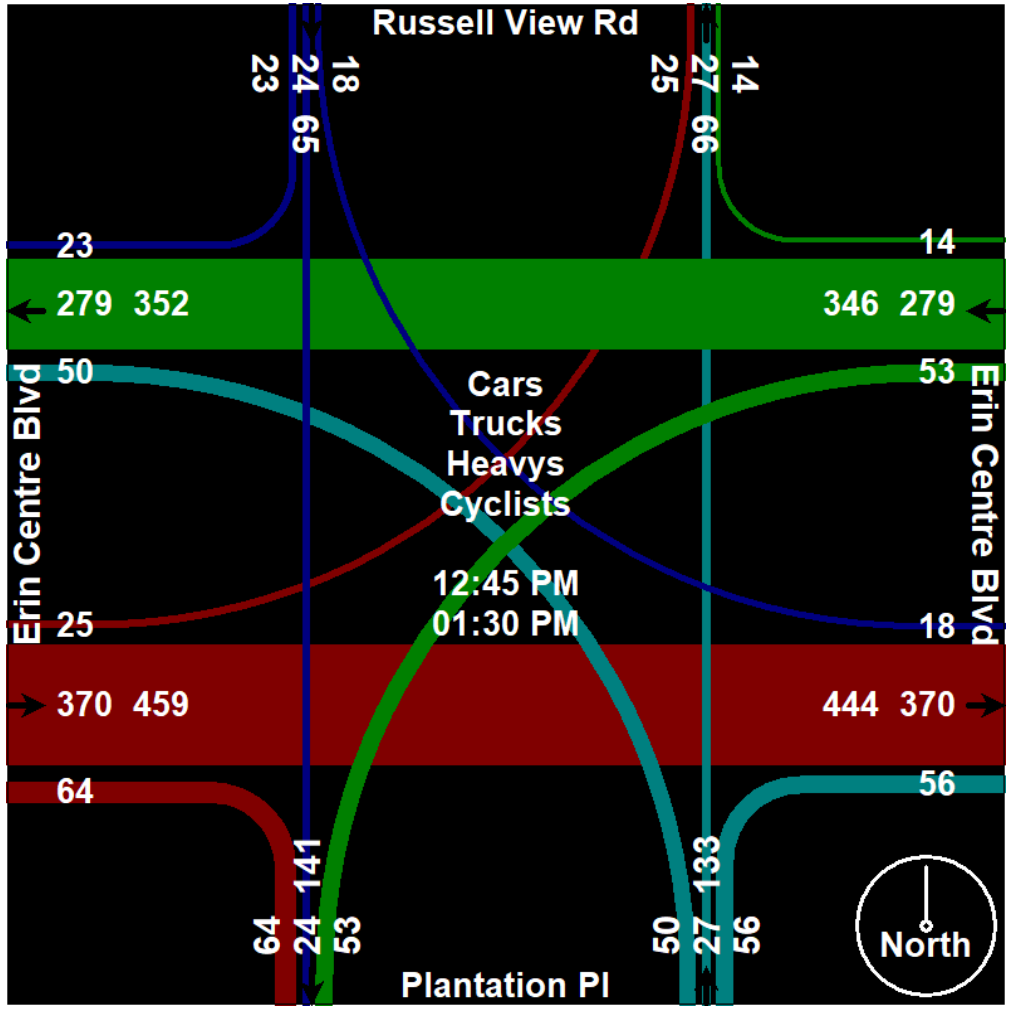
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Winston Churchill Blvd From North					Erin Centre Blvd From East					Winston Churchill Blvd From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	290	18	9	318	10	4	17	5	36	17	110	8	7	142	28	29	13	8	78	574
07:15 AM	6	298	13	3	320	6	6	20	2	34	18	139	2	0	159	25	30	6	1	62	575
07:30 AM	5	358	26	1	390	14	14	32	0	60	27	143	10	3	183	53	50	13	1	117	750
07:45 AM	6	376	49	4	435	19	15	24	3	61	19	217	16	2	254	37	48	12	8	105	855
Total	18	1322	106	17	1463	49	39	93	10	191	81	609	36	12	738	143	157	44	18	362	2754
08:00 AM	12	304	59	7	382	51	45	33	4	133	23	214	16	22	275	44	107	25	8	184	974
08:15 AM	18	393	42	1	454	65	69	21	2	157	11	252	20	8	291	45	89	26	8	168	1070
08:30 AM	19	392	34	7	452	24	22	24	3	73	18	209	16	5	248	52	30	34	2	118	891
08:45 AM	18	368	25	0	411	9	22	23	0	54	28	235	14	0	277	49	29	17	2	97	839
Total	67	1457	160	15	1699	149	158	101	9	417	80	910	66	35	1091	190	255	102	20	567	3774
09:00 AM	12	338	31	3	384	13	22	16	1	52	20	175	11	2	208	38	37	16	4	95	739
09:15 AM	9	291	25	4	329	14	19	16	5	54	21	199	15	0	235	31	22	10	0	63	681
09:30 AM	10	265	27	1	303	22	19	25	4	70	20	161	18	2	201	45	32	8	3	88	662
09:45 AM	10	242	25	0	277	20	20	15	5	60	16	209	16	2	243	30	37	11	9	87	667
Total	41	1136	108	8	1293	69	80	72	15	236	77	744	60	6	887	144	128	45	16	333	2749
04:00 PM	10	248	32	4	294	35	43	17	6	101	24	392	52	4	472	20	37	11	2	70	937
04:15 PM	12	250	22	2	286	40	71	17	5	133	25	387	39	2	453	35	43	8	3	89	961
04:30 PM	12	273	28	2	315	38	40	22	1	101	22	422	43	7	494	25	37	13	6	81	991
04:45 PM	21	309	26	4	360	29	49	11	1	90	20	471	54	8	553	17	34	10	2	63	1066
Total	55	1080	108	12	1255	142	203	67	13	425	91	1672	188	21	1972	97	151	42	13	303	3955
05:00 PM	13	295	38	3	349	36	58	24	2	120	23	409	54	2	488	27	47	22	1	97	1054
05:15 PM	22	330	43	4	399	24	60	20	2	106	32	435	51	3	521	29	45	11	2	87	1113
05:30 PM	16	292	34	2	344	32	64	20	2	118	40	406	45	4	495	44	37	8	2	91	1048
05:45 PM	14	284	26	5	329	36	68	16	2	122	22	428	52	6	508	38	53	6	8	105	1064
Total	65	1201	141	14	1421	128	250	80	8	466	117	1678	202	15	2012	138	182	47	13	380	4279
06:00 PM	20	305	31	4	360	31	55	15	1	102	37	375	43	1	456	30	53	9	4	96	1014
06:15 PM	14	256	40	3	313	43	57	18	4	122	20	374	52	9	455	24	52	22	4	102	992
06:30 PM	16	256	27	5	304	44	50	19	0	113	27	390	53	4	474	32	37	9	2	80	971
06:45 PM	15	245	33	0	293	40	54	10	0	104	36	340	39	6	421	22	51	15	2	90	908
Total	65	1062	131	12	1270	158	216	62	5	441	120	1479	187	20	1806	108	193	55	12	368	3885

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Winston Churchill Blvd From North					Erin Centre Blvd From East					Winston Churchill Blvd From South					Erin Centre Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	311	7258	754	78	8401	695	946	475	60	2176	566	7092	739	109	8506	820	1066	335	92	2313	21396
Apprch %	3.7	86.4	9	0.9		31.9	43.5	21.8	2.8		6.7	83.4	8.7	1.3		35.5	46.1	14.5	4		
Total %	1.5	33.9	3.5	0.4	39.3	3.2	4.4	2.2	0.3	10.2	2.6	33.1	3.5	0.5	39.8	3.8	5	1.6	0.4	10.8	
Cars	307	7099	745	78	8229	681	926	474	60	2141	551	6912	731	109	8303	811	1047	329	92	2279	20952
% Cars	98.7	97.8	98.8	100	98	98	97.9	99.8	100	98.4	97.3	97.5	98.9	100	97.6	98.9	98.2	98.2	100	98.5	97.9
Trucks	1	46	4	0	51	5	5	1	0	11	11	69	5	0	85	9	4	5	0	18	165
% Trucks	0.3	0.6	0.5	0	0.6	0.7	0.5	0.2	0	0.5	1.9	1	0.7	0	1	1.1	0.4	1.5	0	0.8	0.8
Heavys	3	113	5	0	121	9	15	0	0	24	4	111	3	0	118	0	13	1	0	14	277
% Heavys	1	1.6	0.7	0	1.4	1.3	1.6	0	0	1.1	0.7	1.6	0.4	0	1.4	0	1.2	0.3	0	0.6	1.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.1	0

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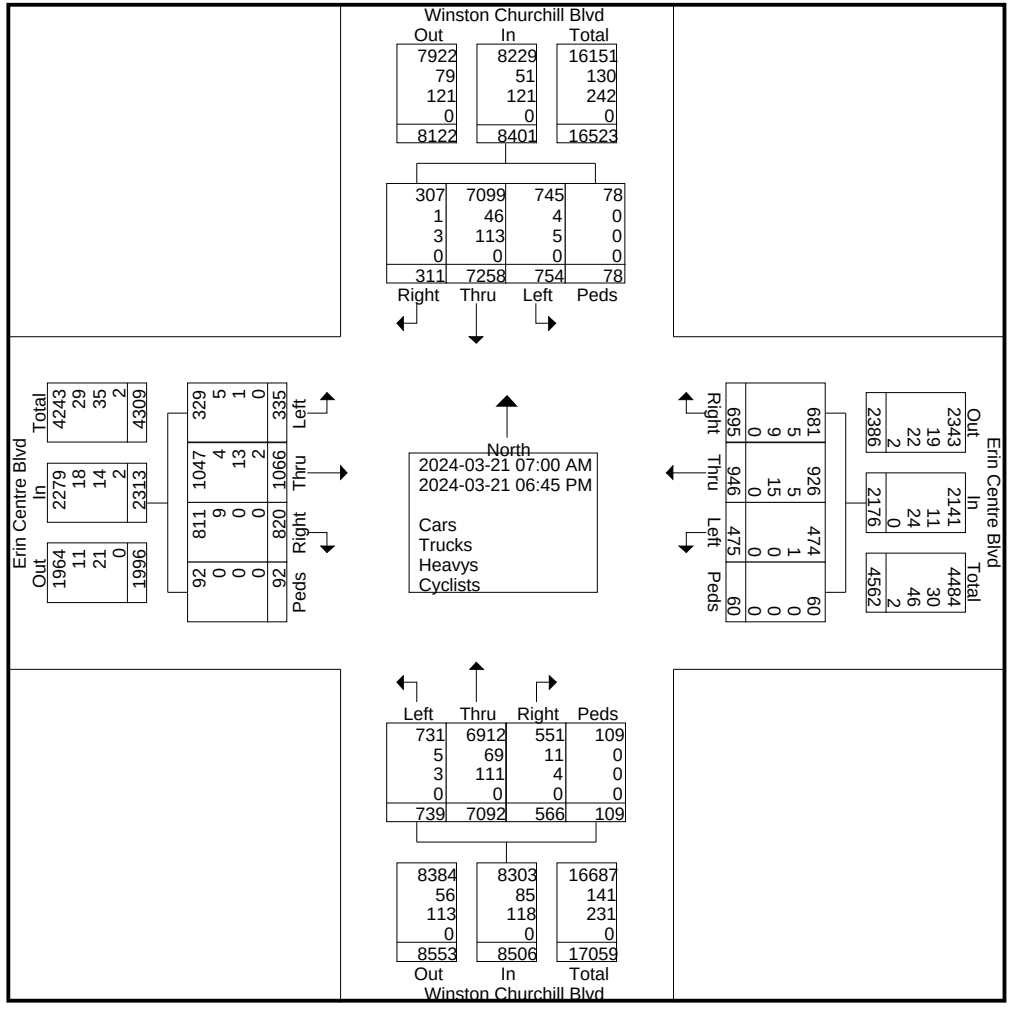
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



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(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21

	Winston Churchill Blvd From North					Erin Centre Blvd From East					Winston Churchill Blvd From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	6	376	49	4	435	19	15	24	3	61	19	217	16	2	254	37	48	12	**8**	105	855
08:00 AM	12	304	**59**	**7**	382	51	45	**33**	**4**	133	**23**	214	16	**22**	275	44	**107**	25	8	**184**	974
08:15 AM	18	**393**	42	1	**454**	**65**	**69**	21	2	**157**	11	**252**	**20**	8	**291**	45	89	26	8	168	**1070**
08:30 AM	**19**	392	34	7	452	24	22	24	3	73	18	209	16	5	248	**52**	30	**34**	2	118	891
Total Volume	55	1465	184	19	1723	159	151	102	12	424	71	892	68	37	1068	178	274	97	26	575	3790
% App. Total	3.2	85	10.7	1.1		37.5	35.6	24.1	2.8		6.6	83.5	6.4	3.5		31	47.7	16.9	4.5		
PHF	.724	.932	.780	.679	.949	.612	.547	.773	.750	.675	.772	.885	.850	.420	.918	.856	.640	.713	.813	.781	.886
Cars	52	1421	180	19	1672	151	147	102	12	412	63	859	66	37	1025	178	269	93	26	566	3675
% Cars	94.5	97.0	97.8	100	97.0	95.0	97.4	100	100	97.2	88.7	96.3	97.1	100	96.0	100	98.2	95.9	100	98.4	97.0
Trucks	1	14	2	0	17	2	3	0	0	5	4	18	2	0	24	0	1	4	0	5	51
% Trucks	1.8	1.0	1.1	0	1.0	1.3	2.0	0	0	1.2	5.6	2.0	2.9	0	2.2	0	0.4	4.1	0	0.9	1.3
Heavys	2	30	2	0	34	6	1	0	0	7	4	15	0	0	19	0	4	0	0	4	64
% Heavys	3.6	2.0	1.1	0	2.0	3.8	0.7	0	0	1.7	5.6	1.7	0	0	1.8	0	1.5	0	0	0.7	1.7
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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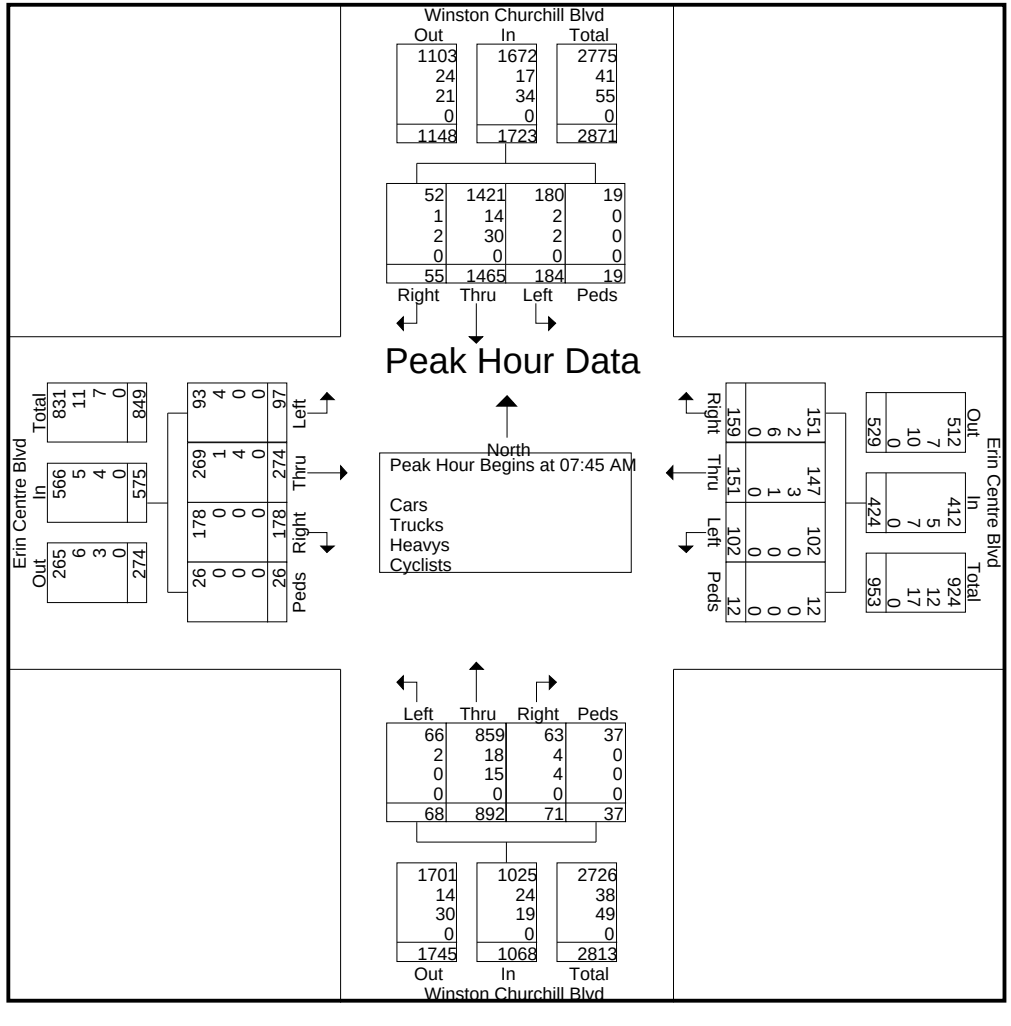
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21
Page No : 5



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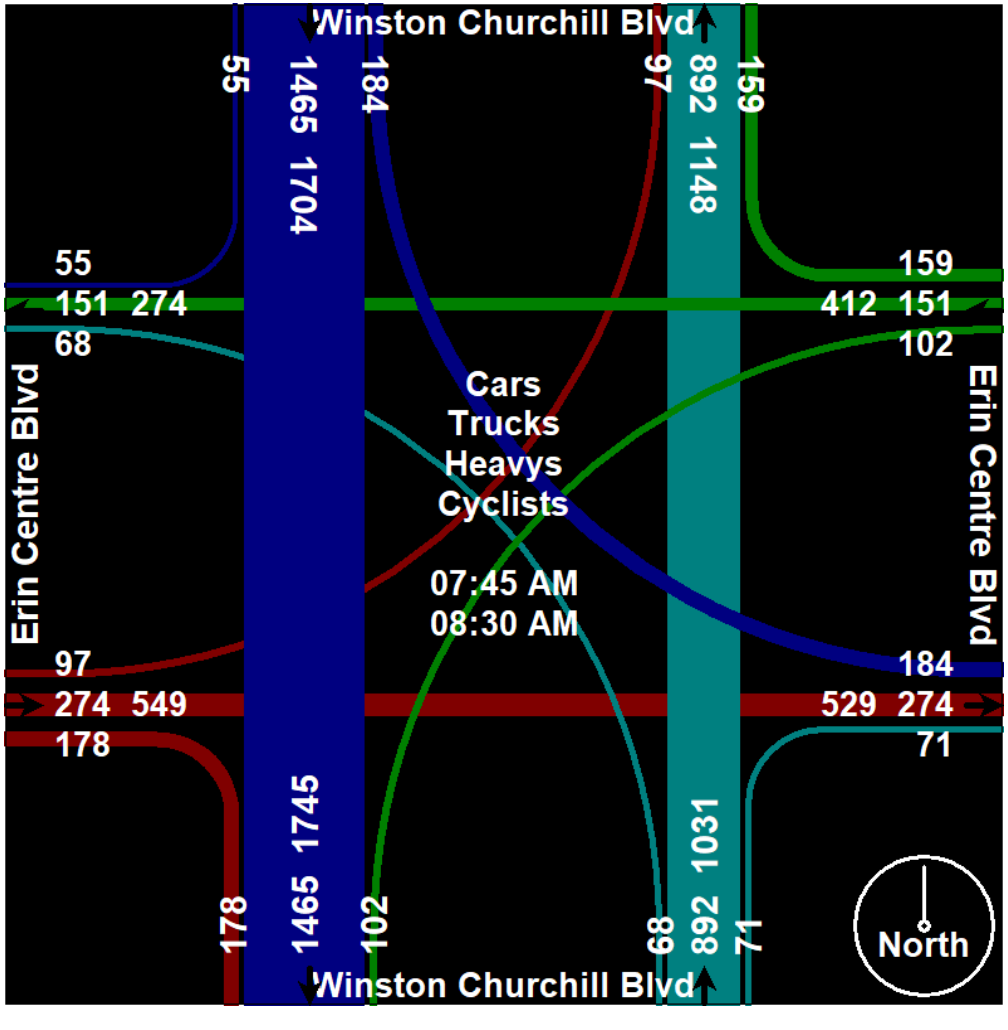
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21

	Winston Churchill Blvd From North					Erin Centre Blvd From East					Winston Churchill Blvd From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	21	309	26	**4**	360	29	49	11	1	90	20	**471**	**54**	**8**	**553**	17	34	10	**2**	63	1066
05:00 PM	13	295	38	3	349	**36**	58	**24**	**2**	**120**	23	409	54	2	488	27	**47**	**22**	1	**97**	1054
05:15 PM	**22**	**330**	**43**	4	**399**	24	60	20	2	106	32	435	51	3	521	29	45	11	2	87	**1113**
05:30 PM	16	292	34	2	344	32	**64**	20	2	118	**40**	406	45	4	495	**44**	37	8	2	91	1048
Total Volume	72	1226	141	13	1452	121	231	75	7	434	115	1721	204	17	2057	117	163	51	7	338	4281
% App. Total	5	84.4	9.7	0.9		27.9	53.2	17.3	1.6		5.6	83.7	9.9	0.8		34.6	48.2	15.1	2.1		
PHF	.818	.929	.820	.813	.910	.840	.902	.781	.875	.904	.719	.913	.944	.531	.930	.665	.867	.580	.875	.871	.962
Cars	72	1212	140	13	1437	121	229	75	7	432	113	1701	204	17	2035	116	161	51	7	335	4239
% Cars	100	98.9	99.3	100	99.0	100	99.1	100	100	99.5	98.3	98.8	100	100	98.9	99.1	98.8	100	100	99.1	99.0
Trucks	0	3	1	0	4	0	0	0	0	0	2	8	0	0	10	1	0	0	0	1	15
% Trucks	0	0.2	0.7	0	0.3	0	0	0	0	0	1.7	0.5	0	0	0.5	0.9	0	0	0	0.3	0.4
Heavys	0	11	0	0	11	0	2	0	0	2	0	12	0	0	12	0	1	0	0	1	26
% Heavys	0	0.9	0	0	0.8	0	0.9	0	0	0.5	0	0.7	0	0	0.6	0	0.6	0	0	0.3	0.6
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0	0	0.3	0.0

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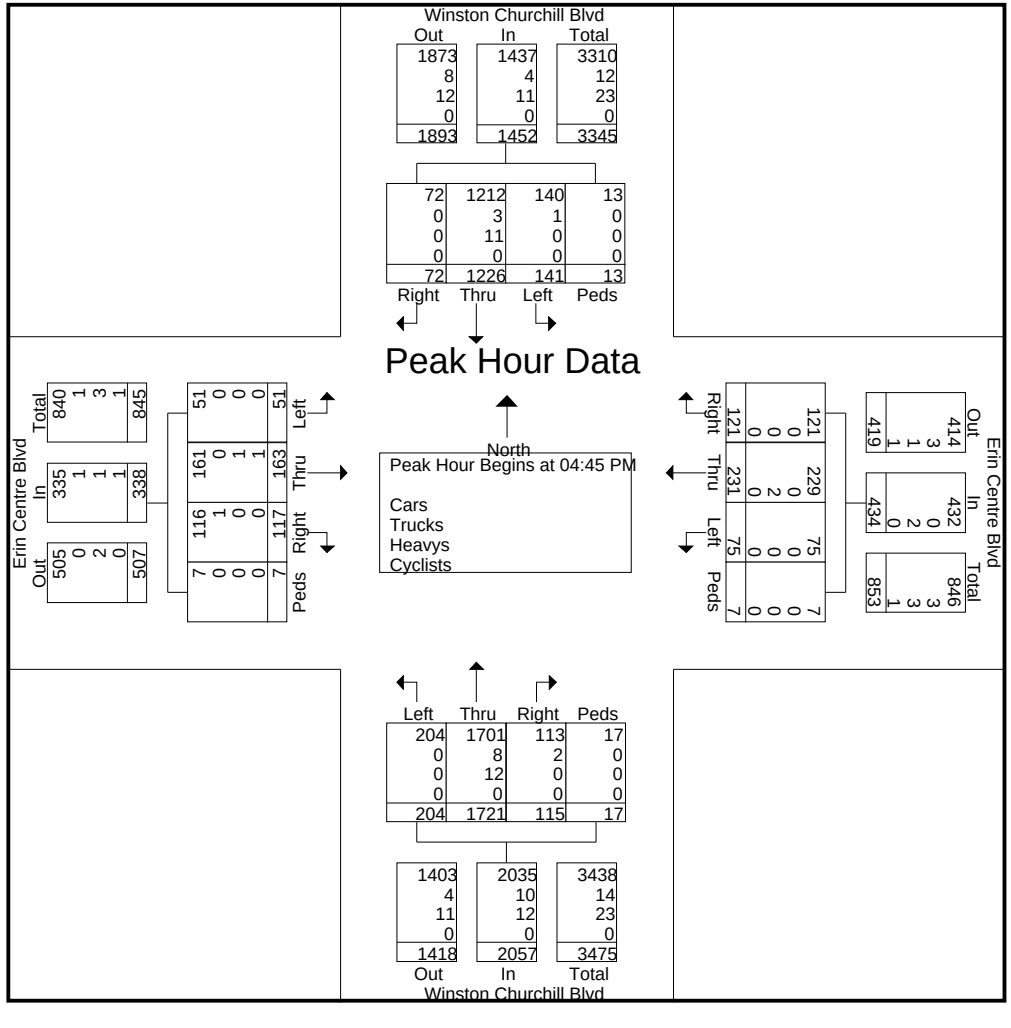
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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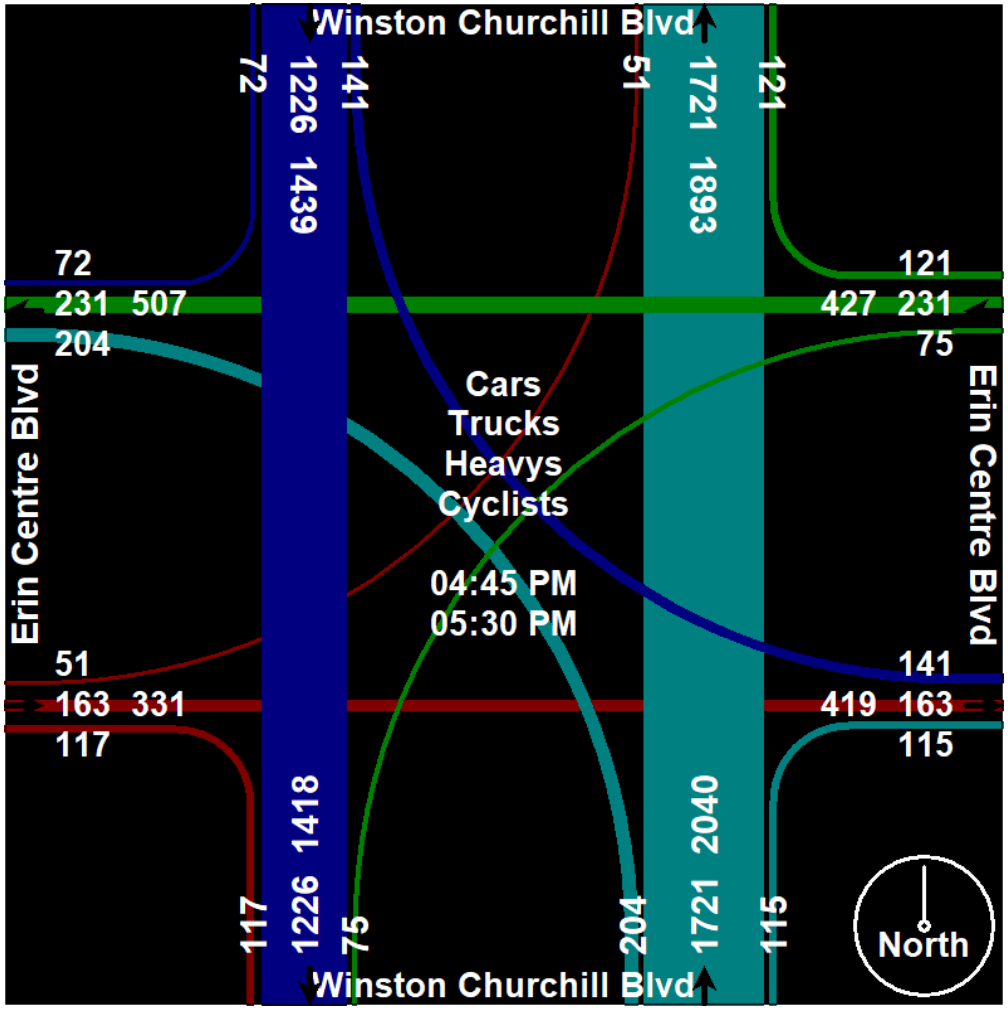
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Winston Churchill Blvd From North					Erin Centre Blvd From East					Winston Churchill Blvd From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	7	263	31	6	307	22	22	18	6	68	28	236	25	3	292	32	43	11	0	86	753
11:15 AM	11	237	19	0	267	14	30	16	0	60	22	291	30	0	343	39	44	8	0	91	761
11:30 AM	5	303	38	6	352	9	24	29	2	64	29	269	25	2	325	35	34	10	2	81	822
11:45 AM	7	297	28	4	336	32	39	15	3	89	32	249	23	1	305	28	42	10	2	82	812
Total	30	1100	116	16	1262	77	115	78	11	281	111	1045	103	6	1265	134	163	39	4	340	3148
12:00 PM	6	339	38	1	384	30	30	15	0	75	30	309	34	0	373	30	42	10	1	83	915
12:15 PM	9	306	42	2	359	33	28	21	6	88	26	272	30	0	328	32	40	8	3	83	858
12:30 PM	15	296	27	6	344	34	43	31	2	110	26	265	35	0	326	41	35	9	0	85	865
12:45 PM	14	352	41	7	414	21	33	22	2	78	38	316	33	1	388	39	49	13	3	104	984
Total	44	1293	148	16	1501	118	134	89	10	351	120	1162	132	1	1415	142	166	40	7	355	3622
01:00 PM	8	285	44	6	343	34	38	13	1	86	23	316	37	5	381	40	46	16	3	105	915
01:15 PM	9	307	40	8	364	30	39	23	2	94	29	298	36	7	370	31	54	11	6	102	930
01:30 PM	9	319	35	1	364	43	34	19	1	97	30	301	43	3	377	37	42	9	5	93	931
01:45 PM	15	290	34	0	339	41	48	29	3	121	22	306	29	5	362	33	54	11	3	101	923
Total	41	1201	153	15	1410	148	159	84	7	398	104	1221	145	20	1490	141	196	47	17	401	3699
Grand Total	115	3594	417	47	4173	343	408	251	28	1030	335	3428	380	27	4170	417	525	126	28	1096	10469
Apprch %	2.8	86.1	10	1.1		33.3	39.6	24.4	2.7		8	82.2	9.1	0.6		38	47.9	11.5	2.6		
Total %	1.1	34.3	4	0.4	39.9	3.3	3.9	2.4	0.3	9.8	3.2	32.7	3.6	0.3	39.8	4	5	1.2	0.3	10.5	
Cars	115	3555	417	47	4134	343	403	251	28	1025	333	3387	379	27	4126	415	518	126	28	1087	10372
% Cars	100	98.9	100	100	99.1	100	98.8	100	100	99.5	99.4	98.8	99.7	100	98.9	99.5	98.7	100	100	99.2	99.1
Trucks	0	13	0	0	13	0	0	0	0	0	2	15	1	0	18	2	2	0	0	4	35
% Trucks	0	0.4	0	0	0.3	0	0	0	0	0	0.6	0.4	0.3	0	0.4	0.5	0.4	0	0	0.4	0.3
Heavys	0	26	0	0	26	0	5	0	0	5	0	26	0	0	26	0	5	0	0	5	62
% Heavys	0	0.7	0	0	0.6	0	1.2	0	0	0.5	0	0.8	0	0	0.6	0	1	0	0	0.5	0.6
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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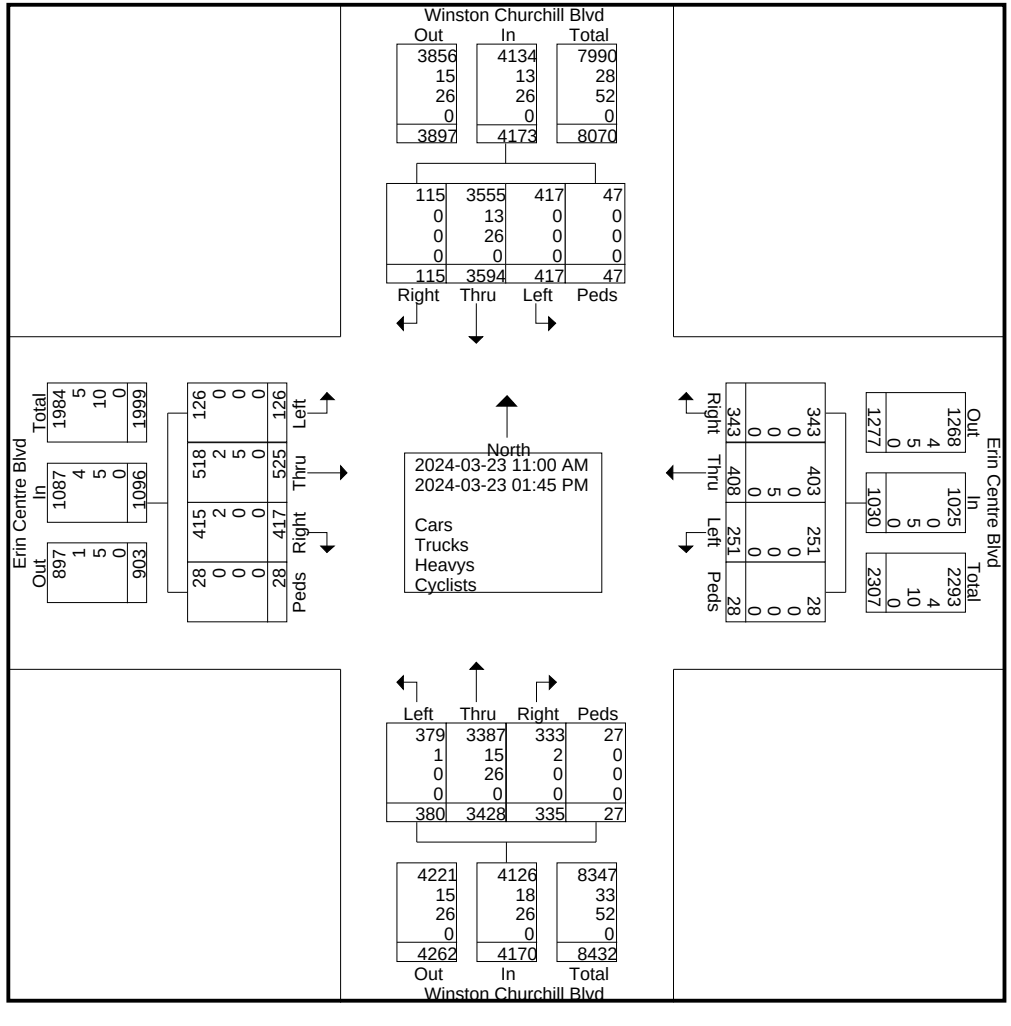
(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 2



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Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard-SAT
Site Code : 00000000
Start Date : 2024-03-23

	Winston Churchill Blvd From North					Erin Centre Blvd From East					Winston Churchill Blvd From South					Erin Centre Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:45 PM																					
12:45 PM	**14**	**352**	41	7	**414**	21	33	22	**2**	78	**38**	**316**	33	1	**388**	39	49	13	3	104	**984**
01:00 PM	8	285	**44**	6	343	34	38	13	1	86	23	316	37	5	381	**40**	46	**16**	3	**105**	915
01:15 PM	9	307	40	**8**	364	30	**39**	**23**	2	94	29	298	36	**7**	370	31	**54**	11	**6**	102	930
01:30 PM	9	319	35	1	364	**43**	34	19	1	**97**	30	301	**43**	3	377	37	42	9	5	93	931
Total Volume	40	1263	160	22	1485	128	144	77	6	355	120	1231	149	16	1516	147	191	49	17	404	3760
% App. Total	2.7	85.1	10.8	1.5		36.1	40.6	21.7	1.7		7.9	81.2	9.8	1.1		36.4	47.3	12.1	4.2		
PHF	.714	.897	.909	.688	.897	.744	.923	.837	.750	.915	.789	.974	.866	.571	.977	.919	.884	.766	.708	.962	.955
Cars	40	1248	160	22	1470	128	142	77	6	353	120	1215	149	16	1500	146	189	49	17	401	3724
% Cars	100	98.8	100	100	99.0	100	98.6	100	100	99.4	100	98.7	100	100	98.9	99.3	99.0	100	100	99.3	99.0
Trucks	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	8
% Trucks	0	0.3	0	0	0.3	0	0	0	0	0	0	0.2	0	0	0.2	0.7	0	0	0	0.2	0.2
Heavys	0	11	0	0	11	0	2	0	0	2	0	13	0	0	13	0	2	0	0	2	28
% Heavys	0	0.9	0	0	0.7	0	1.4	0	0	0.6	0	1.1	0	0	0.9	0	1.0	0	0	0.5	0.7
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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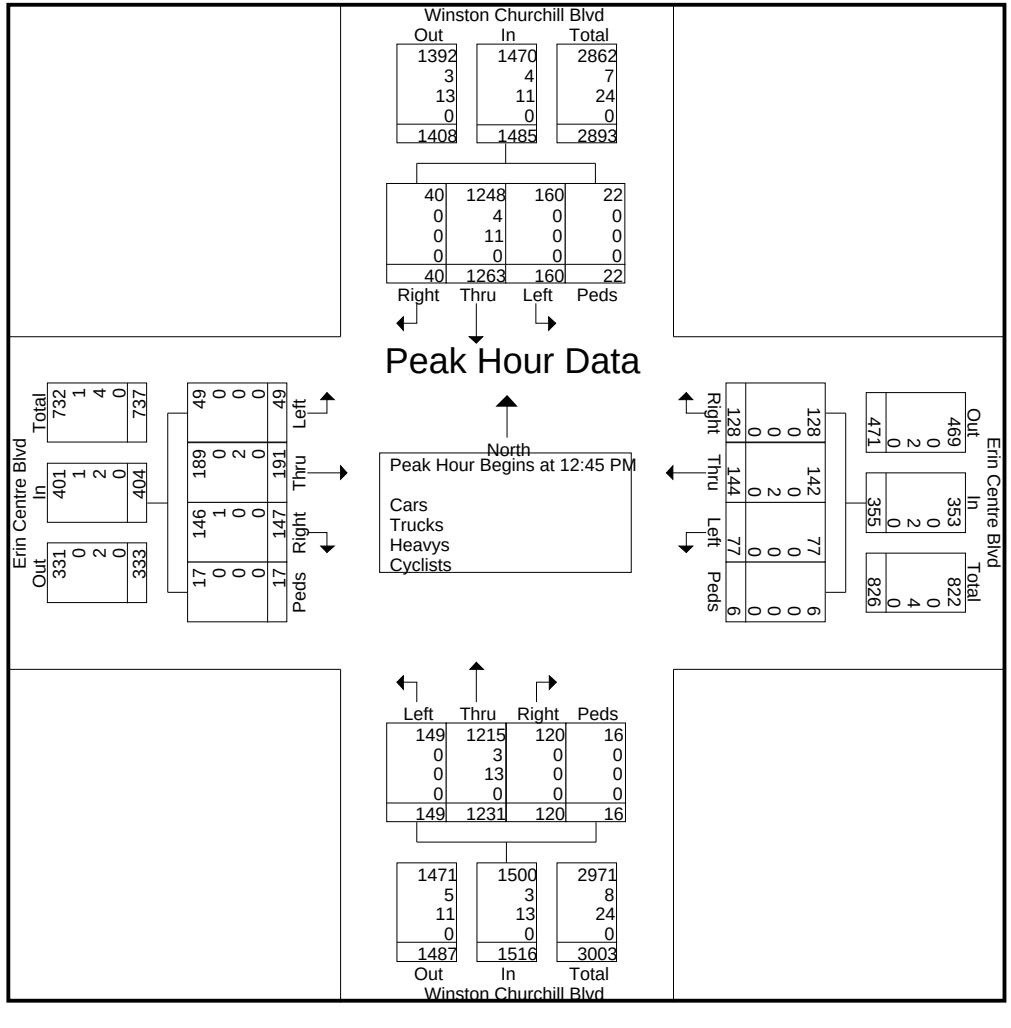
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 4



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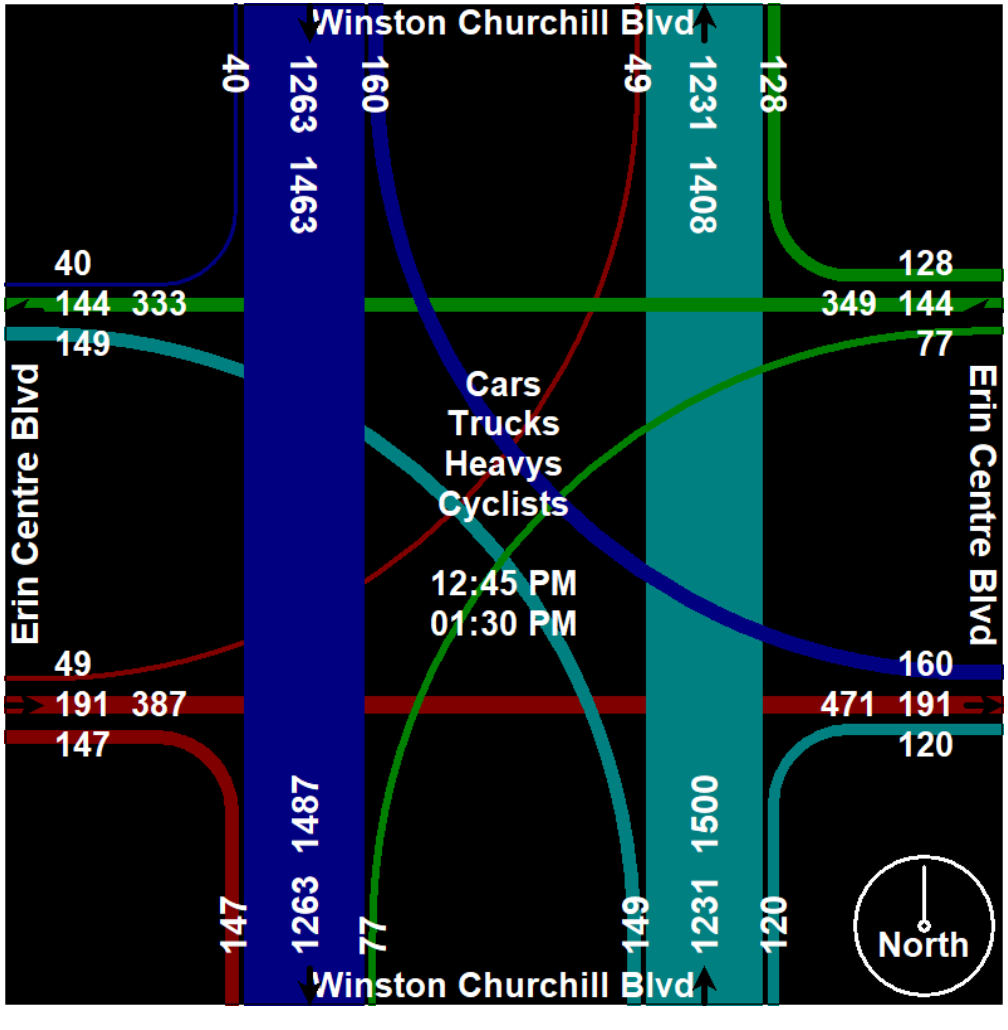
Your Traffic Count Specialist

File Name : Erin Centre Boulevard at Winston Churchill Boulevard-SAT
Site Code : 00000000
Start Date : 2024-03-23



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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					Credit Valley Rd From East					Erin Mills Pkwy From South					Credit Valley Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	5	242	8	3	258	5	1	49	1	56	59	248	21	2	330	48	6	11	6	71	715
07:15 AM	5	266	9	1	281	11	14	60	3	88	61	231	19	4	315	57	11	9	0	77	761
07:30 AM	4	395	9	1	409	14	22	65	0	101	82	307	12	0	401	54	9	8	3	74	985
07:45 AM	2	420	20	2	444	16	16	82	1	115	109	340	29	0	478	53	20	14	0	87	1124
Total	16	1323	46	7	1392	46	53	256	5	360	311	1126	81	6	1524	212	46	42	9	309	3585
08:00 AM	5	382	19	1	407	19	22	77	1	119	101	354	24	4	483	54	17	9	2	82	1091
08:15 AM	8	355	16	1	380	17	15	57	2	91	86	313	37	2	438	71	24	14	7	116	1025
08:30 AM	10	410	15	2	437	10	13	79	1	103	89	370	25	1	485	62	20	11	3	96	1121
08:45 AM	3	307	11	0	321	13	17	92	3	125	123	316	43	3	485	41	21	11	6	79	1010
Total	26	1454	61	4	1545	59	67	305	7	438	399	1353	129	10	1891	228	82	45	18	373	4247
09:00 AM	8	349	24	5	386	21	28	67	1	117	99	293	29	0	421	45	29	11	8	93	1017
09:15 AM	9	337	13	4	363	25	34	80	0	139	93	329	15	1	438	52	24	16	6	98	1038
09:30 AM	6	315	10	4	335	11	11	62	2	86	56	243	23	5	327	33	8	9	2	52	800
09:45 AM	3	299	14	2	318	24	13	62	0	99	72	305	19	0	396	44	13	9	3	69	882
Total	26	1300	61	15	1402	81	86	271	3	441	320	1170	86	6	1582	174	74	45	19	312	3737
04:00 PM	14	380	4	3	401	31	43	92	4	170	118	430	35	3	586	61	22	11	3	97	1254
04:15 PM	9	380	9	4	402	13	36	98	1	148	98	363	42	3	506	39	16	6	3	64	1120
04:30 PM	8	364	11	3	386	14	20	84	0	118	80	387	37	2	506	37	17	7	2	63	1073
04:45 PM	5	366	9	2	382	23	19	70	1	113	90	414	41	3	548	37	16	7	3	63	1106
Total	36	1490	33	12	1571	81	118	344	6	549	386	1594	155	11	2146	174	71	31	11	287	4553
05:00 PM	15	407	7	0	429	15	17	74	2	108	82	364	39	6	491	37	18	12	2	69	1097
05:15 PM	11	415	7	3	436	13	14	64	2	93	83	427	45	3	558	37	15	9	2	63	1150
05:30 PM	9	378	6	1	394	9	11	53	1	74	89	407	50	1	547	29	20	5	0	54	1069
05:45 PM	9	367	10	2	388	17	7	61	0	85	94	377	38	1	510	32	20	9	2	63	1046
Total	44	1567	30	6	1647	54	49	252	5	360	348	1575	172	11	2106	135	73	35	6	249	4362
06:00 PM	8	373	7	1	389	11	11	66	2	90	78	383	39	3	503	31	10	10	3	54	1036
06:15 PM	4	312	9	3	328	9	6	59	1	75	79	375	41	2	497	37	5	8	4	54	954
06:30 PM	5	349	13	1	368	14	12	64	3	93	63	355	37	3	458	29	7	5	0	41	960
06:45 PM	10	309	7	3	329	21	18	64	0	103	82	371	39	0	492	35	12	4	0	51	975
Total	27	1343	36	8	1414	55	47	253	6	361	302	1484	156	8	1950	132	34	27	7	200	3925

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

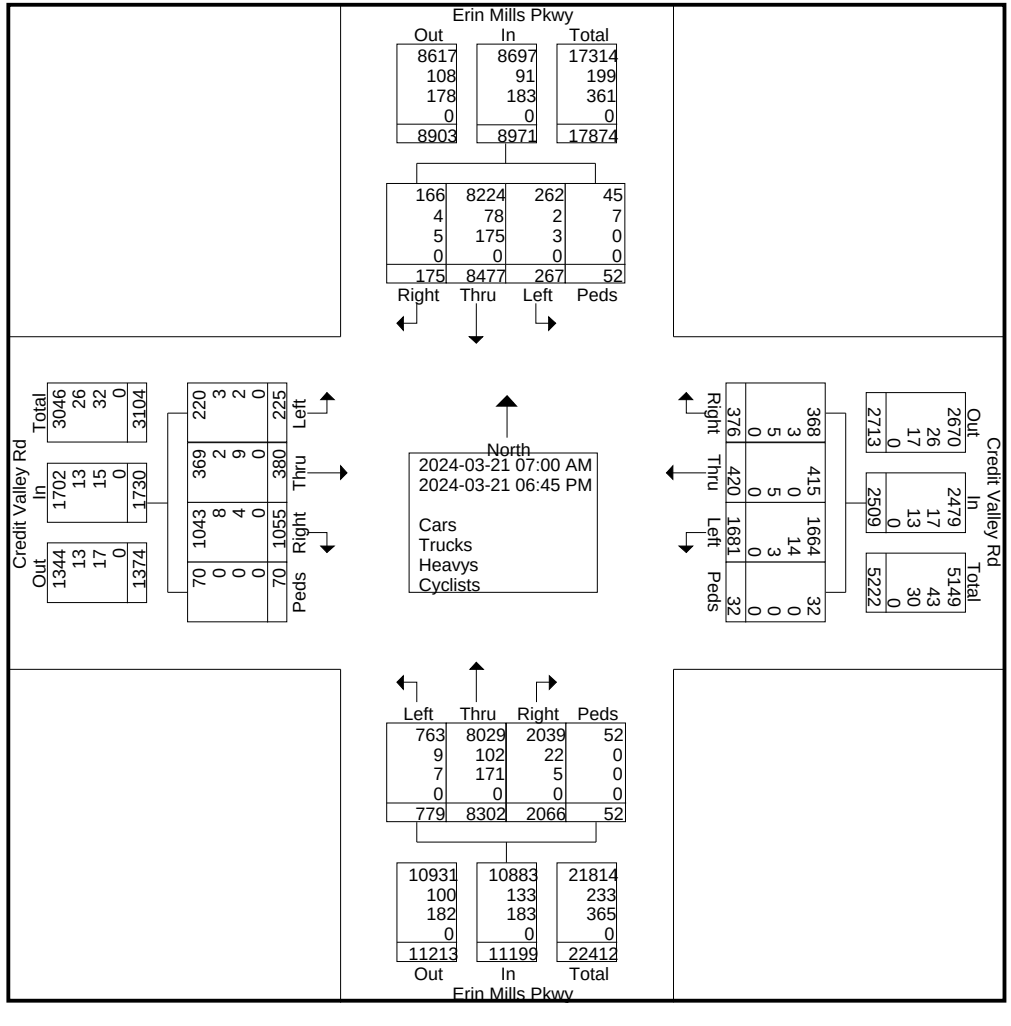
	Erin Mills Pkwy From North					Credit Valley Rd From East					Erin Mills Pkwy From South					Credit Valley Rd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	175	8477	267	52	8971	376	420	1681	32	2509	2066	8302	779	52	11199	1055	380	225	70	1730	24409
Apprch %	2	94.5	3	0.6		15	16.7	67	1.3		18.4	74.1	7	0.5		61	22	13	4		
Total %	0.7	34.7	1.1	0.2	36.8	1.5	1.7	6.9	0.1	10.3	8.5	34	3.2	0.2	45.9	4.3	1.6	0.9	0.3	7.1	
Cars	166	8224	262	45	8697	368	415	1664	32	2479	2039	8029	763	52	10883	1043	369	220	70	1702	23761
% Cars	94.9	97	98.1	86.5	96.9	97.9	98.8	99	100	98.8	98.7	96.7	97.9	100	97.2	98.9	97.1	97.8	100	98.4	97.3
Trucks	4	78	2	7	91	3	0	14	0	17	22	102	9	0	133	8	2	3	0	13	254
% Trucks	2.3	0.9	0.7	13.5	1	0.8	0	0.8	0	0.7	1.1	1.2	1.2	0	1.2	0.8	0.5	1.3	0	0.8	1
Heavys	5	175	3	0	183	5	5	3	0	13	5	171	7	0	183	4	9	2	0	15	394
% Heavys	2.9	2.1	1.1	0	2	1.3	1.2	0.2	0	0.5	0.2	2.1	0.9	0	1.6	0.4	2.4	0.9	0	0.9	1.6
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



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(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road
Site Code : 00000000
Start Date : 2024-03-21

	Erin Mills Pkwy From North					Credit Valley Rd From East					Erin Mills Pkwy From South					Credit Valley Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	2	**420**	**20**	**2**	**444**	16	16	**82**	1	115	**109**	340	29	0	478	53	20	**14**	0	87	**1124**
08:00 AM	5	382	19	1	407	**19**	**22**	77	1	**119**	101	354	24	**4**	483	54	17	9	2	82	1091
08:15 AM	8	355	16	1	380	17	15	57	**2**	91	86	313	**37**	2	438	**71**	**24**	14	**7**	**116**	1025
08:30 AM	**10**	410	15	2	437	10	13	79	1	103	89	**370**	25	1	**485**	62	20	11	3	96	1121
Total Volume	25	1567	70	6	1668	62	66	295	5	428	385	1377	115	7	1884	240	81	48	12	381	4361
% App. Total	1.5	93.9	4.2	0.4		14.5	15.4	68.9	1.2		20.4	73.1	6.1	0.4		63	21.3	12.6	3.1		
PHF	.625	.933	.875	.750	.939	.816	.750	.899	.625	.899	.883	.930	.777	.438	.971	.845	.844	.857	.429	.821	.970
Cars	19	1511	68	6	1604	60	63	289	5	417	381	1333	112	7	1833	237	77	47	12	373	4227
% Cars	76.0	96.4	97.1	100	96.2	96.8	95.5	98.0	100	97.4	99.0	96.8	97.4	100	97.3	98.8	95.1	97.9	100	97.9	96.9
Trucks	2	16	0	0	18	0	0	4	0	4	4	22	1	0	27	2	0	0	0	2	51
% Trucks	8.0	1.0	0	0	1.1	0	0	1.4	0	0.9	1.0	1.6	0.9	0	1.4	0.8	0	0	0	0.5	1.2
Heavys	4	40	2	0	46	2	3	2	0	7	0	22	2	0	24	1	4	1	0	6	83
% Heavys	16.0	2.6	2.9	0	2.8	3.2	4.5	0.7	0	1.6	0	1.6	1.7	0	1.3	0.4	4.9	2.1	0	1.6	1.9
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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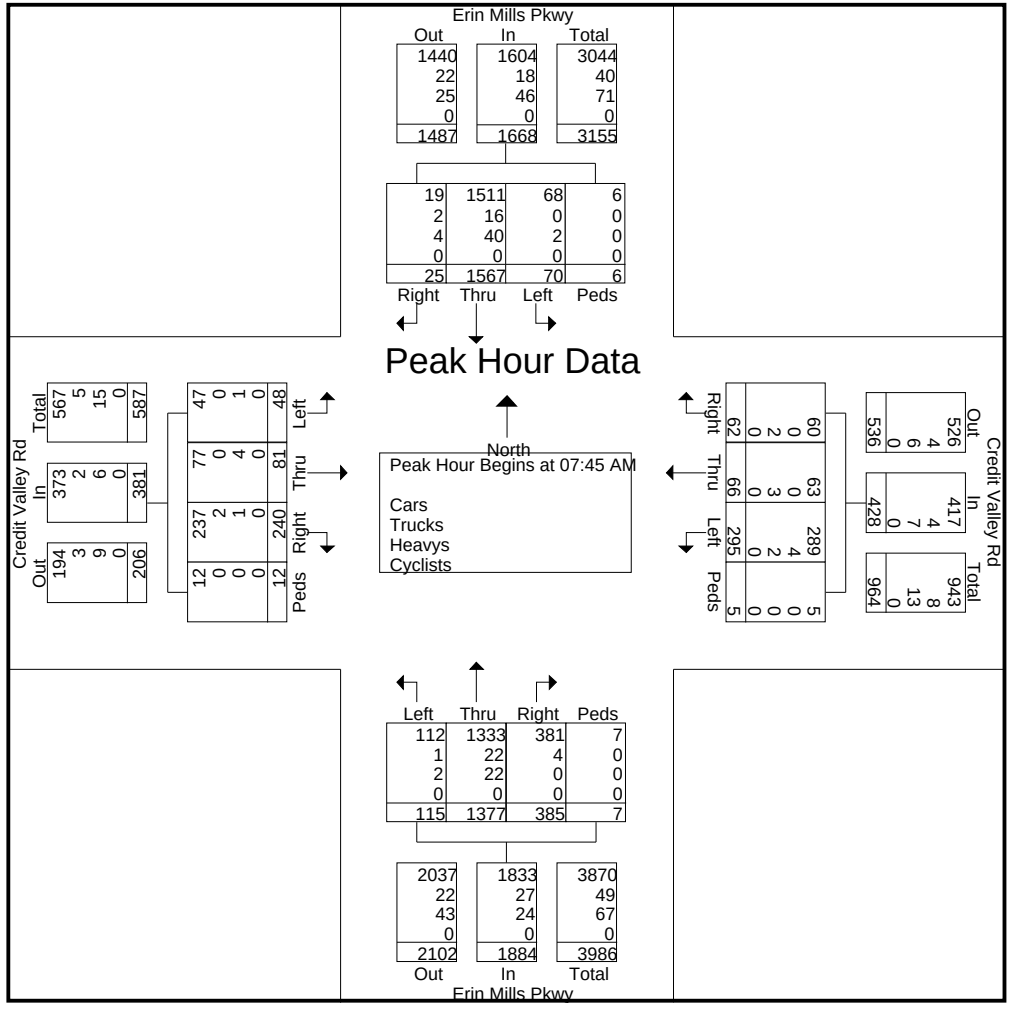
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road
Site Code : 00000000
Start Date : 2024-03-21
Page No : 5



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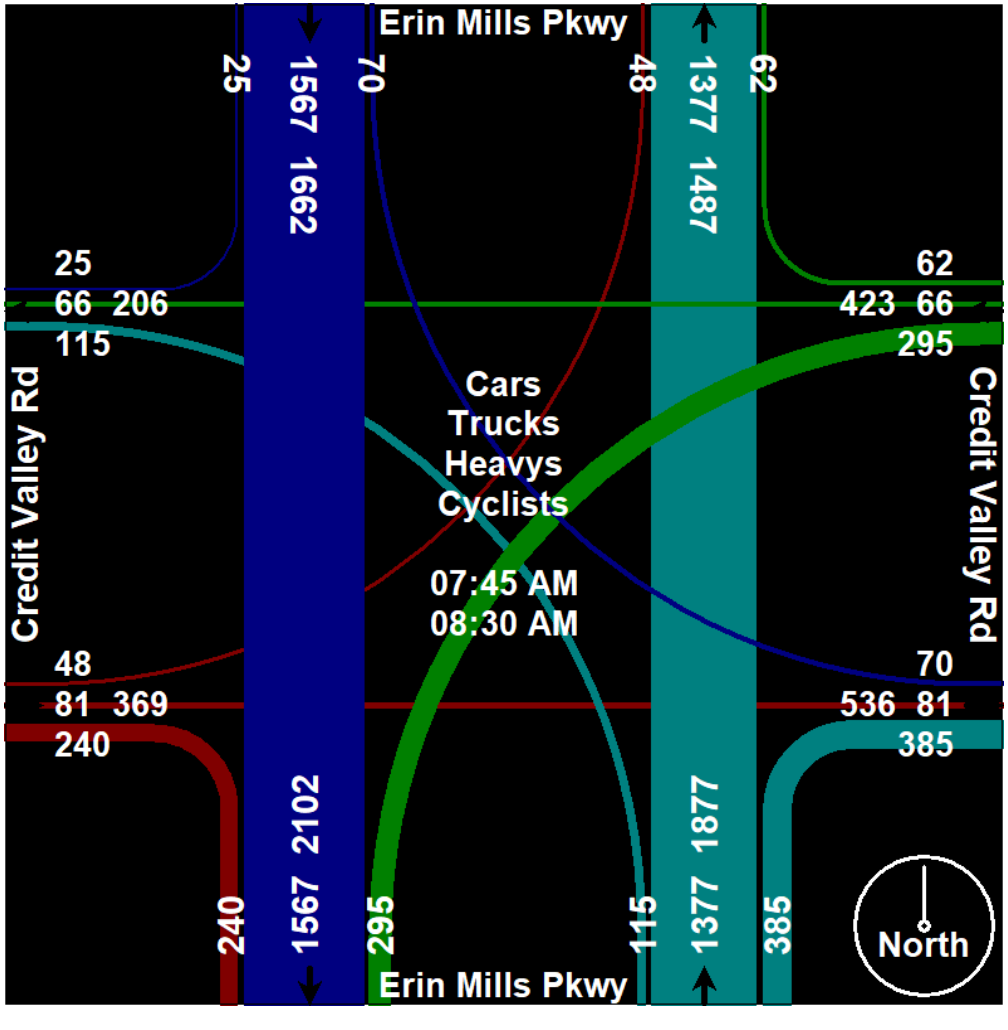
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road
Site Code : 00000000
Start Date : 2024-03-21

	Erin Mills Pkwy From North					Credit Valley Rd From East					Erin Mills Pkwy From South					Credit Valley Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	**14**	**380**	4	3	401	**31**	**43**	92	**4**	**170**	**118**	**430**	35	**3**	**586**	**61**	**22**	**11**	**3**	**97**	**1254**
04:15 PM	9	380	9	**4**	**402**	13	36	**98**	1	148	98	363	**42**	3	506	39	16	6	3	64	1120
04:30 PM	8	364	**11**	3	386	14	20	84	0	118	80	387	37	2	506	37	17	7	2	63	1073
04:45 PM	5	366	9	2	382	23	19	70	1	113	90	414	41	3	548	37	16	7	3	63	1106
Total Volume	36	1490	33	12	1571	81	118	344	6	549	386	1594	155	11	2146	174	71	31	11	287	4553
% App. Total	2.3	94.8	2.1	0.8		14.8	21.5	62.7	1.1		18	74.3	7.2	0.5		60.6	24.7	10.8	3.8		
PHF	.643	.980	.750	.750	.977	.653	.686	.878	.375	.807	.818	.927	.923	.917	.916	.713	.807	.705	.917	.740	.908
Cars	36	1465	31	9	1541	80	117	342	6	545	382	1548	152	11	2093	172	70	31	11	284	4463
% Cars	100	98.3	93.9	75.0	98.1	98.8	99.2	99.4	100	99.3	99.0	97.1	98.1	100	97.5	98.9	98.6	100	100	99.0	98.0
Trucks	0	3	1	3	7	0	0	2	0	2	3	16	2	0	21	2	0	0	0	2	32
% Trucks	0	0.2	3.0	25.0	0.4	0	0	0.6	0	0.4	0.8	1.0	1.3	0	1.0	1.1	0	0	0	0.7	0.7
Heavys	0	22	1	0	23	1	1	0	0	2	1	30	1	0	32	0	1	0	0	1	58
% Heavys	0	1.5	3.0	0	1.5	1.2	0.8	0	0	0.4	0.3	1.9	0.6	0	1.5	0	1.4	0	0	0.3	1.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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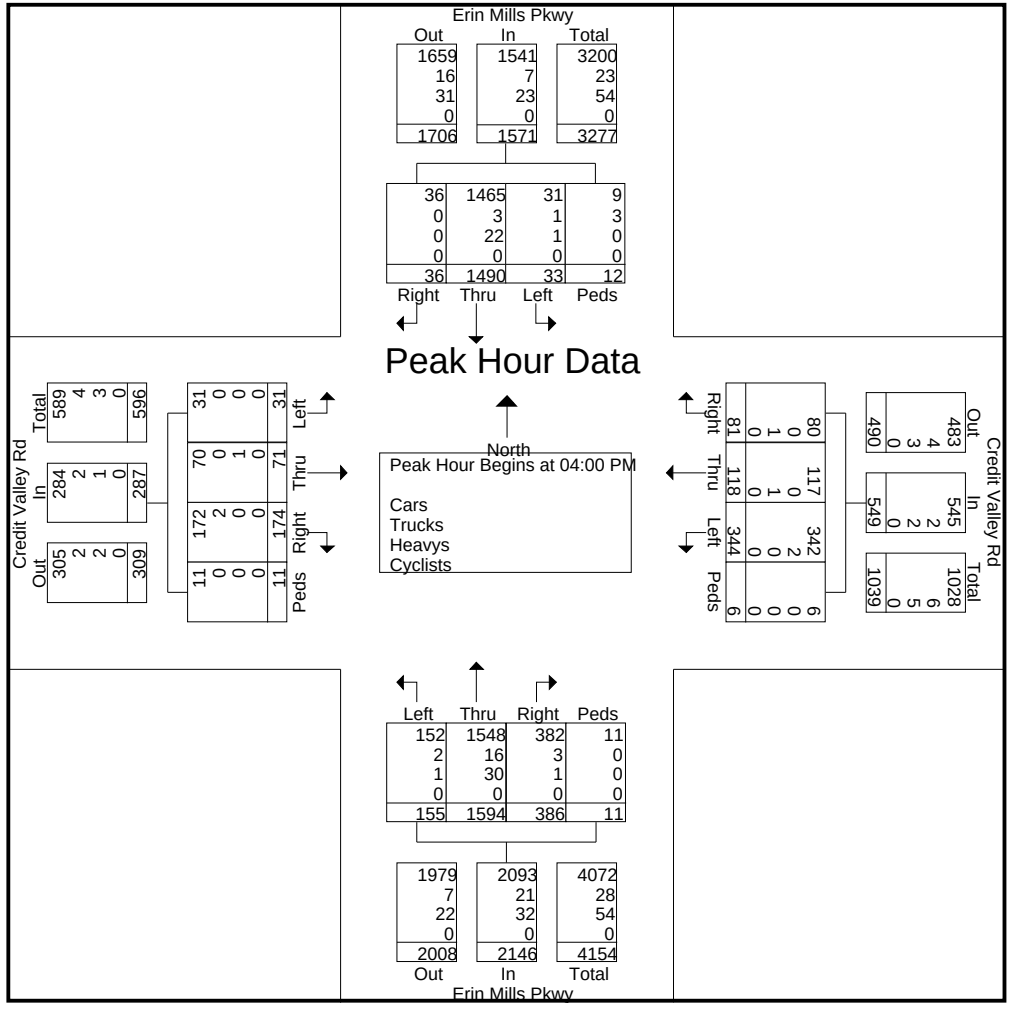
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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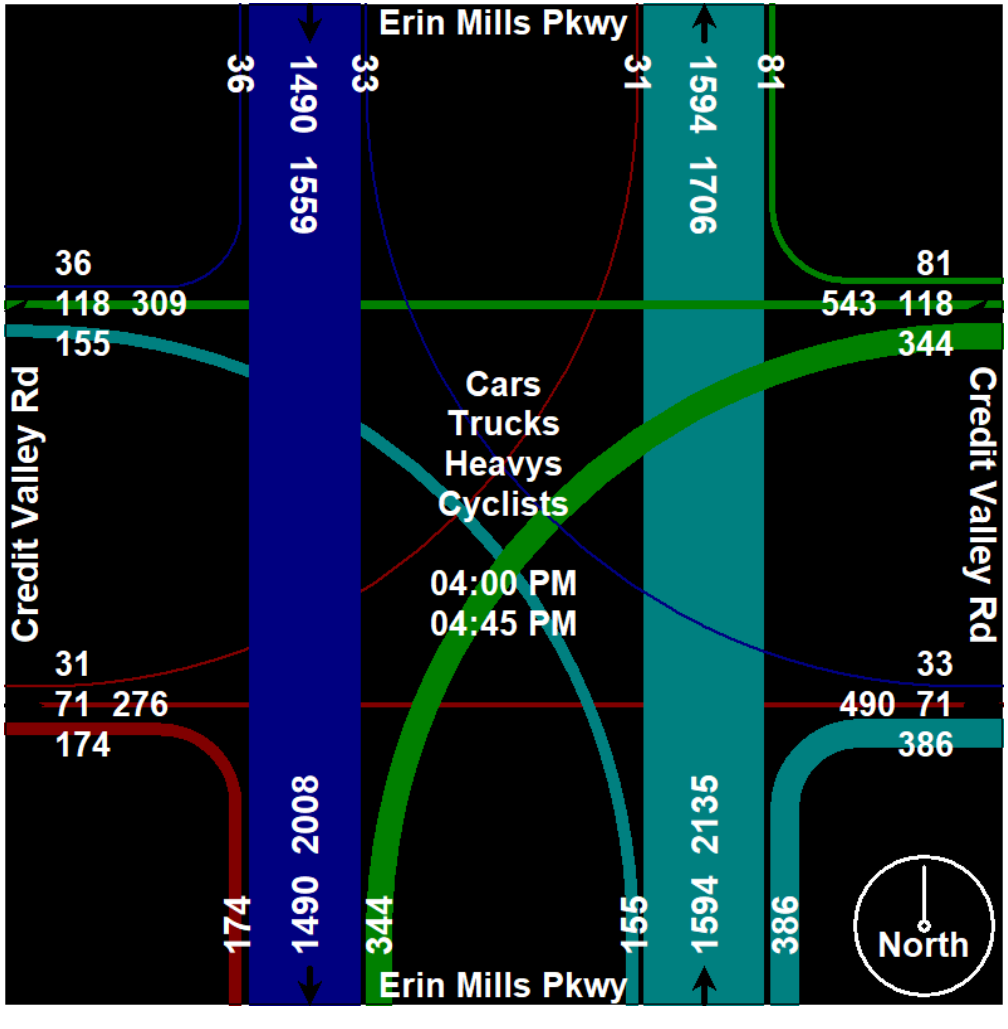
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					Credit Valley Rd From East					Erin Mills Pkwy From South					Credit Valley Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	10	338	9	2	359	9	7	49	1	66	43	257	26	1	327	44	13	6	1	64	816
11:15 AM	9	333	5	0	347	9	9	49	0	67	51	263	37	1	352	37	12	9	3	61	827
11:30 AM	6	327	7	3	343	16	12	46	4	78	40	243	20	4	307	41	11	8	4	64	792
11:45 AM	7	324	8	3	342	12	11	47	0	70	55	303	32	0	390	38	14	7	2	61	863
Total	32	1322	29	8	1391	46	39	191	5	281	189	1066	115	6	1376	160	50	30	10	250	3298
12:00 PM	10	317	5	0	332	8	10	54	1	73	61	268	24	2	355	44	10	6	0	60	820
12:15 PM	4	406	8	0	418	15	13	38	5	71	56	297	34	4	391	33	10	7	1	51	931
12:30 PM	8	379	7	0	394	11	7	50	0	68	62	306	28	2	398	42	13	5	0	60	920
12:45 PM	6	390	9	0	405	7	12	52	3	74	52	306	32	3	393	49	19	8	0	76	948
Total	28	1492	29	0	1549	41	42	194	9	286	231	1177	118	11	1537	168	52	26	1	247	3619
01:00 PM	3	373	10	3	389	14	8	56	1	79	69	343	20	3	435	33	15	10	2	60	963
01:15 PM	6	360	7	2	375	12	16	65	0	93	63	309	37	0	409	41	12	8	3	64	941
01:30 PM	2	352	7	1	362	16	10	51	0	77	57	325	30	1	413	30	18	9	3	60	912
01:45 PM	4	380	8	1	393	10	5	57	0	72	72	391	33	2	498	39	13	17	1	70	1033
Total	15	1465	32	7	1519	52	39	229	1	321	261	1368	120	6	1755	143	58	44	9	254	3849
Grand Total	75	4279	90	15	4459	139	120	614	15	888	681	3611	353	23	4668	471	160	100	20	751	10766
Apprch %	1.7	96	2	0.3		15.7	13.5	69.1	1.7		14.6	77.4	7.6	0.5		62.7	21.3	13.3	2.7		
Total %	0.7	39.7	0.8	0.1	41.4	1.3	1.1	5.7	0.1	8.2	6.3	33.5	3.3	0.2	43.4	4.4	1.5	0.9	0.2	7	
Cars	74	4210	90	15	4389	139	120	611	15	885	678	3551	353	23	4605	470	158	96	20	744	10623
% Cars	98.7	98.4	100	100	98.4	100	100	99.5	100	99.7	99.6	98.3	100	100	98.7	99.8	98.8	96	100	99.1	98.7
Trucks	1	26	0	0	27	0	0	3	0	3	2	31	0	0	33	1	2	4	0	7	70
% Trucks	1.3	0.6	0	0	0.6	0	0	0.5	0	0.3	0.3	0.9	0	0	0.7	0.2	1.2	4	0	0.9	0.7
Heavys	0	43	0	0	43	0	0	0	0	0	1	29	0	0	30	0	0	0	0	0	73
% Heavys	0	1	0	0	1	0	0	0	0	0	0.1	0.8	0	0	0.6	0	0	0	0	0	0.7
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road-SAT
Site Code : 00000000
Start Date : 2024-03-23
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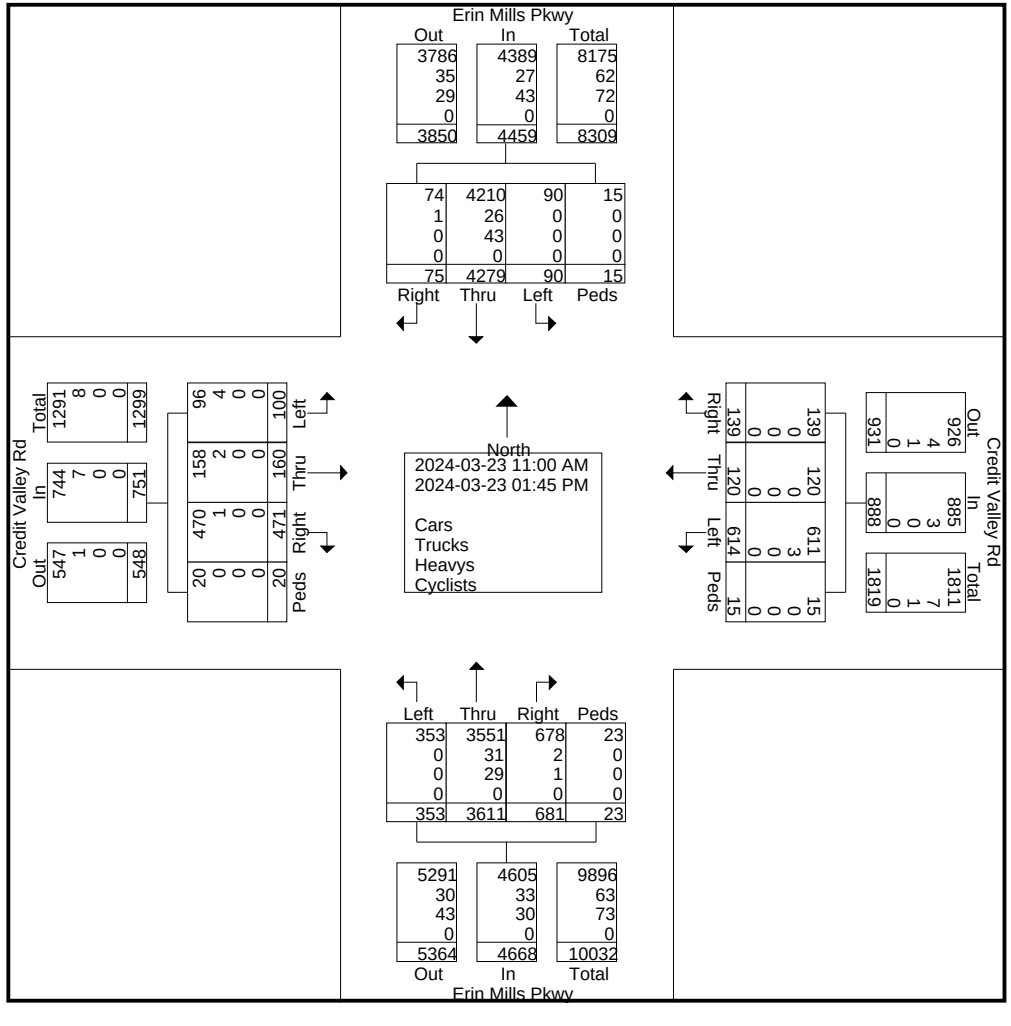

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road-SAT
Site Code : 00000000
Start Date : 2024-03-23

	Erin Mills Pkwy From North					Credit Valley Rd From East					Erin Mills Pkwy From South					Credit Valley Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	3	373	**10**	**3**	389	14	8	56	**1**	79	69	343	20	**3**	435	33	15	10	2	60	963
01:15 PM	**6**	360	7	2	375	12	**16**	**65**	0	**93**	63	309	**37**	0	409	**41**	12	8	**3**	64	941
01:30 PM	2	352	7	1	362	**16**	10	51	0	77	57	325	30	1	413	30	**18**	9	3	60	912
01:45 PM	4	**380**	8	1	**393**	10	5	57	0	72	**72**	**391**	33	2	**498**	39	13	**17**	1	**70**	**1033**
Total Volume	15	1465	32	7	1519	52	39	229	1	321	261	1368	120	6	1755	143	58	44	9	254	3849
% App. Total	1	96.4	2.1	0.5		16.2	12.1	71.3	0.3		14.9	77.9	6.8	0.3		56.3	22.8	17.3	3.5		
PHF	.625	.964	.800	.583	.966	.813	.609	.881	.250	.863	.906	.875	.811	.500	.881	.872	.806	.647	.750	.907	.932
Cars	15	1442	32	7	1496	52	39	229	1	321	260	1352	120	6	1738	143	58	43	9	253	3808
% Cars	100	98.4	100	100	98.5	100	100	100	100	100	99.6	98.8	100	100	99.0	100	100	97.7	100	99.6	98.9
Trucks	0	11	0	0	11	0	0	0	0	0	1	6	0	0	7	0	0	1	0	1	19
% Trucks	0	0.8	0	0	0.7	0	0	0	0	0	0.4	0.4	0	0	0.4	0	0	2.3	0	0.4	0.5
Heavys	0	12	0	0	12	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	22
% Heavys	0	0.8	0	0	0.8	0	0	0	0	0	0	0.7	0	0	0.6	0	0	0	0	0	0.6
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road-SAT
Site Code : 00000000
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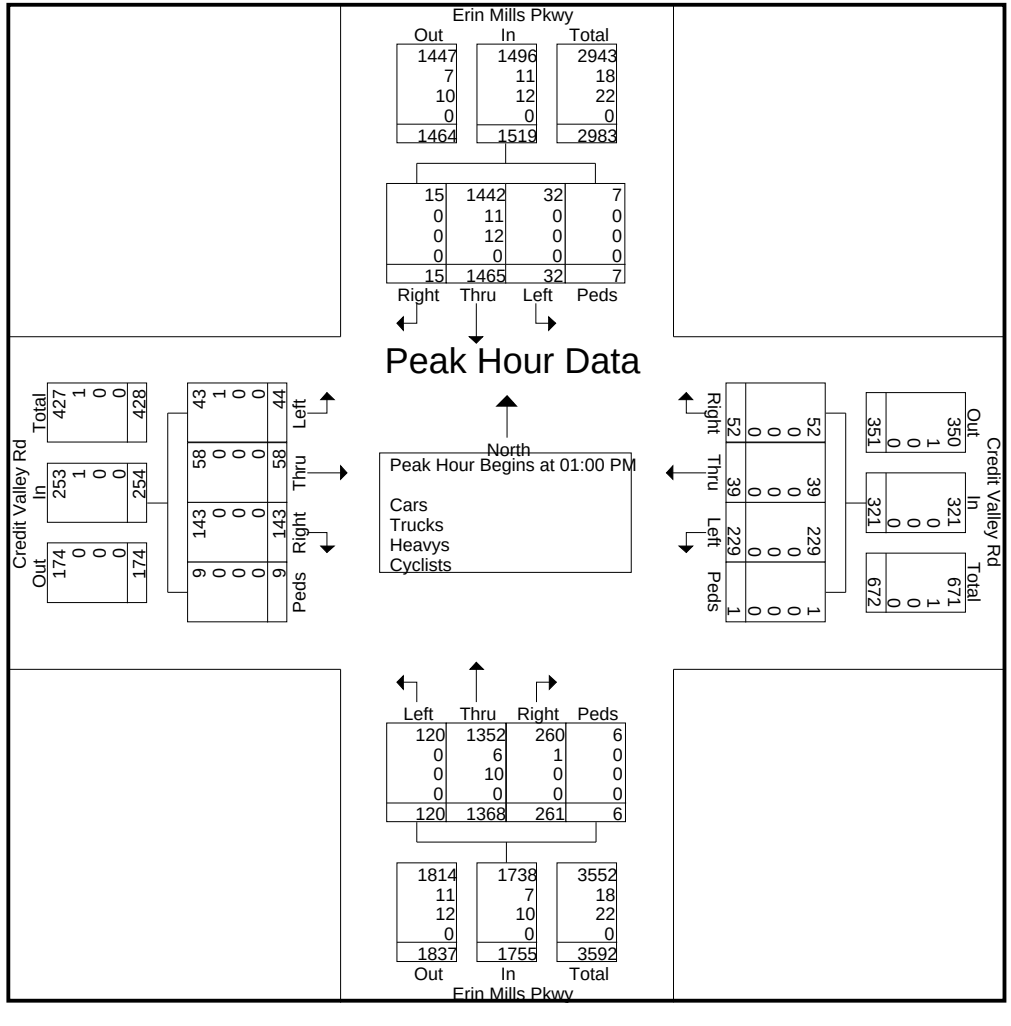

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Credit Valley Road-SAT
Site Code : 00000000
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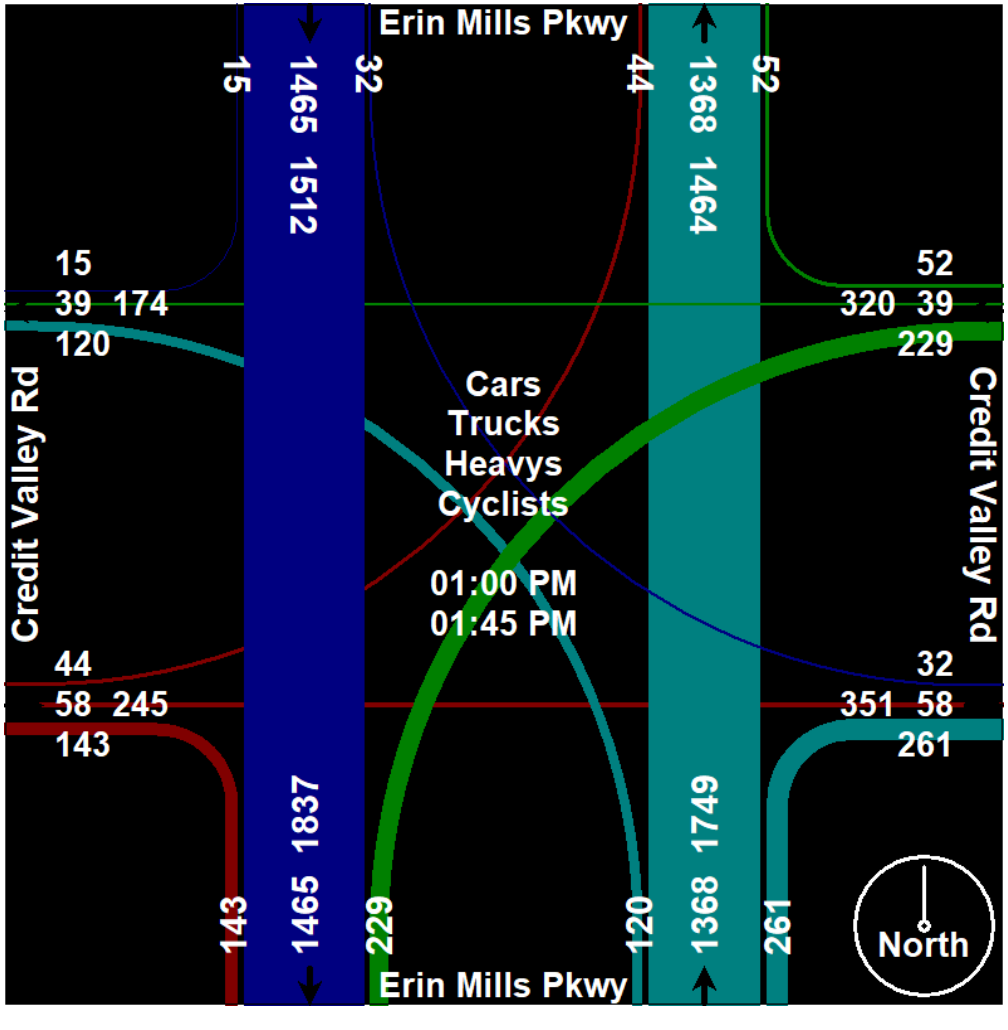

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at East Mall Access
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					From East					Erin Mills Pkwy From South					East Mall Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	14	328	0	0	342	0	0	0	0	0	0	169	11	0	180	4	0	0	0	4	526
07:15 AM	8	269	0	3	280	0	0	0	0	0	0	220	6	0	226	4	0	0	0	4	510
07:30 AM	8	362	0	1	371	0	0	0	0	0	0	272	8	0	280	3	0	0	0	3	654
07:45 AM	17	397	0	0	414	0	0	0	0	0	0	268	5	0	273	8	0	0	1	9	696
Total	47	1356	0	4	1407	0	0	0	0	0	0	929	30	0	959	19	0	0	1	20	2386
08:00 AM	15	407	0	0	422	0	0	0	0	0	0	271	23	0	294	10	0	0	1	11	727
08:15 AM	26	446	0	3	475	0	0	0	0	0	0	328	34	0	362	23	0	0	5	28	865
08:30 AM	13	350	0	0	363	0	0	0	0	0	0	306	9	0	315	8	0	0	2	10	688
08:45 AM	23	398	0	0	421	0	0	0	0	0	0	304	13	1	318	6	0	0	0	6	745
Total	77	1601	0	3	1681	0	0	0	0	0	0	1209	79	1	1289	47	0	0	8	55	3025
09:00 AM	18	318	0	0	336	0	0	0	0	0	0	249	7	0	256	8	0	0	1	9	601
09:15 AM	14	326	0	0	340	0	0	0	0	0	0	256	21	0	277	9	0	0	2	11	628
09:30 AM	17	316	0	0	333	0	0	0	0	0	0	192	13	0	205	17	0	0	4	21	559
09:45 AM	22	241	0	1	264	0	0	0	0	0	0	232	26	0	258	15	0	0	2	17	539
Total	71	1201	0	1	1273	0	0	0	0	0	0	929	67	0	996	49	0	0	9	58	2327
04:00 PM	28	304	0	0	332	0	0	0	0	0	0	419	30	0	449	34	0	0	3	37	818
04:15 PM	30	293	0	0	323	0	0	0	0	0	0	376	27	0	403	29	0	0	0	29	755
04:30 PM	27	347	0	0	374	0	0	0	0	0	0	422	41	0	463	27	0	0	3	30	867
04:45 PM	41	281	0	0	322	0	0	0	0	0	0	352	26	0	378	32	0	0	2	34	734
Total	126	1225	0	0	1351	0	0	0	0	0	0	1569	124	0	1693	122	0	0	8	130	3174
05:00 PM	31	382	0	0	413	0	0	0	0	0	0	418	24	0	442	37	0	0	2	39	894
05:15 PM	29	318	0	0	347	0	0	0	0	0	0	358	21	0	379	27	0	0	1	28	754
05:30 PM	38	383	0	1	422	0	0	0	0	0	0	424	24	0	448	37	0	0	0	37	907
05:45 PM	31	278	0	0	309	0	0	0	0	0	0	358	29	0	387	27	0	0	1	28	724
Total	129	1361	0	1	1491	0	0	0	0	0	0	1558	98	0	1656	128	0	0	4	132	3279
06:00 PM	43	314	0	0	357	0	0	0	0	0	0	394	27	0	421	37	0	0	1	38	816
06:15 PM	37	340	0	0	377	0	0	0	0	0	0	357	24	0	381	35	0	0	0	35	793
06:30 PM	39	317	0	2	358	0	0	0	0	0	0	349	31	0	380	37	0	0	4	41	779
06:45 PM	32	301	0	1	334	0	0	0	0	0	0	341	29	0	370	31	0	0	3	34	738
Total	151	1272	0	3	1426	0	0	0	0	0	0	1441	111	0	1552	140	0	0	8	148	3126

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at East Mall Access
Site Code : 00000000
Start Date : 2024-03-21
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Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					From East					Erin Mills Pkwy From South					East Mall Access From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	601	8016	0	12	8629	0	0	0	0	0	0	7635	509	1	8145	505	0	0	38	543	17317
Apprch %	7	92.9	0	0.1		0	0	0	0		0	93.7	6.2	0		93	0	0	7		
Total %	3.5	46.3	0	0.1	49.8	0	0	0	0	0	0	44.1	2.9	0	47	2.9	0	0	0.2	3.1	
Cars	559	7782	0	12	8353	0	0	0	0	0	0	7382	473	1	7856	474	0	0	38	512	16721
% Cars	93	97.1	0	100	96.8	0	0	0	0	0	0	96.7	92.9	100	96.5	93.9	0	0	100	94.3	96.6
Trucks	2	82	0	0	84	0	0	0	0	0	0	94	2	0	96	2	0	0	0	2	182
% Trucks	0.3	1	0	0	1	0	0	0	0	0	0	1.2	0.4	0	1.2	0.4	0	0	0	0.4	1.1
Heavys	39	152	0	0	191	0	0	0	0	0	0	159	34	0	193	28	0	0	0	28	412
% Heavys	6.5	1.9	0	0	2.2	0	0	0	0	0	0	2.1	6.7	0	2.4	5.5	0	0	0	5.2	2.4
Cyclists	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
% Cyclists	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0.2	0

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Your Traffic Count Specialist

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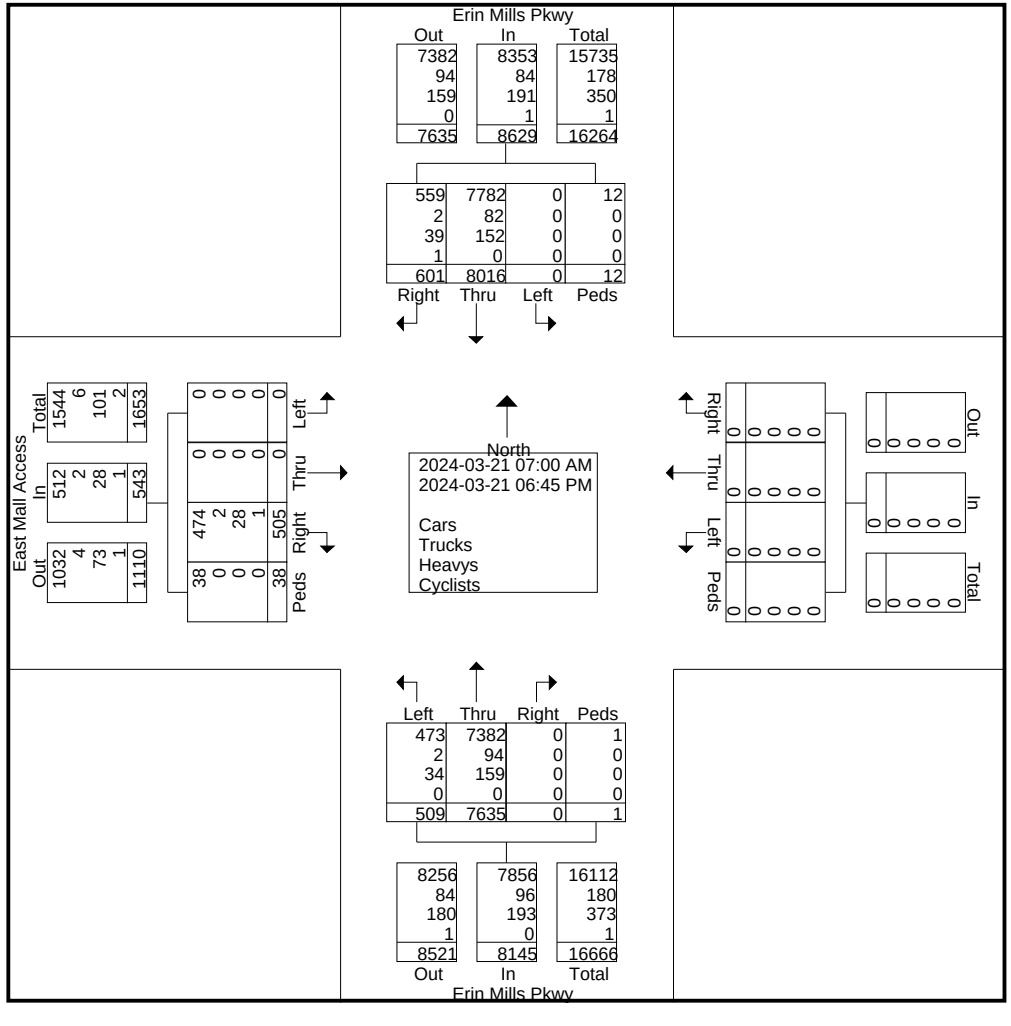

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at East Mall Access
Site Code : 00000000
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	Erin Mills Pkwy From North					From East					Erin Mills Pkwy From South					East Mall Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	15	407	0	0	422	0	0	0	0	0	0	271	23	0	294	10	0	0	1	11	727
08:15 AM	**26**	**446**	0	**3**	**475**	0	0	0	0	0	0	**328**	**34**	0	**362**	**23**	0	0	**5**	**28**	**865**
08:30 AM	13	350	0	0	363	0	0	0	0	0	0	306	9	0	315	8	0	0	2	10	688
08:45 AM	23	398	0	0	421	0	0	0	0	0	0	304	13	**1**	318	6	0	0	0	6	745
Total Volume	77	1601	0	3	1681	0	0	0	0	0	0	1209	79	1	1289	47	0	0	8	55	3025
% App. Total	4.6	95.2	0	0.2		0	0	0	0		0	93.8	6.1	0.1		85.5	0	0	14.5		
PHF	.740	.897	.000	.250	.885	.000	.000	.000	.000	.000	.000	.921	.581	.250	.890	.511	.000	.000	.400	.491	.874
Cars	71	1536	0	3	1610	0	0	0	0	0	0	1164	72	1	1237	40	0	0	8	48	2895
% Cars	92.2	95.9	0	100	95.8	0	0	0	0	0	0	96.3	91.1	100	96.0	85.1	0	0	100	87.3	95.7
Trucks	0	24	0	0	24	0	0	0	0	0	0	15	1	0	16	1	0	0	0	1	41
% Trucks	0	1.5	0	0	1.4	0	0	0	0	0	0	1.2	1.3	0	1.2	2.1	0	0	0	1.8	1.4
Heavys	6	41	0	0	47	0	0	0	0	0	0	30	6	0	36	6	0	0	0	6	89
% Heavys	7.8	2.6	0	0	2.8	0	0	0	0	0	0	2.5	7.6	0	2.8	12.8	0	0	0	10.9	2.9
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

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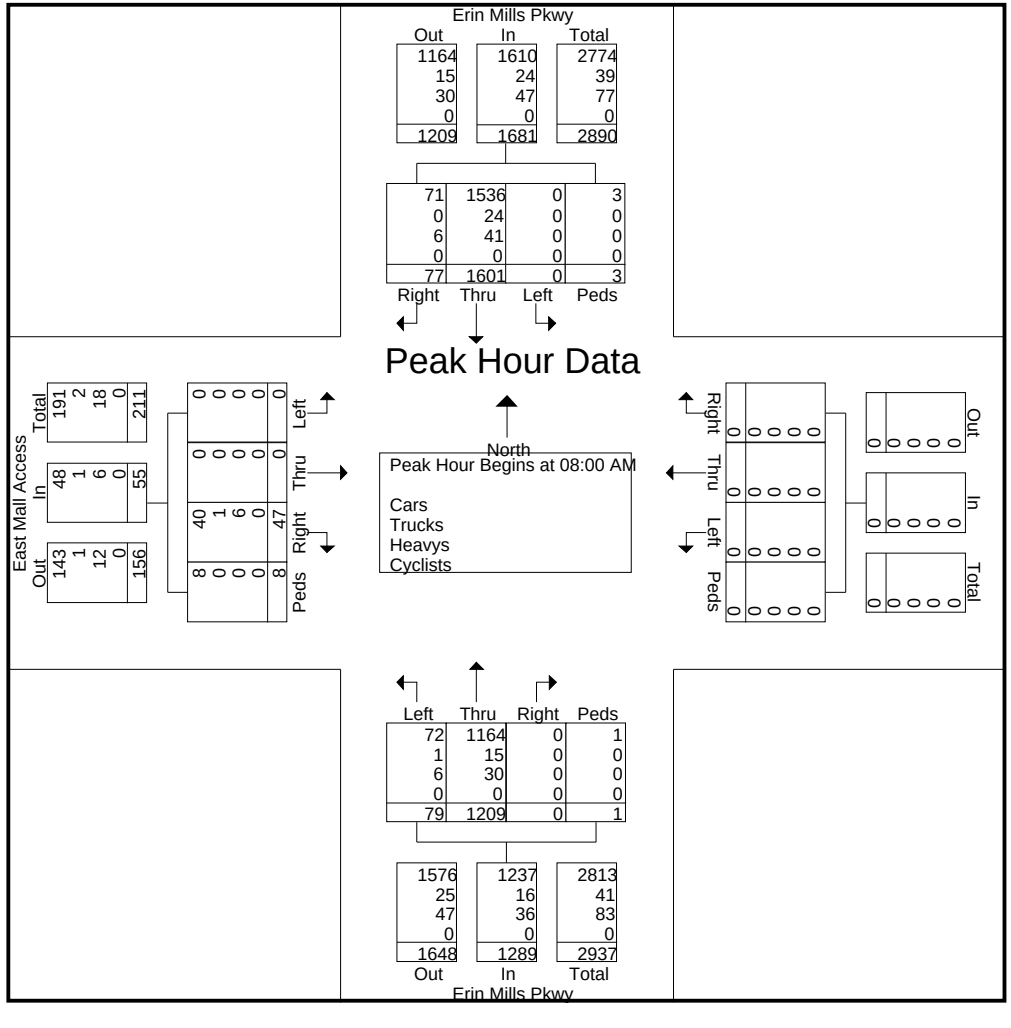

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Your Traffic Count Specialist

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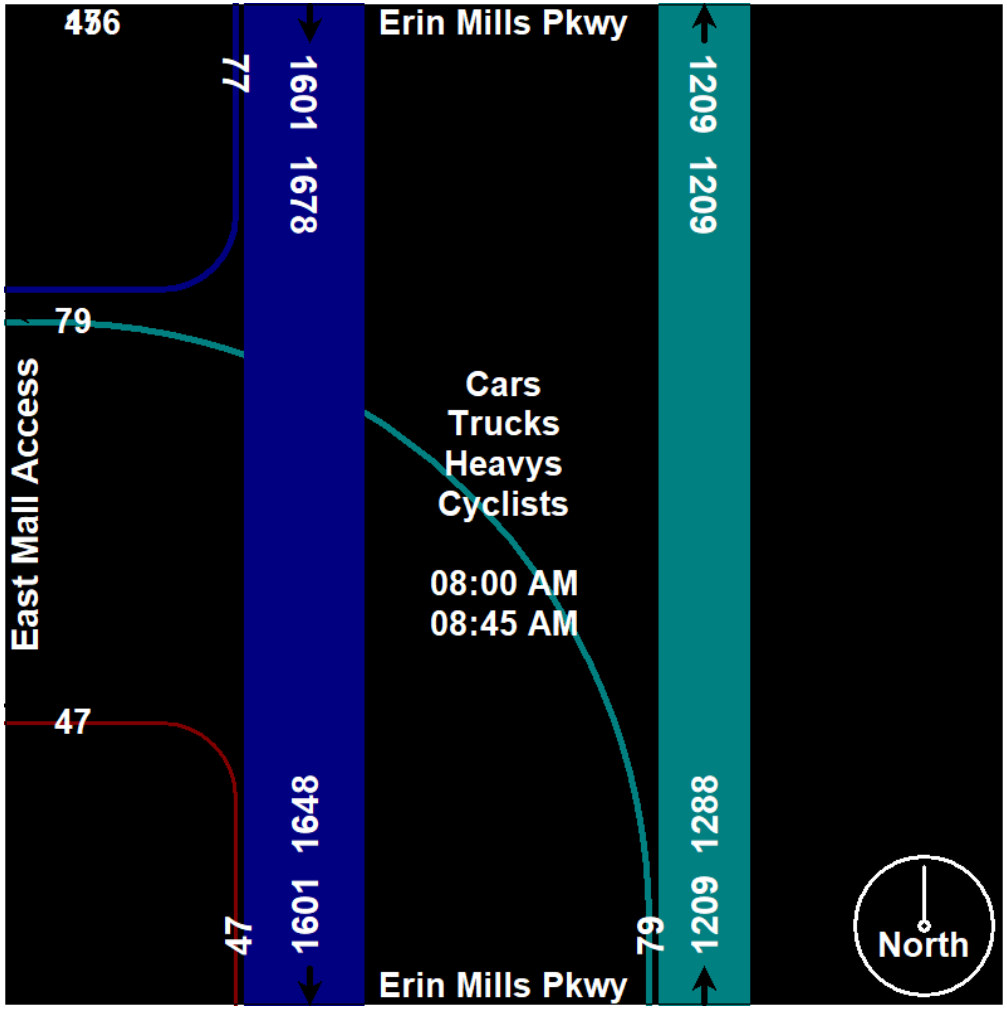

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at East Mall Access
Site Code : 00000000
Start Date : 2024-03-21
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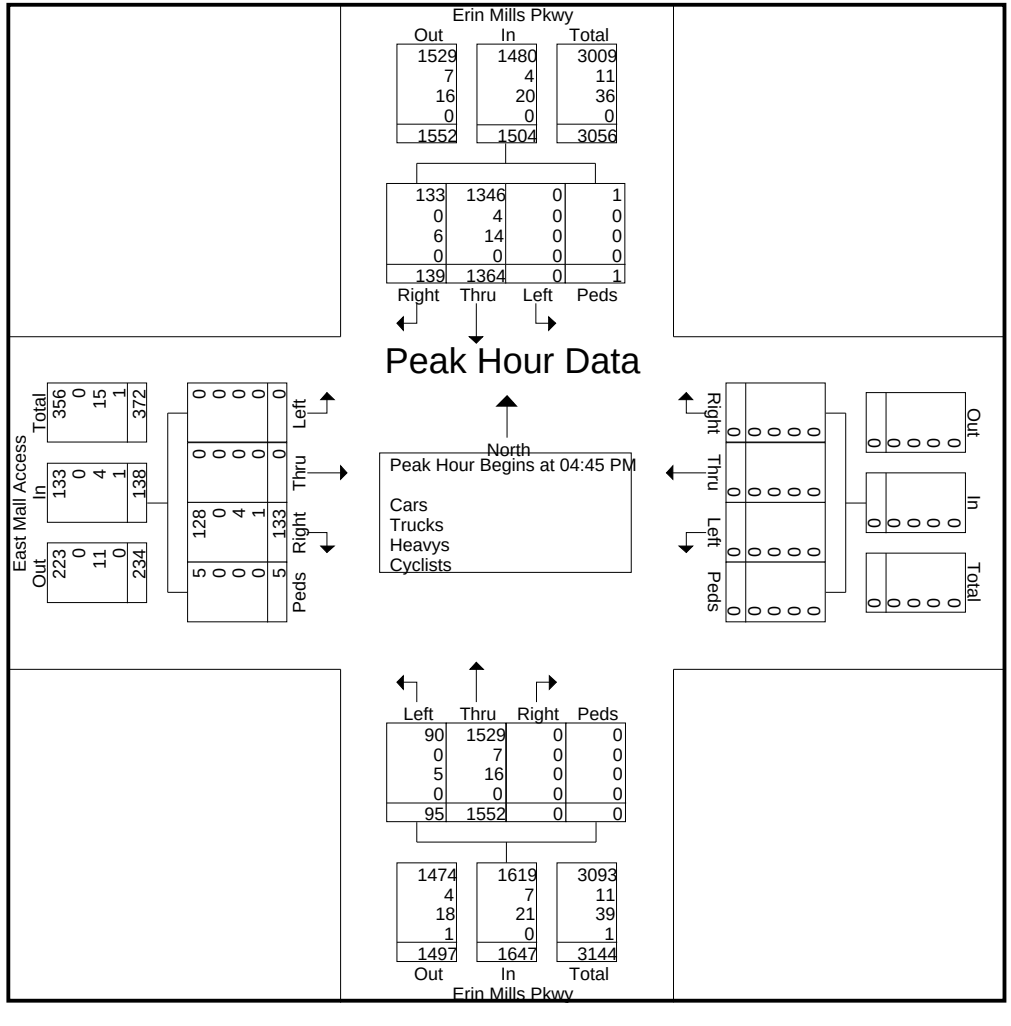
	Erin Mills Pkwy From North					From East					Erin Mills Pkwy From South					East Mall Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**41**	281	0	0	322	0	0	0	0	0	0	352	**26**	0	378	32	0	0	**2**	34	734
05:00 PM	31	382	0	0	413	0	0	0	0	0	0	418	24	0	442	**37**	0	0	2	**39**	894
05:15 PM	29	318	0	0	347	0	0	0	0	0	0	358	21	0	379	27	0	0	1	28	754
05:30 PM	38	**383**	0	**1**	**422**	0	0	0	0	0	0	**424**	24	0	**448**	37	0	0	0	37	**907**
Total Volume	139	1364	0	1	1504	0	0	0	0	0	0	1552	95	0	1647	133	0	0	5	138	3289
% App. Total	9.2	90.7	0	0.1		0	0	0	0		0	94.2	5.8	0		96.4	0	0	3.6		
PHF	.848	.890	.000	.250	.891	.000	.000	.000	.000	.000	.000	.915	.913	.000	.919	.899	.000	.000	.625	.885	.907
Cars	133	1346	0	1	1480	0	0	0	0	0	0	1529	90	0	1619	128	0	0	5	133	3232
% Cars	95.7	98.7	0	100	98.4	0	0	0	0	0	0	98.5	94.7	0	98.3	96.2	0	0	100	96.4	98.3
Trucks	0	4	0	0	4	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	11
% Trucks	0	0.3	0	0	0.3	0	0	0	0	0	0	0.5	0	0	0.4	0	0	0	0	0	0.3
Heavys	6	14	0	0	20	0	0	0	0	0	0	16	5	0	21	4	0	0	0	4	45
% Heavys	4.3	1.0	0	0	1.3	0	0	0	0	0	0	1.0	5.3	0	1.3	3.0	0	0	0	2.9	1.4
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0	0	0	0.7	0.0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Mills Parkway at East Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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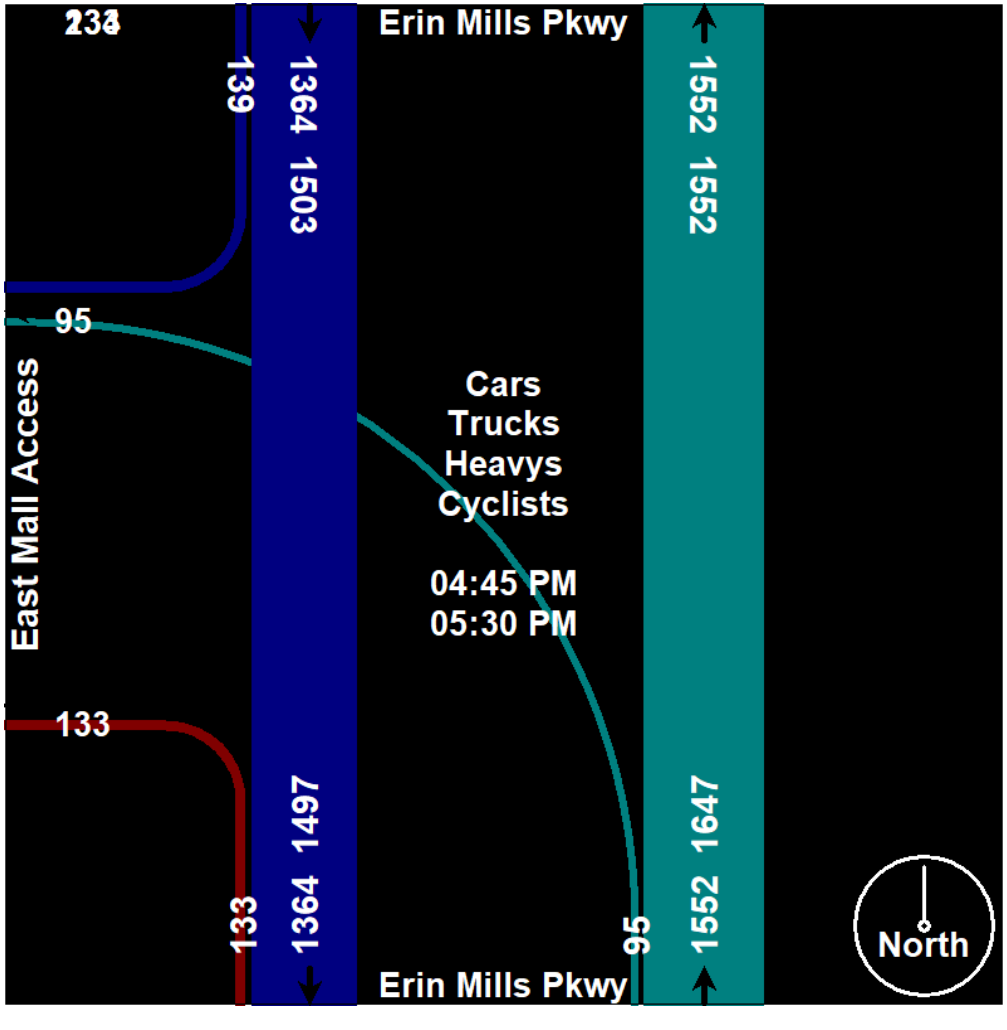
Your Traffic Count Specialist

File Name : Erin Mills Parkway at East Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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Your Traffic Count Specialist

File Name : Erin Mills Parkway at East Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					From East					Erin Mills Pkwy From South					East Mall Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	27	332	0	0	359	0	0	0	0	0	0	213	27	0	240	25	0	0	1	26	625
11:15 AM	30	250	0	0	280	0	0	0	0	0	0	204	26	0	230	38	0	0	3	41	551
11:30 AM	29	292	0	0	321	0	0	0	0	0	0	228	26	0	254	22	0	0	0	22	597
11:45 AM	42	293	0	0	335	0	0	0	0	0	0	244	28	0	272	37	0	0	3	40	647
Total	128	1167	0	0	1295	0	0	0	0	0	0	889	107	0	996	122	0	0	7	129	2420
12:00 PM	37	276	0	1	314	0	0	0	0	0	0	209	30	0	239	29	0	0	1	30	583
12:15 PM	27	347	0	0	374	0	0	0	0	0	0	285	39	0	324	28	0	0	0	28	726
12:30 PM	42	340	0	1	383	0	0	0	0	0	0	244	23	0	267	43	0	0	1	44	694
12:45 PM	41	363	0	0	404	0	0	0	0	0	0	289	30	0	319	27	0	0	1	28	751
Total	147	1326	0	2	1475	0	0	0	0	0	0	1027	122	0	1149	127	0	0	3	130	2754
01:00 PM	40	314	0	0	354	0	0	0	0	0	0	284	21	0	305	28	0	0	1	29	688
01:15 PM	40	299	0	0	339	0	0	0	0	0	0	258	37	0	295	27	0	0	2	29	663
01:30 PM	37	285	0	0	322	0	0	0	0	0	0	310	38	0	348	51	0	0	1	52	722
01:45 PM	35	284	0	0	319	0	0	0	0	0	0	286	49	0	335	46	0	0	1	47	701
Total	152	1182	0	0	1334	0	0	0	0	0	0	1138	145	0	1283	152	0	0	5	157	2774
Grand Total	427	3675	0	2	4104	0	0	0	0	0	0	3054	374	0	3428	401	0	0	15	416	7948
Apprch %	10.4	89.5	0	0		0	0	0	0		0	89.1	10.9	0		96.4	0	0	3.6		
Total %	5.4	46.2	0	0	51.6	0	0	0	0	0	0	38.4	4.7	0	43.1	5	0	0	0.2	5.2	
Cars	413	3626	0	2	4041	0	0	0	0	0	0	3018	355	0	3373	384	0	0	15	399	7813
% Cars	96.7	98.7	0	100	98.5	0	0	0	0	0	0	98.8	94.9	0	98.4	95.8	0	0	100	95.9	98.3
Trucks	1	24	0	0	25	0	0	0	0	0	0	19	3	0	22	5	0	0	0	5	52
% Trucks	0.2	0.7	0	0	0.6	0	0	0	0	0	0	0.6	0.8	0	0.6	1.2	0	0	0	1.2	0.7
Heavys	13	25	0	0	38	0	0	0	0	0	0	17	16	0	33	12	0	0	0	12	83
% Heavys	3	0.7	0	0	0.9	0	0	0	0	0	0	0.6	4.3	0	1	3	0	0	0	2.9	1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

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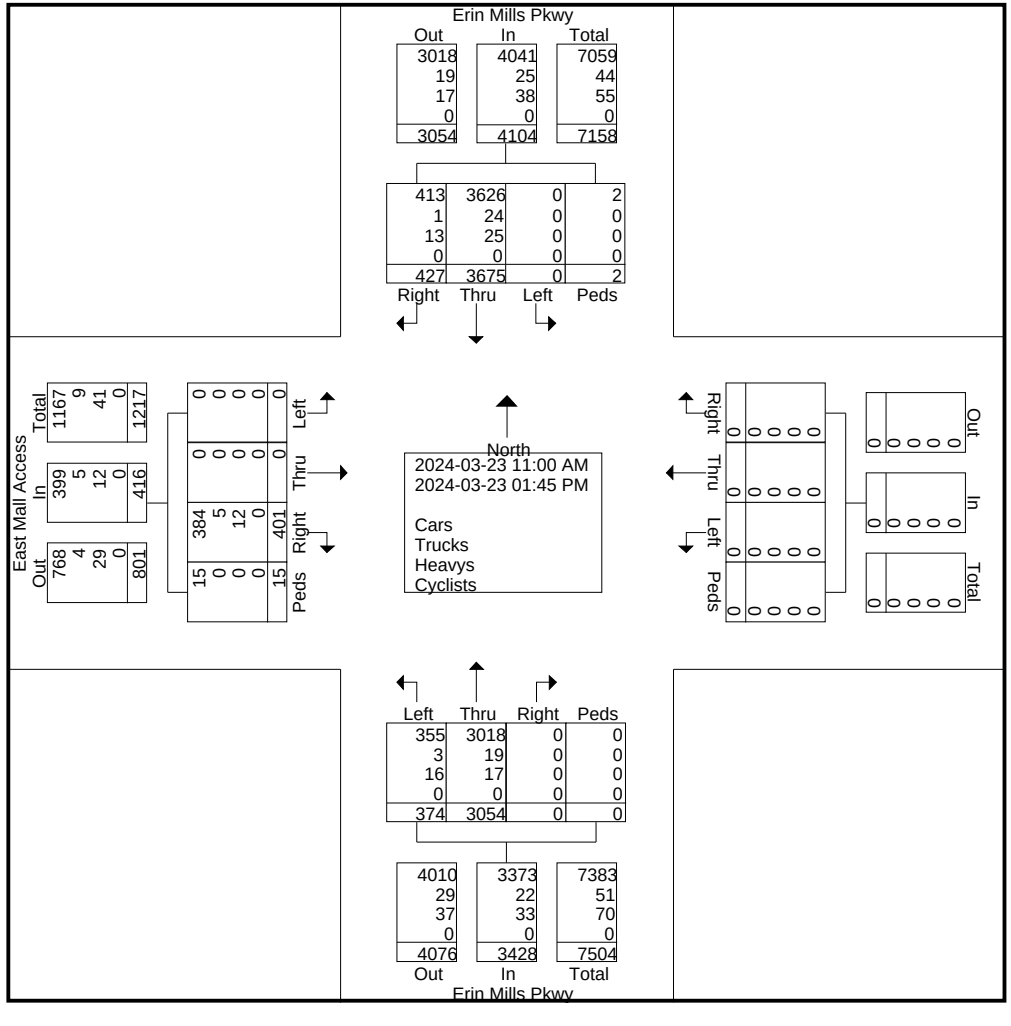
Your Traffic Count Specialist

File Name : Erin Mills Parkway at East Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 2



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Mills Parkway at East Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23

	Erin Mills Pkwy From North					From East					Erin Mills Pkwy From South					East Mall Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:15 PM																					
12:15 PM	27	347	0	0	374	0	0	0	0	0	0	285	**39**	0	**324**	28	0	0	0	28	726
12:30 PM	**42**	340	0	**1**	383	0	0	0	0	0	0	244	23	0	267	**43**	0	0	**1**	**44**	694
12:45 PM	41	**363**	0	0	**404**	0	0	0	0	0	0	**289**	30	0	319	27	0	0	1	28	**751**
01:00 PM	40	314	0	0	354	0	0	0	0	0	0	284	21	0	305	28	0	0	1	29	688
Total Volume	150	1364	0	1	1515	0	0	0	0	0	0	1102	113	0	1215	126	0	0	3	129	2859
% App. Total	9.9	90	0	0.1		0	0	0	0		0	90.7	9.3	0		97.7	0	0	2.3		
PHF	.893	.939	.000	.250	.938	.000	.000	.000	.000	.000	.000	.953	.724	.000	.938	.733	.000	.000	.750	.733	.952
Cars	146	1346	0	1	1493	0	0	0	0	0	0	1090	109	0	1199	120	0	0	3	123	2815
% Cars	97.3	98.7	0	100	98.5	0	0	0	0	0	0	98.9	96.5	0	98.7	95.2	0	0	100	95.3	98.5
Trucks	0	11	0	0	11	0	0	0	0	0	0	6	0	0	6	2	0	0	0	2	19
% Trucks	0	0.8	0	0	0.7	0	0	0	0	0	0	0.5	0	0	0.5	1.6	0	0	0	1.6	0.7
Heavys	4	7	0	0	11	0	0	0	0	0	0	6	4	0	10	4	0	0	0	4	25
% Heavys	2.7	0.5	0	0	0.7	0	0	0	0	0	0	0.5	3.5	0	0.8	3.2	0	0	0	3.1	0.9
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

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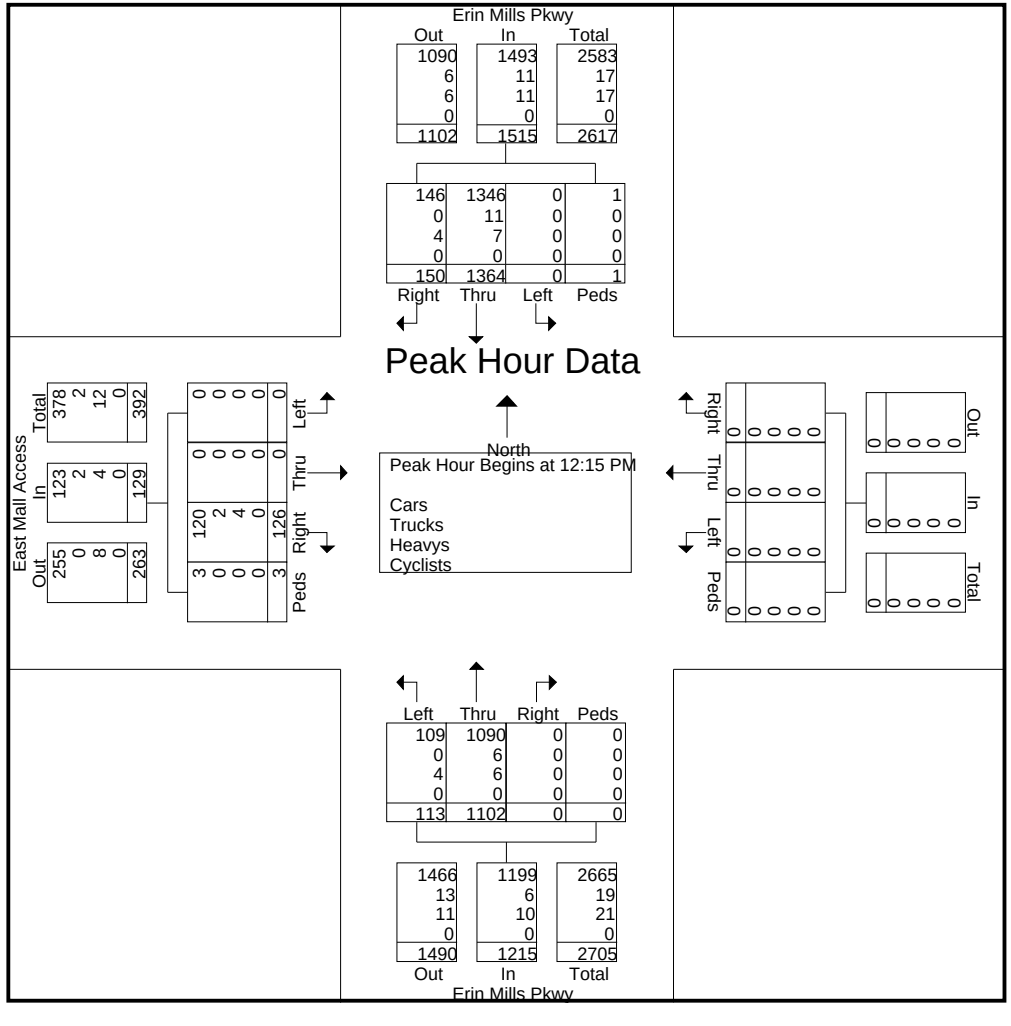
Your Traffic Count Specialist

File Name : Erin Mills Parkway at East Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 4



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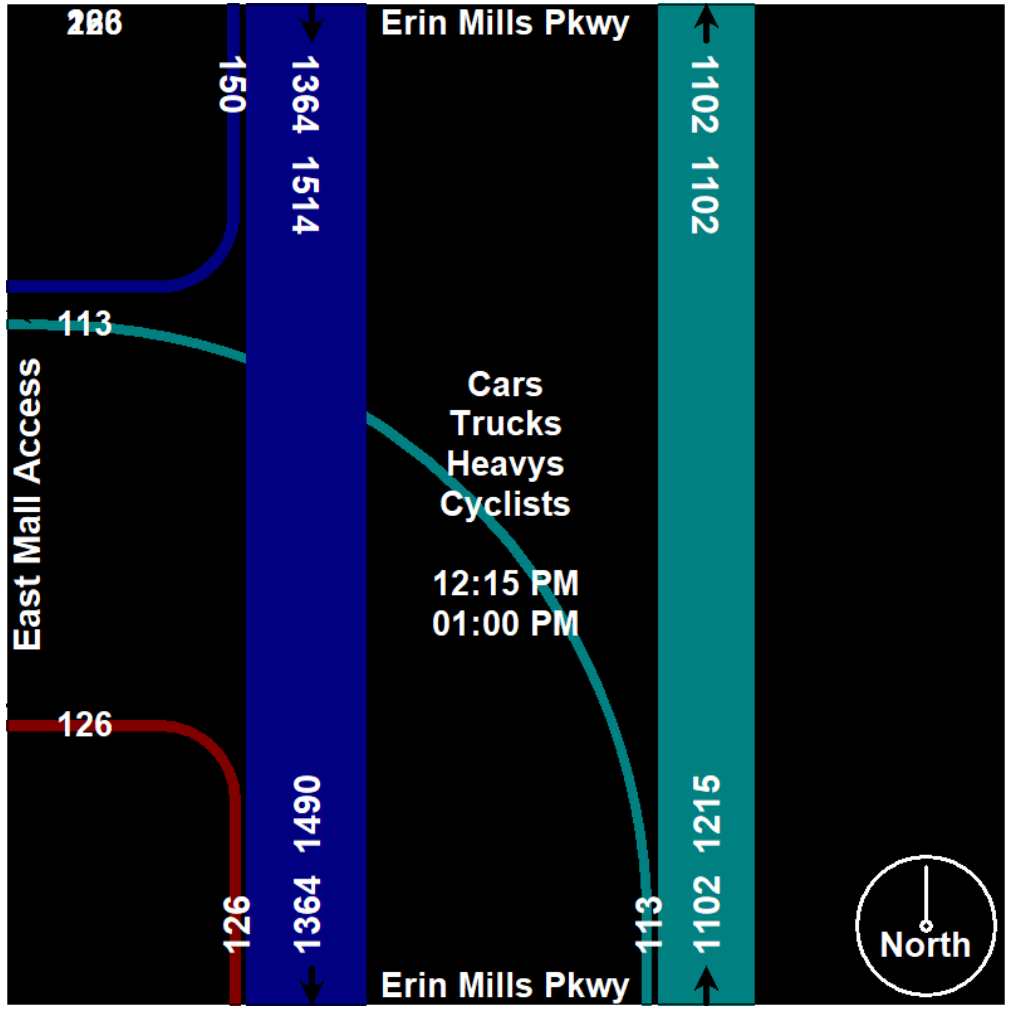
Your Traffic Count Specialist

File Name : Erin Mills Parkway at East Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 5



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(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Avenue
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					Eglinton Ave From East					Erin Mills Pkwy From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	16	232	38	4	290	18	67	6	1	92	18	135	16	6	175	38	124	19	4	185	742
07:15 AM	15	252	48	1	316	23	67	18	2	110	22	197	12	0	231	34	95	11	1	141	798
07:30 AM	15	307	51	6	379	30	93	19	7	149	33	209	36	1	279	52	210	24	3	289	1096
07:45 AM	20	321	66	9	416	31	100	17	7	155	33	227	34	12	306	71	244	29	5	349	1226
Total	66	1112	203	20	1401	102	327	60	17	506	106	768	98	19	991	195	673	83	13	964	3862
08:00 AM	26	327	71	3	427	39	132	14	3	188	35	268	46	7	356	53	221	24	1	299	1270
08:15 AM	33	295	73	7	408	48	154	22	3	227	31	234	31	19	315	78	303	43	11	435	1385
08:30 AM	30	306	84	4	424	37	103	21	7	168	38	251	36	12	337	75	282	47	7	411	1340
08:45 AM	17	292	76	6	391	53	147	13	7	220	38	227	44	14	323	46	299	36	12	393	1327
Total	106	1220	304	20	1650	177	536	70	20	803	142	980	157	52	1331	252	1105	150	31	1538	5322
09:00 AM	26	262	56	4	348	30	122	22	10	184	36	182	37	22	277	48	261	37	9	355	1164
09:15 AM	24	265	55	6	350	30	106	16	4	156	39	232	67	19	357	42	166	24	6	238	1101
09:30 AM	18	228	49	16	311	34	139	28	13	214	35	133	38	19	225	58	163	21	13	255	1005
09:45 AM	12	230	51	7	300	35	129	23	7	194	36	234	73	27	370	46	123	21	13	203	1067
Total	80	985	211	33	1309	129	496	89	34	748	146	781	215	87	1229	194	713	103	41	1051	4337
04:00 PM	32	256	46	15	349	77	209	29	9	324	49	364	87	15	515	46	188	23	17	274	1462
04:15 PM	32	233	58	7	330	78	286	27	6	397	39	285	89	19	432	68	195	36	6	305	1464
04:30 PM	47	276	36	3	362	63	231	35	5	334	33	324	64	12	433	48	178	28	7	261	1390
04:45 PM	29	259	57	0	345	64	253	21	2	340	23	348	87	10	468	55	171	20	4	250	1403
Total	140	1024	197	25	1386	282	979	112	22	1395	144	1321	327	56	1848	217	732	107	34	1090	5719
05:00 PM	32	286	43	7	368	67	263	29	5	364	23	281	68	11	383	66	186	37	7	296	1411
05:15 PM	36	308	42	6	392	71	215	27	6	319	26	328	81	8	443	58	206	37	5	306	1460
05:30 PM	46	277	59	3	385	76	254	34	3	367	25	292	80	6	403	61	209	31	5	306	1461
05:45 PM	38	253	48	3	342	63	273	35	3	374	34	297	74	4	409	70	196	37	4	307	1432
Total	152	1124	192	19	1487	277	1005	125	17	1424	108	1198	303	29	1638	255	797	142	21	1215	5764
06:00 PM	31	278	39	2	350	58	211	22	6	297	29	317	73	8	427	56	149	41	4	250	1324
06:15 PM	44	252	56	9	361	68	255	17	8	348	31	244	89	1	365	56	199	44	3	302	1376
06:30 PM	39	262	39	3	343	56	210	15	1	282	29	289	58	6	382	70	191	34	1	296	1303
06:45 PM	39	261	56	0	356	54	191	16	2	263	34	310	55	2	401	65	159	36	3	263	1283
Total	153	1053	190	14	1410	236	867	70	17	1190	123	1160	275	17	1575	247	698	155	11	1111	5286

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Avenue
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					Eglinton Ave From East					Erin Mills Pkwy From South					Eglinton Ave From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	697	6518	1297	131	8643	1203	4210	526	127	6066	769	6208	1375	260	8612	1360	4718	740	151	6969	30290
Apprch %	8.1	75.4	15	1.5		19.8	69.4	8.7	2.1		8.9	72.1	16	3		19.5	67.7	10.6	2.2		
Total %	2.3	21.5	4.3	0.4	28.5	4	13.9	1.7	0.4	20	2.5	20.5	4.5	0.9	28.4	4.5	15.6	2.4	0.5	23	
Cars	686	6299	1261	131	8377	1162	4130	502	127	5921	738	5979	1353	260	8330	1341	4618	719	151	6829	29457
% Cars	98.4	96.6	97.2	100	96.9	96.6	98.1	95.4	100	97.6	96	96.3	98.4	100	96.7	98.6	97.9	97.2	100	98	97.2
Trucks	7	63	15	0	85	15	27	7	0	49	13	74	12	0	99	7	28	7	0	42	275
% Trucks	1	1	1.2	0	1	1.2	0.6	1.3	0	0.8	1.7	1.2	0.9	0	1.1	0.5	0.6	0.9	0	0.6	0.9
Heavys	4	156	20	0	180	26	53	17	0	96	18	155	10	0	183	12	71	14	0	97	556
% Heavys	0.6	2.4	1.5	0	2.1	2.2	1.3	3.2	0	1.6	2.3	2.5	0.7	0	2.1	0.9	1.5	1.9	0	1.4	1.8
Cyclists	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
% Cyclists	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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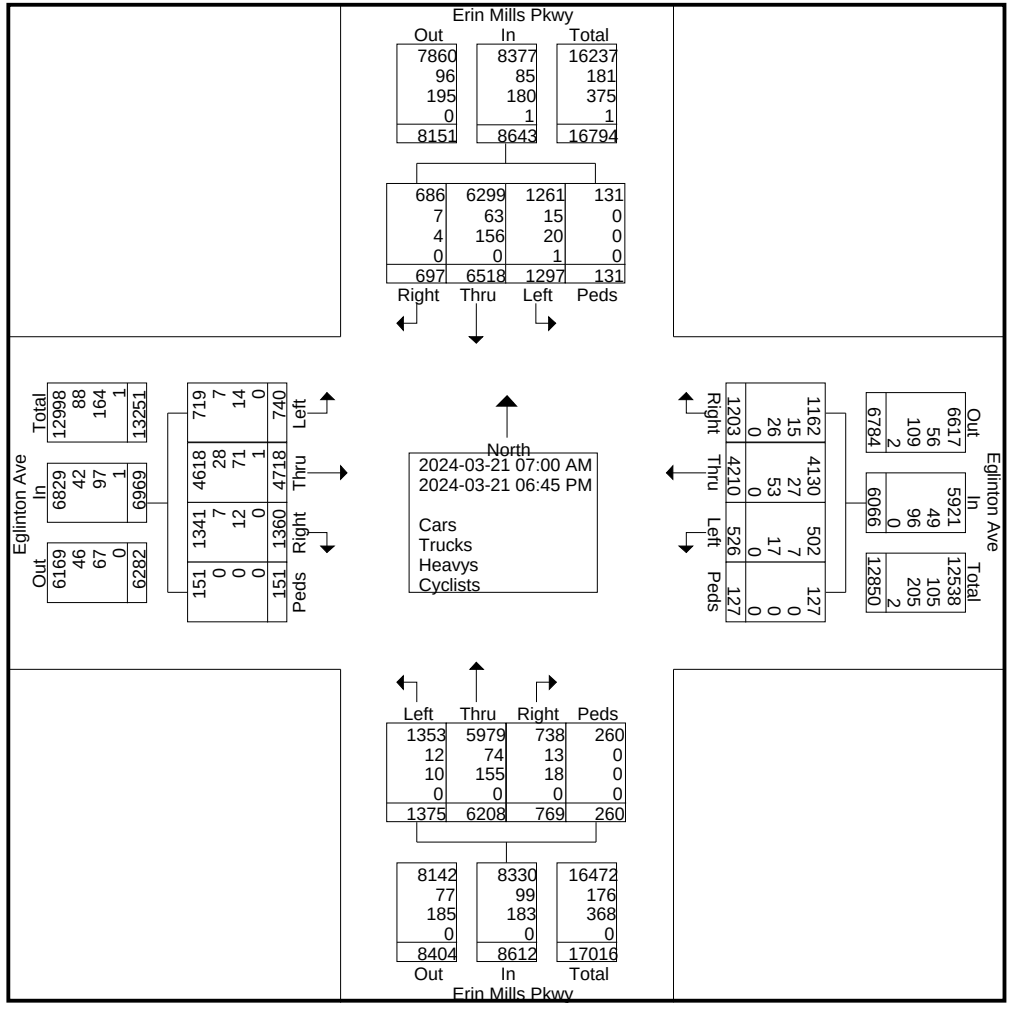
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Avenue
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



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(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Avenue
Site Code : 00000000
Start Date : 2024-03-21

	Erin Mills Pkwy From North					Eglinton Ave From East					Erin Mills Pkwy From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	26	**327**	71	3	**427**	39	132	14	3	188	35	**268**	**46**	7	**356**	53	221	24	1	299	1270
08:15 AM	**33**	295	73	**7**	408	48	**154**	**22**	3	**227**	31	234	31	**19**	315	**78**	**303**	43	11	**435**	**1385**
08:30 AM	30	306	**84**	4	424	37	103	21	**7**	168	**38**	251	36	12	337	75	282	**47**	7	411	1340
08:45 AM	17	292	76	6	391	**53**	147	13	7	220	38	227	44	14	323	46	299	36	**12**	393	1327
Total Volume	106	1220	304	20	1650	177	536	70	20	803	142	980	157	52	1331	252	1105	150	31	1538	5322
% App. Total	6.4	73.9	18.4	1.2		22	66.7	8.7	2.5		10.7	73.6	11.8	3.9		16.4	71.8	9.8	2		
PHF	.803	.933	.905	.714	.966	.835	.870	.795	.714	.884	.934	.914	.853	.684	.935	.808	.912	.798	.646	.884	.961
Cars	101	1167	292	20	1580	171	517	66	20	774	138	941	152	52	1283	249	1082	142	31	1504	5141
% Cars	95.3	95.7	96.1	100	95.8	96.6	96.5	94.3	100	96.4	97.2	96.0	96.8	100	96.4	98.8	97.9	94.7	100	97.8	96.6
Trucks	4	16	5	0	25	3	6	1	0	10	4	12	4	0	20	0	10	1	0	11	66
% Trucks	3.8	1.3	1.6	0	1.5	1.7	1.1	1.4	0	1.2	2.8	1.2	2.5	0	1.5	0	0.9	0.7	0	0.7	1.2
Heavys	1	37	7	0	45	3	13	3	0	19	0	27	1	0	28	3	13	7	0	23	115
% Heavys	0.9	3.0	2.3	0	2.7	1.7	2.4	4.3	0	2.4	0	2.8	0.6	0	2.1	1.2	1.2	4.7	0	1.5	2.2
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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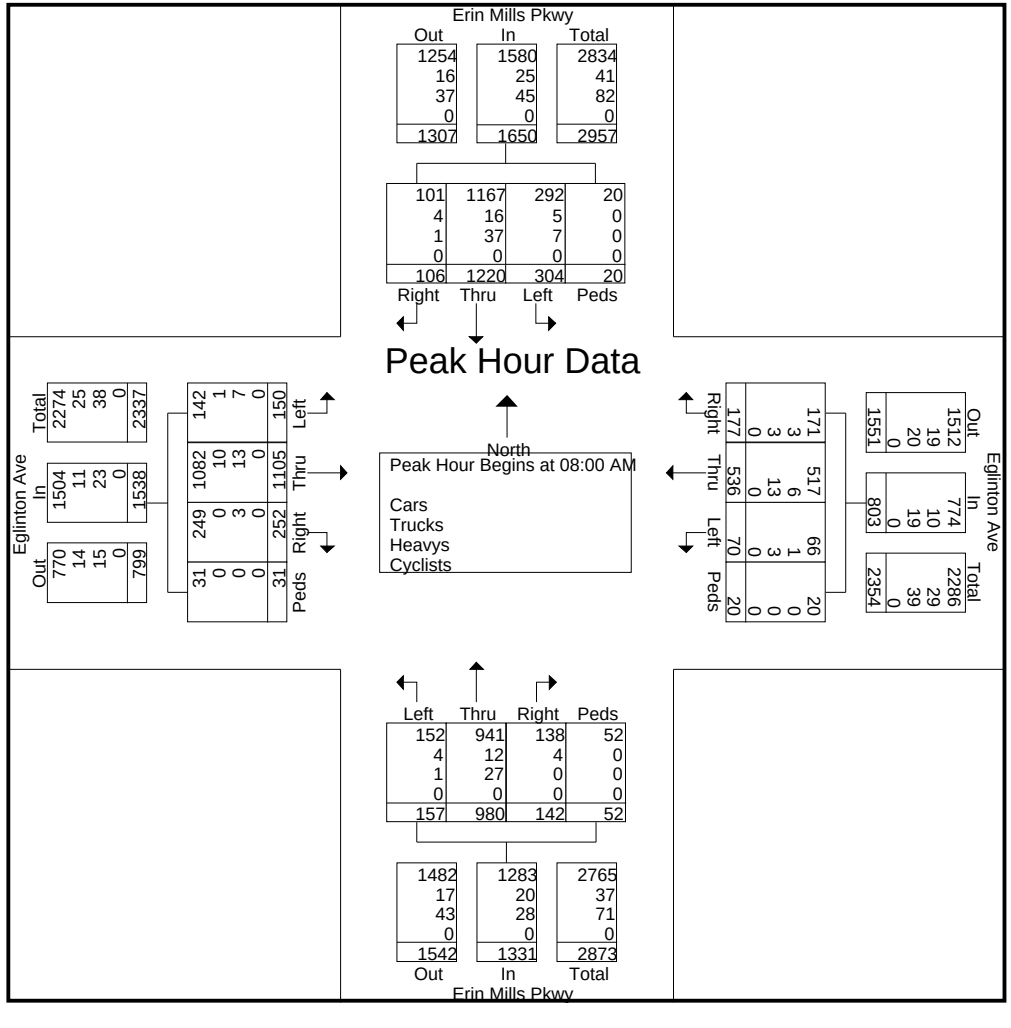
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Avenue
Site Code : 00000000
Start Date : 2024-03-21
Page No : 5



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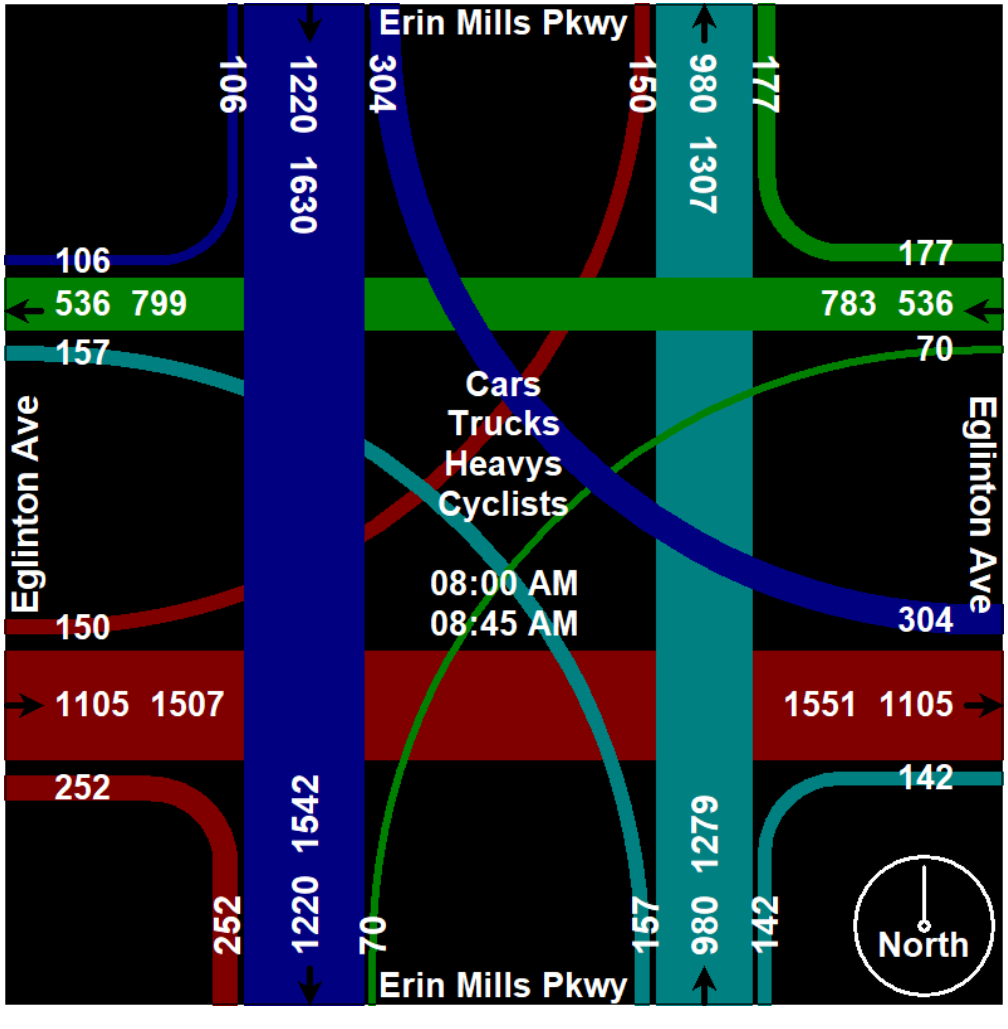
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Avenue
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Avenue
Site Code : 00000000
Start Date : 2024-03-21

	Erin Mills Pkwy From North					Eglinton Ave From East					Erin Mills Pkwy From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	32	286	43	**7**	368	67	263	29	5	364	23	281	68	**11**	383	66	186	**37**	**7**	296	1411
05:15 PM	36	**308**	42	6	**392**	71	215	27	**6**	319	26	**328**	**81**	8	**443**	58	206	37	5	306	1460
05:30 PM	**46**	277	**59**	3	385	**76**	254	34	3	367	25	292	80	6	403	61	**209**	31	5	306	**1461**
05:45 PM	38	253	48	3	342	63	**273**	**35**	3	**374**	**34**	297	74	4	409	**70**	196	37	4	**307**	1432
Total Volume	152	1124	192	19	1487	277	1005	125	17	1424	108	1198	303	29	1638	255	797	142	21	1215	5764
% App. Total	10.2	75.6	12.9	1.3		19.5	70.6	8.8	1.2		6.6	73.1	18.5	1.8		21	65.6	11.7	1.7		
PHF	.826	.912	.814	.679	.948	.911	.920	.893	.708	.952	.794	.913	.935	.659	.924	.911	.953	.959	.750	.989	.986
Cars	150	1098	191	19	1458	273	998	121	17	1409	108	1170	302	29	1609	253	787	142	21	1203	5679
% Cars	98.7	97.7	99.5	100	98.0	98.6	99.3	96.8	100	98.9	100	97.7	99.7	100	98.2	99.2	98.7	100	100	99.0	98.5
Trucks	0	8	0	0	8	2	1	0	0	3	0	6	1	0	7	1	1	0	0	2	20
% Trucks	0	0.7	0	0	0.5	0.7	0.1	0	0	0.2	0	0.5	0.3	0	0.4	0.4	0.1	0	0	0.2	0.3
Heavys	2	18	1	0	21	2	6	4	0	12	0	22	0	0	22	1	8	0	0	9	64
% Heavys	1.3	1.6	0.5	0	1.4	0.7	0.6	3.2	0	0.8	0	1.8	0	0	1.3	0.4	1.0	0	0	0.7	1.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0.0

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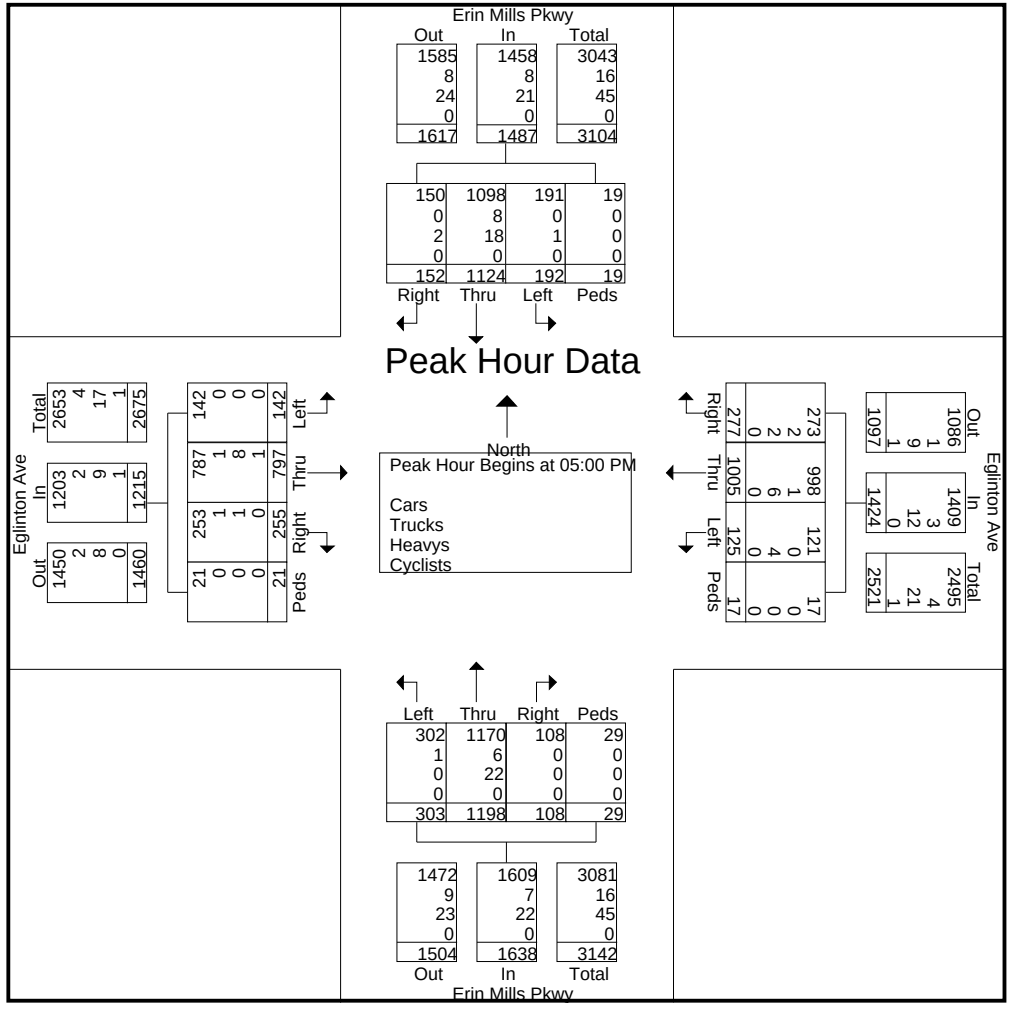
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Avenue
Site Code : 00000000
Start Date : 2024-03-21



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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Avenue
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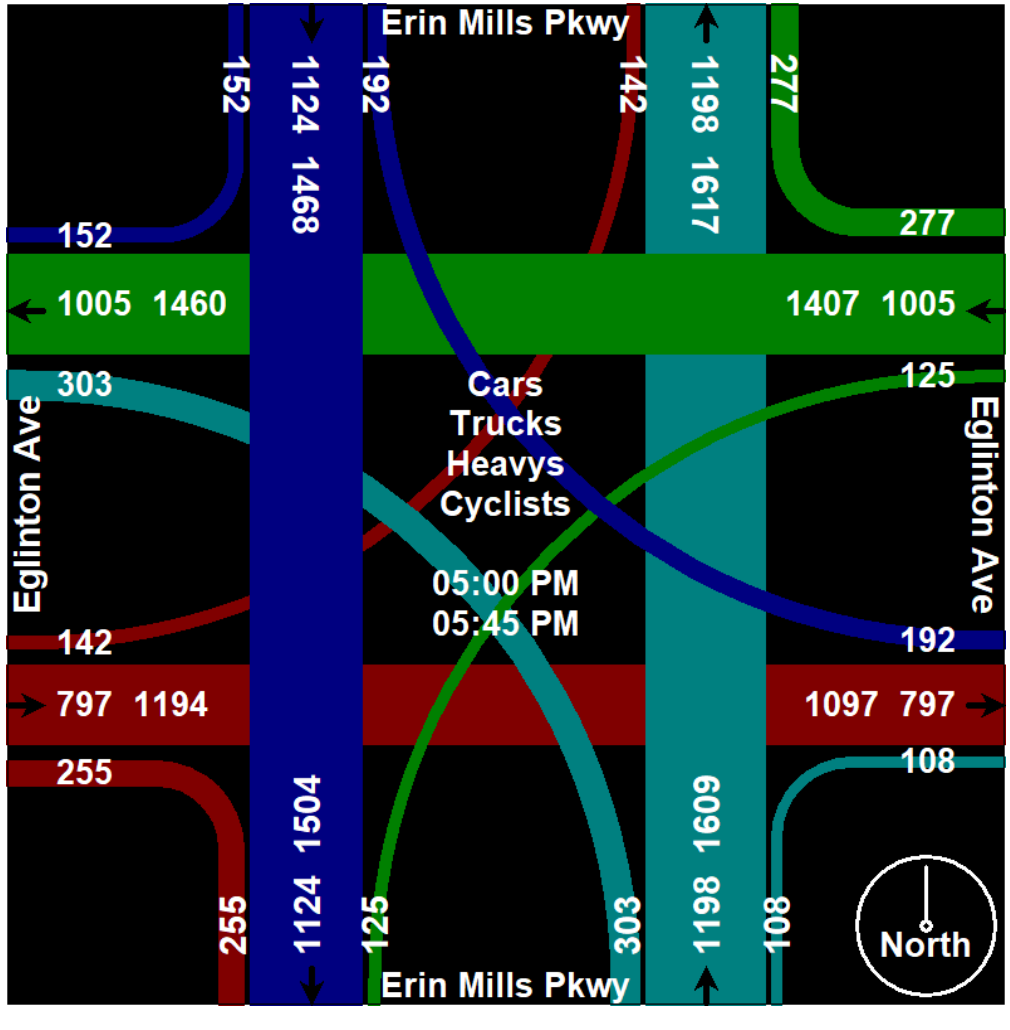

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Aveue-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					Eglinton Ave From East					Erin Mills Pkwy From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	25	291	32	3	351	34	133	27	4	198	25	185	45	7	262	54	148	25	6	233	1044
11:15 AM	23	261	49	0	333	29	155	31	3	218	28	194	65	8	295	63	164	20	6	253	1099
11:30 AM	32	196	38	5	271	41	147	27	4	219	27	162	64	13	266	69	209	24	8	310	1066
11:45 AM	28	291	44	4	367	33	116	31	6	186	28	223	50	14	315	57	156	23	5	241	1109
Total	108	1039	163	12	1322	137	551	116	17	821	108	764	224	42	1138	243	677	92	25	1037	4318
12:00 PM	22	231	49	3	305	29	197	32	5	263	26	204	83	11	324	61	192	23	8	284	1176
12:15 PM	27	268	49	4	348	70	163	24	1	258	17	205	68	8	298	92	161	21	4	278	1182
12:30 PM	30	306	66	12	414	51	147	23	12	233	24	217	79	6	326	71	170	24	5	270	1243
12:45 PM	38	269	79	5	391	48	175	35	5	263	21	221	77	12	331	78	235	25	2	340	1325
Total	117	1074	243	24	1458	198	682	114	23	1017	88	847	307	37	1279	302	758	93	19	1172	4926
01:00 PM	32	257	48	4	341	53	171	30	5	259	21	228	78	7	334	90	196	29	3	318	1252
01:15 PM	29	260	55	4	348	52	166	25	6	249	34	244	79	5	362	72	188	29	5	294	1253
01:30 PM	28	209	47	1	285	58	193	33	1	285	23	214	69	6	312	90	188	29	3	310	1192
01:45 PM	33	305	46	5	389	59	159	38	2	258	34	290	80	4	408	57	130	22	1	210	1265
Total	122	1031	196	14	1363	222	689	126	14	1051	112	976	306	22	1416	309	702	109	12	1132	4962
Grand Total	347	3144	602	50	4143	557	1922	356	54	2889	308	2587	837	101	3833	854	2137	294	56	3341	14206
Apprch %	8.4	75.9	14.5	1.2		19.3	66.5	12.3	1.9		8	67.5	21.8	2.6		25.6	64	8.8	1.7		
Total %	2.4	22.1	4.2	0.4	29.2	3.9	13.5	2.5	0.4	20.3	2.2	18.2	5.9	0.7	27	6	15	2.1	0.4	23.5	
Cars	340	3087	600	50	4077	550	1912	348	54	2864	302	2541	832	101	3776	847	2117	292	56	3312	14029
% Cars	98	98.2	99.7	100	98.4	98.7	99.5	97.8	100	99.1	98.1	98.2	99.4	100	98.5	99.2	99.1	99.3	100	99.1	98.8
Trucks	6	22	1	0	29	1	4	4	0	9	4	20	4	0	28	5	8	1	0	14	80
% Trucks	1.7	0.7	0.2	0	0.7	0.2	0.2	1.1	0	0.3	1.3	0.8	0.5	0	0.7	0.6	0.4	0.3	0	0.4	0.6
Heavys	1	35	1	0	37	6	6	4	0	16	2	26	1	0	29	2	12	1	0	15	97
% Heavys	0.3	1.1	0.2	0	0.9	1.1	0.3	1.1	0	0.6	0.6	1	0.1	0	0.8	0.2	0.6	0.3	0	0.4	0.7
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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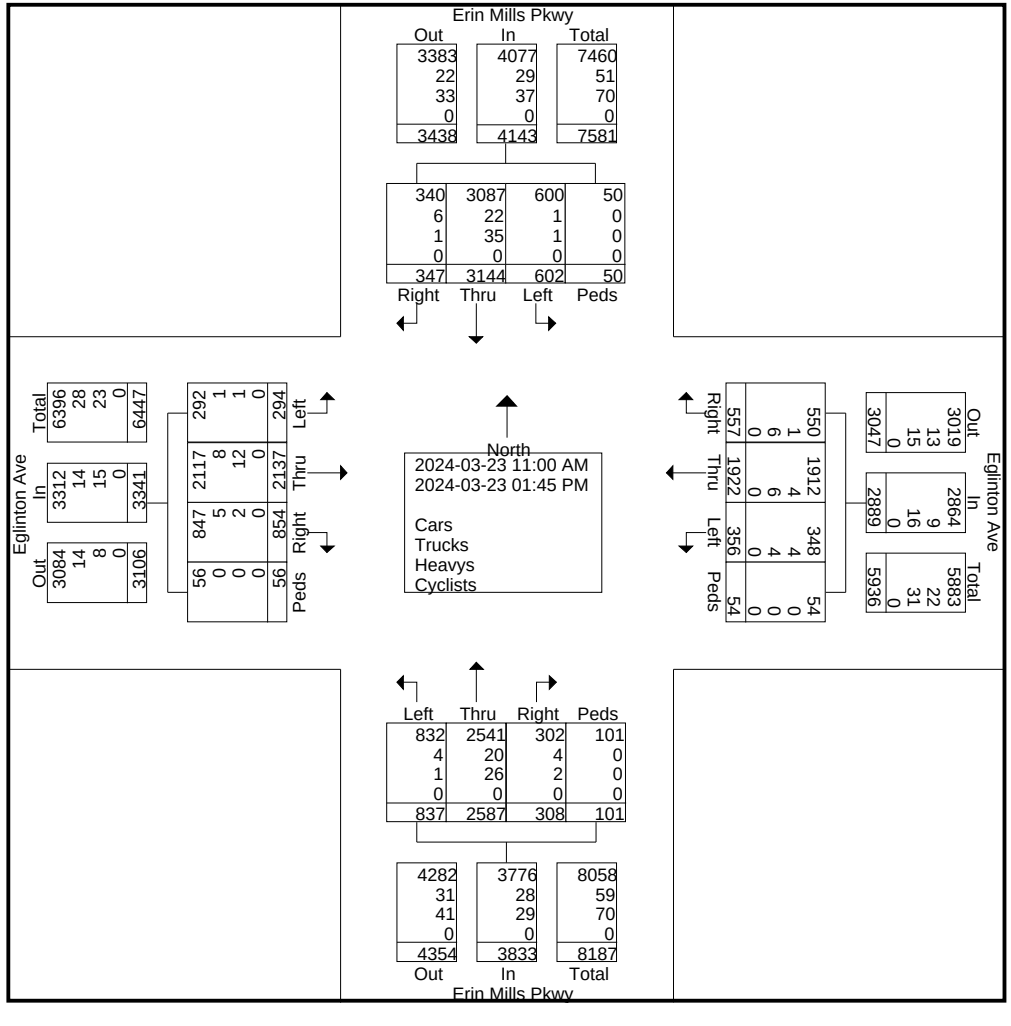
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Aveue-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 2



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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Aveue-SAT
Site Code : 00000000
Start Date : 2024-03-23

	Erin Mills Pkwy From North					Eglinton Ave From East					Erin Mills Pkwy From South					Eglinton Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:30 PM																					
12:30 PM	30	**306**	66	**12**	**414**	51	147	23	**12**	233	24	217	**79**	6	326	71	170	24	**5**	270	1243
12:45 PM	**38**	269	**79**	5	391	48	**175**	**35**	5	**263**	21	221	77	**12**	331	78	**235**	25	2	**340**	**1325**
01:00 PM	32	257	48	4	341	**53**	171	30	5	259	21	228	78	7	334	**90**	196	**29**	3	318	1252
01:15 PM	29	260	55	4	348	52	166	25	6	249	**34**	**244**	79	5	**362**	72	188	29	5	294	1253
Total Volume	129	1092	248	25	1494	204	659	113	28	1004	100	910	313	30	1353	311	789	107	15	1222	5073
% App. Total	8.6	73.1	16.6	1.7		20.3	65.6	11.3	2.8		7.4	67.3	23.1	2.2		25.5	64.6	8.8	1.2		
PHF	.849	.892	.785	.521	.902	.962	.941	.807	.583	.954	.735	.932	.991	.625	.934	.864	.839	.922	.750	.899	.957
Cars	128	1075	248	25	1476	200	656	110	28	994	99	900	312	30	1341	308	782	107	15	1212	5023
% Cars	99.2	98.4	100	100	98.8	98.0	99.5	97.3	100	99.0	99.0	98.9	99.7	100	99.1	99.0	99.1	100	100	99.2	99.0
Trucks	1	9	0	0	10	1	1	2	0	4	1	3	1	0	5	2	3	0	0	5	24
% Trucks	0.8	0.8	0	0	0.7	0.5	0.2	1.8	0	0.4	1.0	0.3	0.3	0	0.4	0.6	0.4	0	0	0.4	0.5
Heavys	0	8	0	0	8	3	2	1	0	6	0	7	0	0	7	1	4	0	0	5	26
% Heavys	0	0.7	0	0	0.5	1.5	0.3	0.9	0	0.6	0	0.8	0	0	0.5	0.3	0.5	0	0	0.4	0.5
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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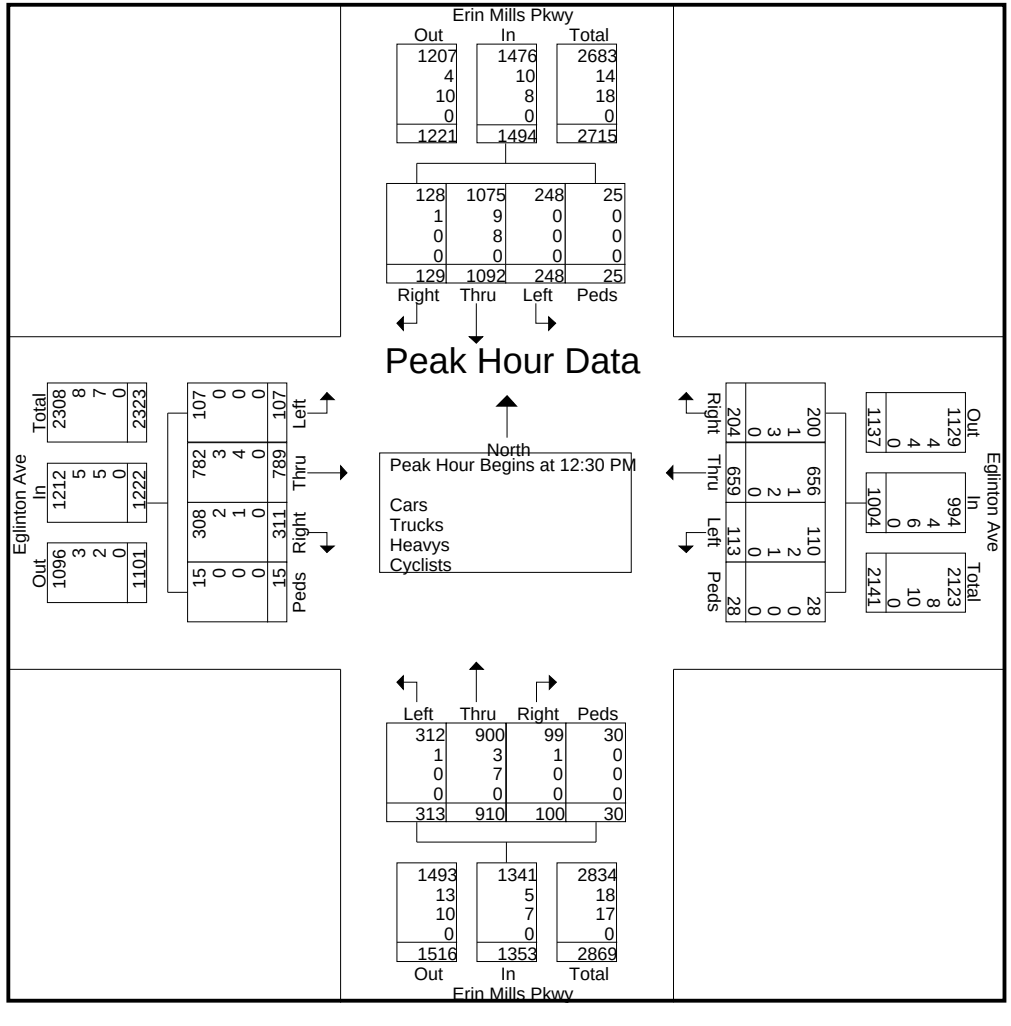
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Aveue-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 4



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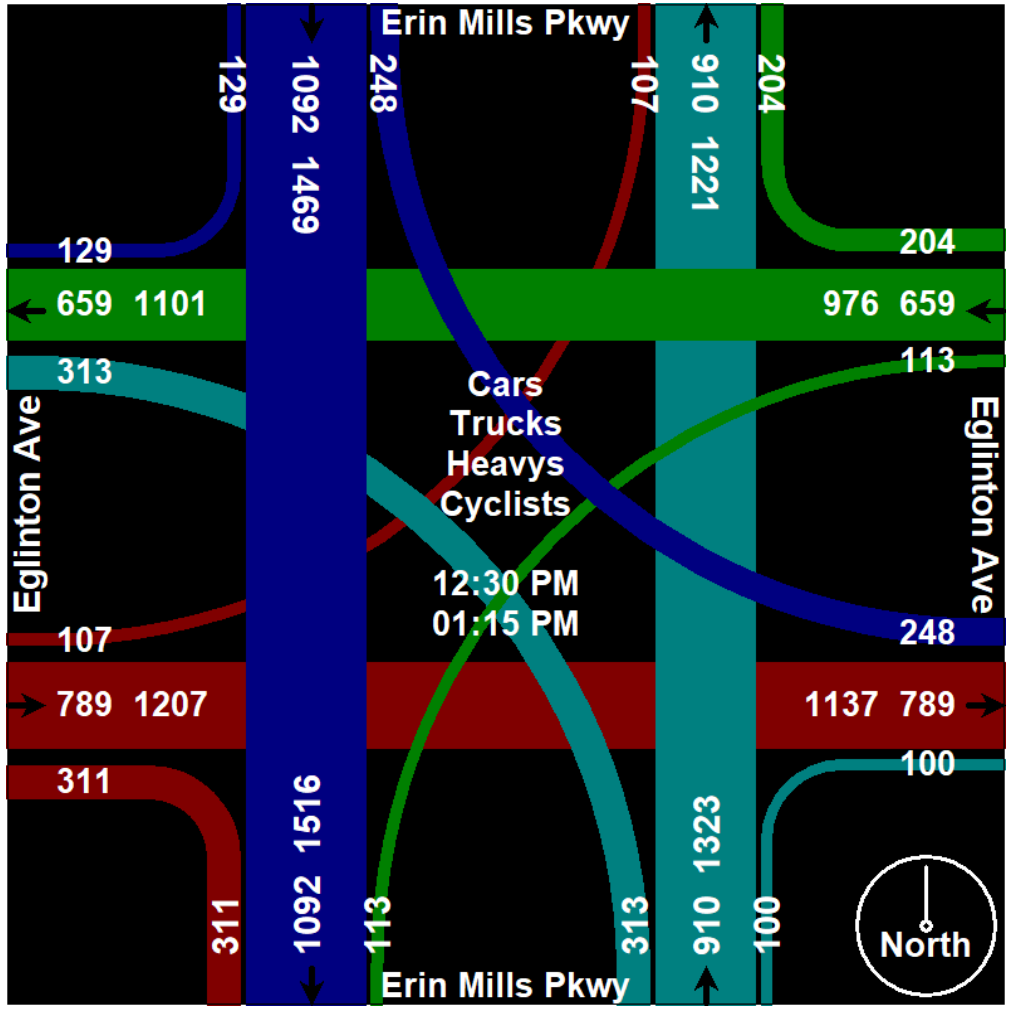
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Eglinton Aveue-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 5



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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					From East					Erin Mills Pkwy From South					Hwy 403 EB off-ramp From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	140	220	1	0	361	0	0	0	0	0	182	158	0	0	340	16	0	37	0	53	754
07:15 AM	126	261	2	0	389	0	0	0	0	0	203	180	0	0	383	18	0	51	0	69	841
07:30 AM	158	331	6	0	495	0	0	0	0	0	264	184	0	0	448	21	0	42	0	63	1006
07:45 AM	157	432	5	0	594	0	0	0	0	0	238	206	0	0	444	50	1	75	1	127	1165
Total	581	1244	14	0	1839	0	0	0	0	0	887	728	0	0	1615	105	1	205	1	312	3766
08:00 AM	134	389	4	0	527	0	0	0	0	0	268	211	0	0	479	39	0	73	1	113	1119
08:15 AM	188	440	6	0	634	0	0	0	0	0	262	247	0	0	509	47	0	49	0	96	1239
08:30 AM	137	479	6	0	622	0	0	0	0	0	265	227	0	0	492	36	0	68	0	104	1218
08:45 AM	115	472	2	0	589	0	0	0	0	0	225	222	0	0	447	39	1	68	0	108	1144
Total	574	1780	18	0	2372	0	0	0	0	0	1020	907	0	0	1927	161	1	258	1	421	4720
09:00 AM	107	482	5	0	594	0	0	0	0	0	177	235	0	0	412	48	1	48	0	97	1103
09:15 AM	91	376	2	0	469	0	0	0	0	0	170	205	0	0	375	41	0	45	0	86	930
09:30 AM	117	368	3	0	488	0	0	0	0	0	201	190	0	0	391	33	0	31	0	64	943
09:45 AM	125	317	5	0	447	0	0	0	0	0	166	200	0	0	366	25	0	45	0	70	883
Total	440	1543	15	0	1998	0	0	0	0	0	714	830	0	0	1544	147	1	169	0	317	3859
04:00 PM	82	484	8	0	574	0	0	0	0	0	157	395	0	0	552	83	5	64	1	153	1279
04:15 PM	125	477	4	0	606	0	0	0	0	0	230	278	0	0	508	50	1	61	0	112	1226
04:30 PM	140	435	2	0	577	0	0	0	0	0	226	310	0	0	536	32	0	38	1	71	1184
04:45 PM	116	467	2	0	585	0	0	0	0	0	226	337	0	0	563	24	1	46	0	71	1219
Total	463	1863	16	0	2342	0	0	0	0	0	839	1320	0	0	2159	189	7	209	2	407	4908
05:00 PM	167	392	1	0	560	0	0	0	0	0	216	293	0	0	509	29	0	46	1	76	1145
05:15 PM	131	447	4	0	582	0	0	0	0	0	269	328	0	0	597	27	0	58	1	86	1265
05:30 PM	102	412	2	0	516	0	0	0	0	0	256	306	0	0	562	28	0	61	0	89	1167
05:45 PM	131	408	4	0	543	0	0	0	0	0	216	328	0	0	544	35	0	54	0	89	1176
Total	531	1659	11	0	2201	0	0	0	0	0	957	1255	0	0	2212	119	0	219	2	340	4753
06:00 PM	110	333	1	0	444	0	0	0	0	0	205	272	0	0	477	25	0	59	0	84	1005
06:15 PM	128	298	2	0	428	0	0	0	0	0	213	276	0	0	489	39	0	60	0	99	1016
06:30 PM	148	371	2	0	521	0	0	0	0	0	178	275	0	0	453	40	0	46	0	86	1060
06:45 PM	125	353	0	0	478	0	0	0	0	0	194	266	0	0	460	31	0	95	0	126	1064
Total	511	1355	5	0	1871	0	0	0	0	0	790	1089	0	0	1879	135	0	260	0	395	4145

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					From East					Erin Mills Pkwy From South					Hwy 403 EB off-ramp From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	3100	9444	79	0	12623	0	0	0	0	0	5207	6129	0	0	11336	856	10	1320	6	2192	26151
Apprch %	24.6	74.8	0.6	0		0	0	0	0		45.9	54.1	0	0		39.1	0.5	60.2	0.3		
Total %	11.9	36.1	0.3	0	48.3	0	0	0	0	0	19.9	23.4	0	0	43.3	3.3	0	5	0	8.4	
Cars	3011	9113	0	0	12124	0	0	0	0	0	5023	5936	0	0	10959	828	5	1243	6	2082	25165
% Cars	97.1	96.5	0	0	96	0	0	0	0	0	96.5	96.9	0	0	96.7	96.7	50	94.2	100	95	96.2
Trucks	30	137	0	0	167	0	0	0	0	0	76	84	0	0	160	9	0	15	0	24	351
% Trucks	1	1.5	0	0	1.3	0	0	0	0	0	1.5	1.4	0	0	1.4	1.1	0	1.1	0	1.1	1.3
Heavys	59	194	79	0	332	0	0	0	0	0	108	109	0	0	217	19	5	62	0	86	635
% Heavys	1.9	2.1	100	0	2.6	0	0	0	0	0	2.1	1.8	0	0	1.9	2.2	50	4.7	0	3.9	2.4
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
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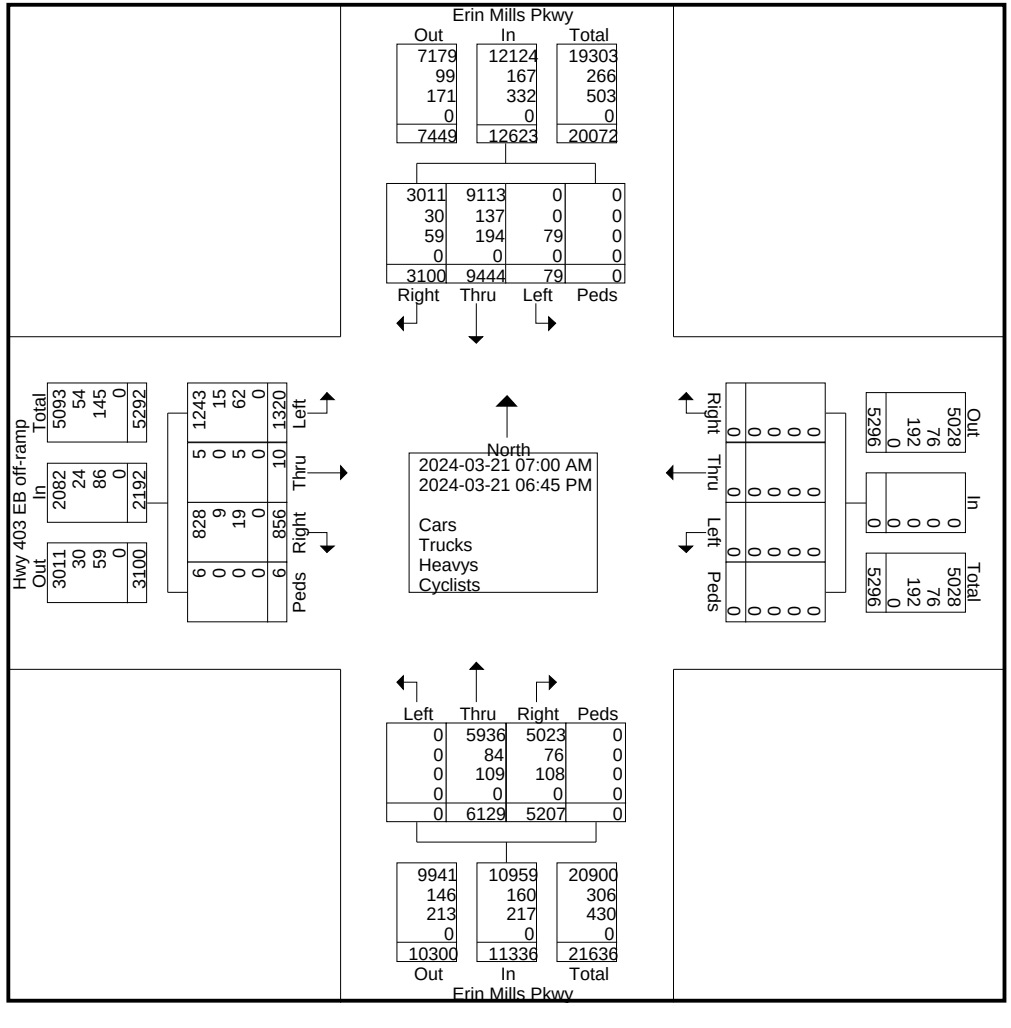

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
Page No : 4

	Erin Mills Pkwy From North					From East					Erin Mills Pkwy From South					Hwy 403 EB off-ramp From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	157	432	5	0	594	0	0	0	0	0	238	206	0	0	444	**50**	**1**	**75**	**1**	**127**	1165
08:00 AM	134	389	4	0	527	0	0	0	0	0	**268**	211	0	0	479	39	0	73	1	113	1119
08:15 AM	**188**	440	**6**	0	**634**	0	0	0	0	0	262	**247**	0	0	**509**	47	0	49	0	96	**1239**
08:30 AM	137	**479**	6	0	622	0	0	0	0	0	265	227	0	0	492	36	0	68	0	104	1218
Total Volume	616	1740	21	0	2377	0	0	0	0	0	1033	891	0	0	1924	172	1	265	2	440	4741
% App. Total	25.9	73.2	0.9	0		0	0	0	0		53.7	46.3	0	0		39.1	0.2	60.2	0.5		
PHF	.819	.908	.875	.000	.937	.000	.000	.000	.000	.000	.964	.902	.000	.000	.945	.860	.250	.883	.500	.866	.957
Cars	598	1662	0	0	2260	0	0	0	0	0	981	859	0	0	1840	168	0	258	2	428	4528
% Cars	97.1	95.5	0	0	95.1	0	0	0	0	0	95.0	96.4	0	0	95.6	97.7	0	97.4	100	97.3	95.5
Trucks	8	36	0	0	44	0	0	0	0	0	20	16	0	0	36	0	0	2	0	2	82
% Trucks	1.3	2.1	0	0	1.9	0	0	0	0	0	1.9	1.8	0	0	1.9	0	0	0.8	0	0.5	1.7
Heavys	10	42	21	0	73	0	0	0	0	0	32	16	0	0	48	4	1	5	0	10	131
% Heavys	1.6	2.4	100	0	3.1	0	0	0	0	0	3.1	1.8	0	0	2.5	2.3	100	1.9	0	2.3	2.8
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
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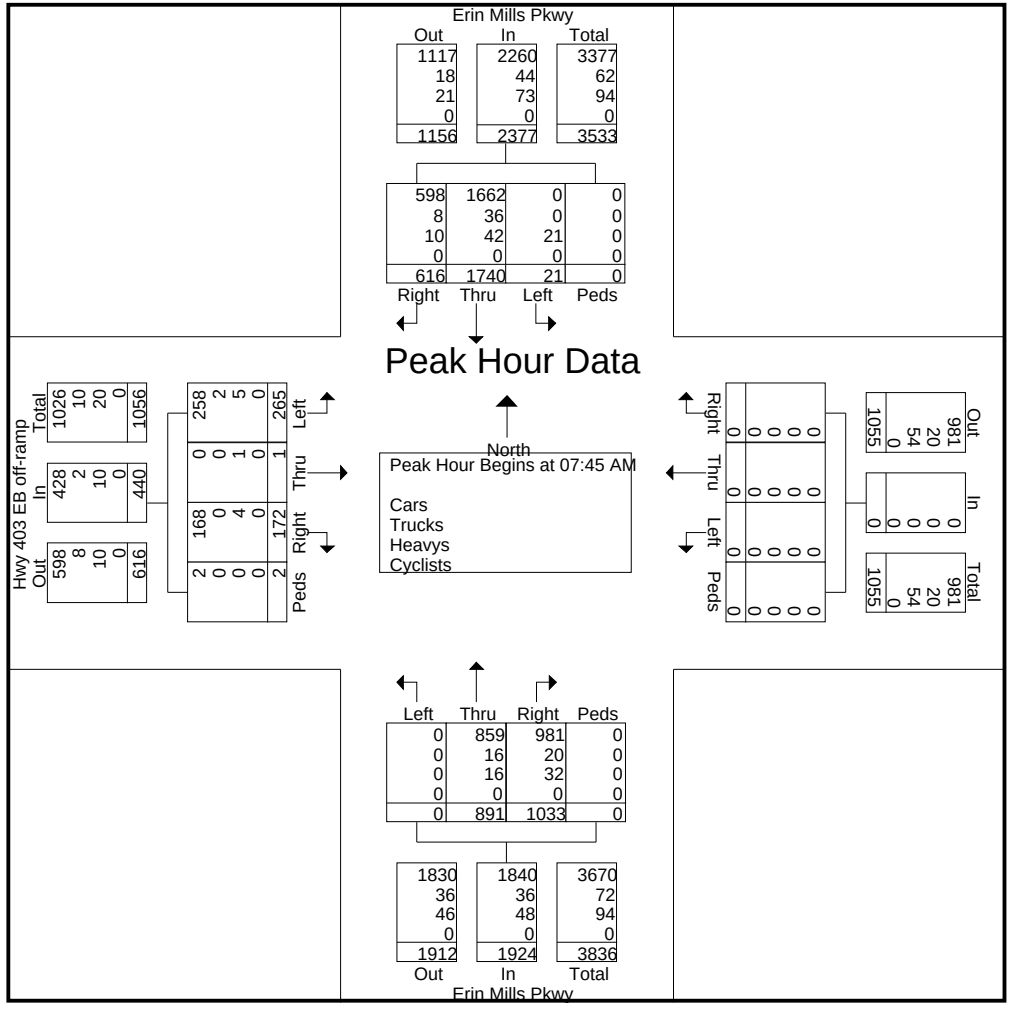

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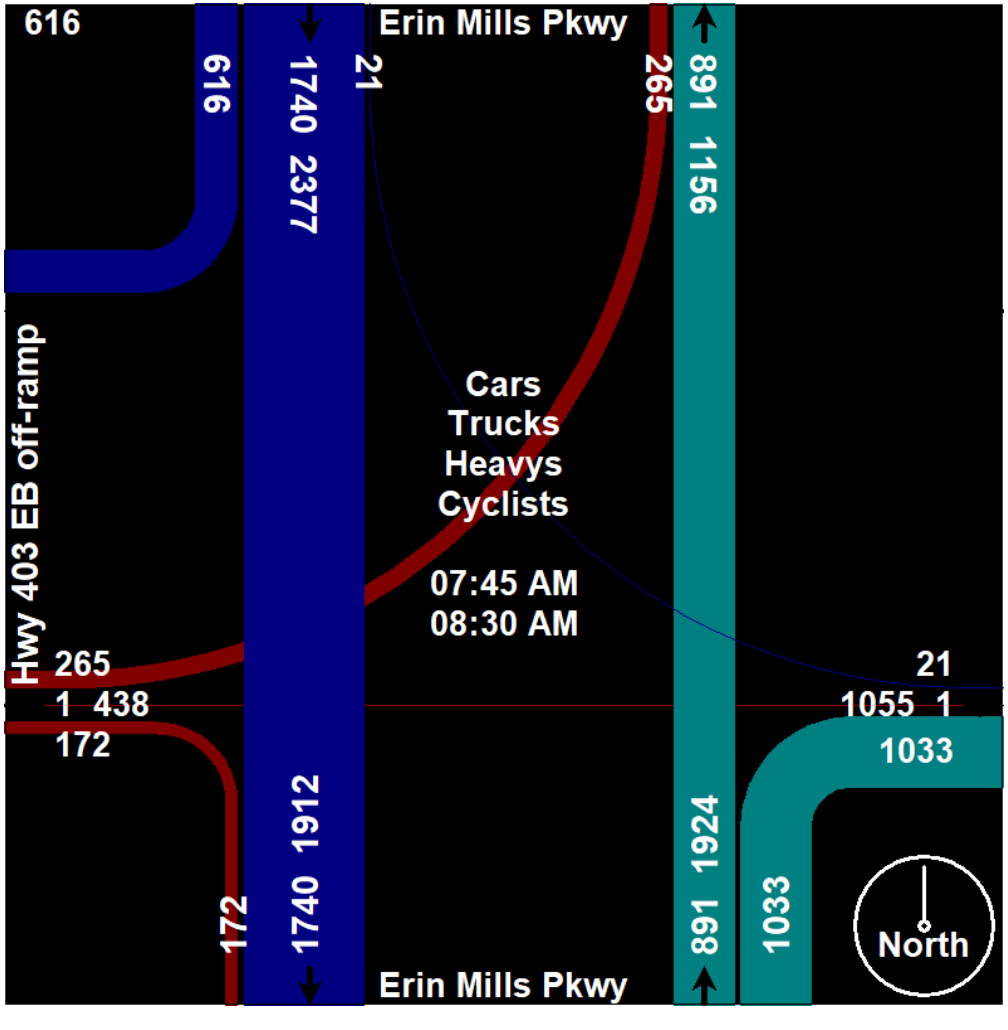
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
Page No : 7

	Erin Mills Pkwy From North					From East					Erin Mills Pkwy From South					Hwy 403 EB off-ramp From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	82	**484**	**8**	0	574	0	0	0	0	0	157	**395**	0	0	552	**83**	**5**	**64**	**1**	**153**	**1279**
04:15 PM	125	477	4	0	**606**	0	0	0	0	0	**230**	278	0	0	508	50	1	61	0	112	1226
04:30 PM	**140**	435	2	0	577	0	0	0	0	0	226	310	0	0	536	32	0	38	1	71	1184
04:45 PM	116	467	2	0	585	0	0	0	0	0	226	337	0	0	**563**	24	1	46	0	71	1219
Total Volume	463	1863	16	0	2342	0	0	0	0	0	839	1320	0	0	2159	189	7	209	2	407	4908
% App. Total	19.8	79.5	0.7	0		0	0	0	0		38.9	61.1	0	0		46.4	1.7	51.4	0.5		
PHF	.827	.962	.500	.000	.966	.000	.000	.000	.000	.000	.912	.835	.000	.000	.959	.569	.350	.816	.500	.665	.959
Cars	453	1822	0	0	2275	0	0	0	0	0	799	1286	0	0	2085	180	3	192	2	377	4737
% Cars	97.8	97.8	0	0	97.1	0	0	0	0	0	95.2	97.4	0	0	96.6	95.2	42.9	91.9	100	92.6	96.5
Trucks	4	14	0	0	18	0	0	0	0	0	18	18	0	0	36	1	0	3	0	4	58
% Trucks	0.9	0.8	0	0	0.8	0	0	0	0	0	2.1	1.4	0	0	1.7	0.5	0	1.4	0	1.0	1.2
Heavys	6	27	16	0	49	0	0	0	0	0	22	16	0	0	38	8	4	14	0	26	113
% Heavys	1.3	1.4	100	0	2.1	0	0	0	0	0	2.6	1.2	0	0	1.8	4.2	57.1	6.7	0	6.4	2.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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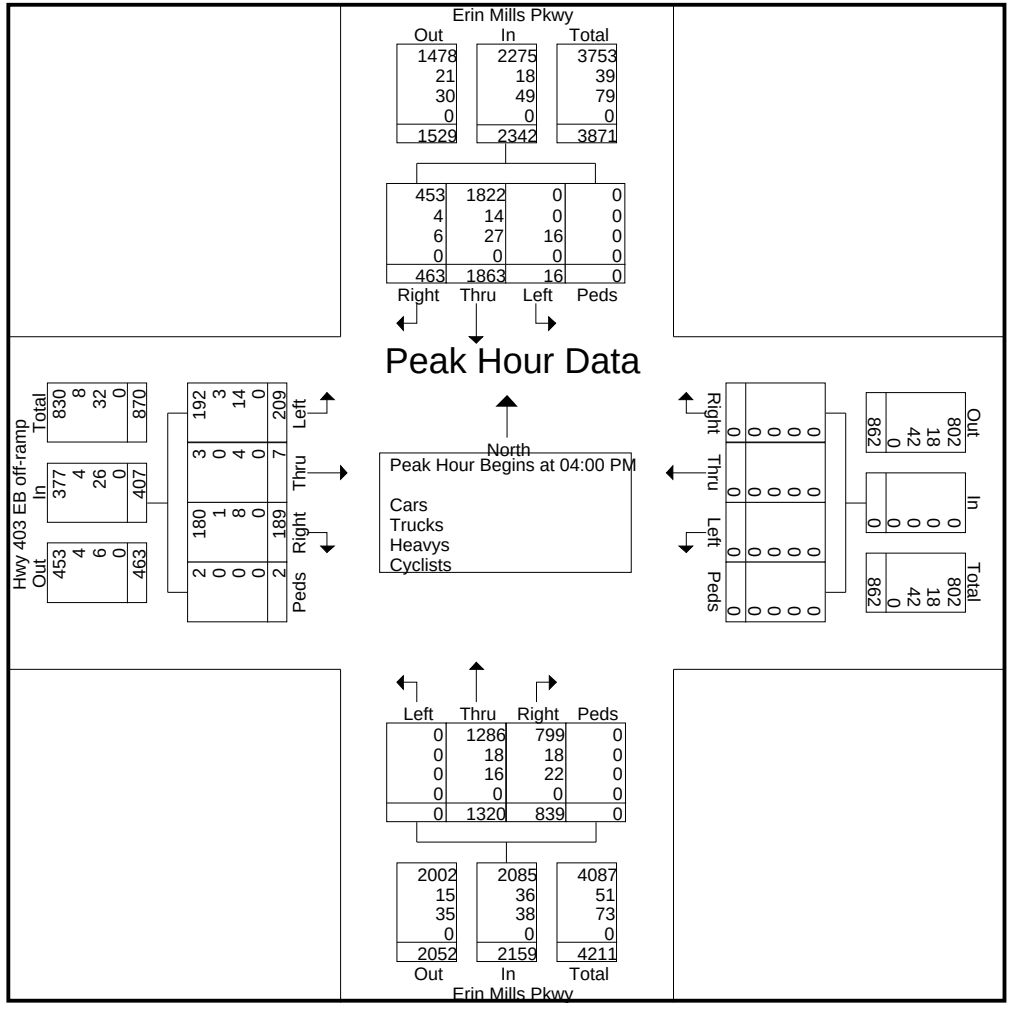
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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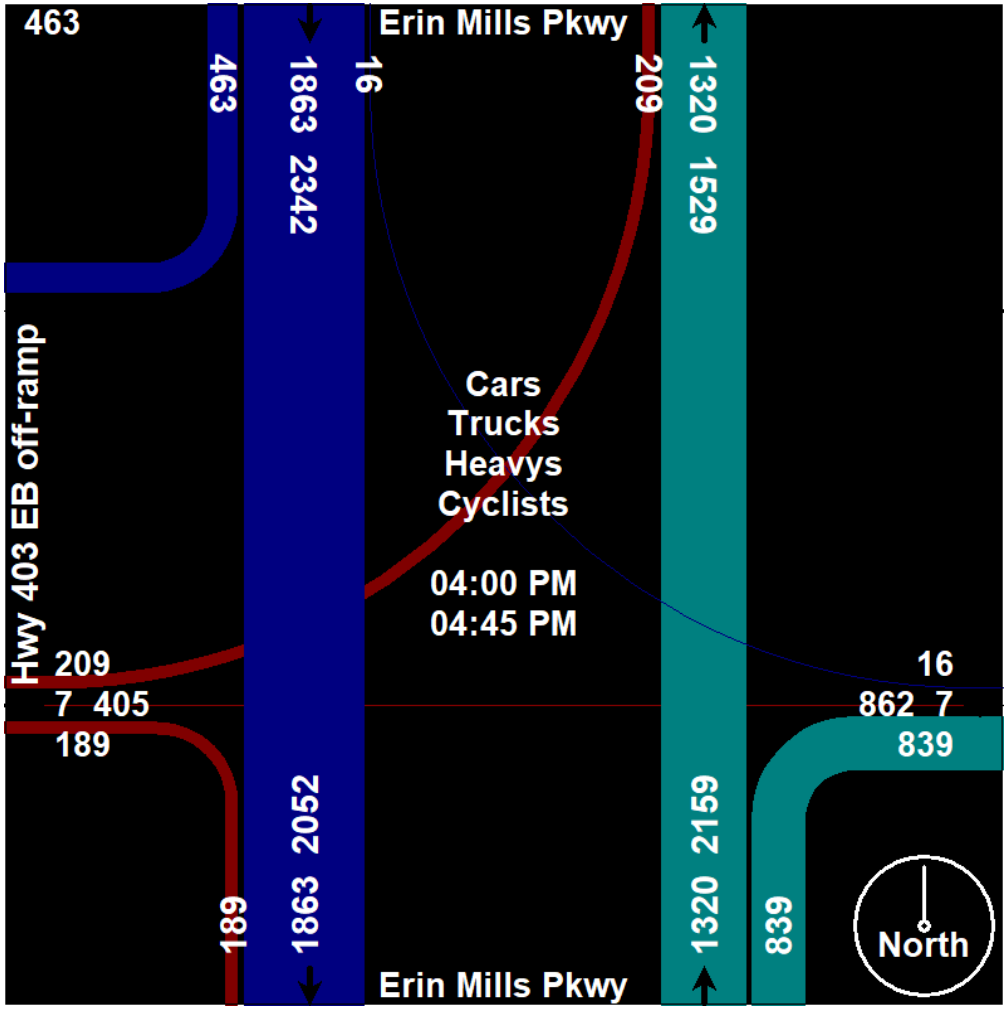
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					From East					Erin Mills Pkwy From South					Hwy 403 EB off-ramp From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	144	296	0	0	440	0	0	0	0	0	159	179	0	0	338	13	0	22	1	36	814
11:15 AM	135	306	0	0	441	0	0	0	0	0	214	203	0	0	417	16	0	26	2	44	902
11:30 AM	152	332	0	0	484	0	0	0	0	0	182	232	0	0	414	14	0	8	1	23	921
11:45 AM	153	353	1	0	507	0	0	0	0	0	203	213	0	0	416	19	0	33	1	53	976
Total	584	1287	1	0	1872	0	0	0	0	0	758	827	0	0	1585	62	0	89	5	156	3613
12:00 PM	153	302	0	0	455	0	0	0	0	0	195	229	0	0	424	41	0	24	0	65	944
12:15 PM	145	377	1	0	523	0	0	0	0	0	204	233	0	0	437	16	0	20	2	38	998
12:30 PM	164	339	0	0	503	0	0	0	0	0	238	260	0	0	498	21	0	27	0	48	1049
12:45 PM	164	403	2	0	569	0	0	0	0	0	260	235	0	0	495	24	0	17	1	42	1106
Total	626	1421	3	0	2050	0	0	0	0	0	897	957	0	0	1854	102	0	88	3	193	4097
01:00 PM	160	367	1	0	528	0	0	0	0	0	297	234	0	0	531	46	0	33	2	81	1140
01:15 PM	160	310	1	0	471	0	0	0	0	0	232	257	0	0	489	27	0	45	1	73	1033
01:30 PM	160	348	1	0	509	0	0	0	0	0	231	258	0	0	489	34	0	26	2	62	1060
01:45 PM	158	359	1	0	518	0	0	0	0	0	207	267	0	0	474	19	0	52	0	71	1063
Total	638	1384	4	0	2026	0	0	0	0	0	967	1016	0	0	1983	126	0	156	5	287	4296
Grand Total	1848	4092	8	0	5948	0	0	0	0	0	2622	2800	0	0	5422	290	0	333	13	636	12006
Apprch %	31.1	68.8	0.1	0		0	0	0	0		48.4	51.6	0	0		45.6	0	52.4	2		
Total %	15.4	34.1	0.1	0	49.5	0	0	0	0	0	21.8	23.3	0	0	45.2	2.4	0	2.8	0.1	5.3	
Cars	1817	4042	0	0	5859	0	0	0	0	0	2582	2768	0	0	5350	287	0	323	13	623	11832
% Cars	98.3	98.8	0	0	98.5	0	0	0	0	0	98.5	98.9	0	0	98.7	99	0	97	100	98	98.6
Trucks	11	23	0	0	34	0	0	0	0	0	19	20	0	0	39	2	0	3	0	5	78
% Trucks	0.6	0.6	0	0	0.6	0	0	0	0	0	0.7	0.7	0	0	0.7	0.7	0	0.9	0	0.8	0.6
Heavys	20	27	8	0	55	0	0	0	0	0	21	12	0	0	33	1	0	7	0	8	96
% Heavys	1.1	0.7	100	0	0.9	0	0	0	0	0	0.8	0.4	0	0	0.6	0.3	0	2.1	0	1.3	0.8
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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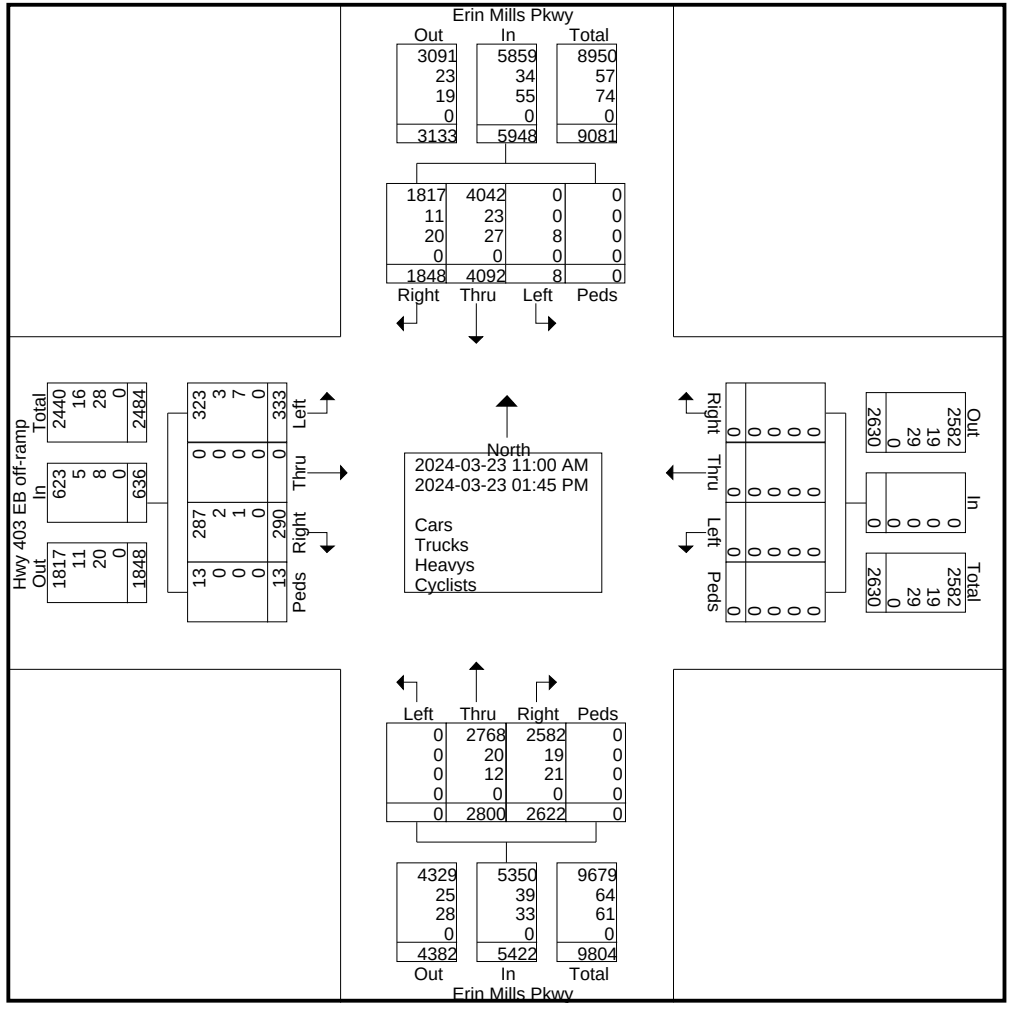
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 2



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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 3

	Erin Mills Pkwy From North					From East					Erin Mills Pkwy From South					Hwy 403 EB off-ramp From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:45 PM																					
12:45 PM	**164**	**403**	**2**	0	**569**	0	0	0	0	0	260	235	0	0	495	24	0	17	1	42	1106
01:00 PM	160	367	1	0	528	0	0	0	0	0	**297**	234	0	0	**531**	**46**	0	33	**2**	**81**	**1140**
01:15 PM	160	310	1	0	471	0	0	0	0	0	232	257	0	0	489	27	0	**45**	1	73	1033
01:30 PM	160	348	1	0	509	0	0	0	0	0	231	**258**	0	0	489	34	0	26	2	62	1060
Total Volume	644	1428	5	0	2077	0	0	0	0	0	1020	984	0	0	2004	131	0	121	6	258	4339
% App. Total	31	68.8	0.2	0		0	0	0	0		50.9	49.1	0	0		50.8	0	46.9	2.3		
PHF	.982	.886	.625	.000	.913	.000	.000	.000	.000	.000	.859	.953	.000	.000	.944	.712	.000	.672	.750	.796	.952
Cars	632	1412	0	0	2044	0	0	0	0	0	1001	975	0	0	1976	130	0	119	6	255	4275
% Cars	98.1	98.9	0	0	98.4	0	0	0	0	0	98.1	99.1	0	0	98.6	99.2	0	98.3	100	98.8	98.5
Trucks	7	8	0	0	15	0	0	0	0	0	5	5	0	0	10	1	0	2	0	3	28
% Trucks	1.1	0.6	0	0	0.7	0	0	0	0	0	0.5	0.5	0	0	0.5	0.8	0	1.7	0	1.2	0.6
Heavys	5	8	5	0	18	0	0	0	0	0	14	4	0	0	18	0	0	0	0	0	36
% Heavys	0.8	0.6	100	0	0.9	0	0	0	0	0	1.4	0.4	0	0	0.9	0	0	0	0	0	0.8
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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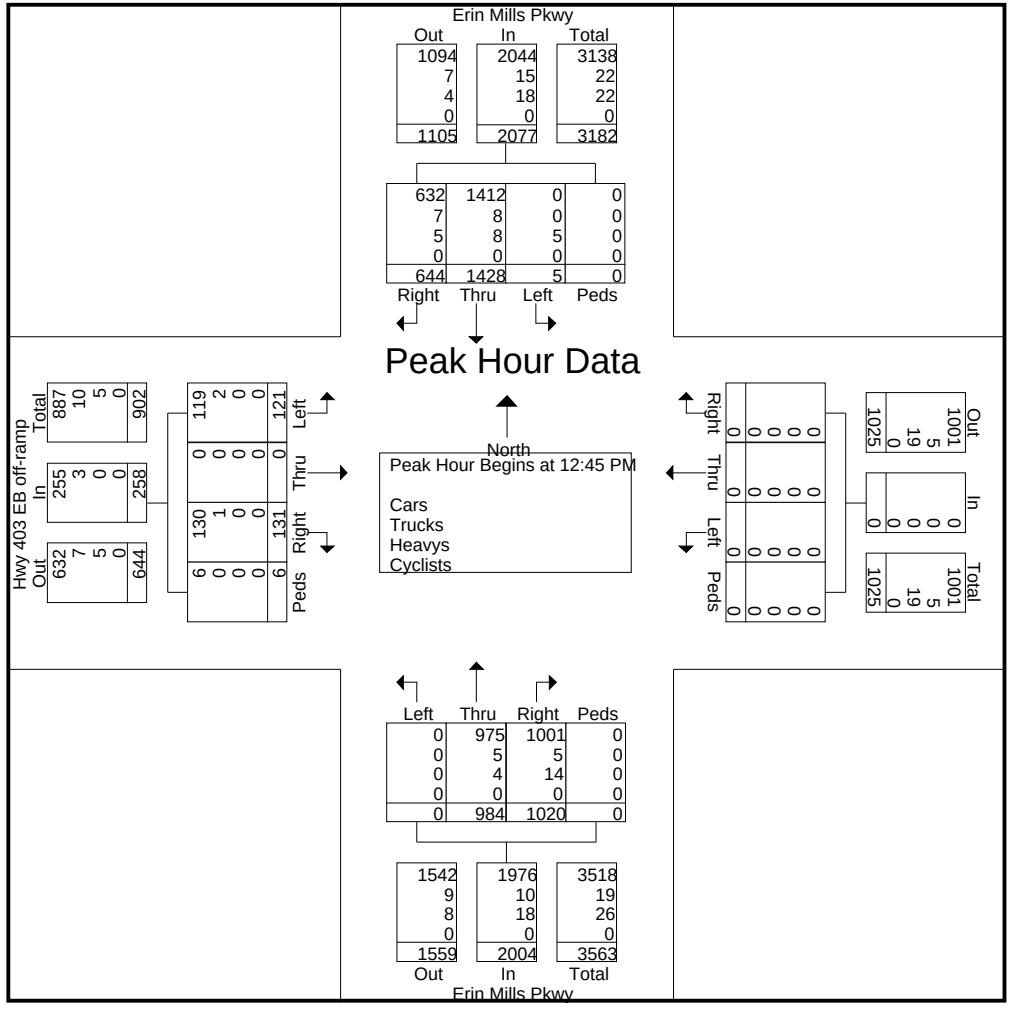
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 4



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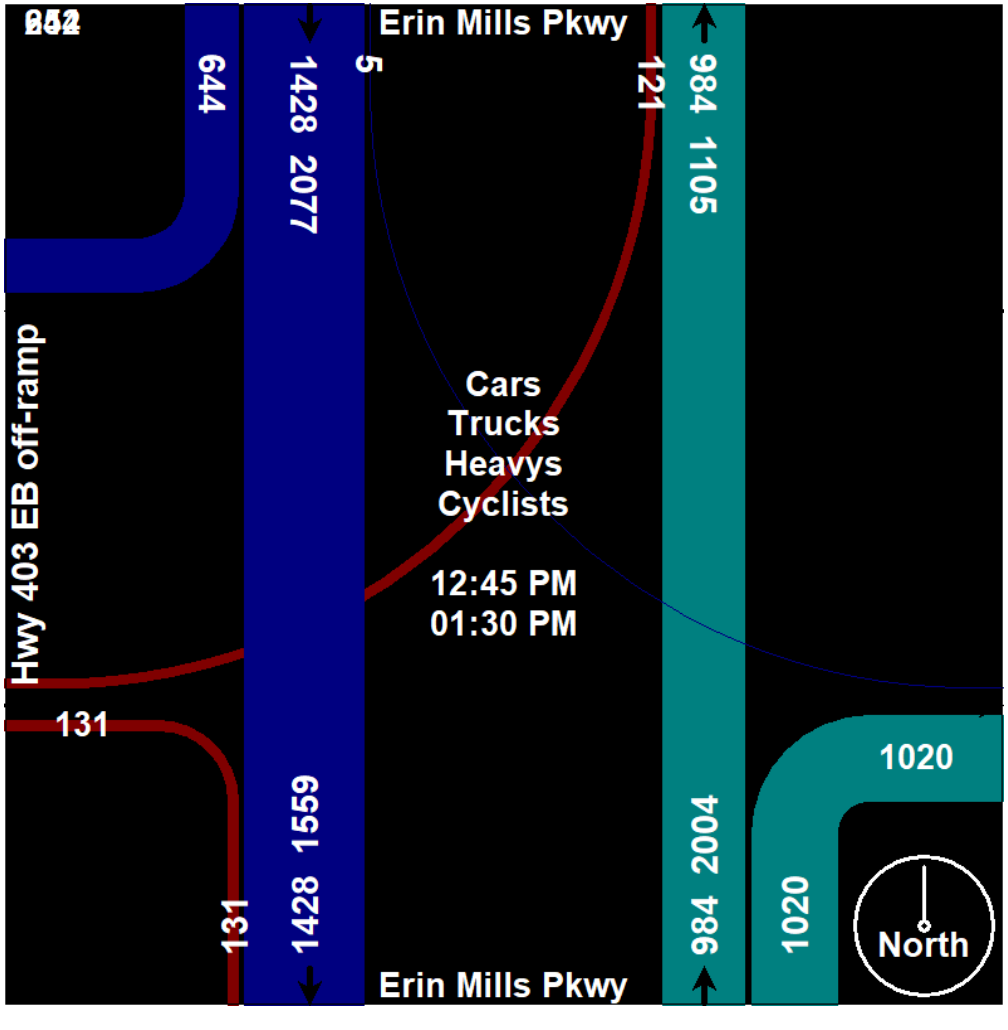
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 EB off-ramp-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 5



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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					Hwy 403 WB off-ramp From East					Erin Mills Pkwy From South					GO Transit Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	15	338	0	0	353	105	2	99	0	206	11	219	6	0	236	10	0	8	0	18	813
07:15 AM	20	368	0	0	388	101	7	117	0	225	24	264	10	0	298	16	0	8	0	24	935
07:30 AM	18	465	0	0	483	137	5	155	0	297	23	223	7	0	253	12	0	10	0	22	1055
07:45 AM	19	537	0	0	556	148	9	161	0	318	26	340	6	0	372	10	0	8	0	18	1264
Total	72	1708	0	0	1780	491	23	532	0	1046	84	1046	29	0	1159	48	0	34	0	82	4067
08:00 AM	9	451	0	0	460	163	4	187	0	354	21	311	8	0	340	13	0	7	0	20	1174
08:15 AM	26	511	0	0	537	134	5	185	0	324	24	290	10	0	324	18	0	10	1	29	1214
08:30 AM	11	534	0	0	545	150	7	204	0	361	25	343	7	0	375	16	0	6	0	22	1303
08:45 AM	17	419	0	0	436	163	11	256	0	430	19	305	5	0	329	9	0	8	0	17	1212
Total	63	1915	0	0	1978	610	27	832	0	1469	89	1249	30	0	1368	56	0	31	1	88	4903
09:00 AM	7	469	0	0	476	120	4	180	0	304	26	306	7	0	339	12	0	6	0	18	1137
09:15 AM	15	416	0	0	431	122	10	161	0	293	25	288	9	0	322	12	0	4	0	16	1062
09:30 AM	9	430	0	0	439	105	3	127	0	235	26	207	3	0	236	8	0	7	0	15	925
09:45 AM	9	394	0	0	403	119	5	162	0	286	25	294	7	0	326	9	0	3	0	12	1027
Total	40	1709	0	0	1749	466	22	630	0	1118	102	1095	26	0	1223	41	0	20	0	61	4151
04:00 PM	11	470	0	0	481	159	8	233	0	400	78	436	11	0	525	13	0	5	0	18	1424
04:15 PM	8	542	0	0	550	151	5	224	0	380	68	334	6	0	408	15	0	13	1	29	1367
04:30 PM	10	503	0	0	513	150	2	190	0	342	59	349	3	0	411	11	0	8	1	20	1286
04:45 PM	13	403	0	0	416	184	8	247	0	439	67	316	5	0	388	11	0	7	0	18	1261
Total	42	1918	0	0	1960	644	23	894	0	1561	272	1435	25	0	1732	50	0	33	2	85	5338
05:00 PM	15	531	0	0	546	148	8	168	0	324	49	350	8	0	407	10	0	7	2	19	1296
05:15 PM	19	500	0	0	519	152	3	228	0	383	59	379	12	0	450	13	0	23	0	36	1388
05:30 PM	15	400	0	0	415	189	11	199	0	399	61	322	7	0	390	15	0	19	0	34	1238
05:45 PM	9	480	0	0	489	121	7	178	0	306	53	389	10	0	452	13	0	14	0	27	1274
Total	58	1911	0	0	1969	610	29	773	0	1412	222	1440	37	0	1699	51	0	63	2	116	5196
06:00 PM	18	455	0	0	473	139	5	122	0	266	40	350	2	0	392	7	0	15	0	22	1153
06:15 PM	11	377	0	0	388	111	4	141	0	256	41	331	6	0	378	12	0	14	0	26	1048
06:30 PM	11	439	0	0	450	137	6	148	0	291	53	345	8	0	406	13	0	13	0	26	1173
06:45 PM	17	347	0	0	364	201	7	179	0	387	43	305	7	0	355	11	0	16	0	27	1133
Total	57	1618	0	0	1675	588	22	590	0	1200	177	1331	23	0	1531	43	0	58	0	101	4507

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
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Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					Hwy 403 WB off-ramp From East					Erin Mills Pkwy From South					GO Transit Access From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	332	10779	0	0	11111	3409	146	4251	0	7806	946	7596	170	0	8712	289	0	239	5	533	28162
Apprch %	3	97	0	0		43.7	1.9	54.5	0		10.9	87.2	2	0		54.2	0	44.8	0.9		
Total %	1.2	38.3	0	0	39.5	12.1	0.5	15.1	0	27.7	3.4	27	0.6	0	30.9	1	0	0.8	0	1.9	
Cars	302	10527	0	0	10829	3327	44	4086	0	7457	925	7390	121	0	8436	138	0	213	5	356	27078
% Cars	91	97.7	0	0	97.5	97.6	30.1	96.1	0	95.5	97.8	97.3	71.2	0	96.8	47.8	0	89.1	100	66.8	96.2
Trucks	0	100	0	0	100	40	2	81	0	123	9	96	0	0	105	1	0	0	0	1	329
% Trucks	0	0.9	0	0	0.9	1.2	1.4	1.9	0	1.6	1	1.3	0	0	1.2	0.3	0	0	0	0.2	1.2
Heavys	30	152	0	0	182	42	100	84	0	226	12	110	49	0	171	149	0	26	0	175	754
% Heavys	9	1.4	0	0	1.6	1.2	68.5	2	0	2.9	1.3	1.4	28.8	0	2	51.6	0	10.9	0	32.8	2.7
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0.2	0

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
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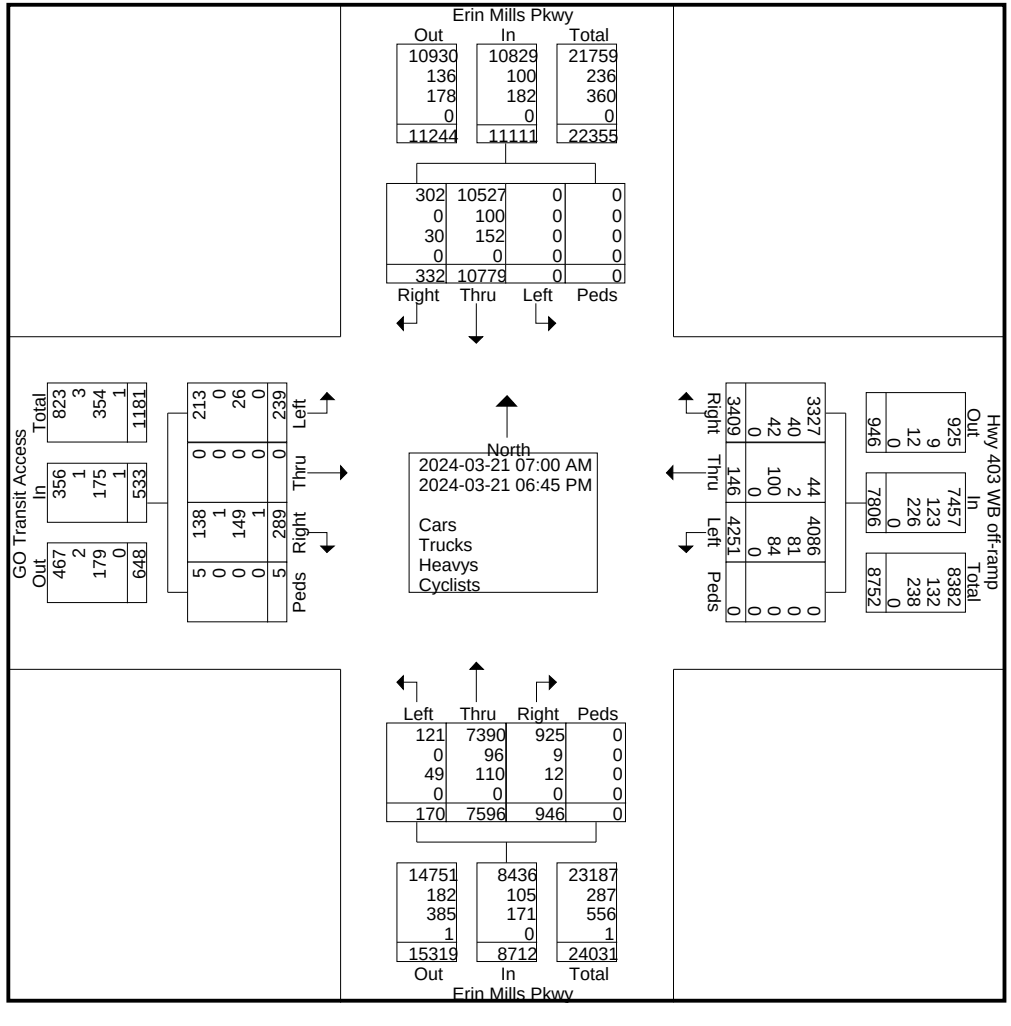

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp
Site Code : 00000000
Start Date : 2024-03-21

	Erin Mills Pkwy From North					Hwy 403 WB off-ramp From East					Erin Mills Pkwy From South					GO Transit Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	19	**537**	0	0	**556**	148	**9**	161	0	318	**26**	340	6	0	372	10	0	8	0	18	1264
08:00 AM	9	451	0	0	460	**163**	4	187	0	354	21	311	8	0	340	13	0	7	0	20	1174
08:15 AM	**26**	511	0	0	537	134	5	185	0	324	24	290	**10**	0	324	**18**	0	**10**	**1**	**29**	1214
08:30 AM	11	534	0	0	545	150	7	**204**	0	**361**	25	**343**	7	0	**375**	16	0	6	0	22	**1303**
Total Volume	65	2033	0	0	2098	595	25	737	0	1357	96	1284	31	0	1411	57	0	31	1	89	4955
% App. Total	3.1	96.9	0	0		43.8	1.8	54.3	0		6.8	91	2.2	0		64	0	34.8	1.1		
PHF	.625	.946	.000	.000	.943	.913	.694	.903	.000	.940	.923	.936	.775	.000	.941	.792	.000	.775	.250	.767	.951
Cars	57	1974	0	0	2031	582	9	690	0	1281	96	1250	23	0	1369	28	0	28	1	57	4738
% Cars	87.7	97.1	0	0	96.8	97.8	36.0	93.6	0	94.4	100	97.4	74.2	0	97.0	49.1	0	90.3	100	64.0	95.6
Trucks	0	23	0	0	23	8	0	23	0	31	0	20	0	0	20	0	0	0	0	0	74
% Trucks	0	1.1	0	0	1.1	1.3	0	3.1	0	2.3	0	1.6	0	0	1.4	0	0	0	0	0	1.5
Heavys	8	36	0	0	44	5	16	24	0	45	0	14	8	0	22	29	0	3	0	32	143
% Heavys	12.3	1.8	0	0	2.1	0.8	64.0	3.3	0	3.3	0	1.1	25.8	0	1.6	50.9	0	9.7	0	36.0	2.9
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
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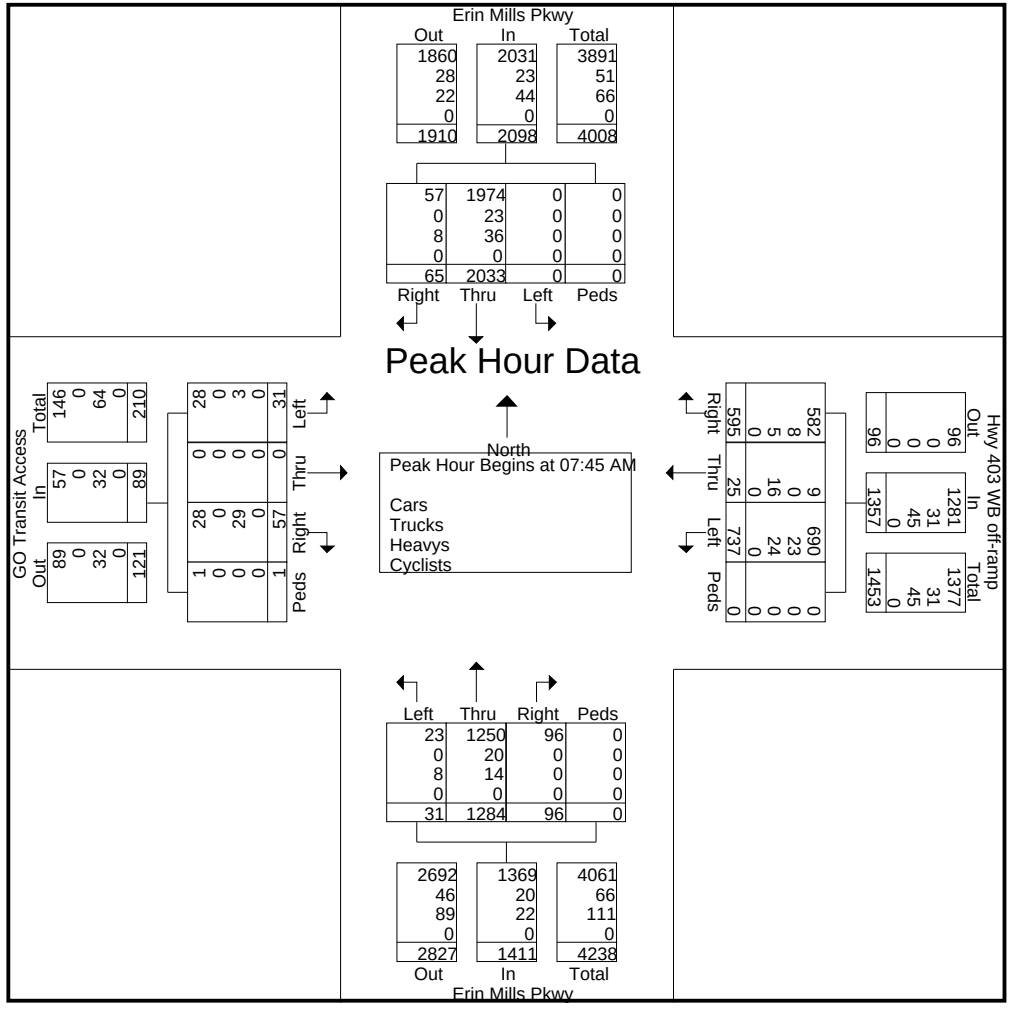

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
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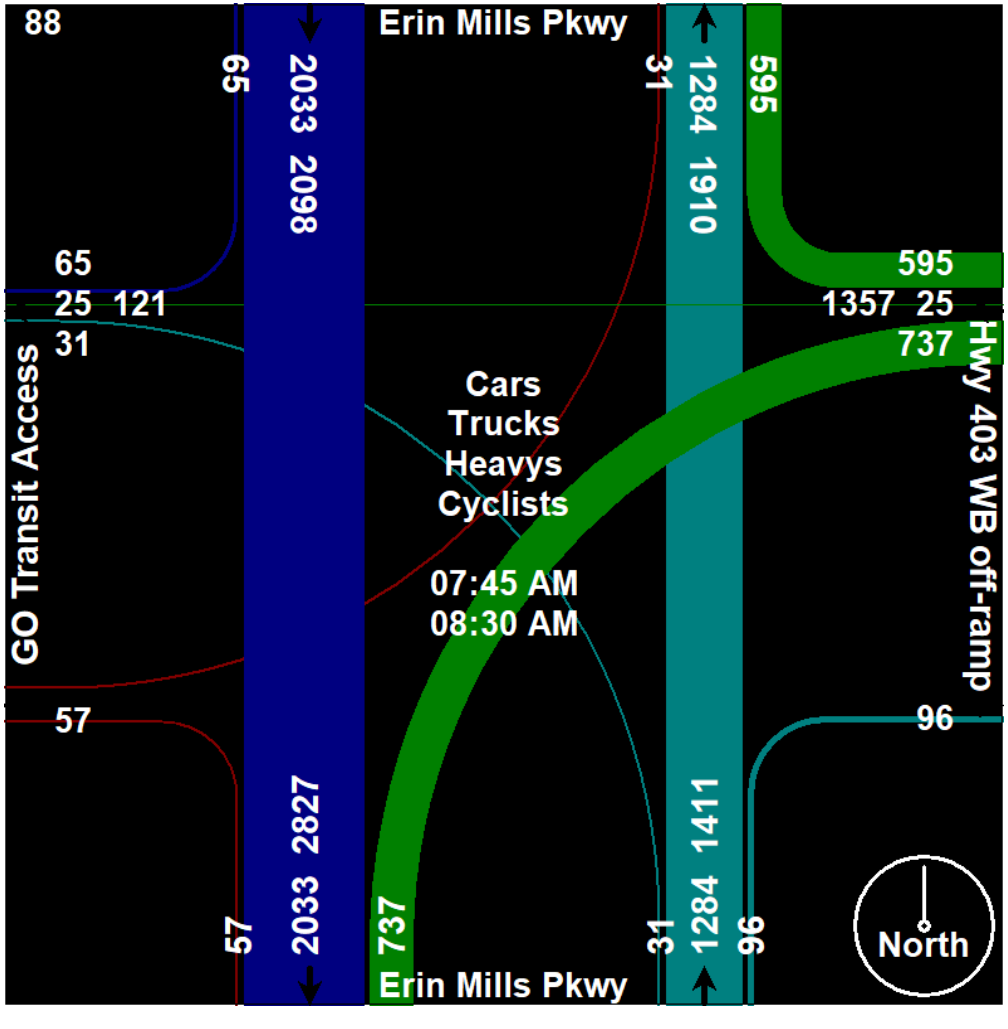

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp
Site Code : 00000000
Start Date : 2024-03-21

	Erin Mills Pkwy From North					Hwy 403 WB off-ramp From East					Erin Mills Pkwy From South					GO Transit Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	11	470	0	0	481	159	**8**	233	0	400	**78**	**436**	**11**	0	**525**	13	0	5	0	18	**1424**
04:15 PM	8	**542**	0	0	**550**	151	5	224	0	380	68	334	6	0	408	**15**	0	**13**	**1**	**29**	1367
04:30 PM	10	503	0	0	513	150	2	190	0	342	59	349	3	0	411	11	0	8	1	20	1286
04:45 PM	**13**	403	0	0	416	**184**	8	**247**	0	**439**	67	316	5	0	388	11	0	7	0	18	1261
Total Volume	42	1918	0	0	1960	644	23	894	0	1561	272	1435	25	0	1732	50	0	33	2	85	5338
% App. Total	2.1	97.9	0	0		41.3	1.5	57.3	0		15.7	82.9	1.4	0		58.8	0	38.8	2.4		
PHF	.808	.885	.000	.000	.891	.875	.719	.905	.000	.889	.872	.823	.568	.000	.825	.833	.000	.635	.500	.733	.937
Cars	39	1892	0	0	1931	633	7	875	0	1515	265	1399	18	0	1682	23	0	29	2	54	5182
% Cars	92.9	98.6	0	0	98.5	98.3	30.4	97.9	0	97.1	97.4	97.5	72.0	0	97.1	46.0	0	87.9	100	63.5	97.1
Trucks	0	7	0	0	7	6	0	12	0	18	3	17	0	0	20	0	0	0	0	0	45
% Trucks	0	0.4	0	0	0.4	0.9	0	1.3	0	1.2	1.1	1.2	0	0	1.2	0	0	0	0	0	0.8
Heavys	3	19	0	0	22	5	16	7	0	28	4	19	7	0	30	27	0	4	0	31	111
% Heavys	7.1	1.0	0	0	1.1	0.8	69.6	0.8	0	1.8	1.5	1.3	28.0	0	1.7	54.0	0	12.1	0	36.5	2.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp
Site Code : 00000000
Start Date : 2024-03-21
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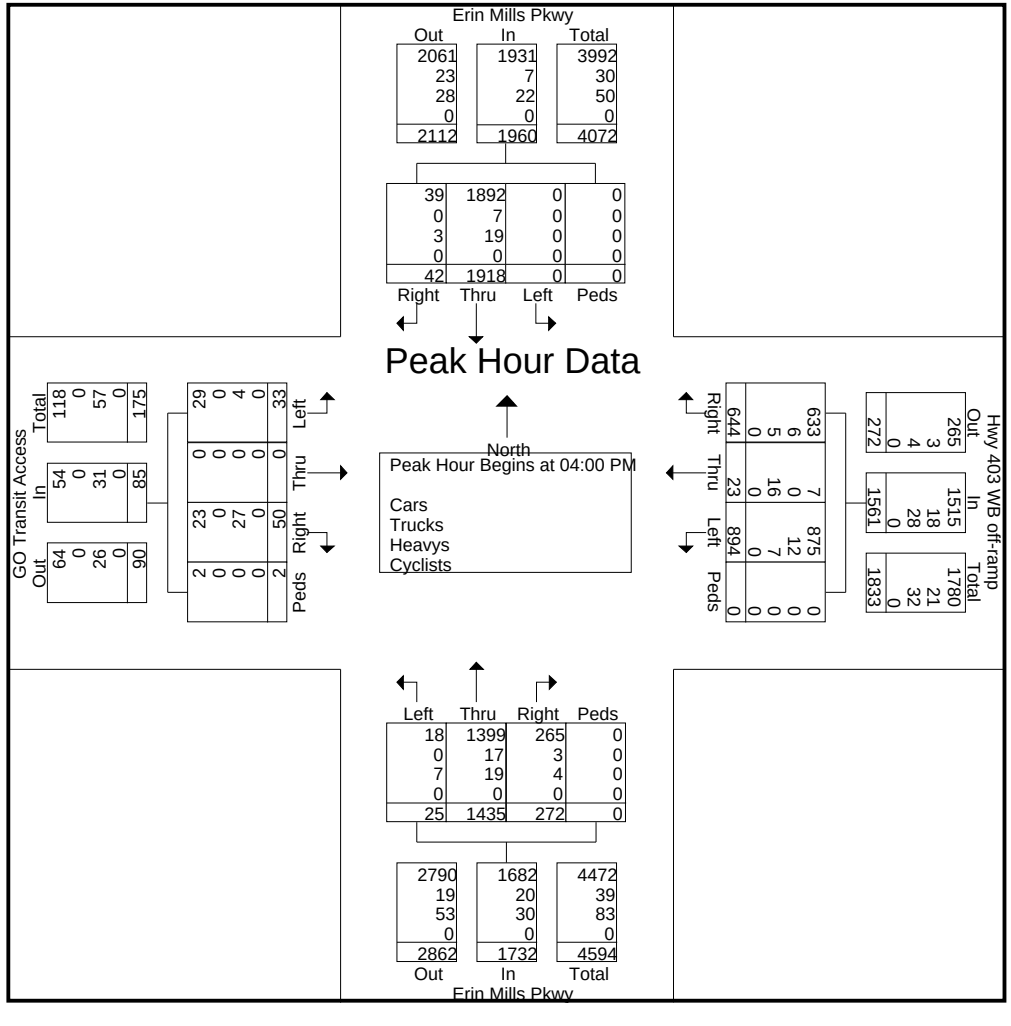

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp
Site Code : 00000000
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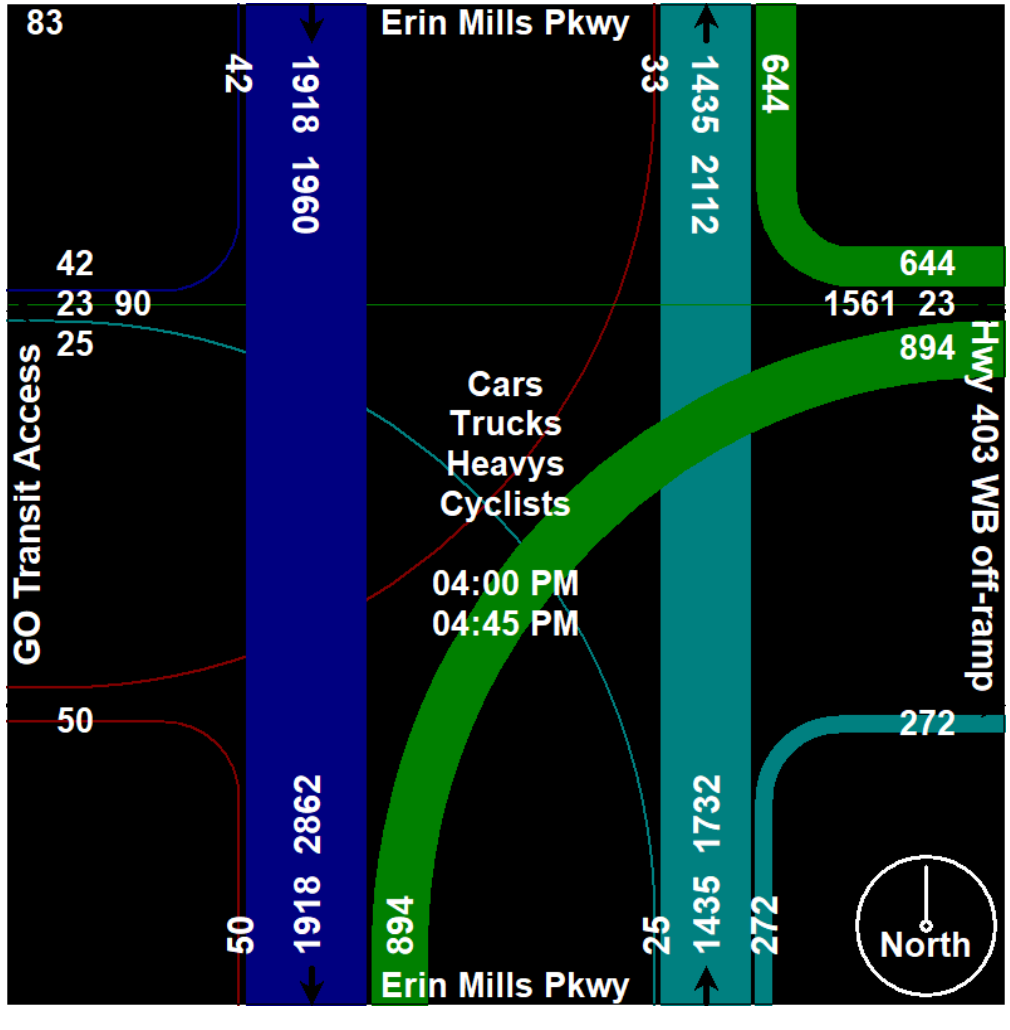

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Erin Mills Pkwy From North					Hwy 403 WB off-ramp From East					Erin Mills Pkwy From South					GO Transit Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	10	419	0	0	429	108	2	113	0	223	19	207	2	0	228	4	0	3	0	7	887
11:15 AM	9	383	0	0	392	122	6	141	0	269	34	192	2	0	228	7	0	5	1	13	902
11:30 AM	4	437	0	0	441	114	3	98	0	215	22	231	7	0	260	7	2	3	2	14	930
11:45 AM	6	415	0	1	422	121	12	185	0	318	26	266	1	0	293	12	0	4	0	16	1049
Total	29	1654	0	1	1684	465	23	537	0	1025	101	896	12	0	1009	30	2	15	3	50	3768
12:00 PM	11	394	0	0	405	125	4	139	0	268	35	221	2	0	258	8	0	7	0	15	946
12:15 PM	5	483	0	0	488	153	4	147	0	304	41	247	2	0	290	3	0	2	0	5	1087
12:30 PM	9	467	0	0	476	128	2	152	0	282	39	258	2	0	299	5	0	2	0	7	1064
12:45 PM	9	467	0	0	476	159	2	176	0	337	38	228	4	0	270	7	0	7	0	14	1097
Total	34	1811	0	0	1845	565	12	614	0	1191	153	954	10	0	1117	23	0	18	0	41	4194
01:00 PM	6	453	0	0	459	152	1	156	0	309	36	294	2	0	332	6	0	5	0	11	1111
01:15 PM	6	437	0	0	443	117	4	141	0	262	44	269	2	0	315	6	0	5	1	12	1032
01:30 PM	6	445	0	0	451	125	2	136	0	263	41	309	0	0	350	4	0	3	0	7	1071
01:45 PM	3	477	0	0	480	136	1	168	0	305	43	347	1	0	391	3	0	2	2	7	1183
Total	21	1812	0	0	1833	530	8	601	0	1139	164	1219	5	0	1388	19	0	15	3	37	4397
Grand Total	84	5277	0	1	5362	1560	43	1752	0	3355	418	3069	27	0	3514	72	2	48	6	128	12359
Apprch %	1.6	98.4	0	0		46.5	1.3	52.2	0		11.9	87.3	0.8	0		56.2	1.6	37.5	4.7		
Total %	0.7	42.7	0	0	43.4	12.6	0.3	14.2	0	27.1	3.4	24.8	0.2	0	28.4	0.6	0	0.4	0	1	
Cars	72	5215	0	1	5288	1546	24	1733	0	3303	414	3034	20	0	3468	43	2	36	6	87	12146
% Cars	85.7	98.8	0	100	98.6	99.1	55.8	98.9	0	98.5	99	98.9	74.1	0	98.7	59.7	100	75	100	68	98.3
Trucks	0	31	0	0	31	10	0	8	0	18	4	22	0	0	26	1	0	0	0	1	76
% Trucks	0	0.6	0	0	0.6	0.6	0	0.5	0	0.5	1	0.7	0	0	0.7	1.4	0	0	0	0.8	0.6
Heavys	12	31	0	0	43	4	19	11	0	34	0	13	7	0	20	28	0	12	0	40	137
% Heavys	14.3	0.6	0	0	0.8	0.3	44.2	0.6	0	1	0	0.4	25.9	0	0.6	38.9	0	25	0	31.2	1.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp-SAT
Site Code : 00000000
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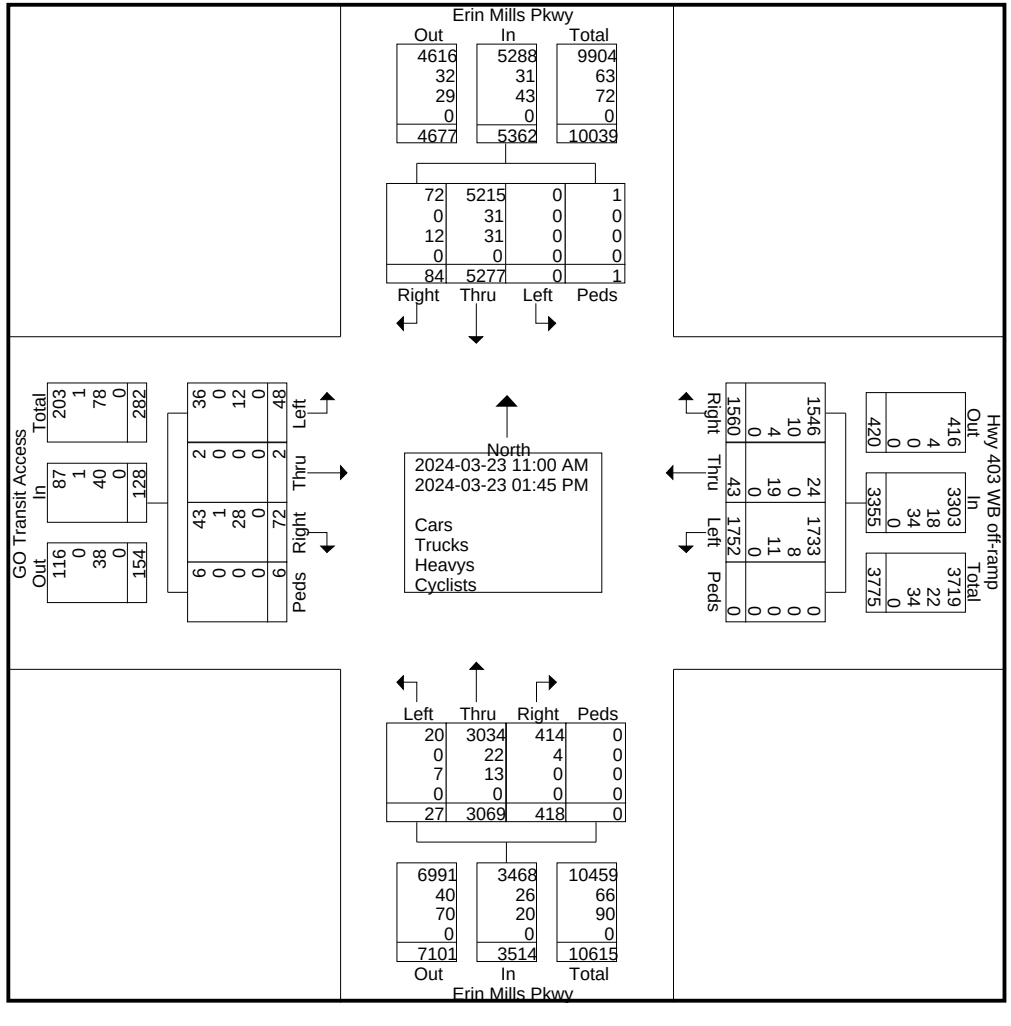

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp-SAT
Site Code : 00000000
Start Date : 2024-03-23

	Erin Mills Pkwy From North					Hwy 403 WB off-ramp From East					Erin Mills Pkwy From South					GO Transit Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	**6**	453	0	0	459	**152**	1	156	0	**309**	36	294	**2**	0	332	**6**	0	**5**	0	11	1111
01:15 PM	6	437	0	0	443	117	**4**	141	0	262	**44**	269	2	0	315	6	0	5	1	**12**	1032
01:30 PM	6	445	0	0	451	125	2	136	0	263	41	309	0	0	350	4	0	3	0	7	1071
01:45 PM	3	**477**	0	0	**480**	136	1	**168**	0	305	43	**347**	1	0	**391**	3	0	2	**2**	7	**1183**
Total Volume	21	1812	0	0	1833	530	8	601	0	1139	164	1219	5	0	1388	19	0	15	3	37	4397
% App. Total	1.1	98.9	0	0		46.5	0.7	52.8	0		11.8	87.8	0.4	0		51.4	0	40.5	8.1		
PHF	.875	.950	.000	.000	.955	.872	.500	.894	.000	.922	.932	.878	.625	.000	.887	.792	.000	.750	.375	.771	.929
Cars	17	1792	0	0	1809	527	2	598	0	1127	162	1209	3	0	1374	9	0	11	3	23	4333
% Cars	81.0	98.9	0	0	98.7	99.4	25.0	99.5	0	98.9	98.8	99.2	60.0	0	99.0	47.4	0	73.3	100	62.2	98.5
Trucks	0	12	0	0	12	2	0	1	0	3	2	5	0	0	7	0	0	0	0	0	22
% Trucks	0	0.7	0	0	0.7	0.4	0	0.2	0	0.3	1.2	0.4	0	0	0.5	0	0	0	0	0	0.5
Heavys	4	8	0	0	12	1	6	2	0	9	0	5	2	0	7	10	0	4	0	14	42
% Heavys	19.0	0.4	0	0	0.7	0.2	75.0	0.3	0	0.8	0	0.4	40.0	0	0.5	52.6	0	26.7	0	37.8	1.0
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp-SAT
Site Code : 00000000
Start Date : 2024-03-23
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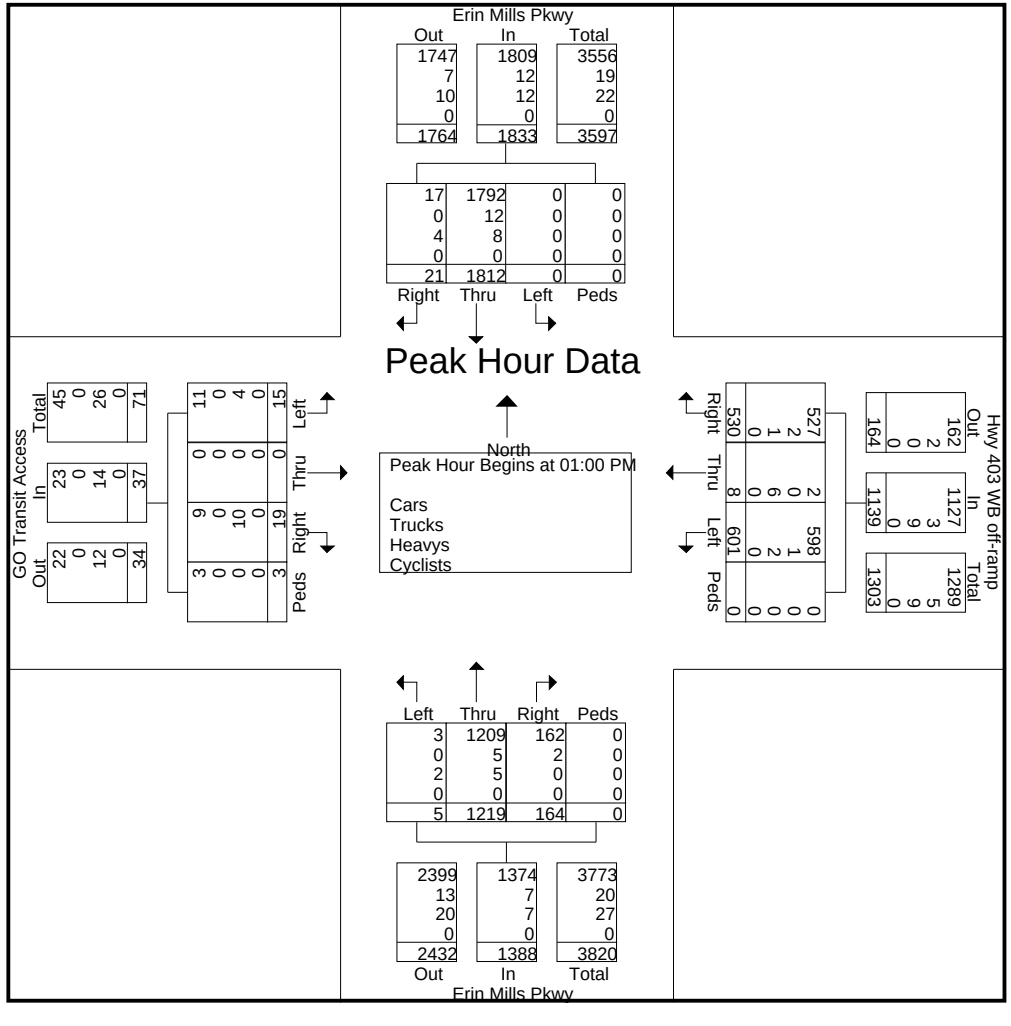

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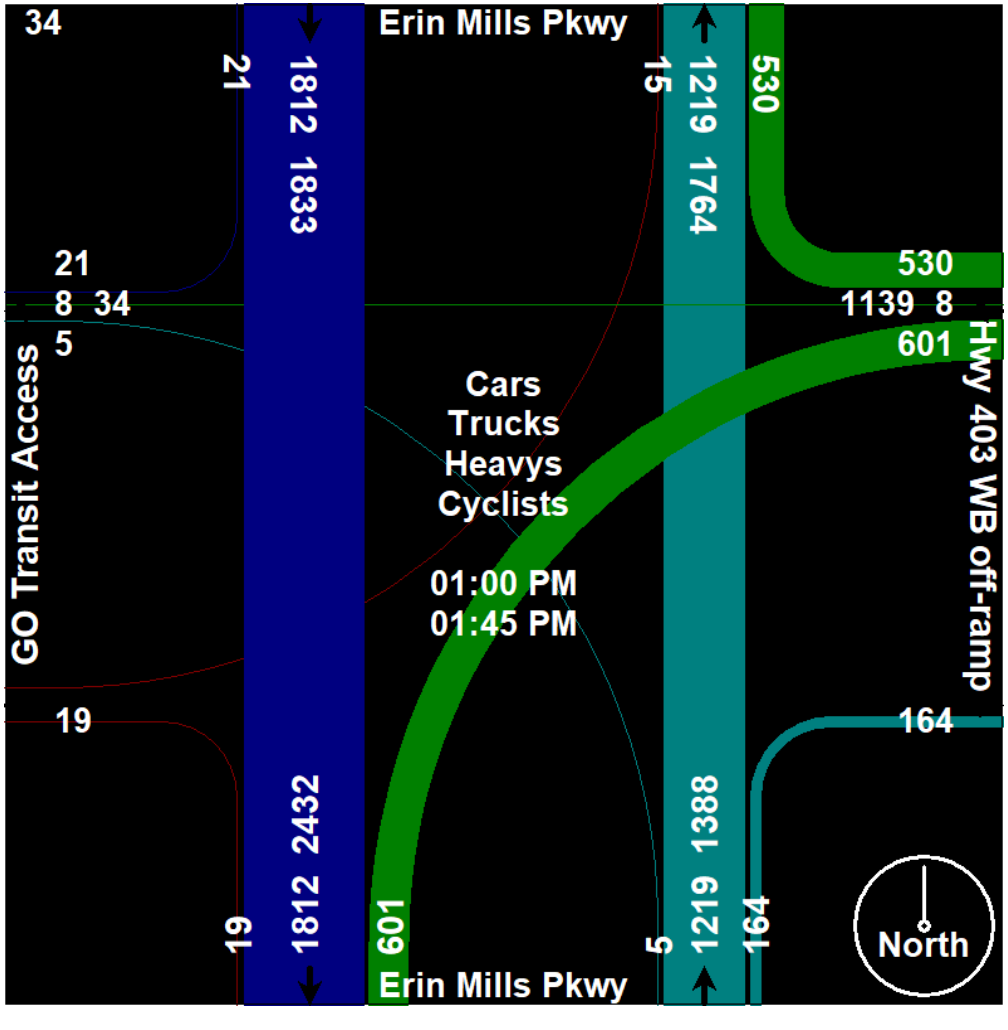
Your Traffic Count Specialist

File Name : Erin Mills Parkway at Highway 403 WB off-ramp-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 5



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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Glen Erin Dr From North					West Mall Access From East					Glen Erin Dr From South					Hazelton Pl From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	5	53	6	0	64	6	5	0	0	11	0	30	4	0	34	3	2	2	0	7	116
07:15 AM	3	52	6	0	61	4	1	2	0	7	1	24	10	0	35	4	2	0	1	7	110
07:30 AM	4	86	9	2	101	6	4	0	3	13	4	35	8	0	47	10	5	3	2	20	181
07:45 AM	7	109	15	4	135	5	4	2	1	12	10	40	23	0	73	8	14	3	6	31	251
Total	19	300	36	6	361	21	14	4	4	43	15	129	45	0	189	25	23	8	9	65	658
08:00 AM	17	128	20	11	176	18	53	13	19	103	26	63	37	4	130	15	35	9	7	66	475
08:15 AM	36	189	39	4	268	54	73	30	10	167	30	81	20	3	134	22	48	29	5	104	673
08:30 AM	14	132	14	1	161	8	8	7	2	25	8	61	8	3	80	11	14	3	1	29	295
08:45 AM	10	133	20	0	163	13	6	7	1	27	14	68	5	4	91	6	12	4	0	22	303
Total	77	582	93	16	768	93	140	57	32	322	78	273	70	14	435	54	109	45	13	221	1746
09:00 AM	10	84	16	1	111	6	12	7	1	26	11	42	13	0	66	10	12	8	0	30	233
09:15 AM	11	64	18	2	95	13	11	9	0	33	17	51	8	1	77	4	12	5	0	21	226
09:30 AM	10	65	14	0	89	8	11	8	1	28	10	56	8	1	75	8	28	19	1	56	248
09:45 AM	9	65	33	1	108	11	21	10	1	43	24	53	7	0	84	5	25	6	1	37	272
Total	40	278	81	4	403	38	55	34	3	130	62	202	36	2	302	27	77	38	2	144	979
04:00 PM	0	63	31	1	95	28	41	24	1	94	19	86	16	1	122	13	38	30	0	81	392
04:15 PM	0	75	28	2	105	32	36	18	1	87	36	120	11	1	168	9	38	20	0	67	427
04:30 PM	0	87	22	5	114	22	33	17	0	72	17	107	20	0	144	9	36	18	0	63	393
04:45 PM	0	84	25	0	109	31	45	33	1	110	29	116	22	4	171	5	34	26	0	65	455
Total	0	309	106	8	423	113	155	92	3	363	101	429	69	6	605	36	146	94	0	276	1667
05:00 PM	0	81	19	3	103	27	44	22	0	93	26	144	18	0	188	11	34	24	2	71	455
05:15 PM	0	82	21	2	105	24	40	23	0	87	20	145	24	5	194	8	51	21	0	80	466
05:30 PM	0	86	31	7	124	33	37	16	3	89	24	160	17	0	201	10	30	20	0	60	474
05:45 PM	0	87	30	5	122	32	49	25	3	109	28	144	21	4	197	6	43	24	1	74	502
Total	0	336	101	17	454	116	170	86	6	378	98	593	80	9	780	35	158	89	3	285	1897
06:00 PM	0	79	25	1	105	41	38	24	2	105	22	106	15	3	146	5	36	21	0	62	418
06:15 PM	0	91	19	4	114	20	35	19	2	76	22	108	16	1	147	5	36	22	0	63	400
06:30 PM	0	63	22	2	87	31	43	17	0	91	24	107	14	1	146	12	35	25	0	72	396
06:45 PM	0	54	22	2	78	26	33	16	3	78	17	109	12	0	138	5	27	22	0	54	348
Total	0	287	88	9	384	118	149	76	7	350	85	430	57	5	577	27	134	90	0	251	1562

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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Glen Erin Dr From North					West Mall Access From East					Glen Erin Dr From South					Hazelton Pl From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	136	2092	505	60	2793	499	683	349	55	1586	439	2056	357	36	2888	204	647	364	27	1242	8509
Apprch %	4.9	74.9	18.1	2.1		31.5	43.1	22	3.5		15.2	71.2	12.4	1.2		16.4	52.1	29.3	2.2		
Total %	1.6	24.6	5.9	0.7	32.8	5.9	8	4.1	0.6	18.6	5.2	24.2	4.2	0.4	33.9	2.4	7.6	4.3	0.3	14.6	
Cars	133	2043	502	60	2738	494	679	348	55	1576	435	2018	351	36	2840	195	646	361	27	1229	8383
% Cars	97.8	97.7	99.4	100	98	99	99.4	99.7	100	99.4	99.1	98.2	98.3	100	98.3	95.6	99.8	99.2	100	99	98.5
Trucks	1	17	1	0	19	3	3	1	0	7	3	11	2	0	16	4	1	0	0	5	47
% Trucks	0.7	0.8	0.2	0	0.7	0.6	0.4	0.3	0	0.4	0.7	0.5	0.6	0	0.6	2	0.2	0	0	0.4	0.6
Heavys	2	30	1	0	33	1	1	0	0	2	1	26	4	0	31	5	0	3	0	8	74
% Heavys	1.5	1.4	0.2	0	1.2	0.2	0.1	0	0	0.1	0.2	1.3	1.1	0	1.1	2.5	0	0.8	0	0.6	0.9
Cyclists	0	2	1	0	3	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	5
% Cyclists	0	0.1	0.2	0	0.1	0.2	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.1

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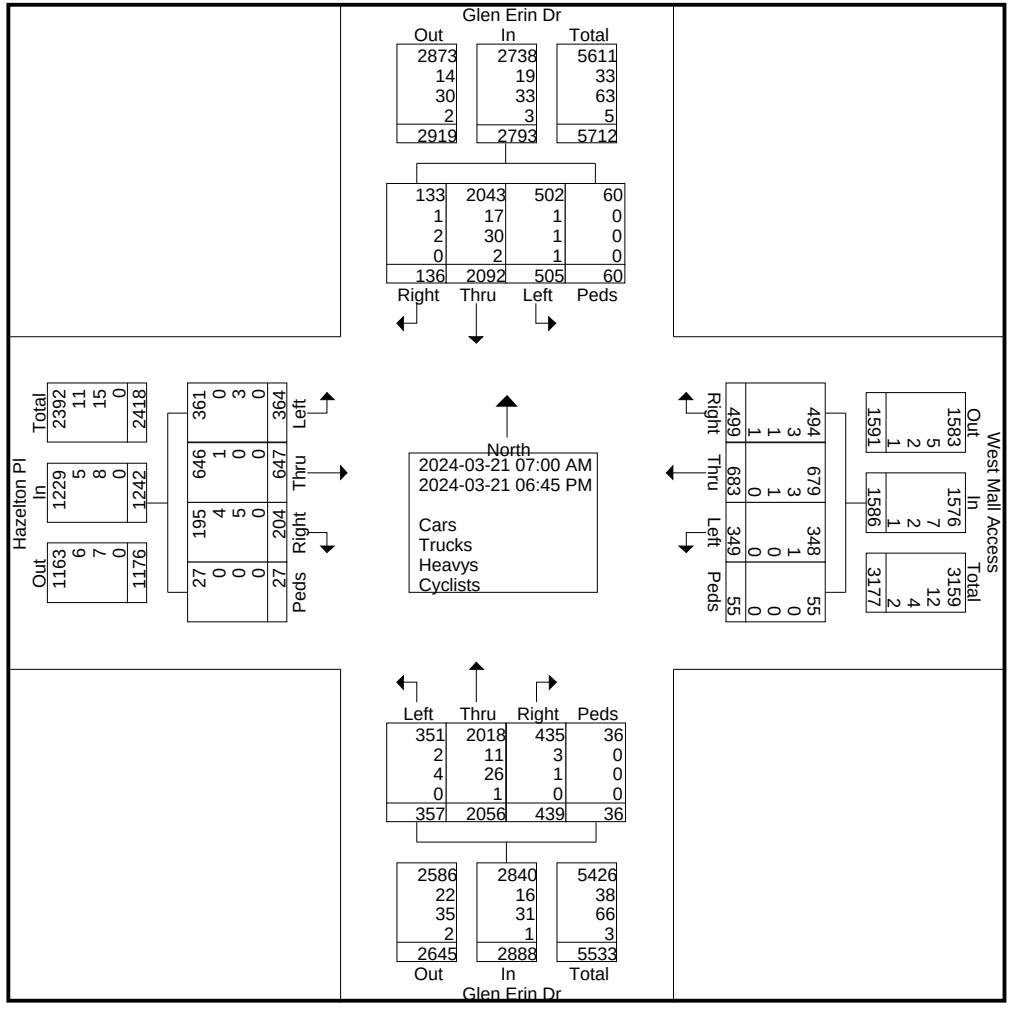
Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 4

	Glen Erin Dr From North					West Mall Access From East					Glen Erin Dr From South					Hazelton Pl From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	17	128	20	**11**	176	18	53	13	**19**	103	26	63	**37**	**4**	130	15	35	9	**7**	66	475
08:15 AM	**36**	**189**	**39**	4	**268**	**54**	**73**	**30**	10	**167**	**30**	**81**	20	3	**134**	**22**	**48**	**29**	5	**104**	**673**
08:30 AM	14	132	14	1	161	8	8	7	2	25	8	61	8	3	80	11	14	3	1	29	295
08:45 AM	10	133	20	0	163	13	6	7	1	27	14	68	5	4	91	6	12	4	0	22	303
Total Volume	77	582	93	16	768	93	140	57	32	322	78	273	70	14	435	54	109	45	13	221	1746
% App. Total	10	75.8	12.1	2.1		28.9	43.5	17.7	9.9		17.9	62.8	16.1	3.2		24.4	49.3	20.4	5.9		
PHF	.535	.770	.596	.364	.716	.431	.479	.475	.421	.482	.650	.843	.473	.875	.812	.614	.568	.388	.464	.531	.649
Cars	75	567	93	16	751	93	139	57	32	321	76	259	68	14	417	52	109	43	13	217	1706
% Cars	97.4	97.4	100	100	97.8	100	99.3	100	100	99.7	97.4	94.9	97.1	100	95.9	96.3	100	95.6	100	98.2	97.7
Trucks	1	8	0	0	9	0	0	0	0	0	1	4	2	0	7	1	0	0	0	1	17
% Trucks	1.3	1.4	0	0	1.2	0	0	0	0	0	1.3	1.5	2.9	0	1.6	1.9	0	0	0	0.5	1.0
Heavys	1	6	0	0	7	0	1	0	0	1	1	10	0	0	11	1	0	2	0	3	22
% Heavys	1.3	1.0	0	0	0.9	0	0.7	0	0	0.3	1.3	3.7	0	0	2.5	1.9	0	4.4	0	1.4	1.3
Cyclists	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Cyclists	0	0.2	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1

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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
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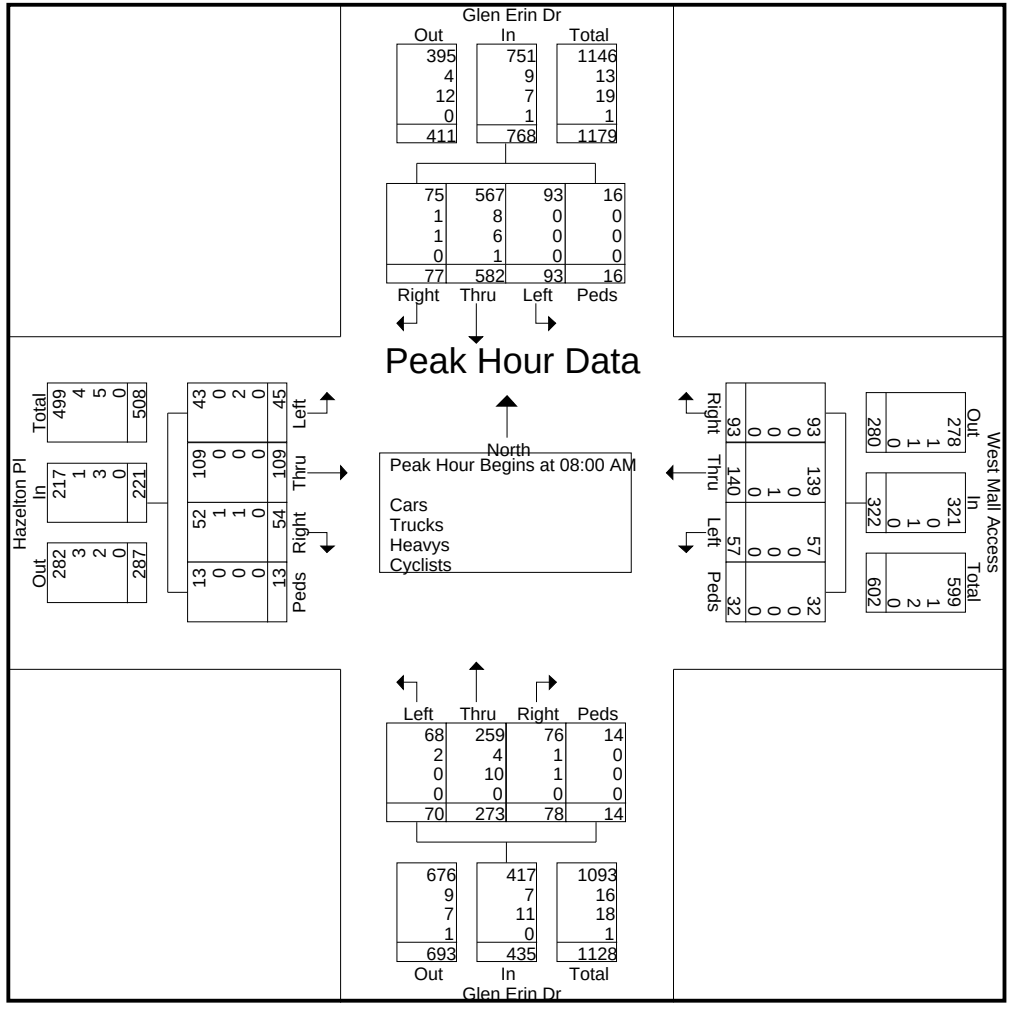

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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
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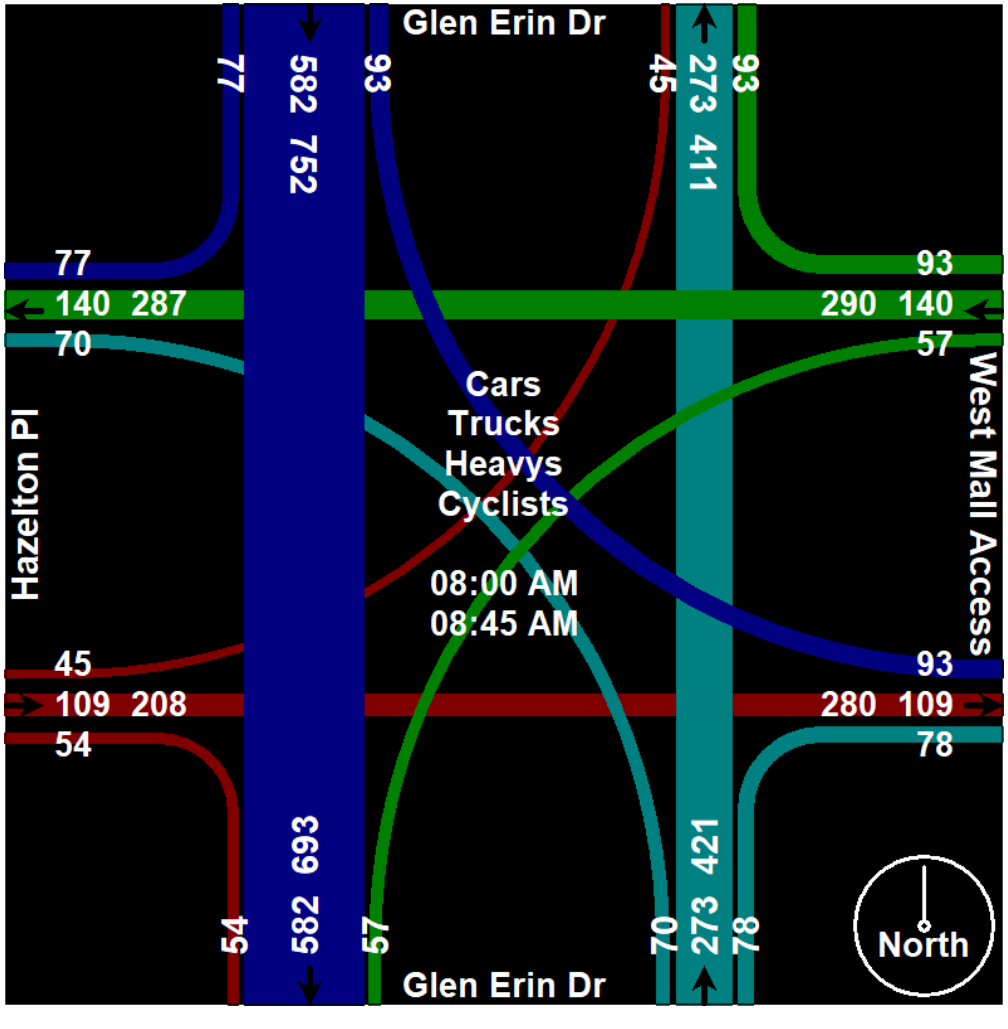

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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 7

	Glen Erin Dr From North					West Mall Access From East					Glen Erin Dr From South					Hazelton Pl From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	81	19	3	103	27	44	22	0	93	26	144	18	0	188	**11**	34	**24**	**2**	71	455
05:15 PM	0	82	21	2	105	24	40	23	0	87	20	145	**24**	**5**	194	8	**51**	21	0	**80**	466
05:30 PM	0	86	**31**	**7**	**124**	**33**	37	16	**3**	89	24	**160**	17	0	**201**	10	30	20	0	60	474
05:45 PM	0	**87**	30	5	122	32	**49**	**25**	3	**109**	**28**	144	21	4	197	6	43	24	1	74	**502**
Total Volume	0	336	101	17	454	116	170	86	6	378	98	593	80	9	780	35	158	89	3	285	1897
% App. Total	0	74	22.2	3.7		30.7	45	22.8	1.6		12.6	76	10.3	1.2		12.3	55.4	31.2	1.1		
PHF	.000	.966	.815	.607	.915	.879	.867	.860	.500	.867	.875	.927	.833	.450	.970	.795	.775	.927	.375	.891	.945
Cars	0	331	101	17	449	116	169	86	6	377	98	590	80	9	777	34	158	89	3	284	1887
% Cars	0	98.5	100	100	98.9	100	99.4	100	100	99.7	100	99.5	100	100	99.6	97.1	100	100	100	99.6	99.5
Trucks	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	3
% Trucks	0	0.3	0	0	0.2	0	0.6	0	0	0.3	0	0	0	0	0	2.9	0	0	0	0.4	0.2
Heavys	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6
% Heavys	0	0.9	0	0	0.7	0	0	0	0	0	0	0.5	0	0	0.4	0	0	0	0	0	0.3
Cyclists	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Cyclists	0	0.3	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1

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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
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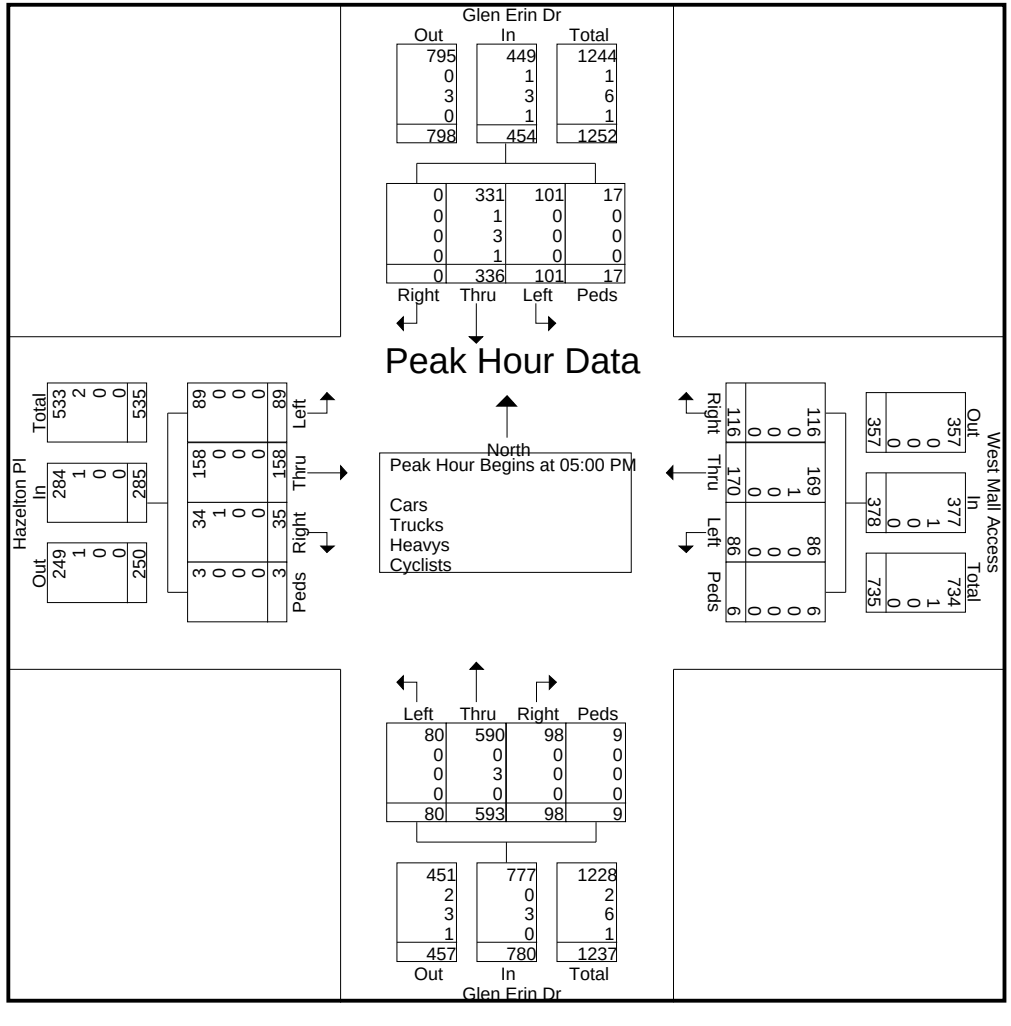

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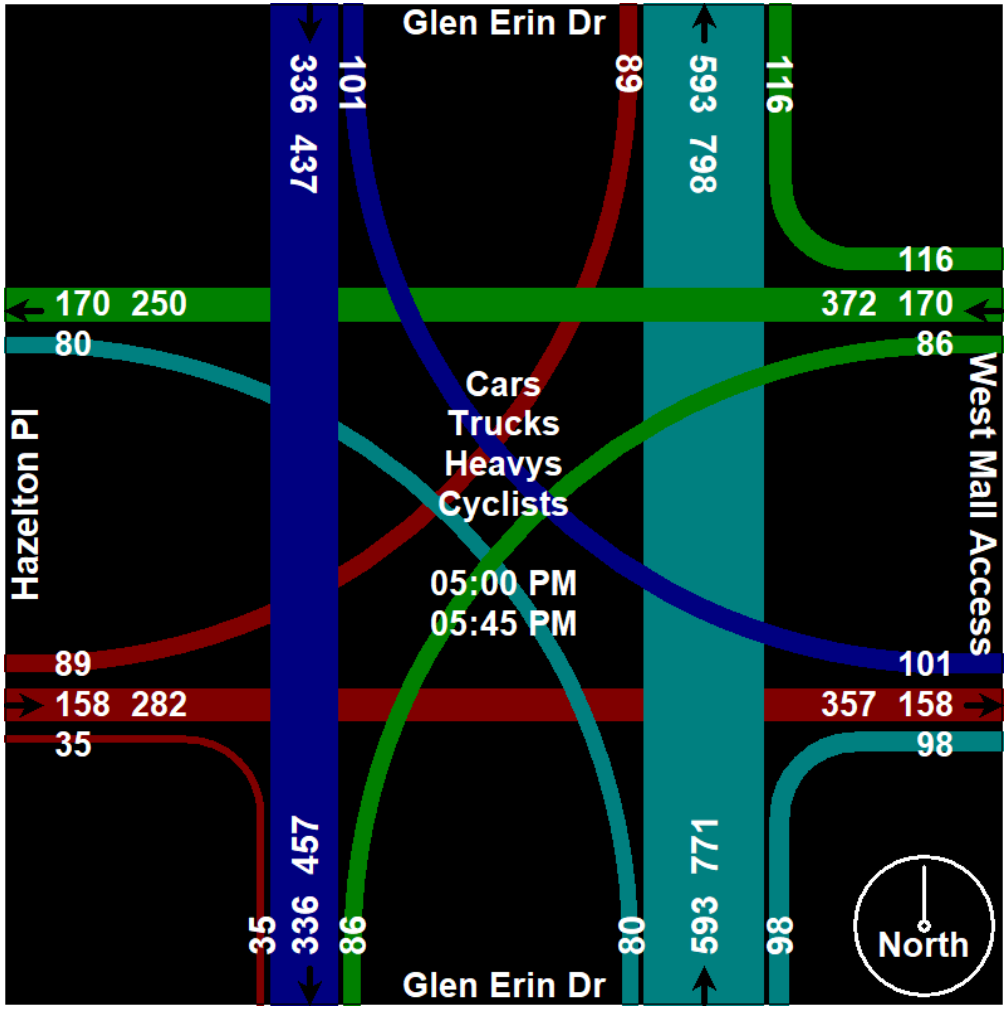
Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access-SAT
Site Code : 00000000
Start Date : 2024-04-06
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Glen Erin Dr From North					West Mall Access From East					Glen Erin Dr From South					Hazelton Pl From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	18	79	42	5	144	13	23	24	2	62	35	56	21	0	112	8	53	18	4	83	401
11:15 AM	18	65	36	3	122	26	35	18	2	81	32	78	18	1	129	10	43	22	1	76	408
11:30 AM	15	93	31	4	143	32	28	17	2	79	31	68	9	3	111	11	40	22	6	79	412
11:45 AM	21	101	43	2	167	28	46	20	1	95	34	62	15	0	111	12	54	13	2	81	454
Total	72	338	152	14	576	99	132	79	7	317	132	264	63	4	463	41	190	75	13	319	1675
12:00 PM	15	54	40	4	113	34	39	27	1	101	20	65	17	1	103	10	55	25	4	94	411
12:15 PM	25	83	38	2	148	28	35	22	8	93	50	88	17	4	159	8	65	24	10	107	507
12:30 PM	18	90	46	6	160	45	62	41	2	150	45	73	13	2	133	11	56	21	5	93	536
12:45 PM	18	82	47	2	149	37	49	36	4	126	36	75	19	1	131	11	67	25	8	111	517
Total	76	309	171	14	570	144	185	126	15	470	151	301	66	8	526	40	243	95	27	405	1971
01:00 PM	28	94	37	10	169	28	50	42	4	124	29	96	14	7	146	13	73	22	12	120	559
01:15 PM	13	63	22	8	106	28	43	41	2	114	31	70	19	1	121	8	65	26	7	106	447
01:30 PM	15	82	30	2	129	35	50	32	2	119	37	76	17	5	135	12	53	24	12	101	484
01:45 PM	15	102	34	7	158	31	51	42	1	125	42	79	13	2	136	6	54	25	4	89	508
Total	71	341	123	27	562	122	194	157	9	482	139	321	63	15	538	39	245	97	35	416	1998
Grand Total	219	988	446	55	1708	365	511	362	31	1269	422	886	192	27	1527	120	678	267	75	1140	5644
Apprch %	12.8	57.8	26.1	3.2		28.8	40.3	28.5	2.4		27.6	58	12.6	1.8		10.5	59.5	23.4	6.6		
Total %	3.9	17.5	7.9	1	30.3	6.5	9.1	6.4	0.5	22.5	7.5	15.7	3.4	0.5	27.1	2.1	12	4.7	1.3	20.2	
Cars	219	977	445	55	1696	365	509	361	31	1266	422	876	190	27	1515	118	678	264	75	1135	5612
% Cars	100	98.9	99.8	100	99.3	100	99.6	99.7	100	99.8	100	98.9	99	100	99.2	98.3	100	98.9	100	99.6	99.4
Trucks	0	4	1	0	5	0	0	1	0	1	0	3	0	0	3	1	0	1	0	2	11
% Trucks	0	0.4	0.2	0	0.3	0	0	0.3	0	0.1	0	0.3	0	0	0.2	0.8	0	0.4	0	0.2	0.2
Heavys	0	6	0	0	6	0	1	0	0	1	0	6	2	0	8	1	0	0	0	1	16
% Heavys	0	0.6	0	0	0.4	0	0.2	0	0	0.1	0	0.7	1	0	0.5	0.8	0	0	0	0.1	0.3
Cyclists	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	0	0	2	0	2	5
% Cyclists	0	0.1	0	0	0.1	0	0.2	0	0	0.1	0	0.1	0	0	0.1	0	0	0.7	0	0.2	0.1

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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access-SAT
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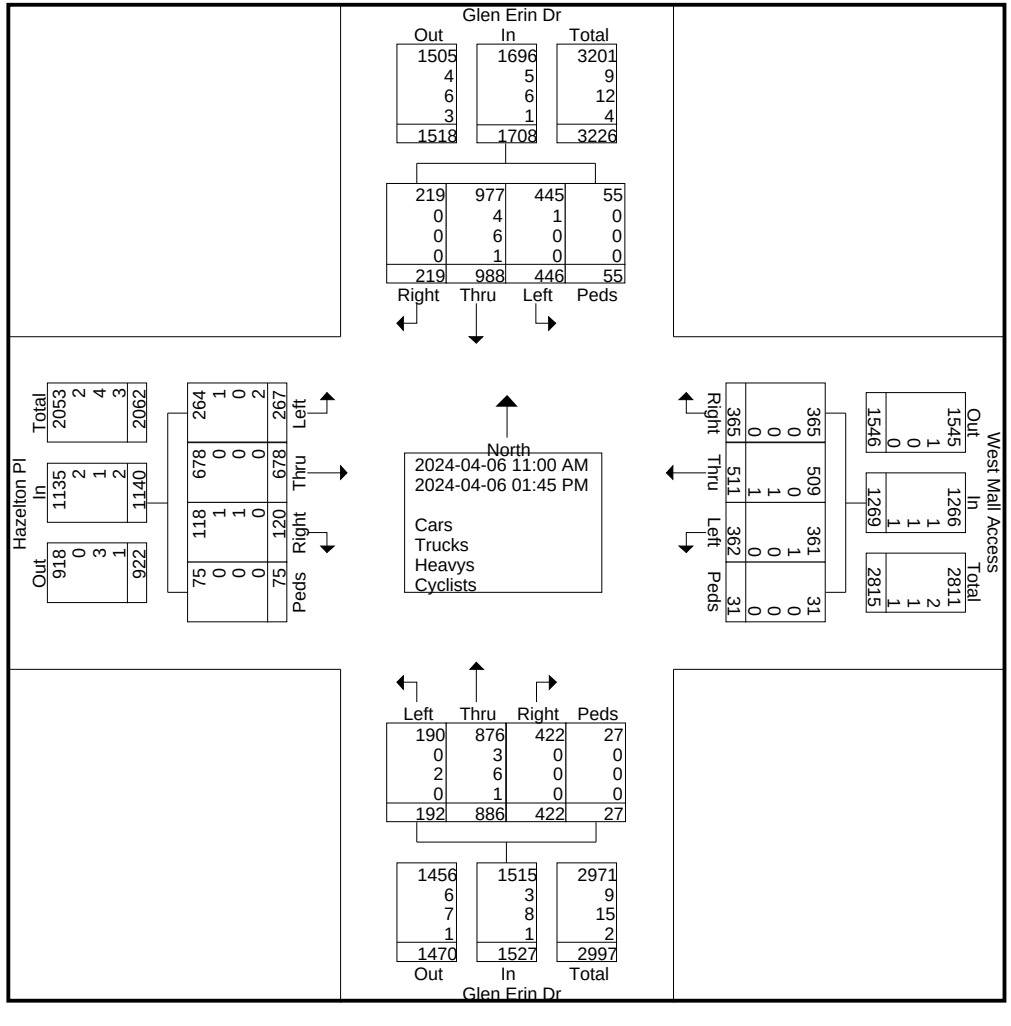

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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access-SAT
Site Code : 00000000
Start Date : 2024-04-06
Page No : 3

	Glen Erin Dr From North					West Mall Access From East					Glen Erin Dr From South					Hazelton Pl From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:15 PM																					
12:15 PM	25	83	38	2	148	28	35	22	**8**	93	**50**	88	17	4	**159**	8	65	24	10	107	507
12:30 PM	18	90	46	6	160	**45**	**62**	41	2	**150**	45	73	13	2	133	11	56	21	5	93	536
12:45 PM	18	82	**47**	2	149	37	49	36	4	126	36	75	**19**	1	131	11	67	**25**	8	111	517
01:00 PM	**28**	**94**	37	**10**	**169**	28	50	**42**	4	124	29	**96**	14	**7**	146	**13**	**73**	22	**12**	**120**	**559**
Total Volume	89	349	168	20	626	138	196	141	18	493	160	332	63	14	569	43	261	92	35	431	2119
% App. Total	14.2	55.8	26.8	3.2		28	39.8	28.6	3.7		28.1	58.3	11.1	2.5		10	60.6	21.3	8.1		
PHF	.795	.928	.894	.500	.926	.767	.790	.839	.563	.822	.800	.865	.829	.500	.895	.827	.894	.920	.729	.898	.948
Cars	89	345	168	20	622	138	195	141	18	492	160	329	62	14	565	42	261	89	35	427	2106
% Cars	100	98.9	100	100	99.4	100	99.5	100	100	99.8	100	99.1	98.4	100	99.3	97.7	100	96.7	100	99.1	99.4
Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	3
% Trucks	0	0.3	0	0	0.2	0	0	0	0	0	0	0.3	0	0	0.2	0	0	1.1	0	0.2	0.1
Heavys	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	6
% Heavys	0	0.6	0	0	0.3	0	0	0	0	0	0	0.6	1.6	0	0.5	2.3	0	0	0	0.2	0.3
Cyclists	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	4
% Cyclists	0	0.3	0	0	0.2	0	0.5	0	0	0.2	0	0	0	0	0	0	0	2.2	0	0.5	0.2

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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access-SAT
Site Code : 00000000
Start Date : 2024-04-06
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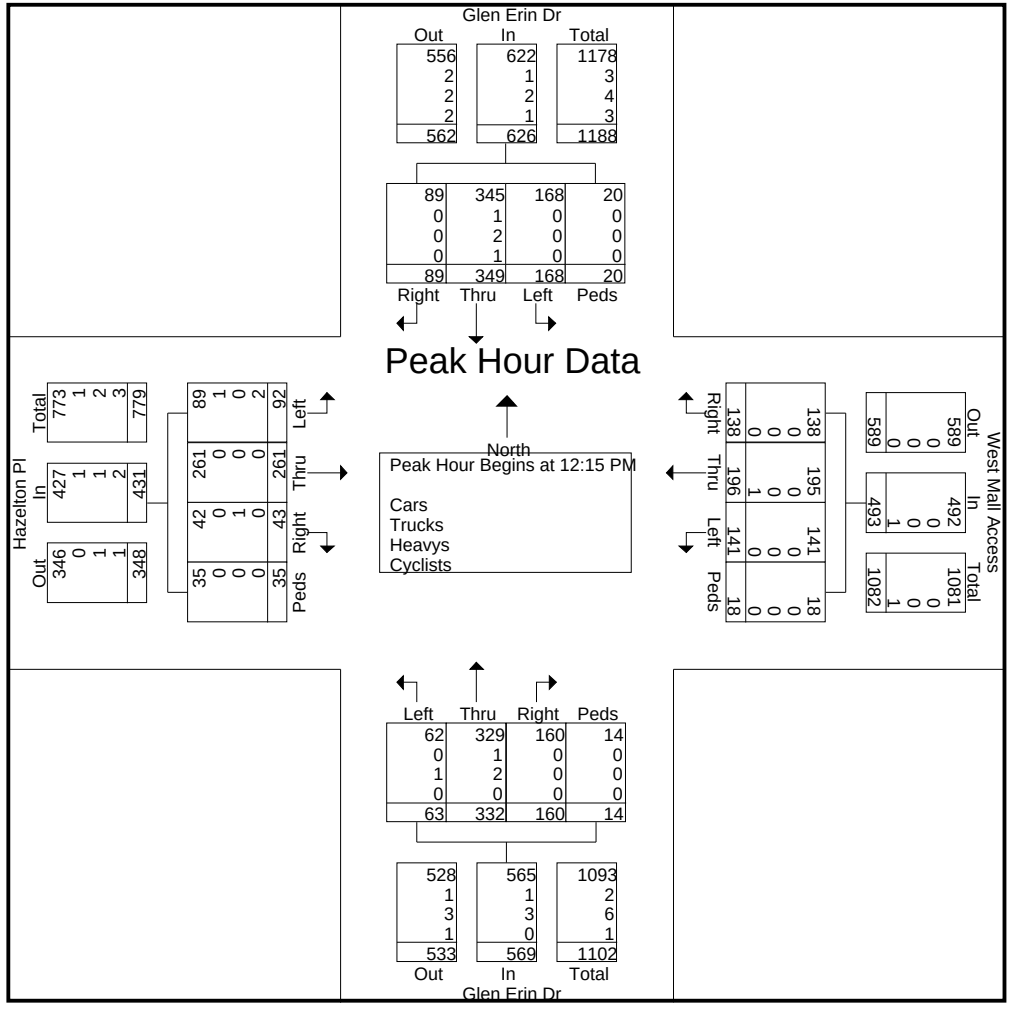

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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access-SAT
Site Code : 00000000
Start Date : 2024-04-06
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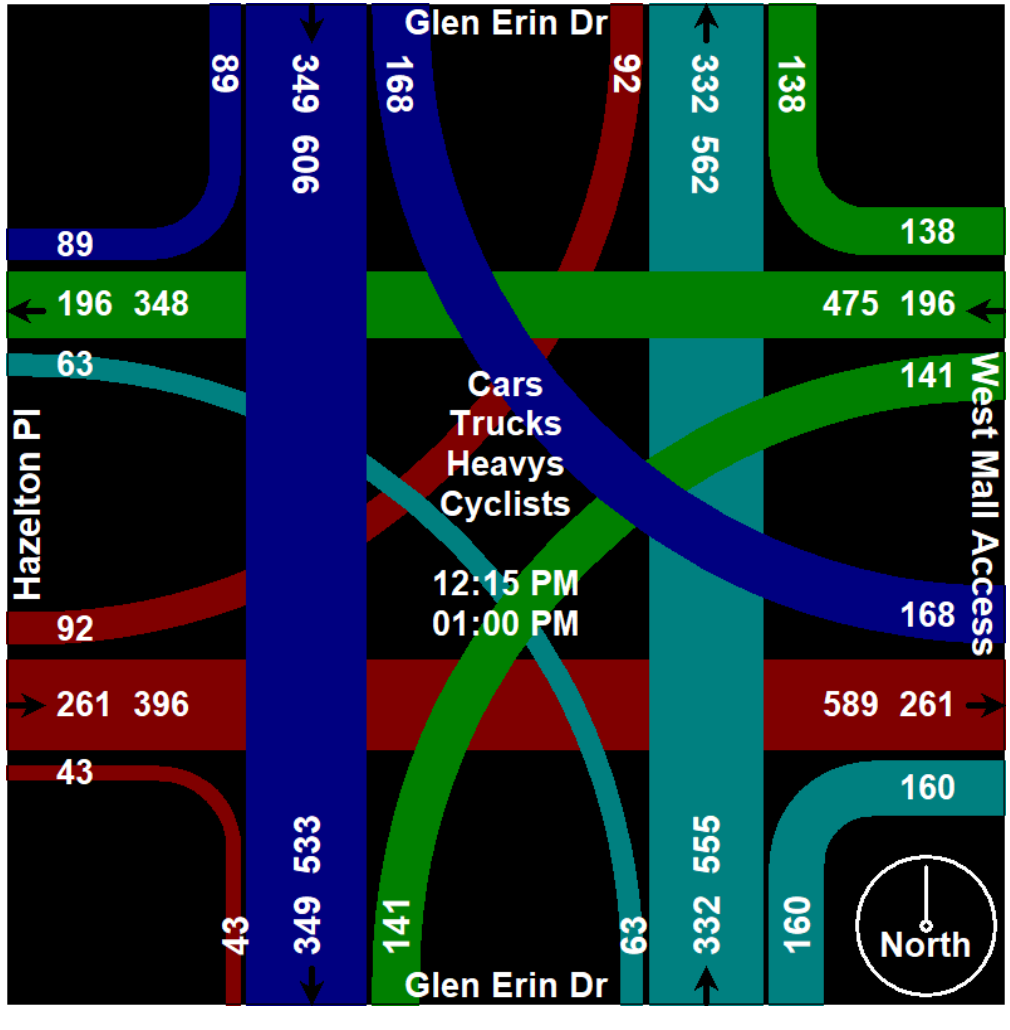

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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access-SAT
Site Code : 00000000
Start Date : 2024-04-06
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	Glen Erin Dr From North					West Mall Access From East					Glen Erin Dr From South					Hazelton Pl From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:15 PM																					
12:15 PM	25	83	38	2	148	28	35	22	**8**	93	**50**	88	17	4	**159**	8	65	24	10	107	507
12:30 PM	18	90	46	6	160	**45**	**62**	41	2	**150**	45	73	13	2	133	11	56	21	5	93	536
12:45 PM	18	82	**47**	2	149	37	49	36	4	126	36	75	**19**	1	131	11	67	**25**	8	111	517
01:00 PM	**28**	**94**	37	**10**	**169**	28	50	**42**	4	124	29	**96**	14	**7**	146	**13**	**73**	22	**12**	**120**	**559**
Total Volume	89	349	168	20	626	138	196	141	18	493	160	332	63	14	569	43	261	92	35	431	2119
% App. Total	14.2	55.8	26.8	3.2		28	39.8	28.6	3.7		28.1	58.3	11.1	2.5		10	60.6	21.3	8.1		
PHF	.795	.928	.894	.500	.926	.767	.790	.839	.563	.822	.800	.865	.829	.500	.895	.827	.894	.920	.729	.898	.948
Cars	89	345	168	20	622	138	195	141	18	492	160	329	62	14	565	42	261	89	35	427	2106
% Cars	100	98.9	100	100	99.4	100	99.5	100	100	99.8	100	99.1	98.4	100	99.3	97.7	100	96.7	100	99.1	99.4
Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	3
% Trucks	0	0.3	0	0	0.2	0	0	0	0	0	0	0.3	0	0	0.2	0	0	1.1	0	0.2	0.1
Heavys	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	6
% Heavys	0	0.6	0	0	0.3	0	0	0	0	0	0	0.6	1.6	0	0.5	2.3	0	0	0	0.2	0.3
Cyclists	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	4
% Cyclists	0	0.3	0	0	0.2	0	0.5	0	0	0.2	0	0	0	0	0	0	0	2.2	0	0.5	0.2

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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access-SAT
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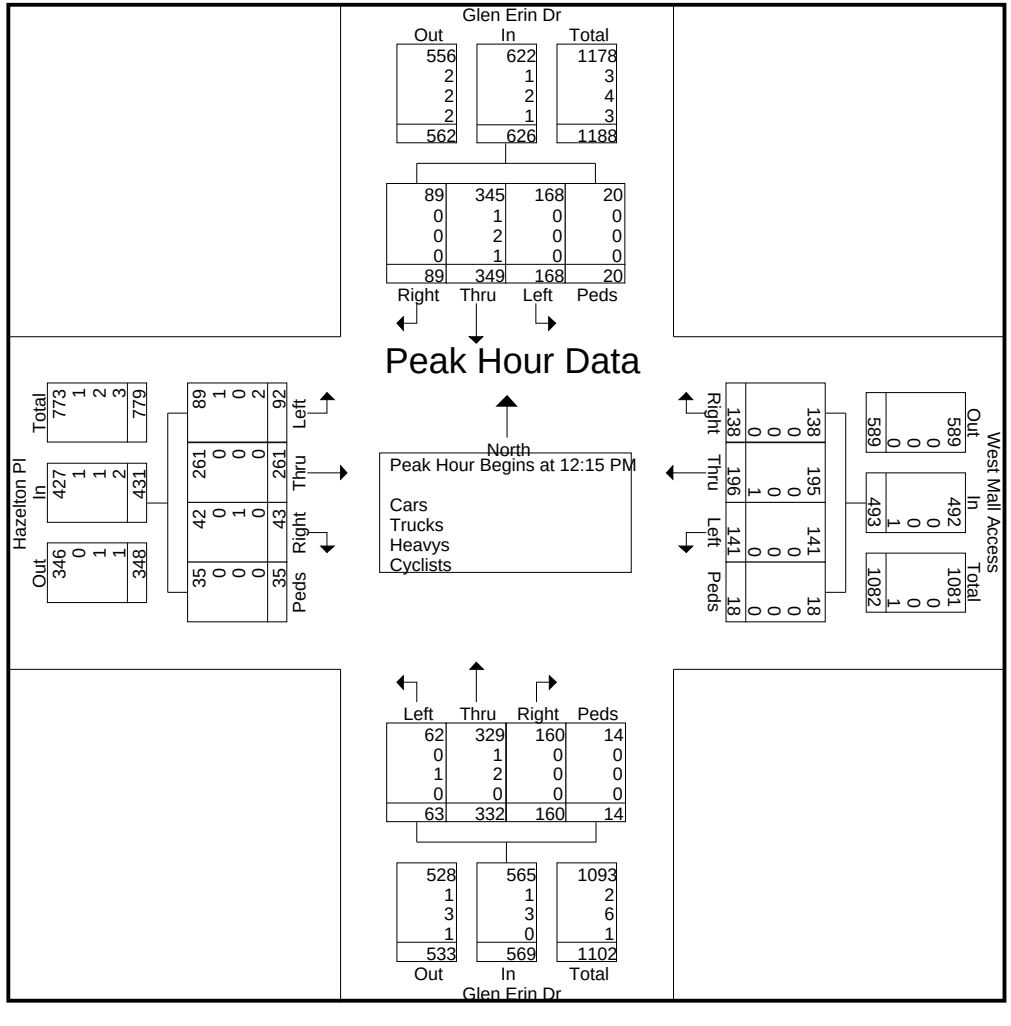

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Your Traffic Count Specialist

File Name : Glen Erin Drive at West Mall Access-SAT
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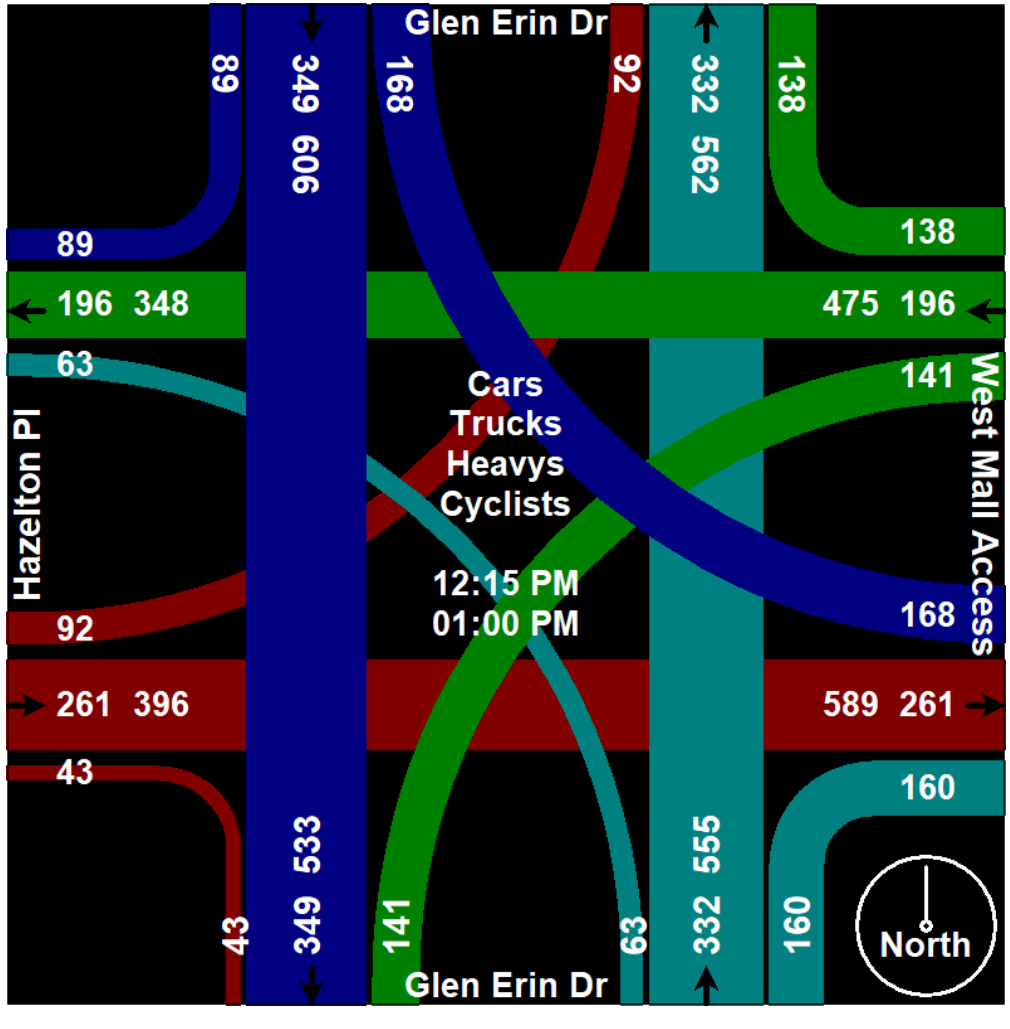

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Plantation Pl From North					Hazelton Pl From East					Plantation Pl From South					Hazelton Pl From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	2	12	4	0	18	0	6	3	0	9	0	5	0	0	5	1	9	3	0	13	45
07:15 AM	0	7	5	1	13	3	4	2	1	10	0	4	0	1	5	1	9	1	0	11	39
07:30 AM	5	16	5	1	27	4	5	2	0	11	3	5	1	0	9	3	12	2	1	18	65
07:45 AM	5	23	9	0	37	4	6	11	0	21	8	11	1	0	20	5	22	10	1	38	116
Total	12	58	23	2	95	11	21	18	1	51	11	25	2	1	39	10	52	16	2	80	265
08:00 AM	10	24	13	4	51	12	46	15	7	80	29	16	4	4	53	4	67	18	0	89	273
08:15 AM	13	39	19	2	73	25	66	24	3	118	28	21	7	3	59	5	51	13	1	70	320
08:30 AM	5	29	14	2	50	5	17	11	2	35	8	8	5	0	21	6	9	2	1	18	124
08:45 AM	9	18	5	1	33	3	11	5	0	19	5	7	1	3	16	6	18	5	1	30	98
Total	37	110	51	9	207	45	140	55	12	252	70	52	17	10	149	21	145	38	3	207	815
09:00 AM	1	15	4	1	21	5	12	3	1	21	7	13	5	3	28	5	20	7	3	35	105
09:15 AM	7	17	3	0	27	4	24	2	0	30	5	11	2	0	18	4	16	3	0	23	98
09:30 AM	7	19	7	1	34	3	15	5	1	24	7	8	7	1	23	0	33	3	0	36	117
09:45 AM	13	20	4	0	37	5	17	8	0	30	4	10	3	0	17	4	28	4	1	37	121
Total	28	71	18	2	119	17	68	18	2	105	23	42	17	4	86	13	97	17	4	131	441
04:00 PM	13	18	12	2	45	16	52	17	2	87	13	32	8	2	55	5	40	15	5	65	252
04:15 PM	7	21	9	2	39	5	47	11	4	67	12	27	8	4	51	7	38	15	0	60	217
04:30 PM	14	13	13	2	42	12	44	9	3	68	14	31	4	0	49	4	31	11	1	47	206
04:45 PM	15	18	7	2	42	15	52	8	1	76	11	17	9	2	39	4	41	9	0	54	211
Total	49	70	41	8	168	48	195	45	10	298	50	107	29	8	194	20	150	50	6	226	886
05:00 PM	18	29	9	0	56	14	52	8	3	77	16	30	12	5	63	7	43	15	0	65	261
05:15 PM	9	24	7	3	43	15	43	7	4	69	19	23	8	5	55	8	54	17	1	80	247
05:30 PM	10	10	4	2	26	11	52	9	1	73	13	34	12	1	60	8	36	16	1	61	220
05:45 PM	14	25	9	2	50	22	42	19	2	85	18	25	5	5	53	2	41	10	2	55	243
Total	51	88	29	7	175	62	189	43	10	304	66	112	37	16	231	25	174	58	4	261	971
06:00 PM	9	21	14	2	46	11	43	11	0	65	16	31	5	2	54	12	34	16	2	64	229
06:15 PM	12	20	6	0	38	8	55	6	2	71	12	33	10	2	57	11	40	15	3	69	235
06:30 PM	9	26	5	2	42	14	53	9	1	77	12	27	17	3	59	5	38	15	3	61	239
06:45 PM	10	22	4	2	38	10	48	4	0	62	13	26	8	0	47	10	35	14	1	60	207
Total	40	89	29	6	164	43	199	30	3	275	53	117	40	7	217	38	147	60	9	254	910

Horizon Data Services Ltd

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Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 2

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Plantation Pl From North					Hazelton Pl From East					Plantation Pl From South					Hazelton Pl From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	217	486	191	34	928	226	812	209	38	1285	273	455	142	46	916	127	765	239	28	1159	4288
Apprch %	23.4	52.4	20.6	3.7		17.6	63.2	16.3	3		29.8	49.7	15.5	5		11	66	20.6	2.4		
Total %	5.1	11.3	4.5	0.8	21.6	5.3	18.9	4.9	0.9	30	6.4	10.6	3.3	1.1	21.4	3	17.8	5.6	0.7	27	
Cars	214	481	189	34	918	223	804	205	38	1270	270	447	141	46	904	123	762	238	28	1151	4243
% Cars	98.6	99	99	100	98.9	98.7	99	98.1	100	98.8	98.9	98.2	99.3	100	98.7	96.9	99.6	99.6	100	99.3	99
Trucks	2	2	1	0	5	1	4	0	0	5	2	5	0	0	7	2	2	1	0	5	22
% Trucks	0.9	0.4	0.5	0	0.5	0.4	0.5	0	0	0.4	0.7	1.1	0	0	0.8	1.6	0.3	0.4	0	0.4	0.5
Heavys	0	3	1	0	4	2	3	4	0	9	1	3	1	0	5	2	1	0	0	3	21
% Heavys	0	0.6	0.5	0	0.4	0.9	0.4	1.9	0	0.7	0.4	0.7	0.7	0	0.5	1.6	0.1	0	0	0.3	0.5
Cyclists	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% Cyclists	0.5	0	0	0	0.1	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0

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Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
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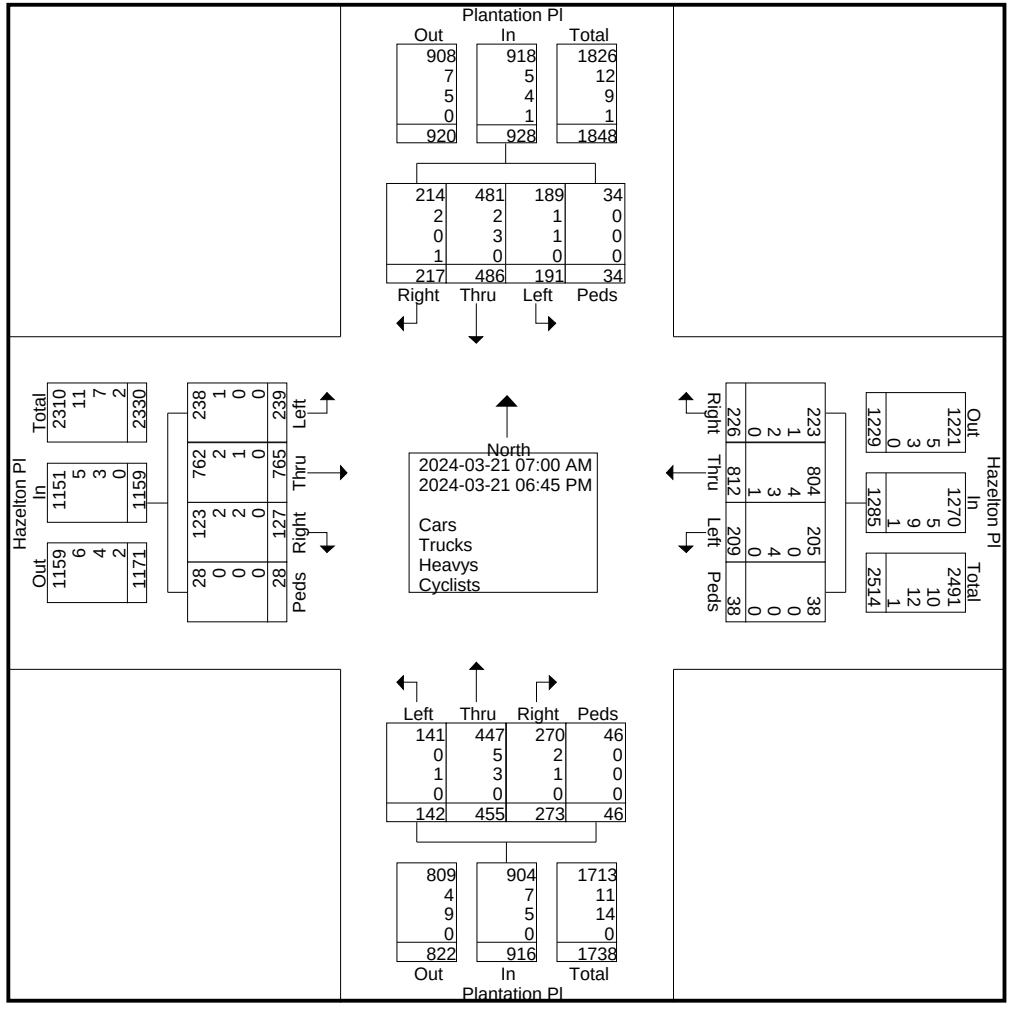

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(416) 840-6619

Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
Page No : 4

	Plantation Pl From North					Hazelton Pl From East					Plantation Pl From South					Hazelton Pl From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	5	23	9	0	37	4	6	11	0	21	8	11	1	0	20	5	22	10	**1**	38	116
08:00 AM	10	24	13	**4**	51	12	46	15	**7**	80	**29**	16	4	**4**	53	4	**67**	**18**	0	**89**	273
08:15 AM	**13**	**39**	**19**	2	**73**	**25**	**66**	**24**	3	**118**	28	**21**	**7**	3	**59**	5	51	13	1	70	**320**
08:30 AM	5	29	14	2	50	5	17	11	2	35	8	8	5	0	21	**6**	9	2	1	18	124
Total Volume	33	115	55	8	211	46	135	61	12	254	73	56	17	7	153	20	149	43	3	215	833
% App. Total	15.6	54.5	26.1	3.8		18.1	53.1	24	4.7		47.7	36.6	11.1	4.6		9.3	69.3	20	1.4		
PHF	.635	.737	.724	.500	.723	.460	.511	.635	.429	.538	.629	.667	.607	.438	.648	.833	.556	.597	.750	.604	.651
Cars	32	113	53	8	206	45	130	57	12	244	72	52	16	7	147	18	149	42	3	212	809
% Cars	97.0	98.3	96.4	100	97.6	97.8	96.3	93.4	100	96.1	98.6	92.9	94.1	100	96.1	90.0	100	97.7	100	98.6	97.1
Trucks	1	1	1	0	3	0	2	0	0	2	1	4	0	0	5	1	0	1	0	2	12
% Trucks	3.0	0.9	1.8	0	1.4	0	1.5	0	0	0.8	1.4	7.1	0	0	3.3	5.0	0	2.3	0	0.9	1.4
Heavys	0	1	1	0	2	1	3	4	0	8	0	0	1	0	1	1	0	0	0	1	12
% Heavys	0	0.9	1.8	0	0.9	2.2	2.2	6.6	0	3.1	0	0	5.9	0	0.7	5.0	0	0	0	0.5	1.4
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

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Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place
Site Code : 00000000
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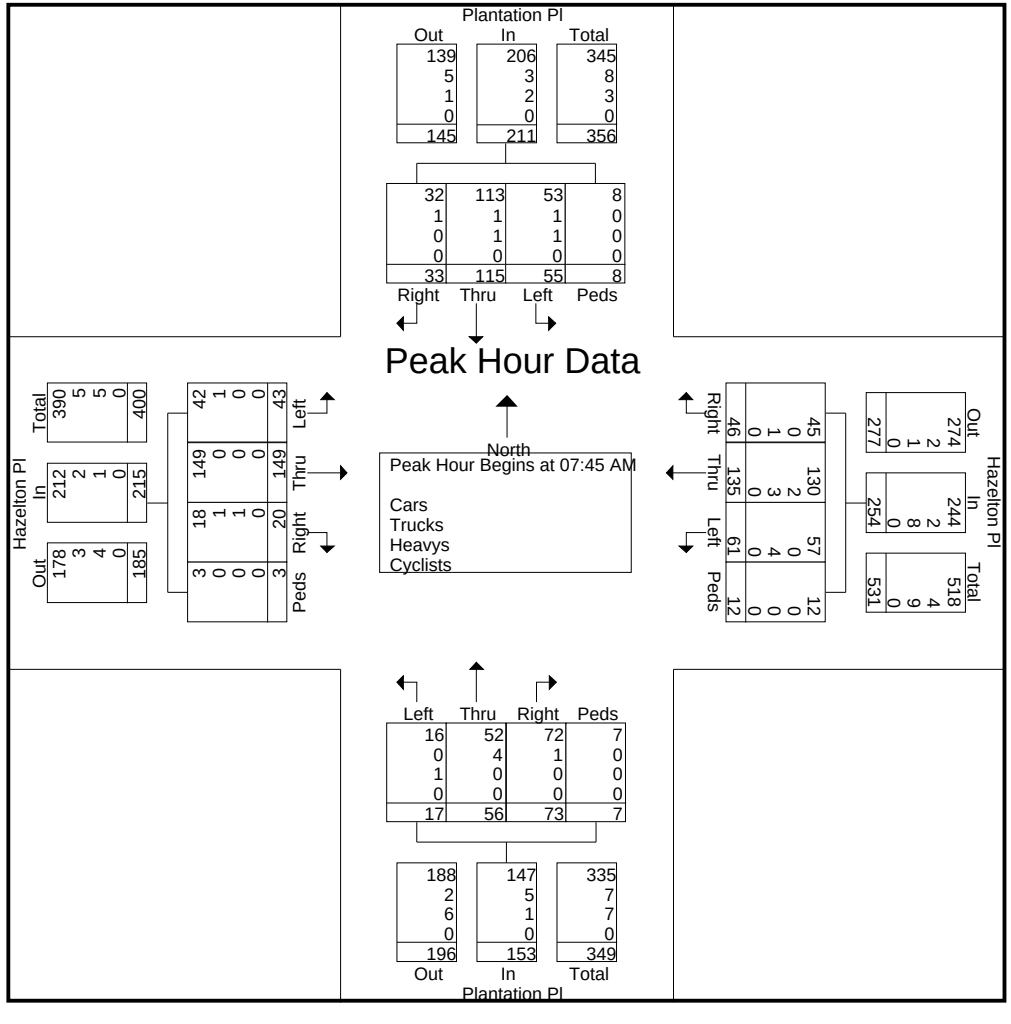

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Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place
Site Code : 00000000
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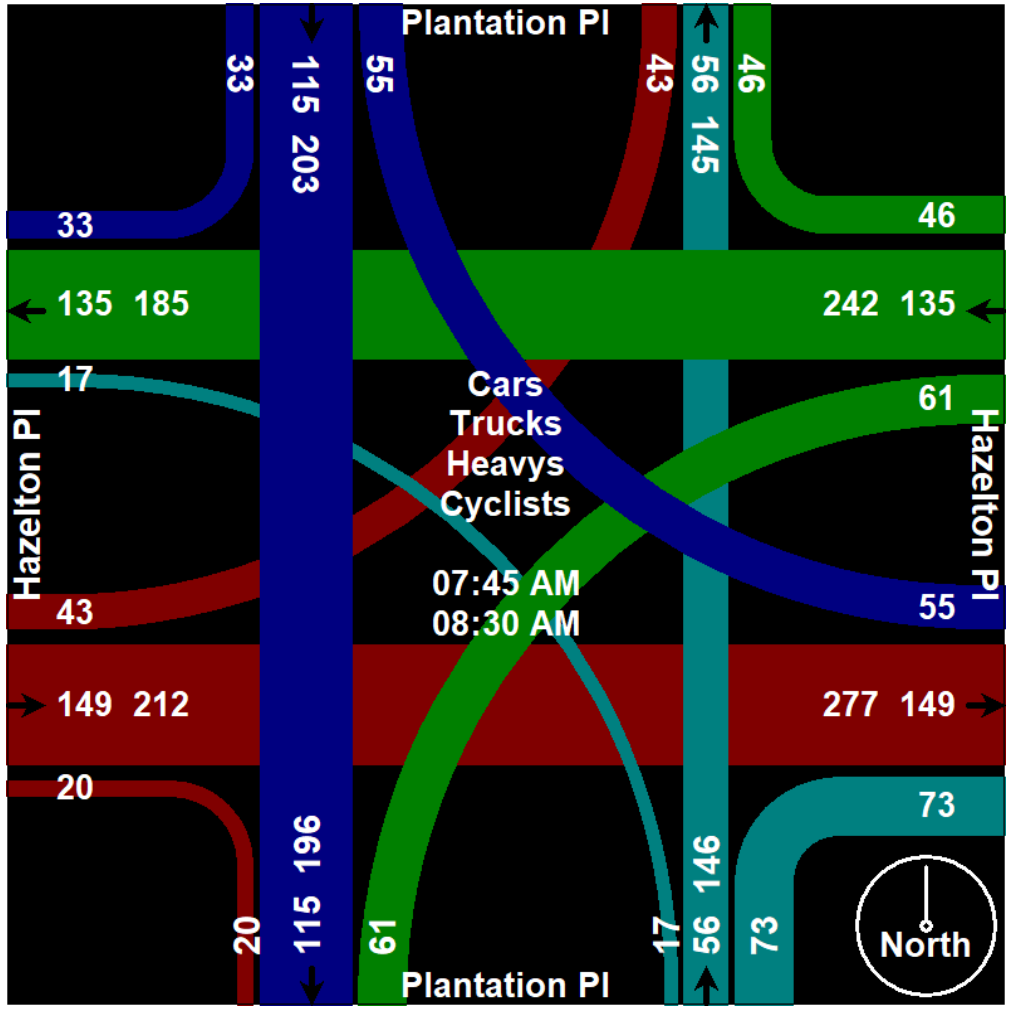

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Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
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	Plantation Pl From North					Hazelton Pl From East					Plantation Pl From South					Hazelton Pl From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**18**	**29**	**9**	0	**56**	14	**52**	8	3	77	16	30	**12**	**5**	**63**	7	43	15	0	65	**261**
05:15 PM	9	24	7	**3**	43	15	43	7	**4**	69	**19**	23	8	5	55	**8**	**54**	**17**	1	**80**	247
05:30 PM	10	10	4	2	26	11	52	9	1	73	13	**34**	12	1	60	8	36	16	1	61	220
05:45 PM	14	25	9	2	50	**22**	42	**19**	2	**85**	18	25	5	5	53	2	41	10	**2**	55	243
Total Volume	51	88	29	7	175	62	189	43	10	304	66	112	37	16	231	25	174	58	4	261	971
% App. Total	29.1	50.3	16.6	4		20.4	62.2	14.1	3.3		28.6	48.5	16	6.9		9.6	66.7	22.2	1.5		
PHF	.708	.759	.806	.583	.781	.705	.909	.566	.625	.894	.868	.824	.771	.800	.917	.781	.806	.853	.500	.816	.930
Cars	50	87	29	7	173	61	189	43	10	303	66	112	37	16	231	25	174	58	4	261	968
% Cars	98.0	98.9	100	100	98.9	98.4	100	100	100	99.7	100	100	100	100	100	100	100	100	100	100	99.7
Trucks	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% Trucks	2.0	0	0	0	0.6	1.6	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0.2
Heavys	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Heavys	0	1.1	0	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : Hazelton Place at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
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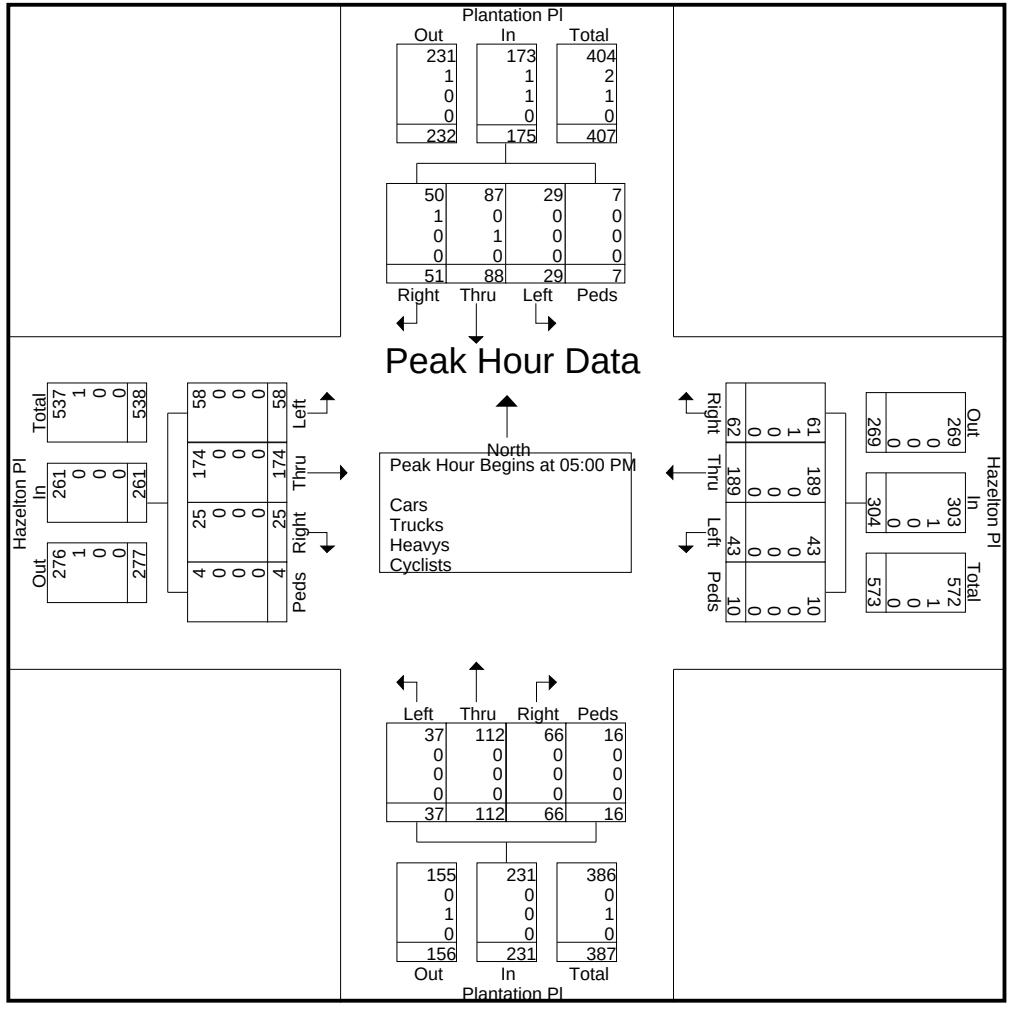

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Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place
Site Code : 00000000
Start Date : 2024-03-21
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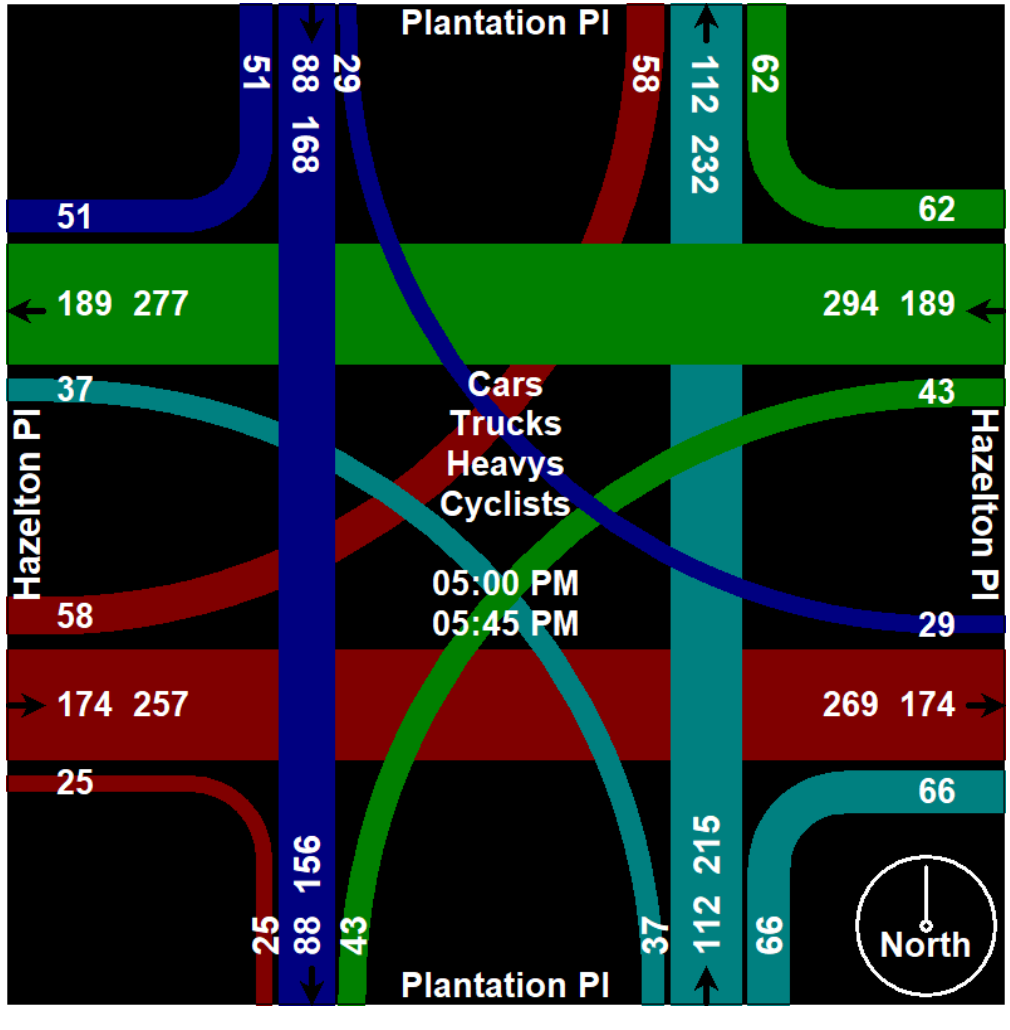

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Plantation Pl From North					Hazelton Pl From East					Plantation Pl From South					Hazelton Pl From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	13	15	7	3	38	7	34	15	0	56	11	15	4	0	30	3	35	7	0	45	169
11:15 AM	11	10	6	3	30	14	31	13	3	61	9	17	2	7	35	4	41	13	0	58	184
11:30 AM	13	13	10	3	39	6	26	10	3	45	15	17	6	2	40	4	54	9	0	67	191
11:45 AM	15	21	10	1	47	13	43	12	1	69	24	28	9	1	62	7	47	16	0	70	248
Total	52	59	33	10	154	40	134	50	7	231	59	77	21	10	167	18	177	45	0	240	792
12:00 PM	11	22	12	3	48	10	49	11	3	73	14	26	7	1	48	8	39	12	0	59	228
12:15 PM	12	17	12	3	44	14	51	12	2	79	19	17	5	2	43	8	63	9	0	80	246
12:30 PM	17	27	4	0	48	6	49	23	2	80	19	20	8	2	49	5	48	9	0	62	239
12:45 PM	11	22	9	2	44	11	52	19	3	85	14	16	9	3	42	11	55	12	0	78	249
Total	51	88	37	8	184	41	201	65	10	317	66	79	29	8	182	32	205	42	0	279	962
01:00 PM	11	17	4	2	34	7	43	8	2	60	22	28	12	3	65	12	39	7	0	58	217
01:15 PM	10	27	12	3	52	13	41	18	1	73	15	16	9	1	41	7	68	5	0	80	246
01:30 PM	12	16	7	2	37	8	40	11	1	60	20	17	4	1	42	3	48	17	0	68	207
01:45 PM	15	32	14	0	61	9	46	13	1	69	17	23	7	1	48	1	47	9	0	57	235
Total	48	92	37	7	184	37	170	50	5	262	74	84	32	6	196	23	202	38	0	263	905
Grand Total	151	239	107	25	522	118	505	165	22	810	199	240	82	24	545	73	584	125	0	782	2659
Apprch %	28.9	45.8	20.5	4.8		14.6	62.3	20.4	2.7		36.5	44	15	4.4		9.3	74.7	16	0		
Total %	5.7	9	4	0.9	19.6	4.4	19	6.2	0.8	30.5	7.5	9	3.1	0.9	20.5	2.7	22	4.7	0	29.4	
Cars	151	238	107	25	521	118	504	165	22	809	198	240	81	24	543	73	583	125	0	781	2654
% Cars	100	99.6	100	100	99.8	100	99.8	100	100	99.9	99.5	100	98.8	100	99.6	100	99.8	100	0	99.9	99.8
Trucks	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
% Trucks	0	0.4	0	0	0.2	0	0	0	0	0	0	0	1.2	0	0.2	0	0	0	0	0	0.1
Heavys	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	3
% Heavys	0	0	0	0	0	0	0.2	0	0	0.1	0.5	0	0	0	0.2	0	0.2	0	0	0.1	0.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23
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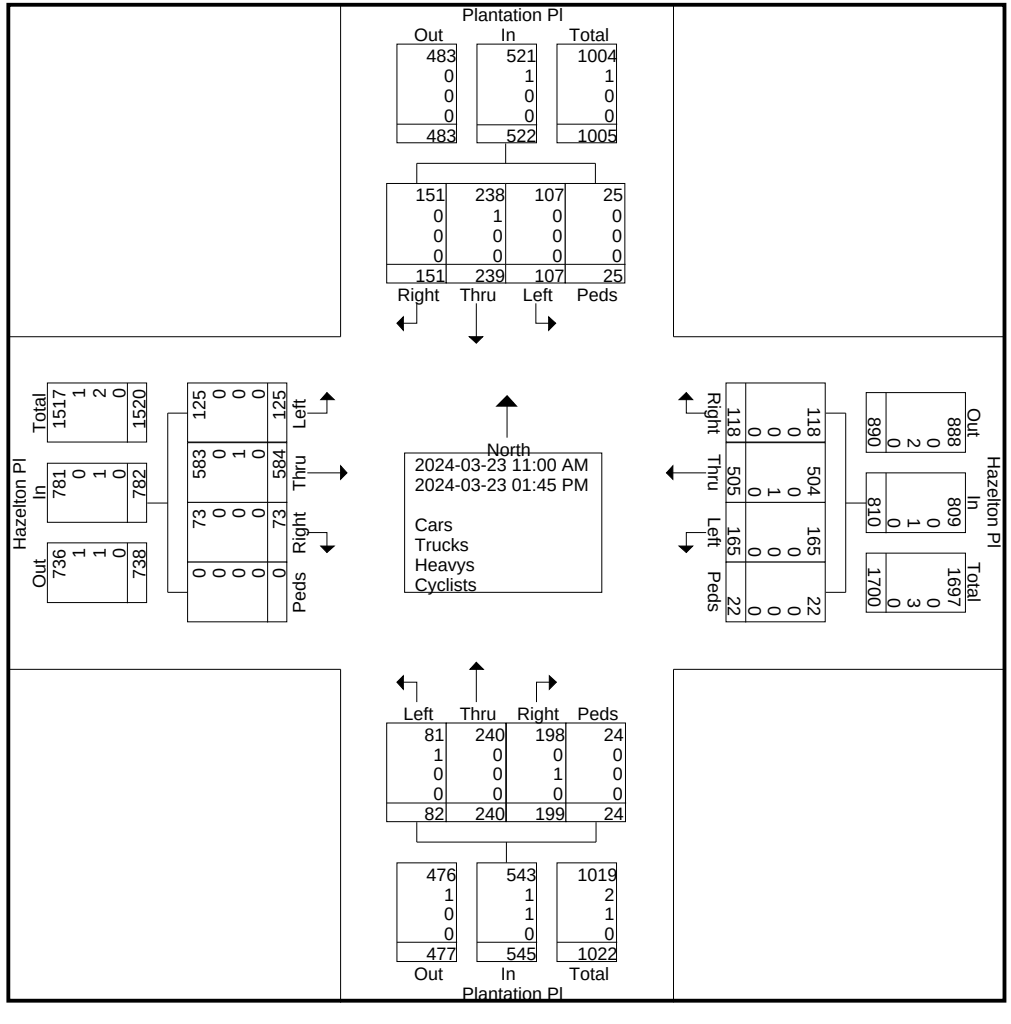

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Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23

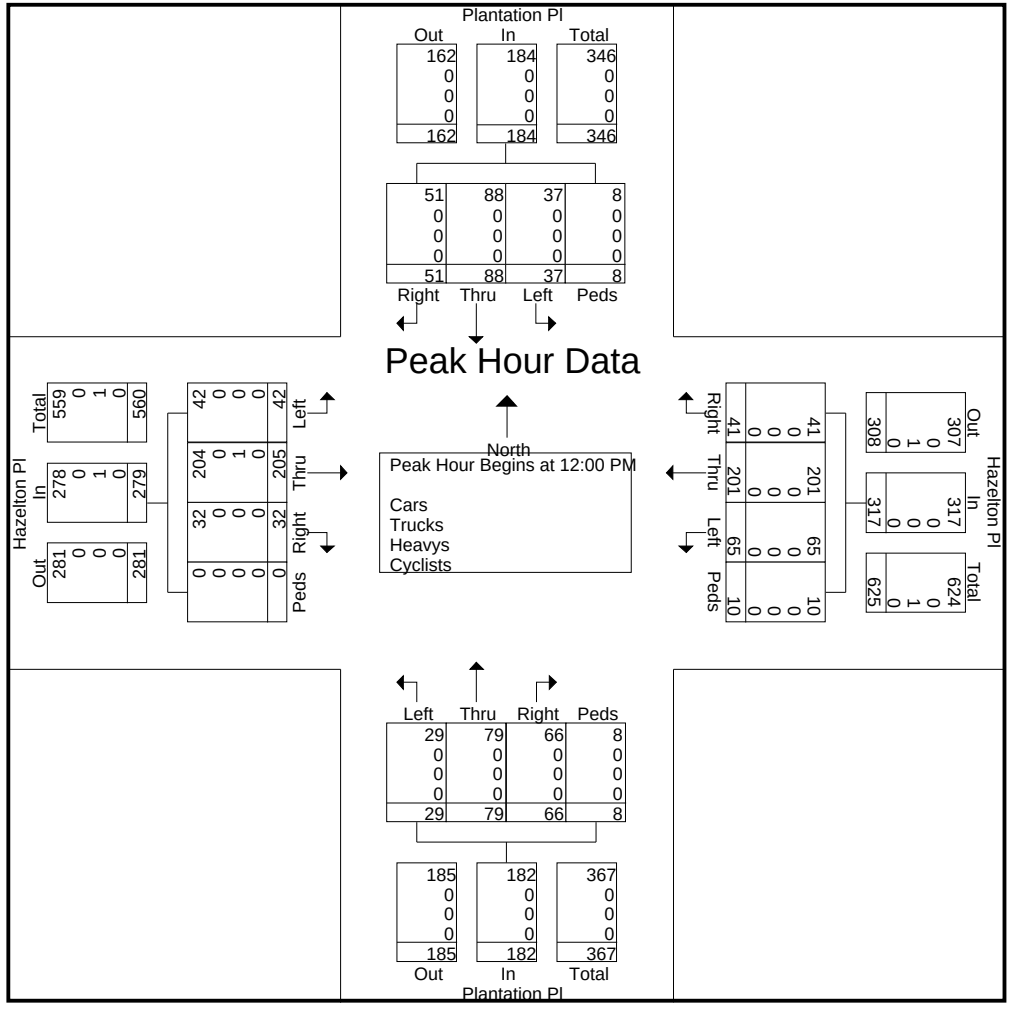
	Plantation Pl From North					Hazelton Pl From East					Plantation Pl From South					Hazelton Pl From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	11	22	**12**	**3**	**48**	10	49	11	**3**	73	14	**26**	7	1	48	8	39	**12**	0	59	228
12:15 PM	12	17	12	3	44	**14**	51	12	2	79	**19**	17	5	2	43	8	**63**	9	0	**80**	246
12:30 PM	**17**	**27**	4	0	48	6	49	**23**	2	80	19	20	8	2	**49**	5	48	9	0	62	239
12:45 PM	11	22	9	2	44	11	**52**	19	3	**85**	14	16	**9**	**3**	42	**11**	55	12	0	78	**249**
Total Volume	51	88	37	8	184	41	201	65	10	317	66	79	29	8	182	32	205	42	0	279	962
% App. Total	27.7	47.8	20.1	4.3		12.9	63.4	20.5	3.2		36.3	43.4	15.9	4.4		11.5	73.5	15.1	0		
PHF	.750	.815	.771	.667	.958	.732	.966	.707	.833	.932	.868	.760	.806	.667	.929	.727	.813	.875	.000	.872	.966
Cars	51	88	37	8	184	41	201	65	10	317	66	79	29	8	182	32	204	42	0	278	961
% Cars	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99.5	100	0	99.6	99.9
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavys	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Heavys	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	0.4	0.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 4



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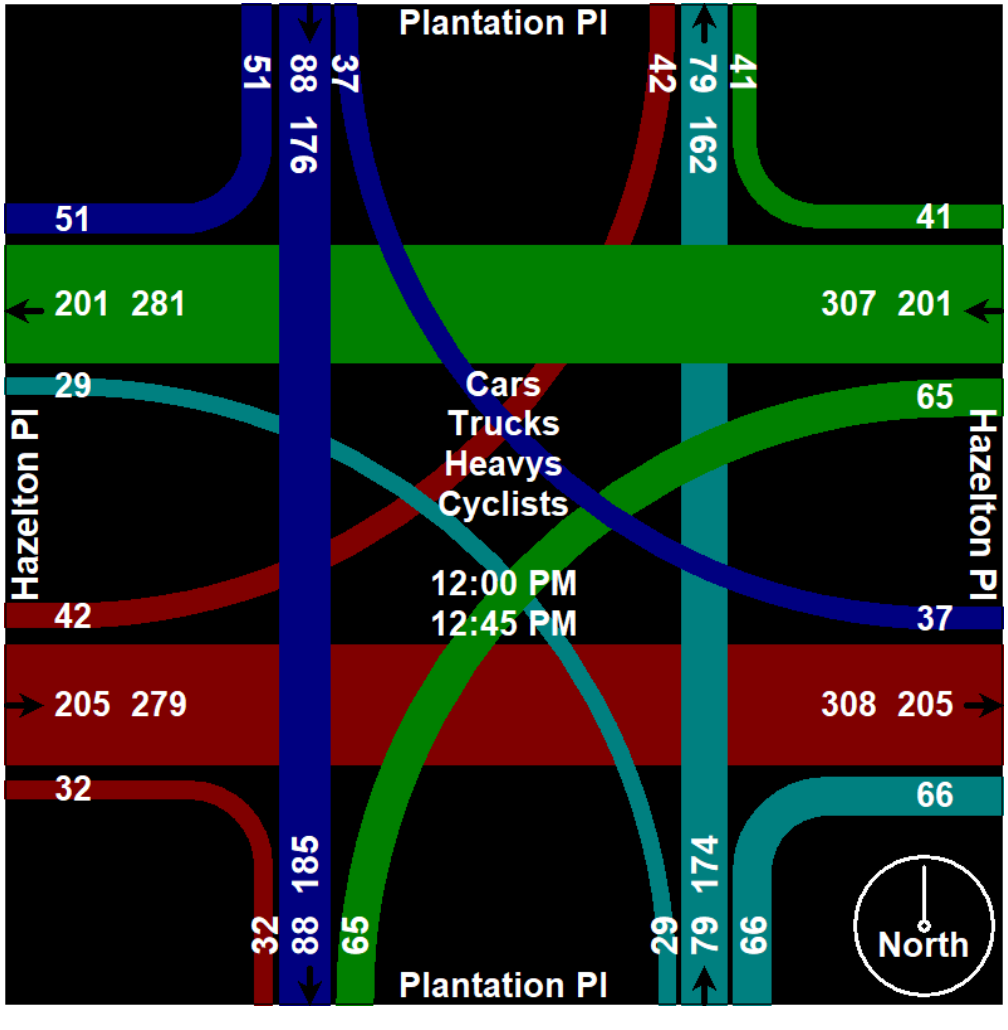
Your Traffic Count Specialist

File Name : Hazelton Place at Plantation Place-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 5



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(416) 840-6619

Your Traffic Count Specialist

File Name : Ring Road at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	North Mall Access From North					Ring Rd From East					From South					Ring Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	0	4	0	5	10	0	0	0	10	0	0	0	0	0	0	1	2	0	3	18
07:15 AM	1	0	2	0	3	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	8
07:30 AM	4	0	5	0	9	10	4	0	0	14	0	0	0	0	0	0	1	7	0	8	31
07:45 AM	8	0	8	0	16	4	0	0	0	4	0	0	0	0	0	0	2	9	1	12	32
Total	14	0	19	0	33	29	4	0	0	33	0	0	0	0	0	0	4	18	1	23	89
08:00 AM	32	0	7	0	39	18	17	0	0	35	0	0	0	0	0	0	13	33	6	52	126
08:15 AM	29	0	13	0	42	35	34	0	0	69	0	0	0	0	0	0	27	54	6	87	198
08:30 AM	7	0	10	0	17	13	1	0	0	14	0	0	0	0	0	0	4	12	2	18	49
08:45 AM	7	0	11	0	18	15	7	0	0	22	0	0	0	0	0	0	2	13	8	23	63
Total	75	0	41	0	116	81	59	0	0	140	0	0	0	0	0	0	46	112	22	180	436
09:00 AM	7	0	12	1	20	15	1	0	1	17	0	0	0	0	0	0	4	7	1	12	49
09:15 AM	11	0	10	0	21	10	2	0	0	12	0	0	0	0	0	0	2	3	8	13	46
09:30 AM	13	0	16	0	29	16	3	0	0	19	0	0	0	0	0	0	6	13	2	21	69
09:45 AM	15	0	15	0	30	21	8	0	0	29	0	0	0	0	0	0	7	14	1	22	81
Total	46	0	53	1	100	62	14	0	1	77	0	0	0	0	0	0	19	37	12	68	245
04:00 PM	20	0	26	1	47	46	15	0	1	62	0	0	0	0	0	0	11	25	6	42	151
04:15 PM	23	0	19	0	42	34	14	0	4	52	0	0	0	0	0	0	9	34	3	46	140
04:30 PM	17	0	19	0	36	39	13	0	0	52	0	0	0	0	0	0	13	26	1	40	128
04:45 PM	16	0	29	1	46	50	12	0	0	62	0	0	0	0	0	0	12	24	7	43	151
Total	76	0	93	2	171	169	54	0	5	228	0	0	0	0	0	0	45	109	17	171	570
05:00 PM	28	0	23	1	52	41	12	0	0	53	0	0	0	0	0	0	14	31	1	46	151
05:15 PM	26	0	23	0	49	42	12	0	0	54	0	0	0	0	0	0	13	27	7	47	150
05:30 PM	27	0	21	0	48	46	12	0	0	58	0	0	0	0	0	0	12	20	2	34	140
05:45 PM	26	0	29	0	55	56	8	0	0	64	0	0	0	0	0	0	10	22	4	36	155
Total	107	0	96	1	204	185	44	0	0	229	0	0	0	0	0	0	49	100	14	163	596
06:00 PM	31	0	23	0	54	55	8	0	0	63	0	0	0	0	0	0	14	30	3	47	164
06:15 PM	30	0	30	0	60	60	17	0	1	78	0	0	0	0	0	0	8	27	1	36	174
06:30 PM	20	0	19	1	40	55	13	0	0	68	0	0	0	0	0	0	7	25	3	35	143
06:45 PM	21	0	20	0	41	46	13	0	0	59	0	0	0	0	0	0	9	29	0	38	138
Total	102	0	92	1	195	216	51	0	1	268	0	0	0	0	0	0	38	111	7	156	619

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Ring Road at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

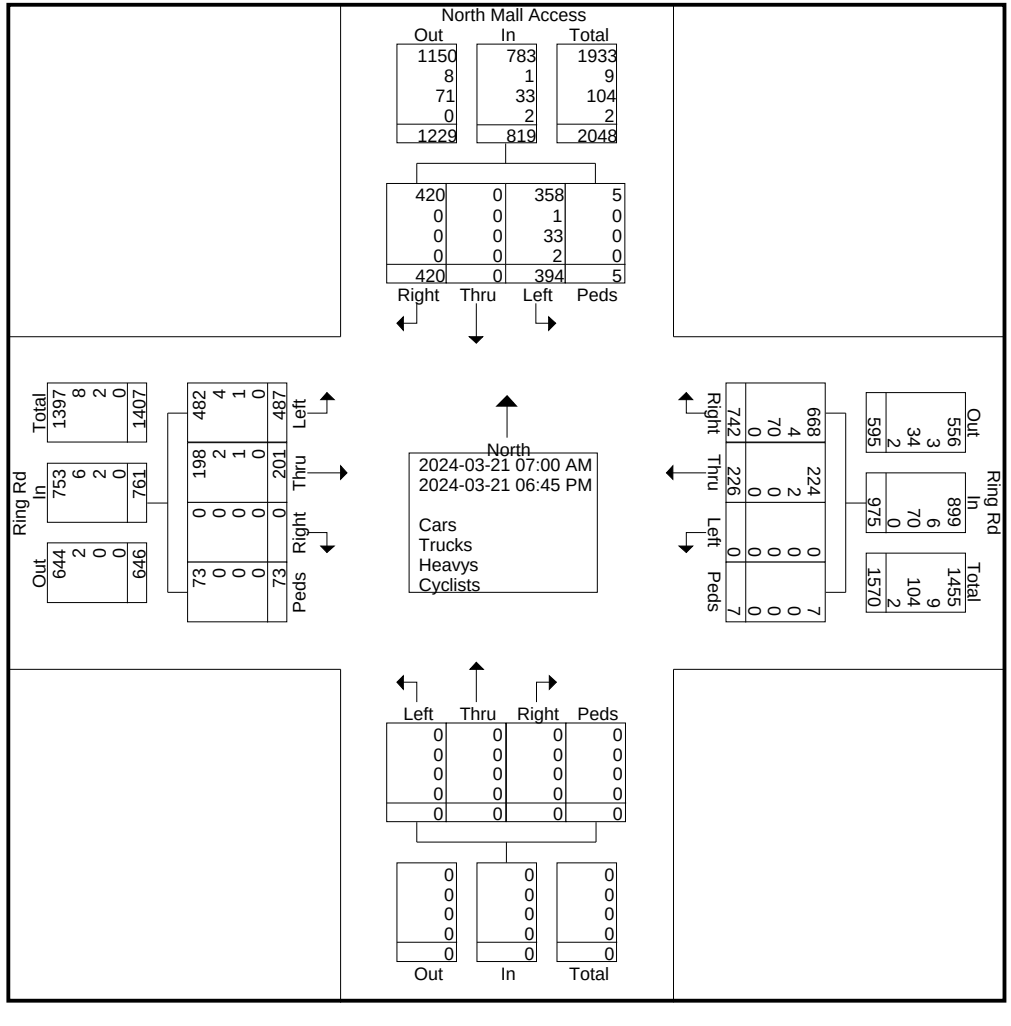
	North Mall Access From North					Ring Rd From East					From South					Ring Rd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	420	0	394	5	819	742	226	0	7	975	0	0	0	0	0	0	201	487	73	761	2555
Apprch %	51.3	0	48.1	0.6		76.1	23.2	0	0.7		0	0	0	0		0	26.4	64	9.6		
Total %	16.4	0	15.4	0.2	32.1	29	8.8	0	0.3	38.2	0	0	0	0	0	0	7.9	19.1	2.9	29.8	
Cars	420	0	358	5	783	668	224	0	7	899	0	0	0	0	0	0	198	482	73	753	2435
% Cars	100	0	90.9	100	95.6	90	99.1	0	100	92.2	0	0	0	0	0	0	98.5	99	100	98.9	95.3
Trucks	0	0	1	0	1	4	2	0	0	6	0	0	0	0	0	0	2	4	0	6	13
% Trucks	0	0	0.3	0	0.1	0.5	0.9	0	0	0.6	0	0	0	0	0	0	1	0.8	0	0.8	0.5
Heavys	0	0	33	0	33	70	0	0	0	70	0	0	0	0	0	0	1	1	0	2	105
% Heavys	0	0	8.4	0	4	9.4	0	0	0	7.2	0	0	0	0	0	0	0.5	0.2	0	0.3	4.1
Cyclists	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Cyclists	0	0	0.5	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Ring Road at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



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Your Traffic Count Specialist

File Name : Ring Road at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 4

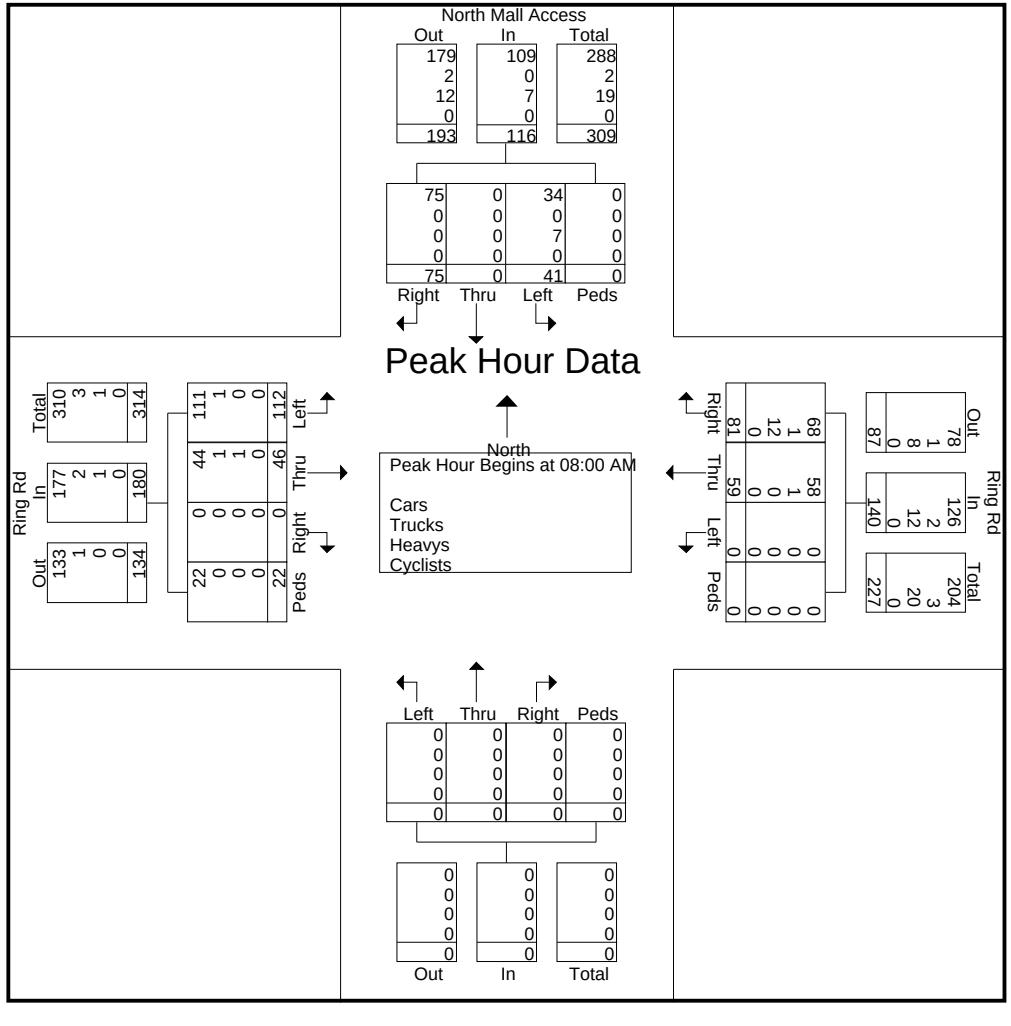
	North Mall Access From North					Ring Rd From East					From South					Ring Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	**32**	0	7	0	39	18	17	0	0	35	0	0	0	0	0	0	13	33	6	52	126
08:15 AM	29	0	**13**	0	**42**	**35**	**34**	0	0	**69**	0	0	0	0	0	0	**27**	**54**	6	**87**	**198**
08:30 AM	7	0	10	0	17	13	1	0	0	14	0	0	0	0	0	0	4	12	2	18	49
08:45 AM	7	0	11	0	18	15	7	0	0	22	0	0	0	0	0	0	2	13	**8**	23	63
Total Volume	75	0	41	0	116	81	59	0	0	140	0	0	0	0	0	0	46	112	22	180	436
% App. Total	64.7	0	35.3	0		57.9	42.1	0	0		0	0	0	0		0	25.6	62.2	12.2		
PHF	.586	.000	.788	.000	.690	.579	.434	.000	.000	.507	.000	.000	.000	.000	.000	.000	.426	.519	.688	.517	.551
Cars	75	0	34	0	109	68	58	0	0	126	0	0	0	0	0	0	44	111	22	177	412
% Cars	100	0	82.9	0	94.0	84.0	98.3	0	0	90.0	0	0	0	0	0	0	95.7	99.1	100	98.3	94.5
Trucks	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	1	0	2	4
% Trucks	0	0	0	0	0	1.2	1.7	0	0	1.4	0	0	0	0	0	0	2.2	0.9	0	1.1	0.9
Heavys	0	0	7	0	7	12	0	0	0	12	0	0	0	0	0	0	1	0	0	1	20
% Heavys	0	0	17.1	0	6.0	14.8	0	0	0	8.6	0	0	0	0	0	0	2.2	0	0	0.6	4.6
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Ring Road at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 5



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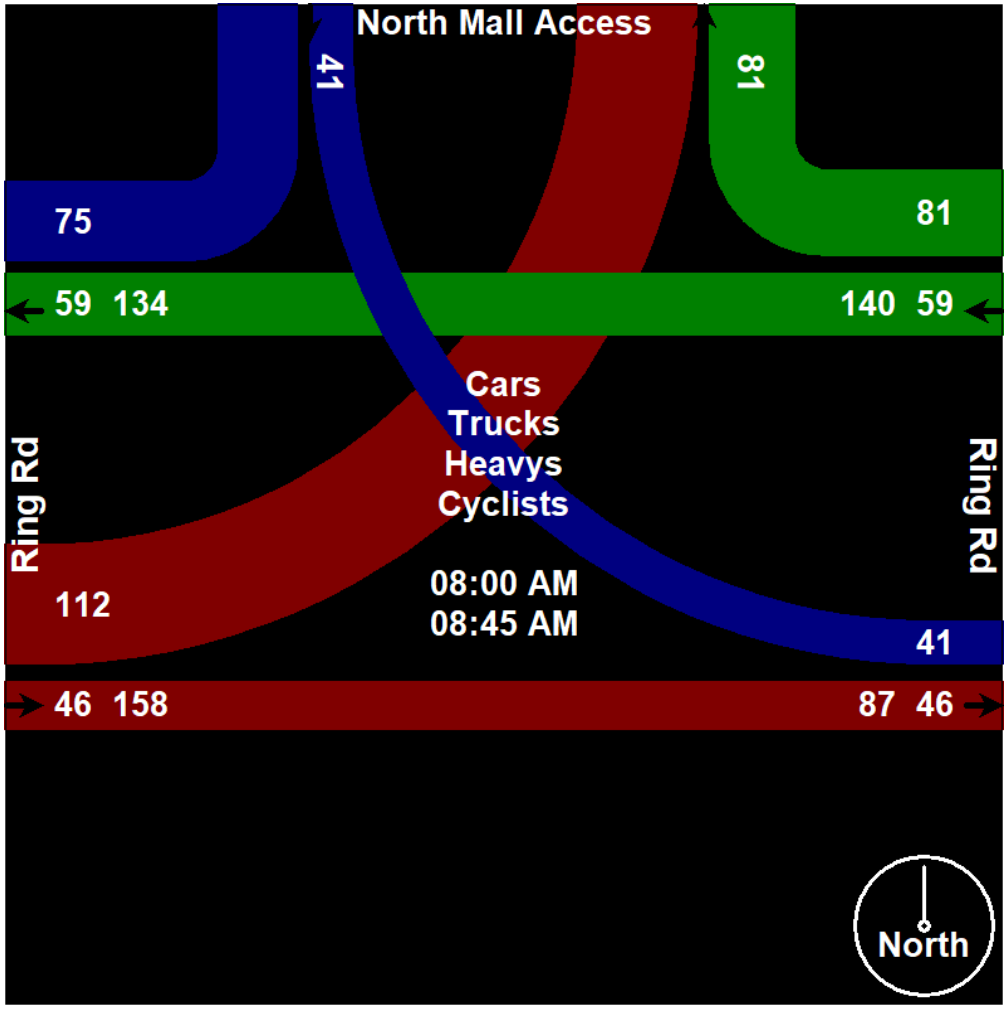
Your Traffic Count Specialist

File Name : Ring Road at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



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Your Traffic Count Specialist

File Name : Ring Road at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 7

	North Mall Access From North					Ring Rd From East					From South					Ring Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**28**	0	23	**1**	52	41	**12**	0	0	53	0	0	0	0	0	0	**14**	**31**	1	46	151
05:15 PM	26	0	23	0	49	42	12	0	0	54	0	0	0	0	0	0	13	27	**7**	**47**	150
05:30 PM	27	0	21	0	48	46	12	0	0	58	0	0	0	0	0	0	12	20	2	34	140
05:45 PM	26	0	**29**	0	**55**	**56**	8	0	0	**64**	0	0	0	0	0	0	10	22	4	36	**155**
Total Volume	107	0	96	1	204	185	44	0	0	229	0	0	0	0	0	0	49	100	14	163	596
% App. Total	52.5	0	47.1	0.5		80.8	19.2	0	0		0	0	0	0		0	30.1	61.3	8.6		
PHF	.955	.000	.828	.250	.927	.826	.917	.000	.000	.895	.000	.000	.000	.000	.000	.000	.875	.806	.500	.867	.961
Cars	107	0	90	1	198	173	44	0	0	217	0	0	0	0	0	0	49	100	14	163	578
% Cars	100	0	93.8	100	97.1	93.5	100	0	0	94.8	0	0	0	0	0	0	100	100	100	100	97.0
Trucks	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0	0	0	0	0.5	0	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0.2
Heavys	0	0	6	0	6	11	0	0	0	11	0	0	0	0	0	0	0	0	0	0	17
% Heavys	0	0	6.3	0	2.9	5.9	0	0	0	4.8	0	0	0	0	0	0	0	0	0	0	2.9
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

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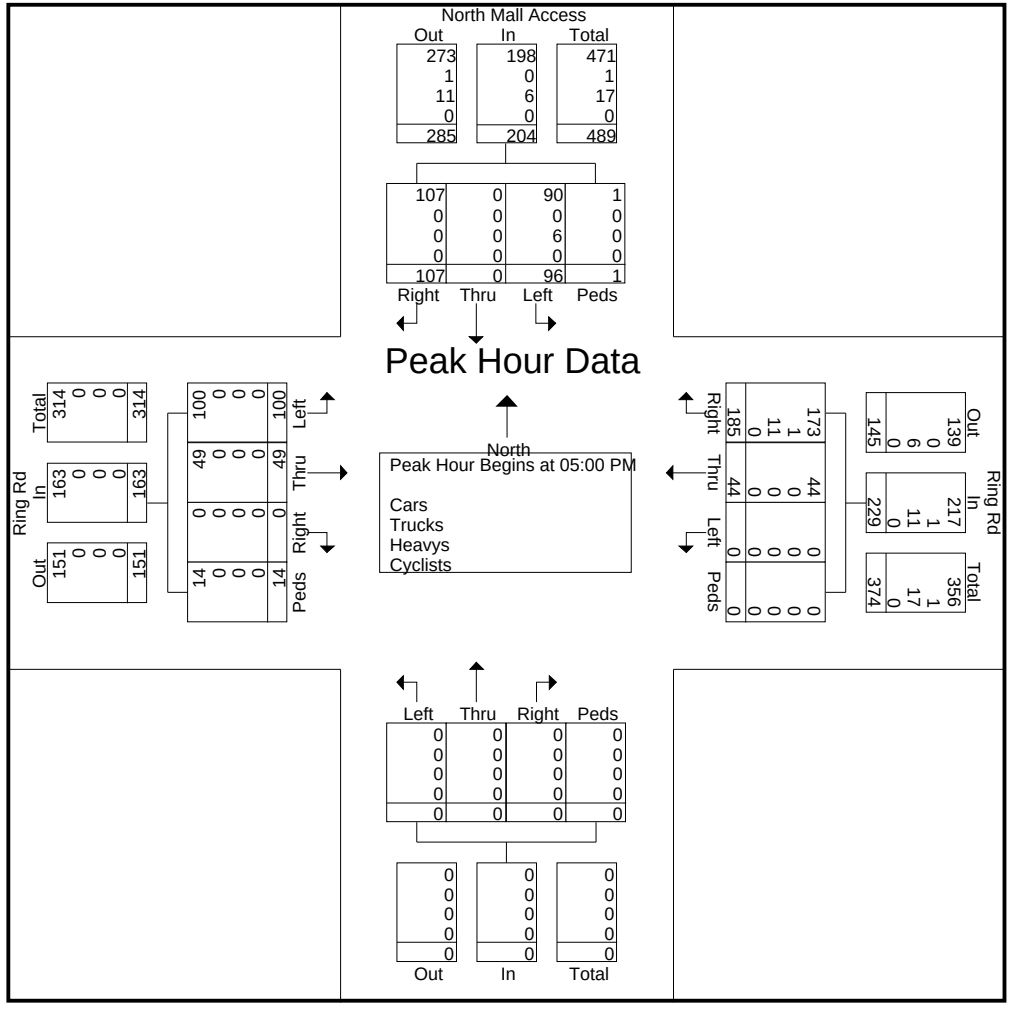
Your Traffic Count Specialist

File Name : Ring Road at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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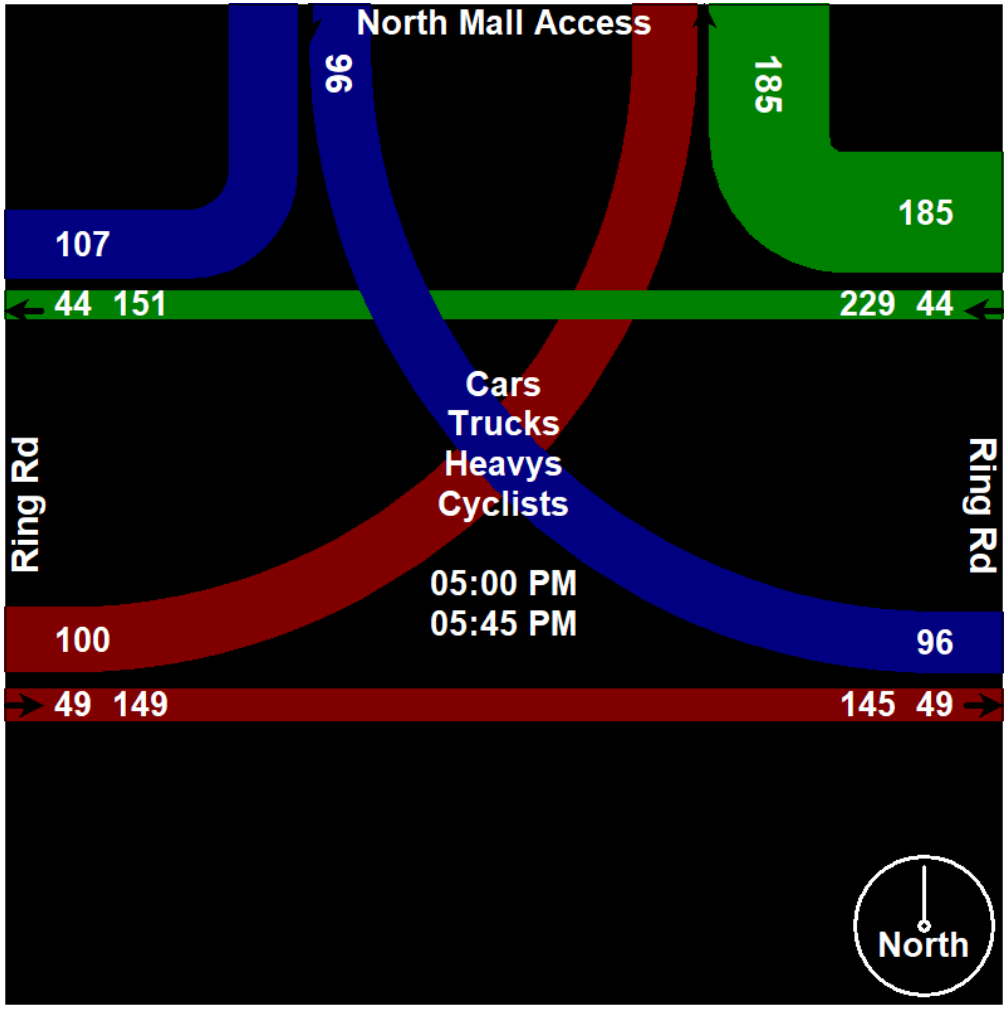
Your Traffic Count Specialist

File Name : Ring Road at North Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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Your Traffic Count Specialist

File Name : Ring Road at North Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

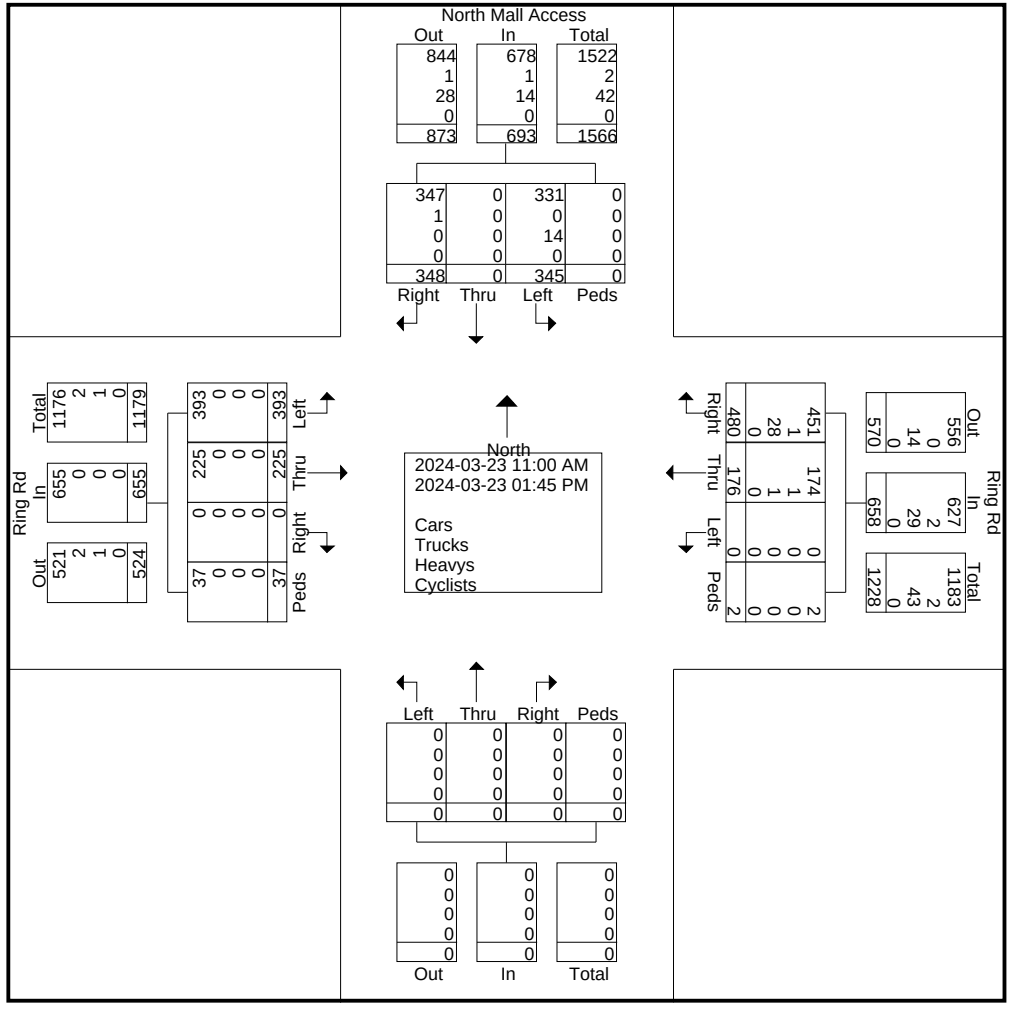
	North Mall Access From North					Ring Rd From East					From South					Ring Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	31	0	25	0	56	28	9	0	0	37	0	0	0	0	0	0	13	19	2	34	127
11:15 AM	23	0	20	0	43	34	11	0	0	45	0	0	0	0	0	0	14	23	1	38	126
11:30 AM	23	0	30	0	53	28	13	0	2	43	0	0	0	0	0	0	15	21	1	37	133
11:45 AM	29	0	33	0	62	45	11	0	0	56	0	0	0	0	0	0	19	30	5	54	172
Total	106	0	108	0	214	135	44	0	2	181	0	0	0	0	0	0	61	93	9	163	558
12:00 PM	32	0	14	0	46	40	16	0	0	56	0	0	0	0	0	0	9	33	5	47	149
12:15 PM	38	0	25	0	63	38	27	0	0	65	0	0	0	0	0	0	16	24	2	42	170
12:30 PM	32	0	35	0	67	49	16	0	0	65	0	0	0	0	0	0	34	64	9	107	239
12:45 PM	26	0	32	0	58	43	15	0	0	58	0	0	0	0	0	0	20	26	5	51	167
Total	128	0	106	0	234	170	74	0	0	244	0	0	0	0	0	0	79	147	21	247	725
01:00 PM	33	0	28	0	61	37	10	0	0	47	0	0	0	0	0	0	20	37	0	57	165
01:15 PM	33	0	42	0	75	49	18	0	0	67	0	0	0	0	0	0	23	38	2	63	205
01:30 PM	18	0	28	0	46	46	17	0	0	63	0	0	0	0	0	0	22	40	3	65	174
01:45 PM	30	0	33	0	63	43	13	0	0	56	0	0	0	0	0	0	20	38	2	60	179
Total	114	0	131	0	245	175	58	0	0	233	0	0	0	0	0	0	85	153	7	245	723
Grand Total	348	0	345	0	693	480	176	0	2	658	0	0	0	0	0	0	225	393	37	655	2006
Apprch %	50.2	0	49.8	0		72.9	26.7	0	0.3		0	0	0	0		0	34.4	60	5.6		
Total %	17.3	0	17.2	0	34.5	23.9	8.8	0	0.1	32.8	0	0	0	0	0	0	11.2	19.6	1.8	32.7	
Cars	347	0	331	0	678	451	174	0	2	627	0	0	0	0	0	0	225	393	37	655	1960
% Cars	99.7	0	95.9	0	97.8	94	98.9	0	100	95.3	0	0	0	0	0	0	100	100	100	100	97.7
Trucks	1	0	0	0	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3
% Trucks	0.3	0	0	0	0.1	0.2	0.6	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0.1
Heavys	0	0	14	0	14	28	1	0	0	29	0	0	0	0	0	0	0	0	0	0	43
% Heavys	0	0	4.1	0	2	5.8	0.6	0	0	4.4	0	0	0	0	0	0	0	0	0	0	2.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Ring Road at North Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 2



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(416) 840-6619

Your Traffic Count Specialist

File Name : Ring Road at North Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 3

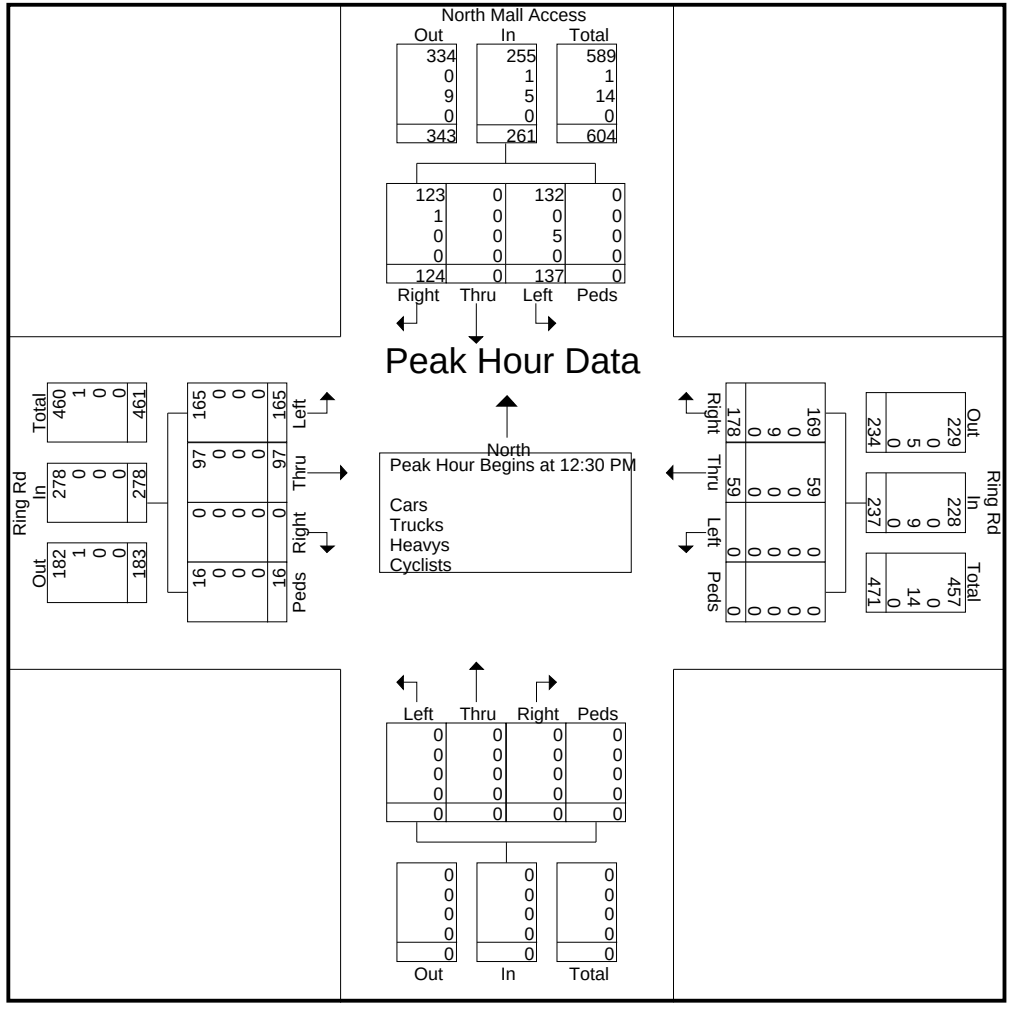
	North Mall Access From North					Ring Rd From East					From South					Ring Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:30 PM																					
12:30 PM	32	0	35	0	67	**49**	16	0	0	65	0	0	0	0	0	0	**34**	**64**	**9**	**107**	**239**
12:45 PM	26	0	32	0	58	43	15	0	0	58	0	0	0	0	0	0	20	26	5	51	167
01:00 PM	**33**	0	28	0	61	37	10	0	0	47	0	0	0	0	0	0	20	37	0	57	165
01:15 PM	33	0	**42**	0	**75**	49	**18**	0	0	**67**	0	0	0	0	0	0	23	38	2	63	205
Total Volume	124	0	137	0	261	178	59	0	0	237	0	0	0	0	0	0	97	165	16	278	776
% App. Total	47.5	0	52.5	0		75.1	24.9	0	0		0	0	0	0		0	34.9	59.4	5.8		
PHF	.939	.000	.815	.000	.870	.908	.819	.000	.000	.884	.000	.000	.000	.000	.000	.000	.713	.645	.444	.650	.812
Cars	123	0	132	0	255	169	59	0	0	228	0	0	0	0	0	0	97	165	16	278	761
% Cars	99.2	0	96.4	0	97.7	94.9	100	0	0	96.2	0	0	0	0	0	0	100	100	100	100	98.1
Trucks	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0.8	0	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Heavys	0	0	5	0	5	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	14
% Heavys	0	0	3.6	0	1.9	5.1	0	0	0	3.8	0	0	0	0	0	0	0	0	0	0	1.8
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Ring Road at North Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 4



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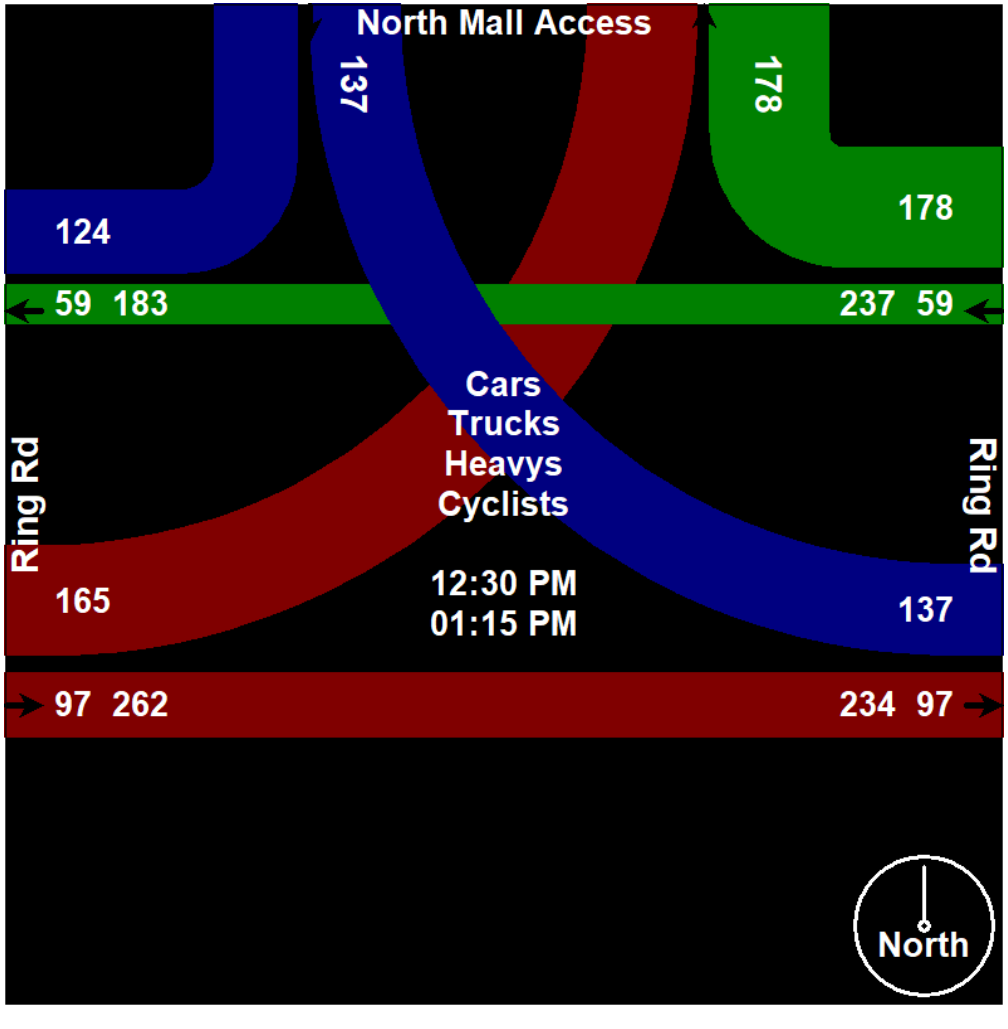
Your Traffic Count Specialist

File Name : Ring Road at North Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 5



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Your Traffic Count Specialist

File Name : Ring Road at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Ring Rd From North					From East					Ring Rd From South					West Mall Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	2	0	0	2	0	0	0	0	0	0	2	11	0	13	9	0	0	0	9	24
07:15 AM	1	1	0	0	2	0	0	0	0	0	0	0	6	0	6	8	0	1	0	9	17
07:30 AM	3	2	0	0	5	0	0	0	0	0	0	6	6	0	12	11	0	4	0	15	32
07:45 AM	4	3	0	1	8	0	0	0	0	0	0	2	8	0	10	21	0	16	0	37	55
Total	8	8	0	1	17	0	0	0	0	0	0	10	31	0	41	49	0	21	0	70	128
08:00 AM	52	9	0	1	62	0	0	0	0	0	0	11	33	0	44	24	0	55	0	79	185
08:15 AM	129	25	0	0	154	0	0	0	0	0	0	13	27	0	40	42	0	81	0	123	317
08:30 AM	13	4	0	1	18	0	0	0	0	0	0	5	9	1	15	21	0	14	1	36	69
08:45 AM	8	5	0	1	14	0	0	0	0	0	0	5	19	0	24	33	0	13	0	46	84
Total	202	43	0	3	248	0	0	0	0	0	0	34	88	1	123	120	0	163	1	284	655
09:00 AM	7	3	0	2	12	0	0	0	0	0	0	13	18	1	32	30	0	10	0	40	84
09:15 AM	13	5	0	3	21	0	0	0	0	0	0	5	19	0	24	29	0	17	2	48	93
09:30 AM	6	10	0	0	16	0	0	0	0	0	0	14	22	0	36	31	0	23	0	54	106
09:45 AM	18	10	0	0	28	0	0	0	0	0	0	12	25	3	40	45	0	35	1	81	149
Total	44	28	0	5	77	0	0	0	0	0	0	44	84	4	132	135	0	85	3	223	432
04:00 PM	33	27	0	3	63	0	0	0	0	0	0	15	48	0	63	61	0	27	0	88	214
04:15 PM	43	20	0	9	72	0	0	0	0	0	0	23	32	0	55	47	0	56	0	103	230
04:30 PM	38	24	0	2	64	0	0	0	0	0	0	21	31	4	56	49	0	21	0	70	190
04:45 PM	52	15	0	0	67	0	0	0	0	0	0	26	55	3	84	43	0	45	0	88	239
Total	166	86	0	14	266	0	0	0	0	0	0	85	166	7	258	200	0	149	0	349	873
05:00 PM	42	24	0	2	68	0	0	0	0	0	0	23	57	1	81	41	0	40	0	81	230
05:15 PM	36	28	0	2	66	0	0	0	0	0	0	20	44	2	66	60	0	30	1	91	223
05:30 PM	41	30	0	3	74	0	0	0	0	0	0	13	45	0	58	47	0	40	0	87	219
05:45 PM	57	22	0	6	85	0	0	0	0	0	0	24	53	2	79	59	0	43	0	102	266
Total	176	104	0	13	293	0	0	0	0	0	0	80	199	5	284	207	0	153	1	361	938
06:00 PM	47	16	0	6	69	0	0	0	0	0	0	29	52	2	83	46	0	35	2	83	235
06:15 PM	41	18	0	1	60	0	0	0	0	0	0	19	35	0	54	46	0	32	1	79	193
06:30 PM	40	25	0	2	67	0	0	0	0	0	0	10	47	1	58	50	0	35	0	85	210
06:45 PM	40	22	0	1	63	0	0	0	0	0	0	25	40	0	65	40	0	26	0	66	194
Total	168	81	0	10	259	0	0	0	0	0	0	83	174	3	260	182	0	128	3	313	832

Horizon Data Services Ltd

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Your Traffic Count Specialist

File Name : Ring Road at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Ring Rd From North					From East					Ring Rd From South					West Mall Access From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	764	350	0	46	1160	0	0	0	0	0	0	336	742	20	1098	893	0	699	8	1600	3858
Apprch %	65.9	30.2	0	4		0	0	0	0		0	30.6	67.6	1.8		55.8	0	43.7	0.5		
Total %	19.8	9.1	0	1.2	30.1	0	0	0	0	0	0	8.7	19.2	0.5	28.5	23.1	0	18.1	0.2	41.5	
Cars	760	349	0	46	1155	0	0	0	0	0	0	331	736	20	1087	890	0	695	8	1593	3835
% Cars	99.5	99.7	0	100	99.6	0	0	0	0	0	0	98.5	99.2	100	99	99.7	0	99.4	100	99.6	99.4
Trucks	4	1	0	0	5	0	0	0	0	0	0	4	3	0	7	2	0	3	0	5	17
% Trucks	0.5	0.3	0	0	0.4	0	0	0	0	0	0	1.2	0.4	0	0.6	0.2	0	0.4	0	0.3	0.4
Heavys	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0	1	0	2	4
% Heavys	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0.2	0.1	0	0.1	0	0.1	0.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0.3	0.1	0	0.2	0	0	0	0	0	0.1

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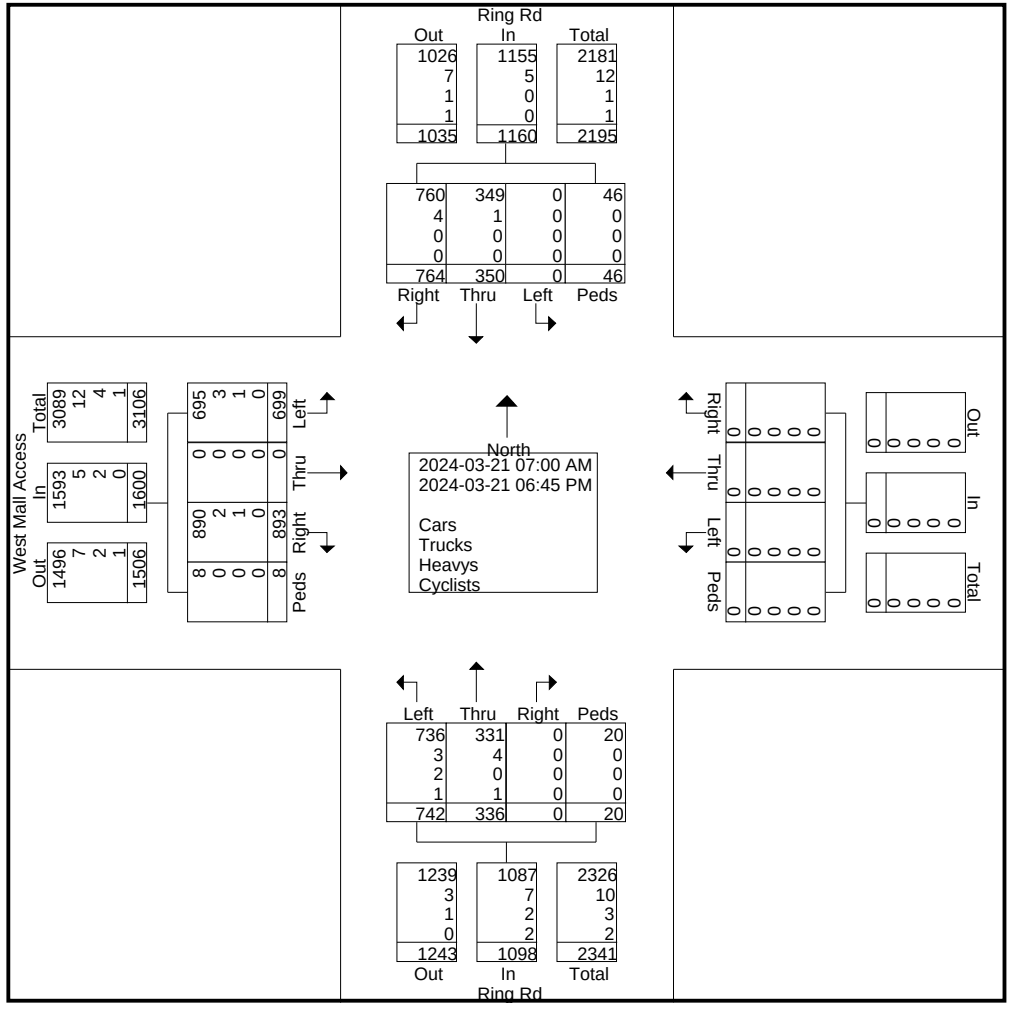
Your Traffic Count Specialist

File Name : Ring Road at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 3



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Your Traffic Count Specialist

File Name : Ring Road at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 4

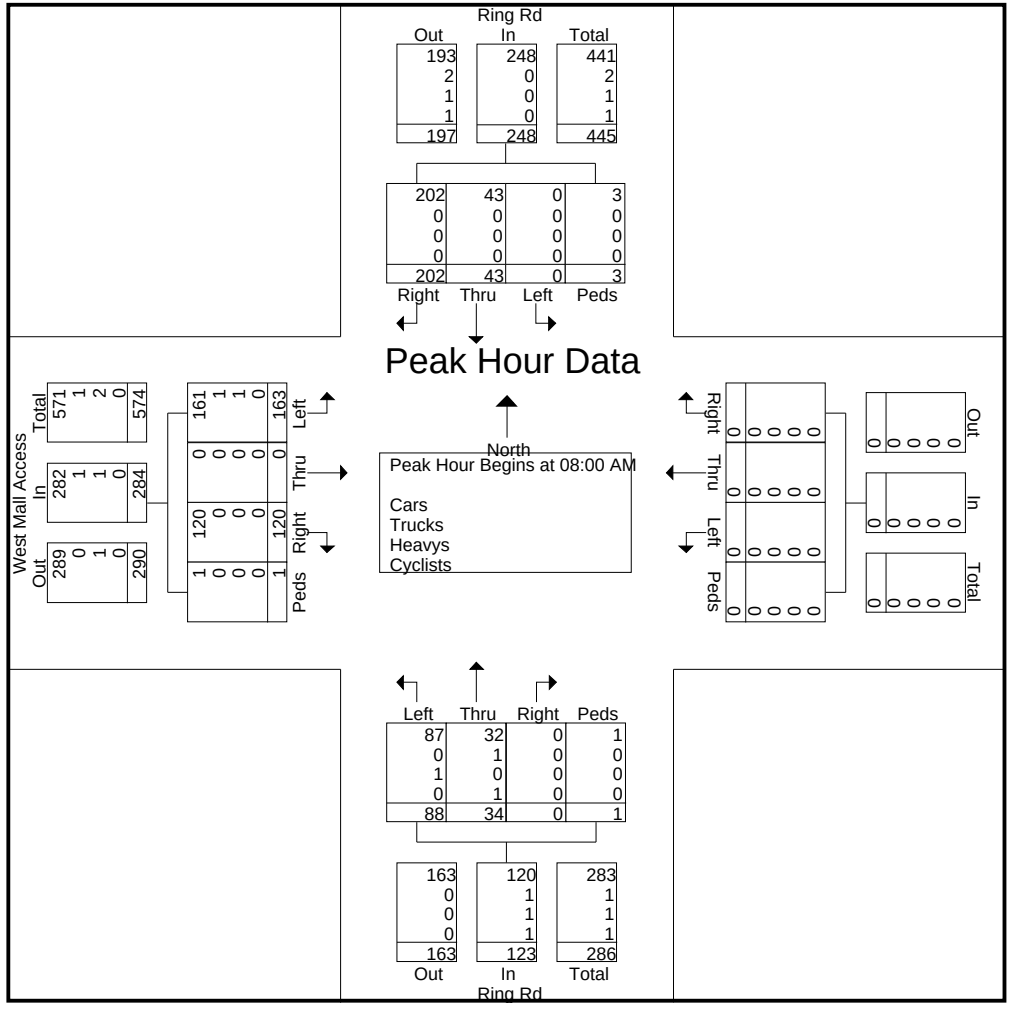
	Ring Rd From North					From East					Ring Rd From South					West Mall Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	52	9	0	**1**	62	0	0	0	0	0	0	11	**33**	0	**44**	24	0	55	0	79	185
08:15 AM	**129**	**25**	0	0	**154**	0	0	0	0	0	0	**13**	27	0	40	**42**	0	**81**	0	**123**	**317**
08:30 AM	13	4	0	1	18	0	0	0	0	0	0	5	9	**1**	15	21	0	14	**1**	36	69
08:45 AM	8	5	0	1	14	0	0	0	0	0	0	5	19	0	24	33	0	13	0	46	84
Total Volume	202	43	0	3	248	0	0	0	0	0	0	34	88	1	123	120	0	163	1	284	655
% App. Total	81.5	17.3	0	1.2		0	0	0	0		0	27.6	71.5	0.8		42.3	0	57.4	0.4		
PHF	.391	.430	.000	.750	.403	.000	.000	.000	.000	.000	.000	.654	.667	.250	.699	.714	.000	.503	.250	.577	.517
Cars	202	43	0	3	248	0	0	0	0	0	0	32	87	1	120	120	0	161	1	282	650
% Cars	100	100	0	100	100	0	0	0	0	0	0	94.1	98.9	100	97.6	100	0	98.8	100	99.3	99.2
Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
% Trucks	0	0	0	0	0	0	0	0	0	0	0	2.9	0	0	0.8	0	0	0.6	0	0.4	0.3
Heavys	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	2
% Heavys	0	0	0	0	0	0	0	0	0	0	0	0	1.1	0	0.8	0	0	0.6	0	0.4	0.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	2.9	0	0	0.8	0	0	0	0	0	0.2

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Ring Road at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 5



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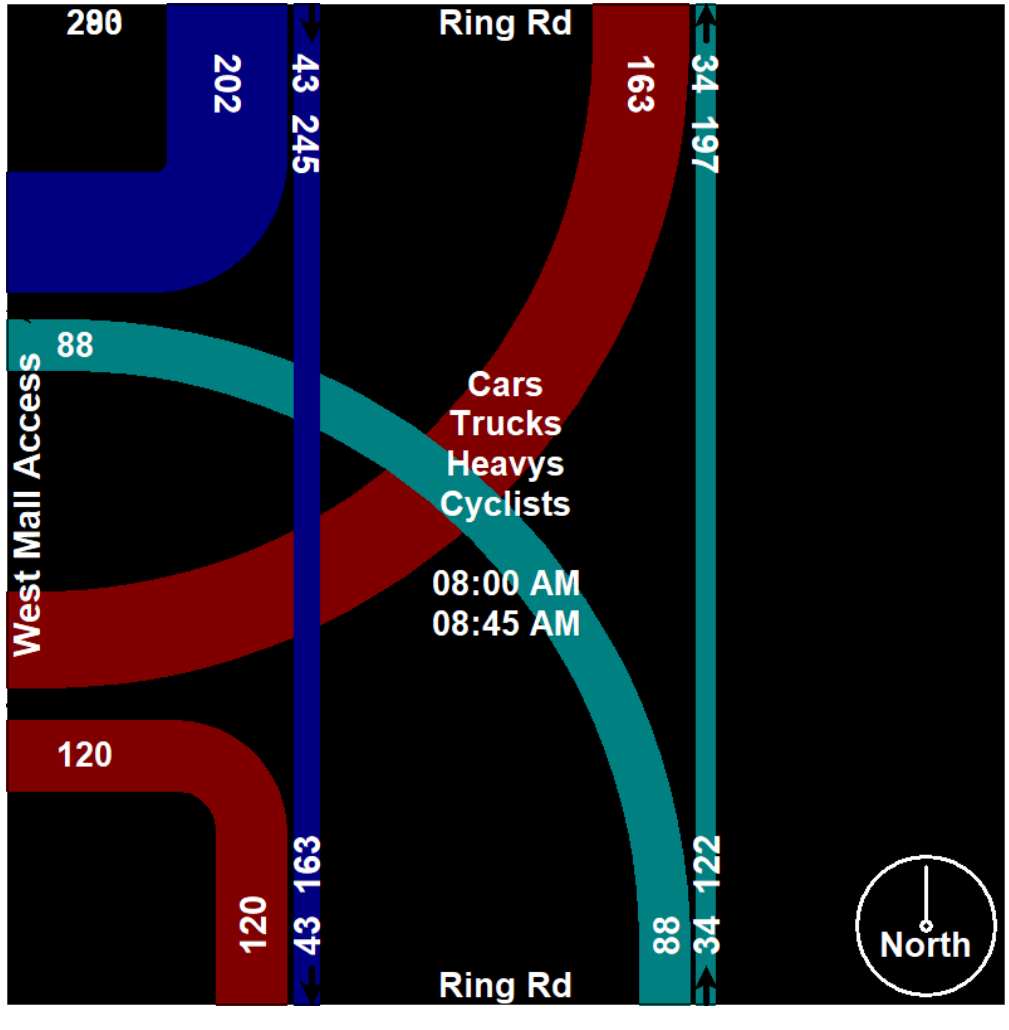
Your Traffic Count Specialist

File Name : Ring Road at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 6



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Your Traffic Count Specialist

File Name : Ring Road at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 7

	Ring Rd From North					From East					Ring Rd From South					West Mall Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	42	24	0	2	68	0	0	0	0	0	0	23	**57**	1	**81**	41	0	40	0	81	230
05:15 PM	36	28	0	2	66	0	0	0	0	0	0	20	44	**2**	66	**60**	0	30	**1**	91	223
05:30 PM	41	**30**	0	3	74	0	0	0	0	0	0	13	45	0	58	47	0	40	0	87	219
05:45 PM	**57**	22	0	**6**	**85**	0	0	0	0	0	0	**24**	53	2	79	59	0	**43**	0	**102**	**266**
Total Volume	176	104	0	13	293	0	0	0	0	0	0	80	199	5	284	207	0	153	1	361	938
% App. Total	60.1	35.5	0	4.4		0	0	0	0		0	28.2	70.1	1.8		57.3	0	42.4	0.3		
PHF	.772	.867	.000	.542	.862	.000	.000	.000	.000	.000	.000	.833	.873	.625	.877	.863	.000	.890	.250	.885	.882
Cars	176	104	0	13	293	0	0	0	0	0	0	80	198	5	283	207	0	153	1	361	937
% Cars	100	100	0	100	100	0	0	0	0	0	0	100	99.5	100	99.6	100	0	100	100	100	99.9
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0.4	0	0	0	0	0	0.1
Heavys	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavys	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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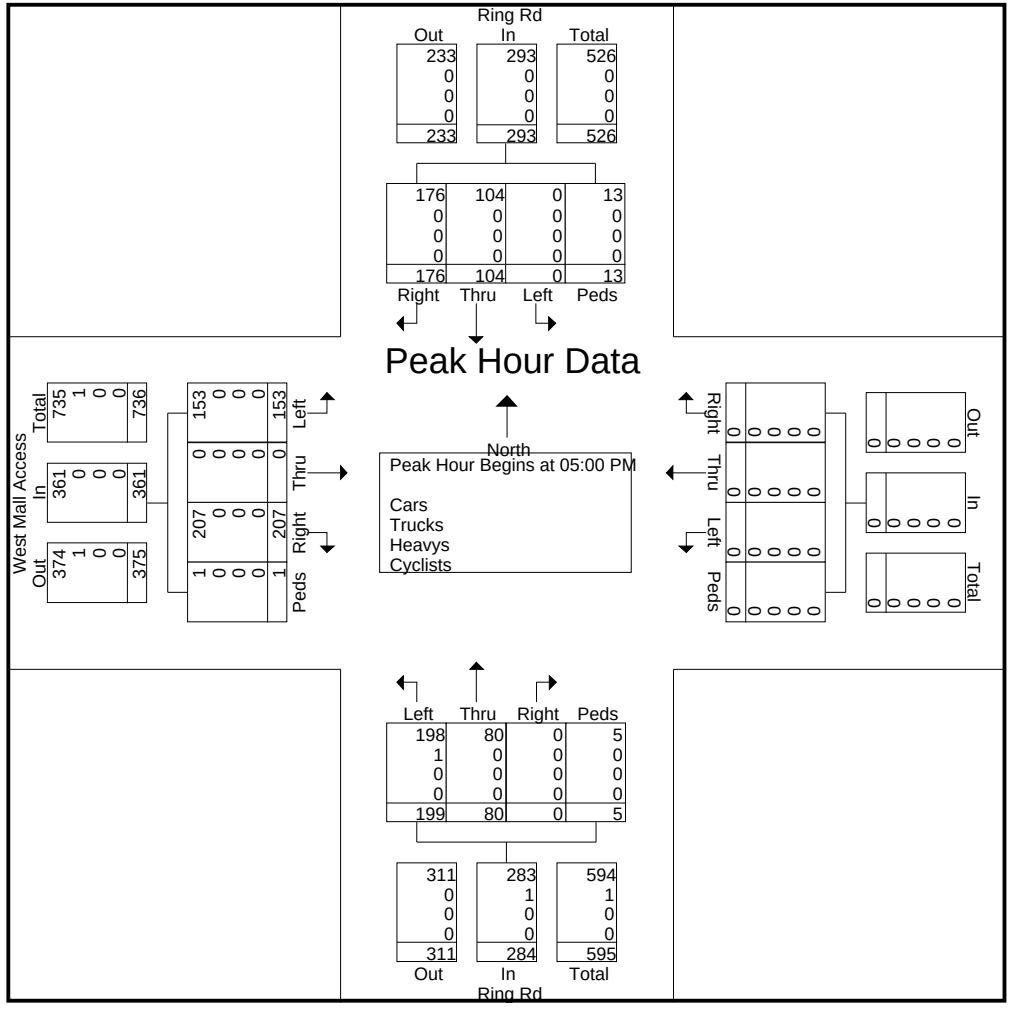
Your Traffic Count Specialist

File Name : Ring Road at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 8



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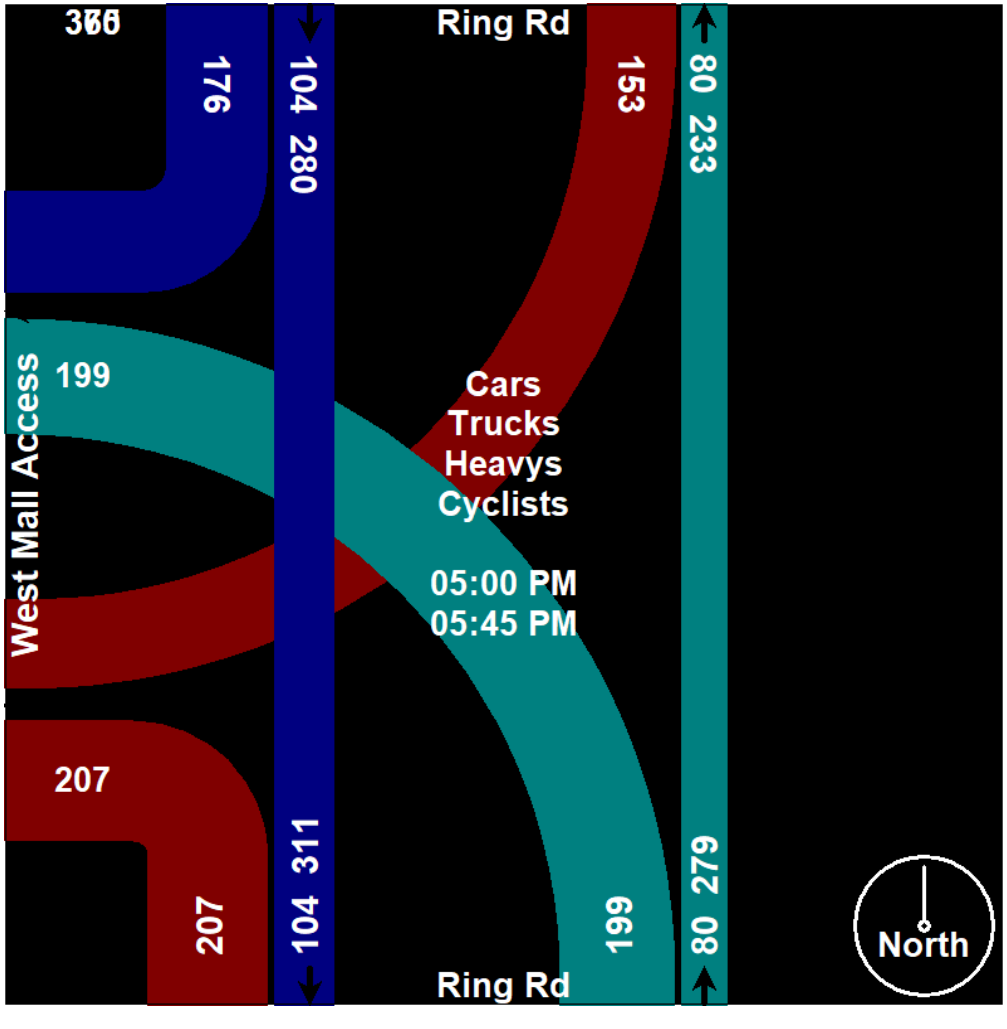
Your Traffic Count Specialist

File Name : Ring Road at West Mall Access
Site Code : 00000000
Start Date : 2024-03-21
Page No : 9



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Your Traffic Count Specialist

File Name : Ring Road at West Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

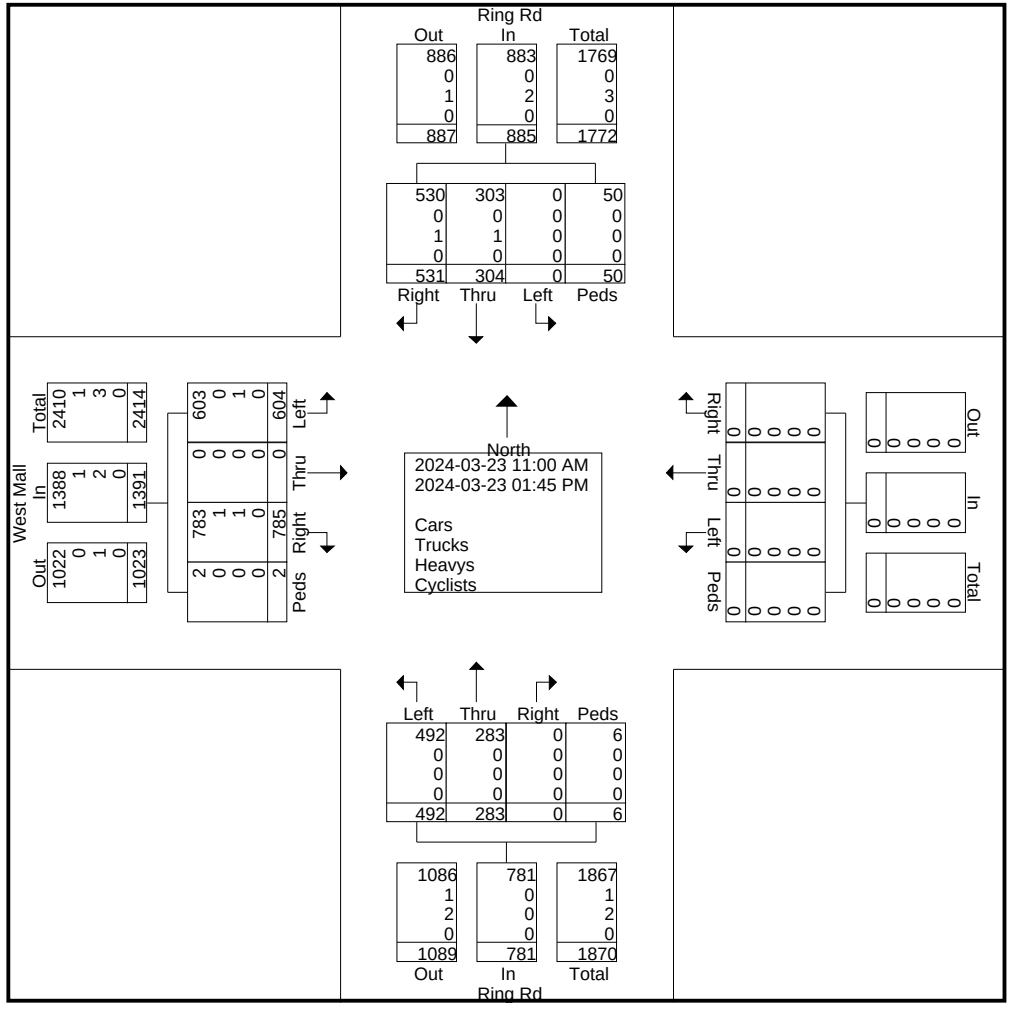
	Ring Rd From North					From East					Ring Rd From South					West Mall From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	32	20	0	10	62	0	0	0	0	0	0	15	35	2	52	55	0	31	1	87	201
11:15 AM	36	15	0	9	60	0	0	0	0	0	0	20	37	0	57	48	0	42	0	90	207
11:30 AM	33	28	0	2	63	0	0	0	0	0	0	13	30	0	43	59	0	46	0	105	211
11:45 AM	41	20	0	3	64	0	0	0	0	0	0	33	44	0	77	73	0	51	0	124	265
Total	142	83	0	24	249	0	0	0	0	0	0	81	146	2	229	235	0	170	1	406	884
12:00 PM	41	23	0	4	68	0	0	0	0	0	0	23	34	0	57	63	0	46	0	109	234
12:15 PM	32	20	0	1	53	0	0	0	0	0	0	23	45	0	68	77	0	63	1	141	262
12:30 PM	79	28	0	3	110	0	0	0	0	0	0	24	49	0	73	81	0	57	0	138	321
12:45 PM	48	33	0	4	85	0	0	0	0	0	0	19	40	0	59	63	0	56	0	119	263
Total	200	104	0	12	316	0	0	0	0	0	0	89	168	0	257	284	0	222	1	507	1080
01:00 PM	40	26	0	2	68	0	0	0	0	0	0	23	42	1	66	69	0	53	0	122	256
01:15 PM	54	32	0	2	88	0	0	0	0	0	0	23	33	2	58	47	0	49	0	96	242
01:30 PM	53	25	0	4	82	0	0	0	0	0	0	33	52	0	85	67	0	46	0	113	280
01:45 PM	42	34	0	6	82	0	0	0	0	0	0	34	51	1	86	83	0	64	0	147	315
Total	189	117	0	14	320	0	0	0	0	0	0	113	178	4	295	266	0	212	0	478	1093
Grand Total	531	304	0	50	885	0	0	0	0	0	0	283	492	6	781	785	0	604	2	1391	3057
Apprch %	60	34.4	0	5.6		0	0	0	0		0	36.2	63	0.8		56.4	0	43.4	0.1		
Total %	17.4	9.9	0	1.6	28.9	0	0	0	0	0	0	9.3	16.1	0.2	25.5	25.7	0	19.8	0.1	45.5	
Cars	530	303	0	50	883	0	0	0	0	0	0	283	492	6	781	783	0	603	2	1388	3052
% Cars	99.8	99.7	0	100	99.8	0	0	0	0	0	0	100	100	100	100	99.7	0	99.8	100	99.8	99.8
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0
Heavys	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	4
% Heavys	0.2	0.3	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.1	0	0.2	0	0.1	0.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Ring Road at West Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 2



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Your Traffic Count Specialist

File Name : Ring Road at West Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 3

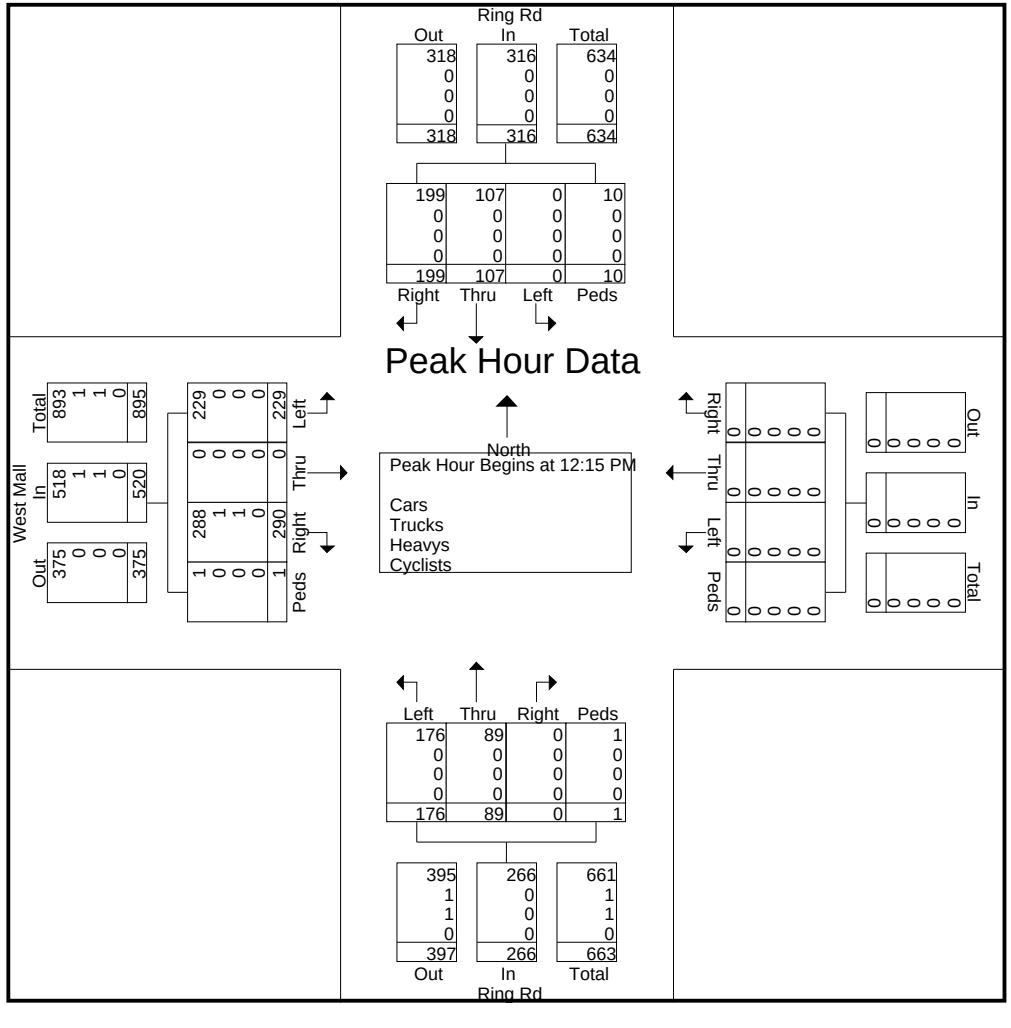
	Ring Rd From North					From East					Ring Rd From South					West Mall From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:15 PM																					
12:15 PM	32	20	0	1	53	0	0	0	0	0	0	23	45	0	68	77	0	**63**	**1**	**141**	262
12:30 PM	**79**	28	0	3	**110**	0	0	0	0	0	0	**24**	**49**	0	**73**	**81**	0	57	0	138	**321**
12:45 PM	48	**33**	0	**4**	85	0	0	0	0	0	0	19	40	0	59	63	0	56	0	119	263
01:00 PM	40	26	0	2	68	0	0	0	0	0	0	23	42	**1**	66	69	0	53	0	122	256
Total Volume	199	107	0	10	316	0	0	0	0	0	0	89	176	1	266	290	0	229	1	520	1102
% App. Total	63	33.9	0	3.2		0	0	0	0		0	33.5	66.2	0.4		55.8	0	44	0.2		
PHF	.630	.811	.000	.625	.718	.000	.000	.000	.000	.000	.000	.927	.898	.250	.911	.895	.000	.909	.250	.922	.858
Cars	199	107	0	10	316	0	0	0	0	0	0	89	176	1	266	288	0	229	1	518	1100
% Cars	100	100	0	100	100	0	0	0	0	0	0	100	100	100	100	99.3	0	100	100	99.6	99.8
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0.2	0.1
Heavys	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% Heavys	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0.2	0.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Ring Road at West Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 4



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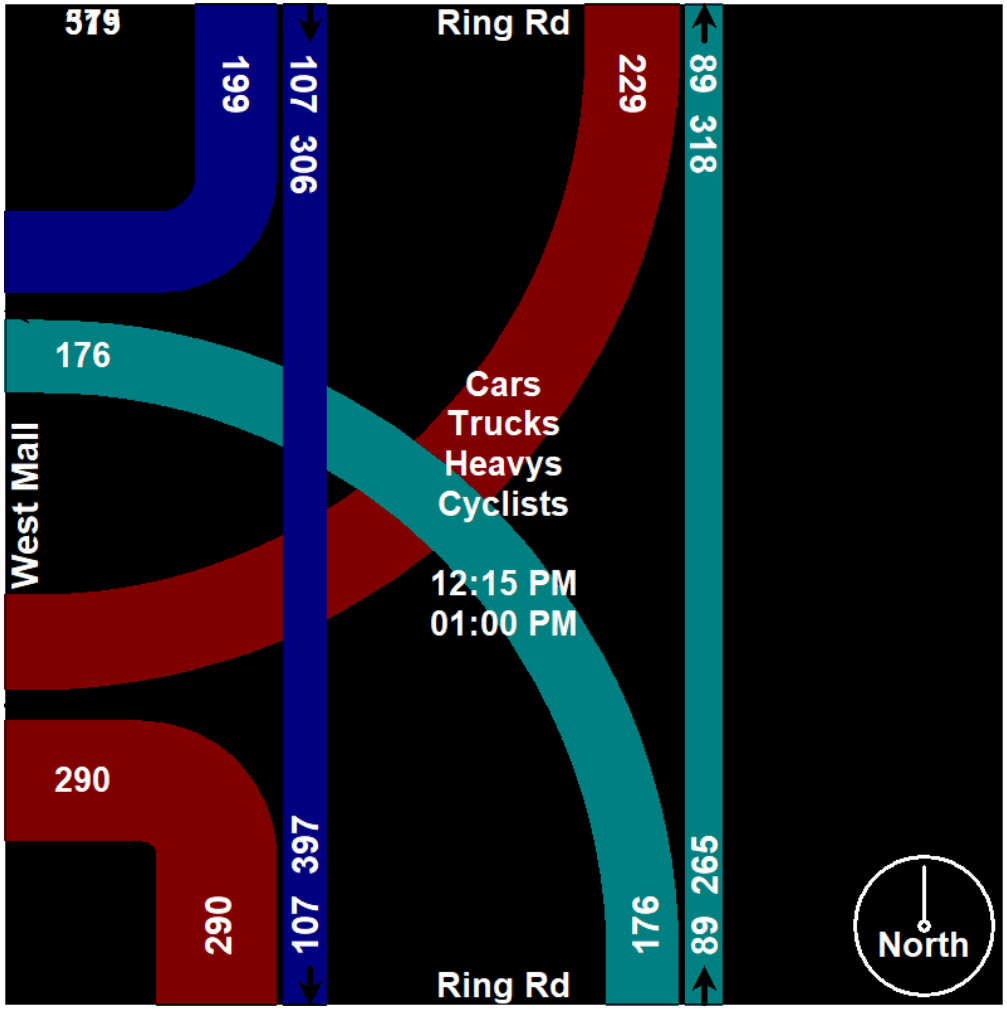
(416) 840-6619

Your Traffic Count Specialist

File Name : Ring Road at West Mall Access-SAT
Site Code : 00000000
Start Date : 2024-03-23
Page No : 5



Location:	Erin Mills Town Centre
Count Date:	March 21 2024
Count Times	0700 to 1000 and 1600 to 1900

AM Period

Time			Driveway A				Driveway B				Driveway C		
			Right-in	Left-in	Right-out	Left-out	Right-in	Left-in	Right-out	Left-out	Ins	Out	
07:00	-	7:15	0	0	0	0	0	0	1	1	0	0	
07:15	-	7:30	0	1	1	0	0	0	0	0	0	0	
07:30	-	7:45	0	0	0	0	2	0	0	0	1	0	hour
07:45	-	8:00	0	1	2	0	1	3	1	1	0	0	16
08:00	-	8:15	0	2	2	1	1	2	2	2	4	2	32
08:15	-	8:30	0	6	2	0	0	5	8	1	8	4	64
08:30	-	8:45	0	0	0	0	1	0	0	1	0	0	63
08:45	-	9:00	1	3	1	0	2	0	0	0	3	3	67
09.00	-	0:15	0	7	4	0	0	3	0	2	8	1	74
09:15	-	9:30	0	6	7	0	3	4	3	0	1	0	64
09:30	-	9:45	0	9	3	0	4	5	1	3	10	6	103
09:45	-	10:00	0	11	8	0	5	4	5	5	10	3	141
		peak	0	33	22	0	12	16	9	10	29	10	

PM Period

Time			Driveway A				Driveway B				Driveway C		
			Right-in	Left-in	Right-out	Left-out	Right-in	Left-in	Right-out	Left-out	Ins	Out	
16:00	-	16:15	0	6	22	1	2	13	12	7	16	8	
16:15	-	16:30	1	28	22	6	7	17	12	9	12	7	
16:30	-	16:45	0	12	21	4	6	9	10	5	15	8	hour
16:45	-	17:00	2	17	33	4	6	20	10	8	20	6	424
17:00	-	17:15	2	11	26	4	8	14	10	10	15	16	453
17:15	-	17:30	0	11	25	7	8	12	8	9	14	7	433
17:30	-	17:45	3	13	23	1	3	7	12	3	15	8	431
17:45	-	18:00	0	14	31	2	10	23	13	4	17	13	432
18:00	-	18:15	1	13	26	5	4	19	9	9	10	8	420
18:15	-	18:30	1	18	25	6	6	9	7	10	15	6	422
18:30	-	18:45	2	10	16	4	3	14	11	5	19	6	424
18:45	-	19:00	0	11	22	5	7	13	13	9	15	10	402
		peak	5	68	102	18	27	60	42	32	62	37	

Location:	**Erin Mills Town Centre**
Count Date:	**March 23 2024**
Count Times	**1100 to 1400**

Saturday Period

Time			Driveway A				Driveway B				Driveway C		
			Right-in	Left-in	Right-out	Left-out	Right-in	Left-in	Right-out	Left-out	Ins	Out	
11:00	-	11:15	0	14	19	1	3	10	9	8	19	6	
11:15	-	11:30	3	17	19	3	6	7	9	5	6	5	
11:30	-	11:45	1	12	22	2	8	14	10	5	12	6	hour
11:45	-	12:00	1	18	20	2	8	18	10	9	14	2	363
12:00	-	12:15	1	14	24	5	10	13	9	4	12	4	370
12:15	-	12:30	2	15	17	0	12	12	11	6	18	5	388
12:30	-	12:45	3	25	26	5	13	8	8	7	20	12	423
12:45	-	13:00	0	20	34	5	12	17	15	6	21	7	458
13:00	-	13:15	0	24	23	4	9	15	14	15	25	13	504
13:15	-	13:30	1	22	37	6	14	22	7	12	24	12	563
13:30	-	13:45	0	26	32	10	8	11	17	17	22	9	588
13:45		14:00	1	17	32	10	12	22	12	11	21	10	599
		peak	2	89	124	30	43	70	50	55	92	44	

APPENDIX

C EXISTING TRAFFIC CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	274	178	102	151	159	68	892	71	184	1465	55
Future Volume (vph)	97	274	178	102	151	159	68	892	71	184	1465	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		1.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1779	3281		1797	1881	1494	1805	4945		1769	4935	
Flt Permitted	0.65	1.00		0.32	1.00	1.00	0.07	1.00		0.20	1.00	
Satd. Flow (perm)	1223	3281		606	1881	1494	134	4945		364	4935	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	298	193	111	164	173	74	970	77	200	1592	60
RTOR Reduction (vph)	0	71	0	0	0	106	0	5	0	0	2	0
Lane Group Flow (vph)	105	420	0	111	164	67	74	1042	0	200	1650	0
Confl. Peds. (#/hr)	19		37	37		19	26		12	12		26
Heavy Vehicles (%)	0%	2%	0%	0%	1%	4%	0%	2%	6%	2%	3%	4%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	43.7	43.7		59.9	59.9	59.9	81.5	72.9		83.7	74.0	
Effective Green, g (s)	46.2	46.2		61.9	62.4	62.4	85.5	74.9		87.6	76.0	
Actuated g/C Ratio	0.29	0.29		0.39	0.39	0.39	0.53	0.47		0.55	0.48	
Clearance Time (s)	7.5	7.5		3.0	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	353	947		347	733	582	182	2314		302	2344	
v/s Ratio Prot		c0.13		c0.03	0.09		0.03	0.21		c0.05	c0.33	
v/s Ratio Perm	0.09			0.09		0.05	0.19			0.31		
v/c Ratio	0.30	0.44		0.32	0.22	0.12	0.41	0.45		0.66	0.70	
Uniform Delay, d1	44.3	46.4		32.9	32.6	31.2	23.9	28.7		20.4	33.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	2.48	1.11		1.00	1.00	
Incremental Delay, d2	0.5	0.3		0.5	0.2	0.1	1.3	0.6		5.4	1.8	
Delay (s)	44.7	46.7		33.4	32.8	31.3	60.4	32.3		25.8	34.9	
Level of Service	D	D		C	C	C	E	C		C	C	
Approach Delay (s)		46.4			32.3			34.1			33.9	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
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 (vph)	13	381	136	36	263	29	115	69	68	44	79	37
Future Volume (vph)	13	381	136	36	263	29	115	69	68	44	79	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	0.98	1.00		0.97	1.00		0.99	1.00	1.00	0.99	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1763	3274		1748	3459		1768	1863	1583	1740	1795	
Flt Permitted	0.56	1.00		0.43	1.00		0.66	1.00	1.00	0.71	1.00	
Satd. Flow (perm)	1038	3274		791	3459		1220	1863	1583	1297	1795	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	414	148	39	286	32	125	75	74	48	86	40
RTOR Reduction (vph)	0	24	0	0	6	0	0	0	56	0	21	0
Lane Group Flow (vph)	14	538	0	39	312	0	125	75	18	48	105	0
Confl. Peds. (#/hr)	28		55	55		28	16		10	10		16
Heavy Vehicles (%)	0%	3%	3%	0%	2%	0%	1%	2%	0%	3%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	64.1	64.1		64.1	64.1		22.4	22.4	22.4	22.4	22.4	
Effective Green, g (s)	66.1	66.1		66.1	66.1		23.9	23.9	23.9	23.9	23.9	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.24	0.24	0.24	0.24	0.24	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	686	2164		522	2286		291	445	378	309	429	
v/s Ratio Prot		c0.16			0.09			0.04			0.06	
v/s Ratio Perm	0.01			0.05			c0.10		0.01	0.04		
v/c Ratio	0.02	0.25		0.07	0.14		0.43	0.17	0.05	0.16	0.24	
Uniform Delay, d1	5.8	6.9		6.0	6.3		32.3	30.2	29.3	30.1	30.7	
Progression Factor	1.00	1.00		0.69	0.69		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.3	0.1		1.0	0.2	0.1	0.2	0.3	
Delay (s)	5.9	7.2		4.5	4.5		33.3	30.4	29.3	30.3	31.0	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		7.1			4.5			31.4			30.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
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 (vph)	74	363	95	71	242	177	42	311	52	158	634	105
Future Volume (vph)	74	363	95	71	242	177	42	311	52	158	634	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00		0.99	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1716	3440		1694	3228		1770	3395		1767	3464	
Flt Permitted	0.42	1.00		0.39	1.00		0.35	1.00		0.48	1.00	
Satd. Flow (perm)	766	3440		700	3228		649	3395		892	3464	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	395	103	77	263	192	46	338	57	172	689	114
RTOR Reduction (vph)	0	26	0	0	123	0	0	12	0	0	12	0
Lane Group Flow (vph)	80	472	0	77	332	0	46	383	0	172	791	0
Confl. Peds. (#/hr)	54		15	15		54	70		6	6		70
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	3%	1%	0%	6%	2%	2%	0%	3%	4%	2%	1%	1%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	34.0	34.0		34.0	34.0		41.7	41.7		52.5	52.5	
Effective Green, g (s)	36.0	36.0		36.0	36.0		43.2	43.2		54.5	54.0	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.43	0.43		0.54	0.54	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		3.0	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	275	1238		252	1162		280	1466		571	1870	
v/s Ratio Prot		c0.14			0.10			0.11		0.03	c0.23	
v/s Ratio Perm	0.10			0.11			0.07			0.13		
v/c Ratio	0.29	0.38		0.31	0.29		0.16	0.26		0.30	0.42	
Uniform Delay, d1	22.9	23.7		23.0	22.8		17.4	18.2		11.5	13.7	
Progression Factor	0.81	0.84		1.00	1.00		0.83	0.84		1.00	1.00	
Incremental Delay, d2	0.6	0.2		0.7	0.1		1.3	0.4		0.3	0.7	
Delay (s)	19.1	20.2		23.7	23.0		15.7	15.7		11.8	14.4	
Level of Service	B	C		C	C		B	B		B	B	
Approach Delay (s)		20.0			23.1			15.7			14.0	
Approach LOS		C			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.41			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	92.8%	ICU Level of Service	F	
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 (vph)	147	421	53	62	255	284	35	63	90	25	6	8
Future Volume (vph)	147	421	53	62	255	284	35	63	90	25	6	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99			1.00	0.99		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	0.85	1.00	0.92			1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.98	1.00		0.97	
Satd. Flow (prot)	1799	3505	1501	1717	3231			1720	1503		3374	
Flt Permitted	0.43	1.00	1.00	0.49	1.00			0.87	1.00		0.78	
Satd. Flow (perm)	816	3505	1501	882	3231			1527	1503		2718	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	160	458	58	67	277	309	38	68	98	27	7	9
RTOR Reduction (vph)	0	0	20	0	107	0	0	0	78	0	7	0
Lane Group Flow (vph)	160	458	38	67	479	0	0	106	20	0	36	0
Confl. Peds. (#/hr)	8		5	5		8	14		3	3		14
Heavy Vehicles (%)	0%	3%	6%	5%	3%	0%	23%	0%	6%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	43.4	43.4	43.4	43.4	43.4			12.1	12.1		12.1	
Effective Green, g (s)	45.4	45.4	45.4	45.4	45.4			14.1	14.1		14.1	
Actuated g/C Ratio	0.65	0.65	0.65	0.65	0.65			0.20	0.20		0.20	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	533	2289	980	576	2110			309	304		551	
v/s Ratio Prot		0.13			0.15							
v/s Ratio Perm	c0.20		0.03	0.08				c0.07	0.01		0.01	
v/c Ratio	0.30	0.20	0.04	0.12	0.23			0.34	0.07		0.07	
Uniform Delay, d1	5.2	4.8	4.3	4.5	4.9			23.7	22.4		22.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	1.4	0.2	0.1	0.4	0.3			0.7	0.1		0.0	
Delay (s)	6.6	5.0	4.4	4.9	5.2			24.4	22.5		22.4	
Level of Service	A	A	A	A	A			C	C		C	
Approach Delay (s)		5.3			5.1			23.5			22.4	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.31			
Actuated Cycle Length (s)	69.5	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	70.8%	ICU Level of Service	C	
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 (vph)	199	147	210	60	119	50	119	1092	31	44	1403	304
Future Volume (vph)	199	147	210	60	119	50	119	1092	31	44	1403	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.97	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)	1716	1902	1526	1744	1883	1488	1767	5092	1498	1667	5092	1514
Flt Permitted	0.62	1.00	1.00	0.66	1.00	1.00	0.13	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	1117	1902	1526	1218	1883	1488	236	5092	1498	437	5092	1514
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)	199	147	210	60	119	50	119	1092	31	44	1403	304
RTOR Reduction (vph)	0	0	104	0	0	41	0	0	12	0	0	141
Lane Group Flow (vph)	199	147	106	60	119	9	119	1092	19	44	1403	163
Confl. Peds. (#/hr)	17		4	4		17	4		2	2		4
Heavy Vehicles (%)	3%	1%	3%	2%	2%	4%	1%	3%	4%	7%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	45.8	45.8	45.8	29.8	29.8	29.8	97.6	97.6	97.6	85.6	85.6	85.6
Effective Green, g (s)	45.8	45.8	45.8	29.8	29.8	29.8	97.6	97.6	97.6	85.6	85.6	85.6
Actuated g/C Ratio	0.29	0.29	0.29	0.19	0.19	0.19	0.61	0.61	0.61	0.53	0.53	0.53
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	368	544	436	226	350	277	230	3106	913	233	2724	809
v/s Ratio Prot	c0.04	0.08			0.06		c0.03	0.21			0.28	
v/s Ratio Perm	c0.11		0.07	0.05		0.01	c0.29		0.01	0.10		0.11
v/c Ratio	0.54	0.27	0.24	0.27	0.34	0.03	0.52	0.35	0.02	0.19	0.52	0.20
Uniform Delay, d1	46.5	44.2	43.8	55.7	56.6	53.3	16.3	15.5	12.3	19.2	23.9	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.96	0.16	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.3	0.3	0.6	0.6	0.0	1.9	0.3	0.0	1.8	0.7	0.6
Delay (s)	48.1	44.4	44.1	56.4	57.1	53.4	33.9	2.8	12.4	21.0	24.6	19.9
Level of Service	D	D	D	E	E	D	C	A	B	C	C	B
Approach Delay (s)		45.6			56.1			6.0			23.7	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	6.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	231	263	158	221
Demand Flow Rate, veh/h	232	274	159	223
Vehicles Circulating, veh/h	258	127	270	241
Vehicles Exiting, veh/h	206	302	220	160
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	3	12	7	8
Ped Cap Adj	1.000	0.998	0.999	0.999
Approach Delay, s/veh	7.0	6.6	6.1	6.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	232	274	159	223
Cap Entry Lane, veh/h	873	995	863	888
Entry HV Adj Factor	0.996	0.958	0.994	0.990
Flow Entry, veh/h	231	263	158	221
Cap Entry, veh/h	869	952	856	878
V/C Ratio	0.266	0.276	0.185	0.251
Control Delay, s/veh	7.0	6.6	6.1	6.7
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	109	54	57	140	93	70	273	78	93	581	77
Future Volume (vph)	45	109	54	57	140	93	70	273	78	93	581	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1701	3381		1789	1881	1575	1796	3471	1501	1770	3539	1545
Flt Permitted	0.60	1.00		0.64	1.00	1.00	0.40	1.00	1.00	0.57	1.00	1.00
Satd. Flow (perm)	1082	3381		1205	1881	1575	748	3471	1501	1063	3539	1545
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	118	59	62	152	101	76	297	85	101	632	84
RTOR Reduction (vph)	0	45	0	0	0	77	0	0	29	0	0	28
Lane Group Flow (vph)	49	132	0	62	152	24	76	297	56	101	632	56
Confl. Peds. (#/hr)	16		14	14		16	13		32	32		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	5%	0%	2%	0%	1%	0%	0%	4%	2%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	21.8	21.8		21.8	21.8	21.8	64.7	64.7	64.7	64.7	64.7	64.7
Effective Green, g (s)	23.8	23.8		23.8	23.8	23.8	66.2	66.2	66.2	66.2	66.2	66.2
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.66	0.66	0.66	0.66	0.66	0.66
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	804		286	447	374	495	2297	993	703	2342	1022
v/s Ratio Prot		0.04			c0.08			0.09			c0.18	
v/s Ratio Perm	0.05			0.05		0.02	0.10		0.04	0.10		0.04
v/c Ratio	0.19	0.16		0.22	0.34	0.06	0.15	0.13	0.06	0.14	0.27	0.05
Uniform Delay, d1	30.4	30.2		30.6	31.6	29.5	6.4	6.2	5.9	6.3	7.0	5.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.65	0.64	0.26
Incremental Delay, d2	0.4	0.1		0.4	0.5	0.1	0.7	0.1	0.1	0.4	0.3	0.1
Delay (s)	30.8	30.3		31.0	32.0	29.6	7.0	6.4	6.0	4.5	4.7	1.6
Level of Service	C	C		C	C	C	A	A	A	A	A	A
Approach Delay (s)		30.4			31.0			6.4			4.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	47	79	1209	1601	77
Future Volume (vph)	0	47	79	1209	1601	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.99	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1418	1653	5092	5092	1446
Flt Permitted		1.00	0.13	1.00	1.00	1.00
Satd. Flow (perm)		1418	226	5092	5092	1446
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	47	79	1209	1601	77
RTOR Reduction (vph)	0	44	0	0	0	16
Lane Group Flow (vph)	0	3	79	1209	1601	61
Confl. Peds. (#/hr)	3	1	8			8
Heavy Vehicles (%)	2%	13%	8%	3%	3%	8%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		9.4	136.4	136.4	125.3	125.3
Effective Green, g (s)		9.4	136.4	136.4	125.3	125.3
Actuated g/C Ratio		0.06	0.85	0.85	0.78	0.78
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		83	264	4340	3987	1132
v/s Ratio Prot			c0.02	0.24	c0.31	
v/s Ratio Perm		c0.00	0.24			0.04
v/c Ratio		0.03	0.30	0.28	0.40	0.05
Uniform Delay, d1		71.0	2.7	2.3	5.5	3.9
Progression Factor		1.00	1.43	0.62	0.56	0.27
Incremental Delay, d2		0.2	0.6	0.1	0.3	0.1
Delay (s)		71.2	4.4	1.6	3.3	1.1
Level of Service		E	A	A	A	A
Approach Delay (s)	71.2			1.7	3.2	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
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 (vph)	104	720	248	174	420	95	140	847	214	250	1354	132
Future Volume (vph)	104	720	248	174	420	95	140	847	214	250	1354	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	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	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)	3502	3539	1557	3273	3505	1483	3335	4855		3433	4905	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3539	1557	3273	3505	1483	3335	4855		3433	4905	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	783	270	189	457	103	152	921	233	272	1472	143
RTOR Reduction (vph)	0	0	103	0	0	72	0	25	0	0	6	0
Lane Group Flow (vph)	113	783	167	189	457	31	152	1129	0	272	1609	0
Confl. Peds. (#/hr)	22		13	13		22	16		14	14		16
Heavy Vehicles (%)	0%	2%	1%	7%	3%	2%	5%	2%	1%	2%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	10.5	41.7	41.7	14.0	45.2	45.2	12.6	63.8		15.5	66.7	
Effective Green, g (s)	10.5	44.2	44.2	14.0	47.7	47.7	12.6	66.3		15.5	69.2	
Actuated g/C Ratio	0.07	0.28	0.28	0.09	0.30	0.30	0.08	0.41		0.10	0.43	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	229	977	430	286	1044	442	262	2011		332	2121	
v/s Ratio Prot	0.03	c0.22		c0.06	c0.13		0.05	0.23		c0.08	c0.33	
v/s Ratio Perm			0.11			0.02						
v/c Ratio	0.49	0.80	0.39	0.66	0.44	0.07	0.58	0.56		0.82	0.76	
Uniform Delay, d1	72.2	53.8	46.9	70.7	45.3	40.2	71.1	35.8		70.9	38.3	
Progression Factor	1.00	1.00	1.00	0.81	1.25	3.81	1.00	1.00		1.17	0.84	
Incremental Delay, d2	1.7	4.8	0.6	5.6	0.3	0.1	3.2	1.1		11.3	2.0	
Delay (s)	73.9	58.6	47.5	63.2	57.1	153.3	74.4	36.9		94.0	34.0	
Level of Service	E	E	D	E	E	F	E	D		F	C	
Approach Delay (s)		57.5			71.8			41.3			42.7	
Approach LOS		E			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	50.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	91.0%	ICU Level of Service	E	
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 (vph)	35	1119	19	51	598	37	16	31	83	93	34	51
Future Volume (vph)	35	1119	19	51	598	37	16	31	83	93	34	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1783	5018		1764	4976		1793	1670		1760	1845	1554
Flt Permitted	0.37	1.00		0.20	1.00		0.73	1.00		0.54	1.00	1.00
Satd. Flow (perm)	698	5018		366	4976		1384	1670		1000	1845	1554
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	1216	21	55	650	40	17	34	90	101	37	55
RTOR Reduction (vph)	0	1	0	0	3	0	0	71	0	0	0	47
Lane Group Flow (vph)	38	1236	0	55	687	0	17	53	0	101	37	8
Confl. Peds. (#/hr)	12		8	8		12	6		6	6		6
Heavy Vehicles (%)	0%	2%	6%	2%	2%	3%	0%	0%	0%	2%	3%	2%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	115.7	115.7		115.7	115.7		22.2	22.2		22.2	22.2	22.2
Effective Green, g (s)	117.7	117.7		117.7	117.7		24.7	24.7		24.7	24.7	24.7
Actuated g/C Ratio	0.74	0.74		0.74	0.74		0.15	0.15		0.15	0.15	0.15
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	513	3691		269	3660		213	257		154	284	239
v/s Ratio Prot		c0.25			0.14			0.03			0.02	
v/s Ratio Perm	0.05			0.15			0.01			c0.10		0.01
v/c Ratio	0.07	0.33		0.20	0.19		0.08	0.21		0.66	0.13	0.04
Uniform Delay, d1	5.9	7.4		6.6	6.5		57.9	59.1		63.7	58.4	57.5
Progression Factor	0.27	0.31		0.36	0.33		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2		1.7	0.1		0.2	0.4		9.6	0.2	0.1
Delay (s)	1.8	2.4		4.1	2.2		58.1	59.5		73.3	58.6	57.6
Level of Service	A	A		A	A		E	E		E	E	E
Approach Delay (s)		2.4			2.4			59.3			66.0	
Approach LOS		A			A			E			E	

Intersection Summary				
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.38			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	61.0%	ICU Level of Service	B	
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 (vph)	88	1045	86	74	517	116	57	255	102	252	382	59
Future Volume (vph)	88	1045	86	74	517	116	57	255	102	252	382	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1750	4953		1755	4804		1789	3301		1791	3414	
Flt Permitted	0.35	1.00		0.16	1.00		0.48	1.00		0.38	1.00	
Satd. Flow (perm)	638	4953		304	4804		901	3301		720	3414	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	96	1136	93	80	562	126	62	277	111	274	415	64
RTOR Reduction (vph)	0	5	0	0	19	0	0	30	0	0	8	0
Lane Group Flow (vph)	96	1224	0	80	669	0	62	358	0	274	471	0
Confl. Peds. (#/hr)	23		45	45		23	13		38	38		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	2%	3%	4%	0%	3%	1%	0%	3%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	3	0	0	3	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	82.8	82.8		82.8	82.8		38.7	38.7		57.7	53.9	
Effective Green, g (s)	84.8	84.8		84.8	84.8		41.2	41.2		59.7	56.4	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.26	0.26		0.37	0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	338	2625		161	2546		232	850		389	1203	
v/s Ratio Prot		0.25			0.14			c0.11		c0.08	0.14	
v/s Ratio Perm	0.15			c0.26			0.07			0.18		
v/c Ratio	0.28	0.47		0.50	0.26		0.27	0.42		0.70	0.39	
Uniform Delay, d1	20.8	23.5		24.0	20.5		47.4	49.5		37.7	38.9	
Progression Factor	0.46	0.48		1.49	1.61		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	0.6		10.4	0.2		0.6	0.3		5.7	0.2	
Delay (s)	11.6	11.8		46.2	33.3		48.0	49.8		43.4	39.1	
Level of Service	B	B		D	C		D	D		D	D	
Approach Delay (s)		11.8			34.6			49.5			40.7	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
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 (vph)	58	1337	62	32	635	58	44	27	65	90	26	38
Future Volume (vph)	58	1337	62	32	635	58	44	27	65	90	26	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.97		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1797	4994		1803	4928		1652	1624		1725	1900	1561
Flt Permitted	0.34	1.00		0.14	1.00		0.74	1.00		0.62	1.00	1.00
Satd. Flow (perm)	649	4994		258	4928		1285	1624		1117	1900	1561
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	1453	67	35	690	63	48	29	71	98	28	41
RTOR Reduction (vph)	0	2	0	0	5	0	0	59	0	0	0	34
Lane Group Flow (vph)	63	1518	0	35	748	0	48	41	0	98	28	7
Confl. Peds. (#/hr)	9		4	4		9	15		21	21		15
Heavy Vehicles (%)	0%	2%	4%	0%	3%	0%	7%	0%	2%	2%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	110.8	110.8		110.8	110.8		25.5	25.5		25.9	25.9	25.9
Effective Green, g (s)	112.8	112.8		112.8	112.8		28.0	28.0		28.4	28.4	28.4
Actuated g/C Ratio	0.70	0.70		0.70	0.70		0.18	0.18		0.18	0.18	0.18
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	457	3520		181	3474		224	284		198	337	277
v/s Ratio Prot		c0.30			0.15			0.03			0.01	
v/s Ratio Perm	0.10			0.14			0.04			c0.09		0.00
v/c Ratio	0.14	0.43		0.19	0.22		0.21	0.15		0.49	0.08	0.03
Uniform Delay, d1	7.7	10.0		8.1	8.2		56.6	55.9		59.3	54.9	54.4
Progression Factor	0.56	0.56		1.08	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.6	0.3		2.3	0.1		0.5	0.2		1.9	0.1	0.0
Delay (s)	4.9	6.0		10.9	8.3		57.1	56.1		61.3	55.0	54.4
Level of Service	A	A		B	A		E	E		E	E	D
Approach Delay (s)		5.9			8.5			56.4			58.5	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
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 (vph)	150	1105	252	70	536	177	157	980	142	304	1220	106
Future Volume (vph)	150	1105	252	70	536	177	157	980	142	304	1220	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96
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)	3298	5142	1473	3298	5092	1476	3429	5092	1545	3362	5043	1512
Flt Permitted	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 (perm)	3298	5142	1473	3298	5092	1476	3429	5092	1545	3362	5043	1512
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)	150	1105	252	70	536	177	157	980	142	304	1220	106
RTOR Reduction (vph)	0	0	145	0	0	124	0	0	91	0	0	65
Lane Group Flow (vph)	150	1105	107	70	536	53	157	980	51	304	1220	41
Confl. Peds. (#/hr)	20		52	52		20	31		20	20		31
Heavy Vehicles (%)	5%	2%	2%	5%	3%	2%	1%	3%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	12.4	51.3	51.3	8.7	47.6	47.6	12.4	57.0	57.0	17.4	62.0	62.0
Effective Green, g (s)	12.4	51.3	51.3	8.7	47.6	47.6	12.4	57.0	57.0	17.4	62.0	62.0
Actuated g/C Ratio	0.08	0.32	0.32	0.05	0.30	0.30	0.08	0.36	0.36	0.11	0.39	0.39
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	1648	472	179	1514	439	265	1814	550	365	1954	585
v/s Ratio Prot	c0.05	c0.21		0.02	0.11		0.05	0.19		c0.09	c0.24	
v/s Ratio Perm			0.07			0.04			0.03			0.03
v/c Ratio	0.59	0.67	0.23	0.39	0.35	0.12	0.59	0.54	0.09	0.83	0.62	0.07
Uniform Delay, d1	71.3	47.0	39.8	73.1	44.1	40.9	71.4	41.1	34.3	69.9	39.6	30.9
Progression Factor	1.02	0.72	0.63	1.00	1.00	1.00	1.26	0.99	2.18	0.95	1.65	5.41
Incremental Delay, d2	3.2	1.0	0.2	1.4	0.1	0.1	3.2	1.1	0.3	14.1	1.4	0.2
Delay (s)	76.0	35.1	25.5	74.5	44.3	41.1	93.3	41.8	74.9	80.7	66.9	167.1
Level of Service	E	D	C	E	D	D	F	D	E	F	E	F
Approach Delay (s)		37.5			46.2			51.8			76.0	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	113.6%	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 (vph)	48	81	240	295	66	62	115	1377	385	70	1567	25
Future Volume (vph)	48	81	240	295	66	62	115	1377	385	70	1567	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
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)	1723	1830	1549	1760	1830	1507	1750	5142	1567	1733	5092	1295
Flt Permitted	0.71	1.00	1.00	0.61	1.00	1.00	0.11	1.00	1.00	0.15	1.00	1.00
Satd. Flow (perm)	1295	1830	1549	1131	1830	1507	201	5142	1567	271	5092	1295
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)	48	81	240	295	66	62	115	1377	385	70	1567	25
RTOR Reduction (vph)	0	0	151	0	0	47	0	0	160	0	0	11
Lane Group Flow (vph)	48	81	89	295	66	15	115	1377	225	70	1567	14
Confl. Peds. (#/hr)	6		7	7		6	12		5	5		12
Heavy Vehicles (%)	3%	5%	1%	1%	5%	4%	2%	2%	0%	3%	3%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	19.5	19.5	19.5	39.5	39.5	39.5	102.5	93.5	93.5	100.5	92.5	92.5
Effective Green, g (s)	19.5	19.5	19.5	39.5	39.5	39.5	102.5	93.5	93.5	100.5	92.5	92.5
Actuated g/C Ratio	0.12	0.12	0.12	0.25	0.25	0.25	0.64	0.58	0.58	0.63	0.58	0.58
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	157	223	188	346	451	372	215	3004	915	243	2943	748
v/s Ratio Prot		0.04		c0.09	0.04		c0.03	0.27		0.01	0.31	
v/s Ratio Perm	0.04		0.06	c0.12		0.01	c0.31		0.14	0.17		0.01
v/c Ratio	0.31	0.36	0.47	0.85	0.15	0.04	0.53	0.46	0.25	0.29	0.53	0.02
Uniform Delay, d1	64.1	64.5	65.5	55.8	47.1	45.8	14.6	18.9	16.1	12.8	20.6	14.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.73	0.54	0.25	0.70	0.39	1.00
Incremental Delay, d2	2.3	2.1	3.9	18.0	0.3	0.1	2.2	0.4	0.6	0.6	0.6	0.0
Delay (s)	66.4	66.6	69.4	73.8	47.4	45.9	27.5	10.6	4.5	9.5	8.7	14.4
Level of Service	E	E	E	E	D	D	C	B	A	A	A	B
Approach Delay (s)		68.4			65.6			10.4			8.8	
Approach LOS		E			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

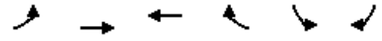
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	0	57	737	25	595	31	1284	0	0	2033	65
Future Volume (vph)	31	0	57	737	25	595	31	1284	0	0	2033	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	1.00			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
Frt	1.00		0.85	1.00	0.86	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1623		1058	3330	1440	1502	1417	5142			5142	1394
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1623		1058	3330	1440	1502	1417	5142			5142	1394
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)	31	0	57	737	25	595	31	1284	0	0	2033	65
RTOR Reduction (vph)	0	0	54	0	102	102	0	0	0	0	0	35
Lane Group Flow (vph)	31	0	3	737	209	207	31	1284	0	0	2033	30
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	10%	2%	51%	4%	104%	1%	26%	2%	0%	2%	2%	13%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	9.0		9.0	38.6	38.6	38.6	8.6	88.5			74.9	74.9
Effective Green, g (s)	9.0		9.0	38.6	38.6	38.6	8.6	88.5			74.9	74.9
Actuated g/C Ratio	0.06		0.06	0.24	0.24	0.24	0.05	0.55			0.47	0.47
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	91		59	803	347	362	76	2844			2407	652
v/s Ratio Prot	c0.02		0.00	c0.22	0.14		0.02	c0.25			c0.40	
v/s Ratio Perm						0.14						0.02
v/c Ratio	0.34		0.05	0.92	0.60	0.57	0.41	0.45			0.84	0.05
Uniform Delay, d1	72.6		71.5	59.2	53.9	53.4	73.2	21.3			37.4	23.1
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.12	0.86			0.60	1.00
Incremental Delay, d2	4.6		0.8	15.9	4.3	3.4	3.5	0.5			3.3	0.1
Delay (s)	77.3		72.3	75.1	58.1	56.8	85.5	18.9			25.7	23.3
Level of Service	E		E	E	E	E	F	B			C	C
Approach Delay (s)		74.0			67.0			20.5			25.6	
Approach LOS		E			E			C			C	

Intersection Summary				
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9	
Intersection Capacity Utilization	86.1%	ICU Level of Service	E	
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 (vph)	265	1	172	0	0	0	0	891	0	21	1740	0
Future Volume (vph)	265	1	172	0	0	0	0	891	0	21	1740	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1662	1693	1551					5142		892	5092	
Flt Permitted	0.95	0.95	1.00					1.00		0.29	1.00	
Satd. Flow (perm)	1662	1693	1551					5142		273	5092	
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)	265	1	172	0	0	0	0	891	0	21	1740	0
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	132	134	136	0	0	0	0	891	0	21	1740	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	2%	100%	3%	2%	2%	2%	2%	2%	4%	100%	3%	2%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	21.9	21.9	21.9					116.6		124.0	124.0	
Effective Green, g (s)	21.9	21.9	21.9					116.6		124.0	124.0	
Actuated g/C Ratio	0.14	0.14	0.14					0.73		0.78	0.78	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	227	231	212					3747		228	3946	
v/s Ratio Prot	0.08	0.08	c0.09					0.17		0.00	c0.34	
v/s Ratio Perm										0.07		
v/c Ratio	0.58	0.58	0.64					0.24		0.09	0.44	
Uniform Delay, d1	64.8	64.7	65.3					7.1		4.3	6.2	
Progression Factor	1.00	1.00	1.00					1.00		0.26	0.32	
Incremental Delay, d2	5.8	5.6	8.7					0.1		0.1	0.2	
Delay (s)	70.5	70.4	74.0					7.3		1.2	2.1	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		71.9			0.0			7.3			2.1	
Approach LOS		E			A			A			A	

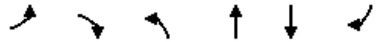
Intersection Summary				
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.48			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1	
Intersection Capacity Utilization	56.0%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	112	46	59	81	41	75
Future Volume (vph)	112	46	59	81	41	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	122	50	64	88	45	82

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	139	33	64	88	45	82
Volume Left (vph)	122	0	0	0	45	0
Volume Right (vph)	0	0	0	88	0	82
Hadj (s)	0.45	0.05	0.00	-0.44	0.81	-0.70
Departure Headway (s)	5.4	5.0	5.0	4.6	6.1	4.6
Degree Utilization, x	0.21	0.05	0.09	0.11	0.08	0.10
Capacity (veh/h)	649	692	692	761	563	738
Control Delay (s)	8.6	7.1	7.3	6.9	8.4	6.9
Approach Delay (s)	8.3		7.1		7.4	
Approach LOS	A		A		A	

Intersection Summary			
Delay	7.7		
Level of Service	A		
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	163	120	88	34	43	202
Future Volume (vph)	163	120	88	34	43	202
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	177	130	96	37	47	220

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	177	130	108	25	47	220
Volume Left (vph)	177	0	96	0	0	0
Volume Right (vph)	0	130	0	0	0	220
Hadj (s)	0.52	-0.70	0.47	0.00	0.00	-0.70
Departure Headway (s)	6.0	4.8	6.1	5.6	5.5	4.8
Degree Utilization, x	0.29	0.17	0.18	0.04	0.07	0.29
Capacity (veh/h)	571	709	561	602	617	713
Control Delay (s)	10.3	7.6	9.3	7.7	7.7	8.6
Approach Delay (s)	9.1		9.0		8.4	
Approach LOS	A		A		A	

Intersection Summary			
Delay	8.8		
Level of Service	A		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	164	223	0	0	22
Future Volume (Veh/h)	33	164	223	0	0	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	178	242	0	0	24
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	242				403	121
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	242				403	121
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	97
cM capacity (veh/h)	1336				560	914

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	95	119	161	81	24
Volume Left	36	0	0	0	0
Volume Right	0	0	0	0	24
cSH	1336	1700	1700	1700	914
Volume to Capacity	0.03	0.07	0.09	0.05	0.03
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.6
Control Delay (s)	3.1	0.0	0.0	0.0	9.0
Lane LOS	A				A
Approach Delay (s)	1.4		0.0		9.0
Approach LOS					A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	148	214	12	10	9
Future Volume (Veh/h)	16	148	214	12	10	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	161	233	13	11	10
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	246				354	123
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	246				354	123
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1332				615	911

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	71	107	155	91	21
Volume Left	17	0	0	0	11
Volume Right	0	0	0	13	10
cSH	1332	1700	1700	1700	728
Volume to Capacity	0.01	0.06	0.09	0.05	0.03
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.7
Control Delay (s)	1.9	0.0	0.0	0.0	10.1
Lane LOS	A				B
Approach Delay (s)	0.8		0.0		10.1
Approach LOS					B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	24.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	143	221	14	5	5
Future Volume (Veh/h)	15	143	221	14	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	155	240	15	5	5
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	255				357	128
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	255				357	128
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1322				613	905

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	68	103	160	95	10
Volume Left	16	0	0	0	5
Volume Right	0	0	0	15	5
cSH	1322	1700	1700	1700	731
Volume to Capacity	0.01	0.06	0.09	0.06	0.01
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.3
Control Delay (s)	1.9	0.0	0.0	0.0	10.0
Lane LOS	A				A
Approach Delay (s)	0.8		0.0		10.0
Approach LOS					A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	24.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
2: Winston Churchill Boulevard & Erin Centre Boulevard

EX PM
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	162	117	75	231	121	204	1721	115	141	1226	72
Future Volume (vph)	51	162	117	75	231	121	204	1721	115	141	1226	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1791	3310		1787	1881	1563	1805	5023		1805	5026	
Flt Permitted	0.39	1.00		0.48	1.00	1.00	0.14	1.00		0.06	1.00	
Satd. Flow (perm)	742	3310		896	1881	1563	260	5023		106	5026	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	176	127	82	251	132	222	1871	125	153	1333	78
RTOR Reduction (vph)	0	91	0	0	0	98	0	4	0	0	3	0
Lane Group Flow (vph)	55	212	0	82	251	34	222	1992	0	153	1408	0
Confl. Peds. (#/hr)	13		17	17		13	7		7	7		7
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	38.5	38.5		38.5	38.5	38.5	104.4	92.7		103.6	92.3	
Effective Green, g (s)	41.0	41.0		41.0	41.0	41.0	108.4	94.7		107.6	94.3	
Actuated g/C Ratio	0.26	0.26		0.26	0.26	0.26	0.68	0.59		0.67	0.59	
Clearance Time (s)	7.5	7.5		7.5	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	848		229	482	400	308	2972		212	2962	
v/s Ratio Prot		0.06			c0.13		c0.06	c0.40		c0.06	0.28	
v/s Ratio Perm	0.07			0.09		0.02	0.43			0.43		
v/c Ratio	0.29	0.25		0.36	0.52	0.08	0.72	0.67		0.72	0.48	
Uniform Delay, d1	47.8	47.3		48.7	51.1	45.2	13.8	22.1		36.7	18.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	2.93	0.44		1.00	1.00	
Incremental Delay, d2	0.8	0.2		1.0	1.0	0.1	4.9	0.7		11.5	0.5	
Delay (s)	48.6	47.4		49.7	52.1	45.3	45.5	10.5		48.2	19.3	
Level of Service	D	D		D	D	D	D	B		D	B	
Approach Delay (s)		47.6			49.7			14.0			22.1	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Plantation Place/Russel View Road & Erin Centre Boulevard

EX PM
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	333	77	69	363	27	62	54	70	18	23	19
Future Volume (vph)	17	333	77	69	363	27	62	54	70	18	23	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1800	3447		1761	3520		1799	1900	1592	1801	1757	
Flt Permitted	0.50	1.00		0.49	1.00		0.73	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	956	3447		916	3520		1377	1900	1592	1362	1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	362	84	75	395	29	67	59	76	20	25	21
RTOR Reduction (vph)	0	11	0	0	3	0	0	0	63	0	17	0
Lane Group Flow (vph)	18	435	0	75	421	0	67	59	13	20	29	0
Confl. Peds. (#/hr)	4		7	7		4	5		3	3		5
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	62.8	62.8		62.8	62.8		13.7	13.7	13.7	13.7	13.7	
Effective Green, g (s)	64.8	64.8		64.8	64.8		15.2	15.2	15.2	15.2	15.2	
Actuated g/C Ratio	0.72	0.72		0.72	0.72		0.17	0.17	0.17	0.17	0.17	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	688	2481		659	2534		232	320	268	230	296	
v/s Ratio Prot		c0.13			0.12			0.03			0.02	
v/s Ratio Perm	0.02			0.08			c0.05		0.01	0.01		
v/c Ratio	0.03	0.18		0.11	0.17		0.29	0.18	0.05	0.09	0.10	
Uniform Delay, d1	3.6	4.0		3.8	4.0		32.7	32.1	31.3	31.5	31.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.4	0.1		0.7	0.3	0.1	0.2	0.1	
Delay (s)	3.7	4.2		4.2	4.1		33.4	32.4	31.4	31.7	31.7	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		4.2			4.2			32.3			31.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
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 (vph)	66	240	57	77	315	144	103	608	87	92	383	77
Future Volume (vph)	66	240	57	77	315	144	103	608	87	92	383	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.95		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1799	3451		1728	3351		1797	3503		1752	3507	
Flt Permitted	0.31	1.00		0.48	1.00		0.46	1.00		0.34	1.00	
Satd. Flow (perm)	580	3451		882	3351		877	3503		628	3507	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	261	62	84	342	157	112	661	95	100	416	84
RTOR Reduction (vph)	0	28	0	0	72	0	0	7	0	0	11	0
Lane Group Flow (vph)	72	295	0	84	427	0	112	749	0	100	489	0
Confl. Peds. (#/hr)	9		9	9		9	11					11
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	4%	1%	3%	0%	0%	4%	3%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	21.3	21.3		21.3	21.3		65.2	65.2		65.2	65.2	
Effective Green, g (s)	23.3	23.3		23.3	23.3		66.7	66.7		66.7	66.7	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.67	0.67		0.67	0.67	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	804		205	780		584	2336		418	2339	
v/s Ratio Prot		0.09			c0.13			c0.21			0.14	
v/s Ratio Perm	0.12			0.10			0.13			0.16		
v/c Ratio	0.53	0.37		0.41	0.55		0.19	0.32		0.24	0.21	
Uniform Delay, d1	33.6	32.2		32.5	33.7		6.4	7.1		6.6	6.4	
Progression Factor	1.00	1.00		1.00	1.00		0.73	0.72		1.00	1.00	
Incremental Delay, d2	4.0	0.3		1.3	0.8		0.7	0.4		1.3	0.2	
Delay (s)	37.6	32.5		33.9	34.5		5.4	5.4		7.9	6.6	
Level of Service	D	C		C	C		A	A		A	A	
Approach Delay (s)		33.4			34.4			5.4			6.9	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.38			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	81.8%	ICU Level of Service	D	
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 (vph)	11	258	70	135	363	15	108	2	178	2	0	0
Future Volume (vph)	11	258	70	135	363	15	108	2	178	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99			1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	
Satd. Flow (prot)	1793	3505	1544	1749	3550			1687	1545		3422	
Flt Permitted	0.51	1.00	1.00	0.58	1.00			0.73	1.00		0.68	
Satd. Flow (perm)	964	3505	1544	1068	3550			1290	1545		2451	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	280	76	147	395	16	117	2	193	2	0	0
RTOR Reduction (vph)	0	0	29	0	2	0	0	0	146	0	0	0
Lane Group Flow (vph)	12	280	47	147	409	0	0	119	47	0	2	0
Confl. Peds. (#/hr)	13		5	5		13	9		5	5		9
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	3%	3%	3%	1%	0%	7%	0%	3%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	40.8	40.8	40.8	40.8	40.8			15.0	15.0		15.0	
Effective Green, g (s)	42.8	42.8	42.8	42.8	42.8			17.0	17.0		17.0	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61			0.24	0.24		0.24	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	591	2149	946	654	2176			314	376		596	
v/s Ratio Prot		0.08			0.12							
v/s Ratio Perm	0.01		0.03	c0.14				c0.09	0.03		0.00	
v/c Ratio	0.02	0.13	0.05	0.22	0.19			0.38	0.13		0.00	
Uniform Delay, d1	5.3	5.7	5.4	6.1	5.9			22.0	20.6		20.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.1	0.1	0.8	0.2			0.8	0.2		0.0	
Delay (s)	5.4	5.8	5.5	6.9	6.1			22.8	20.7		20.0	
Level of Service	A	A	A	A	A			C	C		B	
Approach Delay (s)		5.7			6.3			21.5			20.0	
Approach LOS		A			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.27			
Actuated Cycle Length (s)	69.8	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	73.5%	ICU Level of Service	D	
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 (vph)	210	130	98	74	127	63	143	1333	101	44	1267	254
Future Volume (vph)	210	130	98	74	127	63	143	1333	101	44	1267	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	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)	1727	1921	1466	1776	1921	1565	1785	5142	1551	1782	5142	1506
Flt Permitted	0.56	1.00	1.00	0.67	1.00	1.00	0.17	1.00	1.00	0.19	1.00	1.00
Satd. Flow (perm)	1024	1921	1466	1260	1921	1565	314	5142	1551	363	5142	1506
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)	210	130	98	74	127	63	143	1333	101	44	1267	254
RTOR Reduction (vph)	0	0	76	0	0	55	0	0	33	0	0	104
Lane Group Flow (vph)	210	130	22	74	127	8	143	1333	68	44	1267	150
Confl. Peds. (#/hr)	7		6	6		7	8		4	4		8
Heavy Vehicles (%)	3%	0%	7%	0%	0%	0%	0%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	36.0	36.0	36.0	20.0	20.0	20.0	107.4	107.4	107.4	94.4	94.4	94.4
Effective Green, g (s)	36.0	36.0	36.0	20.0	20.0	20.0	107.4	107.4	107.4	94.4	94.4	94.4
Actuated g/C Ratio	0.22	0.22	0.22	0.12	0.12	0.12	0.67	0.67	0.67	0.59	0.59	0.59
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	287	432	329	157	240	195	302	3451	1041	214	3033	888
v/s Ratio Prot	c0.06	0.07			0.07		c0.03	0.26			0.25	
v/s Ratio Perm	c0.11		0.02	0.06		0.01	c0.29		0.04	0.12		0.10
v/c Ratio	0.73	0.30	0.07	0.47	0.53	0.04	0.47	0.39	0.07	0.21	0.42	0.17
Uniform Delay, d1	55.8	51.5	48.8	65.1	65.6	61.6	11.2	11.7	9.0	15.3	17.8	14.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.21	0.97	1.46	1.00	1.00	1.00
Incremental Delay, d2	9.2	0.4	0.1	2.2	2.1	0.1	1.1	0.3	0.1	2.2	0.4	0.4
Delay (s)	65.1	51.9	48.9	67.3	67.7	61.6	25.8	11.6	13.3	17.5	18.3	15.3
Level of Service	E	D	D	E	E	E	C	B	B	B	B	B
Approach Delay (s)		57.5			66.1			13.0			17.8	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	279	319	234	183
Demand Flow Rate, veh/h	279	319	234	185
Vehicles Circulating, veh/h	177	225	284	292
Vehicles Exiting, veh/h	300	293	172	252
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	4	10	16	7
Ped Cap Adj	0.999	0.999	0.998	0.999
Approach Delay, s/veh	6.9	7.9	7.2	6.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	279	319	234	185
Cap Entry Lane, veh/h	947	902	851	844
Entry HV Adj Factor	1.000	1.000	1.000	0.990
Flow Entry, veh/h	279	319	234	183
Cap Entry, veh/h	946	901	849	834
V/C Ratio	0.295	0.354	0.276	0.219
Control Delay, s/veh	6.9	7.9	7.2	6.6
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	158	35	86	170	116	80	593	98	101	335	81
Future Volume (vph)	89	158	35	86	170	116	80	593	98	101	335	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	3500		1795	1900	1574	1802	3574	1568	1801	3574	1560
Flt Permitted	0.55	1.00		0.62	1.00	1.00	0.53	1.00	1.00	0.39	1.00	1.00
Satd. Flow (perm)	1030	3500		1172	1900	1574	1014	3574	1568	735	3574	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	172	38	93	185	126	87	645	107	110	364	88
RTOR Reduction (vph)	0	23	0	0	0	95	0	0	37	0	0	31
Lane Group Flow (vph)	97	187	0	93	185	31	87	645	70	110	364	57
Confl. Peds. (#/hr)	17		9	9		17	3		6	6		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	22.8	22.8		22.8	22.8	22.8	63.7	63.7	63.7	63.7	63.7	63.7
Effective Green, g (s)	24.8	24.8		24.8	24.8	24.8	65.2	65.2	65.2	65.2	65.2	65.2
Actuated g/C Ratio	0.25	0.25		0.25	0.25	0.25	0.65	0.65	0.65	0.65	0.65	0.65
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	868		290	471	390	661	2330	1022	479	2330	1017
v/s Ratio Prot		0.05			c0.10			c0.18			0.10	
v/s Ratio Perm	0.09			0.08		0.02	0.09		0.04	0.15		0.04
v/c Ratio	0.38	0.22		0.32	0.39	0.08	0.13	0.28	0.07	0.23	0.16	0.06
Uniform Delay, d1	31.2	29.9		30.7	31.3	28.8	6.6	7.4	6.3	7.1	6.7	6.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.78	0.56
Incremental Delay, d2	1.0	0.1		0.6	0.5	0.1	0.4	0.3	0.1	1.1	0.1	0.1
Delay (s)	32.2	30.0		31.4	31.9	28.9	7.0	7.7	6.5	6.5	5.4	3.6
Level of Service	C	C		C	C	C	A	A	A	A	A	A
Approach Delay (s)		30.7			30.8			7.5			5.3	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	133	95	1552	1364	139
Future Volume (vph)	0	133	95	1552	1364	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1537	1684	5142	5142	1493
Flt Permitted		1.00	0.17	1.00	1.00	1.00
Satd. Flow (perm)		1537	307	5142	5142	1493
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	133	95	1552	1364	139
RTOR Reduction (vph)	0	126	0	0	0	24
Lane Group Flow (vph)	0	7	95	1552	1364	115
Confl. Peds. (#/hr)	1		5			5
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	2%	4%	6%	2%	2%	5%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		8.2	137.6	137.6	126.6	126.6
Effective Green, g (s)		8.2	137.6	137.6	126.6	126.6
Actuated g/C Ratio		0.05	0.86	0.86	0.79	0.79
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		78	332	4422	4068	1181
v/s Ratio Prot			0.01	c0.30	0.27	
v/s Ratio Perm		c0.00	0.23			0.08
v/c Ratio		0.09	0.29	0.35	0.34	0.10
Uniform Delay, d1		72.3	2.1	2.2	4.7	3.8
Progression Factor		1.00	2.01	0.25	0.31	0.04
Incremental Delay, d2		0.5	0.4	0.2	0.2	0.2
Delay (s)		72.8	4.6	0.8	1.7	0.3
Level of Service		E	A	A	A	A
Approach Delay (s)	72.8			1.0	1.5	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
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 (vph)	215	672	231	274	770	231	329	1518	205	176	1041	117
Future Volume (vph)	215	672	231	274	770	231	329	1518	205	176	1041	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	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	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.98	
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)	3502	3574	1552	3502	3539	1501	3467	4962		3502	4991	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3574	1552	3502	3539	1501	3467	4962		3502	4991	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	234	730	251	298	837	251	358	1650	223	191	1132	127
RTOR Reduction (vph)	0	0	124	0	0	104	0	10	0	0	8	0
Lane Group Flow (vph)	234	730	127	298	837	147	358	1863	0	191	1251	0
Confl. Peds. (#/hr)	29		16	16		29	10		31	31		10
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	1%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	10.0	39.1	39.1	18.5	47.6	47.6	17.0	67.4		10.0	60.4	
Effective Green, g (s)	11.0	41.6	41.6	18.5	50.1	50.1	17.0	69.9		10.0	62.9	
Actuated g/C Ratio	0.07	0.26	0.26	0.12	0.31	0.31	0.11	0.44		0.06	0.39	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	240	929	403	404	1108	470	368	2167		218	1962	
v/s Ratio Prot	c0.07	0.20		0.09	c0.24		c0.10	c0.38		0.05	0.25	
v/s Ratio Perm			0.08			0.10						
v/c Ratio	0.97	0.79	0.32	0.74	0.76	0.31	0.97	0.86		0.88	0.64	
Uniform Delay, d1	74.4	55.1	47.7	68.4	49.4	41.9	71.3	40.6		74.4	39.3	
Progression Factor	1.00	1.00	1.00	0.73	1.23	1.88	1.00	1.00		0.89	1.39	
Incremental Delay, d2	50.6	4.4	0.5	6.6	2.8	0.4	39.4	4.7		28.0	1.5	
Delay (s)	125.0	59.5	48.2	56.6	63.7	79.0	110.7	45.4		94.3	56.2	
Level of Service	F	E	D	E	E	E	F	D		F	E	
Approach Delay (s)		69.8			65.0			55.8			61.2	
Approach LOS		E			E			E			E	

Intersection Summary				
HCM 2000 Control Delay	61.8	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	97.5%	ICU Level of Service	F	
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 (vph)	60	885	20	81	1104	98	27	92	67	156	45	76
Future Volume (vph)	60	885	20	81	1104	98	27	92	67	156	45	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1798	5065		1790	5009		1784	1764		1775	1900	1576
Flt Permitted	0.17	1.00		0.26	1.00		0.71	1.00		0.51	1.00	1.00
Satd. Flow (perm)	325	5065		483	5009		1339	1764		955	1900	1576
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	962	22	88	1200	107	29	100	73	170	49	83
RTOR Reduction (vph)	0	1	0	0	5	0	0	18	0	0	0	64
Lane Group Flow (vph)	65	983	0	88	1302	0	29	155	0	170	49	19
Confl. Peds. (#/hr)	11		14	14		11	11		8	8		11
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	104.1	104.1		104.1	104.1		33.8	33.8		33.2	33.2	33.2
Effective Green, g (s)	106.1	106.1		106.1	106.1		36.3	36.3		35.7	35.7	35.7
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.23	0.23		0.22	0.22	0.22
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	215	3358		320	3321		303	400		213	423	351
v/s Ratio Prot		0.19			c0.26			0.09			0.03	
v/s Ratio Perm	0.20			0.18			0.02			c0.18		0.01
v/c Ratio	0.30	0.29		0.28	0.39		0.10	0.39		0.80	0.12	0.05
Uniform Delay, d1	11.4	11.3		11.1	12.3		48.9	52.4		58.7	49.6	48.9
Progression Factor	0.41	0.30		0.64	0.62		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.3	0.1		1.8	0.3		0.1	0.6		18.5	0.1	0.1
Delay (s)	6.9	3.6		8.9	7.9		49.0	53.1		77.2	49.7	48.9
Level of Service	A	A		A	A		D	D		E	D	D
Approach Delay (s)		3.8			8.0			52.5			65.0	
Approach LOS		A			A			D			E	

Intersection Summary				
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.48			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	74.0%	ICU Level of Service	D	
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 (vph)	96	838	114	131	1134	200	101	489	105	190	312	82
Future Volume (vph)	96	838	114	131	1134	200	101	489	105	190	312	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	1.0	5.0		5.0	5.0		6.0	6.0		1.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	4976		1775	4873		1764	3440		1803	3411	
Flt Permitted	0.11	1.00		0.24	1.00		0.50	1.00		0.17	1.00	
Satd. Flow (perm)	215	4976		450	4873		933	3440		325	3411	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	911	124	142	1233	217	110	532	114	207	339	89
RTOR Reduction (vph)	0	10	0	0	14	0	0	12	0	0	14	0
Lane Group Flow (vph)	104	1025	0	142	1436	0	110	634	0	207	414	0
Confl. Peds. (#/hr)	96		23	23		96	32		25	25		32
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	3	0	0	3	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	92.3	87.3		80.9	80.9		37.2	37.2		53.2	53.2	
Effective Green, g (s)	94.3	89.3		82.9	82.9		38.7	38.7		55.2	54.7	
Actuated g/C Ratio	0.59	0.56		0.52	0.52		0.24	0.24		0.35	0.34	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	2777		233	2524		225	832		250	1166	
v/s Ratio Prot	c0.03	0.21			0.29			c0.18		c0.08	0.12	
v/s Ratio Perm	0.24			c0.32			0.12			0.21		
v/c Ratio	0.45	0.37		0.61	0.57		0.49	0.76		0.83	0.35	
Uniform Delay, d1	18.0	19.7		27.1	26.3		52.1	56.4		41.1	39.4	
Progression Factor	0.91	0.67		0.46	0.37		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.4		10.6	0.9		1.7	4.2		19.7	0.2	
Delay (s)	17.7	13.6		23.1	10.6		53.8	60.5		60.8	39.6	
Level of Service	B	B		C	B		D	E		E	D	
Approach Delay (s)		14.0			11.7			59.5			46.5	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
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 (vph)	126	944	59	45	1279	89	50	35	40	145	37	115
Future Volume (vph)	126	944	59	45	1279	89	50	35	40	145	37	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.98		1.00	1.00	0.94
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.95	1.00		0.98	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1801	5030		1794	5029		1719	1720		1775	1900	1515
Flt Permitted	0.14	1.00		0.23	1.00		0.71	1.00		0.70	1.00	1.00
Satd. Flow (perm)	259	5030		427	5029		1292	1720		1310	1900	1515
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	137	1026	64	49	1390	97	54	38	43	158	40	125
RTOR Reduction (vph)	0	3	0	0	4	0	0	28	0	0	0	67
Lane Group Flow (vph)	137	1087	0	49	1483	0	54	53	0	158	40	58
Confl. Peds. (#/hr)	17		13	13		17	35		13	13		35
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	105.1	105.1		105.1	105.1		31.6	31.6		30.8	30.8	30.8
Effective Green, g (s)	107.1	107.1		107.1	107.1		34.1	34.1		33.3	33.3	33.3
Actuated g/C Ratio	0.67	0.67		0.67	0.67		0.21	0.21		0.21	0.21	0.21
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	173	3366		285	3366		275	366		272	395	315
v/s Ratio Prot		0.22			0.29			0.03			0.02	
v/s Ratio Perm	c0.53			0.11			0.04			c0.12		0.04
v/c Ratio	0.79	0.32		0.17	0.44		0.20	0.14		0.58	0.10	0.19
Uniform Delay, d1	18.6	11.2		9.9	12.4		51.7	51.1		57.1	51.2	52.2
Progression Factor	0.91	0.40		0.17	0.15		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	27.5	0.2		1.1	0.4		0.4	0.2		3.1	0.1	0.3
Delay (s)	44.5	4.7		2.7	2.2		52.0	51.3		60.2	51.4	52.5
Level of Service	D	A		A	A		D	D		E	D	D
Approach Delay (s)		9.2			2.2			51.6			56.1	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
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 (vph)	142	797	255	125	1005	277	303	1198	108	192	1124	152
Future Volume (vph)	142	797	255	125	1005	277	303	1198	108	192	1124	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.97
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)	3463	5142	1520	3330	5193	1492	3463	5142	1550	3429	5142	1513
Flt Permitted	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 (perm)	3463	5142	1520	3330	5193	1492	3463	5142	1550	3429	5142	1513
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)	142	797	255	125	1005	277	303	1198	108	192	1124	152
RTOR Reduction (vph)	0	0	162	0	0	172	0	0	67	0	0	98
Lane Group Flow (vph)	142	797	93	125	1005	105	303	1198	41	192	1124	54
Confl. Peds. (#/hr)	19		29	29		19	21		17	17		21
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	2%	1%	4%	1%	1%	0%	2%	0%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	11.9	50.3	50.3	9.6	48.0	48.0	17.2	61.1	61.1	13.4	57.3	57.3
Effective Green, g (s)	11.9	50.3	50.3	9.6	48.0	48.0	17.2	61.1	61.1	13.4	57.3	57.3
Actuated g/C Ratio	0.07	0.31	0.31	0.06	0.30	0.30	0.11	0.38	0.38	0.08	0.36	0.36
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	1616	477	199	1557	447	372	1963	591	287	1841	541
v/s Ratio Prot	c0.04	0.16		0.04	c0.19		c0.09	c0.23		0.06	0.22	
v/s Ratio Perm			0.06			0.07			0.03			0.04
v/c Ratio	0.55	0.49	0.20	0.63	0.65	0.23	0.81	0.61	0.07	0.67	0.61	0.10
Uniform Delay, d1	71.5	44.5	40.1	73.5	48.6	42.2	69.8	39.9	31.4	71.1	42.2	34.2
Progression Factor	0.98	1.15	3.45	1.00	1.00	1.00	1.32	0.98	1.93	1.33	0.70	0.50
Incremental Delay, d2	2.5	0.2	0.2	6.1	0.9	0.3	11.6	1.3	0.2	5.6	1.5	0.4
Delay (s)	72.5	51.3	138.4	79.5	49.5	42.4	103.9	40.5	60.8	100.6	30.9	17.3
Level of Service	E	D	F	E	D	D	F	D	E	F	C	B
Approach Delay (s)		72.4			50.8			53.8			38.6	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	53.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
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 (vph)	31	71	174	344	118	81	155	1594	386	33	1490	36
Future Volume (vph)	31	71	174	344	118	81	155	1594	386	33	1490	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	1.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
Flpb, ped/bikes	0.99	1.00	1.00	0.99	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)	1765	1883	1557	1771	1902	1527	1767	5142	1549	1716	5142	1506
Flt Permitted	0.68	1.00	1.00	0.68	1.00	1.00	0.12	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	1266	1883	1557	1274	1902	1527	225	5142	1549	214	5142	1506
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)	31	71	174	344	118	81	155	1594	386	33	1490	36
RTOR Reduction (vph)	0	0	149	0	0	62	0	0	149	0	0	15
Lane Group Flow (vph)	31	71	25	344	118	19	155	1594	237	33	1490	21
Confl. Peds. (#/hr)	12		11	11		12	11		6	6		11
Heavy Vehicles (%)	0%	2%	0%	0%	1%	2%	1%	2%	1%	4%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	23.0	23.0	23.0	37.0	37.0	37.0	107.0	98.1	98.1	99.2	93.3	93.3
Effective Green, g (s)	23.0	23.0	23.0	39.0	37.0	37.0	107.0	98.1	98.1	99.2	93.3	93.3
Actuated g/C Ratio	0.14	0.14	0.14	0.24	0.23	0.23	0.67	0.61	0.61	0.62	0.58	0.58
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	181	270	223	350	439	353	253	3152	949	188	2998	878
v/s Ratio Prot		0.04		c0.08	0.06		c0.04	0.31		0.01	0.29	
v/s Ratio Perm	0.02		0.02	0.16		0.01	c0.37		0.15	0.10		0.01
v/c Ratio	0.17	0.26	0.11	0.98	0.27	0.05	0.61	0.51	0.25	0.18	0.50	0.02
Uniform Delay, d1	60.1	61.0	59.6	58.9	50.4	47.9	13.7	17.4	14.1	13.0	19.6	14.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.23	0.50	0.24	0.66	0.44	1.00
Incremental Delay, d2	0.9	1.1	0.5	43.2	0.7	0.1	3.7	0.5	0.5	0.4	0.5	0.0
Delay (s)	61.1	62.0	60.1	102.1	51.1	48.0	34.2	9.2	4.0	9.0	9.1	14.1
Level of Service	E	E	E	F	D	D	C	A	A	A	A	B
Approach Delay (s)		60.7			83.0			10.1			9.3	
Approach LOS		E			F			B			A	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
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 (vph)	33	0	50	894	23	644	25	1435	0	0	1918	42
Future Volume (vph)	33	0	50	894	23	644	25	1435	0	0	1918	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	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
Frt	1.00		0.85	1.00	0.86	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1580		1037	3429	1484	1502	1394	5142			5193	1456
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1580		1037	3429	1484	1502	1394	5142			5193	1456
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)	33	0	50	894	23	644	25	1435	0	0	1918	42
RTOR Reduction (vph)	0	0	47	0	119	119	0	0	0	0	0	23
Lane Group Flow (vph)	33	0	3	894	213	216	25	1435	0	0	1918	19
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	13%	2%	54%	1%	70%	1%	28%	2%	2%	2%	1%	8%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	9.2		9.2	42.6	42.6	42.6	6.3	84.3			73.0	73.0
Effective Green, g (s)	9.2		9.2	42.6	42.6	42.6	6.3	84.3			73.0	73.0
Actuated g/C Ratio	0.06		0.06	0.27	0.27	0.27	0.04	0.53			0.46	0.46
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	90		59	912	395	399	54	2709			2369	664
v/s Ratio Prot	c0.02		0.00	c0.26	0.14		0.02	c0.28			c0.37	
v/s Ratio Perm						0.14						0.01
v/c Ratio	0.37		0.05	0.98	0.54	0.54	0.46	0.53			0.81	0.03
Uniform Delay, d1	72.6		71.3	58.3	50.3	50.3	75.2	24.8			37.5	24.0
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.26	0.83			0.57	1.00
Incremental Delay, d2	5.2		0.7	25.1	2.6	2.6	5.9	0.7			2.7	0.1
Delay (s)	77.8		72.0	83.4	52.9	53.0	100.6	21.3			24.2	24.0
Level of Service	E		E	F	D	D	F	C			C	C
Approach Delay (s)		74.3			70.4			22.6			24.2	
Approach LOS		E			E			C			C	

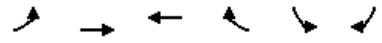
Intersection Summary			
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	209	7	189	0	0	0	0	1320	0	16	1863	0
Future Volume (vph)	209	7	189	0	0	0	0	1320	0	16	1863	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1585	1580	1521					5142		892	5142	
Flt Permitted	0.95	0.96	1.00					1.00		0.18	1.00	
Satd. Flow (perm)	1585	1580	1521					5142		165	5142	
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)	209	7	189	0	0	0	0	1320	0	16	1863	0
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	109	107	153	0	0	0	0	1320	0	16	1863	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	7%	58%	5%	2%	2%	2%	2%	2%	3%	100%	2%	2%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	23.6	23.6	23.6					116.4		122.3	122.3	
Effective Green, g (s)	23.6	23.6	23.6					116.4		122.3	122.3	
Actuated g/C Ratio	0.15	0.15	0.15					0.73		0.76	0.76	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	233	233	224					3740		139	3930	
v/s Ratio Prot	0.07	0.07	c0.10					0.26		0.00	c0.36	
v/s Ratio Perm										0.09		
v/c Ratio	0.47	0.46	0.68					0.35		0.12	0.47	
Uniform Delay, d1	62.4	62.4	64.7					8.0		5.1	7.0	
Progression Factor	1.00	1.00	1.00					1.00		0.16	0.28	
Incremental Delay, d2	3.1	3.0	10.6					0.3		0.2	0.2	
Delay (s)	65.5	65.3	75.3					8.3		1.0	2.2	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		70.0			0.0			8.3			2.2	
Approach LOS		E			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
101: Ring Road & North Mall Access to Erin Centre Boulevard

EX PM
08-15-2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	100	49	44	185	96	107
Future Volume (vph)	100	49	44	185	96	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	53	48	201	104	116

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	127	35	48	201	104	116
Volume Left (vph)	109	0	0	0	104	0
Volume Right (vph)	0	0	0	201	0	116
Hadj (s)	0.43	0.00	0.00	-0.60	0.62	-0.70
Departure Headway (s)	5.8	5.3	5.3	4.7	6.1	4.8
Degree Utilization, x	0.20	0.05	0.07	0.26	0.18	0.15
Capacity (veh/h)	593	641	647	736	560	704
Control Delay (s)	9.0	7.4	7.5	8.1	9.2	7.4
Approach Delay (s)	8.7		8.0		8.3	
Approach LOS	A		A		A	

Intersection Summary				
Delay	8.3			
Level of Service	A			
Intersection Capacity Utilization	27.2%	ICU Level of Service	A	
Analysis Period (min)	15			

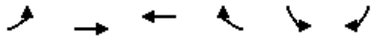
HCM Unsignalized Intersection Capacity Analysis
102: Ring Road & West Mall Access to Glen Erin Drive

EX PM
08-15-2024

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	153	207	199	80	104	176
Future Volume (vph)	153	207	199	80	104	176
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	166	225	216	87	113	191

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	166	225	245	58	113	191
Volume Left (vph)	166	0	216	0	0	0
Volume Right (vph)	0	225	0	0	0	191
Hadj (s)	0.50	-0.70	0.44	0.00	0.00	-0.70
Departure Headway (s)	6.6	5.4	6.5	6.0	6.1	5.4
Degree Utilization, x	0.30	0.34	0.44	0.10	0.19	0.28
Capacity (veh/h)	519	632	538	568	562	638
Control Delay (s)	11.2	9.9	13.3	8.5	9.3	9.3
Approach Delay (s)	10.5		12.3		9.3	
Approach LOS	B		B		A	

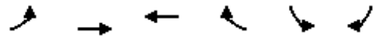
Intersection Summary				
Delay	10.7			
Level of Service	B			
Intersection Capacity Utilization	33.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	165	178	5	18	102
Future Volume (Veh/h)	68	165	178	5	18	102
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	179	193	5	20	111
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	198				433	99
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	198				433	99
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				96	88
cM capacity (veh/h)	1387				527	944

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	134	119	129	69	131
Volume Left	74	0	0	0	20
Volume Right	0	0	0	5	111
cSH	1387	1700	1700	1700	842
Volume to Capacity	0.05	0.07	0.08	0.04	0.16
Queue Length 95th (m)	1.4	0.0	0.0	0.0	4.4
Control Delay (s)	4.5	0.0	0.0	0.0	10.1
Lane LOS	A				B
Approach Delay (s)	2.4		0.0		10.1
Approach LOS					B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	28.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	123	141	27	32	42
Future Volume (Veh/h)	60	123	141	27	32	42
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	134	153	29	35	46
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	182				364	91
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	182				364	91
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				94	95
cM capacity (veh/h)	1405				585	955

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	110	89	102	80	81
Volume Left	65	0	0	0	35
Volume Right	0	0	0	29	46
cSH	1405	1700	1700	1700	750
Volume to Capacity	0.05	0.05	0.06	0.05	0.11
Queue Length 95th (m)	1.2	0.0	0.0	0.0	2.9
Control Delay (s)	4.7	0.0	0.0	0.0	10.4
Lane LOS	A				B
Approach Delay (s)	2.6		0.0		10.4
Approach LOS					B

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	24.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	124	146	30	22	22
Future Volume (Veh/h)	31	124	146	30	22	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	135	159	33	24	24
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	192				311	96
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	192				311	96
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				96	97
cM capacity (veh/h)	1394				646	948

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	79	90	106	86	48
Volume Left	34	0	0	0	24
Volume Right	0	0	0	33	24
cSH	1394	1700	1700	1700	769
Volume to Capacity	0.02	0.05	0.06	0.05	0.06
Queue Length 95th (m)	0.6	0.0	0.0	0.0	1.6
Control Delay (s)	3.4	0.0	0.0	0.0	10.0
Lane LOS	A				A
Approach Delay (s)	1.6		0.0		10.0
Approach LOS					A

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
2: Winston Churchill Boulevard & Erin Centre Boulevard

EX SAT
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	189	146	77	142	128	149	1215	120	160	1248	40
Future Volume (vph)	49	189	146	77	142	128	149	1215	120	160	1248	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1776	3283		1790	1863	1550	1804	4957		1805	5044	
Flt Permitted	0.55	1.00		0.40	1.00	1.00	0.14	1.00		0.13	1.00	
Satd. Flow (perm)	1026	3283		757	1863	1550	274	4957		254	5044	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	205	159	84	154	139	162	1321	130	174	1357	43
RTOR Reduction (vph)	0	105	0	0	0	106	0	5	0	0	2	0
Lane Group Flow (vph)	53	259	0	84	154	33	162	1446	0	174	1398	0
Confl. Peds. (#/hr)	22		16	16		22	17		6	6		17
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	35.7	35.7		35.7	35.7	35.7	106.6	95.6		107.0	95.8	
Effective Green, g (s)	38.2	38.2		38.2	38.2	38.2	110.6	97.6		111.0	97.8	
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.69	0.61		0.69	0.61	
Clearance Time (s)	7.5	7.5		7.5	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	244	783		180	444	370	313	3023		304	3083	
v/s Ratio Prot		0.08			0.08		0.04	c0.29		c0.05	0.28	
v/s Ratio Perm	0.05			c0.11		0.02	0.32			0.35		
v/c Ratio	0.22	0.33		0.47	0.35	0.09	0.52	0.48		0.57	0.45	
Uniform Delay, d1	48.9	50.3		52.2	50.5	47.4	10.7	17.2		11.4	16.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	3.00	1.40		1.00	1.00	
Incremental Delay, d2	0.4	0.2		1.9	0.5	0.1	1.1	0.4		2.6	0.5	
Delay (s)	49.3	50.6		54.1	51.0	47.5	33.1	24.5		14.0	17.2	
Level of Service	D	D		D	D	D	C	C		B	B	
Approach Delay (s)		50.4			50.4			25.4			16.9	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
3: Plantation Place/Russel View Road & Erin Centre Boulevard

EX SAT
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	370	64	53	279	14	50	27	56	18	24	23
Future Volume (vph)	25	370	64	53	279	14	50	27	56	18	24	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	0.99	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1795	3469		1792	3532		1799	1900	1585	1795	1747	
Flt Permitted	0.56	1.00		0.48	1.00		0.72	1.00	1.00	0.74	1.00	
Satd. Flow (perm)	1056	3469		908	3532		1371	1900	1585	1395	1747	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	402	70	58	303	15	54	29	61	20	26	25
RTOR Reduction (vph)	0	10	0	0	2	0	0	0	49	0	20	0
Lane Group Flow (vph)	27	462	0	58	316	0	54	29	12	20	31	0
Confl. Peds. (#/hr)	9		15	15		9	6		10	10		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	42.9	42.9		42.9	42.9		12.1	12.1	12.1	12.1	12.1	
Effective Green, g (s)	44.9	44.9		44.9	44.9		13.6	13.6	13.6	13.6	13.6	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.20	0.20	0.20	0.20	0.20	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	692	2273		595	2315		272	377	314	276	346	
v/s Ratio Prot		c0.13			0.09			0.02			0.02	
v/s Ratio Perm	0.03			0.06			c0.04		0.01	0.01		
v/c Ratio	0.04	0.20		0.10	0.14		0.20	0.08	0.04	0.07	0.09	
Uniform Delay, d1	4.2	4.7		4.3	4.5		22.9	22.3	22.2	22.3	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.3	0.1		0.4	0.1	0.1	0.1	0.1	
Delay (s)	4.3	4.9		4.7	4.6		23.3	22.4	22.2	22.4	22.5	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		4.9			4.6			22.7			22.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
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 (vph)	61	313	77	86	284	151	73	416	72	139	405	48
Future Volume (vph)	61	313	77	86	284	151	73	416	72	139	405	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.95		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1795	3440		1735	3360		1798	3482		1761	3545	
Flt Permitted	0.47	1.00		0.50	1.00		0.47	1.00		0.44	1.00	
Satd. Flow (perm)	897	3440		921	3360		882	3482		815	3545	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	340	84	93	309	164	79	452	78	151	440	52
RTOR Reduction (vph)	0	27	0	0	88	0	0	16	0	0	10	0
Lane Group Flow (vph)	66	397	0	93	385	0	79	514	0	151	482	0
Confl. Peds. (#/hr)	25		43	43		25	18		22	22		18
Confl. Bikes (#/hr)			1			1			1			
Heavy Vehicles (%)	0%	1%	0%	3%	1%	0%	0%	0%	3%	2%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	19.6	19.6		19.6	19.6		21.4	21.4		21.4	21.4	
Effective Green, g (s)	21.6	21.6		21.6	21.6		22.9	22.9		22.9	22.9	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.42	0.42		0.42	0.42	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	355	1363		365	1331		370	1463		342	1489	
v/s Ratio Prot		c0.12			0.11			0.15			0.14	
v/s Ratio Perm	0.07			0.10			0.09			c0.19		
v/c Ratio	0.19	0.29		0.25	0.29		0.21	0.35		0.44	0.32	
Uniform Delay, d1	10.7	11.2		11.0	11.2		10.1	10.7		11.2	10.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.1		0.4	0.1		0.3	0.1		0.9	0.1	
Delay (s)	11.0	11.3		11.4	11.3		10.4	10.9		12.2	10.7	
Level of Service	B	B		B	B		B	B		B	B	
Approach Delay (s)		11.3			11.4			10.8			11.1	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.37			
Actuated Cycle Length (s)	54.5	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	83.3%	ICU Level of Service	E	
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 (vph)	66	318	96	143	217	102	105	20	195	12	0	1
Future Volume (vph)	66	318	96	143	217	102	105	20	195	12	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99			1.00	0.98		1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00			0.99	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.95			1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96	1.00		0.96	
Satd. Flow (prot)	1790	3539	1541	1747	3400			1719	1559		3398	
Flt Permitted	0.54	1.00	1.00	0.54	1.00			0.75	1.00		0.80	
Satd. Flow (perm)	1024	3539	1541	1000	3400			1344	1559		2851	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	346	104	155	236	111	114	22	212	13	0	1
RTOR Reduction (vph)	0	0	45	0	46	0	0	0	150	0	10	0
Lane Group Flow (vph)	72	346	59	155	301	0	0	136	62	0	4	0
Confl. Peds. (#/hr)	14		9	9		14	21		6	6		21
Heavy Vehicles (%)	0%	2%	3%	3%	0%	0%	6%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	40.6	40.6	40.6	40.6	40.6			19.9	19.9		19.9	
Effective Green, g (s)	42.6	42.6	42.6	42.6	42.6			21.9	21.9		21.9	
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57			0.29	0.29		0.29	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	585	2023	881	571	1944			395	458		838	
v/s Ratio Prot		0.10			0.09							
v/s Ratio Perm	0.07		0.04	c0.15				c0.10	0.04		0.00	
v/c Ratio	0.12	0.17	0.07	0.27	0.15			0.34	0.14		0.00	
Uniform Delay, d1	7.3	7.6	7.1	8.1	7.5			20.7	19.3		18.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.4	0.2	0.1	1.2	0.2			0.5	0.1		0.0	
Delay (s)	7.8	7.8	7.3	9.3	7.7			21.2	19.5		18.6	
Level of Service	A	A	A	A	A			C	B		B	
Approach Delay (s)		7.7			8.2			20.1			18.6	
Approach LOS		A			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.30			
Actuated Cycle Length (s)	74.5	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	81.5%	ICU Level of Service	D	
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 (vph)	198	144	194	72	100	236	145	911	58	34	1233	221
Future Volume (vph)	198	144	194	72	100	236	145	911	58	34	1233	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.97	1.00	1.00	0.97	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)	1721	1921	1526	1779	1921	1556	1785	5193	1551	1780	5193	1512
Flt Permitted	0.62	1.00	1.00	0.67	1.00	1.00	0.18	1.00	1.00	0.30	1.00	1.00
Satd. Flow (perm)	1115	1921	1526	1246	1921	1556	329	5193	1551	564	5193	1512
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)	198	144	194	72	100	236	145	911	58	34	1233	221
RTOR Reduction (vph)	0	0	119	0	0	130	0	0	19	0	0	90
Lane Group Flow (vph)	198	144	75	72	100	106	145	911	39	34	1233	131
Confl. Peds. (#/hr)	12		4	4		12	5		4	4		5
Heavy Vehicles (%)	3%	0%	3%	0%	0%	0%	0%	1%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	37.1	37.1	37.1	24.1	24.1	24.1	106.3	106.3	106.3	94.5	94.5	94.5
Effective Green, g (s)	37.1	37.1	37.1	24.1	24.1	24.1	106.3	106.3	106.3	94.5	94.5	94.5
Actuated g/C Ratio	0.23	0.23	0.23	0.15	0.15	0.15	0.66	0.66	0.66	0.59	0.59	0.59
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	296	445	353	187	289	234	298	3450	1030	333	3067	893
v/s Ratio Prot	c0.04	0.07			0.05		c0.03	0.18			0.24	
v/s Ratio Perm	c0.11		0.05	0.06		0.07	c0.30		0.02	0.06		0.09
v/c Ratio	0.67	0.32	0.21	0.39	0.35	0.45	0.49	0.26	0.04	0.10	0.40	0.15
Uniform Delay, d1	54.8	51.0	49.6	61.3	60.9	61.9	11.4	10.9	9.2	14.3	17.6	14.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.93	0.61	0.31	1.00	1.00	1.00
Incremental Delay, d2	5.6	0.4	0.3	1.3	0.7	1.4	1.2	0.2	0.1	0.6	0.4	0.3
Delay (s)	60.4	51.5	49.9	62.6	61.6	63.3	23.2	6.8	2.9	14.9	18.0	15.0
Level of Service	E	D	D	E	E	E	C	A	A	B	B	B
Approach Delay (s)		54.2			62.8			8.7			17.5	
Approach LOS		D			E			A			B	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	304	334	190	191
Demand Flow Rate, veh/h	306	334	190	191
Vehicles Circulating, veh/h	207	164	311	321
Vehicles Exiting, veh/h	305	337	202	177
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	22	24	25
Ped Cap Adj	1.000	0.997	0.997	0.997
Approach Delay, s/veh	7.6	7.5	6.8	6.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	306	334	190	191
Cap Entry Lane, veh/h	919	959	828	820
Entry HV Adj Factor	0.993	1.000	1.000	1.000
Flow Entry, veh/h	304	334	190	191
Cap Entry, veh/h	912	956	825	817
V/C Ratio	0.333	0.349	0.230	0.234
Control Delay, s/veh	7.6	7.5	6.8	6.9
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	261	43	141	196	138	63	332	160	168	349	89
Future Volume (vph)	92	261	43	141	196	138	63	332	160	168	349	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1791	3508		1796	1900	1577	1782	3574	1559	1793	3574	1560
Flt Permitted	0.59	1.00		0.55	1.00	1.00	0.53	1.00	1.00	0.54	1.00	1.00
Satd. Flow (perm)	1116	3508		1044	1900	1577	988	3574	1559	1012	3574	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	284	47	153	213	150	68	361	174	183	379	97
RTOR Reduction (vph)	0	20	0	0	0	101	0	0	83	0	0	46
Lane Group Flow (vph)	100	311	0	153	213	49	68	361	91	183	379	51
Confl. Peds. (#/hr)	20		14	14		20	35		18	18		35
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	20.7	20.7		20.7	20.7	20.7	34.6	34.6	34.6	34.6	34.6	34.6
Effective Green, g (s)	22.7	22.7		22.7	22.7	22.7	36.1	36.1	36.1	36.1	36.1	36.1
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33	0.52	0.52	0.52	0.52	0.52	0.52
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	368	1157		344	626	520	518	1875	818	531	1875	818
v/s Ratio Prot		0.09			0.11			0.10			0.11	
v/s Ratio Perm	0.09			c0.15		0.03	0.07		0.06	c0.18		0.03
v/c Ratio	0.27	0.27		0.44	0.34	0.10	0.13	0.19	0.11	0.34	0.20	0.06
Uniform Delay, d1	17.0	16.9		18.1	17.4	15.9	8.3	8.6	8.3	9.5	8.7	8.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1		0.9	0.3	0.1	0.5	0.2	0.3	1.8	0.2	0.1
Delay (s)	17.4	17.1		19.0	17.7	16.0	8.9	8.9	8.5	11.3	8.9	8.2
Level of Service	B	B		B	B	B	A	A	A	B	A	A
Approach Delay (s)		17.1			17.6			8.8			9.5	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	126	113	1102	1364	150
Future Volume (vph)	0	126	113	1102	1364	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1563	1767	5193	5193	1526
Flt Permitted		1.00	0.17	1.00	1.00	1.00
Satd. Flow (perm)		1563	319	5193	5193	1526
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	126	113	1102	1364	150
RTOR Reduction (vph)	0	117	0	0	0	33
Lane Group Flow (vph)	0	9	113	1102	1364	117
Confl. Peds. (#/hr)	1		3			3
Heavy Vehicles (%)	2%	4%	1%	1%	1%	3%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		11.0	134.8	134.8	123.5	123.5
Effective Green, g (s)		11.0	134.8	134.8	123.5	123.5
Actuated g/C Ratio		0.07	0.84	0.84	0.77	0.77
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		107	343	4375	4008	1177
v/s Ratio Prot			c0.02	0.21	c0.26	
v/s Ratio Perm		c0.01	0.26			0.08
v/c Ratio		0.08	0.33	0.25	0.34	0.10
Uniform Delay, d1		69.8	2.7	2.5	5.6	4.5
Progression Factor		1.00	3.35	0.17	0.35	0.01
Incremental Delay, d2		0.3	0.5	0.1	0.2	0.2
Delay (s)		70.1	9.4	0.6	2.2	0.2
Level of Service		E	A	A	A	A
Approach Delay (s)	70.1			1.4	2.0	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
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 (vph)	153	564	279	292	531	153	239	1168	233	154	1082	117
Future Volume (vph)	153	564	279	292	531	153	239	1168	233	154	1082	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	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	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)	3502	3574	1583	3467	3574	1510	3467	4930		3502	4948	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3574	1583	3467	3574	1510	3467	4930		3502	4948	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	613	303	317	577	166	260	1270	253	167	1176	127
RTOR Reduction (vph)	0	0	156	0	0	122	0	15	0	0	7	0
Lane Group Flow (vph)	166	613	147	317	577	44	260	1508	0	167	1296	0
Confl. Peds. (#/hr)	24		7	7		24	13		18	18		13
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	12.9	35.9	35.9	16.7	39.7	39.7	15.8	69.4		13.0	66.6	
Effective Green, g (s)	12.9	38.4	38.4	16.7	42.2	42.2	15.8	71.9		13.0	69.1	
Actuated g/C Ratio	0.08	0.24	0.24	0.10	0.26	0.26	0.10	0.45		0.08	0.43	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	282	857	379	361	942	398	342	2215		284	2136	
v/s Ratio Prot	0.05	c0.17		c0.09	c0.16		c0.07	c0.31		0.05	0.26	
v/s Ratio Perm			0.09			0.03						
v/c Ratio	0.59	0.72	0.39	0.88	0.61	0.11	0.76	0.68		0.59	0.61	
Uniform Delay, d1	71.0	55.8	51.0	70.6	51.7	44.7	70.3	34.9		70.9	35.0	
Progression Factor	1.00	1.00	1.00	1.13	1.22	3.70	1.00	1.00		1.27	0.64	
Incremental Delay, d2	3.1	2.9	0.7	20.3	1.2	0.1	9.6	1.7		2.9	1.2	
Delay (s)	74.1	58.6	51.6	100.2	64.4	165.6	79.8	36.7		92.8	23.6	
Level of Service	E	E	D	F	E	F	E	D		F	C	
Approach Delay (s)		59.1			91.0			42.9			31.5	
Approach LOS		E			F			D			C	

Intersection Summary				
HCM 2000 Control Delay	52.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	91.5%	ICU Level of Service	F	
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 (vph)	61	892	21	50	823	94	31	49	53	162	48	60
Future Volume (vph)	61	892	21	50	823	94	31	49	53	162	48	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	0.99		1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.98	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1781	5067		1799	4973		1773	1731		1791	1900	1565
Flt Permitted	0.25	1.00		0.25	1.00		0.70	1.00		0.65	1.00	1.00
Satd. Flow (perm)	471	5067		478	4973		1307	1731		1229	1900	1565
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	970	23	54	895	102	34	53	58	176	52	65
RTOR Reduction (vph)	0	1	0	0	7	0	0	28	0	0	0	50
Lane Group Flow (vph)	66	992	0	54	990	0	34	83	0	176	52	15
Confl. Peds. (#/hr)	23		6	6		23	17		8	8		17
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	102.4	102.4		102.4	102.4		35.5	35.5		34.3	34.3	34.3
Effective Green, g (s)	104.4	104.4		104.4	104.4		38.0	38.0		36.8	36.8	36.8
Actuated g/C Ratio	0.65	0.65		0.65	0.65		0.24	0.24		0.23	0.23	0.23
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	307	3306		311	3244		310	411		282	437	359
v/s Ratio Prot		0.20			c0.20			0.05			0.03	
v/s Ratio Perm	0.14			0.11			0.03			c0.14		0.01
v/c Ratio	0.21	0.30		0.17	0.31		0.11	0.20		0.62	0.12	0.04
Uniform Delay, d1	11.2	12.0		10.9	12.1		47.8	48.8		55.4	48.8	47.9
Progression Factor	0.50	0.47		0.54	0.53		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	0.2		1.1	0.2		0.2	0.2		4.3	0.1	0.0
Delay (s)	7.0	5.8		7.0	6.7		47.9	49.1		59.6	48.9	47.9
Level of Service	A	A		A	A		D	D		E	D	D
Approach Delay (s)		5.9			6.7			48.8			55.1	
Approach LOS		A			A			D			E	

Intersection Summary				
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.38			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	69.0%	ICU Level of Service	C	
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 (vph)	137	785	85	111	872	143	93	317	70	220	345	103
Future Volume (vph)	137	785	85	111	872	143	93	317	70	220	345	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1785	5000		1794	4980		1756	3436		1797	3386	
Flt Permitted	0.21	1.00		0.25	1.00		0.45	1.00		0.33	1.00	
Satd. Flow (perm)	389	5000		481	4980		828	3436		621	3386	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	149	853	92	121	948	155	101	345	76	239	375	112
RTOR Reduction (vph)	0	6	0	0	11	0	0	15	0	0	22	0
Lane Group Flow (vph)	149	939	0	121	1092	0	101	406	0	239	465	0
Confl. Peds. (#/hr)	47		19	19		47	42		27	27		42
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	7	0	0	0	7	0	3	0	0	3	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	89.8	89.8		89.8	89.8		34.7	34.7		50.7	46.1	
Effective Green, g (s)	91.8	91.8		91.8	91.8		37.2	37.2		52.7	48.6	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.23	0.23		0.33	0.30	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	223	2868		275	2857		192	798		314	1028	
v/s Ratio Prot		0.19			0.22			0.12		c0.07	0.14	
v/s Ratio Perm	c0.38			0.25			c0.12			0.18		
v/c Ratio	0.67	0.33		0.44	0.38		0.53	0.51		0.76	0.45	
Uniform Delay, d1	23.6	17.9		19.4	18.6		53.7	53.5		43.3	45.0	
Progression Factor	0.63	0.70		1.21	1.21		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.3	0.3		4.9	0.4		2.6	0.5		10.4	0.3	
Delay (s)	29.2	12.8		28.4	22.9		56.3	54.0		53.7	45.3	
Level of Service	C	B		C	C		E	D		D	D	
Approach Delay (s)		15.1			23.5			54.4			48.1	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
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 (vph)	186	938	38	34	856	96	28	32	48	180	52	109
Future Volume (vph)	186	938	38	34	856	96	28	32	48	180	52	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.97		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.98	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1801	5049		1791	5005		1766	1685		1738	1900	1559
Flt Permitted	0.24	1.00		0.23	1.00		0.72	1.00		0.67	1.00	1.00
Satd. Flow (perm)	460	5049		443	5005		1338	1685		1226	1900	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	1020	41	37	930	104	30	35	52	196	57	118
RTOR Reduction (vph)	0	2	0	0	6	0	0	40	0	0	0	94
Lane Group Flow (vph)	202	1059	0	37	1028	0	30	47	0	196	57	24
Confl. Peds. (#/hr)	7		15	15		7	16		22	22		16
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	105.6	105.6		105.6	105.6		30.7	30.7		30.7	30.7	30.7
Effective Green, g (s)	107.6	107.6		107.6	107.6		33.2	33.2		33.2	33.2	33.2
Actuated g/C Ratio	0.67	0.67		0.67	0.67		0.21	0.21		0.21	0.21	0.21
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	309	3395		297	3365		277	349		254	394	323
v/s Ratio Prot		0.21			0.21			0.03			0.03	
v/s Ratio Perm	c0.44			0.08			0.02			c0.16		0.02
v/c Ratio	0.65	0.31		0.12	0.31		0.11	0.14		0.77	0.14	0.08
Uniform Delay, d1	15.3	10.9		9.4	10.8		51.4	51.7		59.8	51.8	51.0
Progression Factor	0.77	0.80		1.14	1.04		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.8	0.2		0.8	0.2		0.2	0.2		13.5	0.2	0.1
Delay (s)	21.5	8.9		11.4	11.5		51.6	51.9		73.3	52.0	51.1
Level of Service	C	A		B	B		D	D		E	D	D
Approach Delay (s)		10.9			11.5			51.8			63.0	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
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 (vph)	107	789	311	113	659	204	313	910	100	248	1092	129
Future Volume (vph)	107	789	311	113	659	204	313	910	100	248	1092	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.97
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)	3463	5193	1519	3429	5193	1469	3463	5193	1532	3463	5193	1553
Flt Permitted	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 (perm)	3463	5193	1519	3429	5193	1469	3463	5193	1532	3463	5193	1553
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)	107	789	311	113	659	204	313	910	100	248	1092	129
RTOR Reduction (vph)	0	0	147	0	0	144	0	0	60	0	0	80
Lane Group Flow (vph)	107	789	164	113	659	60	313	910	40	248	1092	49
Confl. Peds. (#/hr)	25		30	30		25	15		28	28		15
Heavy Vehicles (%)	0%	1%	1%	1%	1%	2%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	9.8	46.8	46.8	9.9	46.9	46.9	16.7	64.7	64.7	13.0	61.0	61.0
Effective Green, g (s)	9.8	46.8	46.8	9.9	46.9	46.9	16.7	64.7	64.7	13.0	61.0	61.0
Actuated g/C Ratio	0.06	0.29	0.29	0.06	0.29	0.29	0.10	0.40	0.40	0.08	0.38	0.38
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	212	1518	444	212	1522	430	361	2099	619	281	1979	592
v/s Ratio Prot	0.03	c0.15		c0.03	0.13		c0.09	c0.18		0.07	c0.21	
v/s Ratio Perm			0.11			0.04			0.03			0.03
v/c Ratio	0.50	0.52	0.37	0.53	0.43	0.14	0.87	0.43	0.07	0.88	0.55	0.08
Uniform Delay, d1	72.7	47.2	44.9	72.8	45.8	41.7	70.6	34.4	29.2	72.7	38.8	31.6
Progression Factor	1.08	0.95	0.92	1.00	1.00	1.00	1.07	1.08	2.10	1.27	0.69	0.33
Incremental Delay, d2	1.8	0.3	0.5	2.6	0.2	0.1	18.4	0.6	0.2	25.2	1.1	0.3
Delay (s)	80.3	45.2	41.6	75.4	46.0	41.8	94.1	37.9	61.3	117.8	28.0	10.8
Level of Service	F	D	D	E	D	D	F	D	E	F	C	B
Approach Delay (s)		47.4			48.5			53.0			41.6	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	107.4%	ICU Level of Service	G
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 (vph)	44	58	143	229	39	52	120	1368	261	32	1465	15
Future Volume (vph)	44	58	143	229	39	52	120	1368	261	32	1465	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.96
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)	1772	1921	1567	1778	1921	1566	1785	5193	1576	1785	5193	1514
Flt Permitted	0.73	1.00	1.00	0.61	1.00	1.00	0.13	1.00	1.00	0.19	1.00	1.00
Satd. Flow (perm)	1365	1921	1567	1149	1921	1566	253	5193	1576	350	5193	1514
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)	44	58	143	229	39	52	120	1368	261	32	1465	15
RTOR Reduction (vph)	0	0	127	0	0	37	0	0	76	0	0	5
Lane Group Flow (vph)	44	58	16	229	39	15	120	1368	185	32	1465	10
Confl. Peds. (#/hr)	7		6	6		7	9		1	1		9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		8		7	4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	17.5	17.5	17.5	30.5	30.5	30.5	113.5	113.5	113.5	102.0	102.0	102.0
Effective Green, g (s)	17.5	17.5	17.5	30.5	30.5	30.5	113.5	113.5	113.5	102.0	102.0	102.0
Actuated g/C Ratio	0.11	0.11	0.11	0.19	0.19	0.19	0.71	0.71	0.71	0.64	0.64	0.64
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	149	210	171	258	366	298	260	3683	1117	223	3310	965
v/s Ratio Prot		0.03		c0.06	0.02		c0.02	0.26			0.28	
v/s Ratio Perm	0.03		0.01	c0.11		0.01	c0.30		0.12	0.09		0.01
v/c Ratio	0.30	0.28	0.09	0.89	0.11	0.05	0.46	0.37	0.17	0.14	0.44	0.01
Uniform Delay, d1	65.6	65.4	64.1	62.3	53.5	52.9	9.4	9.2	7.7	11.6	14.6	10.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.79	0.84	0.72	0.76	0.67	1.00
Incremental Delay, d2	2.3	1.5	0.5	28.5	0.3	0.1	1.2	0.3	0.3	1.2	0.4	0.0
Delay (s)	67.9	66.9	64.6	90.7	53.8	53.1	18.1	8.0	5.8	9.9	10.2	10.6
Level of Service	E	E	E	F	D	D	B	A	A	A	B	B
Approach Delay (s)		65.7			80.1			8.3			10.2	
Approach LOS		E			F			A			B	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
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 (vph)	15	0	19	601	8	530	5	1219	0	0	1812	21
Future Volume (vph)	15	0	19	601	8	530	5	1219	0	0	1812	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	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
Frt	1.00		0.85	1.00	0.85	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1405		1044	3429	1511	1502	1275	5193			5193	1308
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1405		1044	3429	1511	1502	1275	5193			5193	1308
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)	15	0	19	601	8	530	5	1219	0	0	1812	21
RTOR Reduction (vph)	0	0	18	0	185	185	0	0	0	0	0	9
Lane Group Flow (vph)	15	0	1	601	83	85	5	1219	0	0	1812	12
Confl. Peds. (#/hr)							3					3
Heavy Vehicles (%)	27%	2%	53%	1%	75%	1%	40%	1%	0%	2%	1%	20%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	6.2		6.2	33.8	33.8	33.8	2.0	96.1			89.1	89.1
Effective Green, g (s)	6.2		6.2	33.8	33.8	33.8	2.0	96.1			89.1	89.1
Actuated g/C Ratio	0.04		0.04	0.21	0.21	0.21	0.01	0.60			0.56	0.56
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	54		40	724	319	317	15	3119			2891	728
v/s Ratio Prot	c0.01		0.00	c0.18	0.06		0.00	c0.23			c0.35	
v/s Ratio Perm						0.06						0.01
v/c Ratio	0.28		0.02	0.83	0.26	0.27	0.33	0.39			0.63	0.02
Uniform Delay, d1	74.7		74.0	60.4	52.7	52.8	78.3	16.7			24.1	15.9
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.06	0.87			0.63	1.00
Incremental Delay, d2	5.8		0.4	8.9	0.9	1.0	12.5	0.4			0.9	0.0
Delay (s)	80.5		74.4	69.2	53.6	53.7	95.9	14.8			16.1	15.9
Level of Service	F		E	E	D	D	F	B			B	B
Approach Delay (s)		77.1			61.9			15.1			16.1	
Approach LOS		E			E			B			B	

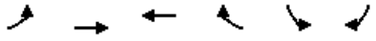
Intersection Summary				
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9	
Intersection Capacity Utilization	77.9%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	0	131	0	0	0	0	984	0	5	1428	0
Future Volume (vph)	121	0	131	0	0	0	0	984	0	5	1428	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1696	1734	1597					5193		892	5193	
Flt Permitted	0.95	0.95	1.00					1.00		0.27	1.00	
Satd. Flow (perm)	1696	1734	1597					5193		251	5193	
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)	121	0	131	0	0	0	0	984	0	5	1428	0
RTOR Reduction (vph)	0	0	52	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	60	61	79	0	0	0	0	984	0	5	1428	0
Confl. Peds. (#/hr)							6					6
Heavy Vehicles (%)	0%	58%	0%	2%	2%	2%	2%	1%	2%	100%	1%	1%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	15.3	15.3	15.3					126.2		130.6	130.6	
Effective Green, g (s)	15.3	15.3	15.3					126.2		130.6	130.6	
Actuated g/C Ratio	0.10	0.10	0.10					0.79		0.82	0.82	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	162	165	152					4095		210	4238	
v/s Ratio Prot	0.04	0.04	c0.05					0.19		0.00	c0.28	
v/s Ratio Perm										0.02		
v/c Ratio	0.37	0.37	0.52					0.24		0.02	0.34	
Uniform Delay, d1	67.8	67.8	68.8					4.4		2.8	3.7	
Progression Factor	1.00	1.00	1.00					1.00		1.10	0.91	
Incremental Delay, d2	3.0	2.9	5.8					0.1		0.0	0.2	
Delay (s)	70.8	70.7	74.6					4.5		3.1	3.5	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		72.8			0.0			4.5			3.5	
Approach LOS		E			A			A			A	

Intersection Summary				
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.36			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1	
Intersection Capacity Utilization	47.7%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
101: Ring Road & North Mall Access to Erin Centre Boulevard

EX SAT
08-15-2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	165	97	59	178	137	124
Future Volume (vph)	165	97	59	178	137	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	179	105	64	193	149	135

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	214	70	64	193	149	135
Volume Left (vph)	179	0	0	0	149	0
Volume Right (vph)	0	0	0	193	0	135
Hadj (s)	0.42	0.00	0.00	-0.60	0.57	-0.70
Departure Headway (s)	6.0	5.6	5.7	5.1	6.4	5.1
Degree Utilization, x	0.36	0.11	0.10	0.27	0.27	0.19
Capacity (veh/h)	571	610	599	674	532	653
Control Delay (s)	11.2	8.1	8.1	8.8	10.5	8.2
Approach Delay (s)	10.4		8.6		9.4	
Approach LOS	B		A		A	

Intersection Summary			
Delay	9.5		
Level of Service	A		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
102: Ring Road & West Mall Access to Glen Erin Drive

EX SAT
08-15-2024

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	229	290	176	89	107	199
Future Volume (vph)	229	290	176	89	107	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	315	191	97	116	216

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	249	315	223	65	116	216
Volume Left (vph)	249	0	191	0	0	0
Volume Right (vph)	0	315	0	0	0	216
Hadj (s)	0.50	-0.68	0.43	0.00	0.00	-0.70
Departure Headway (s)	6.7	5.5	7.0	6.6	6.6	5.9
Degree Utilization, x	0.46	0.48	0.44	0.12	0.21	0.35
Capacity (veh/h)	517	627	485	517	518	584
Control Delay (s)	14.2	12.4	14.1	9.3	10.1	10.8
Approach Delay (s)	13.2		13.0		10.6	
Approach LOS	B		B		B	

Intersection Summary			
Delay	12.4		
Level of Service	B		
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	89	229	182	2	30	124
Future Volume (Veh/h)	89	229	182	2	30	124
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	249	198	2	33	135
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	200				518	100
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	200				518	100
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				93	86
cM capacity (veh/h)	1384				458	943

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	180	166	132	68	168
Volume Left	97	0	0	0	33
Volume Right	0	0	0	2	135
cSH	1384	1700	1700	1700	780
Volume to Capacity	0.07	0.10	0.08	0.04	0.22
Queue Length 95th (m)	1.8	0.0	0.0	0.0	6.5
Control Delay (s)	4.5	0.0	0.0	0.0	10.9
Lane LOS	A				B
Approach Delay (s)	2.3		0.0		10.9
Approach LOS					B

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	189	134	43	55	50
Future Volume (Veh/h)	70	189	134	43	55	50
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	205	146	47	60	54
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	193				424	96
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	193				424	96
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				89	94
cM capacity (veh/h)	1392				533	947

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	144	137	97	96	114
Volume Left	76	0	0	0	60
Volume Right	0	0	0	47	54
cSH	1392	1700	1700	1700	672
Volume to Capacity	0.05	0.08	0.06	0.06	0.17
Queue Length 95th (m)	1.4	0.0	0.0	0.0	4.9
Control Delay (s)	4.3	0.0	0.0	0.0	11.4
Lane LOS	A				B
Approach Delay (s)	2.2		0.0		11.4
Approach LOS					B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	28.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	198	155	46	22	22
Future Volume (Veh/h)	46	198	155	46	22	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	215	168	50	24	24
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	218				400	109
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	218				400	109
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				96	97
cM capacity (veh/h)	1364				561	930

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	122	143	112	106	48
Volume Left	50	0	0	0	24
Volume Right	0	0	0	50	24
cSH	1364	1700	1700	1700	700
Volume to Capacity	0.04	0.08	0.07	0.06	0.07
Queue Length 95th (m)	0.9	0.0	0.0	0.0	1.8
Control Delay (s)	3.4	0.0	0.0	0.0	10.5
Lane LOS	A				B
Approach Delay (s)	1.5		0.0		10.5
Approach LOS					B

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	25.9%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX

D FUTURE BACKGROUND TRAFFIC CONDITIONS

APPENDIX

D-1 2032 FUTURE BACKGROUND

HCM Signalized Intersection Capacity Analysis
2: Winston Churchill Boulevard & Erin Centre Boulevard

FB2032 AM
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	286	178	102	169	159	68	994	71	184	1570	55
Future Volume (vph)	97	286	178	102	169	159	68	994	71	184	1570	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		1.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1780	3288		1798	1881	1494	1805	4953		1769	4937	
Flt Permitted	0.64	1.00		0.31	1.00	1.00	0.05	1.00		0.16	1.00	
Satd. Flow (perm)	1202	3288		589	1881	1494	104	4953		306	4937	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	311	193	111	184	173	74	1080	77	200	1707	60
RTOR Reduction (vph)	0	64	0	0	0	105	0	4	0	0	2	0
Lane Group Flow (vph)	105	440	0	111	184	68	74	1153	0	200	1765	0
Confl. Peds. (#/hr)	19		37	37		19	26		12	12		26
Heavy Vehicles (%)	0%	2%	0%	0%	1%	4%	0%	2%	6%	2%	3%	4%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	43.9	43.9		60.1	60.1	60.1	81.2	72.6		83.6	73.8	
Effective Green, g (s)	46.4	46.4		62.1	62.6	62.6	85.2	74.6		87.4	75.8	
Actuated g/C Ratio	0.29	0.29		0.39	0.39	0.39	0.53	0.47		0.55	0.47	
Clearance Time (s)	7.5	7.5		3.0	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	348	953		343	735	584	168	2309		275	2338	
v/s Ratio Prot		c0.13		c0.03	0.10		0.03	0.23		c0.05	c0.36	
v/s Ratio Perm	0.09			0.09		0.05	0.21			0.34		
v/c Ratio	0.30	0.46		0.32	0.25	0.12	0.44	0.50		0.73	0.75	
Uniform Delay, d1	44.2	46.6		32.8	32.9	31.1	26.0	29.7		21.5	34.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	2.36	1.20		1.00	1.00	
Incremental Delay, d2	0.5	0.4		0.6	0.2	0.1	1.5	0.6		9.2	2.3	
Delay (s)	44.7	46.9		33.3	33.0	31.1	62.9	36.2		30.7	36.8	
Level of Service	D	D		C	C	C	E	D		C	D	
Approach Delay (s)		46.5			32.4			37.8			36.2	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
3: Plantation Place/Russel View Road & Erin Centre Boulevard

FB2032 AM
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	397	136	36	294	29	115	69	68	44	79	37
Future Volume (vph)	13	397	136	36	294	29	115	69	68	44	79	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	0.98	1.00		0.97	1.00		0.99	1.00	1.00	0.99	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1765	3281		1750	3466		1768	1863	1583	1740	1795	
Flt Permitted	0.54	1.00		0.42	1.00		0.66	1.00	1.00	0.71	1.00	
Satd. Flow (perm)	1005	3281		775	3466		1220	1863	1583	1297	1795	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	432	148	39	320	32	125	75	74	48	86	40
RTOR Reduction (vph)	0	23	0	0	5	0	0	0	56	0	21	0
Lane Group Flow (vph)	14	557	0	39	347	0	125	75	18	48	105	0
Confl. Peds. (#/hr)	28		55	55		28	16		10	10		16
Heavy Vehicles (%)	0%	3%	3%	0%	2%	0%	1%	2%	0%	3%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	64.1	64.1		64.1	64.1		22.4	22.4	22.4	22.4	22.4	
Effective Green, g (s)	66.1	66.1		66.1	66.1		23.9	23.9	23.9	23.9	23.9	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.24	0.24	0.24	0.24	0.24	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	664	2168		512	2291		291	445	378	309	429	
v/s Ratio Prot		c0.17			0.10			0.04			0.06	
v/s Ratio Perm	0.01			0.05			c0.10		0.01	0.04		
v/c Ratio	0.02	0.26		0.08	0.15		0.43	0.17	0.05	0.16	0.24	
Uniform Delay, d1	5.8	6.9		6.1	6.4		32.3	30.2	29.3	30.1	30.7	
Progression Factor	1.00	1.00		0.69	0.68		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.3	0.1		1.0	0.2	0.1	0.2	0.3	
Delay (s)	5.9	7.2		4.4	4.5		33.3	30.4	29.3	30.3	31.0	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		7.2			4.5			31.4			30.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
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 (vph)	74	379	95	71	271	177	42	349	52	158	693	105
Future Volume (vph)	74	379	95	71	271	177	42	349	52	158	693	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00		0.99	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1718	3444		1694	3248		1773	3404		1768	3472	
Flt Permitted	0.40	1.00		0.38	1.00		0.33	1.00		0.45	1.00	
Satd. Flow (perm)	725	3444		679	3248		610	3404		838	3472	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	412	103	77	295	192	46	379	57	172	753	114
RTOR Reduction (vph)	0	24	0	0	117	0	0	11	0	0	11	0
Lane Group Flow (vph)	80	491	0	77	370	0	46	425	0	172	856	0
Confl. Peds. (#/hr)	54		15	15		54	70		6	6		70
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	3%	1%	0%	6%	2%	2%	0%	3%	4%	2%	1%	1%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	34.1	34.1		34.1	34.1		41.6	41.6		52.4	52.4	
Effective Green, g (s)	36.1	36.1		36.1	36.1		43.1	43.1		54.4	53.9	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.43	0.43		0.54	0.54	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		3.0	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	261	1243		245	1172		262	1467		547	1871	
v/s Ratio Prot		c0.14			0.11			0.12		0.03	c0.25	
v/s Ratio Perm	0.11			0.11			0.08			0.14		
v/c Ratio	0.31	0.40		0.31	0.32		0.18	0.29		0.31	0.46	
Uniform Delay, d1	23.0	23.8		23.0	23.0		17.5	18.5		11.6	14.1	
Progression Factor	0.80	0.83		1.00	1.00		0.82	0.83		1.00	1.00	
Incremental Delay, d2	0.7	0.2		0.7	0.2		1.5	0.5		0.3	0.8	
Delay (s)	19.1	20.1		23.8	23.2		15.8	15.9		12.0	14.9	
Level of Service	B	C		C	C		B	B		B	B	
Approach Delay (s)		20.0			23.3			15.8			14.4	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.44			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	92.9%	ICU Level of Service	F	
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 (vph)	147	439	53	62	285	284	35	63	90	25	6	8
Future Volume (vph)	147	439	53	62	285	284	35	63	90	25	6	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99			1.00	0.99		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	0.85	1.00	0.93			1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.98	1.00		0.97	
Satd. Flow (prot)	1800	3505	1501	1717	3246			1720	1503		3374	
Flt Permitted	0.41	1.00	1.00	0.48	1.00			0.87	1.00		0.78	
Satd. Flow (perm)	785	3505	1501	866	3246			1526	1503		2716	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	160	477	58	67	310	309	38	68	98	27	7	9
RTOR Reduction (vph)	0	0	20	0	107	0	0	0	78	0	7	0
Lane Group Flow (vph)	160	477	38	67	512	0	0	106	20	0	36	0
Confl. Peds. (#/hr)	8		5	5		8	14		3	3		14
Heavy Vehicles (%)	0%	3%	6%	5%	3%	0%	23%	0%	6%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	43.4	43.4	43.4	43.4	43.4			12.0	12.0		12.0	
Effective Green, g (s)	45.4	45.4	45.4	45.4	45.4			14.0	14.0		14.0	
Actuated g/C Ratio	0.65	0.65	0.65	0.65	0.65			0.20	0.20		0.20	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	513	2292	981	566	2123			307	303		547	
v/s Ratio Prot		0.14			0.16							
v/s Ratio Perm	c0.20		0.03	0.08				c0.07	0.01		0.01	
v/c Ratio	0.31	0.21	0.04	0.12	0.24			0.35	0.07		0.07	
Uniform Delay, d1	5.2	4.8	4.3	4.5	4.9			23.8	22.4		22.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	1.6	0.2	0.1	0.4	0.3			0.7	0.1		0.1	
Delay (s)	6.8	5.0	4.3	4.9	5.2			24.4	22.5		22.5	
Level of Service	A	A	A	A	A			C	C		C	
Approach Delay (s)		5.4			5.2			23.5			22.5	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.32			
Actuated Cycle Length (s)	69.4	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	70.8%	ICU Level of Service	C	
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 (vph)	199	154	210	60	133	50	119	1144	31	44	1464	304
Future Volume (vph)	199	154	210	60	133	50	119	1144	31	44	1464	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.97	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)	1717	1902	1526	1744	1883	1488	1767	5092	1498	1667	5092	1514
Flt Permitted	0.60	1.00	1.00	0.66	1.00	1.00	0.12	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)	1085	1902	1526	1210	1883	1488	214	5092	1498	413	5092	1514
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)	199	154	210	60	133	50	119	1144	31	44	1464	304
RTOR Reduction (vph)	0	0	102	0	0	41	0	0	12	0	0	142
Lane Group Flow (vph)	199	154	108	60	133	9	119	1144	19	44	1464	162
Confl. Peds. (#/hr)	17		4	4		17	4		2	2		4
Heavy Vehicles (%)	3%	1%	3%	2%	2%	4%	1%	3%	4%	7%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	46.2	46.2	46.2	30.2	30.2	30.2	97.2	97.2	97.2	85.2	85.2	85.2
Effective Green, g (s)	46.2	46.2	46.2	30.2	30.2	30.2	97.2	97.2	97.2	85.2	85.2	85.2
Actuated g/C Ratio	0.29	0.29	0.29	0.19	0.19	0.19	0.61	0.61	0.61	0.53	0.53	0.53
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	364	549	440	228	355	280	217	3093	910	219	2711	806
v/s Ratio Prot	c0.04	0.08			0.07		c0.03	0.22			0.29	
v/s Ratio Perm	c0.11		0.07	0.05		0.01	c0.30		0.01	0.11		0.11
v/c Ratio	0.55	0.28	0.24	0.26	0.37	0.03	0.55	0.37	0.02	0.20	0.54	0.20
Uniform Delay, d1	46.3	44.0	43.5	55.4	56.7	53.0	17.1	15.9	12.5	19.6	24.5	19.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.33	0.15	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.3	0.3	0.6	0.7	0.0	2.8	0.3	0.0	2.1	0.8	0.6
Delay (s)	47.9	44.3	43.8	56.0	57.3	53.0	42.7	2.8	12.5	21.6	25.3	20.1
Level of Service	D	D	D	E	E	D	D	A	B	C	C	C
Approach Delay (s)		45.4			56.1			6.7			24.4	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	6.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	231	263	158	221
Demand Flow Rate, veh/h	232	274	159	223
Vehicles Circulating, veh/h	258	127	270	241
Vehicles Exiting, veh/h	206	302	220	160
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	3	12	7	8
Ped Cap Adj	1.000	0.998	0.999	0.999
Approach Delay, s/veh	7.0	6.6	6.1	6.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	232	274	159	223
Cap Entry Lane, veh/h	873	995	863	888
Entry HV Adj Factor	0.996	0.958	0.994	0.990
Flow Entry, veh/h	231	263	158	221
Cap Entry, veh/h	869	952	856	878
V/C Ratio	0.266	0.276	0.185	0.251
Control Delay, s/veh	7.0	6.6	6.1	6.7
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	109	54	57	140	93	70	306	78	93	635	77
Future Volume (vph)	45	109	54	57	140	93	70	306	78	93	635	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1701	3381		1789	1881	1575	1797	3471	1501	1772	3539	1545
Flt Permitted	0.60	1.00		0.64	1.00	1.00	0.37	1.00	1.00	0.55	1.00	1.00
Satd. Flow (perm)	1082	3381		1205	1881	1575	697	3471	1501	1028	3539	1545
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	118	59	62	152	101	76	333	85	101	690	84
RTOR Reduction (vph)	0	45	0	0	0	77	0	0	29	0	0	27
Lane Group Flow (vph)	49	132	0	62	152	24	76	333	56	101	690	57
Confl. Peds. (#/hr)	16		14	14		16	13		32	32		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	5%	0%	2%	0%	1%	0%	0%	4%	2%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	21.8	21.8		21.8	21.8	21.8	64.7	64.7	64.7	64.7	64.7	64.7
Effective Green, g (s)	23.8	23.8		23.8	23.8	23.8	66.2	66.2	66.2	66.2	66.2	66.2
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.66	0.66	0.66	0.66	0.66	0.66
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	804		286	447	374	461	2297	993	680	2342	1022
v/s Ratio Prot		0.04			c0.08			0.10			c0.19	
v/s Ratio Perm	0.05			0.05		0.02	0.11		0.04	0.10		0.04
v/c Ratio	0.19	0.16		0.22	0.34	0.06	0.16	0.14	0.06	0.15	0.29	0.06
Uniform Delay, d1	30.4	30.2		30.6	31.6	29.5	6.4	6.3	5.9	6.3	7.1	5.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.63	0.61	0.23
Incremental Delay, d2	0.4	0.1		0.4	0.5	0.1	0.8	0.1	0.1	0.4	0.3	0.1
Delay (s)	30.8	30.3		31.0	32.0	29.6	7.2	6.5	6.0	4.4	4.6	1.5
Level of Service	C	C		C	C	C	A	A	A	A	A	A
Approach Delay (s)		30.4			31.0			6.5			4.3	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	47	79	1266	1670	77
Future Volume (vph)	0	47	79	1266	1670	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.99	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1418	1653	5092	5092	1446
Flt Permitted		1.00	0.12	1.00	1.00	1.00
Satd. Flow (perm)		1418	208	5092	5092	1446
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	47	79	1266	1670	77
RTOR Reduction (vph)	0	44	0	0	0	16
Lane Group Flow (vph)	0	3	79	1266	1670	61
Confl. Peds. (#/hr)	3	1	8			8
Heavy Vehicles (%)	2%	13%	8%	3%	3%	8%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		9.4	136.4	136.4	125.3	125.3
Effective Green, g (s)		9.4	136.4	136.4	125.3	125.3
Actuated g/C Ratio		0.06	0.85	0.85	0.78	0.78
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		83	250	4340	3987	1132
v/s Ratio Prot			c0.02	0.25	c0.33	
v/s Ratio Perm		c0.00	0.25			0.04
v/c Ratio		0.03	0.32	0.29	0.42	0.05
Uniform Delay, d1		71.0	2.8	2.3	5.6	3.9
Progression Factor		1.00	1.87	0.60	0.54	0.20
Incremental Delay, d2		0.2	0.6	0.1	0.3	0.1
Delay (s)		71.2	5.9	1.5	3.3	0.9
Level of Service		E	A	A	A	A
Approach Delay (s)	71.2			1.8	3.2	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
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 (vph)	104	751	248	174	487	95	140	944	214	250	1451	132
Future Volume (vph)	104	751	248	174	487	95	140	944	214	250	1451	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	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	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)	3502	3539	1557	3273	3505	1483	3335	4869		3433	4909	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3539	1557	3273	3505	1483	3335	4869		3433	4909	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	816	270	189	529	103	152	1026	233	272	1577	143
RTOR Reduction (vph)	0	0	99	0	0	71	0	21	0	0	6	0
Lane Group Flow (vph)	113	816	171	189	529	32	152	1238	0	272	1714	0
Confl. Peds. (#/hr)	22		13	13		22	16		14	14		16
Heavy Vehicles (%)	0%	2%	1%	7%	3%	2%	5%	2%	1%	2%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	10.5	43.1	43.1	14.0	46.6	46.6	12.6	62.4		15.5	65.3	
Effective Green, g (s)	10.5	45.6	45.6	14.0	49.1	49.1	12.6	64.9		15.5	67.8	
Actuated g/C Ratio	0.07	0.29	0.29	0.09	0.31	0.31	0.08	0.41		0.10	0.42	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	229	1008	443	286	1075	455	262	1974		332	2080	
v/s Ratio Prot	0.03	c0.23		c0.06	c0.15		0.05	0.25		c0.08	c0.35	
v/s Ratio Perm			0.11			0.02						
v/c Ratio	0.49	0.81	0.39	0.66	0.49	0.07	0.58	0.63		0.82	0.82	
Uniform Delay, d1	72.2	53.2	46.0	70.7	45.3	39.3	71.1	37.9		70.9	40.8	
Progression Factor	1.00	1.00	1.00	0.78	1.27	4.04	1.00	1.00		1.17	0.88	
Incremental Delay, d2	1.7	4.9	0.6	5.6	0.4	0.1	3.2	1.5		10.6	2.8	
Delay (s)	73.9	58.0	46.5	60.4	57.8	158.6	74.4	39.4		93.6	38.8	
Level of Service	E	E	D	E	E	F	E	D		F	D	
Approach Delay (s)		56.9			71.1			43.2			46.3	
Approach LOS		E			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	51.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	91.5%	ICU Level of Service	F	
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 (vph)	35	1166	19	51	692	37	16	31	83	93	34	51
Future Volume (vph)	35	1166	19	51	692	37	16	31	83	93	34	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1786	5019		1764	4984		1793	1670		1760	1845	1554
Flt Permitted	0.33	1.00		0.19	1.00		0.73	1.00		0.54	1.00	1.00
Satd. Flow (perm)	623	5019		345	4984		1384	1670		1000	1845	1554
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	1267	21	55	752	40	17	34	90	101	37	55
RTOR Reduction (vph)	0	1	0	0	2	0	0	71	0	0	0	47
Lane Group Flow (vph)	38	1287	0	55	790	0	17	53	0	101	37	8
Confl. Peds. (#/hr)	12		8	8		12	6		6	6		6
Heavy Vehicles (%)	0%	2%	6%	2%	2%	3%	0%	0%	0%	2%	3%	2%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	115.7	115.7		115.7	115.7		22.2	22.2		22.2	22.2	22.2
Effective Green, g (s)	117.7	117.7		117.7	117.7		24.7	24.7		24.7	24.7	24.7
Actuated g/C Ratio	0.74	0.74		0.74	0.74		0.15	0.15		0.15	0.15	0.15
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	458	3692		253	3666		213	257		154	284	239
v/s Ratio Prot		c0.26			0.16			0.03			0.02	
v/s Ratio Perm	0.06			0.16			0.01			c0.10		0.01
v/c Ratio	0.08	0.35		0.22	0.22		0.08	0.21		0.66	0.13	0.04
Uniform Delay, d1	6.0	7.5		6.7	6.6		57.9	59.1		63.7	58.4	57.5
Progression Factor	0.31	0.33		0.32	0.30		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2		1.9	0.1		0.2	0.4		9.6	0.2	0.1
Delay (s)	2.1	2.7		4.1	2.1		58.1	59.5		73.3	58.6	57.6
Level of Service	A	A		A	A		E	E		E	E	E
Approach Delay (s)		2.7			2.2			59.3			66.0	
Approach LOS		A			A			E			E	

Intersection Summary				
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.39			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	61.0%	ICU Level of Service	B	
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 (vph)	88	1090	86	74	599	116	57	255	102	252	382	59
Future Volume (vph)	88	1090	86	74	599	116	57	255	102	252	382	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1753	4956		1757	4825		1789	3301		1791	3414	
Flt Permitted	0.31	1.00		0.15	1.00		0.48	1.00		0.38	1.00	
Satd. Flow (perm)	569	4956		283	4825		901	3301		720	3414	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	96	1185	93	80	651	126	62	277	111	274	415	64
RTOR Reduction (vph)	0	5	0	0	15	0	0	30	0	0	8	0
Lane Group Flow (vph)	96	1273	0	80	762	0	62	358	0	274	471	0
Confl. Peds. (#/hr)	23		45	45		23	13		38	38		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	2%	3%	4%	0%	3%	1%	0%	3%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	3	0	0	3	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	82.8	82.8		82.8	82.8		38.7	38.7		57.7	53.9	
Effective Green, g (s)	84.8	84.8		84.8	84.8		41.2	41.2		59.7	56.4	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.26	0.26		0.37	0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	301	2626		149	2557		232	850		389	1203	
v/s Ratio Prot		0.26			0.16			c0.11		c0.08	0.14	
v/s Ratio Perm	0.17			c0.28			0.07			0.18		
v/c Ratio	0.32	0.48		0.54	0.30		0.27	0.42		0.70	0.39	
Uniform Delay, d1	21.3	23.8		24.7	21.0		47.4	49.5		37.7	38.9	
Progression Factor	0.47	0.49		1.51	1.63		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	0.6		13.0	0.3		0.6	0.3		5.7	0.2	
Delay (s)	12.6	12.3		50.4	34.5		48.0	49.8		43.4	39.1	
Level of Service	B	B		D	C		D	D		D	D	
Approach Delay (s)		12.3			36.0			49.5			40.7	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
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 (vph)	58	1393	62	32	735	58	44	27	65	90	26	38
Future Volume (vph)	58	1393	62	32	735	58	44	27	65	90	26	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.97		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1798	4995		1804	4935		1652	1624		1725	1900	1561
Flt Permitted	0.30	1.00		0.13	1.00		0.74	1.00		0.62	1.00	1.00
Satd. Flow (perm)	572	4995		239	4935		1285	1624		1117	1900	1561
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	1514	67	35	799	63	48	29	71	98	28	41
RTOR Reduction (vph)	0	2	0	0	4	0	0	59	0	0	0	34
Lane Group Flow (vph)	63	1579	0	35	858	0	48	41	0	98	28	7
Confl. Peds. (#/hr)	9		4	4		9	15		21	21		15
Heavy Vehicles (%)	0%	2%	4%	0%	3%	0%	7%	0%	2%	2%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	110.8	110.8		110.8	110.8		25.5	25.5		25.9	25.9	25.9
Effective Green, g (s)	112.8	112.8		112.8	112.8		28.0	28.0		28.4	28.4	28.4
Actuated g/C Ratio	0.70	0.70		0.70	0.70		0.18	0.18		0.18	0.18	0.18
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	403	3521		168	3479		224	284		198	337	277
v/s Ratio Prot		c0.32			0.17			0.03			0.01	
v/s Ratio Perm	0.11			0.15			0.04			c0.09		0.00
v/c Ratio	0.16	0.45		0.21	0.25		0.21	0.15		0.49	0.08	0.03
Uniform Delay, d1	7.8	10.2		8.2	8.4		56.6	55.9		59.3	54.9	54.4
Progression Factor	0.55	0.54		1.01	0.97		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	0.4		2.7	0.2		0.5	0.2		1.9	0.1	0.0
Delay (s)	5.0	5.9		10.9	8.3		57.1	56.1		61.3	55.0	54.4
Level of Service	A	A		B	A		E	E		E	E	D
Approach Delay (s)		5.9			8.4			56.4			58.5	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
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 (vph)	150	1151	252	106	621	184	157	1034	142	307	1270	106
Future Volume (vph)	150	1151	252	106	621	184	157	1034	142	307	1270	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96
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)	3298	5142	1473	3298	5092	1476	3429	5092	1545	3362	5043	1512
Flt Permitted	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 (perm)	3298	5142	1473	3298	5092	1476	3429	5092	1545	3362	5043	1512
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)	150	1151	252	106	621	184	157	1034	142	307	1270	106
RTOR Reduction (vph)	0	0	139	0	0	128	0	0	92	0	0	65
Lane Group Flow (vph)	150	1151	113	106	621	56	157	1034	50	307	1270	41
Confl. Peds. (#/hr)	20		52	52		20	31		20	20		31
Heavy Vehicles (%)	5%	2%	2%	5%	3%	2%	1%	3%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	12.4	51.3	51.3	9.4	48.3	48.3	12.4	56.3	56.3	17.4	61.3	61.3
Effective Green, g (s)	12.4	51.3	51.3	9.4	48.3	48.3	12.4	56.3	56.3	17.4	61.3	61.3
Actuated g/C Ratio	0.08	0.32	0.32	0.06	0.30	0.30	0.08	0.35	0.35	0.11	0.38	0.38
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	1648	472	193	1537	445	265	1791	543	365	1932	579
v/s Ratio Prot	c0.05	c0.22		0.03	0.12		0.05	0.20		c0.09	c0.25	
v/s Ratio Perm			0.08			0.04			0.03			0.03
v/c Ratio	0.59	0.70	0.24	0.55	0.40	0.12	0.59	0.58	0.09	0.84	0.66	0.07
Uniform Delay, d1	71.3	47.6	40.0	73.2	44.4	40.5	71.4	42.2	34.7	69.9	40.7	31.3
Progression Factor	1.04	0.72	0.56	1.00	1.00	1.00	1.26	1.01	2.32	0.95	1.64	5.40
Incremental Delay, d2	3.2	1.2	0.2	3.2	0.2	0.1	3.2	1.2	0.3	14.9	1.6	0.2
Delay (s)	77.7	35.2	22.6	76.4	44.6	40.6	93.3	43.8	80.9	81.7	68.5	169.0
Level of Service	E	D	C	E	D	D	F	D	F	F	E	F
Approach Delay (s)		37.3			47.5			53.5			77.2	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	55.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	113.9%	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 (vph)	48	81	240	295	66	62	115	1447	385	70	1668	25
Future Volume (vph)	48	81	240	295	66	62	115	1447	385	70	1668	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
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)	1723	1830	1549	1760	1830	1507	1750	5142	1567	1733	5092	1295
Flt Permitted	0.71	1.00	1.00	0.61	1.00	1.00	0.09	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	1295	1830	1549	1132	1830	1507	171	5142	1567	246	5092	1295
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)	48	81	240	295	66	62	115	1447	385	70	1668	25
RTOR Reduction (vph)	0	0	150	0	0	47	0	0	160	0	0	11
Lane Group Flow (vph)	48	81	90	295	66	15	115	1447	225	70	1668	14
Confl. Peds. (#/hr)	6		7	7		6	12		5	5		12
Heavy Vehicles (%)	3%	5%	1%	1%	5%	4%	2%	2%	0%	3%	3%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	19.6	19.6	19.6	39.6	39.6	39.6	102.7	93.4	93.4	100.1	92.1	92.1
Effective Green, g (s)	19.6	19.6	19.6	39.6	39.6	39.6	102.7	93.4	93.4	100.1	92.1	92.1
Actuated g/C Ratio	0.12	0.12	0.12	0.25	0.25	0.25	0.64	0.58	0.58	0.63	0.58	0.58
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	158	224	189	346	452	372	201	3001	914	228	2931	745
v/s Ratio Prot		0.04		c0.09	0.04		c0.03	0.28		0.02	0.33	
v/s Ratio Perm	0.04		0.06	c0.12		0.01	c0.33		0.14	0.18		0.01
v/c Ratio	0.30	0.36	0.48	0.85	0.15	0.04	0.57	0.48	0.25	0.31	0.57	0.02
Uniform Delay, d1	64.0	64.5	65.4	55.7	47.0	45.8	16.0	19.3	16.2	13.2	21.4	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.93	0.53	0.22	0.87	0.43	1.00
Incremental Delay, d2	2.3	2.1	3.9	18.0	0.3	0.1	3.4	0.5	0.6	0.6	0.7	0.0
Delay (s)	66.3	66.5	69.3	73.7	47.3	45.9	34.2	10.7	4.2	12.1	9.8	14.6
Level of Service	E	E	E	E	D	D	C	B	A	B	A	B
Approach Delay (s)		68.3			65.5			10.8			10.0	
Approach LOS		E			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

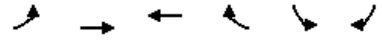
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	0	57	737	25	600	31	1345	0	0	2152	65
Future Volume (vph)	31	0	57	737	25	600	31	1345	0	0	2152	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	1.00			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
Frt	1.00		0.85	1.00	0.86	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1623		1058	3330	1440	1502	1417	5142			5142	1394
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1623		1058	3330	1440	1502	1417	5142			5142	1394
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)	31	0	57	737	25	600	31	1345	0	0	2152	65
RTOR Reduction (vph)	0	0	54	0	99	99	0	0	0	0	0	35
Lane Group Flow (vph)	31	0	3	737	214	213	31	1345	0	0	2152	30
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	10%	2%	51%	4%	104%	1%	26%	2%	0%	2%	2%	13%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	9.0		9.0	38.6	38.6	38.6	8.6	88.5			74.9	74.9
Effective Green, g (s)	9.0		9.0	38.6	38.6	38.6	8.6	88.5			74.9	74.9
Actuated g/C Ratio	0.06		0.06	0.24	0.24	0.24	0.05	0.55			0.47	0.47
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	91		59	803	347	362	76	2844			2407	652
v/s Ratio Prot	c0.02		0.00	c0.22	0.15		0.02	c0.26			c0.42	
v/s Ratio Perm						0.14						0.02
v/c Ratio	0.34		0.05	0.92	0.62	0.59	0.41	0.47			0.89	0.05
Uniform Delay, d1	72.6		71.5	59.2	54.1	53.7	73.2	21.6			38.9	23.1
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.13	0.86			0.59	1.00
Incremental Delay, d2	4.6		0.8	15.9	4.7	3.8	3.5	0.6			4.7	0.1
Delay (s)	77.3		72.3	75.1	58.8	57.5	86.5	19.2			27.7	23.2
Level of Service	E		E	E	E	E	F	B			C	C
Approach Delay (s)		74.0			67.3			20.7			27.6	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	37.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
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 (vph)	269	1	172	0	0	0	0	932	0	21	1829	0
Future Volume (vph)	269	1	172	0	0	0	0	932	0	21	1829	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1662	1693	1551					5142		892	5092	
Flt Permitted	0.95	0.95	1.00					1.00		0.28	1.00	
Satd. Flow (perm)	1662	1693	1551					5142		260	5092	
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)	269	1	172	0	0	0	0	932	0	21	1829	0
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	134	136	136	0	0	0	0	932	0	21	1829	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	2%	100%	3%	2%	2%	2%	2%	2%	4%	100%	3%	2%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	21.9	21.9	21.9					116.6		124.0	124.0	
Effective Green, g (s)	21.9	21.9	21.9					116.6		124.0	124.0	
Actuated g/C Ratio	0.14	0.14	0.14					0.73		0.78	0.78	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	227	231	212					3747		218	3946	
v/s Ratio Prot	0.08	0.08	c0.09					0.18		0.00	c0.36	
v/s Ratio Perm										0.07		
v/c Ratio	0.59	0.59	0.64					0.25		0.10	0.46	
Uniform Delay, d1	64.8	64.8	65.3					7.2		4.3	6.3	
Progression Factor	1.00	1.00	1.00					1.00		0.25	0.30	
Incremental Delay, d2	6.1	5.8	8.7					0.2		0.1	0.2	
Delay (s)	70.9	70.7	74.0					7.3		1.2	2.1	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		72.1			0.0			7.3			2.1	
Approach LOS		E			A			A			A	

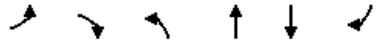
Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	112	46	59	81	41	75
Future Volume (vph)	112	46	59	81	41	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	122	50	64	88	45	82

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	139	33	64	88	45	82
Volume Left (vph)	122	0	0	0	45	0
Volume Right (vph)	0	0	0	88	0	82
Hadj (s)	0.45	0.05	0.00	-0.44	0.81	-0.70
Departure Headway (s)	5.4	5.0	5.0	4.6	6.1	4.6
Degree Utilization, x	0.21	0.05	0.09	0.11	0.08	0.10
Capacity (veh/h)	649	692	692	761	563	738
Control Delay (s)	8.6	7.1	7.3	6.9	8.4	6.9
Approach Delay (s)	8.3		7.1		7.4	
Approach LOS	A		A		A	

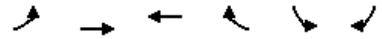
Intersection Summary			
Delay	7.7		
Level of Service	A		
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	163	120	88	34	43	202
Future Volume (vph)	163	120	88	34	43	202
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	177	130	96	37	47	220

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	177	130	108	25	47	220
Volume Left (vph)	177	0	96	0	0	0
Volume Right (vph)	0	130	0	0	0	220
Hadj (s)	0.52	-0.70	0.47	0.00	0.00	-0.70
Departure Headway (s)	6.0	4.8	6.1	5.6	5.5	4.8
Degree Utilization, x	0.29	0.17	0.18	0.04	0.07	0.29
Capacity (veh/h)	571	709	561	602	617	713
Control Delay (s)	10.3	7.6	9.3	7.7	7.7	8.6
Approach Delay (s)	9.1		9.0		8.4	
Approach LOS	A		A		A	

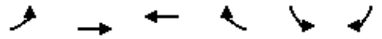
Intersection Summary			
Delay	8.8		
Level of Service	A		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	164	223	0	0	22
Future Volume (Veh/h)	33	164	223	0	0	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	178	242	0	0	24
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	242				403	121
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	242				403	121
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	97
cM capacity (veh/h)	1336				560	914

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	95	119	161	81	24
Volume Left	36	0	0	0	0
Volume Right	0	0	0	0	24
cSH	1336	1700	1700	1700	914
Volume to Capacity	0.03	0.07	0.09	0.05	0.03
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.6
Control Delay (s)	3.1	0.0	0.0	0.0	9.0
Lane LOS	A				A
Approach Delay (s)	1.4		0.0		9.0
Approach LOS					A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	148	214	12	10	9
Future Volume (Veh/h)	16	148	214	12	10	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	161	233	13	11	10
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	246				354	123
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	246				354	123
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1332				615	911

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	71	107	155	91	21
Volume Left	17	0	0	0	11
Volume Right	0	0	0	13	10
cSH	1332	1700	1700	1700	728
Volume to Capacity	0.01	0.06	0.09	0.05	0.03
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.7
Control Delay (s)	1.9	0.0	0.0	0.0	10.1
Lane LOS	A				B
Approach Delay (s)	0.8		0.0		10.1
Approach LOS					B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	24.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	143	221	14	5	5
Future Volume (Veh/h)	15	143	221	14	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	155	240	15	5	5
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	255				357	128
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	255				357	128
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1322				613	905

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	68	103	160	95	10
Volume Left	16	0	0	0	5
Volume Right	0	0	0	15	5
cSH	1322	1700	1700	1700	731
Volume to Capacity	0.01	0.06	0.09	0.06	0.01
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.3
Control Delay (s)	1.9	0.0	0.0	0.0	10.0
Lane LOS	A				A
Approach Delay (s)	0.8		0.0		10.0
Approach LOS					A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	24.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis FB2032 PM
2: Winston Churchill Boulevard & Erin Centre Boulevard 08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	178	117	75	245	121	204	1871	115	141	1333	72
Future Volume (vph)	51	178	117	75	245	121	204	1871	115	141	1333	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1792	3323		1787	1881	1563	1805	5027		1805	5029	
Flt Permitted	0.37	1.00		0.46	1.00	1.00	0.11	1.00		0.04	1.00	
Satd. Flow (perm)	701	3323		866	1881	1563	217	5027		81	5029	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	193	127	82	266	132	222	2034	125	153	1449	78
RTOR Reduction (vph)	0	77	0	0	0	98	0	4	0	0	3	0
Lane Group Flow (vph)	55	243	0	82	266	34	222	2155	0	153	1524	0
Confl. Peds. (#/hr)	13		17	17		13	7		7	7		7
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	38.9	38.9		38.9	38.9	38.9	104.5	92.3		102.7	91.4	
Effective Green, g (s)	41.4	41.4		41.4	41.4	41.4	108.5	94.3		106.7	93.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26	0.26	0.68	0.59		0.67	0.58	
Clearance Time (s)	7.5	7.5		7.5	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	181	859		224	486	404	288	2962		197	2935	
v/s Ratio Prot		0.07			c0.14		c0.07	c0.43		c0.06	0.30	
v/s Ratio Perm	0.08			0.09		0.02	0.45			0.45		
v/c Ratio	0.30	0.28		0.37	0.55	0.08	0.77	0.73		0.78	0.52	
Uniform Delay, d1	47.7	47.4		48.6	51.2	44.9	18.3	23.6		46.0	19.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	2.60	0.40		1.00	1.00	
Incremental Delay, d2	1.0	0.2		1.0	1.3	0.1	6.1	0.8		17.3	0.7	
Delay (s)	48.7	47.6		49.6	52.5	45.0	53.8	10.1		63.3	20.6	
Level of Service	D	D		D	D	D	D	B		E	C	
Approach Delay (s)		47.8			49.9			14.2			24.4	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis FB2032 PM
3: Plantation Place/Russel View Road & Erin Centre Boulevard 08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	363	77	69	385	27	62	54	70	18	23	19
Future Volume (vph)	17	363	77	69	385	27	62	54	70	18	23	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1800	3455		1762	3522		1799	1900	1592	1801	1757	
Flt Permitted	0.49	1.00		0.48	1.00		0.73	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	935	3455		887	3522		1377	1900	1592	1362	1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	395	84	75	418	29	67	59	76	20	25	21
RTOR Reduction (vph)	0	10	0	0	3	0	0	0	63	0	17	0
Lane Group Flow (vph)	18	469	0	75	444	0	67	59	13	20	29	0
Confl. Peds. (#/hr)	4		7	7		4	5		3	3		5
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	62.8	62.8		62.8	62.8		13.7	13.7	13.7	13.7	13.7	
Effective Green, g (s)	64.8	64.8		64.8	64.8		15.2	15.2	15.2	15.2	15.2	
Actuated g/C Ratio	0.72	0.72		0.72	0.72		0.17	0.17	0.17	0.17	0.17	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	673	2487		638	2535		232	320	268	230	296	
v/s Ratio Prot		c0.14			0.13			0.03			0.02	
v/s Ratio Perm	0.02			0.08			c0.05		0.01	0.01		
v/c Ratio	0.03	0.19		0.12	0.18		0.29	0.18	0.05	0.09	0.10	
Uniform Delay, d1	3.6	4.1		3.9	4.0		32.7	32.1	31.3	31.5	31.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.4	0.2		0.7	0.3	0.1	0.2	0.1	
Delay (s)	3.7	4.3		4.2	4.2		33.4	32.4	31.4	31.7	31.7	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		4.2			4.2			32.3			31.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
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 (vph)	66	261	57	77	333	144	103	634	798	92	410	77
Future Volume (vph)	66	261	57	77	333	144	103	634	798	92	410	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.95		1.00	0.92		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1800	3458		1728	3359		1797	3217		1752	3512	
Flt Permitted	0.29	1.00		0.46	1.00		0.45	1.00		0.11	1.00	
Satd. Flow (perm)	557	3458		842	3359		845	3217		196	3512	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	284	62	84	362	157	112	689	867	100	446	84
RTOR Reduction (vph)	0	25	0	0	65	0	0	146	0	0	10	0
Lane Group Flow (vph)	72	321	0	84	454	0	112	1410	0	100	520	0
Confl. Peds. (#/hr)	9		9	9		9	11					11
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	4%	1%	3%	0%	0%	4%	3%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	21.9	21.9		21.9	21.9		64.6	64.6		64.6	64.6	
Effective Green, g (s)	23.9	23.9		23.9	23.9		66.1	66.1		66.1	66.1	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.66	0.66		0.66	0.66	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	133	826		201	802		558	2126		129	2321	
v/s Ratio Prot		0.09			c0.14			0.44			0.15	
v/s Ratio Perm	0.13			0.10			0.13			c0.51		
v/c Ratio	0.54	0.39		0.42	0.57		0.20	0.66		0.78	0.22	
Uniform Delay, d1	33.3	31.9		32.2	33.5		6.6	10.2		11.8	6.7	
Progression Factor	1.00	1.00		1.00	1.00		0.85	0.78		1.00	1.00	
Incremental Delay, d2	4.4	0.3		1.4	0.9		0.8	1.6		35.6	0.2	
Delay (s)	37.7	32.2		33.6	34.4		6.4	9.6		47.4	7.0	
Level of Service	D	C		C	C		A	A		D	A	
Approach Delay (s)		33.2			34.3			9.4			13.4	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
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 (vph)	11	281	70	135	385	15	108	2	178	2	0	0
Future Volume (vph)	11	281	70	135	385	15	108	2	178	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99			1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	
Satd. Flow (prot)	1794	3505	1544	1749	3552			1687	1545		3422	
Flt Permitted	0.50	1.00	1.00	0.57	1.00			0.73	1.00		0.68	
Satd. Flow (perm)	943	3505	1544	1042	3552			1290	1545		2451	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	305	76	147	418	16	117	2	193	2	0	0
RTOR Reduction (vph)	0	0	29	0	2	0	0	0	146	0	0	0
Lane Group Flow (vph)	12	305	47	147	432	0	0	119	47	0	2	0
Confl. Peds. (#/hr)	13		5	5		13	9		5	5		9
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	3%	3%	3%	1%	0%	7%	0%	3%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	40.8	40.8	40.8	40.8	40.8			15.0	15.0		15.0	
Effective Green, g (s)	42.8	42.8	42.8	42.8	42.8			17.0	17.0		17.0	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61			0.24	0.24		0.24	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	578	2149	946	638	2178			314	376		596	
v/s Ratio Prot		0.09			0.12							
v/s Ratio Perm	0.01		0.03	c0.14				c0.09	0.03		0.00	
v/c Ratio	0.02	0.14	0.05	0.23	0.20			0.38	0.13		0.00	
Uniform Delay, d1	5.3	5.7	5.4	6.1	5.9			22.0	20.6		20.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.1	0.1	0.8	0.2			0.8	0.2		0.0	
Delay (s)	5.4	5.9	5.5	6.9	6.1			22.8	20.7		20.0	
Level of Service	A	A	A	A	A			C	C		B	
Approach Delay (s)		5.8			6.3			21.5			20.0	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	69.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
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 (vph)	210	143	98	74	135	63	143	1392	101	44	1326	254
Future Volume (vph)	210	143	98	74	135	63	143	1392	101	44	1326	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	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)	1727	1921	1466	1776	1921	1565	1785	5142	1551	1783	5142	1506
Flt Permitted	0.54	1.00	1.00	0.67	1.00	1.00	0.15	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	985	1921	1466	1245	1921	1565	288	5142	1551	337	5142	1506
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)	210	143	98	74	135	63	143	1392	101	44	1326	254
RTOR Reduction (vph)	0	0	76	0	0	55	0	0	34	0	0	105
Lane Group Flow (vph)	210	143	22	74	135	8	143	1392	67	44	1326	149
Confl. Peds. (#/hr)	7		6	6		7	8		4	4		8
Heavy Vehicles (%)	3%	0%	7%	0%	0%	0%	0%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	36.5	36.5	36.5	20.5	20.5	20.5	106.9	106.9	106.9	93.8	93.8	93.8
Effective Green, g (s)	36.5	36.5	36.5	20.5	20.5	20.5	106.9	106.9	106.9	93.8	93.8	93.8
Actuated g/C Ratio	0.23	0.23	0.23	0.13	0.13	0.13	0.67	0.67	0.67	0.59	0.59	0.59
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	284	438	334	159	246	200	286	3435	1036	197	3014	882
v/s Ratio Prot	c0.06	0.07			0.07		c0.03	0.27			0.26	
v/s Ratio Perm	c0.11		0.02	0.06		0.01	c0.30		0.04	0.13		0.10
v/c Ratio	0.74	0.33	0.07	0.47	0.55	0.04	0.50	0.41	0.07	0.22	0.44	0.17
Uniform Delay, d1	55.5	51.5	48.4	64.7	65.4	61.1	11.8	12.1	9.2	15.8	18.5	15.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.52	0.93	1.35	1.00	1.00	1.00
Incremental Delay, d2	9.7	0.4	0.1	2.1	2.5	0.1	1.3	0.3	0.1	2.6	0.5	0.4
Delay (s)	65.2	51.9	48.5	66.8	67.9	61.2	30.9	11.6	12.5	18.4	18.9	15.6
Level of Service	E	D	D	E	E	E	C	B	B	B	B	B
Approach Delay (s)		57.4			66.1			13.3			18.4	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	279	319	234	183
Demand Flow Rate, veh/h	279	319	234	185
Vehicles Circulating, veh/h	177	225	284	292
Vehicles Exiting, veh/h	300	293	172	252
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	4	10	16	7
Ped Cap Adj	0.999	0.999	0.998	0.999
Approach Delay, s/veh	6.9	7.9	7.2	6.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	279	319	234	185
Cap Entry Lane, veh/h	947	902	851	844
Entry HV Adj Factor	1.000	1.000	1.000	0.990
Flow Entry, veh/h	279	319	234	183
Cap Entry, veh/h	946	901	849	834
V/C Ratio	0.295	0.354	0.276	0.219
Control Delay, s/veh	6.9	7.9	7.2	6.6
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	158	35	86	170	116	80	618	98	101	358	517
Future Volume (vph)	89	158	35	86	170	116	80	618	98	101	358	517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	3500		1795	1900	1574	1802	3574	1568	1801	3574	1560
Flt Permitted	0.55	1.00		0.62	1.00	1.00	0.52	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)	1030	3500		1172	1900	1574	990	3574	1568	711	3574	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	172	38	93	185	126	87	672	107	110	389	562
RTOR Reduction (vph)	0	23	0	0	0	95	0	0	37	0	0	187
Lane Group Flow (vph)	97	187	0	93	185	31	87	672	70	110	389	375
Confl. Peds. (#/hr)	17		9	9		17	3		6	6		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	22.8	22.8		22.8	22.8	22.8	63.7	63.7	63.7	63.7	63.7	63.7
Effective Green, g (s)	24.8	24.8		24.8	24.8	24.8	65.2	65.2	65.2	65.2	65.2	65.2
Actuated g/C Ratio	0.25	0.25		0.25	0.25	0.25	0.65	0.65	0.65	0.65	0.65	0.65
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	868		290	471	390	645	2330	1022	463	2330	1017
v/s Ratio Prot		0.05			c0.10			0.19			0.11	
v/s Ratio Perm	0.09			0.08		0.02	0.09		0.04	0.15		c0.24
v/c Ratio	0.38	0.22		0.32	0.39	0.08	0.13	0.29	0.07	0.24	0.17	0.37
Uniform Delay, d1	31.2	29.9		30.7	31.3	28.8	6.6	7.5	6.3	7.2	6.8	8.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.87	0.61
Incremental Delay, d2	1.0	0.1		0.6	0.5	0.1	0.4	0.3	0.1	1.2	0.2	1.0
Delay (s)	32.2	30.0		31.4	31.9	28.9	7.1	7.8	6.5	7.3	6.0	5.9
Level of Service	C	C		C	C	C	A	A	A	A	A	A
Approach Delay (s)		30.7			30.8			7.5			6.1	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	133	95	1619	1427	139
Future Volume (vph)	0	133	95	1619	1427	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1537	1684	5142	5142	1493
Flt Permitted		1.00	0.16	1.00	1.00	1.00
Satd. Flow (perm)		1537	285	5142	5142	1493
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	133	95	1619	1427	139
RTOR Reduction (vph)	0	126	0	0	0	23
Lane Group Flow (vph)	0	7	95	1619	1427	116
Confl. Peds. (#/hr)	1		5			5
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	2%	4%	6%	2%	2%	5%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		8.3	137.5	137.5	126.5	126.5
Effective Green, g (s)		8.3	137.5	137.5	126.5	126.5
Actuated g/C Ratio		0.05	0.86	0.86	0.79	0.79
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		79	314	4418	4065	1180
v/s Ratio Prot			0.02	c0.31	0.28	
v/s Ratio Perm		c0.00	0.24			0.08
v/c Ratio		0.09	0.30	0.37	0.35	0.10
Uniform Delay, d1		72.2	2.2	2.3	4.9	3.8
Progression Factor		1.00	2.84	0.23	0.29	0.03
Incremental Delay, d2		0.5	0.4	0.2	0.2	0.2
Delay (s)		72.7	6.6	0.7	1.6	0.3
Level of Service		E	A	A	A	A
Approach Delay (s)	72.7			1.1	1.5	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
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 (vph)	215	771	231	274	804	231	329	1650	205	176	1133	117
Future Volume (vph)	215	771	231	274	804	231	329	1650	205	176	1133	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	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	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)	3502	3574	1552	3502	3539	1501	3467	4970		3502	4997	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3574	1552	3502	3539	1501	3467	4970		3502	4997	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	234	838	251	298	874	251	358	1793	223	191	1232	127
RTOR Reduction (vph)	0	0	121	0	0	101	0	9	0	0	8	0
Lane Group Flow (vph)	234	838	130	298	874	150	358	2007	0	191	1352	0
Confl. Peds. (#/hr)	29		16	16		29	10		31	31		10
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	1%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	10.0	42.0	42.0	18.5	50.5	50.5	17.0	64.5		10.0	57.5	
Effective Green, g (s)	11.0	44.5	44.5	18.5	53.0	53.0	17.0	67.0		10.0	60.0	
Actuated g/C Ratio	0.07	0.28	0.28	0.12	0.33	0.33	0.11	0.42		0.06	0.38	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	240	994	431	404	1172	497	368	2081		218	1873	
v/s Ratio Prot	c0.07	c0.23		0.09	c0.25		c0.10	c0.40		0.05	0.27	
v/s Ratio Perm			0.08			0.10						
v/c Ratio	0.97	0.84	0.30	0.74	0.75	0.30	0.97	0.96		0.88	0.72	
Uniform Delay, d1	74.4	54.5	45.5	68.4	47.5	39.8	71.3	45.3		74.4	42.8	
Progression Factor	1.00	1.00	1.00	0.72	1.17	1.88	1.00	1.00		0.89	1.36	
Incremental Delay, d2	50.6	6.6	0.4	6.5	2.5	0.3	39.4	12.9		27.4	2.2	
Delay (s)	125.0	61.1	45.9	55.6	58.1	75.0	110.7	58.3		93.4	60.5	
Level of Service	F	E	D	E	E	E	F	E		F	E	
Approach Delay (s)		69.5			60.6			66.2			64.6	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	65.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
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 (vph)	60	1014	20	81	1151	98	27	92	67	156	45	76
Future Volume (vph)	60	1014	20	81	1151	98	27	92	67	156	45	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1799	5068		1793	5012		1784	1764		1775	1900	1576
Flt Permitted	0.16	1.00		0.22	1.00		0.71	1.00		0.51	1.00	1.00
Satd. Flow (perm)	304	5068		408	5012		1339	1764		955	1900	1576
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	1102	22	88	1251	107	29	100	73	170	49	83
RTOR Reduction (vph)	0	1	0	0	5	0	0	18	0	0	0	64
Lane Group Flow (vph)	65	1123	0	88	1353	0	29	155	0	170	49	19
Confl. Peds. (#/hr)	11		14	14		11	11		8	8		11
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	104.1	104.1		104.1	104.1		33.8	33.8		33.2	33.2	33.2
Effective Green, g (s)	106.1	106.1		106.1	106.1		36.3	36.3		35.7	35.7	35.7
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.23	0.23		0.22	0.22	0.22
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	201	3360		270	3323		303	400		213	423	351
v/s Ratio Prot		0.22			c0.27			0.09			0.03	
v/s Ratio Perm	0.21			0.22			0.02			c0.18		0.01
v/c Ratio	0.32	0.33		0.33	0.41		0.10	0.39		0.80	0.12	0.05
Uniform Delay, d1	11.6	11.7		11.6	12.4		48.9	52.4		58.7	49.6	48.9
Progression Factor	0.39	0.30		0.61	0.61		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.2	0.1		2.7	0.3		0.1	0.6		18.5	0.1	0.1
Delay (s)	6.7	3.6		9.7	7.9		49.0	53.1		77.2	49.7	48.9
Level of Service	A	A		A	A		D	D		E	D	D
Approach Delay (s)		3.8			8.0			52.5			65.0	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
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 (vph)	96	960	114	131	1183	200	101	489	105	190	312	82
Future Volume (vph)	96	960	114	131	1183	200	101	489	105	190	312	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	1.0	5.0		5.0	5.0		6.0	6.0		1.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	4989		1777	4880		1764	3440		1803	3411	
Flt Permitted	0.10	1.00		0.20	1.00		0.50	1.00		0.17	1.00	
Satd. Flow (perm)	197	4989		376	4880		933	3440		325	3411	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	1043	124	142	1286	217	110	532	114	207	339	89
RTOR Reduction (vph)	0	8	0	0	13	0	0	12	0	0	14	0
Lane Group Flow (vph)	104	1159	0	142	1490	0	110	634	0	207	414	0
Confl. Peds. (#/hr)	96		23	23		96	32		25	25		32
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	3	0	0	3	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	92.3	87.3		80.9	80.9		37.2	37.2		53.2	53.2	
Effective Green, g (s)	94.3	89.3		82.9	82.9		38.7	38.7		55.2	54.7	
Actuated g/C Ratio	0.59	0.56		0.52	0.52		0.24	0.24		0.35	0.34	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	220	2784		194	2528		225	832		250	1166	
v/s Ratio Prot	c0.03	0.23			0.31			c0.18		c0.08	0.12	
v/s Ratio Perm	0.25			c0.38			0.12			0.21		
v/c Ratio	0.47	0.42		0.73	0.59		0.49	0.76		0.83	0.35	
Uniform Delay, d1	18.6	20.3		29.9	26.7		52.1	56.4		41.1	39.4	
Progression Factor	1.11	0.62		0.46	0.36		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	0.4		20.1	0.9		1.7	4.2		19.7	0.2	
Delay (s)	22.1	13.1		34.0	10.7		53.8	60.5		60.8	39.6	
Level of Service	C	B		C	B		D	E		E	D	
Approach Delay (s)		13.8			12.7			59.5			46.5	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
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 (vph)	126	1080	59	45	1333	89	50	35	40	145	37	115
Future Volume (vph)	126	1080	59	45	1333	89	50	35	40	145	37	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.98		1.00	1.00	0.94
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.95	1.00		0.98	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1801	5037		1796	5031		1719	1720		1775	1900	1515
Flt Permitted	0.13	1.00		0.19	1.00		0.71	1.00		0.70	1.00	1.00
Satd. Flow (perm)	240	5037		356	5031		1292	1720		1310	1900	1515
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	137	1174	64	49	1449	97	54	38	43	158	40	125
RTOR Reduction (vph)	0	3	0	0	4	0	0	28	0	0	0	62
Lane Group Flow (vph)	137	1235	0	49	1542	0	54	53	0	158	40	63
Confl. Peds. (#/hr)	17		13	13		17	35		13	13		35
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	105.1	105.1		105.1	105.1		31.6	31.6		30.8	30.8	30.8
Effective Green, g (s)	107.1	107.1		107.1	107.1		34.1	34.1		33.3	33.3	33.3
Actuated g/C Ratio	0.67	0.67		0.67	0.67		0.21	0.21		0.21	0.21	0.21
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	160	3371		238	3367		275	366		272	395	315
v/s Ratio Prot		0.25			0.31			0.03			0.02	
v/s Ratio Perm	c0.57			0.14			0.04			c0.12		0.04
v/c Ratio	0.86	0.37		0.21	0.46		0.20	0.14		0.58	0.10	0.20
Uniform Delay, d1	20.5	11.6		10.1	12.6		51.7	51.1		57.1	51.2	52.4
Progression Factor	0.99	0.36		0.17	0.15		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	37.5	0.3		1.6	0.4		0.4	0.2		3.1	0.1	0.3
Delay (s)	57.8	4.5		3.3	2.3		52.0	51.3		60.2	51.4	52.7
Level of Service	E	A		A	A		D	D		E	D	D
Approach Delay (s)		9.8			2.3			51.6			56.2	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
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 (vph)	142	913	255	147	1049	281	303	1283	108	199	1171	152
Future Volume (vph)	142	913	255	147	1049	281	303	1283	108	199	1171	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.97
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)	3463	5142	1520	3330	5193	1492	3463	5142	1550	3429	5142	1513
Flt Permitted	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 (perm)	3463	5142	1520	3330	5193	1492	3463	5142	1550	3429	5142	1513
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)	142	913	255	147	1049	281	303	1283	108	199	1171	152
RTOR Reduction (vph)	0	0	159	0	0	171	0	0	67	0	0	98
Lane Group Flow (vph)	142	913	96	147	1049	110	303	1283	41	199	1171	54
Confl. Peds. (#/hr)	19		29	29		19	21		17	17		21
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	2%	1%	4%	1%	1%	0%	2%	0%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	11.9	50.3	50.3	9.8	48.2	48.2	17.2	60.7	60.7	13.6	57.1	57.1
Effective Green, g (s)	11.9	50.3	50.3	9.8	48.2	48.2	17.2	60.7	60.7	13.6	57.1	57.1
Actuated g/C Ratio	0.07	0.31	0.31	0.06	0.30	0.30	0.11	0.38	0.38	0.08	0.36	0.36
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	1616	477	203	1564	449	372	1950	588	291	1835	539
v/s Ratio Prot	0.04	0.18		c0.04	c0.20		c0.09	c0.25		0.06	0.23	
v/s Ratio Perm			0.06			0.07			0.03			0.04
v/c Ratio	0.55	0.56	0.20	0.72	0.67	0.24	0.81	0.66	0.07	0.68	0.64	0.10
Uniform Delay, d1	71.5	45.7	40.1	73.8	49.0	42.2	69.8	41.1	31.7	71.1	42.8	34.3
Progression Factor	0.95	1.17	3.53	1.00	1.00	1.00	1.32	1.00	2.08	1.35	0.71	0.55
Incremental Delay, d2	2.4	0.4	0.2	12.1	1.1	0.3	11.4	1.5	0.2	6.2	1.6	0.4
Delay (s)	70.5	54.2	142.0	85.8	50.1	42.5	103.3	42.4	66.0	102.4	31.9	19.3
Level of Service	E	D	F	F	D	D	F	D	E	F	C	B
Approach Delay (s)		73.0			52.2			54.8			39.8	
Approach LOS		E			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	54.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6	
Intersection Capacity Utilization	107.7%	ICU Level of Service	G	
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 (vph)	31	71	174	344	118	81	155	1695	386	33	1573	36
Future Volume (vph)	31	71	174	344	118	81	155	1695	386	33	1573	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	1.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
Flpb, ped/bikes	0.99	1.00	1.00	0.99	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)	1765	1883	1557	1771	1902	1527	1767	5142	1549	1716	5142	1506
Flt Permitted	0.68	1.00	1.00	0.68	1.00	1.00	0.11	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	1266	1883	1557	1274	1902	1527	198	5142	1549	186	5142	1506
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)	31	71	174	344	118	81	155	1695	386	33	1573	36
RTOR Reduction (vph)	0	0	149	0	0	62	0	0	147	0	0	15
Lane Group Flow (vph)	31	71	25	344	118	19	155	1695	239	33	1573	21
Confl. Peds. (#/hr)	12		11	11		12	11		6	6		11
Heavy Vehicles (%)	0%	2%	0%	0%	1%	2%	1%	2%	1%	4%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	23.0	23.0	23.0	37.0	37.0	37.0	107.0	98.1	98.1	98.5	92.6	92.6
Effective Green, g (s)	23.0	23.0	23.0	39.0	37.0	37.0	107.0	98.1	98.1	98.5	92.6	92.6
Actuated g/C Ratio	0.14	0.14	0.14	0.24	0.23	0.23	0.67	0.61	0.61	0.62	0.58	0.58
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	181	270	223	350	439	353	244	3152	949	170	2975	871
v/s Ratio Prot		0.04		c0.08	0.06		c0.05	0.33		0.01	0.31	
v/s Ratio Perm	0.02		0.02	0.16		0.01	c0.38		0.15	0.11		0.01
v/c Ratio	0.17	0.26	0.11	0.98	0.27	0.05	0.64	0.54	0.25	0.19	0.53	0.02
Uniform Delay, d1	60.1	61.0	59.6	58.9	50.4	47.9	15.1	17.9	14.2	13.5	20.5	14.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.23	0.49	0.21	0.71	0.46	1.00
Incremental Delay, d2	0.9	1.1	0.5	43.2	0.7	0.1	4.4	0.5	0.5	0.5	0.6	0.0
Delay (s)	61.1	62.0	60.1	102.1	51.1	48.0	38.1	9.3	3.5	10.1	10.0	14.4
Level of Service	E	E	E	F	D	D	D	A	A	B	A	B
Approach Delay (s)		60.7			83.0			10.3			10.1	
Approach LOS		E			F			B			B	

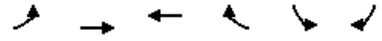
Intersection Summary				
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	85.0%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	0	50	894	23	658	25	1516	0	0	2018	42
Future Volume (vph)	33	0	50	894	23	658	25	1516	0	0	2018	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	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
Frt	1.00		0.85	1.00	0.86	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1580		1037	3429	1486	1502	1394	5142			5193	1456
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1580		1037	3429	1486	1502	1394	5142			5193	1456
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)	33	0	50	894	23	658	25	1516	0	0	2018	42
RTOR Reduction (vph)	0	0	47	0	117	117	0	0	0	0	0	23
Lane Group Flow (vph)	33	0	3	894	228	219	25	1516	0	0	2018	19
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	13%	2%	54%	1%	70%	1%	28%	2%	2%	2%	1%	8%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	9.2		9.2	42.6	42.6	42.6	6.3	84.3			73.0	73.0
Effective Green, g (s)	9.2		9.2	42.6	42.6	42.6	6.3	84.3			73.0	73.0
Actuated g/C Ratio	0.06		0.06	0.27	0.27	0.27	0.04	0.53			0.46	0.46
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	90		59	912	395	399	54	2709			2369	664
v/s Ratio Prot	c0.02		0.00	c0.26	0.15		0.02	c0.29			c0.39	
v/s Ratio Perm						0.15						0.01
v/c Ratio	0.37		0.05	0.98	0.58	0.55	0.46	0.56			0.85	0.03
Uniform Delay, d1	72.6		71.3	58.3	50.9	50.5	75.2	25.4			38.7	24.0
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.26	0.83			0.56	1.00
Incremental Delay, d2	5.2		0.7	25.1	3.3	2.7	5.9	0.8			3.5	0.1
Delay (s)	77.8		72.0	83.4	54.2	53.2	100.3	21.9			25.0	24.0
Level of Service	E		E	F	D	D	F	C			C	C
Approach Delay (s)		74.3			70.5			23.1			25.0	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
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 (vph)	220	7	189	0	0	0	0	1385	0	16	1950	0
Future Volume (vph)	220	7	189	0	0	0	0	1385	0	16	1950	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1585	1583	1521					5142		892	5142	
Flt Permitted	0.95	0.96	1.00					1.00		0.16	1.00	
Satd. Flow (perm)	1585	1583	1521					5142		152	5142	
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)	220	7	189	0	0	0	0	1385	0	16	1950	0
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	114	113	153	0	0	0	0	1385	0	16	1950	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	7%	58%	5%	2%	2%	2%	2%	2%	3%	100%	2%	2%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	23.6	23.6	23.6					116.4		122.3	122.3	
Effective Green, g (s)	23.6	23.6	23.6					116.4		122.3	122.3	
Actuated g/C Ratio	0.15	0.15	0.15					0.73		0.76	0.76	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	233	233	224					3740		129	3930	
v/s Ratio Prot	0.07	0.07	c0.10					0.27		0.00	c0.38	
v/s Ratio Perm										0.09		
v/c Ratio	0.49	0.48	0.68					0.37		0.12	0.50	
Uniform Delay, d1	62.7	62.6	64.7					8.1		5.2	7.2	
Progression Factor	1.00	1.00	1.00					1.00		0.16	0.31	
Incremental Delay, d2	3.4	3.3	10.6					0.3		0.2	0.2	
Delay (s)	66.0	65.9	75.3					8.4		1.0	2.4	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		70.2			0.0			8.4			2.4	
Approach LOS		E			A			A			A	

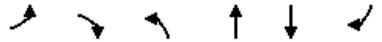
Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	100	49	44	185	96	107
Future Volume (vph)	100	49	44	185	96	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	53	48	201	104	116

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	127	35	48	201	104	116
Volume Left (vph)	109	0	0	0	104	0
Volume Right (vph)	0	0	0	201	0	116
Hadj (s)	0.43	0.00	0.00	-0.60	0.62	-0.70
Departure Headway (s)	5.8	5.3	5.3	4.7	6.1	4.8
Degree Utilization, x	0.20	0.05	0.07	0.26	0.18	0.15
Capacity (veh/h)	593	641	647	736	560	704
Control Delay (s)	9.0	7.4	7.5	8.1	9.2	7.4
Approach Delay (s)	8.7		8.0		8.3	
Approach LOS	A		A		A	

Intersection Summary				
Delay	8.3			
Level of Service	A			
Intersection Capacity Utilization	27.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	153	207	199	80	104	176
Future Volume (vph)	153	207	199	80	104	176
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	166	225	216	87	113	191

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	166	225	245	58	113	191
Volume Left (vph)	166	0	216	0	0	0
Volume Right (vph)	0	225	0	0	0	191
Hadj (s)	0.50	-0.70	0.44	0.00	0.00	-0.70
Departure Headway (s)	6.6	5.4	6.5	6.0	6.1	5.4
Degree Utilization, x	0.30	0.34	0.44	0.10	0.19	0.28
Capacity (veh/h)	519	632	538	568	562	638
Control Delay (s)	11.2	9.9	13.3	8.5	9.3	9.3
Approach Delay (s)	10.5		12.3		9.3	
Approach LOS	B		B		A	

Intersection Summary				
Delay	10.7			
Level of Service	B			
Intersection Capacity Utilization	33.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	165	178	5	18	102
Future Volume (Veh/h)	68	165	178	5	18	102
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	179	193	5	20	111
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	198				433	99
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	198				433	99
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				96	88
cM capacity (veh/h)	1387				527	944

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	134	119	129	69	131
Volume Left	74	0	0	0	20
Volume Right	0	0	0	5	111
cSH	1387	1700	1700	1700	842
Volume to Capacity	0.05	0.07	0.08	0.04	0.16
Queue Length 95th (m)	1.4	0.0	0.0	0.0	4.4
Control Delay (s)	4.5	0.0	0.0	0.0	10.1
Lane LOS	A				B
Approach Delay (s)	2.4		0.0		10.1
Approach LOS					B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	28.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	123	141	27	32	42
Future Volume (Veh/h)	60	123	141	27	32	42
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	134	153	29	35	46
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	182				364	91
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	182				364	91
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				94	95
cM capacity (veh/h)	1405				585	955

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	110	89	102	80	81
Volume Left	65	0	0	0	35
Volume Right	0	0	0	29	46
cSH	1405	1700	1700	1700	750
Volume to Capacity	0.05	0.05	0.06	0.05	0.11
Queue Length 95th (m)	1.2	0.0	0.0	0.0	2.9
Control Delay (s)	4.7	0.0	0.0	0.0	10.4
Lane LOS	A				B
Approach Delay (s)	2.6		0.0		10.4
Approach LOS					B

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	24.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
203: Ring Road & Site East Driveway

FB2032 PM
08-15-2024

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	124	146	30	22	22
Future Volume (Veh/h)	31	124	146	30	22	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	135	159	33	24	24
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	192				311	96
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	192				311	96
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				96	97
cM capacity (veh/h)	1394				646	948

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	79	90	106	86	48
Volume Left	34	0	0	0	24
Volume Right	0	0	0	33	24
cSH	1394	1700	1700	1700	769
Volume to Capacity	0.02	0.05	0.06	0.05	0.06
Queue Length 95th (m)	0.6	0.0	0.0	0.0	1.6
Control Delay (s)	3.4	0.0	0.0	0.0	10.0
Lane LOS	A				A
Approach Delay (s)	1.6		0.0		10.0
Approach LOS					A

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
15: Erin Mills Parkway & Credit Valley Road

FB2032 PM - Optimized
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	71	174	344	118	81	155	1695	386	33	1573	36
Future Volume (vph)	31	71	174	344	118	81	155	1695	386	33	1573	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
Flpb, ped/bikes	0.99	1.00	1.00	0.99	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)	1765	1883	1557	1772	1902	1527	1767	5142	1549	1716	5142	1506
Flt Permitted	0.68	1.00	1.00	0.63	1.00	1.00	0.10	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	1266	1883	1557	1173	1902	1527	182	5142	1549	174	5142	1506
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)	31	71	174	344	118	81	155	1695	386	33	1573	36
RTOR Reduction (vph)	0	0	149	0	0	59	0	0	151	0	0	17
Lane Group Flow (vph)	31	71	25	344	118	22	155	1695	235	33	1573	19
Confl. Peds. (#/hr)	12		11	11		12	11		6	6		11
Heavy Vehicles (%)	0%	2%	0%	0%	1%	2%	1%	2%	1%	4%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	23.0	23.0	23.0	43.0	43.0	43.0	101.0	92.0	92.0	92.1	86.1	86.1
Effective Green, g (s)	23.0	23.0	23.0	43.0	43.0	43.0	101.0	92.0	92.0	92.1	86.1	86.1
Actuated g/C Ratio	0.14	0.14	0.14	0.27	0.27	0.27	0.63	0.58	0.58	0.58	0.54	0.54
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	181	270	223	378	511	410	232	2956	890	157	2767	810
v/s Ratio Prot		0.04		c0.10	0.06		c0.05	0.33		0.01	0.31	
v/s Ratio Perm	0.02		0.02	c0.15		0.01	c0.37		0.15	0.11		0.01
v/c Ratio	0.17	0.26	0.11	0.91	0.23	0.05	0.67	0.57	0.26	0.21	0.57	0.02
Uniform Delay, d1	60.1	61.0	59.6	55.0	45.6	43.4	18.7	21.6	17.0	16.6	24.6	17.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.07	0.50	0.19	0.64	0.47	1.00
Incremental Delay, d2	0.9	1.1	0.5	25.4	0.5	0.1	5.8	0.7	0.6	0.6	0.7	0.0
Delay (s)	61.1	62.0	60.1	80.4	46.1	43.5	44.4	11.4	3.8	11.1	12.2	17.3
Level of Service	E	E	E	F	D	D	D	B	A	B	B	B
Approach Delay (s)		60.7			67.4			12.3			12.3	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
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 (vph)	33	0	50	894	23	658	25	1516	0	0	2018	42
Future Volume (vph)	33	0	50	894	23	658	25	1516	0	0	2018	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	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
Frt	1.00		0.85	1.00	0.86	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1580		1037	3429	1486	1502	1394	5142			5193	1456
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1580		1037	3429	1486	1502	1394	5142			5193	1456
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)	33	0	50	894	23	658	25	1516	0	0	2018	42
RTOR Reduction (vph)	0	0	47	0	84	84	0	0	0	0	0	24
Lane Group Flow (vph)	33	0	3	894	261	252	25	1516	0	0	2018	18
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	13%	2%	54%	1%	70%	1%	28%	2%	2%	2%	1%	8%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	9.1		9.1	46.6	46.6	46.6	6.3	80.4			69.1	69.1
Effective Green, g (s)	9.1		9.1	46.6	46.6	46.6	6.3	80.4			69.1	69.1
Actuated g/C Ratio	0.06		0.06	0.29	0.29	0.29	0.04	0.50			0.43	0.43
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	89		58	998	432	437	54	2583			2242	628
v/s Ratio Prot	c0.02		0.00	c0.26	0.18		0.02	c0.29			c0.39	
v/s Ratio Perm						0.17						0.01
v/c Ratio	0.37		0.05	0.90	0.61	0.58	0.46	0.59			0.90	0.03
Uniform Delay, d1	72.7		71.4	54.4	48.8	48.3	75.2	28.1			42.2	26.1
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.22	0.85			0.56	1.00
Incremental Delay, d2	5.4		0.7	11.1	3.5	2.9	5.9	0.9			5.3	0.1
Delay (s)	78.1		72.1	65.5	52.3	51.2	97.6	24.9			29.0	26.2
Level of Service	E		E	E	D	D	F	C			C	C
Approach Delay (s)		74.5			59.6			26.1			28.9	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	38.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
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 (vph)	49	206	146	77	159	128	149	1353	120	160	1357	40
Future Volume (vph)	49	206	146	77	159	128	149	1353	120	160	1357	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1777	3295		1790	1863	1550	1805	4963		1805	5047	
Flt Permitted	0.52	1.00		0.39	1.00	1.00	0.12	1.00		0.11	1.00	
Satd. Flow (perm)	965	3295		726	1863	1550	229	4963		203	5047	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	224	159	84	173	139	162	1471	130	174	1475	43
RTOR Reduction (vph)	0	98	0	0	0	105	0	5	0	0	1	0
Lane Group Flow (vph)	53	285	0	84	173	34	162	1596	0	174	1517	0
Confl. Peds. (#/hr)	22		16	16		22	17		6	6		17
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	36.2	36.2		36.2	36.2	36.2	106.3	94.4		106.3	94.4	
Effective Green, g (s)	38.7	38.7		38.7	38.7	38.7	110.3	96.4		110.3	96.4	
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.69	0.60		0.69	0.60	
Clearance Time (s)	7.5	7.5		7.5	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	233	796		175	450	374	294	2990		279	3040	
v/s Ratio Prot		0.09			0.09		0.05	c0.32		c0.05	0.30	
v/s Ratio Perm	0.05			c0.12		0.02	0.33			0.38		
v/c Ratio	0.23	0.36		0.48	0.38	0.09	0.55	0.53		0.62	0.50	
Uniform Delay, d1	48.7	50.3		52.0	50.7	47.0	12.2	18.6		14.1	18.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	2.95	1.50		1.00	1.00	
Incremental Delay, d2	0.5	0.3		2.1	0.5	0.1	1.6	0.5		4.3	0.6	
Delay (s)	49.2	50.6		54.1	51.2	47.1	37.5	28.4		18.4	18.7	
Level of Service	D	D		D	D	D	D	C		B	B	
Approach Delay (s)		50.4			50.4			29.2			18.6	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
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 (vph)	25	403	64	53	311	14	50	27	56	18	24	23
Future Volume (vph)	25	403	64	53	311	14	50	27	56	18	24	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	0.99	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1796	3475		1793	3535		1799	1900	1585	1795	1747	
Flt Permitted	0.54	1.00		0.47	1.00		0.72	1.00	1.00	0.74	1.00	
Satd. Flow (perm)	1022	3475		877	3535		1371	1900	1585	1395	1747	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	438	70	58	338	15	54	29	61	20	26	25
RTOR Reduction (vph)	0	9	0	0	2	0	0	0	49	0	20	0
Lane Group Flow (vph)	27	499	0	58	351	0	54	29	12	20	31	0
Confl. Peds. (#/hr)	9		15	15		9	6		10	10		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	42.9	42.9		42.9	42.9		12.1	12.1	12.1	12.1	12.1	
Effective Green, g (s)	44.9	44.9		44.9	44.9		13.6	13.6	13.6	13.6	13.6	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.20	0.20	0.20	0.20	0.20	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	669	2277		574	2317		272	377	314	276	346	
v/s Ratio Prot		c0.14			0.10			0.02			0.02	
v/s Ratio Perm	0.03			0.07			c0.04		0.01	0.01		
v/c Ratio	0.04	0.22		0.10	0.15		0.20	0.08	0.04	0.07	0.09	
Uniform Delay, d1	4.2	4.7		4.4	4.5		22.9	22.3	22.2	22.3	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.4	0.1		0.4	0.1	0.1	0.1	0.1	
Delay (s)	4.3	5.0		4.7	4.7		23.3	22.4	22.2	22.4	22.5	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		4.9			4.7			22.7			22.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
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 (vph)	61	341	77	86	317	151	73	465	72	139	443	48
Future Volume (vph)	61	341	77	86	317	151	73	465	72	139	443	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1796	3448		1735	3374		1798	3492		1762	3550	
Flt Permitted	0.45	1.00		0.49	1.00		0.44	1.00		0.40	1.00	
Satd. Flow (perm)	842	3448		887	3374		826	3492		750	3550	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	371	84	93	345	164	79	505	78	151	482	52
RTOR Reduction (vph)	0	25	0	0	72	0	0	14	0	0	9	0
Lane Group Flow (vph)	66	430	0	93	437	0	79	569	0	151	525	0
Confl. Peds. (#/hr)	25		43	43		25	18		22	22		18
Confl. Bikes (#/hr)			1			1			1			
Heavy Vehicles (%)	0%	1%	0%	3%	1%	0%	0%	0%	3%	2%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	19.8	19.8		19.8	19.8		22.2	22.2		22.2	22.2	
Effective Green, g (s)	21.8	21.8		21.8	21.8		23.7	23.7		23.7	23.7	
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.43	0.43		0.43	0.43	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	330	1354		348	1325		352	1491		320	1515	
v/s Ratio Prot		0.12			c0.13			0.16			0.15	
v/s Ratio Perm	0.08			0.10			0.10			c0.20		
v/c Ratio	0.20	0.32		0.27	0.33		0.22	0.38		0.47	0.35	
Uniform Delay, d1	11.1	11.7		11.4	11.8		10.1	10.9		11.4	10.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.1		0.4	0.1		0.3	0.2		1.1	0.1	
Delay (s)	11.4	11.8		11.8	11.9		10.4	11.0		12.5	10.8	
Level of Service	B	B		B	B		B	B		B	B	
Approach Delay (s)		11.8			11.9			11.0			11.2	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.40			
Actuated Cycle Length (s)	55.5	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	84.1%	ICU Level of Service	E	
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 (vph)	66	346	96	143	242	102	105	20	195	12	0	1
Future Volume (vph)	66	346	96	143	242	102	105	20	195	12	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99			1.00	0.98		1.00	
Flpb, ped/bikes	0.99	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	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96	1.00		0.96	
Satd. Flow (prot)	1791	3539	1541	1747	3415			1719	1559		3398	
Flt Permitted	0.53	1.00	1.00	0.53	1.00			0.75	1.00		0.80	
Satd. Flow (perm)	998	3539	1541	972	3415			1344	1559		2851	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	376	104	155	263	111	114	22	212	13	0	1
RTOR Reduction (vph)	0	0	45	0	38	0	0	0	150	0	10	0
Lane Group Flow (vph)	72	376	59	155	336	0	0	136	62	0	4	0
Confl. Peds. (#/hr)	14		9	9		14	21		6	6		21
Heavy Vehicles (%)	0%	2%	3%	3%	0%	0%	6%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	40.6	40.6	40.6	40.6	40.6			19.9	19.9		19.9	
Effective Green, g (s)	42.6	42.6	42.6	42.6	42.6			21.9	21.9		21.9	
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57			0.29	0.29		0.29	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	570	2023	881	555	1952			395	458		838	
v/s Ratio Prot		0.11			0.10							
v/s Ratio Perm	0.07		0.04	c0.16				c0.10	0.04		0.00	
v/c Ratio	0.13	0.19	0.07	0.28	0.17			0.34	0.14		0.00	
Uniform Delay, d1	7.4	7.6	7.1	8.1	7.6			20.7	19.3		18.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.5	0.2	0.1	1.3	0.2			0.5	0.1		0.0	
Delay (s)	7.8	7.8	7.3	9.4	7.8			21.2	19.5		18.6	
Level of Service	A	A	A	A	A			C	B		B	
Approach Delay (s)		7.7			8.2			20.1			18.6	
Approach LOS		A			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.30			
Actuated Cycle Length (s)	74.5	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	81.5%	ICU Level of Service	D	
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 (vph)	198	157	194	72	112	236	145	955	58	34	1291	221
Future Volume (vph)	198	157	194	72	112	236	145	955	58	34	1291	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.97	1.00	1.00	0.97	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)	1721	1921	1526	1779	1921	1556	1785	5193	1551	1781	5193	1512
Flt Permitted	0.61	1.00	1.00	0.66	1.00	1.00	0.16	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	1106	1921	1526	1231	1921	1556	303	5193	1551	539	5193	1512
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)	198	157	194	72	112	236	145	955	58	34	1291	221
RTOR Reduction (vph)	0	0	116	0	0	119	0	0	20	0	0	91
Lane Group Flow (vph)	198	157	78	72	112	117	145	955	38	34	1291	130
Confl. Peds. (#/hr)	12		4	4		12	5		4	4		5
Heavy Vehicles (%)	3%	0%	3%	0%	0%	0%	0%	1%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	37.5	37.5	37.5	24.5	24.5	24.5	105.9	105.9	105.9	94.1	94.1	94.1
Effective Green, g (s)	37.5	37.5	37.5	24.5	24.5	24.5	105.9	105.9	105.9	94.1	94.1	94.1
Actuated g/C Ratio	0.23	0.23	0.23	0.15	0.15	0.15	0.66	0.66	0.66	0.59	0.59	0.59
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	297	450	357	188	294	238	282	3437	1026	316	3054	889
v/s Ratio Prot	c0.04	0.08			0.06		c0.03	0.18			0.25	
v/s Ratio Perm	c0.11		0.05	0.06		0.07	c0.31		0.02	0.06		0.09
v/c Ratio	0.67	0.35	0.22	0.38	0.38	0.49	0.51	0.28	0.04	0.11	0.42	0.15
Uniform Delay, d1	54.4	51.1	49.4	61.0	60.9	62.0	11.9	11.2	9.4	14.5	18.1	14.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.27	0.57	0.26	1.00	1.00	1.00
Incremental Delay, d2	5.6	0.5	0.3	1.3	0.8	1.6	1.5	0.2	0.1	0.7	0.4	0.3
Delay (s)	60.0	51.5	49.8	62.3	61.8	63.6	28.6	6.6	2.5	15.2	18.5	15.2
Level of Service	E	D	D	E	E	E	C	A	A	B	B	B
Approach Delay (s)		54.0			62.9			9.1			17.9	
Approach LOS		D			E			A			B	

Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	304	334	190	191
Demand Flow Rate, veh/h	306	334	190	191
Vehicles Circulating, veh/h	207	164	311	321
Vehicles Exiting, veh/h	305	337	202	177
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	22	24	25
Ped Cap Adj	1.000	0.997	0.997	0.997
Approach Delay, s/veh	7.6	7.5	6.8	6.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	306	334	190	191
Cap Entry Lane, veh/h	919	959	828	820
Entry HV Adj Factor	0.993	1.000	1.000	1.000
Flow Entry, veh/h	304	334	190	191
Cap Entry, veh/h	912	956	825	817
V/C Ratio	0.333	0.349	0.230	0.234
Control Delay, s/veh	7.6	7.5	6.8	6.9
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	261	43	141	196	138	63	372	160	168	382	89
Future Volume (vph)	92	261	43	141	196	138	63	372	160	168	382	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1791	3508		1796	1900	1577	1783	3574	1559	1793	3574	1560
Flt Permitted	0.59	1.00		0.55	1.00	1.00	0.51	1.00	1.00	0.51	1.00	1.00
Satd. Flow (perm)	1116	3508		1044	1900	1577	955	3574	1559	971	3574	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	284	47	153	213	150	68	404	174	183	415	97
RTOR Reduction (vph)	0	20	0	0	0	101	0	0	83	0	0	46
Lane Group Flow (vph)	100	311	0	153	213	49	68	404	91	183	415	51
Confl. Peds. (#/hr)	20		14	14		20	35		18	18		35
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	20.7	20.7		20.7	20.7	20.7	34.6	34.6	34.6	34.6	34.6	34.6
Effective Green, g (s)	22.7	22.7		22.7	22.7	22.7	36.1	36.1	36.1	36.1	36.1	36.1
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33	0.52	0.52	0.52	0.52	0.52	0.52
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	368	1157		344	626	520	501	1875	818	509	1875	818
v/s Ratio Prot		0.09			0.11			0.11			0.12	
v/s Ratio Perm	0.09			c0.15		0.03	0.07		0.06	c0.19		0.03
v/c Ratio	0.27	0.27		0.44	0.34	0.10	0.14	0.22	0.11	0.36	0.22	0.06
Uniform Delay, d1	17.0	16.9		18.1	17.4	15.9	8.4	8.8	8.3	9.6	8.8	8.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1		0.9	0.3	0.1	0.6	0.3	0.3	2.0	0.3	0.1
Delay (s)	17.4	17.1		19.0	17.7	16.0	8.9	9.0	8.5	11.5	9.1	8.2
Level of Service	B	B		B	B	B	A	A	A	B	A	A
Approach Delay (s)		17.1			17.6			8.9			9.6	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	126	113	1153	1428	150
Future Volume (vph)	0	126	113	1153	1428	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1563	1767	5193	5193	1526
Flt Permitted		1.00	0.16	1.00	1.00	1.00
Satd. Flow (perm)		1563	295	5193	5193	1526
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	126	113	1153	1428	150
RTOR Reduction (vph)	0	117	0	0	0	32
Lane Group Flow (vph)	0	9	113	1153	1428	118
Confl. Peds. (#/hr)	1		3			3
Heavy Vehicles (%)	2%	4%	1%	1%	1%	3%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		11.0	134.8	134.8	123.5	123.5
Effective Green, g (s)		11.0	134.8	134.8	123.5	123.5
Actuated g/C Ratio		0.07	0.84	0.84	0.77	0.77
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		107	324	4375	4008	1177
v/s Ratio Prot			c0.02	0.22	c0.28	
v/s Ratio Perm		c0.01	0.27			0.08
v/c Ratio		0.08	0.35	0.26	0.36	0.10
Uniform Delay, d1		69.8	2.8	2.6	5.7	4.5
Progression Factor		1.00	3.99	0.17	0.33	0.01
Incremental Delay, d2		0.3	0.6	0.1	0.2	0.2
Delay (s)		70.1	11.7	0.6	2.2	0.2
Level of Service		E	B	A	A	A
Approach Delay (s)	70.1			1.6	2.0	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
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 (vph)	153	648	279	292	615	153	239	1301	233	154	1177	117
Future Volume (vph)	153	648	279	292	615	153	239	1301	233	154	1177	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00		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	
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)	3502	3574	1583	3467	3574	1510	3467	4942		3502	4953	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3574	1583	3467	3574	1510	3467	4942		3502	4953	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	704	303	317	668	166	260	1414	253	167	1279	127
RTOR Reduction (vph)	0	0	133	0	0	120	0	14	0	0	6	0
Lane Group Flow (vph)	166	704	170	317	668	46	260	1653	0	167	1400	0
Confl. Peds. (#/hr)	24		7	7		24	13		18	18		13
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	12.9	38.4	38.4	16.7	42.2	42.2	15.8	66.9		13.0	64.1	
Effective Green, g (s)	12.9	40.9	40.9	16.7	44.7	44.7	15.8	69.4		13.0	66.6	
Actuated g/C Ratio	0.08	0.26	0.26	0.10	0.28	0.28	0.10	0.43		0.08	0.42	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	282	913	404	361	998	421	342	2143		284	2061	
v/s Ratio Prot	0.05	c0.20		c0.09	c0.19		c0.07	c0.33		0.05	0.28	
v/s Ratio Perm			0.11			0.03						
v/c Ratio	0.59	0.77	0.42	0.88	0.67	0.11	0.76	0.77		0.59	0.68	
Uniform Delay, d1	71.0	55.2	49.7	70.6	51.1	42.9	70.3	38.6		70.9	38.0	
Progression Factor	1.00	1.00	1.00	1.14	1.23	4.09	1.00	1.00		1.27	0.63	
Incremental Delay, d2	3.1	4.1	0.7	20.1	1.7	0.1	9.6	2.8		2.8	1.6	
Delay (s)	74.1	59.3	50.4	100.7	64.5	175.3	79.8	41.3		92.7	25.8	
Level of Service	E	E	D	F	E	F	E	D		F	C	
Approach Delay (s)		59.1			90.5			46.5			32.9	
Approach LOS		E			F			D			C	

Intersection Summary				
HCM 2000 Control Delay	54.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	92.5%	ICU Level of Service	F	
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 (vph)	61	1021	21	50	950	94	31	49	53	162	48	60
Future Volume (vph)	61	1021	21	50	950	94	31	49	53	162	48	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	0.99		1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.98	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1786	5070		1800	4986		1773	1731		1791	1900	1565
Flt Permitted	0.21	1.00		0.21	1.00		0.70	1.00		0.65	1.00	1.00
Satd. Flow (perm)	398	5070		402	4986		1307	1731		1229	1900	1565
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	1110	23	54	1033	102	34	53	58	176	52	65
RTOR Reduction (vph)	0	1	0	0	6	0	0	28	0	0	0	50
Lane Group Flow (vph)	66	1132	0	54	1129	0	34	83	0	176	52	15
Confl. Peds. (#/hr)	23		6	6		23	17		8	8		17
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	102.4	102.4		102.4	102.4		35.5	35.5		34.3	34.3	34.3
Effective Green, g (s)	104.4	104.4		104.4	104.4		38.0	38.0		36.8	36.8	36.8
Actuated g/C Ratio	0.65	0.65		0.65	0.65		0.24	0.24		0.23	0.23	0.23
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	259	3308		262	3253		310	411		282	437	359
v/s Ratio Prot		0.22			c0.23			0.05			0.03	
v/s Ratio Perm	0.17			0.13			0.03			c0.14		0.01
v/c Ratio	0.25	0.34		0.21	0.35		0.11	0.20		0.62	0.12	0.04
Uniform Delay, d1	11.6	12.4		11.2	12.5		47.8	48.8		55.4	48.8	47.9
Progression Factor	0.48	0.46		0.46	0.46		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.9	0.2		1.6	0.3		0.2	0.2		4.3	0.1	0.0
Delay (s)	7.5	5.9		6.8	6.0		47.9	49.1		59.6	48.9	47.9
Level of Service	A	A		A	A		D	D		E	D	D
Approach Delay (s)		6.0			6.1			48.8			55.1	
Approach LOS		A			A			D			E	

Intersection Summary				
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.41			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	69.0%	ICU Level of Service	C	
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 (vph)	137	899	85	111	1007	143	93	317	70	220	345	103
Future Volume (vph)	137	899	85	111	1007	143	93	317	70	220	345	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1790	5010		1796	4998		1756	3436		1797	3386	
Flt Permitted	0.17	1.00		0.22	1.00		0.45	1.00		0.33	1.00	
Satd. Flow (perm)	319	5010		409	4998		828	3436		621	3386	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	149	977	92	121	1095	155	101	345	76	239	375	112
RTOR Reduction (vph)	0	5	0	0	9	0	0	15	0	0	22	0
Lane Group Flow (vph)	149	1064	0	121	1241	0	101	406	0	239	465	0
Confl. Peds. (#/hr)	47		19	19		47	42		27	27		42
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	7	0	0	0	7	0	3	0	0	3	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	89.8	89.8		89.8	89.8		34.7	34.7		50.7	46.1	
Effective Green, g (s)	91.8	91.8		91.8	91.8		37.2	37.2		52.7	48.6	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.23	0.23		0.33	0.30	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	183	2874		234	2867		192	798		314	1028	
v/s Ratio Prot		0.21			0.25			0.12		c0.07	0.14	
v/s Ratio Perm	c0.47			0.30			c0.12			0.18		
v/c Ratio	0.81	0.37		0.52	0.43		0.53	0.51		0.76	0.45	
Uniform Delay, d1	27.3	18.5		20.7	19.3		53.7	53.5		43.3	45.0	
Progression Factor	0.58	0.66		1.36	1.34		1.00	1.00		1.00	1.00	
Incremental Delay, d2	30.3	0.4		7.7	0.5		2.6	0.5		10.4	0.3	
Delay (s)	46.1	12.6		35.8	26.3		56.3	54.0		53.7	45.3	
Level of Service	D	B		D	C		E	D		D	D	
Approach Delay (s)		16.7			27.2			54.4			48.1	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
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 (vph)	186	1074	38	34	988	96	28	32	48	180	52	109
Future Volume (vph)	186	1074	38	34	988	96	28	32	48	180	52	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.97		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.98	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1802	5054		1794	5015		1766	1685		1738	1900	1559
Flt Permitted	0.20	1.00		0.20	1.00		0.72	1.00		0.67	1.00	1.00
Satd. Flow (perm)	386	5054		370	5015		1338	1685		1226	1900	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	1167	41	37	1074	104	30	35	52	196	57	118
RTOR Reduction (vph)	0	2	0	0	5	0	0	40	0	0	0	94
Lane Group Flow (vph)	202	1206	0	37	1173	0	30	47	0	196	57	24
Confl. Peds. (#/hr)	7		15	15		7	16		22	22		16
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	105.6	105.6		105.6	105.6		30.7	30.7		30.7	30.7	30.7
Effective Green, g (s)	107.6	107.6		107.6	107.6		33.2	33.2		33.2	33.2	33.2
Actuated g/C Ratio	0.67	0.67		0.67	0.67		0.21	0.21		0.21	0.21	0.21
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	259	3398		248	3372		277	349		254	394	323
v/s Ratio Prot		0.24			0.23			0.03			0.03	
v/s Ratio Perm	c0.52			0.10			0.02			c0.16		0.02
v/c Ratio	0.78	0.36		0.15	0.35		0.11	0.14		0.77	0.14	0.08
Uniform Delay, d1	18.0	11.3		9.5	11.2		51.4	51.7		59.8	51.8	51.0
Progression Factor	0.67	0.71		1.02	0.94		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	19.3	0.3		1.1	0.2		0.2	0.2		13.5	0.2	0.1
Delay (s)	31.4	8.3		10.8	10.7		51.6	51.9		73.3	52.0	51.1
Level of Service	C	A		B	B		D	D		E	D	D
Approach Delay (s)		11.6			10.7			51.8			63.0	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
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 (vph)	107	904	311	143	761	210	313	986	100	256	1137	129
Future Volume (vph)	107	904	311	143	761	210	313	986	100	256	1137	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.97
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)	3463	5193	1519	3429	5193	1469	3463	5193	1532	3463	5193	1553
Flt Permitted	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 (perm)	3463	5193	1519	3429	5193	1469	3463	5193	1532	3463	5193	1553
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)	107	904	311	143	761	210	313	986	100	256	1137	129
RTOR Reduction (vph)	0	0	140	0	0	147	0	0	60	0	0	81
Lane Group Flow (vph)	107	904	171	143	761	63	313	986	40	256	1137	48
Confl. Peds. (#/hr)	25		30	30		25	15		28	28		15
Heavy Vehicles (%)	0%	1%	1%	1%	1%	2%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	9.8	47.4	47.4	10.5	48.1	48.1	16.7	63.5	63.5	13.0	59.8	59.8
Effective Green, g (s)	9.8	47.4	47.4	10.5	48.1	48.1	16.7	63.5	63.5	13.0	59.8	59.8
Actuated g/C Ratio	0.06	0.30	0.30	0.07	0.30	0.30	0.10	0.40	0.40	0.08	0.37	0.37
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	212	1538	450	225	1561	441	361	2060	608	281	1940	580
v/s Ratio Prot	0.03	c0.17		c0.04	0.15		c0.09	c0.19		0.07	c0.22	
v/s Ratio Perm			0.11			0.04			0.03			0.03
v/c Ratio	0.50	0.59	0.38	0.64	0.49	0.14	0.87	0.48	0.07	0.91	0.59	0.08
Uniform Delay, d1	72.7	48.0	44.6	72.9	45.8	40.9	70.6	35.9	29.9	72.9	40.2	32.4
Progression Factor	1.11	0.98	0.96	1.00	1.00	1.00	1.09	1.07	2.08	1.28	0.70	0.42
Incremental Delay, d2	1.8	0.5	0.5	5.8	0.2	0.1	18.2	0.8	0.2	30.4	1.2	0.3
Delay (s)	82.6	47.4	43.4	78.7	46.1	41.0	95.1	39.3	62.5	123.7	29.4	14.0
Level of Service	F	D	D	E	D	D	F	D	E	F	C	B
Approach Delay (s)		49.3			49.3			53.4			44.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	48.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	108.2%	ICU Level of Service	G
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 (vph)	44	58	143	229	39	52	120	1464	261	32	1555	15
Future Volume (vph)	44	58	143	229	39	52	120	1464	261	32	1555	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.96
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)	1772	1921	1567	1778	1921	1566	1785	5193	1576	1785	5193	1514
Flt Permitted	0.73	1.00	1.00	0.61	1.00	1.00	0.12	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	1365	1921	1567	1149	1921	1566	224	5193	1576	313	5193	1514
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)	44	58	143	229	39	52	120	1464	261	32	1555	15
RTOR Reduction (vph)	0	0	127	0	0	37	0	0	76	0	0	5
Lane Group Flow (vph)	44	58	16	229	39	15	120	1464	185	32	1555	10
Confl. Peds. (#/hr)	7		6	6		7	9		1	1		9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		8		7	4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	17.5	17.5	17.5	30.5	30.5	30.5	113.5	113.5	113.5	101.7	101.7	101.7
Effective Green, g (s)	17.5	17.5	17.5	30.5	30.5	30.5	113.5	113.5	113.5	101.7	101.7	101.7
Actuated g/C Ratio	0.11	0.11	0.11	0.19	0.19	0.19	0.71	0.71	0.71	0.64	0.64	0.64
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	149	210	171	258	366	298	244	3683	1117	198	3300	962
v/s Ratio Prot		0.03		c0.06	0.02		c0.03	0.28			0.30	
v/s Ratio Perm	0.03		0.01	c0.11		0.01	c0.32		0.12	0.10		0.01
v/c Ratio	0.30	0.28	0.09	0.89	0.11	0.05	0.49	0.40	0.17	0.16	0.47	0.01
Uniform Delay, d1	65.6	65.4	64.1	62.3	53.5	52.9	10.1	9.4	7.7	11.8	15.2	10.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.15	0.85	0.91	0.79	0.70	1.00
Incremental Delay, d2	2.3	1.5	0.5	28.5	0.3	0.1	1.4	0.3	0.3	1.5	0.4	0.0
Delay (s)	67.9	66.9	64.6	90.7	53.8	53.1	23.2	8.3	7.3	10.8	10.9	10.7
Level of Service	E	E	E	F	D	D	C	A	A	B	B	B
Approach Delay (s)		65.7			80.1			9.1			10.9	
Approach LOS		E			F			A			B	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

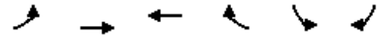
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	19	601	8	546	5	1292	0	0	1916	21
Future Volume (vph)	15	0	19	601	8	546	5	1292	0	0	1916	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	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
Frt	1.00		0.85	1.00	0.85	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1405		1044	3429	1512	1502	1275	5193			5193	1308
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1405		1044	3429	1512	1502	1275	5193			5193	1308
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)	15	0	19	601	8	546	5	1292	0	0	1916	21
RTOR Reduction (vph)	0	0	18	0	180	180	0	0	0	0	0	9
Lane Group Flow (vph)	15	0	1	601	96	98	5	1292	0	0	1916	12
Confl. Peds. (#/hr)							3					3
Heavy Vehicles (%)	27%	2%	53%	1%	75%	1%	40%	1%	0%	2%	1%	20%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	6.2		6.2	33.8	33.8	33.8	2.0	96.1			89.1	89.1
Effective Green, g (s)	6.2		6.2	33.8	33.8	33.8	2.0	96.1			89.1	89.1
Actuated g/C Ratio	0.04		0.04	0.21	0.21	0.21	0.01	0.60			0.56	0.56
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	54		40	724	319	317	15	3119			2891	728
v/s Ratio Prot	c0.01		0.00	c0.18	0.06		0.00	c0.25			c0.37	
v/s Ratio Perm						0.07						0.01
v/c Ratio	0.28		0.02	0.83	0.30	0.31	0.33	0.41			0.66	0.02
Uniform Delay, d1	74.7		74.0	60.4	53.2	53.3	78.3	17.0			24.9	15.9
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.06	0.86			0.62	1.00
Incremental Delay, d2	5.8		0.4	8.9	1.1	1.2	12.5	0.4			1.1	0.0
Delay (s)	80.5		74.4	69.2	54.3	54.4	95.4	15.0			16.6	15.9
Level of Service	F		E	E	D	D	F	B			B	B
Approach Delay (s)		77.1			62.1			15.3			16.6	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
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 (vph)	133	0	131	0	0	0	0	1036	0	5	1501	0
Future Volume (vph)	133	0	131	0	0	0	0	1036	0	5	1501	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1696	1734	1597					5193		892	5193	
Flt Permitted	0.95	0.95	1.00					1.00		0.25	1.00	
Satd. Flow (perm)	1696	1734	1597					5193		237	5193	
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	0	131	0	0	0	0	1036	0	5	1501	0
RTOR Reduction (vph)	0	0	44	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	66	67	87	0	0	0	0	1036	0	5	1501	0
Confl. Peds. (#/hr)							6					6
Heavy Vehicles (%)	0%	58%	0%	2%	2%	2%	2%	1%	2%	100%	1%	1%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	16.0	16.0	16.0					125.5		129.9	129.9	
Effective Green, g (s)	16.0	16.0	16.0					125.5		129.9	129.9	
Actuated g/C Ratio	0.10	0.10	0.10					0.78		0.81	0.81	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	169	173	159					4073		198	4216	
v/s Ratio Prot	0.04	0.04	c0.05					0.20		0.00	c0.29	
v/s Ratio Perm										0.02		
v/c Ratio	0.39	0.39	0.55					0.25		0.03	0.36	
Uniform Delay, d1	67.4	67.4	68.5					4.6		3.0	4.0	
Progression Factor	1.00	1.00	1.00					1.00		1.12	0.85	
Incremental Delay, d2	3.1	3.0	6.6					0.2		0.0	0.2	
Delay (s)	70.5	70.4	75.2					4.8		3.4	3.6	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		72.8			0.0			4.8			3.6	
Approach LOS		E			A			A			A	

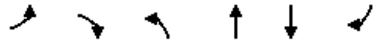
Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	165	97	59	178	137	124
Future Volume (vph)	165	97	59	178	137	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	179	105	64	193	149	135

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	214	70	64	193	149	135
Volume Left (vph)	179	0	0	0	149	0
Volume Right (vph)	0	0	0	193	0	135
Hadj (s)	0.42	0.00	0.00	-0.60	0.57	-0.70
Departure Headway (s)	6.0	5.6	5.7	5.1	6.4	5.1
Degree Utilization, x	0.36	0.11	0.10	0.27	0.27	0.19
Capacity (veh/h)	571	610	599	674	532	653
Control Delay (s)	11.2	8.1	8.1	8.8	10.5	8.2
Approach Delay (s)	10.4		8.6		9.4	
Approach LOS	B		A		A	

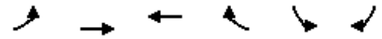
Intersection Summary			
Delay	9.5		
Level of Service	A		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	229	290	176	89	107	199
Future Volume (vph)	229	290	176	89	107	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	315	191	97	116	216

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	249	315	223	65	116	216
Volume Left (vph)	249	0	191	0	0	0
Volume Right (vph)	0	315	0	0	0	216
Hadj (s)	0.50	-0.68	0.43	0.00	0.00	-0.70
Departure Headway (s)	6.7	5.5	7.0	6.6	6.6	5.9
Degree Utilization, x	0.46	0.48	0.44	0.12	0.21	0.35
Capacity (veh/h)	517	627	485	517	518	584
Control Delay (s)	14.2	12.4	14.1	9.3	10.1	10.8
Approach Delay (s)	13.2		13.0		10.6	
Approach LOS	B		B		B	

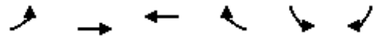
Intersection Summary			
Delay	12.4		
Level of Service	B		
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	89	229	182	2	30	124
Future Volume (Veh/h)	89	229	182	2	30	124
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	249	198	2	33	135
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	200				518	100
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	200				518	100
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				93	86
cM capacity (veh/h)	1384				458	943

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	180	166	132	68	168
Volume Left	97	0	0	0	33
Volume Right	0	0	0	2	135
cSH	1384	1700	1700	1700	780
Volume to Capacity	0.07	0.10	0.08	0.04	0.22
Queue Length 95th (m)	1.8	0.0	0.0	0.0	6.5
Control Delay (s)	4.5	0.0	0.0	0.0	10.9
Lane LOS	A				B
Approach Delay (s)	2.3		0.0		10.9
Approach LOS					B

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	189	134	43	55	50
Future Volume (Veh/h)	70	189	134	43	55	50
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	205	146	47	60	54
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	193				424	96
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	193				424	96
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				89	94
cM capacity (veh/h)	1392				533	947

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	144	137	97	96	114
Volume Left	76	0	0	0	60
Volume Right	0	0	0	47	54
cSH	1392	1700	1700	1700	672
Volume to Capacity	0.05	0.08	0.06	0.06	0.17
Queue Length 95th (m)	1.4	0.0	0.0	0.0	4.9
Control Delay (s)	4.3	0.0	0.0	0.0	11.4
Lane LOS	A				B
Approach Delay (s)	2.2		0.0		11.4
Approach LOS					B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	28.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	198	155	46	22	22
Future Volume (Veh/h)	46	198	155	46	22	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	215	168	50	24	24
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	218				400	109
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	218				400	109
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				96	97
cM capacity (veh/h)	1364				561	930

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	122	143	112	106	48
Volume Left	50	0	0	0	24
Volume Right	0	0	0	50	24
cSH	1364	1700	1700	1700	700
Volume to Capacity	0.04	0.08	0.07	0.06	0.07
Queue Length 95th (m)	0.9	0.0	0.0	0.0	1.8
Control Delay (s)	3.4	0.0	0.0	0.0	10.5
Lane LOS	A				B
Approach Delay (s)	1.5		0.0		10.5
Approach LOS					B

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	25.9%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX

D-2 2040 FUTURE BACKGROUND

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	298	178	102	197	159	68	1154	71	184	1759	55
Future Volume (vph)	97	298	178	102	197	159	68	1154	71	184	1759	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		1.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1781	3294		1798	1881	1494	1805	4962		1769	4941	
Flt Permitted	0.62	1.00		0.30	1.00	1.00	0.05	1.00		0.12	1.00	
Satd. Flow (perm)	1170	3294		572	1881	1494	102	4962		227	4941	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	324	193	111	214	173	74	1254	77	200	1912	60
RTOR Reduction (vph)	0	58	0	0	0	98	0	4	0	0	2	0
Lane Group Flow (vph)	105	459	0	111	214	75	74	1327	0	200	1970	0
Confl. Peds. (#/hr)	19		37	37		19	26		12	12		26
Heavy Vehicles (%)	0%	2%	0%	0%	1%	4%	0%	2%	6%	2%	3%	4%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	44.1	44.1		60.3	60.3	60.3	80.8	72.2		83.6	73.6	
Effective Green, g (s)	46.6	46.6		62.3	62.8	62.8	84.8	74.2		87.2	75.6	
Actuated g/C Ratio	0.29	0.29		0.39	0.39	0.39	0.53	0.46		0.55	0.47	
Clearance Time (s)	7.5	7.5		3.0	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	340	959		339	738	586	166	2301		239	2334	
v/s Ratio Prot		c0.14		c0.03	0.11		0.03	0.27		c0.06	c0.40	
v/s Ratio Perm	0.09			0.10		0.05	0.20			0.39		
v/c Ratio	0.31	0.48		0.33	0.29	0.13	0.45	0.58		0.84	0.84	
Uniform Delay, d1	44.2	46.7		32.7	33.3	31.1	28.7	31.4		24.1	37.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	2.36	1.32		1.00	1.00	
Incremental Delay, d2	0.5	0.4		0.6	0.2	0.1	1.4	0.8		21.7	4.0	
Delay (s)	44.7	47.1		33.3	33.5	31.2	69.1	42.1		45.8	41.0	
Level of Service	D	D		C	C	C	E	D		D	D	
Approach Delay (s)		46.7			32.7			43.6			41.4	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.8%	ICU Level of Service	G
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 (vph)	13	413	136	36	342	29	115	69	68	44	79	37
Future Volume (vph)	13	413	136	36	342	29	115	69	68	44	79	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	0.98	1.00		0.97	1.00		0.99	1.00	1.00	0.99	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1768	3287		1751	3473		1768	1863	1583	1740	1795	
Flt Permitted	0.51	1.00		0.41	1.00		0.66	1.00	1.00	0.71	1.00	
Satd. Flow (perm)	957	3287		760	3473		1220	1863	1583	1297	1795	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	449	148	39	372	32	125	75	74	48	86	40
RTOR Reduction (vph)	0	21	0	0	4	0	0	0	56	0	21	0
Lane Group Flow (vph)	14	576	0	39	400	0	125	75	18	48	105	0
Confl. Peds. (#/hr)	28		55	55		28	16		10	10		16
Heavy Vehicles (%)	0%	3%	3%	0%	2%	0%	1%	2%	0%	3%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	64.1	64.1		64.1	64.1		22.4	22.4	22.4	22.4	22.4	
Effective Green, g (s)	66.1	66.1		66.1	66.1		23.9	23.9	23.9	23.9	23.9	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.24	0.24	0.24	0.24	0.24	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	632	2172		502	2295		291	445	378	309	429	
v/s Ratio Prot		c0.18			0.12			0.04			0.06	
v/s Ratio Perm	0.01			0.05			c0.10		0.01	0.04		
v/c Ratio	0.02	0.27		0.08	0.17		0.43	0.17	0.05	0.16	0.24	
Uniform Delay, d1	5.8	7.0		6.1	6.5		32.3	30.2	29.3	30.1	30.7	
Progression Factor	1.00	1.00		0.67	0.66		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.3	0.2		1.0	0.2	0.1	0.2	0.3	
Delay (s)	5.9	7.3		4.4	4.5		33.3	30.4	29.3	30.3	31.0	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		7.2			4.5			31.4			30.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
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 (vph)	74	395	95	71	315	177	42	363	52	158	721	105
Future Volume (vph)	74	395	95	71	315	177	42	363	52	158	721	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00		0.99	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.95		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1721	3448		1694	3272		1775	3406		1768	3475	
Flt Permitted	0.37	1.00		0.37	1.00		0.31	1.00		0.44	1.00	
Satd. Flow (perm)	667	3448		659	3272		584	3406		818	3475	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	429	103	77	342	192	46	395	57	172	784	114
RTOR Reduction (vph)	0	23	0	0	84	0	0	10	0	0	10	0
Lane Group Flow (vph)	80	509	0	77	450	0	46	442	0	172	888	0
Confl. Peds. (#/hr)	54		15	15		54	70		6	6		70
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	3%	1%	0%	6%	2%	2%	0%	3%	4%	2%	1%	1%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	34.2	34.2		34.2	34.2		41.5	41.5		52.3	52.3	
Effective Green, g (s)	36.2	36.2		36.2	36.2		43.0	43.0		54.3	53.8	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.43	0.43		0.54	0.54	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		3.0	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	241	1248		238	1184		251	1464		537	1869	
v/s Ratio Prot		c0.15			0.14			0.13		0.03	c0.26	
v/s Ratio Perm	0.12			0.12			0.08			0.14		
v/c Ratio	0.33	0.41		0.32	0.38		0.18	0.30		0.32	0.48	
Uniform Delay, d1	23.1	23.9		23.1	23.6		17.6	18.7		11.7	14.3	
Progression Factor	0.79	0.83		1.00	1.00		0.81	0.83		1.00	1.00	
Incremental Delay, d2	0.8	0.2		0.8	0.2		1.6	0.5		0.3	0.9	
Delay (s)	19.0	20.0		23.8	23.8		15.9	16.0		12.1	15.2	
Level of Service	B	C		C	C		B	B		B	B	
Approach Delay (s)		19.9			23.8			16.0			14.7	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.45			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	93.1%	ICU Level of Service	F	
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 (vph)	147	457	53	62	331	284	35	63	90	25	6	8
Future Volume (vph)	147	457	53	62	331	284	35	63	90	25	6	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99			1.00	0.99		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	0.85	1.00	0.93			1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.98	1.00		0.97	
Satd. Flow (prot)	1800	3505	1501	1717	3265			1720	1503		3374	
Flt Permitted	0.39	1.00	1.00	0.47	1.00			0.87	1.00		0.78	
Satd. Flow (perm)	739	3505	1501	849	3265			1526	1503		2716	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	160	497	58	67	360	309	38	68	98	27	7	9
RTOR Reduction (vph)	0	0	20	0	103	0	0	0	78	0	7	0
Lane Group Flow (vph)	160	497	38	67	566	0	0	106	20	0	36	0
Confl. Peds. (#/hr)	8		5	5		8	14		3	3		14
Heavy Vehicles (%)	0%	3%	6%	5%	3%	0%	23%	0%	6%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	43.4	43.4	43.4	43.4	43.4			12.0	12.0		12.0	
Effective Green, g (s)	45.4	45.4	45.4	45.4	45.4			14.0	14.0		14.0	
Actuated g/C Ratio	0.65	0.65	0.65	0.65	0.65			0.20	0.20		0.20	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	483	2292	981	555	2135			307	303		547	
v/s Ratio Prot		0.14			0.17							
v/s Ratio Perm	c0.22		0.03	0.08				c0.07	0.01		0.01	
v/c Ratio	0.33	0.22	0.04	0.12	0.27			0.35	0.07		0.07	
Uniform Delay, d1	5.3	4.8	4.3	4.5	5.0			23.8	22.4		22.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	1.8	0.2	0.1	0.4	0.3			0.7	0.1		0.1	
Delay (s)	7.1	5.1	4.3	5.0	5.3			24.4	22.5		22.5	
Level of Service	A	A	A	A	A			C	C		C	
Approach Delay (s)		5.5			5.3			23.5			22.5	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.33			
Actuated Cycle Length (s)	69.4	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	70.8%	ICU Level of Service	C	
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 (vph)	199	161	210	60	155	50	119	1190	31	44	1523	304
Future Volume (vph)	199	161	210	60	155	50	119	1190	31	44	1523	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.97	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)	1719	1902	1526	1744	1883	1488	1767	5092	1498	1667	5092	1514
Flt Permitted	0.55	1.00	1.00	0.66	1.00	1.00	0.10	1.00	1.00	0.22	1.00	1.00
Satd. Flow (perm)	1003	1902	1526	1203	1883	1488	193	5092	1498	388	5092	1514
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)	199	161	210	60	155	50	119	1190	31	44	1523	304
RTOR Reduction (vph)	0	0	100	0	0	40	0	0	12	0	0	142
Lane Group Flow (vph)	199	161	110	60	155	10	119	1190	19	44	1523	162
Confl. Peds. (#/hr)	17		4	4		17	4		2	2		4
Heavy Vehicles (%)	3%	1%	3%	2%	2%	4%	1%	3%	4%	7%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	46.8	46.8	46.8	30.8	30.8	30.8	96.6	96.6	96.6	84.6	84.6	84.6
Effective Green, g (s)	46.8	46.8	46.8	30.8	30.8	30.8	96.6	96.6	96.6	84.6	84.6	84.6
Actuated g/C Ratio	0.29	0.29	0.29	0.19	0.19	0.19	0.60	0.60	0.60	0.53	0.53	0.53
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	351	556	446	231	362	286	205	3074	904	205	2692	800
v/s Ratio Prot	c0.05	0.08			0.08		c0.03	0.23			0.30	
v/s Ratio Perm	c0.12		0.07	0.05		0.01	c0.32		0.01	0.11		0.11
v/c Ratio	0.57	0.29	0.25	0.26	0.43	0.03	0.58	0.39	0.02	0.21	0.57	0.20
Uniform Delay, d1	46.0	43.8	43.1	54.9	56.9	52.5	18.2	16.4	12.7	20.0	25.3	19.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.72	0.14	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.3	0.3	0.6	0.8	0.0	4.0	0.4	0.0	2.4	0.9	0.6
Delay (s)	48.1	44.0	43.4	55.5	57.7	52.6	53.6	2.7	12.8	22.4	26.2	20.5
Level of Service	D	D	D	E	E	D	D	A	B	C	C	C
Approach Delay (s)		45.2			56.2			7.5			25.2	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	6.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	231	263	158	221
Demand Flow Rate, veh/h	232	274	159	223
Vehicles Circulating, veh/h	258	127	270	241
Vehicles Exiting, veh/h	206	302	220	160
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	3	12	7	8
Ped Cap Adj	1.000	0.998	0.999	0.999
Approach Delay, s/veh	7.0	6.6	6.1	6.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	232	274	159	223
Cap Entry Lane, veh/h	873	995	863	888
Entry HV Adj Factor	0.996	0.958	0.994	0.990
Flow Entry, veh/h	231	263	158	221
Cap Entry, veh/h	869	952	856	878
V/C Ratio	0.266	0.276	0.185	0.251
Control Delay, s/veh	7.0	6.6	6.1	6.7
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	109	54	57	140	93	70	319	78	93	661	77
Future Volume (vph)	45	109	54	57	140	93	70	319	78	93	661	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1701	3381		1789	1881	1575	1798	3471	1501	1773	3539	1545
Flt Permitted	0.60	1.00		0.64	1.00	1.00	0.36	1.00	1.00	0.54	1.00	1.00
Satd. Flow (perm)	1082	3381		1205	1881	1575	674	3471	1501	1014	3539	1545
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	118	59	62	152	101	76	347	85	101	718	84
RTOR Reduction (vph)	0	45	0	0	0	77	0	0	29	0	0	26
Lane Group Flow (vph)	49	132	0	62	152	24	76	347	56	101	718	58
Confl. Peds. (#/hr)	16		14	14		16	13		32	32		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	5%	0%	2%	0%	1%	0%	0%	4%	2%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	21.8	21.8		21.8	21.8	21.8	64.7	64.7	64.7	64.7	64.7	64.7
Effective Green, g (s)	23.8	23.8		23.8	23.8	23.8	66.2	66.2	66.2	66.2	66.2	66.2
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.66	0.66	0.66	0.66	0.66	0.66
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	804		286	447	374	446	2297	993	671	2342	1022
v/s Ratio Prot		0.04			c0.08			0.10			c0.20	
v/s Ratio Perm	0.05			0.05		0.02	0.11		0.04	0.10		0.04
v/c Ratio	0.19	0.16		0.22	0.34	0.06	0.17	0.15	0.06	0.15	0.31	0.06
Uniform Delay, d1	30.4	30.2		30.6	31.6	29.5	6.4	6.3	5.9	6.3	7.2	5.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.60	0.23
Incremental Delay, d2	0.4	0.1		0.4	0.5	0.1	0.8	0.1	0.1	0.4	0.3	0.1
Delay (s)	30.8	30.3		31.0	32.0	29.6	7.3	6.5	6.0	4.3	4.6	1.5
Level of Service	C	C		C	C	C	A	A	A	A	A	A
Approach Delay (s)		30.4			31.0			6.5			4.3	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	47	79	1317	1737	77
Future Volume (vph)	0	47	79	1317	1737	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.99	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1418	1653	5092	5092	1446
Flt Permitted		1.00	0.11	1.00	1.00	1.00
Satd. Flow (perm)		1418	192	5092	5092	1446
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	47	79	1317	1737	77
RTOR Reduction (vph)	0	44	0	0	0	15
Lane Group Flow (vph)	0	3	79	1317	1737	62
Confl. Peds. (#/hr)	3	1	8			8
Heavy Vehicles (%)	2%	13%	8%	3%	3%	8%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		9.4	136.4	136.4	125.3	125.3
Effective Green, g (s)		9.4	136.4	136.4	125.3	125.3
Actuated g/C Ratio		0.06	0.85	0.85	0.78	0.78
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		83	237	4340	3987	1132
v/s Ratio Prot			c0.02	0.26	c0.34	
v/s Ratio Perm		c0.00	0.27			0.04
v/c Ratio		0.03	0.33	0.30	0.44	0.05
Uniform Delay, d1		71.0	3.0	2.3	5.7	3.9
Progression Factor		1.00	2.67	0.64	0.51	0.15
Incremental Delay, d2		0.2	0.7	0.2	0.3	0.1
Delay (s)		71.2	8.8	1.7	3.2	0.7
Level of Service		E	A	A	A	A
Approach Delay (s)	71.2			2.1	3.1	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
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 (vph)	104	781	248	174	545	95	140	1096	214	250	1626	132
Future Volume (vph)	104	781	248	174	545	95	140	1096	214	250	1626	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00		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	
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)	3502	3539	1557	3273	3505	1483	3335	4887		3433	4916	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3539	1557	3273	3505	1483	3335	4887		3433	4916	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	849	270	189	592	103	152	1191	233	272	1767	143
RTOR Reduction (vph)	0	0	93	0	0	71	0	17	0	0	5	0
Lane Group Flow (vph)	113	849	177	189	592	32	152	1407	0	272	1905	0
Confl. Peds. (#/hr)	22		13	13		22	16		14	14		16
Heavy Vehicles (%)	0%	2%	1%	7%	3%	2%	5%	2%	1%	2%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	10.5	44.2	44.2	14.0	47.7	47.7	12.6	61.3		15.5	64.2	
Effective Green, g (s)	10.5	46.7	46.7	14.0	50.2	50.2	12.6	63.8		15.5	66.7	
Actuated g/C Ratio	0.07	0.29	0.29	0.09	0.31	0.31	0.08	0.40		0.10	0.42	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	229	1032	454	286	1099	465	262	1948		332	2049	
v/s Ratio Prot	0.03	c0.24		c0.06	c0.17		0.05	0.29		c0.08	c0.39	
v/s Ratio Perm			0.11			0.02						
v/c Ratio	0.49	0.82	0.39	0.66	0.54	0.07	0.58	0.72		0.82	0.93	
Uniform Delay, d1	72.2	52.8	45.3	70.7	45.3	38.5	71.1	40.6		70.9	44.4	
Progression Factor	1.00	1.00	1.00	0.75	1.28	4.08	1.00	1.00		1.17	0.93	
Incremental Delay, d2	1.7	5.4	0.6	5.6	0.5	0.1	3.2	2.4		9.2	5.9	
Delay (s)	73.9	58.2	45.8	58.7	58.4	157.2	74.4	43.0		92.0	47.3	
Level of Service	E	E	D	E	E	F	E	D		F	D	
Approach Delay (s)		56.9			70.0			46.0			52.9	
Approach LOS		E			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	54.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	92.1%	ICU Level of Service	F	
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 (vph)	35	1213	19	51	775	37	16	31	83	93	34	51
Future Volume (vph)	35	1213	19	51	775	37	16	31	83	93	34	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1789	5020		1765	4989		1793	1670		1760	1845	1554
Flt Permitted	0.30	1.00		0.17	1.00		0.73	1.00		0.54	1.00	1.00
Satd. Flow (perm)	563	5020		324	4989		1384	1670		1000	1845	1554
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	1318	21	55	842	40	17	34	90	101	37	55
RTOR Reduction (vph)	0	1	0	0	2	0	0	71	0	0	0	47
Lane Group Flow (vph)	38	1338	0	55	880	0	17	53	0	101	37	8
Confl. Peds. (#/hr)	12		8	8		12	6		6	6		6
Heavy Vehicles (%)	0%	2%	6%	2%	2%	3%	0%	0%	0%	2%	3%	2%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	115.7	115.7		115.7	115.7		22.2	22.2		22.2	22.2	22.2
Effective Green, g (s)	117.7	117.7		117.7	117.7		24.7	24.7		24.7	24.7	24.7
Actuated g/C Ratio	0.74	0.74		0.74	0.74		0.15	0.15		0.15	0.15	0.15
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	414	3692		238	3670		213	257		154	284	239
v/s Ratio Prot		c0.27			0.18			0.03			0.02	
v/s Ratio Perm	0.07			0.17			0.01			c0.10		0.01
v/c Ratio	0.09	0.36		0.23	0.24		0.08	0.21		0.66	0.13	0.04
Uniform Delay, d1	6.0	7.6		6.7	6.8		57.9	59.1		63.7	58.4	57.5
Progression Factor	0.37	0.39		0.31	0.28		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.2		2.2	0.2		0.2	0.4		9.6	0.2	0.1
Delay (s)	2.5	3.2		4.3	2.1		58.1	59.5		73.3	58.6	57.6
Level of Service	A	A		A	A		E	E		E	E	E
Approach Delay (s)		3.1			2.2			59.3			66.0	
Approach LOS		A			A			E			E	

Intersection Summary				
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.40			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	61.0%	ICU Level of Service	B	
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 (vph)	88	1134	86	74	671	116	57	255	102	252	382	59
Future Volume (vph)	88	1134	86	74	671	116	57	255	102	252	382	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1755	4959		1758	4840		1789	3301		1791	3414	
Flt Permitted	0.28	1.00		0.14	1.00		0.48	1.00		0.38	1.00	
Satd. Flow (perm)	514	4959		264	4840		901	3301		720	3414	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	96	1233	93	80	729	126	62	277	111	274	415	64
RTOR Reduction (vph)	0	5	0	0	13	0	0	30	0	0	8	0
Lane Group Flow (vph)	96	1321	0	80	842	0	62	358	0	274	471	0
Confl. Peds. (#/hr)	23		45	45		23	13		38	38		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	2%	3%	4%	0%	3%	1%	0%	3%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	3	0	0	3	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	82.8	82.8		82.8	82.8		38.7	38.7		57.7	53.9	
Effective Green, g (s)	84.8	84.8		84.8	84.8		41.2	41.2		59.7	56.4	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.26	0.26		0.37	0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	272	2628		139	2565		232	850		389	1203	
v/s Ratio Prot		0.27			0.17			c0.11		c0.08	0.14	
v/s Ratio Perm	0.19			c0.30			0.07			0.18		
v/c Ratio	0.35	0.50		0.58	0.33		0.27	0.42		0.70	0.39	
Uniform Delay, d1	21.7	24.1		25.4	21.4		47.4	49.5		37.7	38.9	
Progression Factor	0.46	0.50		1.52	1.64		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	0.7		15.9	0.3		0.6	0.3		5.7	0.2	
Delay (s)	13.4	12.6		54.5	35.5		48.0	49.8		43.4	39.1	
Level of Service	B	B		D	D		D	D		D	D	
Approach Delay (s)		12.6			37.1			49.5			40.7	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
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 (vph)	58	1449	62	32	823	58	44	27	65	90	26	38
Future Volume (vph)	58	1449	62	32	823	58	44	27	65	90	26	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.97		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1799	4997		1804	4941		1652	1624		1725	1900	1561
Flt Permitted	0.27	1.00		0.12	1.00		0.74	1.00		0.62	1.00	1.00
Satd. Flow (perm)	512	4997		221	4941		1285	1624		1117	1900	1561
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	1575	67	35	895	63	48	29	71	98	28	41
RTOR Reduction (vph)	0	2	0	0	4	0	0	59	0	0	0	34
Lane Group Flow (vph)	63	1640	0	35	954	0	48	41	0	98	28	7
Confl. Peds. (#/hr)	9		4	4		9	15		21	21		15
Heavy Vehicles (%)	0%	2%	4%	0%	3%	0%	7%	0%	2%	2%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	110.8	110.8		110.8	110.8		25.5	25.5		25.9	25.9	25.9
Effective Green, g (s)	112.8	112.8		112.8	112.8		28.0	28.0		28.4	28.4	28.4
Actuated g/C Ratio	0.70	0.70		0.70	0.70		0.18	0.18		0.18	0.18	0.18
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	360	3522		155	3483		224	284		198	337	277
v/s Ratio Prot		c0.33			0.19			0.03			0.01	
v/s Ratio Perm	0.12			0.16			0.04			c0.09		0.00
v/c Ratio	0.17	0.47		0.23	0.27		0.21	0.15		0.49	0.08	0.03
Uniform Delay, d1	7.9	10.4		8.3	8.6		56.6	55.9		59.3	54.9	54.4
Progression Factor	0.52	0.53		0.95	0.93		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.9	0.4		3.2	0.2		0.5	0.2		1.9	0.1	0.0
Delay (s)	5.1	5.9		11.0	8.2		57.1	56.1		61.3	55.0	54.4
Level of Service	A	A		B	A		E	E		E	E	D
Approach Delay (s)		5.8			8.3			56.4			58.5	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
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 (vph)	150	1197	252	106	696	184	157	1075	142	307	1321	106
Future Volume (vph)	150	1197	252	106	696	184	157	1075	142	307	1321	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96
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)	3298	5142	1473	3298	5092	1476	3429	5092	1545	3362	5043	1512
Flt Permitted	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 (perm)	3298	5142	1473	3298	5092	1476	3429	5092	1545	3362	5043	1512
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)	150	1197	252	106	696	184	157	1075	142	307	1321	106
RTOR Reduction (vph)	0	0	134	0	0	128	0	0	92	0	0	66
Lane Group Flow (vph)	150	1197	118	106	696	56	157	1075	50	307	1321	40
Confl. Peds. (#/hr)	20		52	52		20	31		20	20		31
Heavy Vehicles (%)	5%	2%	2%	5%	3%	2%	1%	3%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	12.4	51.6	51.6	9.4	48.6	48.6	12.4	56.0	56.0	17.4	61.0	61.0
Effective Green, g (s)	12.4	51.6	51.6	9.4	48.6	48.6	12.4	56.0	56.0	17.4	61.0	61.0
Actuated g/C Ratio	0.08	0.32	0.32	0.06	0.30	0.30	0.08	0.35	0.35	0.11	0.38	0.38
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	1658	475	193	1546	448	265	1782	540	365	1922	576
v/s Ratio Prot	c0.05	c0.23		0.03	0.14		0.05	0.21		c0.09	c0.26	
v/s Ratio Perm			0.08			0.04			0.03			0.03
v/c Ratio	0.59	0.72	0.25	0.55	0.45	0.12	0.59	0.60	0.09	0.84	0.69	0.07
Uniform Delay, d1	71.3	47.9	39.9	73.2	44.9	40.3	71.4	42.8	34.9	69.9	41.5	31.5
Progression Factor	1.06	0.70	0.48	1.00	1.00	1.00	1.26	1.02	2.43	0.95	1.63	5.36
Incremental Delay, d2	3.2	1.4	0.3	3.2	0.2	0.1	3.2	1.4	0.3	14.8	1.9	0.2
Delay (s)	79.1	35.0	19.6	76.4	45.1	40.4	92.9	45.1	85.2	81.4	69.6	169.0
Level of Service	E	C	B	E	D	D	F	D	F	F	E	F
Approach Delay (s)		36.7			47.6			54.7			77.8	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	55.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	114.0%	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 (vph)	48	81	240	295	66	62	115	1505	385	70	1734	25
Future Volume (vph)	48	81	240	295	66	62	115	1505	385	70	1734	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
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)	1723	1830	1549	1760	1830	1507	1750	5142	1567	1733	5092	1295
Flt Permitted	0.71	1.00	1.00	0.61	1.00	1.00	0.08	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	1295	1830	1549	1132	1830	1507	154	5142	1567	226	5092	1295
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)	48	81	240	295	66	62	115	1505	385	70	1734	25
RTOR Reduction (vph)	0	0	149	0	0	47	0	0	160	0	0	11
Lane Group Flow (vph)	48	81	91	295	66	15	115	1505	225	70	1734	14
Confl. Peds. (#/hr)	6		7	7		6	12		5	5		12
Heavy Vehicles (%)	3%	5%	1%	1%	5%	4%	2%	2%	0%	3%	3%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	19.6	19.6	19.6	39.6	39.6	39.6	102.7	93.4	93.4	100.1	92.1	92.1
Effective Green, g (s)	19.6	19.6	19.6	39.6	39.6	39.6	102.7	93.4	93.4	100.1	92.1	92.1
Actuated g/C Ratio	0.12	0.12	0.12	0.25	0.25	0.25	0.64	0.58	0.58	0.63	0.58	0.58
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	158	224	189	346	452	372	191	3001	914	216	2931	745
v/s Ratio Prot		0.04		c0.09	0.04		c0.03	0.29		0.02	0.34	
v/s Ratio Perm	0.04		0.06	c0.12		0.01	c0.35		0.14	0.19		0.01
v/c Ratio	0.30	0.36	0.48	0.85	0.15	0.04	0.60	0.50	0.25	0.32	0.59	0.02
Uniform Delay, d1	64.0	64.5	65.5	55.7	47.0	45.8	17.1	19.6	16.2	13.5	21.8	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.97	0.52	0.20	1.06	0.41	1.00
Incremental Delay, d2	2.3	2.1	4.0	18.0	0.3	0.1	4.5	0.5	0.5	0.7	0.7	0.0
Delay (s)	66.3	66.5	69.4	73.7	47.3	45.9	38.3	10.8	3.8	15.1	9.7	14.6
Level of Service	E	E	E	E	D	D	D	B	A	B	A	B
Approach Delay (s)		68.4			65.5			11.0			10.0	
Approach LOS		E			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

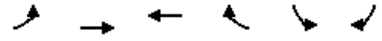
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	0	57	737	25	600	31	1399	0	0	2237	65
Future Volume (vph)	31	0	57	737	25	600	31	1399	0	0	2237	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	1.00			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
Frt	1.00		0.85	1.00	0.86	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1623		1058	3330	1440	1502	1417	5142			5142	1394
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1623		1058	3330	1440	1502	1417	5142			5142	1394
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)	31	0	57	737	25	600	31	1399	0	0	2237	65
RTOR Reduction (vph)	0	0	54	0	96	96	0	0	0	0	0	35
Lane Group Flow (vph)	31	0	3	737	217	216	31	1399	0	0	2237	30
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	10%	2%	51%	4%	104%	1%	26%	2%	0%	2%	2%	13%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	9.0		9.0	38.6	38.6	38.6	8.6	88.5			74.9	74.9
Effective Green, g (s)	9.0		9.0	38.6	38.6	38.6	8.6	88.5			74.9	74.9
Actuated g/C Ratio	0.06		0.06	0.24	0.24	0.24	0.05	0.55			0.47	0.47
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	91		59	803	347	362	76	2844			2407	652
v/s Ratio Prot	c0.02		0.00	c0.22	0.15		0.02	c0.27			c0.44	
v/s Ratio Perm						0.14						0.02
v/c Ratio	0.34		0.05	0.92	0.63	0.60	0.41	0.49			0.93	0.05
Uniform Delay, d1	72.6		71.5	59.2	54.3	53.8	73.2	21.9			40.1	23.1
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.14	0.86			0.58	1.00
Incremental Delay, d2	4.6		0.8	15.9	4.9	4.0	3.5	0.6			6.6	0.1
Delay (s)	77.3		72.3	75.1	59.2	57.8	86.8	19.5			29.8	23.2
Level of Service	E		E	E	E	E	F	B			C	C
Approach Delay (s)		74.0			67.5			20.9			29.6	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	37.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
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 (vph)	269	1	172	0	0	0	0	970	0	21	1902	0
Future Volume (vph)	269	1	172	0	0	0	0	970	0	21	1902	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1662	1693	1551					5142		892	5092	
Flt Permitted	0.95	0.95	1.00					1.00		0.27	1.00	
Satd. Flow (perm)	1662	1693	1551					5142		249	5092	
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)	269	1	172	0	0	0	0	970	0	21	1902	0
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	134	136	136	0	0	0	0	970	0	21	1902	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	2%	100%	3%	2%	2%	2%	2%	2%	4%	100%	3%	2%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	21.9	21.9	21.9					116.6		124.0	124.0	
Effective Green, g (s)	21.9	21.9	21.9					116.6		124.0	124.0	
Actuated g/C Ratio	0.14	0.14	0.14					0.73		0.78	0.78	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	227	231	212					3747		210	3946	
v/s Ratio Prot	0.08	0.08	c0.09					0.19		0.00	c0.37	
v/s Ratio Perm										0.07		
v/c Ratio	0.59	0.59	0.64					0.26		0.10	0.48	
Uniform Delay, d1	64.8	64.8	65.3					7.3		4.3	6.5	
Progression Factor	1.00	1.00	1.00					1.00		0.24	0.28	
Incremental Delay, d2	6.1	5.8	8.7					0.2		0.1	0.2	
Delay (s)	70.9	70.7	74.0					7.4		1.1	2.0	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		72.1			0.0			7.4			2.0	
Approach LOS		E			A			A			A	

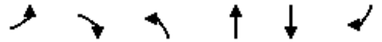
Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	112	46	59	81	41	75
Future Volume (vph)	112	46	59	81	41	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	122	50	64	88	45	82

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	139	33	64	88	45	82
Volume Left (vph)	122	0	0	0	45	0
Volume Right (vph)	0	0	0	88	0	82
Hadj (s)	0.45	0.05	0.00	-0.44	0.81	-0.70
Departure Headway (s)	5.4	5.0	5.0	4.6	6.1	4.6
Degree Utilization, x	0.21	0.05	0.09	0.11	0.08	0.10
Capacity (veh/h)	649	692	692	761	563	738
Control Delay (s)	8.6	7.1	7.3	6.9	8.4	6.9
Approach Delay (s)	8.3		7.1		7.4	
Approach LOS	A		A		A	

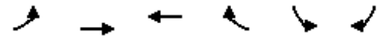
Intersection Summary			
Delay	7.7		
Level of Service	A		
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	163	120	88	34	43	202
Future Volume (vph)	163	120	88	34	43	202
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	177	130	96	37	47	220

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	177	130	108	25	47	220
Volume Left (vph)	177	0	96	0	0	0
Volume Right (vph)	0	130	0	0	0	220
Hadj (s)	0.52	-0.70	0.47	0.00	0.00	-0.70
Departure Headway (s)	6.0	4.8	6.1	5.6	5.5	4.8
Degree Utilization, x	0.29	0.17	0.18	0.04	0.07	0.29
Capacity (veh/h)	571	709	561	602	617	713
Control Delay (s)	10.3	7.6	9.3	7.7	7.7	8.6
Approach Delay (s)	9.1		9.0		8.4	
Approach LOS	A		A		A	

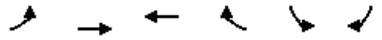
Intersection Summary			
Delay	8.8		
Level of Service	A		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	164	223	0	0	22
Future Volume (Veh/h)	33	164	223	0	0	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	178	242	0	0	24
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	242				403	121
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	242				403	121
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	97
cM capacity (veh/h)	1336				560	914

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	95	119	161	81	24
Volume Left	36	0	0	0	0
Volume Right	0	0	0	0	24
cSH	1336	1700	1700	1700	914
Volume to Capacity	0.03	0.07	0.09	0.05	0.03
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.6
Control Delay (s)	3.1	0.0	0.0	0.0	9.0
Lane LOS	A				A
Approach Delay (s)	1.4		0.0		9.0
Approach LOS					A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	148	214	12	10	9
Future Volume (Veh/h)	16	148	214	12	10	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	161	233	13	11	10
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	246				354	123
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	246				354	123
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1332				615	911

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	71	107	155	91	21
Volume Left	17	0	0	0	11
Volume Right	0	0	0	13	10
cSH	1332	1700	1700	1700	728
Volume to Capacity	0.01	0.06	0.09	0.05	0.03
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.7
Control Delay (s)	1.9	0.0	0.0	0.0	10.1
Lane LOS	A				B
Approach Delay (s)	0.8		0.0		10.1
Approach LOS					B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	24.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	143	221	14	5	5
Future Volume (Veh/h)	15	143	221	14	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	155	240	15	5	5
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	255				357	128
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	255				357	128
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1322				613	905

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	68	103	160	95	10
Volume Left	16	0	0	0	5
Volume Right	0	0	0	15	5
cSH	1322	1700	1700	1700	731
Volume to Capacity	0.01	0.06	0.09	0.06	0.01
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.3
Control Delay (s)	1.9	0.0	0.0	0.0	10.0
Lane LOS	A				A
Approach Delay (s)	0.8		0.0		10.0
Approach LOS					A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	24.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
2: Winston Churchill Boulevard & Erin Centre Boulevard

FB2040 PM
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	207	117	75	265	121	204	2171	115	141	1547	72
Future Volume (vph)	51	207	117	75	265	121	204	2171	115	141	1547	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1793	3344		1788	1881	1563	1805	5033		1805	5035	
Flt Permitted	0.34	1.00		0.43	1.00	1.00	0.08	1.00		0.04	1.00	
Satd. Flow (perm)	643	3344		811	1881	1563	148	5033		83	5035	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	225	127	82	288	132	222	2360	125	153	1682	78
RTOR Reduction (vph)	0	55	0	0	0	97	0	3	0	0	3	0
Lane Group Flow (vph)	55	297	0	82	288	35	222	2482	0	153	1757	0
Confl. Peds. (#/hr)	13		17	17		13	7		7	7		7
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	39.5	39.5		39.5	39.5	39.5	104.7	91.7		101.3	90.0	
Effective Green, g (s)	42.0	42.0		42.0	42.0	42.0	108.0	93.7		105.3	92.0	
Actuated g/C Ratio	0.26	0.26		0.26	0.26	0.26	0.68	0.59		0.66	0.58	
Clearance Time (s)	7.5	7.5		7.5	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	168	877		212	493	410	255	2947		197	2895	
v/s Ratio Prot		0.09			c0.15		c0.08	c0.49		0.06	0.35	
v/s Ratio Perm	0.09			0.10		0.02	0.51			0.45		
v/c Ratio	0.33	0.34		0.39	0.58	0.08	0.87	0.84		0.78	0.61	
Uniform Delay, d1	47.6	47.8		48.4	51.4	44.5	37.1	27.1		48.2	22.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.96	0.40		1.00	1.00	
Incremental Delay, d2	1.1	0.2		1.2	1.8	0.1	7.9	0.8		17.3	1.0	
Delay (s)	48.7	48.0		49.6	53.2	44.6	80.4	11.6		65.5	23.2	
Level of Service	D	D		D	D	D	F	B		E	C	
Approach Delay (s)		48.1			50.3			17.3			26.5	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Plantation Place/Russel View Road & Erin Centre Boulevard

FB2040 PM
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	422	77	69	416	27	62	54	70	18	23	19
Future Volume (vph)	17	422	77	69	416	27	62	54	70	18	23	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1800	3467		1763	3525		1799	1900	1592	1801	1757	
Flt Permitted	0.48	1.00		0.45	1.00		0.73	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	905	3467		834	3525		1377	1900	1592	1362	1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	459	84	75	452	29	67	59	76	20	25	21
RTOR Reduction (vph)	0	8	0	0	3	0	0	0	63	0	17	0
Lane Group Flow (vph)	18	535	0	75	478	0	67	59	13	20	29	0
Confl. Peds. (#/hr)	4		7	7		4	5		3	3		5
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	62.8	62.8		62.8	62.8		13.7	13.7	13.7	13.7	13.7	
Effective Green, g (s)	64.8	64.8		64.8	64.8		15.2	15.2	15.2	15.2	15.2	
Actuated g/C Ratio	0.72	0.72		0.72	0.72		0.17	0.17	0.17	0.17	0.17	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	651	2496		600	2538		232	320	268	230	296	
v/s Ratio Prot		c0.15			0.14			0.03			0.02	
v/s Ratio Perm	0.02			0.09			c0.05		0.01	0.01		
v/c Ratio	0.03	0.21		0.12	0.19		0.29	0.18	0.05	0.09	0.10	
Uniform Delay, d1	3.6	4.2		3.9	4.1		32.7	32.1	31.3	31.5	31.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.4	0.2		0.7	0.3	0.1	0.2	0.1	
Delay (s)	3.7	4.4		4.3	4.2		33.4	32.4	31.4	31.7	31.7	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		4.3			4.3			32.3			31.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
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 (vph)	66	303	57	77	360	144	103	660	798	92	427	77
Future Volume (vph)	66	303	57	77	360	144	103	660	798	92	427	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.92		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1800	3470		1729	3370		1797	3223		1752	3516	
Flt Permitted	0.28	1.00		0.42	1.00		0.44	1.00		0.10	1.00	
Satd. Flow (perm)	528	3470		768	3370		825	3223		181	3516	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	329	62	84	391	157	112	717	867	100	464	84
RTOR Reduction (vph)	0	20	0	0	57	0	0	134	0	0	10	0
Lane Group Flow (vph)	72	371	0	84	491	0	112	1450	0	100	538	0
Confl. Peds. (#/hr)	9		9	9		9	11					11
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	4%	1%	3%	0%	0%	4%	3%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	22.8	22.8		22.8	22.8		63.7	63.7		63.7	63.7	
Effective Green, g (s)	24.8	24.8		24.8	24.8		65.2	65.2		65.2	65.2	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.65	0.65		0.65	0.65	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	130	860		190	835		537	2101		118	2292	
v/s Ratio Prot		0.11			c0.15			0.45			0.15	
v/s Ratio Perm	0.14			0.11			0.14			c0.55		
v/c Ratio	0.55	0.43		0.44	0.59		0.21	0.69		0.85	0.23	
Uniform Delay, d1	32.8	31.7		31.8	33.1		7.0	11.0		13.5	7.1	
Progression Factor	1.00	1.00		1.00	1.00		0.84	0.77		1.00	1.00	
Incremental Delay, d2	5.0	0.3		1.6	1.1		0.9	1.9		49.3	0.2	
Delay (s)	37.8	32.0		33.4	34.2		6.8	10.4		62.8	7.4	
Level of Service	D	C		C	C		A	B		E	A	
Approach Delay (s)		32.9			34.1			10.2			15.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
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 (vph)	11	326	70	135	416	15	108	2	178	2	0	0
Future Volume (vph)	11	326	70	135	416	15	108	2	178	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99			1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	
Satd. Flow (prot)	1794	3505	1544	1750	3553			1687	1545		3422	
Flt Permitted	0.48	1.00	1.00	0.54	1.00			0.73	1.00		0.68	
Satd. Flow (perm)	913	3505	1544	994	3553			1290	1545		2451	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	354	76	147	452	16	117	2	193	2	0	0
RTOR Reduction (vph)	0	0	29	0	2	0	0	0	146	0	0	0
Lane Group Flow (vph)	12	354	47	147	466	0	0	119	47	0	2	0
Confl. Peds. (#/hr)	13		5	5		13	9		5	5		9
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	3%	3%	3%	1%	0%	7%	0%	3%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	40.8	40.8	40.8	40.8	40.8			15.0	15.0		15.0	
Effective Green, g (s)	42.8	42.8	42.8	42.8	42.8			17.0	17.0		17.0	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61			0.24	0.24		0.24	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	559	2149	946	609	2178			314	376		596	
v/s Ratio Prot		0.10			0.13							
v/s Ratio Perm	0.01		0.03	c0.15				c0.09	0.03		0.00	
v/c Ratio	0.02	0.16	0.05	0.24	0.21			0.38	0.13		0.00	
Uniform Delay, d1	5.3	5.8	5.4	6.1	6.0			22.0	20.6		20.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2	0.1	0.9	0.2			0.8	0.2		0.0	
Delay (s)	5.4	6.0	5.5	7.1	6.2			22.8	20.7		20.0	
Level of Service	A	A	A	A	A			C	C		B	
Approach Delay (s)		5.9			6.4			21.5			20.0	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	69.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
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 (vph)	210	166	98	74	146	63	143	1448	101	44	1379	254
Future Volume (vph)	210	166	98	74	146	63	143	1448	101	44	1379	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	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)	1728	1921	1466	1776	1921	1565	1785	5142	1551	1783	5142	1506
Flt Permitted	0.52	1.00	1.00	0.65	1.00	1.00	0.14	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	937	1921	1466	1219	1921	1565	265	5142	1551	313	5142	1506
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)	210	166	98	74	146	63	143	1448	101	44	1379	254
RTOR Reduction (vph)	0	0	75	0	0	55	0	0	34	0	0	107
Lane Group Flow (vph)	210	166	23	74	146	8	143	1448	67	44	1379	147
Confl. Peds. (#/hr)	7		6	6		7	8		4	4		8
Heavy Vehicles (%)	3%	0%	7%	0%	0%	0%	0%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	37.3	37.3	37.3	21.3	21.3	21.3	106.1	106.1	106.1	92.8	92.8	92.8
Effective Green, g (s)	37.3	37.3	37.3	21.3	21.3	21.3	106.1	106.1	106.1	92.8	92.8	92.8
Actuated g/C Ratio	0.23	0.23	0.23	0.13	0.13	0.13	0.66	0.66	0.66	0.58	0.58	0.58
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	282	447	341	162	255	208	273	3409	1028	181	2982	873
v/s Ratio Prot	c0.06	0.09			0.08		c0.03	0.28			0.27	
v/s Ratio Perm	c0.11		0.02	0.06		0.01	c0.31		0.04	0.14		0.10
v/c Ratio	0.74	0.37	0.07	0.46	0.57	0.04	0.52	0.42	0.07	0.24	0.46	0.17
Uniform Delay, d1	55.0	51.5	47.8	64.0	65.1	60.4	12.5	12.6	9.5	16.4	19.3	15.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.74	0.87	1.16	1.00	1.00	1.00
Incremental Delay, d2	10.2	0.5	0.1	2.0	3.1	0.1	1.7	0.4	0.1	3.2	0.5	0.4
Delay (s)	65.2	52.0	47.9	66.0	68.2	60.5	36.0	11.4	11.1	19.6	19.8	16.1
Level of Service	E	D	D	E	E	E	D	B	B	B	B	B
Approach Delay (s)		57.0			65.9			13.4			19.2	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	279	319	234	183
Demand Flow Rate, veh/h	279	319	234	185
Vehicles Circulating, veh/h	177	225	284	292
Vehicles Exiting, veh/h	300	293	172	252
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	4	10	16	7
Ped Cap Adj	0.999	0.999	0.998	0.999
Approach Delay, s/veh	6.9	7.9	7.2	6.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	279	319	234	185
Cap Entry Lane, veh/h	947	902	851	844
Entry HV Adj Factor	1.000	1.000	1.000	0.990
Flow Entry, veh/h	279	319	234	183
Cap Entry, veh/h	946	901	849	834
V/C Ratio	0.295	0.354	0.276	0.219
Control Delay, s/veh	6.9	7.9	7.2	6.6
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	158	35	86	170	116	80	643	98	101	373	517
Future Volume (vph)	89	158	35	86	170	116	80	643	98	101	373	517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	3500		1795	1900	1574	1802	3574	1568	1801	3574	1560
Flt Permitted	0.55	1.00		0.62	1.00	1.00	0.51	1.00	1.00	0.36	1.00	1.00
Satd. Flow (perm)	1030	3500		1172	1900	1574	975	3574	1568	687	3574	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	172	38	93	185	126	87	699	107	110	405	562
RTOR Reduction (vph)	0	23	0	0	0	95	0	0	37	0	0	187
Lane Group Flow (vph)	97	187	0	93	185	31	87	699	70	110	405	375
Confl. Peds. (#/hr)	17		9	9		17	3		6	6		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	22.8	22.8		22.8	22.8	22.8	63.7	63.7	63.7	63.7	63.7	63.7
Effective Green, g (s)	24.8	24.8		24.8	24.8	24.8	65.2	65.2	65.2	65.2	65.2	65.2
Actuated g/C Ratio	0.25	0.25		0.25	0.25	0.25	0.65	0.65	0.65	0.65	0.65	0.65
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	868		290	471	390	635	2330	1022	447	2330	1017
v/s Ratio Prot		0.05			c0.10			0.20			0.11	
v/s Ratio Perm	0.09			0.08		0.02	0.09		0.04	0.16		c0.24
v/c Ratio	0.38	0.22		0.32	0.39	0.08	0.14	0.30	0.07	0.25	0.17	0.37
Uniform Delay, d1	31.2	29.9		30.7	31.3	28.8	6.6	7.5	6.3	7.2	6.8	8.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.86	0.58
Incremental Delay, d2	1.0	0.1		0.6	0.5	0.1	0.4	0.3	0.1	1.3	0.2	1.0
Delay (s)	32.2	30.0		31.4	31.9	28.9	7.1	7.9	6.5	7.3	6.0	5.6
Level of Service	C	C		C	C	C	A	A	A	A	A	A
Approach Delay (s)		30.7			30.8			7.6			5.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	133	95	1684	1484	139
Future Volume (vph)	0	133	95	1684	1484	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1537	1684	5142	5142	1493
Flt Permitted		1.00	0.15	1.00	1.00	1.00
Satd. Flow (perm)		1537	267	5142	5142	1493
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	133	95	1684	1484	139
RTOR Reduction (vph)	0	126	0	0	0	22
Lane Group Flow (vph)	0	7	95	1684	1484	117
Confl. Peds. (#/hr)	1		5			5
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	2%	4%	6%	2%	2%	5%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		8.4	137.4	137.4	126.4	126.4
Effective Green, g (s)		8.4	137.4	137.4	126.4	126.4
Actuated g/C Ratio		0.05	0.86	0.86	0.79	0.79
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		80	300	4415	4062	1179
v/s Ratio Prot			0.02	c0.33	0.29	
v/s Ratio Perm		c0.00	0.26			0.08
v/c Ratio		0.09	0.32	0.38	0.37	0.10
Uniform Delay, d1		72.2	2.3	2.4	5.0	3.8
Progression Factor		1.00	4.08	0.23	0.28	0.03
Incremental Delay, d2		0.5	0.5	0.2	0.2	0.2
Delay (s)		72.6	9.8	0.8	1.6	0.3
Level of Service		E	A	A	A	A
Approach Delay (s)	72.6			1.2	1.5	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
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 (vph)	215	894	231	274	837	231	329	1914	205	176	1315	117
Future Volume (vph)	215	894	231	274	837	231	329	1914	205	176	1315	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00		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	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		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)	3502	3574	1552	3502	3539	1501	3467	4983		3502	5007	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3574	1552	3502	3539	1501	3467	4983		3502	5007	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	234	972	251	298	910	251	358	2080	223	191	1429	127
RTOR Reduction (vph)	0	0	118	0	0	98	0	8	0	0	6	0
Lane Group Flow (vph)	234	972	133	298	910	153	358	2295	0	191	1550	0
Confl. Peds. (#/hr)	29		16	16		29	10		31	31		10
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	1%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	10.0	44.1	44.1	18.5	52.6	52.6	17.0	62.4		10.0	55.4	
Effective Green, g (s)	11.0	46.6	46.6	18.5	55.1	55.1	17.0	64.9		10.0	57.9	
Actuated g/C Ratio	0.07	0.29	0.29	0.12	0.34	0.34	0.11	0.41		0.06	0.36	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	240	1040	452	404	1218	516	368	2021		218	1811	
v/s Ratio Prot	c0.07	c0.27		0.09	c0.26		c0.10	c0.46		0.05	0.31	
v/s Ratio Perm			0.09			0.10						
v/c Ratio	0.97	0.93	0.29	0.74	0.75	0.30	0.97	1.14		0.88	0.86	
Uniform Delay, d1	74.4	55.2	43.9	68.4	46.3	38.3	71.3	47.5		74.4	47.2	
Progression Factor	1.00	1.00	1.00	0.71	1.18	1.90	1.00	1.00		0.86	1.32	
Incremental Delay, d2	50.6	14.7	0.4	6.5	2.4	0.3	39.4	67.8		26.0	4.5	
Delay (s)	125.0	69.9	44.3	55.1	56.9	73.1	110.7	115.3		89.9	66.9	
Level of Service	F	E	D	E	E	E	F	F		F	E	
Approach Delay (s)		74.3			59.3			114.7			69.4	
Approach LOS		E			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	84.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
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 (vph)	60	1176	20	81	1197	98	27	92	67	156	45	76
Future Volume (vph)	60	1176	20	81	1197	98	27	92	67	156	45	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1799	5071		1796	5014		1784	1764		1775	1900	1576
Flt Permitted	0.15	1.00		0.17	1.00		0.71	1.00		0.51	1.00	1.00
Satd. Flow (perm)	285	5071		328	5014		1339	1764		955	1900	1576
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	1278	22	88	1301	107	29	100	73	170	49	83
RTOR Reduction (vph)	0	1	0	0	5	0	0	18	0	0	0	64
Lane Group Flow (vph)	65	1299	0	88	1403	0	29	155	0	170	49	19
Confl. Peds. (#/hr)	11		14	14		11	11		8	8		11
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	104.1	104.1		104.1	104.1		33.8	33.8		33.2	33.2	33.2
Effective Green, g (s)	106.1	106.1		106.1	106.1		36.3	36.3		35.7	35.7	35.7
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.23	0.23		0.22	0.22	0.22
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	188	3362		217	3324		303	400		213	423	351
v/s Ratio Prot		0.26			c0.28			0.09			0.03	
v/s Ratio Perm	0.23			0.27			0.02			c0.18		0.01
v/c Ratio	0.35	0.39		0.41	0.42		0.10	0.39		0.80	0.12	0.05
Uniform Delay, d1	11.8	12.2		12.4	12.6		48.9	52.4		58.7	49.6	48.9
Progression Factor	0.39	0.29		0.68	0.64		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.6	0.1		4.5	0.3		0.1	0.6		18.5	0.1	0.1
Delay (s)	6.2	3.7		13.0	8.4		49.0	53.1		77.2	49.7	48.9
Level of Service	A	A		B	A		D	D		E	D	D
Approach Delay (s)		3.8			8.6			52.5			65.0	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
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 (vph)	96	1113	114	131	1231	200	101	489	105	190	312	82
Future Volume (vph)	96	1113	114	131	1231	200	101	489	105	190	312	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	1.0	5.0		5.0	5.0		6.0	6.0		1.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	5001		1780	4887		1764	3440		1803	3411	
Flt Permitted	0.10	1.00		0.16	1.00		0.50	1.00		0.17	1.00	
Satd. Flow (perm)	181	5001		297	4887		933	3440		325	3411	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	1210	124	142	1338	217	110	532	114	207	339	89
RTOR Reduction (vph)	0	7	0	0	13	0	0	12	0	0	14	0
Lane Group Flow (vph)	104	1327	0	142	1542	0	110	634	0	207	414	0
Confl. Peds. (#/hr)	96		23	23		96	32		25	25		32
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	3	0	0	3	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	92.3	87.3		80.9	80.9		37.2	37.2		53.2	53.2	
Effective Green, g (s)	94.3	89.3		82.9	82.9		38.7	38.7		55.2	54.7	
Actuated g/C Ratio	0.59	0.56		0.52	0.52		0.24	0.24		0.35	0.34	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	212	2791		153	2532		225	832		250	1166	
v/s Ratio Prot	c0.03	0.27			0.32			c0.18		c0.08	0.12	
v/s Ratio Perm	0.26			c0.48			0.12			0.21		
v/c Ratio	0.49	0.48		0.93	0.61		0.49	0.76		0.83	0.35	
Uniform Delay, d1	19.2	21.3		35.8	27.1		52.1	56.4		41.1	39.4	
Progression Factor	1.36	0.57		0.47	0.36		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	0.5		52.8	1.0		1.7	4.2		19.7	0.2	
Delay (s)	27.8	12.6		69.6	10.7		53.8	60.5		60.8	39.6	
Level of Service	C	B		E	B		D	E		E	D	
Approach Delay (s)		13.7			15.6			59.5			46.5	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
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 (vph)	126	1253	59	45	1387	89	50	35	40	145	37	115
Future Volume (vph)	126	1253	59	45	1387	89	50	35	40	145	37	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.98		1.00	1.00	0.94
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.95	1.00		0.98	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1802	5044		1799	5033		1719	1720		1775	1900	1515
Flt Permitted	0.12	1.00		0.15	1.00		0.71	1.00		0.70	1.00	1.00
Satd. Flow (perm)	222	5044		281	5033		1292	1720		1310	1900	1515
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	137	1362	64	49	1508	97	54	38	43	158	40	125
RTOR Reduction (vph)	0	2	0	0	3	0	0	28	0	0	0	59
Lane Group Flow (vph)	137	1424	0	49	1602	0	54	53	0	158	40	66
Confl. Peds. (#/hr)	17		13	13		17	35		13	13		35
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	105.1	105.1		105.1	105.1		31.6	31.6		30.8	30.8	30.8
Effective Green, g (s)	107.1	107.1		107.1	107.1		34.1	34.1		33.3	33.3	33.3
Actuated g/C Ratio	0.67	0.67		0.67	0.67		0.21	0.21		0.21	0.21	0.21
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	148	3376		188	3368		275	366		272	395	315
v/s Ratio Prot		0.28			0.32			0.03			0.02	
v/s Ratio Perm	c0.62			0.17			0.04			c0.12		0.04
v/c Ratio	0.93	0.42		0.26	0.48		0.20	0.14		0.58	0.10	0.21
Uniform Delay, d1	23.0	12.2		10.6	12.8		51.7	51.1		57.1	51.2	52.5
Progression Factor	1.03	0.32		0.16	0.16		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	51.5	0.3		2.7	0.4		0.4	0.2		3.1	0.1	0.3
Delay (s)	75.2	4.3		4.4	2.5		52.0	51.3		60.2	51.4	52.8
Level of Service	E	A		A	A		D	D		E	D	D
Approach Delay (s)		10.5			2.6			51.6			56.2	
Approach LOS		B			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
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 (vph)	142	1059	255	147	1091	281	303	1333	108	199	1218	152
Future Volume (vph)	142	1059	255	147	1091	281	303	1333	108	199	1218	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.97
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)	3463	5142	1520	3330	5193	1492	3463	5142	1550	3429	5142	1513
Flt Permitted	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 (perm)	3463	5142	1520	3330	5193	1492	3463	5142	1550	3429	5142	1513
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)	142	1059	255	147	1091	281	303	1333	108	199	1218	152
RTOR Reduction (vph)	0	0	155	0	0	171	0	0	67	0	0	98
Lane Group Flow (vph)	142	1059	100	147	1091	110	303	1333	41	199	1218	54
Confl. Peds. (#/hr)	19		29	29		19	21		17	17		21
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	2%	1%	4%	1%	1%	0%	2%	0%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	11.9	50.6	50.6	9.8	48.5	48.5	17.2	60.4	60.4	13.6	56.8	56.8
Effective Green, g (s)	11.9	50.6	50.6	9.8	48.5	48.5	17.2	60.4	60.4	13.6	56.8	56.8
Actuated g/C Ratio	0.07	0.32	0.32	0.06	0.30	0.30	0.11	0.38	0.38	0.08	0.35	0.35
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	1626	480	203	1574	452	372	1941	585	291	1825	537
v/s Ratio Prot	0.04	0.21		c0.04	c0.21		c0.09	c0.26		0.06	0.24	
v/s Ratio Perm			0.07			0.07			0.03			0.04
v/c Ratio	0.55	0.65	0.21	0.72	0.69	0.24	0.81	0.69	0.07	0.68	0.67	0.10
Uniform Delay, d1	71.5	47.1	40.1	73.8	49.2	42.0	69.8	41.9	31.8	71.1	43.6	34.5
Progression Factor	0.92	1.20	3.49	1.00	1.00	1.00	1.32	1.04	2.34	1.38	0.71	0.60
Incremental Delay, d2	2.4	0.9	0.2	12.1	1.3	0.3	10.9	1.7	0.2	6.2	1.9	0.4
Delay (s)	68.2	57.2	140.0	85.8	50.5	42.2	103.1	45.3	74.8	104.1	32.7	20.9
Level of Service	E	E	F	F	D	D	F	D	E	F	C	C
Approach Delay (s)		72.8			52.4			57.2			40.6	
Approach LOS		E			D			E			D	

Intersection Summary					
HCM 2000 Control Delay	55.5	HCM 2000 Level of Service	E		
HCM 2000 Volume to Capacity ratio	0.71				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6		
Intersection Capacity Utilization	108.8%	ICU Level of Service	G		
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 (vph)	31	71	174	344	118	81	155	1762	386	33	1636	36
Future Volume (vph)	31	71	174	344	118	81	155	1762	386	33	1636	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
Flpb, ped/bikes	0.99	1.00	1.00	0.99	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)	1765	1883	1557	1772	1902	1527	1767	5142	1549	1716	5142	1506
Flt Permitted	0.68	1.00	1.00	0.63	1.00	1.00	0.09	1.00	1.00	0.09	1.00	1.00
Satd. Flow (perm)	1266	1883	1557	1173	1902	1527	163	5142	1549	157	5142	1506
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)	31	71	174	344	118	81	155	1762	386	33	1636	36
RTOR Reduction (vph)	0	0	149	0	0	59	0	0	145	0	0	17
Lane Group Flow (vph)	31	71	25	344	118	22	155	1762	241	33	1636	19
Confl. Peds. (#/hr)	12		11	11		12	11		6	6		11
Heavy Vehicles (%)	0%	2%	0%	0%	1%	2%	1%	2%	1%	4%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	23.0	23.0	23.0	43.0	43.0	43.0	101.0	92.0	92.0	91.8	85.8	85.8
Effective Green, g (s)	23.0	23.0	23.0	43.0	43.0	43.0	101.0	92.0	92.0	91.8	85.8	85.8
Actuated g/C Ratio	0.14	0.14	0.14	0.27	0.27	0.27	0.63	0.58	0.58	0.57	0.54	0.54
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	181	270	223	378	511	410	225	2956	890	148	2757	807
v/s Ratio Prot		0.04		c0.10	0.06		c0.05	0.34		0.01	0.32	
v/s Ratio Perm	0.02		0.02	c0.15		0.01	c0.38		0.16	0.12		0.01
v/c Ratio	0.17	0.26	0.11	0.91	0.23	0.05	0.69	0.60	0.27	0.22	0.59	0.02
Uniform Delay, d1	60.1	61.0	59.6	55.0	45.6	43.4	20.4	22.0	17.1	17.1	25.2	17.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.99	0.49	0.17	0.74	0.46	1.00
Incremental Delay, d2	0.9	1.1	0.5	25.4	0.5	0.1	6.9	0.7	0.6	0.6	0.8	0.0
Delay (s)	61.1	62.0	60.1	80.4	46.1	43.5	47.5	11.5	3.5	13.4	12.3	17.5
Level of Service	E	E	E	F	D	D	D	B	A	B	B	B
Approach Delay (s)		60.7			67.4			12.6			12.4	
Approach LOS		E			E			B			B	

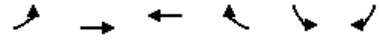
Intersection Summary					
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.78				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0		
Intersection Capacity Utilization	86.2%	ICU Level of Service	E		
Analysis Period (min)	15				
c Critical Lane Group					

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	0	50	894	23	658	25	1576	0	0	2098	42
Future Volume (vph)	33	0	50	894	23	658	25	1576	0	0	2098	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	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
Frt	1.00		0.85	1.00	0.86	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1580		1037	3429	1486	1502	1394	5142			5193	1456
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1580		1037	3429	1486	1502	1394	5142			5193	1456
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)	33	0	50	894	23	658	25	1576	0	0	2098	42
RTOR Reduction (vph)	0	0	47	0	82	84	0	0	0	0	0	24
Lane Group Flow (vph)	33	0	3	894	263	252	25	1576	0	0	2098	18
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	13%	2%	54%	1%	70%	1%	28%	2%	2%	2%	1%	8%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	9.1		9.1	46.6	46.6	46.6	6.3	80.4			69.1	69.1
Effective Green, g (s)	9.1		9.1	46.6	46.6	46.6	6.3	80.4			69.1	69.1
Actuated g/C Ratio	0.06		0.06	0.29	0.29	0.29	0.04	0.50			0.43	0.43
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	89		58	998	432	437	54	2583			2242	628
v/s Ratio Prot	c0.02		0.00	c0.26	0.18		0.02	c0.31			c0.40	
v/s Ratio Perm						0.17						0.01
v/c Ratio	0.37		0.05	0.90	0.61	0.58	0.46	0.61			0.94	0.03
Uniform Delay, d1	72.7		71.4	54.4	48.8	48.3	75.2	28.6			43.3	26.1
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.22	0.85			0.54	1.00
Incremental Delay, d2	5.4		0.7	11.1	3.6	2.9	5.8	1.0			7.4	0.1
Delay (s)	78.1		72.1	65.5	52.4	51.2	97.7	25.3			30.9	26.2
Level of Service	E		E	E	D	D	F	C			C	C
Approach Delay (s)		74.5			59.6			26.4			30.8	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
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 (vph)	220	7	189	0	0	0	0	1440	0	16	2028	0
Future Volume (vph)	220	7	189	0	0	0	0	1440	0	16	2028	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1585	1583	1521					5142		892	5142	
Flt Permitted	0.95	0.96	1.00					1.00		0.15	1.00	
Satd. Flow (perm)	1585	1583	1521					5142		142	5142	
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)	220	7	189	0	0	0	0	1440	0	16	2028	0
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	114	113	153	0	0	0	0	1440	0	16	2028	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	7%	58%	5%	2%	2%	2%	2%	2%	3%	100%	2%	2%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	23.6	23.6	23.6					116.4		122.3	122.3	
Effective Green, g (s)	23.6	23.6	23.6					116.4		122.3	122.3	
Actuated g/C Ratio	0.15	0.15	0.15					0.73		0.76	0.76	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	233	233	224					3740		122	3930	
v/s Ratio Prot	0.07	0.07	c0.10					0.28		0.00	c0.39	
v/s Ratio Perm										0.10		
v/c Ratio	0.49	0.48	0.68					0.39		0.13	0.52	
Uniform Delay, d1	62.7	62.6	64.7					8.3		5.3	7.3	
Progression Factor	1.00	1.00	1.00					1.00		0.18	0.34	
Incremental Delay, d2	3.4	3.3	10.6					0.3		0.2	0.2	
Delay (s)	66.0	65.9	75.3					8.6		1.2	2.7	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		70.2			0.0			8.6			2.7	
Approach LOS		E			A			A			A	

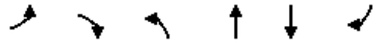
Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	100	49	44	185	96	107
Future Volume (vph)	100	49	44	185	96	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	53	48	201	104	116

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	127	35	48	201	104	116
Volume Left (vph)	109	0	0	0	104	0
Volume Right (vph)	0	0	0	201	0	116
Hadj (s)	0.43	0.00	0.00	-0.60	0.62	-0.70
Departure Headway (s)	5.8	5.3	5.3	4.7	6.1	4.8
Degree Utilization, x	0.20	0.05	0.07	0.26	0.18	0.15
Capacity (veh/h)	593	641	647	736	560	704
Control Delay (s)	9.0	7.4	7.5	8.1	9.2	7.4
Approach Delay (s)	8.7		8.0		8.3	
Approach LOS	A		A		A	

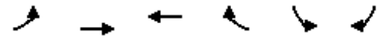
Intersection Summary			
Delay	8.3		
Level of Service	A		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	153	207	199	80	104	176
Future Volume (vph)	153	207	199	80	104	176
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	166	225	216	87	113	191

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	166	225	245	58	113	191
Volume Left (vph)	166	0	216	0	0	0
Volume Right (vph)	0	225	0	0	0	191
Hadj (s)	0.50	-0.70	0.44	0.00	0.00	-0.70
Departure Headway (s)	6.6	5.4	6.5	6.0	6.1	5.4
Degree Utilization, x	0.30	0.34	0.44	0.10	0.19	0.28
Capacity (veh/h)	519	632	538	568	562	638
Control Delay (s)	11.2	9.9	13.3	8.5	9.3	9.3
Approach Delay (s)	10.5		12.3		9.3	
Approach LOS	B		B		A	

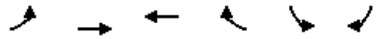
Intersection Summary			
Delay	10.7		
Level of Service	B		
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	165	178	5	18	102
Future Volume (Veh/h)	68	165	178	5	18	102
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	179	193	5	20	111
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	198				433	99
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	198				433	99
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				96	88
cM capacity (veh/h)	1387				527	944

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	134	119	129	69	131
Volume Left	74	0	0	0	20
Volume Right	0	0	0	5	111
cSH	1387	1700	1700	1700	842
Volume to Capacity	0.05	0.07	0.08	0.04	0.16
Queue Length 95th (m)	1.4	0.0	0.0	0.0	4.4
Control Delay (s)	4.5	0.0	0.0	0.0	10.1
Lane LOS	A				B
Approach Delay (s)	2.4		0.0		10.1
Approach LOS					B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	28.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	123	141	27	32	42
Future Volume (Veh/h)	60	123	141	27	32	42
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	134	153	29	35	46
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	182				364	91
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	182				364	91
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				94	95
cM capacity (veh/h)	1405				585	955

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	110	89	102	80	81
Volume Left	65	0	0	0	35
Volume Right	0	0	0	29	46
cSH	1405	1700	1700	1700	750
Volume to Capacity	0.05	0.05	0.06	0.05	0.11
Queue Length 95th (m)	1.2	0.0	0.0	0.0	2.9
Control Delay (s)	4.7	0.0	0.0	0.0	10.4
Lane LOS	A				B
Approach Delay (s)	2.6		0.0		10.4
Approach LOS					B

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	24.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis FB2040 PM
203: Ring Road & Site East Driveway 08-15-2024

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	124	146	30	22	22
Future Volume (Veh/h)	31	124	146	30	22	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	135	159	33	24	24
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	192				311	96
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	192				311	96
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				96	97
cM capacity (veh/h)	1394				646	948

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	79	90	106	86	48
Volume Left	34	0	0	0	24
Volume Right	0	0	0	33	24
cSH	1394	1700	1700	1700	769
Volume to Capacity	0.02	0.05	0.06	0.05	0.06
Queue Length 95th (m)	0.6	0.0	0.0	0.0	1.6
Control Delay (s)	3.4	0.0	0.0	0.0	10.0
Lane LOS	A				A
Approach Delay (s)	1.6		0.0		10.0
Approach LOS					A

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis FB2040 PM - Optimized with PHF 0.92
10: Winston Churchill Boulevard & Eglinton Avenue W 08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	894	231	274	837	231	329	1914	205	176	1315	117
Future Volume (vph)	215	894	231	274	837	231	329	1914	205	176	1315	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00		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	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		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)	3502	3574	1552	3502	3539	1501	3467	4983		3502	5007	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3574	1552	3502	3539	1501	3467	4983		3502	5007	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	234	972	251	298	910	251	358	2080	223	191	1429	127
RTOR Reduction (vph)	0	0	95	0	0	93	0	8	0	0	6	0
Lane Group Flow (vph)	234	972	156	298	910	158	358	2295	0	191	1550	0
Confl. Peds. (#/hr)	29		16	16		29	10		31	31		10
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	1%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	12.0	43.4	43.4	14.0	45.4	45.4	19.4	68.6		9.0	58.2	
Effective Green, g (s)	13.0	45.9	45.9	14.0	47.9	47.9	19.4	71.1		9.0	60.7	
Actuated g/C Ratio	0.08	0.29	0.29	0.09	0.30	0.30	0.12	0.44		0.06	0.38	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	284	1025	445	306	1059	449	420	2214		196	1899	
v/s Ratio Prot	0.07	c0.27		c0.09	0.26		c0.10	c0.46		0.05	0.31	
v/s Ratio Perm			0.10			0.11						
v/c Ratio	0.82	0.95	0.35	0.97	0.86	0.35	0.85	1.04		0.97	0.82	
Uniform Delay, d1	72.4	55.9	45.2	72.8	52.9	43.9	68.9	44.5		75.4	44.6	
Progression Factor	1.00	1.00	1.00	0.75	1.13	1.64	1.00	1.00		0.86	1.22	
Incremental Delay, d2	17.3	16.9	0.5	42.5	6.7	0.4	15.3	29.3		50.8	3.3	
Delay (s)	89.7	72.8	45.7	97.3	66.3	72.6	84.2	73.8		115.5	58.0	
Level of Service	F	E	D	F	E	E	F	E		F	E	
Approach Delay (s)		70.8			73.7			75.2			64.3	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	71.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
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 (vph)	215	894	231	274	837	231	329	1914	205	176	1315	117
Future Volume (vph)	215	894	231	274	837	231	329	1914	205	176	1315	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00		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	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		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)	3502	3574	1552	3502	3539	1501	3467	4983		3502	5006	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3574	1552	3502	3539	1501	3467	4983		3502	5006	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	224	931	241	285	872	241	343	1994	214	183	1370	122
RTOR Reduction (vph)	0	0	95	0	0	94	0	8	0	0	6	0
Lane Group Flow (vph)	224	931	146	285	872	147	343	2200	0	183	1486	0
Confl. Peds. (#/hr)	29		16	16		29	10		31	31		10
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	1%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	12.0	42.9	42.9	14.0	44.9	44.9	19.1	69.1		9.0	59.0	
Effective Green, g (s)	13.0	45.4	45.4	14.0	47.4	47.4	19.1	71.6		9.0	61.5	
Actuated g/C Ratio	0.08	0.28	0.28	0.09	0.30	0.30	0.12	0.45		0.06	0.38	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	284	1014	440	306	1048	444	413	2229		196	1924	
v/s Ratio Prot	0.06	c0.26		c0.08	0.25		c0.10	c0.44		0.05	0.30	
v/s Ratio Perm			0.09			0.10						
v/c Ratio	0.79	0.92	0.33	0.93	0.83	0.33	0.83	0.99		0.93	0.77	
Uniform Delay, d1	72.2	55.5	45.3	72.5	52.6	43.9	68.9	43.7		75.2	43.1	
Progression Factor	1.00	1.00	1.00	0.74	1.13	1.73	1.00	1.00		0.85	1.25	
Incremental Delay, d2	13.5	12.7	0.4	32.4	5.4	0.4	13.2	16.2		40.3	2.6	
Delay (s)	85.7	68.2	45.7	86.2	65.0	76.2	82.1	59.9		104.4	56.3	
Level of Service	F	E	D	F	E	E	F	E		F	E	
Approach Delay (s)		67.1			71.3			62.9			61.5	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	65.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis FB2040 SAT
2: Winston Churchill Boulevard & Erin Centre Boulevard 08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	239	146	77	185	128	149	1570	120	160	1575	40
Future Volume (vph)	49	239	146	77	185	128	149	1570	120	160	1575	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1779	3315		1791	1863	1550	1805	4971		1805	5050	
Flt Permitted	0.47	1.00		0.36	1.00	1.00	0.08	1.00		0.07	1.00	
Satd. Flow (perm)	880	3315		671	1863	1550	155	4971		139	5050	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	260	159	84	201	139	162	1707	130	174	1712	43
RTOR Reduction (vph)	0	68	0	0	0	105	0	4	0	0	1	0
Lane Group Flow (vph)	53	351	0	84	201	34	162	1833	0	174	1754	0
Confl. Peds. (#/hr)	22		16	16		22	17		6	6		17
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	37.1	37.1		37.1	37.1	37.1	105.9	92.8		104.9	92.3	
Effective Green, g (s)	39.6	39.6		39.6	39.6	39.6	109.9	94.8		108.9	94.3	
Actuated g/C Ratio	0.25	0.25		0.25	0.25	0.25	0.69	0.59		0.68	0.59	
Clearance Time (s)	7.5	7.5		7.5	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	217	820		166	461	383	262	2945		246	2976	
v/s Ratio Prot		0.11			0.11		c0.06	c0.37		c0.06	0.35	
v/s Ratio Perm	0.06			c0.13		0.02	0.37			0.42		
v/c Ratio	0.24	0.43		0.51	0.44	0.09	0.62	0.62		0.71	0.59	
Uniform Delay, d1	48.2	50.7		51.8	50.8	46.3	20.2	21.0		29.4	20.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.86	1.68		1.00	1.00	
Incremental Delay, d2	0.6	0.4		2.4	0.7	0.1	2.3	0.5		8.9	0.9	
Delay (s)	48.8	51.0		54.2	51.4	46.4	39.8	35.9		38.4	21.5	
Level of Service	D	D		D	D	D	D	D		D	C	
Approach Delay (s)		50.8			50.3			36.3			23.0	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis FB2040 SAT
3: Plantation Place/Russel View Road & Erin Centre Boulevard 08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	468	64	53	361	14	50	27	56	18	24	23
Future Volume (vph)	25	468	64	53	361	14	50	27	56	18	24	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1796	3485		1794	3538		1799	1900	1585	1795	1747	
Flt Permitted	0.51	1.00		0.43	1.00		0.72	1.00	1.00	0.74	1.00	
Satd. Flow (perm)	970	3485		819	3538		1371	1900	1585	1395	1747	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	509	70	58	392	15	54	29	61	20	26	25
RTOR Reduction (vph)	0	8	0	0	2	0	0	0	49	0	20	0
Lane Group Flow (vph)	27	571	0	58	405	0	54	29	12	20	31	0
Confl. Peds. (#/hr)	9		15	15		9	6		10	10		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	42.9	42.9		42.9	42.9		12.1	12.1	12.1	12.1	12.1	
Effective Green, g (s)	44.9	44.9		44.9	44.9		13.6	13.6	13.6	13.6	13.6	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.20	0.20	0.20	0.20	0.20	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	635	2284		536	2319		272	377	314	276	346	
v/s Ratio Prot		c0.16			0.11			0.02			0.02	
v/s Ratio Perm	0.03			0.07			c0.04		0.01	0.01		
v/c Ratio	0.04	0.25		0.11	0.17		0.20	0.08	0.04	0.07	0.09	
Uniform Delay, d1	4.2	4.9		4.4	4.6		22.9	22.3	22.2	22.3	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.4	0.2		0.4	0.1	0.1	0.1	0.1	
Delay (s)	4.3	5.1		4.8	4.8		23.3	22.4	22.2	22.4	22.5	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		5.1			4.8			22.7			22.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
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 (vph)	61	396	77	86	368	151	73	484	72	139	461	48
Future Volume (vph)	61	396	77	86	368	151	73	484	72	139	461	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1795	3460		1735	3391		1798	3495		1761	3552	
Flt Permitted	0.41	1.00		0.45	1.00		0.40	1.00		0.37	1.00	
Satd. Flow (perm)	782	3460		814	3391		763	3495		685	3552	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	430	84	93	400	164	79	526	78	151	501	52
RTOR Reduction (vph)	0	19	0	0	51	0	0	14	0	0	9	0
Lane Group Flow (vph)	66	495	0	93	513	0	79	590	0	151	544	0
Confl. Peds. (#/hr)	25		43	43		25	18		22	22		18
Confl. Bikes (#/hr)			1			1			1			
Heavy Vehicles (%)	0%	1%	0%	3%	1%	0%	0%	0%	3%	2%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	25.5	25.5		25.5	25.5		22.3	22.3		22.3	22.3	
Effective Green, g (s)	27.5	27.5		27.5	27.5		23.8	23.8		23.8	23.8	
Actuated g/C Ratio	0.45	0.45		0.45	0.45		0.39	0.39		0.39	0.39	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	350	1552		365	1521		296	1356		265	1379	
v/s Ratio Prot		0.14			c0.15			0.17			0.15	
v/s Ratio Perm	0.08			0.11			0.10			c0.22		
v/c Ratio	0.19	0.32		0.25	0.34		0.27	0.44		0.57	0.39	
Uniform Delay, d1	10.2	10.9		10.5	11.0		12.8	13.8		14.7	13.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.1		0.4	0.1		0.5	0.2		2.8	0.2	
Delay (s)	10.4	11.0		10.9	11.1		13.3	14.0		17.5	13.7	
Level of Service	B	B		B	B		B	B		B	B	
Approach Delay (s)		10.9			11.1			13.9			14.5	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.44			
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	84.7%	ICU Level of Service	E	
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 (vph)	66	402	96	143	281	102	105	20	195	12	0	1
Future Volume (vph)	66	402	96	143	281	102	105	20	195	12	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99			1.00	0.98		1.00	
Flpb, ped/bikes	0.99	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	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96	1.00		0.96	
Satd. Flow (prot)	1791	3539	1541	1748	3435			1719	1559		3398	
Flt Permitted	0.51	1.00	1.00	0.50	1.00			0.75	1.00		0.80	
Satd. Flow (perm)	959	3539	1541	916	3435			1344	1559		2851	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	437	104	155	305	111	114	22	212	13	0	1
RTOR Reduction (vph)	0	0	45	0	30	0	0	0	150	0	10	0
Lane Group Flow (vph)	72	437	59	155	386	0	0	136	62	0	4	0
Confl. Peds. (#/hr)	14		9	9		14	21		6	6		21
Heavy Vehicles (%)	0%	2%	3%	3%	0%	0%	6%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	40.6	40.6	40.6	40.6	40.6			19.9	19.9		19.9	
Effective Green, g (s)	42.6	42.6	42.6	42.6	42.6			21.9	21.9		21.9	
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57			0.29	0.29		0.29	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	548	2023	881	523	1964			395	458		838	
v/s Ratio Prot		0.12			0.11							
v/s Ratio Perm	0.08		0.04	c0.17				c0.10	0.04		0.00	
v/c Ratio	0.13	0.22	0.07	0.30	0.20			0.34	0.14		0.00	
Uniform Delay, d1	7.4	7.8	7.1	8.2	7.7			20.7	19.3		18.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.5	0.2	0.1	1.4	0.2			0.5	0.1		0.0	
Delay (s)	7.9	8.0	7.3	9.7	7.9			21.2	19.5		18.6	
Level of Service	A	A	A	A	A			C	B		B	
Approach Delay (s)		7.9			8.4			20.1			18.6	
Approach LOS		A			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.31			
Actuated Cycle Length (s)	74.5	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	81.5%	ICU Level of Service	D	
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 (vph)	198	183	194	72	130	236	145	993	58	34	1343	221
Future Volume (vph)	198	183	194	72	130	236	145	993	58	34	1343	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.97	1.00	1.00	0.97	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)	1722	1921	1526	1779	1921	1556	1785	5193	1551	1781	5193	1512
Flt Permitted	0.58	1.00	1.00	0.64	1.00	1.00	0.15	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)	1061	1921	1526	1203	1921	1556	280	5193	1551	518	5193	1512
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)	198	183	194	72	130	236	145	993	58	34	1343	221
RTOR Reduction (vph)	0	0	112	0	0	110	0	0	20	0	0	92
Lane Group Flow (vph)	198	183	82	72	130	126	145	993	38	34	1343	129
Confl. Peds. (#/hr)	12		4	4		12	5		4	4		5
Heavy Vehicles (%)	3%	0%	3%	0%	0%	0%	0%	1%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	38.1	38.1	38.1	25.1	25.1	25.1	105.3	105.3	105.3	93.4	93.4	93.4
Effective Green, g (s)	38.1	38.1	38.1	25.1	25.1	25.1	105.3	105.3	105.3	93.4	93.4	93.4
Actuated g/C Ratio	0.24	0.24	0.24	0.16	0.16	0.16	0.66	0.66	0.66	0.58	0.58	0.58
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	293	457	363	188	301	244	267	3417	1020	302	3031	882
v/s Ratio Prot	c0.04	0.10			0.07		c0.03	0.19			0.26	
v/s Ratio Perm	c0.12		0.05	0.06		0.08	c0.33		0.02	0.07		0.09
v/c Ratio	0.68	0.40	0.23	0.38	0.43	0.51	0.54	0.29	0.04	0.11	0.44	0.15
Uniform Delay, d1	54.2	51.3	49.1	60.5	61.0	61.9	12.5	11.6	9.6	14.8	18.7	15.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.55	0.55	0.23	1.00	1.00	1.00
Incremental Delay, d2	6.0	0.6	0.3	1.3	1.0	1.8	2.2	0.2	0.1	0.8	0.5	0.3
Delay (s)	60.2	51.9	49.4	61.8	62.0	63.7	34.2	6.5	2.3	15.6	19.2	15.5
Level of Service	E	D	D	E	E	E	C	A	A	B	B	B
Approach Delay (s)		53.9			62.9			9.7			18.6	
Approach LOS		D			E			A			B	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	304	334	190	191
Demand Flow Rate, veh/h	306	334	190	191
Vehicles Circulating, veh/h	207	164	311	321
Vehicles Exiting, veh/h	305	337	202	177
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	22	24	25
Ped Cap Adj	1.000	0.997	0.997	0.997
Approach Delay, s/veh	7.6	7.5	6.8	6.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	306	334	190	191
Cap Entry Lane, veh/h	919	959	828	820
Entry HV Adj Factor	0.993	1.000	1.000	1.000
Flow Entry, veh/h	304	334	190	191
Cap Entry, veh/h	912	956	825	817
V/C Ratio	0.333	0.349	0.230	0.234
Control Delay, s/veh	7.6	7.5	6.8	6.9
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	261	43	141	196	138	63	387	160	168	398	89
Future Volume (vph)	92	261	43	141	196	138	63	387	160	168	398	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1791	3508		1796	1900	1577	1783	3574	1559	1794	3574	1560
Flt Permitted	0.59	1.00		0.55	1.00	1.00	0.50	1.00	1.00	0.51	1.00	1.00
Satd. Flow (perm)	1116	3508		1044	1900	1577	939	3574	1559	955	3574	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	284	47	153	213	150	68	421	174	183	433	97
RTOR Reduction (vph)	0	20	0	0	0	101	0	0	83	0	0	46
Lane Group Flow (vph)	100	311	0	153	213	49	68	421	91	183	433	51
Confl. Peds. (#/hr)	20		14	14		20	35		18	18		35
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	20.7	20.7		20.7	20.7	20.7	34.6	34.6	34.6	34.6	34.6	34.6
Effective Green, g (s)	22.7	22.7		22.7	22.7	22.7	36.1	36.1	36.1	36.1	36.1	36.1
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33	0.52	0.52	0.52	0.52	0.52	0.52
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	368	1157		344	626	520	492	1875	818	501	1875	818
v/s Ratio Prot		0.09			0.11			0.12			0.12	
v/s Ratio Perm	0.09			c0.15		0.03	0.07		0.06	c0.19		0.03
v/c Ratio	0.27	0.27		0.44	0.34	0.10	0.14	0.22	0.11	0.37	0.23	0.06
Uniform Delay, d1	17.0	16.9		18.1	17.4	15.9	8.4	8.8	8.3	9.6	8.8	8.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1		0.9	0.3	0.1	0.6	0.3	0.3	2.1	0.3	0.1
Delay (s)	17.4	17.1		19.0	17.7	16.0	9.0	9.1	8.5	11.7	9.1	8.2
Level of Service	B	B		B	B	B	A	A	A	B	A	A
Approach Delay (s)		17.1			17.6			8.9			9.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	126	113	1199	1485	150
Future Volume (vph)	0	126	113	1199	1485	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1563	1767	5193	5193	1526
Flt Permitted		1.00	0.15	1.00	1.00	1.00
Satd. Flow (perm)		1563	276	5193	5193	1526
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	126	113	1199	1485	150
RTOR Reduction (vph)	0	117	0	0	0	31
Lane Group Flow (vph)	0	9	113	1199	1485	119
Confl. Peds. (#/hr)	1		3			3
Heavy Vehicles (%)	2%	4%	1%	1%	1%	3%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		11.0	134.8	134.8	123.5	123.5
Effective Green, g (s)		11.0	134.8	134.8	123.5	123.5
Actuated g/C Ratio		0.07	0.84	0.84	0.77	0.77
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		107	309	4375	4008	1177
v/s Ratio Prot			c0.02	0.23	0.29	
v/s Ratio Perm		c0.01	c0.29			0.08
v/c Ratio		0.08	0.37	0.27	0.37	0.10
Uniform Delay, d1		69.8	2.9	2.6	5.8	4.5
Progression Factor		1.00	5.17	0.16	0.32	0.01
Incremental Delay, d2		0.3	0.7	0.1	0.2	0.2
Delay (s)		70.1	15.7	0.6	2.1	0.2
Level of Service		E	B	A	A	A
Approach Delay (s)	70.1			1.9	2.0	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
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 (vph)	153	752	279	292	689	153	239	1510	233	154	1366	117
Future Volume (vph)	153	752	279	292	689	153	239	1510	233	154	1366	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00		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	
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)	3502	3574	1583	3467	3574	1510	3467	4958		3502	4962	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3574	1583	3467	3574	1510	3467	4958		3502	4962	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	817	303	317	749	166	260	1641	253	167	1485	127
RTOR Reduction (vph)	0	0	110	0	0	106	0	12	0	0	6	0
Lane Group Flow (vph)	166	817	193	317	749	60	260	1882	0	167	1606	0
Confl. Peds. (#/hr)	24		7	7		24	13		18	18		13
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	12.9	42.9	42.9	16.7	46.7	46.7	15.8	62.4		13.0	59.6	
Effective Green, g (s)	12.9	45.4	45.4	16.7	49.2	49.2	15.8	64.9		13.0	62.1	
Actuated g/C Ratio	0.08	0.28	0.28	0.10	0.31	0.31	0.10	0.41		0.08	0.39	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	282	1014	449	361	1099	464	342	2011		284	1925	
v/s Ratio Prot	0.05	c0.23		c0.09	c0.21		c0.07	c0.38		0.05	0.32	
v/s Ratio Perm			0.12			0.04						
v/c Ratio	0.59	0.81	0.43	0.88	0.68	0.13	0.76	0.94		0.59	0.83	
Uniform Delay, d1	71.0	53.2	46.7	70.6	48.5	40.0	70.3	45.6		70.9	44.3	
Progression Factor	1.00	1.00	1.00	1.14	1.18	3.20	1.00	1.00		1.31	0.64	
Incremental Delay, d2	3.1	4.7	0.7	19.9	1.7	0.1	9.6	9.8		2.6	3.8	
Delay (s)	74.1	58.0	47.4	100.7	58.7	127.8	79.8	55.3		95.7	32.1	
Level of Service	E	E	D	F	E	F	E	E		F	C	
Approach Delay (s)		57.6			78.8			58.3			38.1	
Approach LOS		E			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	56.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
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 (vph)	61	1184	21	50	1064	94	31	49	53	162	48	60
Future Volume (vph)	61	1184	21	50	1064	94	31	49	53	162	48	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	0.99		1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.98	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1790	5072		1801	4996		1773	1731		1791	1900	1565
Flt Permitted	0.18	1.00		0.17	1.00		0.70	1.00		0.65	1.00	1.00
Satd. Flow (perm)	341	5072		321	4996		1307	1731		1229	1900	1565
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	1287	23	54	1157	102	34	53	58	176	52	65
RTOR Reduction (vph)	0	1	0	0	5	0	0	28	0	0	0	50
Lane Group Flow (vph)	66	1309	0	54	1254	0	34	83	0	176	52	15
Confl. Peds. (#/hr)	23		6	6		23	17		8	8		17
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	102.4	102.4		102.4	102.4		35.5	35.5		34.3	34.3	34.3
Effective Green, g (s)	104.4	104.4		104.4	104.4		38.0	38.0		36.8	36.8	36.8
Actuated g/C Ratio	0.65	0.65		0.65	0.65		0.24	0.24		0.23	0.23	0.23
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	222	3309		209	3259		310	411		282	437	359
v/s Ratio Prot		c0.26			0.25			0.05			0.03	
v/s Ratio Perm	0.19			0.17			0.03			c0.14		0.01
v/c Ratio	0.30	0.40		0.26	0.38		0.11	0.20		0.62	0.12	0.04
Uniform Delay, d1	12.0	13.0		11.6	12.9		47.8	48.8		55.4	48.8	47.9
Progression Factor	0.48	0.46		0.40	0.41		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.6	0.3		2.7	0.3		0.2	0.2		4.3	0.1	0.0
Delay (s)	8.3	6.3		7.4	5.6		47.9	49.1		59.6	48.9	47.9
Level of Service	A	A		A	A		D	D		E	D	D
Approach Delay (s)		6.4			5.7			48.8			55.1	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
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 (vph)	137	1043	85	111	1128	143	93	317	70	220	345	103
Future Volume (vph)	137	1043	85	111	1128	143	93	317	70	220	345	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1793	5020		1798	5011		1756	3436		1797	3386	
Flt Permitted	0.14	1.00		0.17	1.00		0.45	1.00		0.33	1.00	
Satd. Flow (perm)	265	5020		331	5011		828	3436		621	3386	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	149	1134	92	121	1226	155	101	345	76	239	375	112
RTOR Reduction (vph)	0	4	0	0	8	0	0	15	0	0	22	0
Lane Group Flow (vph)	149	1222	0	121	1373	0	101	406	0	239	465	0
Confl. Peds. (#/hr)	47		19	19		47	42		27	27		42
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	7	0	0	0	7	0	3	0	0	3	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	89.8	89.8		89.8	89.8		34.7	34.7		50.7	46.1	
Effective Green, g (s)	91.8	91.8		91.8	91.8		37.2	37.2		52.7	48.6	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.23	0.23		0.33	0.30	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	152	2880		189	2875		192	798		314	1028	
v/s Ratio Prot		0.24			0.27			0.12		c0.07	0.14	
v/s Ratio Perm	c0.56			0.37			c0.12			0.18		
v/c Ratio	0.98	0.42		0.64	0.48		0.53	0.51		0.76	0.45	
Uniform Delay, d1	33.2	19.2		23.0	20.0		53.7	53.5		43.3	45.0	
Progression Factor	0.56	0.59		1.45	1.41		1.00	1.00		1.00	1.00	
Incremental Delay, d2	65.8	0.4		14.9	0.5		2.6	0.5		10.4	0.3	
Delay (s)	84.3	11.8		48.2	28.7		56.3	54.0		53.7	45.3	
Level of Service	F	B		D	C		E	D		D	D	
Approach Delay (s)		19.7			30.3			54.4			48.1	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
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 (vph)	186	1246	38	34	1107	96	28	32	48	180	52	109
Future Volume (vph)	186	1246	38	34	1107	96	28	32	48	180	52	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.97		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1803	5058		1797	5022		1766	1685		1738	1900	1559
Flt Permitted	0.17	1.00		0.15	1.00		0.72	1.00		0.67	1.00	1.00
Satd. Flow (perm)	328	5058		293	5022		1338	1685		1226	1900	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	1354	41	37	1203	104	30	35	52	196	57	118
RTOR Reduction (vph)	0	1	0	0	5	0	0	40	0	0	0	81
Lane Group Flow (vph)	202	1394	0	37	1302	0	30	47	0	196	57	37
Confl. Peds. (#/hr)	7		15	15		7	16		22	22		16
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	105.6	105.6		105.6	105.6		30.7	30.7		30.7	30.7	30.7
Effective Green, g (s)	107.6	107.6		107.6	107.6		33.2	33.2		33.2	33.2	33.2
Actuated g/C Ratio	0.67	0.67		0.67	0.67		0.21	0.21		0.21	0.21	0.21
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	220	3401		197	3377		277	349		254	394	323
v/s Ratio Prot		0.28			0.26			0.03			0.03	
v/s Ratio Perm	c0.62			0.13			0.02			c0.16		0.02
v/c Ratio	0.92	0.41		0.19	0.39		0.11	0.14		0.77	0.14	0.12
Uniform Delay, d1	22.4	11.8		9.8	11.6		51.4	51.7		59.8	51.8	51.5
Progression Factor	0.56	0.62		0.92	0.86		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	40.4	0.3		1.8	0.3		0.2	0.2		13.5	0.2	0.2
Delay (s)	53.0	7.6		10.8	10.2		51.6	51.9		73.3	52.0	51.6
Level of Service	D	A		B	B		D	D		E	D	D
Approach Delay (s)		13.4			10.2			51.8			63.1	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
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 (vph)	107	1048	311	143	852	210	313	1024	100	256	1183	129
Future Volume (vph)	107	1048	311	143	852	210	313	1024	100	256	1183	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.97
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)	3463	5193	1519	3429	5193	1469	3463	5193	1532	3463	5193	1553
Flt Permitted	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 (perm)	3463	5193	1519	3429	5193	1469	3463	5193	1532	3463	5193	1553
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)	107	1048	311	143	852	210	313	1024	100	256	1183	129
RTOR Reduction (vph)	0	0	138	0	0	146	0	0	61	0	0	82
Lane Group Flow (vph)	107	1048	173	143	852	64	313	1024	39	256	1183	47
Confl. Peds. (#/hr)	25		30	30		25	15		28	28		15
Heavy Vehicles (%)	0%	1%	1%	1%	1%	2%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	9.8	48.3	48.3	10.5	49.0	49.0	16.7	62.6	62.6	13.0	58.9	58.9
Effective Green, g (s)	9.8	48.3	48.3	10.5	49.0	49.0	16.7	62.6	62.6	13.0	58.9	58.9
Actuated g/C Ratio	0.06	0.30	0.30	0.07	0.31	0.31	0.10	0.39	0.39	0.08	0.37	0.37
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	212	1567	458	225	1590	449	361	2031	599	281	1911	571
v/s Ratio Prot	0.03	c0.20		c0.04	0.16		c0.09	c0.20		0.07	c0.23	
v/s Ratio Perm			0.11			0.04			0.03			0.03
v/c Ratio	0.50	0.67	0.38	0.64	0.54	0.14	0.87	0.50	0.07	0.91	0.62	0.08
Uniform Delay, d1	72.7	48.9	44.0	72.9	46.1	40.3	70.6	36.9	30.4	72.9	41.4	33.0
Progression Factor	1.13	0.99	0.98	1.00	1.00	1.00	1.10	1.07	2.08	1.28	0.71	0.53
Incremental Delay, d2	1.8	1.0	0.5	5.8	0.3	0.1	18.1	0.8	0.2	30.3	1.4	0.3
Delay (s)	83.8	49.5	43.5	78.7	46.4	40.4	95.6	40.4	63.6	124.0	31.0	17.9
Level of Service	F	D	D	E	D	D	F	D	E	F	C	B
Approach Delay (s)		50.8			49.2			54.0			45.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	49.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	109.3%	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 (vph)	44	58	143	229	39	52	120	1521	261	32	1616	15
Future Volume (vph)	44	58	143	229	39	52	120	1521	261	32	1616	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.96
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)	1772	1921	1567	1778	1921	1566	1785	5193	1576	1785	5193	1514
Flt Permitted	0.73	1.00	1.00	0.61	1.00	1.00	0.11	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	1365	1921	1567	1149	1921	1566	205	5193	1576	292	5193	1514
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)	44	58	143	229	39	52	120	1521	261	32	1616	15
RTOR Reduction (vph)	0	0	127	0	0	37	0	0	76	0	0	5
Lane Group Flow (vph)	44	58	16	229	39	15	120	1521	185	32	1616	10
Confl. Peds. (#/hr)	7		6	6		7	9		1	1		9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		8		7	4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	17.5	17.5	17.5	30.5	30.5	30.5	113.5	113.5	113.5	101.5	101.5	101.5
Effective Green, g (s)	17.5	17.5	17.5	30.5	30.5	30.5	113.5	113.5	113.5	101.5	101.5	101.5
Actuated g/C Ratio	0.11	0.11	0.11	0.19	0.19	0.19	0.71	0.71	0.71	0.63	0.63	0.63
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	149	210	171	258	366	298	234	3683	1117	185	3294	960
v/s Ratio Prot		0.03		c0.06	0.02		c0.03	0.29			0.31	
v/s Ratio Perm	0.03		0.01	c0.11		0.01	c0.33		0.12	0.11		0.01
v/c Ratio	0.30	0.28	0.09	0.89	0.11	0.05	0.51	0.41	0.17	0.17	0.49	0.01
Uniform Delay, d1	65.6	65.4	64.1	62.3	53.5	52.9	10.7	9.6	7.7	12.0	15.5	10.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.45	0.87	1.07	0.76	0.67	1.00
Incremental Delay, d2	2.3	1.5	0.5	28.5	0.3	0.1	1.7	0.3	0.3	1.7	0.4	0.0
Delay (s)	67.9	66.9	64.6	90.7	53.8	53.1	28.0	8.6	8.5	10.8	10.8	10.8
Level of Service	E	E	E	F	D	D	C	A	A	B	B	B
Approach Delay (s)		65.7			80.1			9.8			10.8	
Approach LOS		E			F			A			B	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

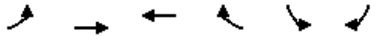
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	19	601	8	546	5	1343	0	0	1992	21
Future Volume (vph)	15	0	19	601	8	546	5	1343	0	0	1992	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	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
Frt	1.00		0.85	1.00	0.85	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1405		1044	3429	1512	1502	1275	5193			5193	1308
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1405		1044	3429	1512	1502	1275	5193			5193	1308
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)	15	0	19	601	8	546	5	1343	0	0	1992	21
RTOR Reduction (vph)	0	0	18	0	177	177	0	0	0	0	0	9
Lane Group Flow (vph)	15	0	1	601	99	101	5	1343	0	0	1992	12
Confl. Peds. (#/hr)							3					3
Heavy Vehicles (%)	27%	2%	53%	1%	75%	1%	40%	1%	0%	2%	1%	20%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	6.2		6.2	33.8	33.8	33.8	2.0	96.1			89.1	89.1
Effective Green, g (s)	6.2		6.2	33.8	33.8	33.8	2.0	96.1			89.1	89.1
Actuated g/C Ratio	0.04		0.04	0.21	0.21	0.21	0.01	0.60			0.56	0.56
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	54		40	724	319	317	15	3119			2891	728
v/s Ratio Prot	c0.01		0.00	c0.18	0.07		0.00	c0.26			c0.38	
v/s Ratio Perm						0.07						0.01
v/c Ratio	0.28		0.02	0.83	0.31	0.32	0.33	0.43			0.69	0.02
Uniform Delay, d1	74.7		74.0	60.4	53.3	53.4	78.3	17.2			25.5	15.9
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.08	0.86			0.61	1.00
Incremental Delay, d2	5.8		0.4	8.9	1.2	1.2	12.5	0.4			1.2	0.0
Delay (s)	80.5		74.4	69.2	54.4	54.6	97.3	15.2			16.8	15.9
Level of Service	F		E	E	D	D	F	B			B	B
Approach Delay (s)		77.1			62.2			15.5			16.7	
Approach LOS		E			E			B			B	

Intersection Summary					
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.71				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9		
Intersection Capacity Utilization	81.4%	ICU Level of Service	D		
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 (vph)	133	0	131	0	0	0	0	1077	0	5	1561	0
Future Volume (vph)	133	0	131	0	0	0	0	1077	0	5	1561	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1696	1734	1597					5193		892	5193	
Flt Permitted	0.95	0.95	1.00					1.00		0.24	1.00	
Satd. Flow (perm)	1696	1734	1597					5193		226	5193	
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	0	131	0	0	0	0	1077	0	5	1561	0
RTOR Reduction (vph)	0	0	39	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	66	67	92	0	0	0	0	1077	0	5	1561	0
Confl. Peds. (#/hr)							6					6
Heavy Vehicles (%)	0%	58%	0%	2%	2%	2%	2%	1%	2%	100%	1%	1%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	16.5	16.5	16.5					125.0		129.4	129.4	
Effective Green, g (s)	16.5	16.5	16.5					125.0		129.4	129.4	
Actuated g/C Ratio	0.10	0.10	0.10					0.78		0.81	0.81	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	174	178	164					4057		188	4199	
v/s Ratio Prot	0.04	0.04	c0.06					0.21		0.00	c0.30	
v/s Ratio Perm										0.02		
v/c Ratio	0.38	0.38	0.56					0.27		0.03	0.37	
Uniform Delay, d1	67.0	66.9	68.3					4.8		3.1	4.2	
Progression Factor	1.00	1.00	1.00					1.00		1.00	0.81	
Incremental Delay, d2	2.9	2.8	7.1					0.2		0.0	0.2	
Delay (s)	69.8	69.7	75.4					5.0		3.1	3.6	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		72.6			0.0			5.0			3.6	
Approach LOS		E			A			A			A	

Intersection Summary					
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B		
HCM 2000 Volume to Capacity ratio	0.40				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1		
Intersection Capacity Utilization	50.2%	ICU Level of Service	A		
Analysis Period (min)	15				
c Critical Lane Group					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	165	97	59	178	137	124
Future Volume (vph)	165	97	59	178	137	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	179	105	64	193	149	135

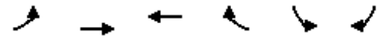
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	214	70	64	193	149	135
Volume Left (vph)	179	0	0	0	149	0
Volume Right (vph)	0	0	0	193	0	135
Hadj (s)	0.42	0.00	0.00	-0.60	0.57	-0.70
Departure Headway (s)	6.0	5.6	5.7	5.1	6.4	5.1
Degree Utilization, x	0.36	0.11	0.10	0.27	0.27	0.19
Capacity (veh/h)	571	610	599	674	532	653
Control Delay (s)	11.2	8.1	8.1	8.8	10.5	8.2
Approach Delay (s)	10.4		8.6		9.4	
Approach LOS	B		A		A	

Intersection Summary				
Delay	9.5			
Level of Service	A			
Intersection Capacity Utilization	32.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	229	290	176	89	107	199
Future Volume (vph)	229	290	176	89	107	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	315	191	97	116	216

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	249	315	223	65	116	216
Volume Left (vph)	249	0	191	0	0	0
Volume Right (vph)	0	315	0	0	0	216
Hadj (s)	0.50	-0.68	0.43	0.00	0.00	-0.70
Departure Headway (s)	6.7	5.5	7.0	6.6	6.6	5.9
Degree Utilization, x	0.46	0.48	0.44	0.12	0.21	0.35
Capacity (veh/h)	517	627	485	517	518	584
Control Delay (s)	14.2	12.4	14.1	9.3	10.1	10.8
Approach Delay (s)	13.2		13.0		10.6	
Approach LOS	B		B		B	

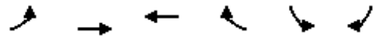
Intersection Summary				
Delay	12.4			
Level of Service	B			
Intersection Capacity Utilization	35.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	89	229	182	2	30	124
Future Volume (Veh/h)	89	229	182	2	30	124
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	249	198	2	33	135
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	200				518	100
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	200				518	100
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				93	86
cM capacity (veh/h)	1384				458	943

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	180	166	132	68	168
Volume Left	97	0	0	0	33
Volume Right	0	0	0	2	135
cSH	1384	1700	1700	1700	780
Volume to Capacity	0.07	0.10	0.08	0.04	0.22
Queue Length 95th (m)	1.8	0.0	0.0	0.0	6.5
Control Delay (s)	4.5	0.0	0.0	0.0	10.9
Lane LOS	A				B
Approach Delay (s)	2.3		0.0		10.9
Approach LOS					B

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	189	134	43	55	50
Future Volume (Veh/h)	70	189	134	43	55	50
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	205	146	47	60	54
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	193				424	96
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	193				424	96
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				89	94
cM capacity (veh/h)	1392				533	947

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	144	137	97	96	114
Volume Left	76	0	0	0	60
Volume Right	0	0	0	47	54
cSH	1392	1700	1700	1700	672
Volume to Capacity	0.05	0.08	0.06	0.06	0.17
Queue Length 95th (m)	1.4	0.0	0.0	0.0	4.9
Control Delay (s)	4.3	0.0	0.0	0.0	11.4
Lane LOS	A				B
Approach Delay (s)	2.2		0.0		11.4
Approach LOS					B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	28.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	198	155	46	22	22
Future Volume (Veh/h)	46	198	155	46	22	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	215	168	50	24	24
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	218				400	109
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	218				400	109
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				96	97
cM capacity (veh/h)	1364				561	930

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	122	143	112	106	48
Volume Left	50	0	0	0	24
Volume Right	0	0	0	50	24
cSH	1364	1700	1700	1700	700
Volume to Capacity	0.04	0.08	0.07	0.06	0.07
Queue Length 95th (m)	0.9	0.0	0.0	0.0	1.8
Control Delay (s)	3.4	0.0	0.0	0.0	10.5
Lane LOS	A				B
Approach Delay (s)	1.5		0.0		10.5
Approach LOS					B

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	25.9%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX

E TTS DATA

TTS Trip Distribution Summary

In order to inform the trip assignment stage of the analysis, informaton about the general trip distribution is required to inform the analysis. The distribution represents the proportion of trips to and away from the site in any given direction. The following pages summarizes the general trip distribution results, which were calculated using Transportation Tomorrow Survey (TTS) 2016 trip origin and destination data. Trips were grouped under cardinal directions based on the relative angle between trip origin and destination, and appropriate adjustments were made to the calculation to conform to local geography and street grid.

The "TTS Directional Distribution Summary" on the next page presents a summary of the calculations described above, along with notes on any details specific to the analysis in this report. The table shows the total number of trips to and from the subject site categorized into general directions (North, Northeast, East etc.) and the percentage share of trips in each general direction in all directions.

The pages after show graphical illustrations of the categorizations for all Traffic Analysis Zones (TAZ) in the TTS survey area. Note that the latest survey zones were last updated in 2006.

These results are used as reference information for the trip assignment. They do not directly determine the trip assignment on the study network. The final trip assignments are completed based on a combination of local context, engineering experience, and engineering judgement, with the trip distribution information presented here to illustrate general travel behaviour.

TTS Directional Distribution Summary: Erin Mills Town Centre

Notes:

1. Directions determined based on centroid coordinates of destination/origin planning districts.

2. 'Internal' refers to local trips made within the home planning district(s), while 'External' refers to trips made to areas outside of the home planning district(s).

			Internal									External								
	Time Period	Direction	NW	N	NE	E	SE	S	SW	W	Total	NW	N	NE	E	SE	S	SW	W	Total
Trips	A.M.	Inbound	0	14	103	33	24	22	7	0	203	0	0	0	0	0	0	80	0	80
		Outbound	96	354	649	1493	794	203	136	23	3748	96	14	279	712	654	0	384	150	2289
	P.M.	Inbound	18	261	599	1297	629	107	233	0	3144	51	0	366	677	575	0	392	80	2141
		Outbound	0	104	244	190	280	93	195	0	1106	10	0	34	15	23	0	94	0	176
Percentage	A.M.	Inbound	0%	3%	18%	6%	4%	4%	1%	0%	36%	0%	0%	0%	0%	0%	0%	14%	0%	14%
		Outbound	1%	4%	8%	18%	10%	2%	2%	0%	46%	1%	0%	3%	9%	8%	0%	5%	2%	28%
	P.M.	Inbound	0%	4%	10%	21%	10%	2%	4%	0%	51%	1%	0%	6%	11%	9%	0%	6%	1%	35%
		Outbound	0%	6%	14%	11%	16%	5%	11%	0%	62%	1%	0%	2%	1%	1%	0%	5%	0%	10%

TTS Directional Distribution Summary: Erin Mills Town Centre

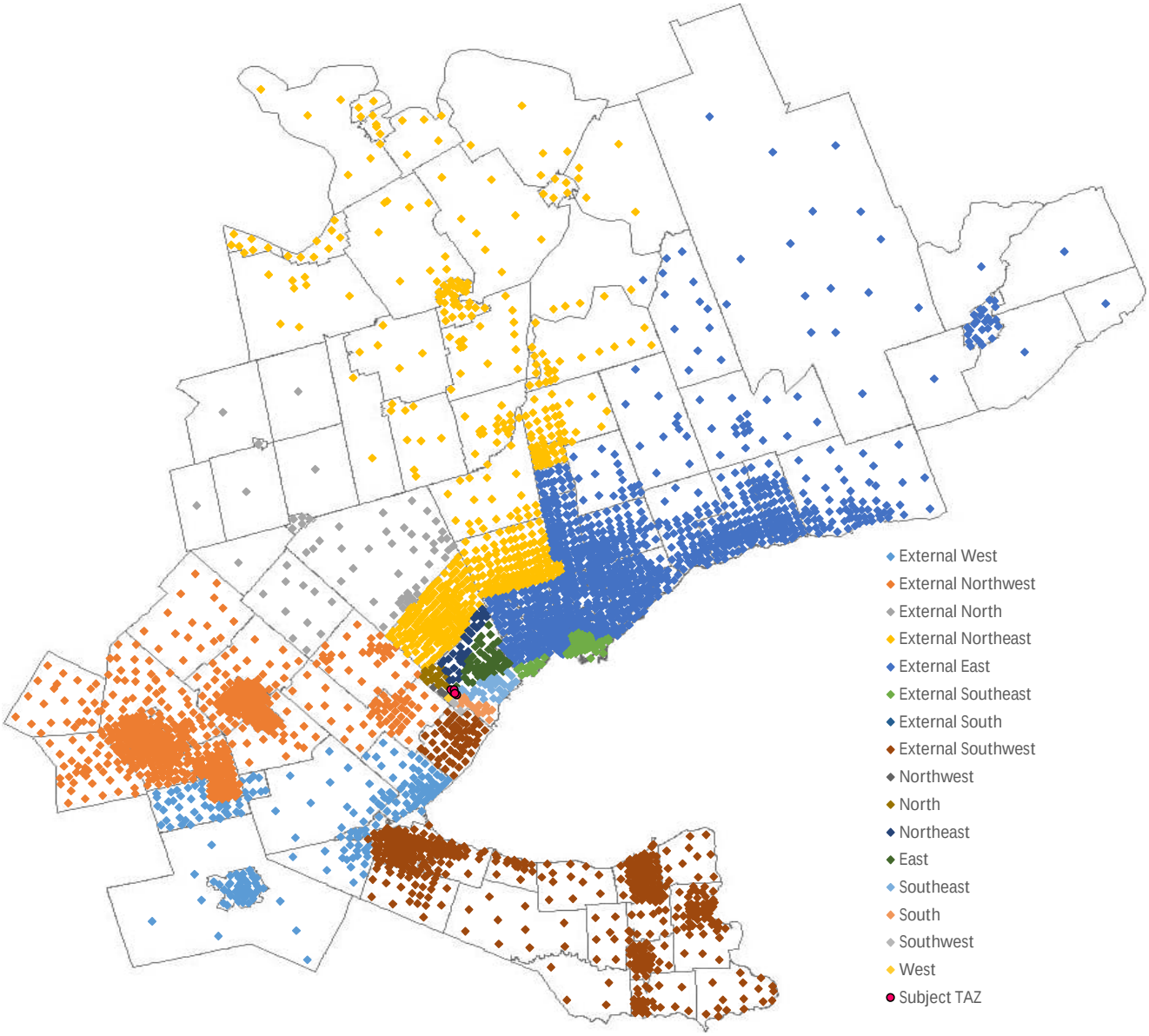
Notes:

1. Directions determined based on centroid coordinates of destination/origin planning districts.

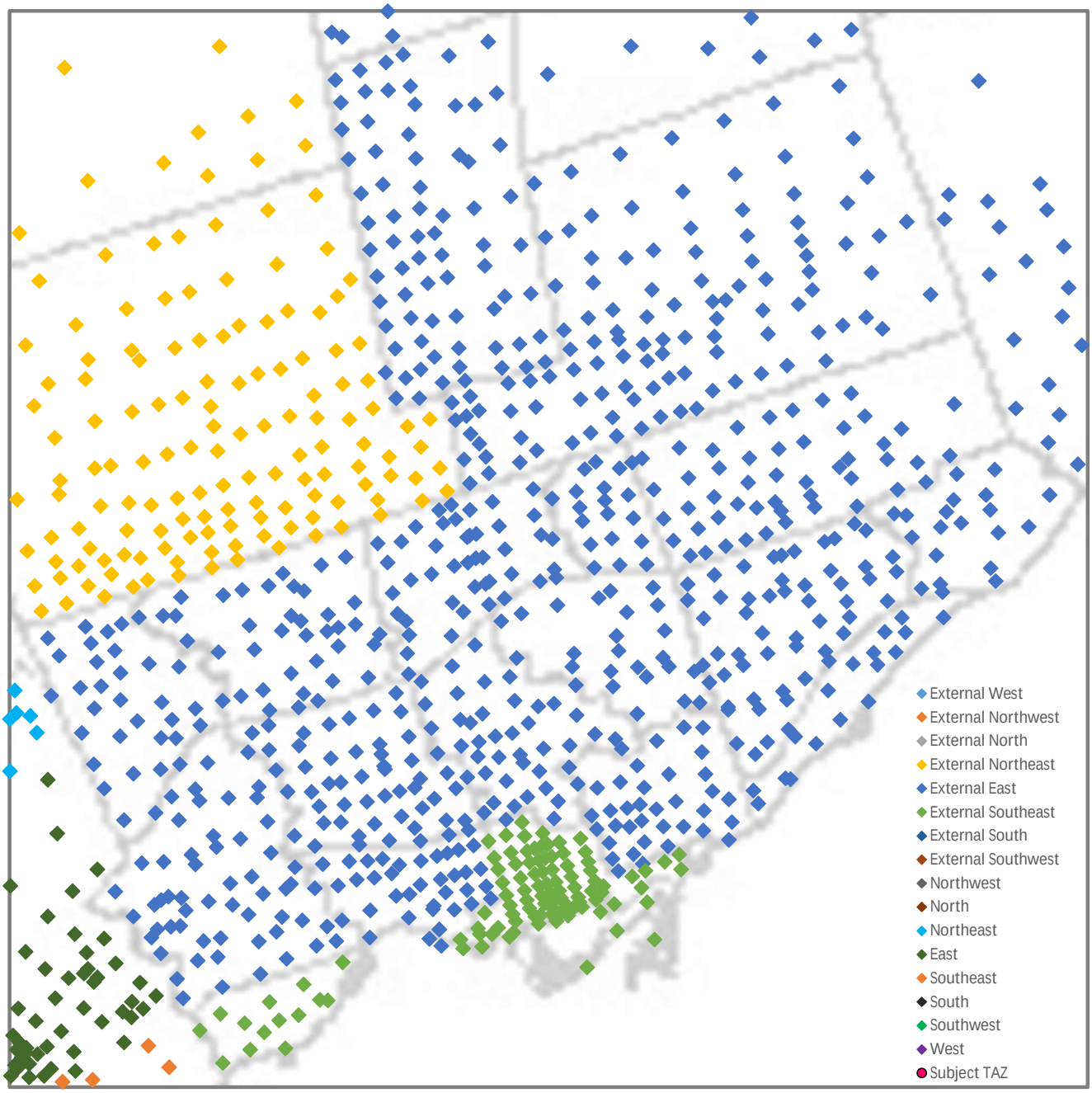
2. 'Internal' refers to local trips made within the home planning district(s), while 'External' refers to trips made to areas outside of the home planning district(s).

			Internal									External								
	Time Period	Direction	NW	N	NE	E	SE	S	SW	W	Total	NW	N	NE	E	SE	S	SW	W	Total
Trips	SAT	Inbound	9	64	183	352	138	225	34	0	1005	0	14	28	38	23	0	48	0	151
		Outbound	14	7	87	282	160	140	109	0	799	4	0	0	130	71	0	34	32	271
Percentage	SAT	Inbound	1%	5%	13%	25%	10%	16%	2%	0%	73%	0%	1%	2%	3%	2%	0%	3%	0%	11%
		Outbound	1%	1%	6%	20%	12%	10%	8%	0%	58%	0%	0%	0%	9%	5%	0%	2%	2%	20%

TAZ Directional Categorisation Visualisation (Complete TTS Survey Area)



TAZ Directional Categorisation Visualisation (City of Toronto)



AM IN

Mon Mar 25 2024 17:05:37 GMT-0400 (Eastern Daylight Time) - Run Time: 3078ms

Cross Tabulation Query Form - Trip - 2016

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

Filters:
2006 GTA . 3602 3683 3837 3838
and
Start time of trip - start_time In 0630-0930
and
Trip purpose of destination - purp_dest In H

Trip 2016
Table:

	Transit exc	Cycle	Auto drive	Auto passe	Walk
3601	0	0	35	0	0
3602	0	17	216	11	32
3683	0	0	144	0	0
3837	0	0	87	0	0
3838	12	0	0	0	8

AM OUT

Mon Mar 25 2024 17:10:13 GMT-0400 (Eastern Daylight Time) - Run Time: 2734ms

Cross Tabulation Query Form - Trip - 2016

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

Filters:
2006 GTA . 3602 3683 3837 3838
and
Start time of trip - start_time In 0630-0930
and
Trip purpose of origin - purp_orig In H

Trip 2016
Table:

	Transit exc	Cycle	Auto drive	GO rail on	Joint GO r	Auto passe	School bus	Taxi passe	Walk
3,601	33	0	94	0	0	20	23	0	48
3602	270	82	2531	170	43	355	148	34	788
3683	141	0	1169	45	9	517	77	0	110
3837	0	0	211	13	0	17	0	0	0
3838	337	0	618	44	52	92	78	12	28

PM IN

Mon Mar 25 2024 17:09:20 GMT-0400 (Eastern Daylight Time) - Run Time: 2973ms

Cross Tabulation Query Form - Trip - 2016

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

Filters:
2006 GTA . 3602 3683 3837 3838
and
Start time of trip - start_time In 1530-1830
and
Trip purpose of destination - purp_dest In H

Trip 2016
Table:

	Transit exc	Auto drive	GO rail on	Joint GO r	Auto passe	School bus	Taxi passe	Walk
3601	0	148	0	0	12	0	0	33
3602	166	2097	137	82	307	0	34	121
3683	175	1130	45	9	267	0	0	16
3837	0	321	6	0	17	0	0	21
3838	155	598	44	52	114	9	0	0

PM OUT

Mon Mar 25 2024 17:09:58 GMT-0400 (Eastern Daylight Time) - Run Time: 2338ms

Cross Tabulation Query Form - Trip - 2016

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

Filters:
2006 GTA . 3602 3683 3837 3838
and
Start time of trip - start_time In 1530-1830
and
Trip purpose of origin - purp_orig In H

Trip 2016
Table:

	Transit exc	Cycle	Auto drive	Auto passe	Walk
3601	0	0	33	13	0
3602	50	23	601	214	0
3683	10	24	436	120	0

Raw Trip Generation

DEVELOPMENTS					
Development Type/Names	**Residential High Rise, General Urban**	**Shared Trips Between Mall and Site**	**Removed Existing Site**		
ITE Code	222				
ITE Category					
UNITS					
Unit Type	Units				
# of	**3162**				
TRIP RATES					
AM Peak (Trip Rate)	**0.23**				
Type of Rate	Equation				
Average Rate	0.27				
Equation Type	T				
Rate from Eq.	0.23				
# of Trips	714.49				
Equation	T = 0.22 X + 18.85				
Multiplier	0.22				
Constant	18.85				
PM Peak (Trip Rate)	**0.27**				
Type of Rate	Equation				
Average Rate	0.32				
Equation Type	T				
Rate from Eq.	0.27				
# of Trips	845.24				
Equation	T = 0.26 X + 23.12				
Multiplier	0.26				
Constant	23.12				
SAT Peak (Trip Rate)	**0.31**				
Type of Rate	Equation				
Average Rate	0.36				
Equation Type	T				
Rate from Eq.	0.31				
# of Trips	978.94				
Equation	T = 0.3 X + 30.34				
Multiplier	0.30				
Constant	30.34				
INBOUND & OUTBOUND SPLIT %					
AM (IN)	26%				
AM (OUT)	74%				
PM (IN)	62%				
PM (OUT)	38%				
SAT (IN)	57%				
SAT (OUT)	43%				
MULTI-USE SHARE FACTOR					
AM (IN)					
AM (OUT)					
PM (IN)					
PM (OUT)					
SAT (IN)					
SAT (OUT)					
NON-AUTOMOBILE TRIP REDUCTION FACTOR (Transit Modal Split %)					
AM (IN)	12%				
AM (OUT)	27%				
PM (IN)	17%				
PM (OUT)	9%				
SAT (IN)	14%				
SAT (OUT)	14%				
PASS-BY %					
AM (IN)					
AM (OUT)					
PM (IN)					
PM (OUT)					
SAT (IN)					
SAT (OUT)					
INBOUND & OUTBOUND TRIP RATES					
AM (IN)	0.06	0.00	0.00		
AM (OUT)	0.17	0.00	0.00		
PM (IN)	0.17	0.00	0.00		
PM (OUT)	0.10	0.00	0.00		
SAT (IN)	0.18	0.00	0.00		
SAT (OUT)	0.13	0.00	0.00		
TOTAL SITE GENERATED TRIPS					
AM (IN)	186	0	-90		
AM (OUT)	529	0	-51		
PM (IN)	525	21	-221		
PM (OUT)	322	11	-238		
SAT (IN)	558	33	-296		
SAT (OUT)	421	36	-303		
MULTI-USE FACTOR TRIP REDUCTIONS					
AM (IN)	0				
AM (OUT)	0				
PM (IN)	0				
PM (OUT)	0				
SAT (IN)	0				
SAT (OUT)	0				
NON-AUTOMOBILE TRIP REDUCTIONS (Transit Modal Split %)					
AM (IN)	23				
AM (OUT)	143				
PM (IN)	90				
PM (OUT)	29				
SAT (IN)	79				
SAT (OUT)	59				
PASS-BY TRIPS					
AM (IN)	0				
AM (OUT)	0				
PM (IN)	0				
PM (OUT)	0				
SAT (IN)	0				
SAT (OUT)	0				
PURE NEW SITE GENERATED TRIPS				**Interim (50% Site)**	**Ultimate**
AM (IN)	163	0	-90	**82**	**73**
AM (OUT)	386	0	-51	**193**	**335**
PM (IN)	435	21	-221	**218**	**235**
PM (OUT)	293	11	-238	**147**	**66**
SAT (IN)	479	33	-296	**240**	**216**
SAT (OUT)	362	36	-303	**181**	**95**

New Internal Trip Capture Methodology for Multi-Use Developments

Based on NCHRP Project 8-51

Note: Saturday is assumed to be the same as PM Peak Hour for Multi-Use Reductions, if Saturday Multi-Use is assumed, this must be disclosed

Do not modify values in Grey Cells

INPUTS

Volumes

Use	AM Volumes		PM Volumes		Saturday Volumes	
	Entering	Exiting	Entering	Exiting	Entering	Exiting
Office						
Retail	700	679	1046	1093	1405	1093
Restaurant						
Cinema/ Entertainment						
Residential	186	529	525	322	558	421
Hotel						

Proximity of Uses

Use	Separation Distance (**In Feet**)					
	Office	Retail	Restaurant	Cinema/ Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail			0	0	1200	0
Restaurant				0	0	0
Cinema/ Entertainment					0	0
Residential		1200				0
Hotel						

OUTPUTS

AM Peak Hour Multi-Use Reduction Summary

	Office	Retail	Restaurant	Cinema/ Entertainment	Residential	Hotel	In	In%
Office	0	0	0	0	0	0	**0**	**0%**
Retail	0	0	0	0	5	0	**5**	**1%**
Restaurant	0	0	0	0	0	0	**0**	**0%**
Cinema/ Entertainment	0	0	0	0	0	0	**0**	**0%**
Residential	0	4	0	0	0	0	**4**	**2%**
Hotel	0	0	0	0	0	0	**0**	**0%**
Out	**0**	**4**	**0**	**0**	**5**	**0**		
Out %	**0%**	**1%**	**0%**	**0%**	**1%**	**0%**		

PM Peak Hour Multi-Use Reduction Summary (Contains Proximity Factors)

	Office	Retail	Restaurant	Cinema/ Entertainment	Residential	Hotel	In	In%
Office	0	0	0	0	0	0	**0**	**0%**
Retail	0	0	0	0	73	0	**73**	**7%**
Restaurant	0	0	0	0	0	0	**0**	**0%**
Cinema/ Entertainment	0	0	0	0	0	0	**0**	**0%**
Residential	0	242	0	0	0	0	**242**	**46%**
Hotel	0	0	0	0	0	0	**0**	**0%**
Out	**0**	**242**	**0**	**0**	**73**	**0**		
Out %	**0%**	**22%**	**0%**	**0%**	**23%**	**0%**		

Saturday Peak Hour Multi-Use Reduction Summary (Contains Proximity Factors)

	Office	Retail	Restaurant	Cinema/ Entertainment	Residential	Hotel	In	In%
Office	0	0	0	0	0	0	**0**	**0%**
Retail	0	0	0	0	98	0	**98**	**7%**
Restaurant	0	0	0	0	0	0	**0**	**0%**
Cinema/ Entertainment	0	0	0	0	0	0	**0**	**0%**
Residential	0	247	0	0	0	0	**247**	**44%**
Hotel	0	0	0	0	0	0	**0**	**0%**
Out	**0**	**247**	**0**	**0**	**98**	**0**		
Out %	**0%**	**23%**	**0%**	**0%**	**31%**	**0%**		

Supporting Data

Percentages from ITE Journal August 2010: "Improved Estimation of Internal Trip Capture for Mixed-Use Developments"

AM From-To Percentages Matrix

To	From					
	Office	Retail	Restaurant	Cinema/ Entertainment	Residential	Hotel
Office		29%	31%		2%	75%
Retail	28%		14%		1%	14%
Restaurant	63%	13%			20%	9%
Cinema/ Entertainment						
Residential	1%	14%	4%			0%
Hotel	0%	0%	3%		0%	

AM To-From Percentages Matrix

To	From					
	Office	Retail	Restaurant	Cinema/ Entertainment	Residential	Hotel
Office		4%	14%		3%	3%
Retail	32%		8%		17%	4%
Restaurant	23%	50%			20%	6%
Cinema/ Entertainment						
Residential	0%	2%	5%			0%
Hotel	0%	0%	4%		0%	

PM (Saturday) From-To Percentages Matrix

To	From					
	Office	Retail	Restaurant	Cinema/ Entertainment	Residential	Hotel
Office		2%	3%	2%	4%	0%
Retail	20%		41%	21%	42%	16%
Restaurant	4%	29%		31%	21%	68%
Cinema/ Entertainment	0%	4%	8%		0%	68%
Residential	2%	26%	18%	8%		0%
Hotel	0%	5%	7%	2%	3%	2%

PM (Saturday) To-From Percentages Matrix

To	From					
	Office	Retail	Restaurant	Cinema/ Entertainment	Residential	Hotel
Office		31%	30%	6%	57%	0%
Retail	8%		50%	4%	10%	2%
Restaurant	2%	29%		3%	14%	5%
Cinema/ Entertainment	1%	26%	32%		0%	0%
Residential	4%	46%	16%	4%		0%
Hotel	0%	17%	71%	1%	12%	

PM (Saturday) Only From-To Proximity Factors Matrix

To	From					
	Office	Retail	Restaurant	Cinema/ Entertainment	Residential	Hotel
Office	1.00	1.00	1.00	1.00	1.00	1.00
Retail	1.00	1.00	1.00	1.00	0.70	1.00
Restaurant	1.00	1.00	1.00	1.00	1.00	1.00
Cinema/ Entertainment	1.00	1.00	1.00	1.00	1.00	1.00
Residential	1.00	0.87	1.00	1.00	1.00	1.00
Hotel	1.00	1.00	1.00	1.00	1.00	1.00

PM (Saturday) Only To-From Proximity Factors Matrix

To	From					
	Office	Retail	Restaurant	Cinema/ Entertainment	Residential	Hotel
Office	1.00	1.00	1.00	1.00	1.00	1.00
Retail	1.00	1.00	1.00	1.00	0.70	1.00
Restaurant	1.00	1.00	1.00	1.00	1.00	1.00
Cinema/ Entertainment	1.00	1.00	1.00	1.00	1.00	1.00
Residential	1.00	1.00	1.00	1.00	1.00	1.00
Hotel	1.00	1.00	1.00	1.00	1.00	1.00

Red numbers for those land use pairs with proximity factors

APPENDIX

F FUTURE TOTAL TRAFFIC CONDITIONS

APPENDIX

F-1 2032 FUTURE TOTAL

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	286	178	102	169	171	68	997	71	193	1570	55
Future Volume (vph)	97	286	178	102	169	171	68	997	71	193	1570	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		1.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1780	3288		1798	1881	1494	1805	4953		1769	4937	
Flt Permitted	0.64	1.00		0.31	1.00	1.00	0.05	1.00		0.16	1.00	
Satd. Flow (perm)	1202	3288		589	1881	1494	104	4953		303	4937	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	311	193	111	184	186	74	1084	77	210	1707	60
RTOR Reduction (vph)	0	64	0	0	0	105	0	4	0	0	2	0
Lane Group Flow (vph)	105	440	0	111	184	81	74	1157	0	210	1765	0
Confl. Peds. (#/hr)	19		37	37		19	26		12	12		26
Heavy Vehicles (%)	0%	2%	0%	0%	1%	4%	0%	2%	6%	2%	3%	4%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	43.9	43.9		60.1	60.1	60.1	81.0	72.4		83.8	73.8	
Effective Green, g (s)	46.4	46.4		62.1	62.6	62.6	85.0	74.4		87.4	75.8	
Actuated g/C Ratio	0.29	0.29		0.39	0.39	0.39	0.53	0.47		0.55	0.47	
Clearance Time (s)	7.5	7.5		3.0	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	348	953		343	735	584	167	2303		275	2338	
v/s Ratio Prot		c0.13		c0.03	0.10		0.03	0.23		c0.06	c0.36	
v/s Ratio Perm	0.09			0.09		0.05	0.20			0.36		
v/c Ratio	0.30	0.46		0.32	0.25	0.14	0.44	0.50		0.76	0.75	
Uniform Delay, d1	44.2	46.6		32.8	32.9	31.3	26.0	29.9		21.8	34.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	2.36	1.20		1.00	1.00	
Incremental Delay, d2	0.5	0.4		0.6	0.2	0.1	1.6	0.7		11.9	2.3	
Delay (s)	44.7	46.9		33.3	33.0	31.4	63.0	36.6		33.6	36.8	
Level of Service	D	D		C	C	C	E	D		C	D	
Approach Delay (s)		46.5			32.5			38.1			36.5	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	37.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
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 (vph)	13	406	136	36	306	29	115	69	68	44	79	37
Future Volume (vph)	13	406	136	36	306	29	115	69	68	44	79	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	0.98	1.00		0.97	1.00		0.99	1.00	1.00	0.99	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1766	3284		1750	3468		1768	1863	1583	1740	1795	
Flt Permitted	0.53	1.00		0.42	1.00		0.66	1.00	1.00	0.71	1.00	
Satd. Flow (perm)	993	3284		767	3468		1220	1863	1583	1297	1795	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	441	148	39	333	32	125	75	74	48	86	40
RTOR Reduction (vph)	0	22	0	0	5	0	0	0	56	0	21	0
Lane Group Flow (vph)	14	567	0	39	360	0	125	75	18	48	105	0
Confl. Peds. (#/hr)	28		55	55		28	16		10	10		16
Heavy Vehicles (%)	0%	3%	3%	0%	2%	0%	1%	2%	0%	3%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	64.1	64.1		64.1	64.1		22.4	22.4	22.4	22.4	22.4	
Effective Green, g (s)	66.1	66.1		66.1	66.1		23.9	23.9	23.9	23.9	23.9	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.24	0.24	0.24	0.24	0.24	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	656	2170		506	2292		291	445	378	309	429	
v/s Ratio Prot		c0.17			0.10			0.04			0.06	
v/s Ratio Perm	0.01			0.05			c0.10		0.01	0.04		
v/c Ratio	0.02	0.26		0.08	0.16		0.43	0.17	0.05	0.16	0.24	
Uniform Delay, d1	5.8	6.9		6.1	6.4		32.3	30.2	29.3	30.1	30.7	
Progression Factor	1.00	1.00		0.68	0.67		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.3	0.1		1.0	0.2	0.1	0.2	0.3	
Delay (s)	5.9	7.2		4.4	4.5		33.3	30.4	29.3	30.3	31.0	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		7.2			4.5			31.4			30.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
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 (vph)	74	388	95	71	275	179	50	349	63	160	693	105
Future Volume (vph)	74	388	95	71	275	179	50	349	63	160	693	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00		0.99	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1718	3446		1694	3247		1773	3391		1768	3472	
Flt Permitted	0.40	1.00		0.37	1.00		0.33	1.00		0.44	1.00	
Satd. Flow (perm)	716	3446		667	3247		610	3391		824	3472	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	422	103	77	299	195	54	379	68	174	753	114
RTOR Reduction (vph)	0	23	0	0	117	0	0	14	0	0	11	0
Lane Group Flow (vph)	80	502	0	77	377	0	54	433	0	174	856	0
Confl. Peds. (#/hr)	54		15	15		54	70		6	6		70
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	3%	1%	0%	6%	2%	2%	0%	3%	4%	2%	1%	1%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	34.1	34.1		34.1	34.1		41.6	41.6		52.4	52.4	
Effective Green, g (s)	36.1	36.1		36.1	36.1		43.1	43.1		54.4	53.9	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.43	0.43		0.54	0.54	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		3.0	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	258	1244		240	1172		262	1461		540	1871	
v/s Ratio Prot		c0.15			0.12			0.13		0.03	c0.25	
v/s Ratio Perm	0.11			0.12			0.09			0.14		
v/c Ratio	0.31	0.40		0.32	0.32		0.21	0.30		0.32	0.46	
Uniform Delay, d1	23.0	23.9		23.1	23.1		17.8	18.6		11.7	14.1	
Progression Factor	0.79	0.83		1.00	1.00		0.84	0.84		1.00	1.00	
Incremental Delay, d2	0.7	0.2		0.8	0.2		1.8	0.5		0.3	0.8	
Delay (s)	19.0	20.1		23.9	23.3		16.7	16.2		12.0	14.9	
Level of Service	B	C		C	C		B	B		B	B	
Approach Delay (s)		19.9			23.3			16.2			14.4	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.44			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	92.9%	ICU Level of Service	F	
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 (vph)	147	450	64	72	285	284	41	63	133	25	6	8
Future Volume (vph)	147	450	64	72	285	284	41	63	133	25	6	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99			1.00	0.99		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	0.85	1.00	0.93			1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.98	1.00		0.97	
Satd. Flow (prot)	1799	3505	1501	1717	3246			1702	1503		3374	
Flt Permitted	0.41	1.00	1.00	0.47	1.00			0.86	1.00		0.79	
Satd. Flow (perm)	776	3505	1501	856	3246			1499	1503		2746	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	160	489	70	78	310	309	45	68	145	27	7	9
RTOR Reduction (vph)	0	0	26	0	115	0	0	0	112	0	7	0
Lane Group Flow (vph)	160	489	44	78	504	0	0	113	33	0	36	0
Confl. Peds. (#/hr)	8		5	5		8	14		3	3		14
Heavy Vehicles (%)	0%	3%	6%	5%	3%	0%	23%	0%	6%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	42.8	42.8	42.8	42.8	42.8			14.4	14.4		14.4	
Effective Green, g (s)	44.8	44.8	44.8	44.8	44.8			16.4	16.4		16.4	
Actuated g/C Ratio	0.63	0.63	0.63	0.63	0.63			0.23	0.23		0.23	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	488	2205	944	538	2042			345	346		632	
v/s Ratio Prot		0.14			0.16							
v/s Ratio Perm	c0.21		0.03	0.09				c0.08	0.02		0.01	
v/c Ratio	0.33	0.22	0.05	0.14	0.25			0.33	0.10		0.06	
Uniform Delay, d1	6.2	5.7	5.0	5.4	5.8			22.8	21.6		21.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	1.8	0.2	0.1	0.6	0.3			0.6	0.1		0.0	
Delay (s)	8.0	5.9	5.1	6.0	6.1			23.4	21.7		21.4	
Level of Service	A	A	A	A	A			C	C		C	
Approach Delay (s)		6.3			6.1			22.4			21.4	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.33			
Actuated Cycle Length (s)	71.2	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	72.5%	ICU Level of Service	C	
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 (vph)	215	154	248	60	133	50	119	1144	31	44	1464	314
Future Volume (vph)	215	154	248	60	133	50	119	1144	31	44	1464	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.97	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)	1717	1902	1526	1744	1883	1488	1767	5092	1498	1667	5092	1514
Flt Permitted	0.60	1.00	1.00	0.66	1.00	1.00	0.12	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)	1085	1902	1526	1210	1883	1488	214	5092	1498	413	5092	1514
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)	215	154	248	60	133	50	119	1144	31	44	1464	314
RTOR Reduction (vph)	0	0	102	0	0	41	0	0	12	0	0	147
Lane Group Flow (vph)	215	154	146	60	133	9	119	1144	19	44	1464	167
Confl. Peds. (#/hr)	17		4	4		17	4		2	2		4
Heavy Vehicles (%)	3%	1%	3%	2%	2%	4%	1%	3%	4%	7%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	46.2	46.2	46.2	30.2	30.2	30.2	97.2	97.2	97.2	85.2	85.2	85.2
Effective Green, g (s)	46.2	46.2	46.2	30.2	30.2	30.2	97.2	97.2	97.2	85.2	85.2	85.2
Actuated g/C Ratio	0.29	0.29	0.29	0.19	0.19	0.19	0.61	0.61	0.61	0.53	0.53	0.53
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	364	549	440	228	355	280	217	3093	910	219	2711	806
v/s Ratio Prot	c0.05	0.08			0.07		c0.03	0.22			0.29	
v/s Ratio Perm	c0.12		0.10	0.05		0.01	c0.30		0.01	0.11		0.11
v/c Ratio	0.59	0.28	0.33	0.26	0.37	0.03	0.55	0.37	0.02	0.20	0.54	0.21
Uniform Delay, d1	47.0	44.0	44.7	55.4	56.7	53.0	17.1	15.9	12.5	19.6	24.5	19.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.34	0.15	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	0.3	0.4	0.6	0.7	0.0	2.7	0.3	0.0	2.1	0.8	0.6
Delay (s)	49.6	44.3	45.2	56.0	57.3	53.0	42.8	2.8	12.5	21.6	25.3	20.2
Level of Service	D	D	D	E	E	D	D	A	B	C	C	C
Approach Delay (s)		46.5			56.1			6.7			24.4	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	6.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	241	275	158	221
Demand Flow Rate, veh/h	242	287	159	223
Vehicles Circulating, veh/h	258	127	280	254
Vehicles Exiting, veh/h	219	312	220	160
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	3	12	7	8
Ped Cap Adj	1.000	0.998	0.999	0.999
Approach Delay, s/veh	7.1	6.8	6.1	6.8
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	242	287	159	223
Cap Entry Lane, veh/h	873	995	854	876
Entry HV Adj Factor	0.996	0.959	0.994	0.990
Flow Entry, veh/h	241	275	158	221
Cap Entry, veh/h	869	953	848	867
V/C Ratio	0.277	0.289	0.186	0.255
Control Delay, s/veh	7.1	6.8	6.1	6.8
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	118	54	73	151	93	70	311	78	93	635	77
Future Volume (vph)	45	118	54	73	151	93	70	311	78	93	635	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1702	3393		1789	1881	1575	1797	3471	1501	1772	3539	1545
Flt Permitted	0.58	1.00		0.63	1.00	1.00	0.37	1.00	1.00	0.55	1.00	1.00
Satd. Flow (perm)	1043	3393		1194	1881	1575	696	3471	1501	1023	3539	1545
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	128	59	79	164	101	76	338	85	101	690	84
RTOR Reduction (vph)	0	45	0	0	0	77	0	0	29	0	0	28
Lane Group Flow (vph)	49	142	0	79	164	24	76	338	56	101	690	56
Confl. Peds. (#/hr)	16		14	14		16	13		32	32		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	5%	0%	2%	0%	1%	0%	0%	4%	2%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	22.0	22.0		22.0	22.0	22.0	64.5	64.5	64.5	64.5	64.5	64.5
Effective Green, g (s)	24.0	24.0		24.0	24.0	24.0	66.0	66.0	66.0	66.0	66.0	66.0
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.66	0.66	0.66	0.66	0.66	0.66
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	250	814		286	451	378	459	2290	990	675	2335	1019
v/s Ratio Prot		0.04			c0.09			0.10			c0.19	
v/s Ratio Perm	0.05			0.07		0.02	0.11		0.04	0.10		0.04
v/c Ratio	0.20	0.17		0.28	0.36	0.06	0.17	0.15	0.06	0.15	0.30	0.06
Uniform Delay, d1	30.3	30.1		30.9	31.6	29.3	6.5	6.4	6.0	6.4	7.2	6.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.63	0.62	0.24
Incremental Delay, d2	0.4	0.1		0.5	0.5	0.1	0.8	0.1	0.1	0.4	0.3	0.1
Delay (s)	30.7	30.2		31.5	32.1	29.4	7.3	6.5	6.1	4.5	4.7	1.6
Level of Service	C	C		C	C	C	A	A	A	A	A	A
Approach Delay (s)		30.3			31.2			6.6			4.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	103	112	1266	1708	77
Future Volume (vph)	0	103	112	1266	1708	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.99	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1418	1653	5092	5092	1446
Flt Permitted		1.00	0.11	1.00	1.00	1.00
Satd. Flow (perm)		1418	197	5092	5092	1446
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	103	112	1266	1708	77
RTOR Reduction (vph)	0	96	0	0	0	16
Lane Group Flow (vph)	0	7	112	1266	1708	61
Confl. Peds. (#/hr)	3	1	8			8
Heavy Vehicles (%)	2%	13%	8%	3%	3%	8%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		11.0	134.8	134.8	123.5	123.5
Effective Green, g (s)		11.0	134.8	134.8	123.5	123.5
Actuated g/C Ratio		0.07	0.84	0.84	0.77	0.77
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		97	241	4290	3930	1116
v/s Ratio Prot			c0.02	0.25	0.34	
v/s Ratio Perm		c0.00	c0.37			0.04
v/c Ratio		0.07	0.46	0.30	0.43	0.05
Uniform Delay, d1		69.7	3.8	2.6	6.3	4.3
Progression Factor		1.00	5.16	0.82	0.71	0.22
Incremental Delay, d2		0.3	1.2	0.1	0.3	0.1
Delay (s)		70.0	20.6	2.3	4.8	1.0
Level of Service		E	C	A	A	A
Approach Delay (s)	70.0			3.8	4.6	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
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 (vph)	104	751	248	175	489	95	140	953	215	250	1459	132
Future Volume (vph)	104	751	248	175	489	95	140	953	215	250	1459	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	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	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)	3502	3539	1557	3273	3505	1483	3335	4870		3433	4910	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3539	1557	3273	3505	1483	3335	4870		3433	4910	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	816	270	190	532	103	152	1036	234	272	1586	143
RTOR Reduction (vph)	0	0	99	0	0	71	0	21	0	0	6	0
Lane Group Flow (vph)	113	816	171	190	532	32	152	1249	0	272	1723	0
Confl. Peds. (#/hr)	22		13	13		22	16		14	14		16
Heavy Vehicles (%)	0%	2%	1%	7%	3%	2%	5%	2%	1%	2%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	10.5	43.1	43.1	14.0	46.6	46.6	12.6	62.4		15.5	65.3	
Effective Green, g (s)	10.5	45.6	45.6	14.0	49.1	49.1	12.6	64.9		15.5	67.8	
Actuated g/C Ratio	0.07	0.29	0.29	0.09	0.31	0.31	0.08	0.41		0.10	0.42	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	229	1008	443	286	1075	455	262	1975		332	2080	
v/s Ratio Prot	0.03	c0.23		c0.06	c0.15		0.05	0.26		c0.08	c0.35	
v/s Ratio Perm			0.11			0.02						
v/c Ratio	0.49	0.81	0.39	0.66	0.49	0.07	0.58	0.63		0.82	0.83	
Uniform Delay, d1	72.2	53.2	46.0	70.7	45.3	39.3	71.1	38.0		70.9	40.9	
Progression Factor	1.00	1.00	1.00	0.77	1.26	3.97	1.00	1.00		1.17	0.88	
Incremental Delay, d2	1.7	4.9	0.6	5.7	0.4	0.1	3.2	1.6		10.6	2.8	
Delay (s)	73.9	58.0	46.5	60.4	57.3	156.2	74.4	39.6		93.6	39.0	
Level of Service	E	E	D	E	E	F	E	D		F	D	
Approach Delay (s)		56.9			70.4			43.3			46.4	
Approach LOS		E			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	51.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	91.5%	ICU Level of Service	F	
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 (vph)	35	1167	19	51	695	37	16	31	83	93	34	51
Future Volume (vph)	35	1167	19	51	695	37	16	31	83	93	34	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1786	5019		1764	4984		1793	1670		1760	1845	1554
Flt Permitted	0.33	1.00		0.19	1.00		0.73	1.00		0.54	1.00	1.00
Satd. Flow (perm)	621	5019		344	4984		1384	1670		1000	1845	1554
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	1268	21	55	755	40	17	34	90	101	37	55
RTOR Reduction (vph)	0	1	0	0	2	0	0	71	0	0	0	47
Lane Group Flow (vph)	38	1288	0	55	793	0	17	53	0	101	37	8
Confl. Peds. (#/hr)	12		8	8		12	6		6	6		6
Heavy Vehicles (%)	0%	2%	6%	2%	2%	3%	0%	0%	0%	2%	3%	2%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	115.7	115.7		115.7	115.7		22.2	22.2		22.2	22.2	22.2
Effective Green, g (s)	117.7	117.7		117.7	117.7		24.7	24.7		24.7	24.7	24.7
Actuated g/C Ratio	0.74	0.74		0.74	0.74		0.15	0.15		0.15	0.15	0.15
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	456	3692		253	3666		213	257		154	284	239
v/s Ratio Prot		c0.26			0.16			0.03			0.02	
v/s Ratio Perm	0.06			0.16			0.01			c0.10		0.01
v/c Ratio	0.08	0.35		0.22	0.22		0.08	0.21		0.66	0.13	0.04
Uniform Delay, d1	6.0	7.5		6.7	6.6		57.9	59.1		63.7	58.4	57.5
Progression Factor	0.31	0.34		0.33	0.31		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2		1.9	0.1		0.2	0.4		9.6	0.2	0.1
Delay (s)	2.1	2.7		4.1	2.2		58.1	59.5		73.3	58.6	57.6
Level of Service	A	A		A	A		E	E		E	E	E
Approach Delay (s)		2.7			2.3			59.3			66.0	
Approach LOS		A			A			E			E	

Intersection Summary				
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.39			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	61.0%	ICU Level of Service	B	
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 (vph)	89	1090	86	74	599	119	57	256	102	263	384	62
Future Volume (vph)	89	1090	86	74	599	119	57	256	102	263	384	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1753	4956		1757	4822		1789	3301		1791	3411	
Flt Permitted	0.31	1.00		0.15	1.00		0.48	1.00		0.38	1.00	
Satd. Flow (perm)	567	4956		283	4822		897	3301		719	3411	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	1185	93	80	651	129	62	278	111	286	417	67
RTOR Reduction (vph)	0	5	0	0	16	0	0	30	0	0	9	0
Lane Group Flow (vph)	97	1273	0	80	764	0	62	359	0	286	475	0
Confl. Peds. (#/hr)	23		45	45		23	13		38	38		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	2%	3%	4%	0%	3%	1%	0%	3%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	3	0	0	3	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	82.8	82.8		82.8	82.8		38.7	38.7		57.7	53.9	
Effective Green, g (s)	84.8	84.8		84.8	84.8		41.2	41.2		59.7	56.4	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.26	0.26		0.37	0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	300	2626		149	2555		230	850		388	1202	
v/s Ratio Prot		0.26			0.16			c0.11		c0.08	0.14	
v/s Ratio Perm	0.17			c0.28			0.07			0.19		
v/c Ratio	0.32	0.48		0.54	0.30		0.27	0.42		0.74	0.40	
Uniform Delay, d1	21.3	23.8		24.7	21.0		47.4	49.5		38.5	39.0	
Progression Factor	0.47	0.49		1.49	1.62		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	0.6		13.0	0.3		0.6	0.3		7.1	0.2	
Delay (s)	12.7	12.4		49.8	34.4		48.0	49.8		45.7	39.2	
Level of Service	B	B		D	C		D	D		D	D	
Approach Delay (s)		12.4			35.8			49.6			41.6	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
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 (vph)	58	1404	62	32	738	72	44	27	65	132	26	38
Future Volume (vph)	58	1404	62	32	738	72	44	27	65	132	26	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.97		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1798	4996		1804	4924		1652	1624		1725	1900	1561
Flt Permitted	0.29	1.00		0.12	1.00		0.74	1.00		0.62	1.00	1.00
Satd. Flow (perm)	558	4996		232	4924		1285	1624		1131	1900	1561
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	1526	67	35	802	78	48	29	71	143	28	41
RTOR Reduction (vph)	0	2	0	0	5	0	0	58	0	0	0	33
Lane Group Flow (vph)	63	1591	0	35	875	0	48	42	0	143	28	8
Confl. Peds. (#/hr)	9		4	4		9	15		21	21		15
Heavy Vehicles (%)	0%	2%	4%	0%	3%	0%	7%	0%	2%	2%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	108.8	108.8		108.8	108.8		27.5	27.5		27.9	27.9	27.9
Effective Green, g (s)	110.8	110.8		110.8	110.8		30.0	30.0		30.4	30.4	30.4
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.19	0.19		0.19	0.19	0.19
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	386	3459		160	3409		240	304		214	361	296
v/s Ratio Prot		c0.32			0.18			0.03			0.01	
v/s Ratio Perm	0.11			0.15			0.04			c0.13		0.00
v/c Ratio	0.16	0.46		0.22	0.26		0.20	0.14		0.67	0.08	0.03
Uniform Delay, d1	8.5	11.1		8.9	9.2		54.9	54.2		60.1	53.3	52.8
Progression Factor	0.56	0.57		1.01	0.99		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.4		3.0	0.2		0.4	0.2		7.7	0.1	0.0
Delay (s)	5.6	6.7		12.0	9.3		55.3	54.4		67.8	53.4	52.8
Level of Service	A	A		B	A		E	D		E	D	D
Approach Delay (s)		6.7			9.4			54.7			63.0	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
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 (vph)	150	1195	261	106	631	188	164	1063	142	318	1353	106
Future Volume (vph)	150	1195	261	106	631	188	164	1063	142	318	1353	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96
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)	3298	5142	1473	3298	5092	1476	3429	5092	1545	3362	5043	1512
Flt Permitted	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 (perm)	3298	5142	1473	3298	5092	1476	3429	5092	1545	3362	5043	1512
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)	150	1195	261	106	631	188	164	1063	142	318	1353	106
RTOR Reduction (vph)	0	0	139	0	0	131	0	0	92	0	0	65
Lane Group Flow (vph)	150	1195	122	106	631	57	164	1063	50	318	1353	41
Confl. Peds. (#/hr)	20		52	52		20	31		20	20		31
Heavy Vehicles (%)	5%	2%	2%	5%	3%	2%	1%	3%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	12.4	51.6	51.6	9.4	48.6	48.6	12.7	55.8	55.8	17.6	60.7	60.7
Effective Green, g (s)	12.4	51.6	51.6	9.4	48.6	48.6	12.7	55.8	55.8	17.6	60.7	60.7
Actuated g/C Ratio	0.08	0.32	0.32	0.06	0.30	0.30	0.08	0.35	0.35	0.11	0.38	0.38
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	1658	475	193	1546	448	272	1775	538	369	1913	573
v/s Ratio Prot	c0.05	c0.23		0.03	0.12		0.05	0.21		c0.09	c0.27	
v/s Ratio Perm			0.08			0.04			0.03			0.03
v/c Ratio	0.59	0.72	0.26	0.55	0.41	0.13	0.60	0.60	0.09	0.86	0.71	0.07
Uniform Delay, d1	71.3	47.8	40.0	73.2	44.3	40.3	71.2	42.9	35.1	70.0	42.1	31.7
Progression Factor	1.04	0.73	0.50	1.00	1.00	1.00	1.27	1.01	2.37	0.93	1.64	4.98
Incremental Delay, d2	3.2	1.4	0.3	3.2	0.2	0.1	3.4	1.4	0.3	17.0	2.1	0.2
Delay (s)	77.3	36.5	20.5	76.4	44.4	40.5	93.5	44.7	83.5	82.2	71.0	157.8
Level of Service	E	D	C	E	D	D	F	D	F	F	E	F
Approach Delay (s)		37.7			47.3			54.5			78.2	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	56.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	114.3%	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 (vph)	48	81	240	295	66	62	115	1483	385	70	1760	25
Future Volume (vph)	48	81	240	295	66	62	115	1483	385	70	1760	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
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)	1723	1830	1549	1760	1830	1507	1750	5142	1567	1733	5092	1295
Flt Permitted	0.71	1.00	1.00	0.61	1.00	1.00	0.08	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	1295	1830	1549	1132	1830	1507	148	5142	1567	234	5092	1295
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)	48	81	240	295	66	62	115	1483	385	70	1760	25
RTOR Reduction (vph)	0	0	149	0	0	47	0	0	160	0	0	11
Lane Group Flow (vph)	48	81	91	295	66	15	115	1483	225	70	1760	14
Confl. Peds. (#/hr)	6		7	7		6	12		5	5		12
Heavy Vehicles (%)	3%	5%	1%	1%	5%	4%	2%	2%	0%	3%	3%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	19.6	19.6	19.6	39.6	39.6	39.6	102.7	93.4	93.4	100.1	92.1	92.1
Effective Green, g (s)	19.6	19.6	19.6	39.6	39.6	39.6	102.7	93.4	93.4	100.1	92.1	92.1
Actuated g/C Ratio	0.12	0.12	0.12	0.25	0.25	0.25	0.64	0.58	0.58	0.63	0.58	0.58
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	158	224	189	346	452	372	188	3001	914	221	2931	745
v/s Ratio Prot		0.04		c0.09	0.04		c0.04	0.29		0.02	0.35	
v/s Ratio Perm	0.04		0.06	c0.12		0.01	c0.36		0.14	0.18		0.01
v/c Ratio	0.30	0.36	0.48	0.85	0.15	0.04	0.61	0.49	0.25	0.32	0.60	0.02
Uniform Delay, d1	64.0	64.5	65.5	55.7	47.0	45.8	17.7	19.5	16.2	13.4	22.0	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.98	0.52	0.22	0.98	0.40	1.00
Incremental Delay, d2	2.3	2.1	4.0	18.0	0.3	0.1	4.9	0.5	0.5	0.7	0.7	0.0
Delay (s)	66.3	66.5	69.4	73.7	47.3	45.9	39.9	10.7	4.1	13.8	9.5	14.6
Level of Service	E	E	E	E	D	D	D	B	A	B	A	B
Approach Delay (s)		68.4			65.5			11.1			9.8	
Approach LOS		E			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

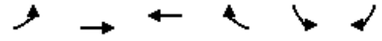
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	0	57	737	25	612	31	1369	0	0	2244	65
Future Volume (vph)	31	0	57	737	25	612	31	1369	0	0	2244	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	1.00			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
Frt	1.00		0.85	1.00	0.86	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1623		1058	3330	1442	1502	1417	5142			5142	1394
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1623		1058	3330	1442	1502	1417	5142			5142	1394
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)	31	0	57	737	25	612	31	1369	0	0	2244	65
RTOR Reduction (vph)	0	0	54	0	97	97	0	0	0	0	0	35
Lane Group Flow (vph)	31	0	3	737	222	221	31	1369	0	0	2244	30
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	10%	2%	51%	4%	104%	1%	26%	2%	0%	2%	2%	13%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	9.0		9.0	38.6	38.6	38.6	8.6	88.5			74.9	74.9
Effective Green, g (s)	9.0		9.0	38.6	38.6	38.6	8.6	88.5			74.9	74.9
Actuated g/C Ratio	0.06		0.06	0.24	0.24	0.24	0.05	0.55			0.47	0.47
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	91		59	803	347	362	76	2844			2407	652
v/s Ratio Prot	c0.02		0.00	c0.22	0.15		0.02	c0.27			c0.44	
v/s Ratio Perm						0.15						0.02
v/c Ratio	0.34		0.05	0.92	0.64	0.61	0.41	0.48			0.93	0.05
Uniform Delay, d1	72.6		71.5	59.2	54.5	54.0	73.2	21.8			40.2	23.1
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.13	0.86			0.58	1.00
Incremental Delay, d2	4.6		0.8	15.9	5.3	4.3	3.5	0.6			6.7	0.1
Delay (s)	77.3		72.3	75.1	59.8	58.4	86.3	19.3			30.2	23.2
Level of Service	E		E	E	E	E	F	B			C	C
Approach Delay (s)		74.0			67.7			20.8			30.0	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	38.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
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 (vph)	278	1	172	0	0	0	0	947	0	21	1856	0
Future Volume (vph)	278	1	172	0	0	0	0	947	0	21	1856	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1662	1693	1551					5142		892	5092	
Flt Permitted	0.95	0.95	1.00					1.00		0.27	1.00	
Satd. Flow (perm)	1662	1693	1551					5142		256	5092	
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)	278	1	172	0	0	0	0	947	0	21	1856	0
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	139	140	136	0	0	0	0	947	0	21	1856	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	2%	100%	3%	2%	2%	2%	2%	2%	4%	100%	3%	2%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	22.1	22.1	22.1					116.4		123.8	123.8	
Effective Green, g (s)	22.1	22.1	22.1					116.4		123.8	123.8	
Actuated g/C Ratio	0.14	0.14	0.14					0.73		0.77	0.77	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	229	233	214					3740		215	3939	
v/s Ratio Prot	0.08	0.08	c0.09					0.18		0.00	c0.36	
v/s Ratio Perm										0.07		
v/c Ratio	0.61	0.60	0.63					0.25		0.10	0.47	
Uniform Delay, d1	64.9	64.8	65.1					7.3		4.4	6.4	
Progression Factor	1.00	1.00	1.00					1.00		0.24	0.29	
Incremental Delay, d2	6.6	6.3	8.3					0.2		0.1	0.2	
Delay (s)	71.4	71.1	73.4					7.4		1.1	2.0	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		72.1			0.0			7.4			2.0	
Approach LOS		E			A			A			A	

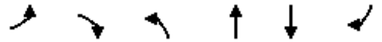
Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	161	102	92	81	41	96
Future Volume (vph)	161	102	92	81	41	96
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	175	111	100	88	45	104

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	212	74	100	88	45	104
Volume Left (vph)	175	0	0	0	45	0
Volume Right (vph)	0	0	0	88	0	104
Hadj (s)	0.42	0.05	0.00	-0.44	0.81	-0.70
Departure Headway (s)	5.5	5.1	5.2	4.8	6.4	4.9
Degree Utilization, x	0.32	0.11	0.14	0.12	0.08	0.14
Capacity (veh/h)	629	675	661	724	526	677
Control Delay (s)	9.9	7.5	7.9	7.2	8.8	7.5
Approach Delay (s)	9.3		7.6		7.9	
Approach LOS	A		A		A	

Intersection Summary			
Delay	8.5		
Level of Service	A		
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	172	120	88	48	85	229
Future Volume (vph)	172	120	88	48	85	229
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	187	130	96	52	92	249

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	187	130	113	35	92	249
Volume Left (vph)	187	0	96	0	0	0
Volume Right (vph)	0	130	0	0	0	249
Hadj (s)	0.52	-0.70	0.45	0.00	0.00	-0.70
Departure Headway (s)	6.2	5.0	6.2	5.8	5.6	4.9
Degree Utilization, x	0.32	0.18	0.20	0.06	0.14	0.34
Capacity (veh/h)	551	677	548	586	610	703
Control Delay (s)	10.9	7.9	9.6	7.9	8.3	9.2
Approach Delay (s)	9.7		9.2		8.9	
Approach LOS	A		A		A	

Intersection Summary			
Delay	9.3		
Level of Service	A		
Intersection Capacity Utilization	27.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	197	245	54	105	69
Future Volume (Veh/h)	23	197	245	54	105	69
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	214	266	59	114	75
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	325				452	162
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	325				452	162
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				78	91
cM capacity (veh/h)	1246				525	860

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	96	143	177	148	189
Volume Left	25	0	0	0	114
Volume Right	0	0	0	59	75
cSH	1246	1700	1700	1700	621
Volume to Capacity	0.02	0.08	0.10	0.09	0.30
Queue Length 95th (m)	0.5	0.0	0.0	0.0	10.3
Control Delay (s)	2.2	0.0	0.0	0.0	13.3
Lane LOS	A				B
Approach Delay (s)	0.9		0.0		13.3
Approach LOS					B

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	49	253	268	12	10	31
Future Volume (Veh/h)	49	253	268	12	10	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	53	275	291	13	11	34
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	304				541	152
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304				541	152
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				98	96
cM capacity (veh/h)	1268				456	873

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	145	183	194	110	45
Volume Left	53	0	0	0	11
Volume Right	0	0	0	13	34
cSH	1268	1700	1700	1700	714
Volume to Capacity	0.04	0.11	0.11	0.06	0.06
Queue Length 95th (m)	1.0	0.0	0.0	0.0	1.6
Control Delay (s)	3.1	0.0	0.0	0.0	10.4
Lane LOS	A				B
Approach Delay (s)	1.4		0.0		10.4
Approach LOS					B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	29.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	248	275	14	5	5
Future Volume (Veh/h)	15	248	275	14	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	270	299	15	5	5
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	314				474	157
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	314				474	157
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1258				518	867

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	106	180	199	115	10
Volume Left	16	0	0	0	5
Volume Right	0	0	0	15	5
cSH	1258	1700	1700	1700	649
Volume to Capacity	0.01	0.11	0.12	0.07	0.02
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.4
Control Delay (s)	1.3	0.0	0.0	0.0	10.6
Lane LOS	A				B
Approach Delay (s)	0.5		0.0		10.6
Approach LOS					B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	19	405	5	0	873
Future Volume (Veh/h)	0	19	405	5	0	873
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	21	440	5	0	949
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			109			193
pX, platoon unblocked	0.88	0.98			0.98	
vC, conflicting volume	917	222			445	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	534	173			399	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	417	826			1136	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	21	293	152	474	474
Volume Left	0	0	0	0	0
Volume Right	21	0	5	0	0
cSH	826	1700	1700	1700	1700
Volume to Capacity	0.03	0.17	0.09	0.28	0.28
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0
Control Delay (s)	9.5	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.5	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
2: Winston Churchill Boulevard & Erin Centre Boulevard

FT2032 PM
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	178	117	75	245	133	204	1874	115	158	1333	72
Future Volume (vph)	51	178	117	75	245	133	204	1874	115	158	1333	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1792	3323		1787	1881	1563	1805	5027		1805	5029	
Flt Permitted	0.37	1.00		0.46	1.00	1.00	0.11	1.00		0.04	1.00	
Satd. Flow (perm)	701	3323		866	1881	1563	218	5027		81	5029	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	193	127	82	266	145	222	2037	125	172	1449	78
RTOR Reduction (vph)	0	77	0	0	0	107	0	4	0	0	3	0
Lane Group Flow (vph)	55	243	0	82	266	38	222	2158	0	172	1524	0
Confl. Peds. (#/hr)	13		17	17		13	7		7	7		7
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	38.9	38.9		38.9	38.9	38.9	103.9	91.7		103.3	91.4	
Effective Green, g (s)	41.4	41.4		41.4	41.4	41.4	107.9	93.7		107.3	93.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26	0.26	0.67	0.59		0.67	0.58	
Clearance Time (s)	7.5	7.5		7.5	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	181	859		224	486	404	287	2943		204	2935	
v/s Ratio Prot		0.07			c0.14		c0.07	c0.43		c0.07	0.30	
v/s Ratio Perm	0.08			0.09		0.02	0.45			0.49		
v/c Ratio	0.30	0.28		0.37	0.55	0.09	0.77	0.73		0.84	0.52	
Uniform Delay, d1	47.7	47.4		48.6	51.2	45.0	18.0	24.1		49.1	19.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	2.64	0.39		1.00	1.00	
Incremental Delay, d2	1.0	0.2		1.0	1.3	0.1	6.0	0.8		25.8	0.7	
Delay (s)	48.7	47.6		49.6	52.5	45.1	53.4	10.2		75.0	20.6	
Level of Service	D	D		D	D	D	D	B		E	C	
Approach Delay (s)		47.8			49.8			14.3			26.1	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Plantation Place/Russel View Road & Erin Centre Boulevard

FT2032 PM
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	380	77	69	397	27	62	54	70	18	23	19
Future Volume (vph)	17	380	77	69	397	27	62	54	70	18	23	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1800	3459		1762	3523		1799	1900	1592	1801	1757	
Flt Permitted	0.49	1.00		0.47	1.00		0.73	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	922	3459		872	3523		1377	1900	1592	1362	1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	413	84	75	432	29	67	59	76	20	25	21
RTOR Reduction (vph)	0	9	0	0	3	0	0	0	63	0	17	0
Lane Group Flow (vph)	18	488	0	75	458	0	67	59	13	20	29	0
Confl. Peds. (#/hr)	4		7	7		4	5		3	3		5
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	62.8	62.8		62.8	62.8		13.7	13.7	13.7	13.7	13.7	
Effective Green, g (s)	64.8	64.8		64.8	64.8		15.2	15.2	15.2	15.2	15.2	
Actuated g/C Ratio	0.72	0.72		0.72	0.72		0.17	0.17	0.17	0.17	0.17	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	663	2490		627	2536		232	320	268	230	296	
v/s Ratio Prot		c0.14			0.13			0.03			0.02	
v/s Ratio Perm	0.02			0.09			c0.05		0.01	0.01		
v/c Ratio	0.03	0.20		0.12	0.18		0.29	0.18	0.05	0.09	0.10	
Uniform Delay, d1	3.6	4.1		3.9	4.1		32.7	32.1	31.3	31.5	31.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.4	0.2		0.7	0.3	0.1	0.2	0.1	
Delay (s)	3.7	4.3		4.3	4.2		33.4	32.4	31.4	31.7	31.7	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		4.3			4.2			32.3			31.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
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 (vph)	66	278	57	77	337	146	111	634	806	94	410	77
Future Volume (vph)	66	278	57	77	337	146	111	634	806	94	410	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.95		1.00	0.92		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1800	3463		1729	3359		1797	3215		1752	3512	
Flt Permitted	0.29	1.00		0.45	1.00		0.45	1.00		0.10	1.00	
Satd. Flow (perm)	551	3463		810	3359		845	3215		191	3512	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	302	62	84	366	159	121	689	876	102	446	84
RTOR Reduction (vph)	0	23	0	0	65	0	0	142	0	0	10	0
Lane Group Flow (vph)	72	341	0	84	460	0	121	1423	0	102	520	0
Confl. Peds. (#/hr)	9		9	9		9	11					11
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	4%	1%	3%	0%	0%	4%	3%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	22.1	22.1		22.1	22.1		64.4	64.4		64.4	64.4	
Effective Green, g (s)	24.1	24.1		24.1	24.1		65.9	65.9		65.9	65.9	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.66	0.66		0.66	0.66	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	132	834		195	809		556	2118		125	2314	
v/s Ratio Prot		0.10			c0.14			0.44			0.15	
v/s Ratio Perm	0.13			0.10			0.14			c0.53		
v/c Ratio	0.55	0.41		0.43	0.57		0.22	0.67		0.82	0.22	
Uniform Delay, d1	33.2	32.0		32.1	33.4		6.8	10.4		12.6	6.8	
Progression Factor	1.00	1.00		1.00	1.00		0.84	0.78		1.00	1.00	
Incremental Delay, d2	4.5	0.3		1.5	0.9		0.9	1.7		42.3	0.2	
Delay (s)	37.7	32.3		33.7	34.3		6.6	9.8		54.9	7.1	
Level of Service	D	C		C	C		A	A		D	A	
Approach Delay (s)		33.2			34.2			9.6			14.8	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
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 (vph)	11	289	89	153	385	15	114	2	211	2	0	0
Future Volume (vph)	11	289	89	153	385	15	114	2	211	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99			1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	
Satd. Flow (prot)	1794	3505	1544	1749	3552			1686	1545		3422	
Flt Permitted	0.50	1.00	1.00	0.56	1.00			0.73	1.00		0.68	
Satd. Flow (perm)	943	3505	1544	1033	3552			1290	1545		2436	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	314	97	166	418	16	124	2	229	2	0	0
RTOR Reduction (vph)	0	0	38	0	2	0	0	0	172	0	0	0
Lane Group Flow (vph)	12	314	59	166	432	0	0	126	57	0	2	0
Confl. Peds. (#/hr)	13		5	5		13	9		5	5		9
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	3%	3%	3%	1%	0%	7%	0%	3%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	39.9	39.9	39.9	39.9	39.9			15.2	15.2		15.2	
Effective Green, g (s)	41.9	41.9	41.9	41.9	41.9			17.2	17.2		17.2	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61			0.25	0.25		0.25	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	571	2125	936	626	2153			321	384		606	
v/s Ratio Prot		0.09			0.12							
v/s Ratio Perm	0.01		0.04	c0.16				c0.10	0.04		0.00	
v/c Ratio	0.02	0.15	0.06	0.27	0.20			0.39	0.15		0.00	
Uniform Delay, d1	5.4	5.9	5.6	6.4	6.1			21.6	20.2		19.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.1	0.1	1.0	0.2			0.8	0.2		0.0	
Delay (s)	5.5	6.0	5.7	7.4	6.3			22.4	20.4		19.5	
Level of Service	A	A	A	A	A			C	C		B	
Approach Delay (s)		5.9			6.6			21.1			19.5	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	69.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
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 (vph)	226	143	123	74	135	63	143	1392	101	44	1326	272
Future Volume (vph)	226	143	123	74	135	63	143	1392	101	44	1326	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	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)	1727	1921	1466	1776	1921	1565	1785	5142	1551	1783	5142	1506
Flt Permitted	0.54	1.00	1.00	0.67	1.00	1.00	0.15	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	985	1921	1466	1245	1921	1565	288	5142	1551	337	5142	1506
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)	226	143	123	74	135	63	143	1392	101	44	1326	272
RTOR Reduction (vph)	0	0	95	0	0	55	0	0	34	0	0	113
Lane Group Flow (vph)	226	143	28	74	135	8	143	1392	67	44	1326	159
Confl. Peds. (#/hr)	7		6	6		7	8		4	4		8
Heavy Vehicles (%)	3%	0%	7%	0%	0%	0%	0%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	36.5	36.5	36.5	20.5	20.5	20.5	106.9	106.9	106.9	93.8	93.8	93.8
Effective Green, g (s)	36.5	36.5	36.5	20.5	20.5	20.5	106.9	106.9	106.9	93.8	93.8	93.8
Actuated g/C Ratio	0.23	0.23	0.23	0.13	0.13	0.13	0.67	0.67	0.67	0.59	0.59	0.59
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	284	438	334	159	246	200	286	3435	1036	197	3014	882
v/s Ratio Prot	c0.06	0.07			0.07		c0.03	0.27			0.26	
v/s Ratio Perm	c0.12		0.02	0.06		0.01	c0.30		0.04	0.13		0.11
v/c Ratio	0.80	0.33	0.08	0.47	0.55	0.04	0.50	0.41	0.07	0.22	0.44	0.18
Uniform Delay, d1	56.5	51.5	48.6	64.7	65.4	61.1	11.8	12.1	9.2	15.8	18.5	15.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.48	0.87	1.13	1.00	1.00	1.00
Incremental Delay, d2	14.2	0.4	0.1	2.1	2.5	0.1	1.3	0.3	0.1	2.6	0.5	0.4
Delay (s)	70.8	51.9	48.7	66.8	67.9	61.2	30.5	10.8	10.5	18.4	18.9	15.8
Level of Service	E	D	D	E	E	E	C	B	B	B	B	B
Approach Delay (s)		59.8			66.1			12.5			18.4	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	290	341	234	183
Demand Flow Rate, veh/h	290	341	234	185
Vehicles Circulating, veh/h	177	225	295	314
Vehicles Exiting, veh/h	322	304	172	252
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	4	10	16	7
Ped Cap Adj	0.999	0.999	0.998	0.999
Approach Delay, s/veh	7.0	8.3	7.3	6.8
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	290	341	234	185
Cap Entry Lane, veh/h	947	902	841	825
Entry HV Adj Factor	1.000	1.000	1.000	0.990
Flow Entry, veh/h	290	341	234	183
Cap Entry, veh/h	946	901	839	816
V/C Ratio	0.307	0.378	0.279	0.224
Control Delay, s/veh	7.0	8.3	7.3	6.8
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	168	35	97	190	116	80	635	98	101	358	517
Future Volume (vph)	89	168	35	97	190	116	80	635	98	101	358	517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1788	3505		1796	1900	1574	1802	3574	1568	1801	3574	1560
Flt Permitted	0.51	1.00		0.61	1.00	1.00	0.52	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)	962	3505		1153	1900	1574	990	3574	1568	693	3574	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	183	38	105	207	126	87	690	107	110	389	562
RTOR Reduction (vph)	0	22	0	0	0	94	0	0	38	0	0	176
Lane Group Flow (vph)	97	199	0	105	207	32	87	690	69	110	389	386
Confl. Peds. (#/hr)	17		9	9		17	3		6	6		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	23.3	23.3		23.3	23.3	23.3	63.2	63.2	63.2	63.2	63.2	63.2
Effective Green, g (s)	25.3	25.3		25.3	25.3	25.3	64.7	64.7	64.7	64.7	64.7	64.7
Actuated g/C Ratio	0.25	0.25		0.25	0.25	0.25	0.65	0.65	0.65	0.65	0.65	0.65
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	243	886		291	480	398	640	2312	1014	448	2312	1009
v/s Ratio Prot		0.06			c0.11			0.19			0.11	
v/s Ratio Perm	0.10			0.09		0.02	0.09		0.04	0.16		c0.25
v/c Ratio	0.40	0.22		0.36	0.43	0.08	0.14	0.30	0.07	0.25	0.17	0.38
Uniform Delay, d1	31.0	29.6		30.7	31.3	28.5	6.8	7.7	6.5	7.4	7.0	8.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.86	0.60
Incremental Delay, d2	1.1	0.1		0.8	0.6	0.1	0.4	0.3	0.1	1.3	0.2	1.1
Delay (s)	32.1	29.7		31.5	31.9	28.6	7.3	8.1	6.6	7.6	6.2	6.1
Level of Service	C	C		C	C	C	A	A	A	A	A	A
Approach Delay (s)		30.4			30.9			7.8			6.3	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	170	197	1619	1452	139
Future Volume (vph)	0	170	197	1619	1452	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1538	1684	5142	5142	1493
Flt Permitted		1.00	0.15	1.00	1.00	1.00
Satd. Flow (perm)		1538	272	5142	5142	1493
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	170	197	1619	1452	139
RTOR Reduction (vph)	0	157	0	0	0	25
Lane Group Flow (vph)	0	13	197	1619	1452	114
Confl. Peds. (#/hr)	1		5			5
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	2%	4%	6%	2%	2%	5%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		9.7	136.1	136.1	122.3	122.3
Effective Green, g (s)		9.7	136.1	136.1	122.3	122.3
Actuated g/C Ratio		0.06	0.85	0.85	0.76	0.76
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		93	326	4373	3930	1141
v/s Ratio Prot			c0.04	0.31	0.28	
v/s Ratio Perm		c0.01	c0.47			0.08
v/c Ratio		0.14	0.60	0.37	0.37	0.10
Uniform Delay, d1		71.2	3.4	2.6	6.2	4.8
Progression Factor		1.00	10.57	0.26	0.28	0.03
Incremental Delay, d2		0.7	2.4	0.2	0.3	0.2
Delay (s)		71.9	38.9	0.9	2.0	0.3
Level of Service		E	D	A	A	A
Approach Delay (s)	71.9			5.0	1.8	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
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 (vph)	215	772	231	276	804	231	329	1660	206	176	1150	117
Future Volume (vph)	215	772	231	276	804	231	329	1660	206	176	1150	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	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	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)	3502	3574	1552	3502	3539	1501	3467	4970		3502	4998	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3574	1552	3502	3539	1501	3467	4970		3502	4998	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	234	839	251	300	874	251	358	1804	224	191	1250	127
RTOR Reduction (vph)	0	0	121	0	0	101	0	9	0	0	7	0
Lane Group Flow (vph)	234	839	130	300	874	150	358	2019	0	191	1370	0
Confl. Peds. (#/hr)	29		16	16		29	10		31	31		10
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	1%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	10.0	42.0	42.0	18.6	50.6	50.6	17.0	64.4		10.0	57.4	
Effective Green, g (s)	11.0	44.5	44.5	18.6	53.1	53.1	17.0	66.9		10.0	59.9	
Actuated g/C Ratio	0.07	0.28	0.28	0.12	0.33	0.33	0.11	0.42		0.06	0.37	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	240	994	431	407	1174	498	368	2078		218	1871	
v/s Ratio Prot	c0.07	c0.23		0.09	c0.25		c0.10	c0.41		0.05	0.27	
v/s Ratio Perm			0.08			0.10						
v/c Ratio	0.97	0.84	0.30	0.74	0.74	0.30	0.97	0.97		0.88	0.73	
Uniform Delay, d1	74.4	54.5	45.5	68.3	47.4	39.7	71.3	45.6		74.4	43.1	
Progression Factor	1.00	1.00	1.00	0.72	1.16	1.86	1.00	1.00		0.89	1.36	
Incremental Delay, d2	50.6	6.7	0.4	6.5	2.5	0.3	39.4	14.1		27.4	2.3	
Delay (s)	125.0	61.1	45.9	55.9	57.7	74.2	110.7	59.7		93.4	60.8	
Level of Service	F	E	D	E	E	E	F	E		F	E	
Approach Delay (s)		69.5			60.2			67.3			64.8	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	65.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
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 (vph)	60	1016	20	81	1153	98	27	92	67	156	45	76
Future Volume (vph)	60	1016	20	81	1153	98	27	92	67	156	45	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1799	5068		1793	5012		1784	1764		1775	1900	1576
Flt Permitted	0.16	1.00		0.22	1.00		0.71	1.00		0.51	1.00	1.00
Satd. Flow (perm)	304	5068		407	5012		1339	1764		955	1900	1576
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	1104	22	88	1253	107	29	100	73	170	49	83
RTOR Reduction (vph)	0	1	0	0	5	0	0	18	0	0	0	64
Lane Group Flow (vph)	65	1125	0	88	1355	0	29	155	0	170	49	19
Confl. Peds. (#/hr)	11		14	14		11	11		8	8		11
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	104.1	104.1		104.1	104.1		33.8	33.8		33.2	33.2	33.2
Effective Green, g (s)	106.1	106.1		106.1	106.1		36.3	36.3		35.7	35.7	35.7
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.23	0.23		0.22	0.22	0.22
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	201	3360		269	3323		303	400		213	423	351
v/s Ratio Prot		0.22			c0.27			0.09			0.03	
v/s Ratio Perm	0.21			0.22			0.02			c0.18		0.01
v/c Ratio	0.32	0.33		0.33	0.41		0.10	0.39		0.80	0.12	0.05
Uniform Delay, d1	11.6	11.7		11.6	12.4		48.9	52.4		58.7	49.6	48.9
Progression Factor	0.39	0.30		0.62	0.63		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.2	0.1		2.7	0.3		0.1	0.6		18.5	0.1	0.1
Delay (s)	6.7	3.6		9.8	8.1		49.0	53.1		77.2	49.7	48.9
Level of Service	A	A		A	A		D	D		E	D	D
Approach Delay (s)		3.8			8.2			52.5			65.0	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
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 (vph)	98	960	114	131	1183	213	101	491	105	196	315	84
Future Volume (vph)	98	960	114	131	1183	213	101	491	105	196	315	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	1.0	5.0		5.0	5.0		6.0	6.0		1.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	4989		1777	4868		1764	3441		1803	3410	
Flt Permitted	0.10	1.00		0.20	1.00		0.50	1.00		0.17	1.00	
Satd. Flow (perm)	192	4989		376	4868		929	3441		323	3410	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	107	1043	124	142	1286	232	110	534	114	213	342	91
RTOR Reduction (vph)	0	8	0	0	15	0	0	12	0	0	15	0
Lane Group Flow (vph)	107	1159	0	142	1503	0	110	636	0	213	418	0
Confl. Peds. (#/hr)	96		23	23		96	32		25	25		32
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	3	0	0	3	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	92.3	87.3		80.9	80.9		37.2	37.2		53.2	53.2	
Effective Green, g (s)	94.3	89.3		82.9	82.9		38.7	38.7		55.2	54.7	
Actuated g/C Ratio	0.59	0.56		0.52	0.52		0.24	0.24		0.35	0.34	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	217	2784		194	2522		224	832		250	1165	
v/s Ratio Prot	c0.03	0.23			0.31			c0.18		c0.08	0.12	
v/s Ratio Perm	0.26			c0.38			0.12			0.21		
v/c Ratio	0.49	0.42		0.73	0.60		0.49	0.76		0.85	0.36	
Uniform Delay, d1	18.8	20.3		29.9	26.9		52.2	56.4		41.3	39.5	
Progression Factor	1.22	0.62		0.47	0.37		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	0.4		19.8	1.0		1.7	4.2		23.3	0.2	
Delay (s)	24.7	13.0		33.9	10.8		53.9	60.6		64.6	39.7	
Level of Service	C	B		C	B		D	E		E	D	
Approach Delay (s)		14.0			12.8			59.6			47.9	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
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 (vph)	126	1086	59	45	1346	141	50	35	40	169	37	115
Future Volume (vph)	126	1086	59	45	1346	141	50	35	40	169	37	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.98		1.00	1.00	0.94
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.95	1.00		0.98	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1802	5037		1797	5002		1719	1720		1775	1900	1515
Flt Permitted	0.11	1.00		0.19	1.00		0.71	1.00		0.70	1.00	1.00
Satd. Flow (perm)	216	5037		351	5002		1293	1720		1313	1900	1515
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	137	1180	64	49	1463	153	54	38	43	184	40	125
RTOR Reduction (vph)	0	3	0	0	6	0	0	28	0	0	0	60
Lane Group Flow (vph)	137	1241	0	49	1610	0	54	53	0	184	40	65
Confl. Peds. (#/hr)	17		13	13		17	35		13	13		35
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	103.7	103.7		103.7	103.7		33.0	33.0		32.2	32.2	32.2
Effective Green, g (s)	105.7	105.7		105.7	105.7		35.5	35.5		34.7	34.7	34.7
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.22	0.22		0.22	0.22	0.22
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	142	3327		231	3304		286	381		284	412	328
v/s Ratio Prot		0.25			0.32			0.03			0.02	
v/s Ratio Perm	c0.63			0.14			0.04			c0.14		0.04
v/c Ratio	0.96	0.37		0.21	0.49		0.19	0.14		0.65	0.10	0.20
Uniform Delay, d1	25.4	12.2		10.7	13.6		50.6	50.0		57.1	50.1	51.3
Progression Factor	0.98	0.37		0.16	0.15		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	62.1	0.3		1.7	0.4		0.3	0.2		5.0	0.1	0.3
Delay (s)	87.0	4.8		3.4	2.4		50.9	50.1		62.1	50.2	51.6
Level of Service	F	A		A	A		D	D		E	D	D
Approach Delay (s)		13.0			2.5			50.4			57.0	
Approach LOS		B			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
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 (vph)	142	937	261	147	1093	300	324	1366	108	205	1227	152
Future Volume (vph)	142	937	261	147	1093	300	324	1366	108	205	1227	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.97
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)	3463	5142	1520	3330	5193	1492	3463	5142	1550	3429	5142	1513
Flt Permitted	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 (perm)	3463	5142	1520	3330	5193	1492	3463	5142	1550	3429	5142	1513
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)	142	937	261	147	1093	300	324	1366	108	205	1227	152
RTOR Reduction (vph)	0	0	158	0	0	170	0	0	66	0	0	98
Lane Group Flow (vph)	142	937	103	147	1093	130	324	1366	42	205	1227	54
Confl. Peds. (#/hr)	19		29	29		19	21		17	17		21
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	2%	1%	4%	1%	1%	0%	2%	0%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	11.9	50.6	50.6	9.8	48.5	48.5	17.5	60.2	60.2	13.8	56.5	56.5
Effective Green, g (s)	11.9	50.6	50.6	9.8	48.5	48.5	17.5	60.2	60.2	13.8	56.5	56.5
Actuated g/C Ratio	0.07	0.32	0.32	0.06	0.30	0.30	0.11	0.38	0.38	0.09	0.35	0.35
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	1626	480	203	1574	452	378	1934	583	295	1815	534
v/s Ratio Prot	0.04	0.18		c0.04	c0.21		c0.09	c0.27		0.06	0.24	
v/s Ratio Perm			0.07			0.09			0.03			0.04
v/c Ratio	0.55	0.58	0.21	0.72	0.69	0.29	0.86	0.71	0.07	0.69	0.68	0.10
Uniform Delay, d1	71.5	45.7	40.1	73.8	49.2	42.6	70.0	42.4	32.0	71.1	44.0	34.7
Progression Factor	0.96	1.15	3.20	1.00	1.00	1.00	1.33	1.03	2.28	1.33	0.72	0.56
Incremental Delay, d2	2.4	0.5	0.2	12.1	1.3	0.4	14.6	1.8	0.2	6.6	1.9	0.4
Delay (s)	71.3	53.2	128.5	85.8	50.6	42.9	108.0	45.5	73.1	101.0	33.5	19.9
Level of Service	E	D	F	F	D	D	F	D	E	F	C	B
Approach Delay (s)		69.8			52.4			58.4			40.9	
Approach LOS		E			D			E			D	

Intersection Summary					
HCM 2000 Control Delay	54.9	HCM 2000 Level of Service	D		
HCM 2000 Volume to Capacity ratio	0.72				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6		
Intersection Capacity Utilization	108.5%	ICU Level of Service	G		
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 (vph)	31	71	174	344	118	81	155	1799	386	33	1635	36
Future Volume (vph)	31	71	174	344	118	81	155	1799	386	33	1635	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
Flpb, ped/bikes	0.99	1.00	1.00	0.99	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)	1765	1883	1557	1772	1902	1527	1767	5142	1549	1716	5142	1506
Flt Permitted	0.68	1.00	1.00	0.63	1.00	1.00	0.09	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1266	1883	1557	1173	1902	1527	164	5142	1549	148	5142	1506
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)	31	71	174	344	118	81	155	1799	386	33	1635	36
RTOR Reduction (vph)	0	0	149	0	0	59	0	0	142	0	0	17
Lane Group Flow (vph)	31	71	25	344	118	22	155	1799	244	33	1635	19
Confl. Peds. (#/hr)	12		11	11		12	11		6	6		11
Heavy Vehicles (%)	0%	2%	0%	0%	1%	2%	1%	2%	1%	4%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	23.0	23.0	23.0	43.0	43.0	43.0	101.0	92.0	92.0	91.8	85.8	85.8
Effective Green, g (s)	23.0	23.0	23.0	43.0	43.0	43.0	101.0	92.0	92.0	91.8	85.8	85.8
Actuated g/C Ratio	0.14	0.14	0.14	0.27	0.27	0.27	0.63	0.58	0.58	0.57	0.54	0.54
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	181	270	223	378	511	410	225	2956	890	143	2757	807
v/s Ratio Prot		0.04		c0.10	0.06		c0.05	0.35		0.01	0.32	
v/s Ratio Perm	0.02		0.02	c0.15		0.01	c0.38		0.16	0.12		0.01
v/c Ratio	0.17	0.26	0.11	0.91	0.23	0.05	0.69	0.61	0.27	0.23	0.59	0.02
Uniform Delay, d1	60.1	61.0	59.6	55.0	45.6	43.4	20.4	22.2	17.1	17.4	25.2	17.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.90	0.49	0.17	0.88	0.45	1.00
Incremental Delay, d2	0.9	1.1	0.5	25.4	0.5	0.1	6.8	0.7	0.6	0.7	0.8	0.0
Delay (s)	61.1	62.0	60.1	80.4	46.1	43.5	45.5	11.6	3.5	15.9	12.1	17.5
Level of Service	E	E	E	F	D	D	D	B	A	B	B	B
Approach Delay (s)		60.7			67.4			12.5			12.3	
Approach LOS		E			E			B			B	

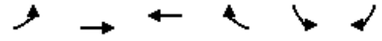
Intersection Summary					
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.78				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0		
Intersection Capacity Utilization	86.6%	ICU Level of Service	E		
Analysis Period (min)	15				
c Critical Lane Group					

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	0	50	894	23	723	25	1555	0	0	2080	42
Future Volume (vph)	33	0	50	894	23	723	25	1555	0	0	2080	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	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
Frt	1.00		0.85	1.00	0.86	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1580		1037	3429	1490	1502	1394	5142			5193	1456
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1580		1037	3429	1490	1502	1394	5142			5193	1456
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)	33	0	50	894	23	723	25	1555	0	0	2080	42
RTOR Reduction (vph)	0	0	47	0	83	84	0	0	0	0	0	24
Lane Group Flow (vph)	33	0	3	894	294	285	25	1555	0	0	2080	18
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	13%	2%	54%	1%	70%	1%	28%	2%	2%	2%	1%	8%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	9.1		9.1	46.6	46.6	46.6	6.3	80.4			69.1	69.1
Effective Green, g (s)	9.1		9.1	46.6	46.6	46.6	6.3	80.4			69.1	69.1
Actuated g/C Ratio	0.06		0.06	0.29	0.29	0.29	0.04	0.50			0.43	0.43
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	89		58	998	433	437	54	2583			2242	628
v/s Ratio Prot	c0.02		0.00	c0.26	0.20		0.02	c0.30			c0.40	
v/s Ratio Perm						0.19						0.01
v/c Ratio	0.37		0.05	0.90	0.68	0.65	0.46	0.60			0.93	0.03
Uniform Delay, d1	72.7		71.4	54.4	50.1	49.6	75.2	28.4			43.1	26.1
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.22	0.86			0.54	1.00
Incremental Delay, d2	5.4		0.7	11.1	5.5	4.6	5.9	1.0			6.8	0.1
Delay (s)	78.1		72.1	65.5	55.6	54.2	97.9	25.3			30.1	26.2
Level of Service	E		E	E	E	D	F	C			C	C
Approach Delay (s)		74.5			60.7			26.5			30.0	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
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 (vph)	229	7	189	0	0	0	0	1415	0	16	1982	0
Future Volume (vph)	229	7	189	0	0	0	0	1415	0	16	1982	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1585	1585	1521					5142		892	5142	
Flt Permitted	0.95	0.96	1.00					1.00		0.16	1.00	
Satd. Flow (perm)	1585	1585	1521					5142		147	5142	
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)	229	7	189	0	0	0	0	1415	0	16	1982	0
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	117	119	153	0	0	0	0	1415	0	16	1982	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	7%	58%	5%	2%	2%	2%	2%	2%	3%	100%	2%	2%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	23.6	23.6	23.6					116.4		122.3	122.3	
Effective Green, g (s)	23.6	23.6	23.6					116.4		122.3	122.3	
Actuated g/C Ratio	0.15	0.15	0.15					0.73		0.76	0.76	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	233	233	224					3740		125	3930	
v/s Ratio Prot	0.07	0.08	c0.10					0.28		0.00	c0.39	
v/s Ratio Perm										0.10		
v/c Ratio	0.50	0.51	0.68					0.38		0.13	0.50	
Uniform Delay, d1	62.8	62.9	64.7					8.2		5.2	7.2	
Progression Factor	1.00	1.00	1.00					1.00		0.18	0.34	
Incremental Delay, d2	3.5	3.7	10.6					0.3		0.2	0.2	
Delay (s)	66.3	66.6	75.3					8.5		1.2	2.7	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		70.4			0.0			8.5			2.7	
Approach LOS		E			A			A			A	

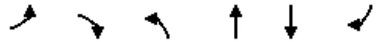
Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	139	86	146	185	96	144
Future Volume (vph)	139	86	146	185	96	144
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	151	93	159	201	104	157

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	182	62	159	201	104	157
Volume Left (vph)	151	0	0	0	104	0
Volume Right (vph)	0	0	0	201	0	157
Hadj (s)	0.41	0.00	0.00	-0.60	0.62	-0.70
Departure Headway (s)	6.1	5.6	5.6	5.0	6.6	5.2
Degree Utilization, x	0.31	0.10	0.25	0.28	0.19	0.23
Capacity (veh/h)	565	604	618	694	516	639
Control Delay (s)	10.5	8.1	9.2	8.6	9.9	8.6
Approach Delay (s)	9.9		8.9		9.1	
Approach LOS	A		A		A	

Intersection Summary				
Delay	9.2			
Level of Service	A			
Intersection Capacity Utilization	33.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	163	207	199	132	128	207
Future Volume (vph)	163	207	199	132	128	207
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	177	225	216	143	139	225

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	177	225	264	95	139	225
Volume Left (vph)	177	0	216	0	0	0
Volume Right (vph)	0	225	0	0	0	225
Hadj (s)	0.50	-0.70	0.41	0.00	0.00	-0.70
Departure Headway (s)	6.9	5.7	6.6	6.2	6.2	5.5
Degree Utilization, x	0.34	0.35	0.48	0.16	0.24	0.35
Capacity (veh/h)	499	600	518	554	549	622
Control Delay (s)	12.1	10.5	14.5	9.2	10.0	10.2
Approach Delay (s)	11.2		13.1		10.2	
Approach LOS	B		B		B	

Intersection Summary				
Delay	11.5			
Level of Service	B			
Intersection Capacity Utilization	37.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	62	233	280	139	76	55
Future Volume (Veh/h)	62	233	280	139	76	55
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	67	253	304	151	83	60
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	455				640	228
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	455				640	228
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				79	92
cM capacity (veh/h)	1116				388	781

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	151	169	203	252	143
Volume Left	67	0	0	0	83
Volume Right	0	0	0	151	60
cSH	1116	1700	1700	1700	492
Volume to Capacity	0.06	0.10	0.12	0.15	0.29
Queue Length 95th (m)	1.5	0.0	0.0	0.0	9.6
Control Delay (s)	4.0	0.0	0.0	0.0	15.3
Lane LOS	A				C
Approach Delay (s)	1.9		0.0		15.3
Approach LOS					C

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	128	181	275	32	50	144
Future Volume (Veh/h)	128	181	275	32	50	144
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	139	197	299	35	54	157
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	334				693	167
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	334				693	167
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				84	82
cM capacity (veh/h)	1237				339	854

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	205	131	199	135	211
Volume Left	139	0	0	0	54
Volume Right	0	0	0	35	157
cSH	1237	1700	1700	1700	615
Volume to Capacity	0.11	0.08	0.12	0.08	0.34
Queue Length 95th (m)	3.0	0.0	0.0	0.0	12.2
Control Delay (s)	5.9	0.0	0.0	0.0	13.9
Lane LOS	A				B
Approach Delay (s)	3.6		0.0		13.9
Approach LOS					B

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	200	285	30	22	22
Future Volume (Veh/h)	31	200	285	30	22	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	217	310	33	24	24
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	343				503	172
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	343				503	172
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				95	97
cM capacity (veh/h)	1227				489	849

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	106	145	207	136	48
Volume Left	34	0	0	0	24
Volume Right	0	0	0	33	24
cSH	1227	1700	1700	1700	620
Volume to Capacity	0.03	0.09	0.12	0.08	0.08
Queue Length 95th (m)	0.7	0.0	0.0	0.0	2.0
Control Delay (s)	2.7	0.0	0.0	0.0	11.3
Lane LOS	A				B
Approach Delay (s)	1.2		0.0		11.3
Approach LOS					B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	16	1509	17	0	552
Future Volume (Veh/h)	0	16	1509	17	0	552
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	17	1640	18	0	600
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			109			193
pX, platoon unblocked	0.93	0.92			0.92	
vC, conflicting volume	1949	829			1658	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1764	633			1537	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			100	
cM capacity (veh/h)	70	387			393	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	17	1093	565	300	300
Volume Left	0	0	0	0	0
Volume Right	17	0	18	0	0
cSH	387	1700	1700	1700	1700
Volume to Capacity	0.04	0.64	0.33	0.18	0.18
Queue Length 95th (m)	1.1	0.0	0.0	0.0	0.0
Control Delay (s)	14.7	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	14.7	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	206	146	77	159	133	149	1354	120	179	1357	40
Future Volume (vph)	49	206	146	77	159	133	149	1354	120	179	1357	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1777	3295		1790	1863	1550	1805	4964		1805	5047	
Flt Permitted	0.52	1.00		0.39	1.00	1.00	0.12	1.00		0.11	1.00	
Satd. Flow (perm)	965	3295		726	1863	1550	230	4964		199	5047	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	224	159	84	173	145	162	1472	130	195	1475	43
RTOR Reduction (vph)	0	98	0	0	0	110	0	5	0	0	1	0
Lane Group Flow (vph)	53	285	0	84	173	35	162	1597	0	195	1517	0
Confl. Peds. (#/hr)	22		16	16		22	17		6	6		17
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	36.2	36.2		36.2	36.2	36.2	105.6	93.7		107.0	94.4	
Effective Green, g (s)	38.7	38.7		38.7	38.7	38.7	109.6	95.7		111.0	96.4	
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.68	0.60		0.69	0.60	
Clearance Time (s)	7.5	7.5		7.5	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	233	796		175	450	374	294	2969		284	3040	
v/s Ratio Prot		0.09			0.09		0.05	c0.32		c0.06	0.30	
v/s Ratio Perm	0.05			c0.12		0.02	0.33			0.41		
v/c Ratio	0.23	0.36		0.48	0.38	0.09	0.55	0.54		0.69	0.50	
Uniform Delay, d1	48.7	50.3		52.0	50.7	47.0	12.2	19.0		16.0	18.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	2.99	1.51		1.00	1.00	
Incremental Delay, d2	0.5	0.3		2.1	0.5	0.1	1.5	0.5		6.7	0.6	
Delay (s)	49.2	50.6		54.1	51.2	47.2	38.0	29.2		22.8	18.7	
Level of Service	D	D		D	D	D	D	C		C	B	
Approach Delay (s)		50.4			50.4			30.0			19.1	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
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 (vph)	25	422	64	53	316	14	50	27	56	18	24	23
Future Volume (vph)	25	422	64	53	316	14	50	27	56	18	24	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	0.99	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1796	3478		1793	3535		1799	1900	1585	1795	1747	
Flt Permitted	0.54	1.00		0.46	1.00		0.72	1.00	1.00	0.74	1.00	
Satd. Flow (perm)	1017	3478		860	3535		1371	1900	1585	1395	1747	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	459	70	58	343	15	54	29	61	20	26	25
RTOR Reduction (vph)	0	9	0	0	2	0	0	0	49	0	20	0
Lane Group Flow (vph)	27	520	0	58	356	0	54	29	12	20	31	0
Confl. Peds. (#/hr)	9		15	15		9	6		10	10		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	42.9	42.9		42.9	42.9		12.1	12.1	12.1	12.1	12.1	
Effective Green, g (s)	44.9	44.9		44.9	44.9		13.6	13.6	13.6	13.6	13.6	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.20	0.20	0.20	0.20	0.20	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	666	2279		563	2317		272	377	314	276	346	
v/s Ratio Prot		c0.15			0.10			0.02			0.02	
v/s Ratio Perm	0.03			0.07			c0.04		0.01	0.01		
v/c Ratio	0.04	0.23		0.10	0.15		0.20	0.08	0.04	0.07	0.09	
Uniform Delay, d1	4.2	4.8		4.4	4.5		22.9	22.3	22.2	22.3	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.4	0.1		0.4	0.1	0.1	0.1	0.1	
Delay (s)	4.3	5.0		4.7	4.7		23.3	22.4	22.2	22.4	22.5	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		5.0			4.7			22.7			22.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
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 (vph)	61	360	77	86	318	152	77	465	81	141	443	48
Future Volume (vph)	61	360	77	86	318	152	77	465	81	141	443	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1795	3452		1734	3372		1797	3481		1761	3550	
Flt Permitted	0.45	1.00		0.47	1.00		0.42	1.00		0.38	1.00	
Satd. Flow (perm)	846	3452		862	3372		788	3481		698	3550	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	391	84	93	346	165	84	505	88	153	482	52
RTOR Reduction (vph)	0	21	0	0	66	0	0	17	0	0	10	0
Lane Group Flow (vph)	66	454	0	93	445	0	84	576	0	153	524	0
Confl. Peds. (#/hr)	25		43	43		25	18		22	22		18
Confl. Bikes (#/hr)			1			1			1			
Heavy Vehicles (%)	0%	1%	0%	3%	1%	0%	0%	0%	3%	2%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	25.5	25.5		25.5	25.5		22.3	22.3		22.3	22.3	
Effective Green, g (s)	27.5	27.5		27.5	27.5		23.8	23.8		23.8	23.8	
Actuated g/C Ratio	0.45	0.45		0.45	0.45		0.39	0.39		0.39	0.39	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	379	1548		386	1512		305	1351		271	1378	
v/s Ratio Prot		0.13			c0.13			0.17			0.15	
v/s Ratio Perm	0.08			0.11			0.11			c0.22		
v/c Ratio	0.17	0.29		0.24	0.29		0.28	0.43		0.56	0.38	
Uniform Delay, d1	10.1	10.7		10.4	10.7		12.8	13.7		14.7	13.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.1		0.3	0.1		0.5	0.2		2.7	0.2	
Delay (s)	10.3	10.8		10.8	10.8		13.3	14.0		17.4	13.6	
Level of Service	B	B		B	B		B	B		B	B	
Approach Delay (s)		10.8			10.8			13.9			14.5	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.42			
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	84.3%	ICU Level of Service	E	
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 (vph)	66	355	117	164	242	102	107	20	229	12	0	1
Future Volume (vph)	66	355	117	164	242	102	107	20	229	12	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99			1.00	0.98		1.00	
Flpb, ped/bikes	0.99	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	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96	1.00		0.96	
Satd. Flow (prot)	1791	3539	1541	1747	3415			1719	1559		3398	
Flt Permitted	0.53	1.00	1.00	0.52	1.00			0.75	1.00		0.80	
Satd. Flow (perm)	998	3539	1541	963	3415			1343	1559		2849	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	386	127	178	263	111	116	22	249	13	0	1
RTOR Reduction (vph)	0	0	54	0	38	0	0	0	176	0	10	0
Lane Group Flow (vph)	72	386	73	178	336	0	0	138	73	0	4	0
Confl. Peds. (#/hr)	14		9	9		14	21		6	6		21
Heavy Vehicles (%)	0%	2%	3%	3%	0%	0%	6%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	40.5	40.5	40.5	40.5	40.5			19.9	19.9		19.9	
Effective Green, g (s)	42.5	42.5	42.5	42.5	42.5			21.9	21.9		21.9	
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57			0.29	0.29		0.29	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	570	2021	880	550	1950			395	458		838	
v/s Ratio Prot		0.11			0.10							
v/s Ratio Perm	0.07		0.05	c0.18				c0.10	0.05		0.00	
v/c Ratio	0.13	0.19	0.08	0.32	0.17			0.35	0.16		0.00	
Uniform Delay, d1	7.4	7.7	7.2	8.4	7.6			20.6	19.4		18.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.5	0.2	0.2	1.6	0.2			0.5	0.2		0.0	
Delay (s)	7.8	7.9	7.4	9.9	7.8			21.2	19.6		18.6	
Level of Service	A	A	A	A	A			C	B		B	
Approach Delay (s)		7.8			8.5			20.2			18.6	
Approach LOS		A			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.33			
Actuated Cycle Length (s)	74.4	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	83.3%	ICU Level of Service	E	
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 (vph)	204	157	231	72	112	236	145	955	58	34	1291	242
Future Volume (vph)	204	157	231	72	112	236	145	955	58	34	1291	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.97	1.00	1.00	0.97	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)	1721	1921	1526	1779	1921	1556	1785	5193	1551	1781	5193	1512
Flt Permitted	0.61	1.00	1.00	0.66	1.00	1.00	0.16	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	1106	1921	1526	1231	1921	1556	303	5193	1551	539	5193	1512
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)	204	157	231	72	112	236	145	955	58	34	1291	242
RTOR Reduction (vph)	0	0	116	0	0	119	0	0	20	0	0	100
Lane Group Flow (vph)	204	157	115	72	112	117	145	955	38	34	1291	142
Confl. Peds. (#/hr)	12		4	4		12	5		4	4		5
Heavy Vehicles (%)	3%	0%	3%	0%	0%	0%	0%	1%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	37.5	37.5	37.5	24.5	24.5	24.5	105.9	105.9	105.9	94.0	94.0	94.0
Effective Green, g (s)	37.5	37.5	37.5	24.5	24.5	24.5	105.9	105.9	105.9	94.0	94.0	94.0
Actuated g/C Ratio	0.23	0.23	0.23	0.15	0.15	0.15	0.66	0.66	0.66	0.59	0.59	0.59
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	297	450	357	188	294	238	282	3437	1026	316	3050	888
v/s Ratio Prot	c0.04	0.08			0.06		c0.03	0.18			0.25	
v/s Ratio Perm	c0.12		0.08	0.06		0.08	c0.31		0.02	0.06		0.09
v/c Ratio	0.69	0.35	0.32	0.38	0.38	0.49	0.51	0.28	0.04	0.11	0.42	0.16
Uniform Delay, d1	54.8	51.1	50.7	61.0	60.9	62.1	11.9	11.2	9.4	14.5	18.1	15.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.20	0.55	0.21	1.00	1.00	1.00
Incremental Delay, d2	6.5	0.5	0.5	1.3	0.8	1.6	1.5	0.2	0.1	0.7	0.4	0.4
Delay (s)	61.2	51.5	51.3	62.3	61.8	63.7	27.8	6.3	2.1	15.2	18.6	15.4
Level of Service	E	D	D	E	E	E	C	A	A	B	B	B
Approach Delay (s)		54.8			62.9			8.8			18.0	
Approach LOS		D			E			A			B	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	331	357	190	191
Demand Flow Rate, veh/h	333	357	190	191
Vehicles Circulating, veh/h	207	164	338	344
Vehicles Exiting, veh/h	328	364	202	177
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	22	24	25
Ped Cap Adj	1.000	0.997	0.997	0.997
Approach Delay, s/veh	8.0	7.9	7.0	7.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	333	357	190	191
Cap Entry Lane, veh/h	919	959	806	801
Entry HV Adj Factor	0.993	1.000	1.000	1.000
Flow Entry, veh/h	331	357	190	191
Cap Entry, veh/h	912	956	803	798
V/C Ratio	0.362	0.373	0.237	0.239
Control Delay, s/veh	8.0	7.9	7.0	7.1
LOS	A	A	A	A
95th %tile Queue, veh	2	2	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	286	43	158	217	138	63	392	160	168	382	89
Future Volume (vph)	92	286	43	158	217	138	63	392	160	168	382	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1791	3516		1797	1900	1577	1783	3574	1559	1794	3574	1560
Flt Permitted	0.56	1.00		0.53	1.00	1.00	0.51	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	1058	3516		1001	1900	1577	955	3574	1559	951	3574	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	311	47	172	236	150	68	426	174	183	415	97
RTOR Reduction (vph)	0	18	0	0	0	99	0	0	84	0	0	47
Lane Group Flow (vph)	100	340	0	172	236	51	68	426	90	183	415	50
Confl. Peds. (#/hr)	20		14	14		20	35		18	18		35
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	21.4	21.4		21.4	21.4	21.4	34.5	34.5	34.5	34.5	34.5	34.5
Effective Green, g (s)	23.4	23.4		23.4	23.4	23.4	36.0	36.0	36.0	36.0	36.0	36.0
Actuated g/C Ratio	0.34	0.34		0.34	0.34	0.34	0.52	0.52	0.52	0.52	0.52	0.52
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	356	1185		337	640	531	495	1853	808	493	1853	809
v/s Ratio Prot		0.10			0.12			0.12			0.12	
v/s Ratio Perm	0.09			c0.17		0.03	0.07		0.06	c0.19		0.03
v/c Ratio	0.28	0.29		0.51	0.37	0.10	0.14	0.23	0.11	0.37	0.22	0.06
Uniform Delay, d1	16.8	16.9		18.4	17.4	15.8	8.7	9.1	8.5	10.0	9.1	8.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1		1.3	0.4	0.1	0.6	0.3	0.3	2.1	0.3	0.1
Delay (s)	17.3	17.0		19.7	17.8	15.8	9.2	9.4	8.8	12.1	9.4	8.5
Level of Service	B	B		B	B	B	A	A	A	B	A	A
Approach Delay (s)		17.1			17.8			9.2			10.0	
Approach LOS		B			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.43			
Actuated Cycle Length (s)	69.4	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	83.1%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	181	213	1153	1465	150
Future Volume (vph)	0	181	213	1153	1465	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1563	1767	5193	5193	1526
Flt Permitted		1.00	0.15	1.00	1.00	1.00
Satd. Flow (perm)		1563	280	5193	5193	1526
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	181	213	1153	1465	150
RTOR Reduction (vph)	0	168	0	0	0	33
Lane Group Flow (vph)	0	13	213	1153	1465	117
Confl. Peds. (#/hr)	1		3			3
Heavy Vehicles (%)	2%	4%	1%	1%	1%	3%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		11.1	134.7	134.7	121.3	121.3
Effective Green, g (s)		11.1	134.7	134.7	121.3	121.3
Actuated g/C Ratio		0.07	0.84	0.84	0.76	0.76
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		108	332	4371	3936	1156
v/s Ratio Prot			c0.04	0.22	0.28	
v/s Ratio Perm		c0.01	c0.50			0.08
v/c Ratio		0.12	0.64	0.26	0.37	0.10
Uniform Delay, d1		69.8	4.0	2.6	6.5	5.1
Progression Factor		1.00	9.13	0.19	0.39	0.04
Incremental Delay, d2		0.5	3.7	0.1	0.3	0.2
Delay (s)		70.3	40.1	0.6	2.8	0.4
Level of Service		E	D	A	A	A
Approach Delay (s)	70.3			6.8	2.5	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
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 (vph)	153	648	279	294	617	153	239	1326	236	154	1197	117
Future Volume (vph)	153	648	279	294	617	153	239	1326	236	154	1197	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00		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	
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)	3502	3574	1583	3467	3574	1510	3467	4942		3502	4954	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3574	1583	3467	3574	1510	3467	4942		3502	4954	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	704	303	320	671	166	260	1441	257	167	1301	127
RTOR Reduction (vph)	0	0	133	0	0	120	0	14	0	0	6	0
Lane Group Flow (vph)	166	704	170	320	671	46	260	1684	0	167	1422	0
Confl. Peds. (#/hr)	24		7	7		24	13		18	18		13
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	12.9	38.3	38.3	16.8	42.2	42.2	15.8	66.9		13.0	64.1	
Effective Green, g (s)	12.9	40.8	40.8	16.8	44.7	44.7	15.8	69.4		13.0	66.6	
Actuated g/C Ratio	0.08	0.25	0.25	0.11	0.28	0.28	0.10	0.43		0.08	0.42	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	282	911	403	364	998	421	342	2143		284	2062	
v/s Ratio Prot	0.05	c0.20		c0.09	c0.19		c0.07	c0.34		0.05	0.29	
v/s Ratio Perm			0.11			0.03						
v/c Ratio	0.59	0.77	0.42	0.88	0.67	0.11	0.76	0.79		0.59	0.69	
Uniform Delay, d1	71.0	55.3	49.7	70.6	51.2	42.9	70.3	38.9		70.9	38.2	
Progression Factor	1.00	1.00	1.00	1.14	1.22	3.97	1.00	1.00		1.27	0.64	
Incremental Delay, d2	3.1	4.1	0.7	20.1	1.7	0.1	9.6	3.0		2.8	1.7	
Delay (s)	74.1	59.4	50.5	100.3	64.4	170.2	79.8	41.9		92.7	26.0	
Level of Service	E	E	D	F	E	F	E	D		F	C	
Approach Delay (s)		59.2			89.5			46.9			33.0	
Approach LOS		E			F			D			C	

Intersection Summary				
HCM 2000 Control Delay	54.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	92.5%	ICU Level of Service	F	
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 (vph)	61	1024	21	50	954	94	31	49	53	162	48	60
Future Volume (vph)	61	1024	21	50	954	94	31	49	53	162	48	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	0.99		1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.98	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1786	5070		1800	4987		1773	1731		1791	1900	1565
Flt Permitted	0.21	1.00		0.21	1.00		0.70	1.00		0.65	1.00	1.00
Satd. Flow (perm)	396	5070		400	4987		1307	1731		1229	1900	1565
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	1113	23	54	1037	102	34	53	58	176	52	65
RTOR Reduction (vph)	0	1	0	0	6	0	0	28	0	0	0	50
Lane Group Flow (vph)	66	1135	0	54	1133	0	34	83	0	176	52	15
Confl. Peds. (#/hr)	23		6	6		23	17		8	8		17
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	102.4	102.4		102.4	102.4		35.5	35.5		34.3	34.3	34.3
Effective Green, g (s)	104.4	104.4		104.4	104.4		38.0	38.0		36.8	36.8	36.8
Actuated g/C Ratio	0.65	0.65		0.65	0.65		0.24	0.24		0.23	0.23	0.23
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	258	3308		261	3254		310	411		282	437	359
v/s Ratio Prot		0.22			c0.23			0.05			0.03	
v/s Ratio Perm	0.17			0.13			0.03			c0.14		0.01
v/c Ratio	0.26	0.34		0.21	0.35		0.11	0.20		0.62	0.12	0.04
Uniform Delay, d1	11.6	12.4		11.2	12.5		47.8	48.8		55.4	48.8	47.9
Progression Factor	0.49	0.46		0.46	0.46		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.9	0.2		1.7	0.3		0.2	0.2		4.3	0.1	0.0
Delay (s)	7.6	6.0		6.8	6.1		47.9	49.1		59.6	48.9	47.9
Level of Service	A	A		A	A		D	D		E	D	D
Approach Delay (s)		6.1			6.1			48.8			55.1	
Approach LOS		A			A			D			E	

Intersection Summary				
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.41			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	69.0%	ICU Level of Service	C	
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 (vph)	140	899	85	111	1007	156	93	321	70	230	348	107
Future Volume (vph)	140	899	85	111	1007	156	93	321	70	230	348	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1790	5010		1796	4987		1757	3437		1798	3383	
Flt Permitted	0.17	1.00		0.22	1.00		0.44	1.00		0.32	1.00	
Satd. Flow (perm)	312	5010		409	4987		815	3437		614	3383	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	977	92	121	1095	170	101	349	76	250	378	116
RTOR Reduction (vph)	0	5	0	0	10	0	0	14	0	0	22	0
Lane Group Flow (vph)	152	1064	0	121	1255	0	101	411	0	250	472	0
Confl. Peds. (#/hr)	47		19	19		47	42		27	27		42
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	7	0	0	0	7	0	3	0	0	3	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	89.8	89.8		89.8	89.8		34.7	34.7		50.7	46.1	
Effective Green, g (s)	91.8	91.8		91.8	91.8		37.2	37.2		52.7	48.6	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.23	0.23		0.33	0.30	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	179	2874		234	2861		189	799		313	1027	
v/s Ratio Prot		0.21			0.25			0.12		c0.07	0.14	
v/s Ratio Perm	c0.49			0.30			c0.12			0.19		
v/c Ratio	0.85	0.37		0.52	0.44		0.53	0.51		0.80	0.46	
Uniform Delay, d1	28.3	18.5		20.7	19.4		53.8	53.5		44.3	45.1	
Progression Factor	0.58	0.66		1.33	1.38		1.00	1.00		1.00	1.00	
Incremental Delay, d2	35.5	0.4		7.7	0.5		2.9	0.6		13.3	0.3	
Delay (s)	52.0	12.5		35.2	27.2		56.7	54.1		57.6	45.4	
Level of Service	D	B		D	C		E	D		E	D	
Approach Delay (s)		17.4			27.9			54.6			49.5	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
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 (vph)	186	1084	38	34	1001	149	28	32	48	219	52	109
Future Volume (vph)	186	1084	38	34	1001	149	28	32	48	219	52	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.97		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.98	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1802	5054		1795	4981		1766	1685		1737	1900	1559
Flt Permitted	0.18	1.00		0.19	1.00		0.72	1.00		0.68	1.00	1.00
Satd. Flow (perm)	344	5054		357	4981		1338	1685		1241	1900	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	1178	41	37	1088	162	30	35	52	238	57	118
RTOR Reduction (vph)	0	2	0	0	10	0	0	38	0	0	0	90
Lane Group Flow (vph)	202	1217	0	37	1240	0	30	49	0	238	57	28
Confl. Peds. (#/hr)	7		15	15		7	16		22	22		16
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	100.9	100.9		100.9	100.9		35.4	35.4		35.4	35.4	35.4
Effective Green, g (s)	102.9	102.9		102.9	102.9		37.9	37.9		37.9	37.9	37.9
Actuated g/C Ratio	0.64	0.64		0.64	0.64		0.24	0.24		0.24	0.24	0.24
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	221	3250		229	3203		316	399		293	450	369
v/s Ratio Prot		0.24			0.25			0.03			0.03	
v/s Ratio Perm	c0.59			0.10			0.02			c0.19		0.02
v/c Ratio	0.91	0.37		0.16	0.39		0.09	0.12		0.81	0.13	0.08
Uniform Delay, d1	24.7	13.4		11.4	13.6		47.7	48.0		57.7	48.0	47.4
Progression Factor	0.74	0.71		0.97	0.88		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	39.7	0.3		1.3	0.3		0.1	0.1		15.6	0.1	0.1
Delay (s)	58.0	9.9		12.3	12.2		47.8	48.1		73.3	48.2	47.5
Level of Service	E	A		B	B		D	D		E	D	D
Approach Delay (s)		16.7			12.2			48.0			62.5	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	21.9	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)	16.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
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 (vph)	107	944	320	143	807	230	333	1066	100	266	1219	129
Future Volume (vph)	107	944	320	143	807	230	333	1066	100	266	1219	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.97
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)	3463	5193	1519	3429	5193	1469	3463	5193	1532	3463	5193	1553
Flt Permitted	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 (perm)	3463	5193	1519	3429	5193	1469	3463	5193	1532	3463	5193	1553
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)	107	944	320	143	807	230	333	1066	100	266	1219	129
RTOR Reduction (vph)	0	0	138	0	0	149	0	0	61	0	0	81
Lane Group Flow (vph)	107	944	182	143	807	81	333	1066	40	266	1219	48
Confl. Peds. (#/hr)	25		30	30		25	15		28	28		15
Heavy Vehicles (%)	0%	1%	1%	1%	1%	2%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	9.8	47.7	47.7	10.5	48.4	48.4	17.0	63.2	63.2	13.0	59.2	59.2
Effective Green, g (s)	9.8	47.7	47.7	10.5	48.4	48.4	17.0	63.2	63.2	13.0	59.2	59.2
Actuated g/C Ratio	0.06	0.30	0.30	0.07	0.30	0.30	0.11	0.40	0.40	0.08	0.37	0.37
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	212	1548	452	225	1570	444	367	2051	605	281	1921	574
v/s Ratio Prot	0.03	c0.18		c0.04	0.16		c0.10	c0.21		0.08	c0.23	
v/s Ratio Perm			0.12			0.06			0.03			0.03
v/c Ratio	0.50	0.61	0.40	0.64	0.51	0.18	0.91	0.52	0.07	0.95	0.63	0.08
Uniform Delay, d1	72.7	48.2	44.8	72.9	46.1	41.2	70.7	36.8	30.1	73.2	41.5	32.8
Progression Factor	1.17	0.95	0.87	1.00	1.00	1.00	1.10	1.04	1.91	1.27	0.70	0.39
Incremental Delay, d2	1.8	0.6	0.5	5.8	0.3	0.2	23.9	0.9	0.2	37.7	1.5	0.3
Delay (s)	87.1	46.5	39.4	78.7	46.4	41.4	101.8	39.1	57.5	130.3	30.7	13.2
Level of Service	F	D	D	E	D	D	F	D	E	F	C	B
Approach Delay (s)		48.0			49.3			54.3			45.7	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	49.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	109.1%	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 (vph)	44	58	143	229	39	52	120	1564	261	32	1646	15
Future Volume (vph)	44	58	143	229	39	52	120	1564	261	32	1646	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.96
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)	1772	1921	1567	1778	1921	1566	1785	5193	1576	1785	5193	1514
Flt Permitted	0.73	1.00	1.00	0.61	1.00	1.00	0.10	1.00	1.00	0.15	1.00	1.00
Satd. Flow (perm)	1365	1921	1567	1149	1921	1566	196	5193	1576	277	5193	1514
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)	44	58	143	229	39	52	120	1564	261	32	1646	15
RTOR Reduction (vph)	0	0	127	0	0	37	0	0	76	0	0	5
Lane Group Flow (vph)	44	58	16	229	39	15	120	1564	185	32	1646	10
Confl. Peds. (#/hr)	7		6	6		7	9		1	1		9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		8		7	4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	17.5	17.5	17.5	30.5	30.5	30.5	113.5	113.5	113.5	101.4	101.4	101.4
Effective Green, g (s)	17.5	17.5	17.5	30.5	30.5	30.5	113.5	113.5	113.5	101.4	101.4	101.4
Actuated g/C Ratio	0.11	0.11	0.11	0.19	0.19	0.19	0.71	0.71	0.71	0.63	0.63	0.63
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	149	210	171	258	366	298	229	3683	1117	175	3291	959
v/s Ratio Prot		0.03		c0.06	0.02		c0.03	0.30			0.32	
v/s Ratio Perm	0.03		0.01	c0.11		0.01	c0.34		0.12	0.12		0.01
v/c Ratio	0.30	0.28	0.09	0.89	0.11	0.05	0.52	0.42	0.17	0.18	0.50	0.01
Uniform Delay, d1	65.6	65.4	64.1	62.3	53.5	52.9	11.1	9.7	7.7	12.1	15.7	10.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.44	0.86	1.13	0.75	0.66	1.00
Incremental Delay, d2	2.3	1.5	0.5	28.5	0.3	0.1	1.9	0.3	0.3	1.8	0.4	0.0
Delay (s)	67.9	66.9	64.6	90.7	53.8	53.1	28.9	8.6	9.0	10.9	10.7	10.8
Level of Service	E	E	E	F	D	D	C	A	A	B	B	B
Approach Delay (s)		65.7			80.1			9.9			10.7	
Approach LOS		E			F			A			B	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

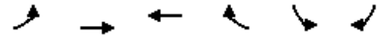
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	19	601	8	599	5	1339	0	0	2007	21
Future Volume (vph)	15	0	19	601	8	599	5	1339	0	0	2007	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	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
Frt	1.00		0.85	1.00	0.85	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1405		1044	3429	1514	1502	1275	5193			5193	1308
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1405		1044	3429	1514	1502	1275	5193			5193	1308
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)	15	0	19	601	8	599	5	1339	0	0	2007	21
RTOR Reduction (vph)	0	0	18	0	177	177	0	0	0	0	0	9
Lane Group Flow (vph)	15	0	1	601	125	128	5	1339	0	0	2007	12
Confl. Peds. (#/hr)							3					3
Heavy Vehicles (%)	27%	2%	53%	1%	75%	1%	40%	1%	0%	2%	1%	20%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	6.2		6.2	34.0	34.0	34.0	2.0	95.9			88.9	88.9
Effective Green, g (s)	6.2		6.2	34.0	34.0	34.0	2.0	95.9			88.9	88.9
Actuated g/C Ratio	0.04		0.04	0.21	0.21	0.21	0.01	0.60			0.56	0.56
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	54		40	728	321	319	15	3112			2885	726
v/s Ratio Prot	c0.01		0.00	c0.18	0.08		0.00	c0.26			c0.39	
v/s Ratio Perm						0.09						0.01
v/c Ratio	0.28		0.02	0.83	0.39	0.40	0.33	0.43			0.70	0.02
Uniform Delay, d1	74.7		74.0	60.2	54.1	54.2	78.3	17.3			25.8	15.9
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.06	0.86			0.60	1.00
Incremental Delay, d2	5.8		0.4	8.5	1.6	1.7	12.5	0.4			1.2	0.0
Delay (s)	80.5		74.4	68.7	55.7	56.0	95.3	15.2			16.6	16.0
Level of Service	F		E	E	E	E	F	B			B	B
Approach Delay (s)		77.1			62.2			15.5			16.6	
Approach LOS		E			E			B			B	

Intersection Summary					
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.71				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9		
Intersection Capacity Utilization	81.7%	ICU Level of Service	D		
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 (vph)	137	0	131	0	0	0	0	1079	0	5	1537	0
Future Volume (vph)	137	0	131	0	0	0	0	1079	0	5	1537	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1696	1734	1597					5193		892	5193	
Flt Permitted	0.95	0.95	1.00					1.00		0.24	1.00	
Satd. Flow (perm)	1696	1734	1597					5193		225	5193	
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)	137	0	131	0	0	0	0	1079	0	5	1537	0
RTOR Reduction (vph)	0	0	40	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	68	69	91	0	0	0	0	1079	0	5	1537	0
Confl. Peds. (#/hr)							6					6
Heavy Vehicles (%)	0%	58%	0%	2%	2%	2%	2%	1%	2%	100%	1%	1%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	16.5	16.5	16.5					125.0		129.4	129.4	
Effective Green, g (s)	16.5	16.5	16.5					125.0		129.4	129.4	
Actuated g/C Ratio	0.10	0.10	0.10					0.78		0.81	0.81	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	174	178	164					4057		187	4199	
v/s Ratio Prot	0.04	0.04	c0.06					0.21		0.00	c0.30	
v/s Ratio Perm										0.02		
v/c Ratio	0.39	0.39	0.55					0.27		0.03	0.37	
Uniform Delay, d1	67.1	67.0	68.2					4.8		3.1	4.2	
Progression Factor	1.00	1.00	1.00					1.00		0.99	0.80	
Incremental Delay, d2	3.0	2.9	6.7					0.2		0.0	0.2	
Delay (s)	70.1	69.9	74.9					5.0		3.1	3.5	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		72.4			0.0			5.0			3.5	
Approach LOS		E			A			A			A	

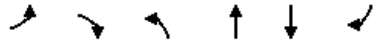
Intersection Summary					
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B		
HCM 2000 Volume to Capacity ratio	0.39				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1		
Intersection Capacity Utilization	49.8%	ICU Level of Service	A		
Analysis Period (min)	15				
c Critical Lane Group					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	201	152	159	178	137	166
Future Volume (vph)	201	152	159	178	137	166
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	218	165	173	193	149	180

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	273	110	173	193	149	180
Volume Left (vph)	218	0	0	0	149	0
Volume Right (vph)	0	0	0	193	0	180
Hadj (s)	0.40	0.00	0.00	-0.60	0.57	-0.70
Departure Headway (s)	6.4	6.0	6.1	5.5	7.0	5.7
Degree Utilization, x	0.48	0.18	0.29	0.29	0.29	0.28
Capacity (veh/h)	544	575	569	632	481	593
Control Delay (s)	14.1	9.1	10.3	9.5	11.5	9.7
Approach Delay (s)	12.6		9.9		10.5	
Approach LOS	B		A		B	

Intersection Summary				
Delay	11.1			
Level of Service	B			
Intersection Capacity Utilization	39.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	254	290	176	142	146	237
Future Volume (vph)	254	290	176	142	146	237
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	276	315	191	154	159	258

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	276	315	242	103	159	258
Volume Left (vph)	276	0	191	0	0	0
Volume Right (vph)	0	315	0	0	0	258
Hadj (s)	0.50	-0.68	0.39	0.00	0.00	-0.70
Departure Headway (s)	7.1	5.9	7.3	6.9	6.8	6.1
Degree Utilization, x	0.54	0.52	0.49	0.20	0.30	0.44
Capacity (veh/h)	493	590	469	497	502	564
Control Delay (s)	17.0	13.8	15.9	10.4	11.6	12.6
Approach Delay (s)	15.3		14.2		12.2	
Approach LOS	C		B		B	

Intersection Summary				
Delay	14.1			
Level of Service	B			
Intersection Capacity Utilization	41.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	78	318	306	142	91	77
Future Volume (Veh/h)	78	318	306	142	91	77
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	85	346	333	154	99	84
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	487				753	244
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	487				753	244
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				69	89
cM capacity (veh/h)	1086				322	763

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	200	231	222	265	183
Volume Left	85	0	0	0	99
Volume Right	0	0	0	154	84
cSH	1086	1700	1700	1700	439
Volume to Capacity	0.08	0.14	0.13	0.16	0.42
Queue Length 95th (m)	2.0	0.0	0.0	0.0	16.2
Control Delay (s)	4.1	0.0	0.0	0.0	18.9
Lane LOS	A				C
Approach Delay (s)	1.9		0.0		18.9
Approach LOS					C

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	159	250	274	45	85	174
Future Volume (Veh/h)	159	250	274	45	85	174
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	173	272	298	49	92	189
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	347				804	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	347				804	174
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				67	78
cM capacity (veh/h)	1223				279	846

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	264	181	199	148	281
Volume Left	173	0	0	0	92
Volume Right	0	0	0	49	189
cSH	1223	1700	1700	1700	508
Volume to Capacity	0.14	0.11	0.12	0.09	0.55
Queue Length 95th (m)	3.9	0.0	0.0	0.0	26.6
Control Delay (s)	6.0	0.0	0.0	0.0	20.5
Lane LOS	A				C
Approach Delay (s)	3.5		0.0		20.5
Approach LOS					C

Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	289	297	46	22	22
Future Volume (Veh/h)	46	289	297	46	22	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	314	323	50	24	24
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	373				605	186
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	373				605	186
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				94	97
cM capacity (veh/h)	1197				416	830

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	155	209	215	158	48
Volume Left	50	0	0	0	24
Volume Right	0	0	0	50	24
cSH	1197	1700	1700	1700	554
Volume to Capacity	0.04	0.12	0.13	0.09	0.09
Queue Length 95th (m)	1.0	0.0	0.0	0.0	2.3
Control Delay (s)	2.9	0.0	0.0	0.0	12.1
Lane LOS	A				B
Approach Delay (s)	1.2		0.0		12.1
Approach LOS					B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	32.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	13	561	20	0	621
Future Volume (Veh/h)	0	13	561	20	0	621
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	14	610	22	0	675
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			109			193
pX, platoon unblocked	0.96	0.95			0.95	
vC, conflicting volume	958	316			632	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	651	184			515	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	385	788			997	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	14	407	225	338	338
Volume Left	0	0	0	0	0
Volume Right	14	0	22	0	0
cSH	788	1700	1700	1700	1700
Volume to Capacity	0.02	0.24	0.13	0.20	0.20
Queue Length 95th (m)	0.4	0.0	0.0	0.0	0.0
Control Delay (s)	9.7	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.7	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX

F-2 2040 FUTURE TOTAL

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	298	178	102	197	182	68	1160	71	192	1759	55
Future Volume (vph)	97	298	178	102	197	182	68	1160	71	192	1759	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		1.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1781	3294		1798	1881	1494	1805	4962		1769	4941	
Flt Permitted	0.62	1.00		0.30	1.00	1.00	0.05	1.00		0.12	1.00	
Satd. Flow (perm)	1170	3294		572	1881	1494	102	4962		225	4941	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	324	193	111	214	198	74	1261	77	209	1912	60
RTOR Reduction (vph)	0	58	0	0	0	98	0	4	0	0	2	0
Lane Group Flow (vph)	105	459	0	111	214	100	74	1334	0	209	1970	0
Confl. Peds. (#/hr)	19		37	37		19	26		12	12		26
Heavy Vehicles (%)	0%	2%	0%	0%	1%	4%	0%	2%	6%	2%	3%	4%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	44.1	44.1		60.3	60.3	60.3	80.8	72.2		83.6	73.6	
Effective Green, g (s)	46.6	46.6		62.3	62.8	62.8	84.8	74.2		87.2	75.6	
Actuated g/C Ratio	0.29	0.29		0.39	0.39	0.39	0.53	0.46		0.55	0.47	
Clearance Time (s)	7.5	7.5		3.0	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	340	959		339	738	586	166	2301		238	2334	
v/s Ratio Prot		c0.14		c0.03	0.11		0.03	0.27		c0.07	c0.40	
v/s Ratio Perm	0.09			0.10		0.07	0.20			0.41		
v/c Ratio	0.31	0.48		0.33	0.29	0.17	0.45	0.58		0.88	0.84	
Uniform Delay, d1	44.2	46.7		32.7	33.3	31.6	28.7	31.5		24.7	37.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	2.34	1.32		1.00	1.00	
Incremental Delay, d2	0.5	0.4		0.6	0.2	0.1	1.4	0.8		28.4	4.0	
Delay (s)	44.7	47.1		33.3	33.5	31.8	68.7	42.3		53.1	41.0	
Level of Service	D	D		C	C	C	E	D		D	D	
Approach Delay (s)		46.7			32.8			43.7			42.2	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	42.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
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 (vph)	13	421	136	36	365	29	115	69	68	44	79	37
Future Volume (vph)	13	421	136	36	365	29	115	69	68	44	79	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	0.98	1.00		0.97	1.00		0.99	1.00	1.00	0.99	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1769	3290		1752	3476		1768	1863	1583	1740	1795	
Flt Permitted	0.50	1.00		0.41	1.00		0.66	1.00	1.00	0.71	1.00	
Satd. Flow (perm)	935	3290		752	3476		1220	1863	1583	1297	1795	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	458	148	39	397	32	125	75	74	48	86	40
RTOR Reduction (vph)	0	21	0	0	4	0	0	0	56	0	21	0
Lane Group Flow (vph)	14	585	0	39	425	0	125	75	18	48	105	0
Confl. Peds. (#/hr)	28		55	55		28	16		10	10		16
Heavy Vehicles (%)	0%	3%	3%	0%	2%	0%	1%	2%	0%	3%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	64.1	64.1		64.1	64.1		22.4	22.4	22.4	22.4	22.4	
Effective Green, g (s)	66.1	66.1		66.1	66.1		23.9	23.9	23.9	23.9	23.9	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.24	0.24	0.24	0.24	0.24	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	618	2174		497	2297		291	445	378	309	429	
v/s Ratio Prot		c0.18			0.12			0.04			0.06	
v/s Ratio Perm	0.01			0.05			c0.10		0.01	0.04		
v/c Ratio	0.02	0.27		0.08	0.18		0.43	0.17	0.05	0.16	0.24	
Uniform Delay, d1	5.8	7.0		6.1	6.5		32.3	30.2	29.3	30.1	30.7	
Progression Factor	1.00	1.00		0.67	0.65		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.3	0.2		1.0	0.2	0.1	0.2	0.3	
Delay (s)	5.9	7.3		4.4	4.4		33.3	30.4	29.3	30.3	31.0	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		7.3			4.4			31.4			30.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
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 (vph)	74	403	95	71	326	180	54	363	52	160	721	105
Future Volume (vph)	74	403	95	71	326	180	54	363	52	160	721	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.95		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1722	3449		1694	3274		1775	3406		1768	3475	
Flt Permitted	0.36	1.00		0.36	1.00		0.31	1.00		0.44	1.00	
Satd. Flow (perm)	647	3449		648	3274		584	3406		818	3475	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	438	103	77	354	196	59	395	57	174	784	114
RTOR Reduction (vph)	0	22	0	0	82	0	0	10	0	0	10	0
Lane Group Flow (vph)	80	519	0	77	468	0	59	442	0	174	888	0
Confl. Peds. (#/hr)	54		15	15		54	70		6	6		70
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	3%	1%	0%	6%	2%	2%	0%	3%	4%	2%	1%	1%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	34.2	34.2		34.2	34.2		41.5	41.5		52.3	52.3	
Effective Green, g (s)	36.2	36.2		36.2	36.2		43.0	43.0		54.3	53.8	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.43	0.43		0.54	0.54	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		3.0	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	234	1248		234	1185		251	1464		537	1869	
v/s Ratio Prot		c0.15			0.14			0.13		0.03	c0.26	
v/s Ratio Perm	0.12			0.12			0.10			0.14		
v/c Ratio	0.34	0.42		0.33	0.39		0.24	0.30		0.32	0.48	
Uniform Delay, d1	23.2	24.0		23.1	23.7		18.1	18.7		11.7	14.3	
Progression Factor	0.78	0.83		1.00	1.00		0.83	0.85		1.00	1.00	
Incremental Delay, d2	0.9	0.2		0.8	0.2		2.2	0.5		0.4	0.9	
Delay (s)	19.1	20.0		23.9	24.0		17.2	16.3		12.1	15.2	
Level of Service	B	C		C	C		B	B		B	B	
Approach Delay (s)		19.9			24.0			16.4			14.7	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.46			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	93.1%	ICU Level of Service	F	
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 (vph)	147	556	53	78	333	284	42	63	101	25	6	8
Future Volume (vph)	147	556	53	78	333	284	42	63	101	25	6	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99			1.00	0.99		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	0.85	1.00	0.93			1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.98	1.00		0.97	
Satd. Flow (prot)	1800	3505	1501	1717	3266			1699	1503		3374	
Flt Permitted	0.38	1.00	1.00	0.42	1.00			0.86	1.00		0.79	
Satd. Flow (perm)	727	3505	1501	754	3266			1493	1503		2745	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	160	604	58	85	362	309	46	68	110	27	7	9
RTOR Reduction (vph)	0	0	22	0	110	0	0	0	85	0	7	0
Lane Group Flow (vph)	160	604	36	85	561	0	0	114	25	0	36	0
Confl. Peds. (#/hr)	8		5	5		8	14		3	3		14
Heavy Vehicles (%)	0%	3%	6%	5%	3%	0%	23%	0%	6%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	42.8	42.8	42.8	42.8	42.8			14.4	14.4		14.4	
Effective Green, g (s)	44.8	44.8	44.8	44.8	44.8			16.4	16.4		16.4	
Actuated g/C Ratio	0.63	0.63	0.63	0.63	0.63			0.23	0.23		0.23	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	457	2205	944	474	2055			343	346		632	
v/s Ratio Prot		0.17			0.17							
v/s Ratio Perm	c0.22		0.02	0.11				c0.08	0.02		0.01	
v/c Ratio	0.35	0.27	0.04	0.18	0.27			0.33	0.07		0.06	
Uniform Delay, d1	6.3	5.9	5.0	5.5	5.9			22.8	21.5		21.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	2.1	0.3	0.1	0.8	0.3			0.6	0.1		0.0	
Delay (s)	8.4	6.2	5.1	6.3	6.2			23.4	21.5		21.4	
Level of Service	A	A	A	A	A			C	C		C	
Approach Delay (s)		6.6			6.2			22.5			21.4	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.34			
Actuated Cycle Length (s)	71.2	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	70.8%	ICU Level of Service	C	
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 (vph)	229	161	290	60	155	50	128	1190	31	44	1523	313
Future Volume (vph)	229	161	290	60	155	50	128	1190	31	44	1523	313
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.97	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)	1719	1902	1526	1744	1883	1488	1767	5092	1498	1667	5092	1514
Flt Permitted	0.55	1.00	1.00	0.66	1.00	1.00	0.10	1.00	1.00	0.22	1.00	1.00
Satd. Flow (perm)	1003	1902	1526	1203	1883	1488	193	5092	1498	388	5092	1514
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)	229	161	290	60	155	50	128	1190	31	44	1523	313
RTOR Reduction (vph)	0	0	100	0	0	40	0	0	12	0	0	146
Lane Group Flow (vph)	229	161	190	60	155	10	128	1190	19	44	1523	167
Confl. Peds. (#/hr)	17		4	4		17	4		2	2		4
Heavy Vehicles (%)	3%	1%	3%	2%	2%	4%	1%	3%	4%	7%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	46.8	46.8	46.8	30.8	30.8	30.8	96.6	96.6	96.6	84.5	84.5	84.5
Effective Green, g (s)	46.8	46.8	46.8	30.8	30.8	30.8	96.6	96.6	96.6	84.5	84.5	84.5
Actuated g/C Ratio	0.29	0.29	0.29	0.19	0.19	0.19	0.60	0.60	0.60	0.53	0.53	0.53
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	351	556	446	231	362	286	206	3074	904	204	2689	799
v/s Ratio Prot	c0.05	0.08			0.08		c0.04	0.23			0.30	
v/s Ratio Perm	c0.14		0.12	0.05		0.01	c0.34		0.01	0.11		0.11
v/c Ratio	0.65	0.29	0.42	0.26	0.43	0.03	0.62	0.39	0.02	0.22	0.57	0.21
Uniform Delay, d1	47.7	43.8	45.7	54.9	56.9	52.5	18.6	16.4	12.7	20.1	25.4	20.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.89	0.14	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	0.3	0.7	0.6	0.8	0.0	5.5	0.4	0.0	2.4	0.9	0.6
Delay (s)	52.0	44.0	46.4	55.5	57.7	52.6	59.2	2.7	12.8	22.5	26.3	20.6
Level of Service	D	D	D	E	E	D	E	A	B	C	C	C
Approach Delay (s)		47.7			56.2			8.3			25.3	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	6.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	240	283	158	221
Demand Flow Rate, veh/h	241	295	159	223
Vehicles Circulating, veh/h	258	127	279	262
Vehicles Exiting, veh/h	227	311	220	160
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	3	12	7	8
Ped Cap Adj	1.000	0.998	0.999	0.999
Approach Delay, s/veh	7.1	6.8	6.1	6.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	241	295	159	223
Cap Entry Lane, veh/h	873	995	855	870
Entry HV Adj Factor	0.996	0.959	0.994	0.990
Flow Entry, veh/h	240	283	158	221
Cap Entry, veh/h	869	953	849	860
V/C Ratio	0.276	0.297	0.186	0.257
Control Delay, s/veh	7.1	6.8	6.1	6.9
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	117	54	83	159	93	70	324	78	93	661	77
Future Volume (vph)	45	117	54	83	159	93	70	324	78	93	661	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1702	3391		1789	1881	1575	1798	3471	1501	1773	3539	1545
Flt Permitted	0.57	1.00		0.63	1.00	1.00	0.36	1.00	1.00	0.54	1.00	1.00
Satd. Flow (perm)	1014	3391		1195	1881	1575	672	3471	1501	1009	3539	1545
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	127	59	90	173	101	76	352	85	101	718	84
RTOR Reduction (vph)	0	45	0	0	0	77	0	0	29	0	0	27
Lane Group Flow (vph)	49	141	0	90	173	24	76	352	56	101	718	57
Confl. Peds. (#/hr)	16		14	14		16	13		32	32		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	5%	0%	2%	0%	1%	0%	0%	4%	2%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	22.2	22.2		22.2	22.2	22.2	64.3	64.3	64.3	64.3	64.3	64.3
Effective Green, g (s)	24.2	24.2		24.2	24.2	24.2	65.8	65.8	65.8	65.8	65.8	65.8
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.66	0.66	0.66	0.66	0.66	0.66
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	245	820		289	455	381	442	2283	987	663	2328	1016
v/s Ratio Prot		0.04			c0.09			0.10			c0.20	
v/s Ratio Perm	0.05			0.08		0.02	0.11		0.04	0.10		0.04
v/c Ratio	0.20	0.17		0.31	0.38	0.06	0.17	0.15	0.06	0.15	0.31	0.06
Uniform Delay, d1	30.2	30.0		31.1	31.6	29.2	6.6	6.5	6.1	6.5	7.3	6.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.63	0.61	0.25
Incremental Delay, d2	0.4	0.1		0.6	0.5	0.1	0.8	0.1	0.1	0.4	0.3	0.1
Delay (s)	30.6	30.1		31.7	32.2	29.3	7.4	6.7	6.2	4.5	4.8	1.6
Level of Service	C	C		C	C	C	A	A	A	A	A	A
Approach Delay (s)		30.2			31.2			6.7			4.4	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.33			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	78.5%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	127	99	1326	1817	77
Future Volume (vph)	0	127	99	1326	1817	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.99	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1418	1653	5092	5092	1446
Flt Permitted		1.00	0.10	1.00	1.00	1.00
Satd. Flow (perm)		1418	172	5092	5092	1446
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	127	99	1326	1817	77
RTOR Reduction (vph)	0	118	0	0	0	15
Lane Group Flow (vph)	0	9	99	1326	1817	62
Confl. Peds. (#/hr)	3	1	8			8
Heavy Vehicles (%)	2%	13%	8%	3%	3%	8%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		11.0	134.8	134.8	123.4	123.4
Effective Green, g (s)		11.0	134.8	134.8	123.4	123.4
Actuated g/C Ratio		0.07	0.84	0.84	0.77	0.77
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		97	222	4290	3927	1115
v/s Ratio Prot			c0.02	0.26	c0.36	
v/s Ratio Perm		c0.01	0.35			0.04
v/c Ratio		0.09	0.45	0.31	0.46	0.06
Uniform Delay, d1		69.8	4.2	2.7	6.5	4.4
Progression Factor		1.00	5.65	0.83	0.67	0.15
Incremental Delay, d2		0.4	1.2	0.2	0.3	0.1
Delay (s)		70.2	24.7	2.4	4.7	0.8
Level of Service		E	C	A	A	A
Approach Delay (s)	70.2			3.9	4.5	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
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 (vph)	104	781	248	175	548	95	140	1104	215	250	1639	132
Future Volume (vph)	104	781	248	175	548	95	140	1104	215	250	1639	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00		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	
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)	3502	3539	1557	3273	3505	1483	3335	4887		3433	4916	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3539	1557	3273	3505	1483	3335	4887		3433	4916	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	849	270	190	596	103	152	1200	234	272	1782	143
RTOR Reduction (vph)	0	0	93	0	0	71	0	17	0	0	5	0
Lane Group Flow (vph)	113	849	177	190	596	32	152	1417	0	272	1920	0
Confl. Peds. (#/hr)	22		13	13		22	16		14	14		16
Heavy Vehicles (%)	0%	2%	1%	7%	3%	2%	5%	2%	1%	2%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	10.5	44.2	44.2	14.0	47.7	47.7	12.6	61.3		15.5	64.2	
Effective Green, g (s)	10.5	46.7	46.7	14.0	50.2	50.2	12.6	63.8		15.5	66.7	
Actuated g/C Ratio	0.07	0.29	0.29	0.09	0.31	0.31	0.08	0.40		0.10	0.42	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	229	1032	454	286	1099	465	262	1948		332	2049	
v/s Ratio Prot	0.03	c0.24		c0.06	c0.17		0.05	0.29		c0.08	c0.39	
v/s Ratio Perm			0.11			0.02						
v/c Ratio	0.49	0.82	0.39	0.66	0.54	0.07	0.58	0.73		0.82	0.94	
Uniform Delay, d1	72.2	52.8	45.3	70.7	45.4	38.5	71.1	40.7		70.9	44.6	
Progression Factor	1.00	1.00	1.00	0.74	1.26	3.97	1.00	1.00		1.17	0.93	
Incremental Delay, d2	1.7	5.4	0.6	5.6	0.5	0.1	3.2	2.4		9.2	6.4	
Delay (s)	73.9	58.2	45.8	58.3	57.7	152.8	74.4	43.2		92.1	48.0	
Level of Service	E	E	D	E	E	F	E	D		F	D	
Approach Delay (s)		56.9			68.8			46.2			53.5	
Approach LOS		E			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	54.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	92.1%	ICU Level of Service	F	
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 (vph)	35	1214	19	51	779	37	16	31	83	93	34	51
Future Volume (vph)	35	1214	19	51	779	37	16	31	83	93	34	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1789	5020		1765	4990		1793	1670		1760	1845	1554
Flt Permitted	0.30	1.00		0.17	1.00		0.73	1.00		0.54	1.00	1.00
Satd. Flow (perm)	560	5020		324	4990		1384	1670		1000	1845	1554
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	1320	21	55	847	40	17	34	90	101	37	55
RTOR Reduction (vph)	0	1	0	0	2	0	0	71	0	0	0	47
Lane Group Flow (vph)	38	1340	0	55	885	0	17	53	0	101	37	8
Confl. Peds. (#/hr)	12		8	8		12	6		6	6		6
Heavy Vehicles (%)	0%	2%	6%	2%	2%	3%	0%	0%	0%	2%	3%	2%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	115.7	115.7		115.7	115.7		22.2	22.2		22.2	22.2	22.2
Effective Green, g (s)	117.7	117.7		117.7	117.7		24.7	24.7		24.7	24.7	24.7
Actuated g/C Ratio	0.74	0.74		0.74	0.74		0.15	0.15		0.15	0.15	0.15
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	411	3692		238	3670		213	257		154	284	239
v/s Ratio Prot		c0.27			0.18			0.03			0.02	
v/s Ratio Perm	0.07			0.17			0.01			c0.10		0.01
v/c Ratio	0.09	0.36		0.23	0.24		0.08	0.21		0.66	0.13	0.04
Uniform Delay, d1	6.0	7.6		6.7	6.8		57.9	59.1		63.7	58.4	57.5
Progression Factor	0.37	0.39		0.31	0.29		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.2		2.2	0.2		0.2	0.4		9.6	0.2	0.1
Delay (s)	2.5	3.2		4.3	2.1		58.1	59.5		73.3	58.6	57.6
Level of Service	A	A		A	A		E	E		E	E	E
Approach Delay (s)		3.2			2.2			59.3			66.0	
Approach LOS		A			A			E			E	

Intersection Summary				
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.40			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	61.0%	ICU Level of Service	B	
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 (vph)	89	1134	86	74	671	119	57	256	102	271	385	63
Future Volume (vph)	89	1134	86	74	671	119	57	256	102	271	385	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1755	4959		1758	4837		1790	3301		1791	3411	
Flt Permitted	0.28	1.00		0.14	1.00		0.48	1.00		0.38	1.00	
Satd. Flow (perm)	512	4959		264	4837		895	3301		719	3411	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	1233	93	80	729	129	62	278	111	295	418	68
RTOR Reduction (vph)	0	5	0	0	14	0	0	30	0	0	9	0
Lane Group Flow (vph)	97	1321	0	80	844	0	62	359	0	295	477	0
Confl. Peds. (#/hr)	23		45	45		23	13		38	38		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	2%	3%	4%	0%	3%	1%	0%	3%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	3	0	0	3	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	82.8	82.8		82.8	82.8		38.7	38.7		57.7	53.9	
Effective Green, g (s)	84.8	84.8		84.8	84.8		41.2	41.2		59.7	56.4	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.26	0.26		0.37	0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	271	2628		139	2563		230	850		388	1202	
v/s Ratio Prot		0.27			0.17			c0.11		c0.09	0.14	
v/s Ratio Perm	0.19			c0.30			0.07			0.20		
v/c Ratio	0.36	0.50		0.58	0.33		0.27	0.42		0.76	0.40	
Uniform Delay, d1	21.8	24.1		25.4	21.4		47.4	49.5		39.2	39.0	
Progression Factor	0.46	0.50		1.48	1.63		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.5	0.7		15.8	0.3		0.6	0.3		8.5	0.2	
Delay (s)	13.5	12.6		53.4	35.2		48.0	49.8		47.7	39.2	
Level of Service	B	B		D	D		D	D		D	D	
Approach Delay (s)		12.7			36.8			49.6			42.4	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
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 (vph)	58	1468	62	32	826	70	44	27	65	164	26	38
Future Volume (vph)	58	1468	62	32	826	70	44	27	65	164	26	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.97		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1799	4997		1804	4932		1652	1624		1725	1900	1561
Flt Permitted	0.26	1.00		0.11	1.00		0.74	1.00		0.63	1.00	1.00
Satd. Flow (perm)	495	4997		207	4932		1285	1624		1147	1900	1561
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	1596	67	35	898	76	48	29	71	178	28	41
RTOR Reduction (vph)	0	2	0	0	5	0	0	56	0	0	0	33
Lane Group Flow (vph)	63	1661	0	35	969	0	48	44	0	178	28	8
Confl. Peds. (#/hr)	9		4	4		9	15		21	21		15
Heavy Vehicles (%)	0%	2%	4%	0%	3%	0%	7%	0%	2%	2%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	106.1	106.1		106.1	106.1		30.2	30.2		30.6	30.6	30.6
Effective Green, g (s)	108.1	108.1		108.1	108.1		32.7	32.7		33.1	33.1	33.1
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.20	0.20		0.21	0.21	0.21
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	334	3376		139	3332		262	331		237	393	322
v/s Ratio Prot		c0.33			0.20			0.03			0.01	
v/s Ratio Perm	0.13			0.17			0.04			c0.16		0.01
v/c Ratio	0.19	0.49		0.25	0.29		0.18	0.13		0.75	0.07	0.03
Uniform Delay, d1	9.6	12.6		10.1	10.5		52.6	52.0		59.6	51.1	50.6
Progression Factor	0.56	0.61		0.93	0.90		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.1	0.5		4.0	0.2		0.3	0.2		12.6	0.1	0.0
Delay (s)	6.5	8.1		13.4	9.6		53.0	52.2		72.1	51.2	50.6
Level of Service	A	A		B	A		D	D		E	D	D
Approach Delay (s)		8.1			9.7			52.5			66.2	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
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 (vph)	150	1274	268	106	705	188	163	1100	142	326	1462	106
Future Volume (vph)	150	1274	268	106	705	188	163	1100	142	326	1462	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96
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)	3298	5142	1473	3298	5092	1476	3429	5092	1545	3362	5043	1512
Flt Permitted	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 (perm)	3298	5142	1473	3298	5092	1476	3429	5092	1545	3362	5043	1512
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)	150	1274	268	106	705	188	163	1100	142	326	1462	106
RTOR Reduction (vph)	0	0	133	0	0	130	0	0	93	0	0	64
Lane Group Flow (vph)	150	1274	135	106	705	58	163	1100	49	326	1462	42
Confl. Peds. (#/hr)	20		52	52		20	31		20	20		31
Heavy Vehicles (%)	5%	2%	2%	5%	3%	2%	1%	3%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	12.4	52.2	52.2	9.4	49.2	49.2	12.6	55.1	55.1	17.7	60.2	60.2
Effective Green, g (s)	12.4	52.2	52.2	9.4	49.2	49.2	12.6	55.1	55.1	17.7	60.2	60.2
Actuated g/C Ratio	0.08	0.33	0.33	0.06	0.31	0.31	0.08	0.34	0.34	0.11	0.38	0.38
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	1677	480	193	1565	453	270	1753	532	371	1897	568
v/s Ratio Prot	c0.05	c0.25		0.03	0.14		0.05	0.22		c0.10	c0.29	
v/s Ratio Perm			0.09			0.04			0.03			0.03
v/c Ratio	0.59	0.76	0.28	0.55	0.45	0.13	0.60	0.63	0.09	0.88	0.77	0.07
Uniform Delay, d1	71.3	48.3	40.0	73.2	44.5	39.9	71.3	43.9	35.5	70.1	43.8	32.0
Progression Factor	1.09	0.71	0.37	1.00	1.00	1.00	1.26	1.02	2.47	0.92	1.59	4.53
Incremental Delay, d2	3.1	1.8	0.3	3.2	0.2	0.1	3.4	1.5	0.3	18.7	2.8	0.2
Delay (s)	80.6	36.3	15.2	76.4	44.7	40.1	93.0	46.1	88.0	83.3	72.6	145.3
Level of Service	F	D	B	E	D	D	F	D	F	F	E	F
Approach Delay (s)		36.9			47.2			55.8			78.5	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	56.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	114.8%	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 (vph)	48	81	240	295	66	62	115	1536	385	70	1891	25
Future Volume (vph)	48	81	240	295	66	62	115	1536	385	70	1891	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
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)	1723	1830	1549	1760	1830	1507	1750	5142	1567	1733	5092	1295
Flt Permitted	0.71	1.00	1.00	0.61	1.00	1.00	0.06	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	1295	1830	1549	1132	1830	1507	118	5142	1567	216	5092	1295
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)	48	81	240	295	66	62	115	1536	385	70	1891	25
RTOR Reduction (vph)	0	0	148	0	0	47	0	0	160	0	0	11
Lane Group Flow (vph)	48	81	92	295	66	15	115	1536	225	70	1891	14
Confl. Peds. (#/hr)	6		7	7		6	12		5	5		12
Heavy Vehicles (%)	3%	5%	1%	1%	5%	4%	2%	2%	0%	3%	3%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	19.7	19.7	19.7	39.7	39.7	39.7	102.6	93.3	93.3	100.0	92.0	92.0
Effective Green, g (s)	19.7	19.7	19.7	39.7	39.7	39.7	102.6	93.3	93.3	100.0	92.0	92.0
Actuated g/C Ratio	0.12	0.12	0.12	0.25	0.25	0.25	0.64	0.58	0.58	0.62	0.58	0.58
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	159	225	190	347	454	373	170	2998	913	210	2927	744
v/s Ratio Prot		0.04		c0.09	0.04		c0.04	0.30		0.02	0.37	
v/s Ratio Perm	0.04		0.06	c0.12		0.01	c0.39		0.14	0.19		0.01
v/c Ratio	0.30	0.36	0.48	0.85	0.15	0.04	0.68	0.51	0.25	0.33	0.65	0.02
Uniform Delay, d1	63.9	64.4	65.4	55.6	46.9	45.7	21.4	19.8	16.2	13.8	23.0	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.86	0.52	0.20	1.12	0.37	1.00
Incremental Delay, d2	2.2	2.1	4.0	17.7	0.3	0.1	8.7	0.5	0.5	0.7	0.8	0.0
Delay (s)	66.1	66.4	69.4	73.3	47.2	45.8	48.5	10.8	3.7	16.2	9.3	14.6
Level of Service	E	E	E	E	D	D	D	B	A	B	A	B
Approach Delay (s)		68.3			65.2			11.6			9.6	
Approach LOS		E			E			B			A	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

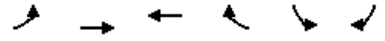
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	0	57	737	25	610	31	1420	0	0	2394	65
Future Volume (vph)	31	0	57	737	25	610	31	1420	0	0	2394	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	1.00			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
Frt	1.00		0.85	1.00	0.86	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1623		1058	3330	1442	1502	1417	5142			5142	1394
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1623		1058	3330	1442	1502	1417	5142			5142	1394
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)	31	0	57	737	25	610	31	1420	0	0	2394	65
RTOR Reduction (vph)	0	0	54	0	94	94	0	0	0	0	0	35
Lane Group Flow (vph)	31	0	3	737	224	223	31	1420	0	0	2394	30
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	10%	2%	51%	4%	104%	1%	26%	2%	0%	2%	2%	13%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	9.0		9.0	38.6	38.6	38.6	8.6	88.5			74.9	74.9
Effective Green, g (s)	9.0		9.0	38.6	38.6	38.6	8.6	88.5			74.9	74.9
Actuated g/C Ratio	0.06		0.06	0.24	0.24	0.24	0.05	0.55			0.47	0.47
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	91		59	803	347	362	76	2844			2407	652
v/s Ratio Prot	c0.02		0.00	c0.22	0.16		0.02	c0.28			c0.47	
v/s Ratio Perm						0.15						0.02
v/c Ratio	0.34		0.05	0.92	0.65	0.62	0.41	0.50			0.99	0.05
Uniform Delay, d1	72.6		71.5	59.2	54.5	54.1	73.2	22.1			42.3	23.1
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.14	0.86			0.57	1.00
Incremental Delay, d2	4.6		0.8	15.9	5.5	4.4	3.5	0.6			14.9	0.1
Delay (s)	77.3		72.3	75.1	60.1	58.5	86.9	19.6			39.0	23.2
Level of Service	E		E	E	E	E	F	B			D	C
Approach Delay (s)		74.0			67.8			21.0			38.6	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	41.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
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 (vph)	277	1	172	0	0	0	0	983	0	21	1948	0
Future Volume (vph)	277	1	172	0	0	0	0	983	0	21	1948	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1662	1693	1551					5142		892	5092	
Flt Permitted	0.95	0.95	1.00					1.00		0.26	1.00	
Satd. Flow (perm)	1662	1693	1551					5142		245	5092	
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)	277	1	172	0	0	0	0	983	0	21	1948	0
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	138	140	136	0	0	0	0	983	0	21	1948	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	2%	100%	3%	2%	2%	2%	2%	2%	4%	100%	3%	2%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	22.0	22.0	22.0					116.5		123.9	123.9	
Effective Green, g (s)	22.0	22.0	22.0					116.5		123.9	123.9	
Actuated g/C Ratio	0.14	0.14	0.14					0.73		0.77	0.77	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	228	232	213					3744		207	3943	
v/s Ratio Prot	0.08	0.08	c0.09					0.19		0.00	c0.38	
v/s Ratio Perm										0.08		
v/c Ratio	0.61	0.60	0.64					0.26		0.10	0.49	
Uniform Delay, d1	64.9	64.9	65.2					7.3		4.4	6.6	
Progression Factor	1.00	1.00	1.00					1.00		0.23	0.26	
Incremental Delay, d2	6.5	6.4	8.4					0.2		0.1	0.2	
Delay (s)	71.5	71.3	73.7					7.5		1.1	1.9	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		72.2			0.0			7.5			1.9	
Approach LOS		E			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	130	126	79	81	41	91
Future Volume (vph)	130	126	79	81	41	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	141	137	86	88	45	99

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	187	91	86	88	45	99
Volume Left (vph)	141	0	0	0	45	0
Volume Right (vph)	0	0	0	88	0	99
Hadj (s)	0.39	0.05	0.00	-0.44	0.81	-0.70
Departure Headway (s)	5.4	5.1	5.2	4.7	6.4	4.9
Degree Utilization, x	0.28	0.13	0.12	0.12	0.08	0.13
Capacity (veh/h)	636	680	665	729	532	687
Control Delay (s)	9.4	7.7	7.7	7.1	8.7	7.4
Approach Delay (s)	8.8		7.4		7.8	
Approach LOS	A		A		A	

Intersection Summary			
Delay	8.2		
Level of Service	A		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	171	120	88	46	117	247
Future Volume (vph)	171	120	88	46	117	247
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	186	130	96	50	127	268

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	186	130	113	33	127	268
Volume Left (vph)	186	0	96	0	0	0
Volume Right (vph)	0	130	0	0	0	268
Hadj (s)	0.52	-0.70	0.46	0.00	0.00	-0.70
Departure Headway (s)	6.3	5.1	6.3	5.9	5.6	4.9
Degree Utilization, x	0.33	0.18	0.20	0.05	0.20	0.37
Capacity (veh/h)	541	661	541	577	611	703
Control Delay (s)	11.2	8.1	9.7	8.0	8.8	9.5
Approach Delay (s)	9.9		9.3		9.3	
Approach LOS	A		A		A	

Intersection Summary			
Delay	9.5		
Level of Service	A		
Intersection Capacity Utilization	27.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	174	282	18	49	82
Future Volume (Veh/h)	43	174	282	18	49	82
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	47	189	307	20	53	89
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	327				506	164
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	327				506	164
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				89	90
cM capacity (veh/h)	1244				477	859

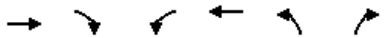
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	110	126	205	122	142
Volume Left	47	0	0	0	53
Volume Right	0	0	0	20	89
cSH	1244	1700	1700	1700	661
Volume to Capacity	0.04	0.07	0.12	0.07	0.21
Queue Length 95th (m)	0.9	0.0	0.0	0.0	6.5
Control Delay (s)	3.6	0.0	0.0	0.0	11.9
Lane LOS	A				B
Approach Delay (s)	1.7		0.0		11.9
Approach LOS					B

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	182	227	44	64	73
Future Volume (Veh/h)	41	182	227	44	64	73
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	198	247	48	70	79
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	295				460	148
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	295				460	148
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				86	91
cM capacity (veh/h)	1278				516	879

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	111	132	165	130	149
Volume Left	45	0	0	0	70
Volume Right	0	0	0	48	79
cSH	1278	1700	1700	1700	661
Volume to Capacity	0.04	0.08	0.10	0.08	0.23
Queue Length 95th (m)	0.9	0.0	0.0	0.0	6.9
Control Delay (s)	3.4	0.0	0.0	0.0	12.0
Lane LOS	A				B
Approach Delay (s)	1.5		0.0		12.0
Approach LOS					B

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	31.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	673	10	2	393	7	99
Future Volume (Veh/h)	673	10	2	393	7	99
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	732	11	2	427	8	108
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	182			180		
pX, platoon unblocked						
vC, conflicting volume			743		955	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			743		955	250
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	86
cM capacity (veh/h)			860		256	750

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	293	293	157	2	214	214	116
Volume Left	0	0	0	2	0	0	8
Volume Right	0	0	11	0	0	0	108
cSH	1700	1700	1700	860	1700	1700	662
Volume to Capacity	0.17	0.17	0.09	0.00	0.13	0.13	0.18
Queue Length 95th (m)	0.0	0.0	0.0	0.1	0.0	0.0	5.1
Control Delay (s)	0.0	0.0	0.0	9.2	0.0	0.0	11.6
Lane LOS				A			B
Approach Delay (s)	0.0			0.0			11.6
Approach LOS							B

Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	26.4%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	12	405	5	0	908
Future Volume (Veh/h)	0	12	405	5	0	908
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	13	440	5	0	987
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			109			193
pX, platoon unblocked	0.87	0.98			0.98	
vC, conflicting volume	936	222			445	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	528	171			398	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	416	827			1136	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	13	293	152	494	494
Volume Left	0	0	0	0	0
Volume Right	13	0	5	0	0
cSH	827	1700	1700	1700	1700
Volume to Capacity	0.02	0.17	0.09	0.29	0.29
Queue Length 95th (m)	0.4	0.0	0.0	0.0	0.0
Control Delay (s)	9.4	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.4	0.0		0.0	
Approach LOS	A				

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	28.4%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Signalized Intersection Capacity Analysis
2: Winston Churchill Boulevard & Erin Centre Boulevard

FT2040 PM
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	207	117	75	265	126	204	2172	115	159	1547	72
Future Volume (vph)	51	207	117	75	265	126	204	2172	115	159	1547	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1793	3344		1788	1881	1563	1805	5033		1805	5035	
Flt Permitted	0.34	1.00		0.43	1.00	1.00	0.08	1.00		0.04	1.00	
Satd. Flow (perm)	643	3344		811	1881	1563	148	5033		83	5035	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	225	127	82	288	137	222	2361	125	173	1682	78
RTOR Reduction (vph)	0	55	0	0	0	101	0	3	0	0	3	0
Lane Group Flow (vph)	55	297	0	82	288	36	222	2483	0	173	1757	0
Confl. Peds. (#/hr)	13		17	17		13	7		7	7		7
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	39.5	39.5		39.5	39.5	39.5	104.0	91.0		102.0	90.0	
Effective Green, g (s)	42.0	42.0		42.0	42.0	42.0	108.0	93.0		106.0	92.0	
Actuated g/C Ratio	0.26	0.26		0.26	0.26	0.26	0.68	0.58		0.66	0.58	
Clearance Time (s)	7.5	7.5		7.5	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	168	877		212	493	410	255	2925		205	2895	
v/s Ratio Prot		0.09			c0.15		c0.08	c0.49		0.07	0.35	
v/s Ratio Perm	0.09			0.10		0.02	0.51			0.49		
v/c Ratio	0.33	0.34		0.39	0.58	0.09	0.87	0.85		0.84	0.61	
Uniform Delay, d1	47.6	47.8		48.4	51.4	44.5	37.1	27.7		51.2	22.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.81	0.48		1.00	1.00	
Incremental Delay, d2	1.1	0.2		1.2	1.8	0.1	15.3	1.7		25.8	1.0	
Delay (s)	48.7	48.0		49.6	53.2	44.6	82.5	14.9		77.0	23.2	
Level of Service	D	D		D	D	D	F	B		E	C	
Approach Delay (s)		48.1			50.3			20.5			28.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Plantation Place/Russel View Road & Erin Centre Boulevard

FT2040 PM
08-15-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	440	77	69	421	27	62	54	70	18	23	19
Future Volume (vph)	17	440	77	69	421	27	62	54	70	18	23	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1801	3470		1763	3525		1799	1900	1592	1801	1757	
Flt Permitted	0.47	1.00		0.44	1.00		0.73	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	900	3470		819	3525		1377	1900	1592	1362	1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	478	84	75	458	29	67	59	76	20	25	21
RTOR Reduction (vph)	0	8	0	0	3	0	0	0	63	0	17	0
Lane Group Flow (vph)	18	554	0	75	484	0	67	59	13	20	29	0
Confl. Peds. (#/hr)	4		7	7		4	5		3	3		5
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	62.8	62.8		62.8	62.8		13.7	13.7	13.7	13.7	13.7	
Effective Green, g (s)	64.8	64.8		64.8	64.8		15.2	15.2	15.2	15.2	15.2	
Actuated g/C Ratio	0.72	0.72		0.72	0.72		0.17	0.17	0.17	0.17	0.17	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	648	2498		589	2538		232	320	268	230	296	
v/s Ratio Prot		c0.16			0.14			0.03			0.02	
v/s Ratio Perm	0.02			0.09			c0.05		0.01	0.01		
v/c Ratio	0.03	0.22		0.13	0.19		0.29	0.18	0.05	0.09	0.10	
Uniform Delay, d1	3.6	4.2		3.9	4.1		32.7	32.1	31.3	31.5	31.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.4	0.2		0.7	0.3	0.1	0.2	0.1	
Delay (s)	3.7	4.4		4.3	4.3		33.4	32.4	31.4	31.7	31.7	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		4.4			4.3			32.3			31.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
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 (vph)	66	321	57	77	362	145	106	660	798	94	427	77
Future Volume (vph)	66	321	57	77	362	145	106	660	798	94	427	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.92		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1800	3474		1729	3369		1797	3223		1752	3516	
Flt Permitted	0.28	1.00		0.40	1.00		0.44	1.00		0.10	1.00	
Satd. Flow (perm)	525	3474		734	3369		825	3223		180	3516	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	349	62	84	393	158	115	717	867	102	464	84
RTOR Reduction (vph)	0	19	0	0	57	0	0	126	0	0	10	0
Lane Group Flow (vph)	72	392	0	84	494	0	115	1458	0	102	538	0
Confl. Peds. (#/hr)	9		9	9		9	11					11
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	4%	1%	3%	0%	0%	4%	3%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	22.9	22.9		22.9	22.9		63.6	63.6		63.6	63.6	
Effective Green, g (s)	24.9	24.9		24.9	24.9		65.1	65.1		65.1	65.1	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.65	0.65		0.65	0.65	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	130	865		182	838		537	2098		117	2288	
v/s Ratio Prot		0.11			c0.15			0.45			0.15	
v/s Ratio Perm	0.14			0.11			0.14			c0.57		
v/c Ratio	0.55	0.45		0.46	0.59		0.21	0.70		0.87	0.24	
Uniform Delay, d1	32.7	31.8		31.9	33.1		7.1	11.1		14.1	7.2	
Progression Factor	1.00	1.00		1.00	1.00		0.84	0.77		1.00	1.00	
Incremental Delay, d2	5.0	0.4		1.9	1.1		0.9	1.9		54.0	0.2	
Delay (s)	37.7	32.2		33.7	34.1		6.8	10.5		68.1	7.4	
Level of Service	D	C		C	C		A	B		E	A	
Approach Delay (s)		33.0			34.1			10.2			17.0	
Approach LOS		C			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	96.7%	ICU Level of Service	F	
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 (vph)	11	345	70	182	421	15	109	2	180	2	0	0
Future Volume (vph)	11	345	70	182	421	15	109	2	180	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99			1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	
Satd. Flow (prot)	1794	3505	1544	1750	3554			1687	1545		3422	
Flt Permitted	0.48	1.00	1.00	0.53	1.00			0.73	1.00		0.68	
Satd. Flow (perm)	908	3505	1544	974	3554			1290	1545		2449	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	375	76	198	458	16	118	2	196	2	0	0
RTOR Reduction (vph)	0	0	29	0	2	0	0	0	148	0	0	0
Lane Group Flow (vph)	12	375	47	198	472	0	0	120	48	0	2	0
Confl. Peds. (#/hr)	13		5	5		13	9		5	5		9
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	3%	3%	3%	1%	0%	7%	0%	3%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	40.7	40.7	40.7	40.7	40.7			15.0	15.0		15.0	
Effective Green, g (s)	42.7	42.7	42.7	42.7	42.7			17.0	17.0		17.0	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61			0.24	0.24		0.24	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	556	2147	945	596	2177			314	376		597	
v/s Ratio Prot		0.11			0.13							
v/s Ratio Perm	0.01		0.03	c0.20				c0.09	0.03		0.00	
v/c Ratio	0.02	0.17	0.05	0.33	0.22			0.38	0.13		0.00	
Uniform Delay, d1	5.3	5.9	5.4	6.6	6.0			22.0	20.6		19.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2	0.1	1.5	0.2			0.8	0.2		0.0	
Delay (s)	5.4	6.0	5.5	8.1	6.3			22.7	20.7		19.9	
Level of Service	A	A	A	A	A			C	C		B	
Approach Delay (s)		5.9			6.8			21.5			19.9	
Approach LOS		A			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.35			
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	73.6%	ICU Level of Service	D	
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 (vph)	217	166	112	74	146	63	176	1448	101	44	1379	273
Future Volume (vph)	217	166	112	74	146	63	176	1448	101	44	1379	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	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)	1728	1921	1466	1776	1921	1565	1785	5142	1551	1783	5142	1506
Flt Permitted	0.52	1.00	1.00	0.65	1.00	1.00	0.14	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	937	1921	1466	1219	1921	1565	262	5142	1551	319	5142	1506
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)	217	166	112	74	146	63	176	1448	101	44	1379	273
RTOR Reduction (vph)	0	0	86	0	0	55	0	0	34	0	0	117
Lane Group Flow (vph)	217	166	26	74	146	8	176	1448	67	44	1379	156
Confl. Peds. (#/hr)	7		6	6		7	8		4	4		8
Heavy Vehicles (%)	3%	0%	7%	0%	0%	0%	0%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	37.3	37.3	37.3	21.3	21.3	21.3	106.1	106.1	106.1	91.2	91.2	91.2
Effective Green, g (s)	37.3	37.3	37.3	21.3	21.3	21.3	106.1	106.1	106.1	91.2	91.2	91.2
Actuated g/C Ratio	0.23	0.23	0.23	0.13	0.13	0.13	0.66	0.66	0.66	0.57	0.57	0.57
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	282	447	341	162	255	208	287	3409	1028	181	2930	858
v/s Ratio Prot	c0.06	0.09			0.08		c0.05	0.28			0.27	
v/s Ratio Perm	c0.12		0.02	0.06		0.01	c0.36		0.04	0.14		0.10
v/c Ratio	0.77	0.37	0.08	0.46	0.57	0.04	0.61	0.42	0.07	0.24	0.47	0.18
Uniform Delay, d1	55.5	51.5	47.9	64.0	65.1	60.4	13.4	12.6	9.5	17.2	20.2	16.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	3.29	0.88	1.29	1.00	1.00	1.00
Incremental Delay, d2	11.9	0.5	0.1	2.0	3.1	0.1	3.6	0.4	0.1	3.2	0.5	0.5
Delay (s)	67.4	52.0	48.0	66.0	68.2	60.5	47.8	11.5	12.4	20.3	20.8	17.0
Level of Service	E	D	D	E	E	E	D	B	B	C	C	B
Approach Delay (s)		57.9			65.9			15.2			20.1	
Approach LOS		E			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	291	329	234	183
Demand Flow Rate, veh/h	291	329	234	185
Vehicles Circulating, veh/h	177	225	296	302
Vehicles Exiting, veh/h	310	305	172	252
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	4	10	16	7
Ped Cap Adj	0.999	0.999	0.998	0.999
Approach Delay, s/veh	7.0	8.1	7.3	6.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	291	329	234	185
Cap Entry Lane, veh/h	947	902	840	835
Entry HV Adj Factor	1.000	1.000	1.000	0.990
Flow Entry, veh/h	291	329	234	183
Cap Entry, veh/h	946	901	839	826
V/C Ratio	0.308	0.365	0.279	0.222
Control Delay, s/veh	7.0	8.1	7.3	6.7
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	169	35	91	179	116	80	661	98	101	373	517
Future Volume (vph)	89	169	35	91	179	116	80	661	98	101	373	517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1788	3506		1796	1900	1574	1802	3574	1568	1802	3574	1560
Flt Permitted	0.53	1.00		0.61	1.00	1.00	0.51	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	998	3506		1149	1900	1574	975	3574	1568	671	3574	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	184	38	99	195	126	87	718	107	110	405	562
RTOR Reduction (vph)	0	22	0	0	0	95	0	0	37	0	0	182
Lane Group Flow (vph)	97	200	0	99	195	32	87	718	70	110	405	380
Confl. Peds. (#/hr)	17		9	9		17	3		6	6		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	23.0	23.0		23.0	23.0	23.0	63.5	63.5	63.5	63.5	63.5	63.5
Effective Green, g (s)	25.0	25.0		25.0	25.0	25.0	65.0	65.0	65.0	65.0	65.0	65.0
Actuated g/C Ratio	0.25	0.25		0.25	0.25	0.25	0.65	0.65	0.65	0.65	0.65	0.65
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	249	876		287	475	393	633	2323	1019	436	2323	1014
v/s Ratio Prot		0.06			c0.10			0.20			0.11	
v/s Ratio Perm	0.10			0.09		0.02	0.09		0.04	0.16		c0.24
v/c Ratio	0.39	0.23		0.34	0.41	0.08	0.14	0.31	0.07	0.25	0.17	0.38
Uniform Delay, d1	31.2	29.8		30.8	31.3	28.7	6.7	7.7	6.4	7.3	6.9	8.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.86	0.56
Incremental Delay, d2	1.0	0.1		0.7	0.6	0.1	0.5	0.3	0.1	1.4	0.2	1.1
Delay (s)	32.2	30.0		31.5	31.9	28.8	7.2	8.0	6.5	7.5	6.1	5.6
Level of Service	C	C		C	C	C	A	A	A	A	A	A
Approach Delay (s)		30.6			30.9			7.8			6.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	147	172	1717	1498	139
Future Volume (vph)	0	147	172	1717	1498	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1538	1684	5142	5142	1493
Flt Permitted		1.00	0.15	1.00	1.00	1.00
Satd. Flow (perm)		1538	259	5142	5142	1493
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	147	172	1717	1498	139
RTOR Reduction (vph)	0	139	0	0	0	24
Lane Group Flow (vph)	0	8	172	1717	1498	115
Confl. Peds. (#/hr)	1		5			5
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	2%	4%	6%	2%	2%	5%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		8.8	137.0	137.0	123.7	123.7
Effective Green, g (s)		8.8	137.0	137.0	123.7	123.7
Actuated g/C Ratio		0.06	0.86	0.86	0.77	0.77
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		84	313	4402	3975	1154
v/s Ratio Prot			c0.04	0.33	0.29	
v/s Ratio Perm		c0.01	c0.43			0.08
v/c Ratio		0.10	0.55	0.39	0.38	0.10
Uniform Delay, d1		71.8	3.1	2.5	5.8	4.5
Progression Factor		1.00	15.21	0.25	0.27	0.03
Incremental Delay, d2		0.5	1.5	0.2	0.3	0.2
Delay (s)		72.3	48.6	0.8	1.8	0.3
Level of Service		E	D	A	A	A
Approach Delay (s)	72.3			5.2	1.7	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
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 (vph)	215	895	231	275	837	231	329	1925	206	176	1323	117
Future Volume (vph)	215	895	231	275	837	231	329	1925	206	176	1323	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00		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	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		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)	3502	3574	1552	3502	3539	1501	3467	4983		3502	5007	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3574	1552	3502	3539	1501	3467	4983		3502	5007	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	224	932	241	286	872	241	343	2005	215	183	1378	122
RTOR Reduction (vph)	0	0	95	0	0	94	0	8	0	0	6	0
Lane Group Flow (vph)	224	932	146	286	872	147	343	2212	0	183	1494	0
Confl. Peds. (#/hr)	29		16	16		29	10		31	31		10
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	1%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	12.0	42.9	42.9	14.0	44.9	44.9	19.1	69.1		9.0	59.0	
Effective Green, g (s)	13.0	45.4	45.4	14.0	47.4	47.4	19.1	71.6		9.0	61.5	
Actuated g/C Ratio	0.08	0.28	0.28	0.09	0.30	0.30	0.12	0.45		0.06	0.38	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	284	1014	440	306	1048	444	413	2229		196	1924	
v/s Ratio Prot	0.06	c0.26		c0.08	0.25		c0.10	c0.44		0.05	0.30	
v/s Ratio Perm			0.09			0.10						
v/c Ratio	0.79	0.92	0.33	0.93	0.83	0.33	0.83	0.99		0.93	0.78	
Uniform Delay, d1	72.2	55.5	45.3	72.5	52.6	43.9	68.9	43.9		75.2	43.2	
Progression Factor	1.00	1.00	1.00	0.75	1.13	1.71	1.00	1.00		0.85	1.24	
Incremental Delay, d2	13.5	12.8	0.4	33.0	5.4	0.4	13.2	17.3		40.3	2.6	
Delay (s)	85.7	68.3	45.7	87.2	64.6	75.6	82.1	61.2		104.4	56.4	
Level of Service	F	E	D	F	E	E	F	E		F	E	
Approach Delay (s)		67.2			71.1			64.0			61.6	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	65.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
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 (vph)	60	1178	20	81	1198	98	27	92	67	156	45	76
Future Volume (vph)	60	1178	20	81	1198	98	27	92	67	156	45	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1799	5071		1796	5015		1784	1764		1775	1900	1576
Flt Permitted	0.15	1.00		0.17	1.00		0.71	1.00		0.51	1.00	1.00
Satd. Flow (perm)	285	5071		327	5015		1339	1764		955	1900	1576
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	1280	22	88	1302	107	29	100	73	170	49	83
RTOR Reduction (vph)	0	1	0	0	5	0	0	18	0	0	0	64
Lane Group Flow (vph)	65	1301	0	88	1404	0	29	155	0	170	49	19
Confl. Peds. (#/hr)	11		14	14		11	11		8	8		11
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	104.1	104.1		104.1	104.1		33.8	33.8		33.2	33.2	33.2
Effective Green, g (s)	106.1	106.1		106.1	106.1		36.3	36.3		35.7	35.7	35.7
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.23	0.23		0.22	0.22	0.22
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	188	3362		216	3325		303	400		213	423	351
v/s Ratio Prot		0.26			c0.28			0.09			0.03	
v/s Ratio Perm	0.23			0.27			0.02			c0.18		0.01
v/c Ratio	0.35	0.39		0.41	0.42		0.10	0.39		0.80	0.12	0.05
Uniform Delay, d1	11.8	12.2		12.4	12.6		48.9	52.4		58.7	49.6	48.9
Progression Factor	0.47	0.34		0.67	0.65		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.1	0.1		4.6	0.3		0.1	0.6		18.5	0.1	0.1
Delay (s)	7.6	4.3		12.9	8.6		49.0	53.1		77.2	49.7	48.9
Level of Service	A	A		B	A		D	D		E	D	D
Approach Delay (s)		4.5			8.8			52.5			65.0	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
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 (vph)	98	1113	114	131	1231	214	101	491	105	193	313	83
Future Volume (vph)	98	1113	114	131	1231	214	101	491	105	193	313	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	1.0	5.0		5.0	5.0		6.0	6.0		1.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	5001		1780	4875		1764	3441		1803	3410	
Flt Permitted	0.09	1.00		0.16	1.00		0.50	1.00		0.17	1.00	
Satd. Flow (perm)	176	5001		297	4875		931	3441		323	3410	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	107	1210	124	142	1338	233	110	534	114	210	340	90
RTOR Reduction (vph)	0	7	0	0	14	0	0	12	0	0	15	0
Lane Group Flow (vph)	107	1327	0	142	1557	0	110	636	0	210	415	0
Confl. Peds. (#/hr)	96		23	23		96	32		25	25		32
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	3	0	0	3	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	92.3	87.3		80.9	80.9		37.2	37.2		53.2	53.2	
Effective Green, g (s)	94.3	89.3		82.9	82.9		38.7	38.7		55.2	54.7	
Actuated g/C Ratio	0.59	0.56		0.52	0.52		0.24	0.24		0.35	0.34	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	209	2791		153	2525		225	832		250	1165	
v/s Ratio Prot	c0.03	0.27			0.32			c0.18		c0.08	0.12	
v/s Ratio Perm	0.27			c0.48			0.12			0.21		
v/c Ratio	0.51	0.48		0.93	0.62		0.49	0.76		0.84	0.36	
Uniform Delay, d1	19.5	21.3		35.8	27.3		52.1	56.4		41.2	39.5	
Progression Factor	1.49	0.56		0.48	0.37		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	0.5		52.3	1.0		1.7	4.2		21.2	0.2	
Delay (s)	31.1	12.5		69.5	11.1		53.8	60.6		62.4	39.6	
Level of Service	C	B		E	B		D	E		E	D	
Approach Delay (s)		13.9			16.0			59.6			47.1	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
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 (vph)	126	1256	59	45	1401	146	50	35	40	156	37	115
Future Volume (vph)	126	1256	59	45	1401	146	50	35	40	156	37	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.98		1.00	1.00	0.94
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.95	1.00		0.98	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1802	5044		1799	5002		1719	1720		1775	1900	1515
Flt Permitted	0.10	1.00		0.15	1.00		0.71	1.00		0.70	1.00	1.00
Satd. Flow (perm)	199	5044		278	5002		1292	1720		1312	1900	1515
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	137	1365	64	49	1523	159	54	38	43	170	40	125
RTOR Reduction (vph)	0	2	0	0	6	0	0	30	0	0	0	56
Lane Group Flow (vph)	137	1427	0	49	1676	0	54	51	0	170	40	69
Confl. Peds. (#/hr)	17		13	13		17	35		13	13		35
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	104.4	104.4		104.4	104.4		32.3	32.3		31.5	31.5	31.5
Effective Green, g (s)	106.4	106.4		106.4	106.4		34.8	34.8		34.0	34.0	34.0
Actuated g/C Ratio	0.67	0.67		0.67	0.67		0.22	0.22		0.21	0.21	0.21
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	132	3354		184	3326		281	374		278	403	321
v/s Ratio Prot		0.28			0.34			0.03			0.02	
v/s Ratio Perm	c0.69			0.18			0.04			c0.13		0.05
v/c Ratio	1.04	0.43		0.27	0.50		0.19	0.14		0.61	0.10	0.22
Uniform Delay, d1	26.8	12.5		10.9	13.5		51.1	50.5		57.0	50.7	52.0
Progression Factor	1.09	0.28		0.16	0.17		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	83.1	0.3		2.8	0.4		0.3	0.2		3.9	0.1	0.3
Delay (s)	112.3	3.9		4.6	2.8		51.5	50.7		61.0	50.8	52.3
Level of Service	F	A		A	A		D	D		E	D	D
Approach Delay (s)		13.4			2.8			51.0			56.5	
Approach LOS		B			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
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 (vph)	142	1070	258	147	1139	301	326	1423	108	202	1243	152
Future Volume (vph)	142	1070	258	147	1139	301	326	1423	108	202	1243	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.97
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)	3463	5142	1520	3330	5193	1492	3463	5142	1550	3429	5142	1513
Flt Permitted	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 (perm)	3463	5142	1520	3330	5193	1492	3463	5142	1550	3429	5142	1513
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)	142	1070	258	147	1139	301	326	1423	108	202	1243	152
RTOR Reduction (vph)	0	0	154	0	0	170	0	0	64	0	0	97
Lane Group Flow (vph)	142	1070	104	147	1139	131	326	1423	44	202	1243	55
Confl. Peds. (#/hr)	19		29	29		19	21		17	17		21
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	2%	1%	4%	1%	1%	0%	2%	0%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	11.9	50.8	50.8	9.8	48.7	48.7	17.6	60.1	60.1	13.7	56.2	56.2
Effective Green, g (s)	11.9	50.8	50.8	9.8	48.7	48.7	17.6	60.1	60.1	13.7	56.2	56.2
Actuated g/C Ratio	0.07	0.32	0.32	0.06	0.30	0.30	0.11	0.38	0.38	0.09	0.35	0.35
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	1632	482	203	1580	454	380	1931	582	293	1806	531
v/s Ratio Prot	0.04	0.21		c0.04	c0.22		c0.09	c0.28		0.06	0.24	
v/s Ratio Perm			0.07			0.09			0.03			0.04
v/c Ratio	0.55	0.66	0.22	0.72	0.72	0.29	0.86	0.74	0.08	0.69	0.69	0.10
Uniform Delay, d1	71.5	47.1	40.0	73.8	49.6	42.4	70.0	43.1	32.1	71.1	44.4	34.9
Progression Factor	0.91	1.19	3.37	1.00	1.00	1.00	1.33	1.05	2.27	1.38	0.70	0.56
Incremental Delay, d2	2.4	0.9	0.2	12.1	1.6	0.4	14.2	2.1	0.2	6.3	2.1	0.4
Delay (s)	67.2	56.9	135.0	85.8	51.2	42.8	107.2	47.1	73.0	104.2	33.1	19.8
Level of Service	E	E	F	F	D	D	F	D	E	F	C	B
Approach Delay (s)		71.6			52.8			59.2			40.8	
Approach LOS		E			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	55.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	109.5%	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 (vph)	31	71	174	344	118	81	155	1875	386	33	1664	36
Future Volume (vph)	31	71	174	344	118	81	155	1875	386	33	1664	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
Flpb, ped/bikes	0.99	1.00	1.00	0.99	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)	1765	1883	1557	1772	1902	1527	1767	5142	1549	1716	5142	1506
Flt Permitted	0.68	1.00	1.00	0.63	1.00	1.00	0.08	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	1266	1883	1557	1173	1902	1527	156	5142	1549	130	5142	1506
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)	31	71	174	344	118	81	155	1875	386	33	1664	36
RTOR Reduction (vph)	0	0	149	0	0	59	0	0	136	0	0	17
Lane Group Flow (vph)	31	71	25	344	118	22	155	1875	250	33	1664	19
Confl. Peds. (#/hr)	12		11	11		12	11		6	6		11
Heavy Vehicles (%)	0%	2%	0%	0%	1%	2%	1%	2%	1%	4%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	23.0	23.0	23.0	43.0	43.0	43.0	101.0	92.0	92.0	91.8	85.8	85.8
Effective Green, g (s)	23.0	23.0	23.0	43.0	43.0	43.0	101.0	92.0	92.0	91.8	85.8	85.8
Actuated g/C Ratio	0.14	0.14	0.14	0.27	0.27	0.27	0.63	0.58	0.58	0.57	0.54	0.54
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	3.0	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	181	270	223	378	511	410	221	2956	890	134	2757	807
v/s Ratio Prot		0.04		c0.10	0.06		c0.05	0.36		0.01	0.32	
v/s Ratio Perm	0.02		0.02	c0.15		0.01	c0.39		0.16	0.13		0.01
v/c Ratio	0.17	0.26	0.11	0.91	0.23	0.05	0.70	0.63	0.28	0.25	0.60	0.02
Uniform Delay, d1	60.1	61.0	59.6	55.0	45.6	43.4	21.3	22.7	17.2	18.0	25.4	17.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.87	0.48	0.15	1.10	0.45	1.00
Incremental Delay, d2	0.9	1.1	0.5	25.4	0.5	0.1	7.6	0.8	0.6	0.8	0.8	0.0
Delay (s)	61.1	62.0	60.1	80.4	46.1	43.5	47.5	11.8	3.3	20.6	12.3	17.5
Level of Service	E	E	E	F	D	D	D	B	A	C	B	B
Approach Delay (s)		60.7			67.4			12.7			12.5	
Approach LOS		E			E			B			B	

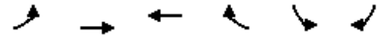
Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	0	50	894	23	728	25	1619	0	0	2126	42
Future Volume (vph)	33	0	50	894	23	728	25	1619	0	0	2126	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	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
Frt	1.00		0.85	1.00	0.86	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1580		1037	3429	1491	1502	1394	5142			5193	1456
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1580		1037	3429	1491	1502	1394	5142			5193	1456
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)	33	0	50	894	23	728	25	1619	0	0	2126	42
RTOR Reduction (vph)	0	0	47	0	82	84	0	0	0	0	0	24
Lane Group Flow (vph)	33	0	3	894	298	287	25	1619	0	0	2126	18
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	13%	2%	54%	1%	70%	1%	28%	2%	2%	2%	1%	8%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	9.1		9.1	46.6	46.6	46.6	6.3	80.4			69.1	69.1
Effective Green, g (s)	9.1		9.1	46.6	46.6	46.6	6.3	80.4			69.1	69.1
Actuated g/C Ratio	0.06		0.06	0.29	0.29	0.29	0.04	0.50			0.43	0.43
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	89		58	998	434	437	54	2583			2242	628
v/s Ratio Prot	c0.02		0.00	c0.26	0.20		0.02	c0.31			c0.41	
v/s Ratio Perm						0.19						0.01
v/c Ratio	0.37		0.05	0.90	0.69	0.66	0.46	0.63			0.95	0.03
Uniform Delay, d1	72.7		71.4	54.4	50.3	49.7	75.2	28.9			43.7	26.1
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.22	0.85			0.53	1.00
Incremental Delay, d2	5.4		0.7	11.1	5.8	4.7	5.8	1.1			8.5	0.1
Delay (s)	78.1		72.1	65.5	56.0	54.4	97.7	25.7			31.8	26.2
Level of Service	E		E	E	E	D	F	C			C	C
Approach Delay (s)		74.5			60.8			26.8			31.7	
Approach LOS		E			E			C			C	

Intersection Summary				
HCM 2000 Control Delay	39.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9	
Intersection Capacity Utilization	92.3%	ICU Level of Service	F	
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 (vph)	230	7	189	0	0	0	0	1473	0	16	2042	0
Future Volume (vph)	230	7	189	0	0	0	0	1473	0	16	2042	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1585	1585	1521					5142		892	5142	
Flt Permitted	0.95	0.96	1.00					1.00		0.15	1.00	
Satd. Flow (perm)	1585	1585	1521					5142		136	5142	
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)	230	7	189	0	0	0	0	1473	0	16	2042	0
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	117	120	153	0	0	0	0	1473	0	16	2042	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	7%	58%	5%	2%	2%	2%	2%	2%	3%	100%	2%	2%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	23.6	23.6	23.6					116.4		122.3	122.3	
Effective Green, g (s)	23.6	23.6	23.6					116.4		122.3	122.3	
Actuated g/C Ratio	0.15	0.15	0.15					0.73		0.76	0.76	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	233	233	224					3740		117	3930	
v/s Ratio Prot	0.07	0.08	c0.10					0.29		0.00	c0.40	
v/s Ratio Perm										0.10		
v/c Ratio	0.50	0.52	0.68					0.39		0.14	0.52	
Uniform Delay, d1	62.8	62.9	64.7					8.3		5.4	7.4	
Progression Factor	1.00	1.00	1.00					1.00		0.18	0.34	
Incremental Delay, d2	3.5	3.8	10.6					0.3		0.2	0.2	
Delay (s)	66.3	66.7	75.3					8.6		1.2	2.7	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		70.4			0.0			8.6			2.7	
Approach LOS		E			A			A			A	

Intersection Summary				
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.56			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1	
Intersection Capacity Utilization	62.9%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	103	63	121	185	96	154
Future Volume (vph)	103	63	121	185	96	154
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	112	68	132	201	104	167

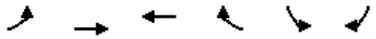
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	135	45	132	201	104	167
Volume Left (vph)	112	0	0	0	104	0
Volume Right (vph)	0	0	0	201	0	167
Hadj (s)	0.42	0.00	0.00	-0.60	0.62	-0.70
Departure Headway (s)	6.0	5.6	5.5	4.9	6.3	5.0
Degree Utilization, x	0.23	0.07	0.20	0.27	0.18	0.23
Capacity (veh/h)	566	607	626	706	537	670
Control Delay (s)	9.6	7.8	8.6	8.5	9.6	8.4
Approach Delay (s)	9.1		8.5		8.8	
Approach LOS	A		A		A	

Intersection Summary			
Delay	8.8		
Level of Service	A		
Intersection Capacity Utilization	30.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	164	207	199	137	115	190
Future Volume (vph)	164	207	199	137	115	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	178	225	216	149	125	207

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	178	225	266	99	125	207
Volume Left (vph)	178	0	216	0	0	0
Volume Right (vph)	0	225	0	0	0	207
Hadj (s)	0.50	-0.70	0.41	0.00	0.00	-0.70
Departure Headway (s)	6.8	5.6	6.6	6.1	6.2	5.5
Degree Utilization, x	0.34	0.35	0.48	0.17	0.22	0.32
Capacity (veh/h)	503	608	523	559	548	620
Control Delay (s)	12.0	10.4	14.4	9.2	9.8	9.9
Approach Delay (s)	11.1		13.0		9.9	
Approach LOS	B		B		A	

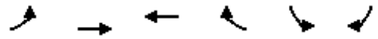
Intersection Summary			
Delay	11.3		
Level of Service	B		
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	102	199	190	67	26	115
Future Volume (Veh/h)	102	199	190	67	26	115
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	111	216	207	73	28	125
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	280				574	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	280				574	140
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				93	86
cM capacity (veh/h)	1294				415	889

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	183	144	138	142	153
Volume Left	111	0	0	0	28
Volume Right	0	0	0	73	125
cSH	1294	1700	1700	1700	735
Volume to Capacity	0.09	0.08	0.08	0.08	0.21
Queue Length 95th (m)	2.2	0.0	0.0	0.0	6.2
Control Delay (s)	5.2	0.0	0.0	0.0	11.2
Lane LOS	A				B
Approach Delay (s)	2.9		0.0		11.2
Approach LOS					B

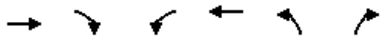
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	125	100	181	119	63	76
Future Volume (Veh/h)	125	100	181	119	63	76
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	136	109	197	129	68	83
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	326				588	163
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	326				588	163
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				83	90
cM capacity (veh/h)	1245				396	859

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	172	73	131	195	151
Volume Left	136	0	0	0	68
Volume Right	0	0	0	129	83
cSH	1245	1700	1700	1700	563
Volume to Capacity	0.11	0.04	0.08	0.11	0.27
Queue Length 95th (m)	2.9	0.0	0.0	0.0	8.6
Control Delay (s)	6.7	0.0	0.0	0.0	13.7
Lane LOS	A				B
Approach Delay (s)	4.7		0.0		13.7
Approach LOS					B

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	429	20	5	539	2	19
Future Volume (Veh/h)	429	20	5	539	2	19
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	466	22	5	586	2	21
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	182			180		
pX, platoon unblocked					0.98	
vC, conflicting volume			488		780	166
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			488		737	166
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	98
cM capacity (veh/h)			1071		345	849

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	186	186	115	5	293	293	23
Volume Left	0	0	0	5	0	0	2
Volume Right	0	0	22	0	0	0	21
cSH	1700	1700	1700	1071	1700	1700	753
Volume to Capacity	0.11	0.11	0.07	0.00	0.17	0.17	0.03
Queue Length 95th (m)	0.0	0.0	0.0	0.1	0.0	0.0	0.8
Control Delay (s)	0.0	0.0	0.0	8.4	0.0	0.0	9.9
Lane LOS				A			A
Approach Delay (s)	0.0			0.1			9.9
Approach LOS							A

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	24.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	3	1509	18	0	575
Future Volume (Veh/h)	0	3	1509	18	0	575
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	1640	20	0	625
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			109			193
pX, platoon unblocked	0.93	0.91			0.91	
vC, conflicting volume	1962	830			1660	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1747	624			1533	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	72	391			393	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	3	1093	567	312	312
Volume Left	0	0	0	0	0
Volume Right	3	0	20	0	0
cSH	391	1700	1700	1700	1700
Volume to Capacity	0.01	0.64	0.33	0.18	0.18
Queue Length 95th (m)	0.2	0.0	0.0	0.0	0.0
Control Delay (s)	14.3	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	14.3	0.0		0.0	
Approach LOS	B				

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	52.3%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	1256	59	45	1401	146	50	35	40	156	37	115
Future Volume (vph)	126	1256	59	45	1401	146	50	35	40	156	37	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.98		1.00	1.00	0.94
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.95	1.00		0.98	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1802	5044		1798	5002		1719	1720		1774	1900	1515
Flt Permitted	0.11	1.00		0.16	1.00		0.71	1.00		0.71	1.00	1.00
Satd. Flow (perm)	214	5044		296	5002		1293	1720		1318	1900	1515
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	133	1322	62	47	1475	154	53	37	42	164	39	121
RTOR Reduction (vph)	0	2	0	0	6	0	0	30	0	0	0	58
Lane Group Flow (vph)	133	1382	0	47	1623	0	53	49	0	164	39	63
Confl. Peds. (#/hr)	17		13	13		17	35		13	13		35
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	104.8	104.8		104.8	104.8		31.9	31.9		31.1	31.1	31.1
Effective Green, g (s)	106.8	106.8		106.8	106.8		34.4	34.4		33.6	33.6	33.6
Actuated g/C Ratio	0.67	0.67		0.67	0.67		0.21	0.21		0.21	0.21	0.21
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	142	3366		197	3338		277	369		276	399	318
v/s Ratio Prot		0.27			0.32			0.03			0.02	
v/s Ratio Perm	c0.62			0.16			0.04			c0.12		0.04
v/c Ratio	0.94	0.41		0.24	0.49		0.19	0.13		0.59	0.10	0.20
Uniform Delay, d1	23.6	12.2		10.5	13.1		51.4	50.8		57.0	51.0	52.1
Progression Factor	1.11	0.27		0.15	0.15		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	54.7	0.3		2.2	0.4		0.3	0.2		3.4	0.1	0.3
Delay (s)	80.9	3.6		3.7	2.3		51.8	50.9		60.5	51.1	52.4
Level of Service	F	A		A	A		D	D		E	D	D
Approach Delay (s)		10.4			2.4			51.3			56.3	
Approach LOS		B			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
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 (vph)	49	239	146	77	185	131	149	1571	120	177	1575	40
Future Volume (vph)	49	239	146	77	185	131	149	1571	120	177	1575	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	1.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1779	3315		1791	1863	1550	1805	4971		1805	5050	
Flt Permitted	0.47	1.00		0.36	1.00	1.00	0.08	1.00		0.07	1.00	
Satd. Flow (perm)	880	3315		671	1863	1550	157	4971		136	5050	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	260	159	84	201	142	162	1708	130	192	1712	43
RTOR Reduction (vph)	0	68	0	0	0	107	0	4	0	0	1	0
Lane Group Flow (vph)	53	351	0	84	201	35	162	1834	0	192	1754	0
Confl. Peds. (#/hr)	22		16	16		22	17		6	6		17
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	9	0	0	9	0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	37.1	37.1		37.1	37.1	37.1	105.2	92.1		105.6	92.3	
Effective Green, g (s)	39.6	39.6		39.6	39.6	39.6	109.2	94.1		109.6	94.3	
Actuated g/C Ratio	0.25	0.25		0.25	0.25	0.25	0.68	0.59		0.68	0.59	
Clearance Time (s)	7.5	7.5		7.5	7.5	7.5	3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	217	820		166	461	383	262	2923		252	2976	
v/s Ratio Prot		0.11			0.11		0.06	c0.37		c0.07	0.35	
v/s Ratio Perm	0.06			c0.13		0.02	0.36			0.45		
v/c Ratio	0.24	0.43		0.51	0.44	0.09	0.62	0.63		0.76	0.59	
Uniform Delay, d1	48.2	50.7		51.8	50.8	46.4	19.8	21.5		34.2	20.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.87	1.70		1.00	1.00	
Incremental Delay, d2	0.6	0.4		2.4	0.7	0.1	2.2	0.5		12.7	0.9	
Delay (s)	48.8	51.0		54.2	51.4	46.5	39.3	37.0		47.0	21.5	
Level of Service	D	D		D	D	D	D	D		D	C	
Approach Delay (s)		50.8			50.3			37.2			24.0	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	34.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
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 (vph)	25	485	64	53	364	14	50	27	56	18	24	23
Future Volume (vph)	25	485	64	53	364	14	50	27	56	18	24	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1797	3488		1794	3538		1799	1900	1585	1795	1747	
Flt Permitted	0.51	1.00		0.43	1.00		0.72	1.00	1.00	0.74	1.00	
Satd. Flow (perm)	966	3488		805	3538		1371	1900	1585	1395	1747	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	527	70	58	396	15	54	29	61	20	26	25
RTOR Reduction (vph)	0	7	0	0	2	0	0	0	49	0	20	0
Lane Group Flow (vph)	27	590	0	58	409	0	54	29	12	20	31	0
Confl. Peds. (#/hr)	9		15	15		9	6		10	10		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	42.9	42.9		42.9	42.9		12.1	12.1	12.1	12.1	12.1	
Effective Green, g (s)	44.9	44.9		44.9	44.9		13.6	13.6	13.6	13.6	13.6	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.20	0.20	0.20	0.20	0.20	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	633	2286		527	2319		272	377	314	276	346	
v/s Ratio Prot		c0.17			0.12			0.02			0.02	
v/s Ratio Perm	0.03			0.07			c0.04		0.01	0.01		
v/c Ratio	0.04	0.26		0.11	0.18		0.20	0.08	0.04	0.07	0.09	
Uniform Delay, d1	4.2	4.9		4.4	4.6		22.9	22.3	22.2	22.3	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.4	0.2		0.4	0.1	0.1	0.1	0.1	
Delay (s)	4.3	5.2		4.8	4.8		23.3	22.4	22.2	22.4	22.5	
Level of Service	A	A		A	A		C	C	C	C	C	
Approach Delay (s)		5.1			4.8			22.7			22.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
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 (vph)	61	413	77	86	369	151	75	484	72	141	461	48
Future Volume (vph)	61	413	77	86	369	151	75	484	72	141	461	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1795	3463		1736	3391		1798	3495		1761	3552	
Flt Permitted	0.41	1.00		0.43	1.00		0.40	1.00		0.37	1.00	
Satd. Flow (perm)	780	3463		791	3391		763	3495		685	3552	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	449	84	93	401	164	82	526	78	153	501	52
RTOR Reduction (vph)	0	18	0	0	51	0	0	14	0	0	9	0
Lane Group Flow (vph)	66	515	0	93	514	0	82	590	0	153	544	0
Confl. Peds. (#/hr)	25		43	43		25	18		22	22		18
Confl. Bikes (#/hr)			1			1			1			
Heavy Vehicles (%)	0%	1%	0%	3%	1%	0%	0%	0%	3%	2%	0%	0%
Bus Blockages (#/hr)	0	2	0	0	2	0	0	3	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	25.5	25.5		25.5	25.5		22.4	22.4		22.4	22.4	
Effective Green, g (s)	27.5	27.5		27.5	27.5		23.9	23.9		23.9	23.9	
Actuated g/C Ratio	0.45	0.45		0.45	0.45		0.39	0.39		0.39	0.39	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	349	1551		354	1518		296	1360		266	1382	
v/s Ratio Prot		0.15			c0.15			0.17			0.15	
v/s Ratio Perm	0.08			0.12			0.11			c0.22		
v/c Ratio	0.19	0.33		0.26	0.34		0.28	0.43		0.58	0.39	
Uniform Delay, d1	10.2	11.0		10.6	11.0		12.8	13.8		14.8	13.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.1		0.4	0.1		0.5	0.2		3.0	0.2	
Delay (s)	10.5	11.1		11.0	11.2		13.3	14.0		17.8	13.7	
Level of Service	B	B		B	B		B	B		B	B	
Approach Delay (s)		11.1			11.1			13.9			14.6	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.45			
Actuated Cycle Length (s)	61.4	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	84.8%	ICU Level of Service	E	
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 (vph)	66	426	96	185	286	102	105	20	198	12	0	1
Future Volume (vph)	66	426	96	185	286	102	105	20	198	12	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99			1.00	0.98		1.00	
Flpb, ped/bikes	0.99	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	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96	1.00		0.96	
Satd. Flow (prot)	1792	3539	1541	1748	3437			1720	1559		3398	
Flt Permitted	0.51	1.00	1.00	0.49	1.00			0.75	1.00		0.80	
Satd. Flow (perm)	953	3539	1541	894	3437			1344	1559		2851	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	463	104	201	311	111	114	22	215	13	0	1
RTOR Reduction (vph)	0	0	45	0	30	0	0	0	152	0	10	0
Lane Group Flow (vph)	72	463	59	201	392	0	0	136	63	0	4	0
Confl. Peds. (#/hr)	14		9	9		14	21		6	6		21
Heavy Vehicles (%)	0%	2%	3%	3%	0%	0%	6%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	40.5	40.5	40.5	40.5	40.5			19.9	19.9		19.9	
Effective Green, g (s)	42.5	42.5	42.5	42.5	42.5			21.9	21.9		21.9	
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57			0.29	0.29		0.29	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	544	2021	880	510	1963			395	458		839	
v/s Ratio Prot		0.13			0.11							
v/s Ratio Perm	0.08		0.04	c0.22				c0.10	0.04		0.00	
v/c Ratio	0.13	0.23	0.07	0.39	0.20			0.34	0.14		0.00	
Uniform Delay, d1	7.4	7.9	7.1	8.8	7.7			20.6	19.3		18.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.5	0.3	0.1	2.3	0.2			0.5	0.1		0.0	
Delay (s)	7.9	8.1	7.3	11.1	7.9			21.1	19.4		18.6	
Level of Service	A	A	A	B	A			C	B		B	
Approach Delay (s)		8.0			9.0			20.1			18.6	
Approach LOS		A			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.38			
Actuated Cycle Length (s)	74.4	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	81.7%	ICU Level of Service	D	
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 (vph)	201	183	218	72	130	236	172	993	58	34	1343	241
Future Volume (vph)	201	183	218	72	130	236	172	993	58	34	1343	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.97	1.00	1.00	0.97	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)	1722	1921	1526	1779	1921	1556	1785	5193	1551	1781	5193	1512
Flt Permitted	0.58	1.00	1.00	0.64	1.00	1.00	0.15	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)	1061	1921	1526	1203	1921	1556	279	5193	1551	518	5193	1512
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)	201	183	218	72	130	236	172	993	58	34	1343	241
RTOR Reduction (vph)	0	0	112	0	0	110	0	0	20	0	0	101
Lane Group Flow (vph)	201	183	106	72	130	126	172	993	38	34	1343	140
Confl. Peds. (#/hr)	12		4	4		12	5		4	4		5
Heavy Vehicles (%)	3%	0%	3%	0%	0%	0%	0%	1%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	38.1	38.1	38.1	25.1	25.1	25.1	105.3	105.3	105.3	92.8	92.8	92.8
Effective Green, g (s)	38.1	38.1	38.1	25.1	25.1	25.1	105.3	105.3	105.3	92.8	92.8	92.8
Actuated g/C Ratio	0.24	0.24	0.24	0.16	0.16	0.16	0.66	0.66	0.66	0.58	0.58	0.58
Clearance Time (s)	3.0	9.8	9.8	9.8	9.8	9.8	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	293	457	363	188	301	244	273	3417	1020	300	3011	876
v/s Ratio Prot	c0.04	0.10			0.07		c0.04	0.19			0.26	
v/s Ratio Perm	c0.12		0.07	0.06		0.08	c0.38		0.02	0.07		0.09
v/c Ratio	0.69	0.40	0.29	0.38	0.43	0.52	0.63	0.29	0.04	0.11	0.45	0.16
Uniform Delay, d1	54.3	51.3	49.9	60.5	61.0	61.9	13.1	11.6	9.6	15.1	19.0	15.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	3.02	0.53	0.20	1.00	1.00	1.00
Incremental Delay, d2	6.5	0.6	0.4	1.3	1.0	1.9	4.6	0.2	0.1	0.8	0.5	0.4
Delay (s)	60.9	51.9	50.4	61.8	62.0	63.8	44.2	6.3	2.0	15.9	19.5	15.9
Level of Service	E	D	D	E	E	E	D	A	A	B	B	B
Approach Delay (s)		54.3			62.9			11.4			18.9	
Approach LOS		D			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	328	348	190	191
Demand Flow Rate, veh/h	330	348	190	191
Vehicles Circulating, veh/h	207	164	335	335
Vehicles Exiting, veh/h	319	361	202	177
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	22	24	25
Ped Cap Adj	1.000	0.997	0.997	0.997
Approach Delay, s/veh	7.9	7.7	7.0	7.0
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	330	348	190	191
Cap Entry Lane, veh/h	919	959	808	808
Entry HV Adj Factor	0.993	1.000	1.000	1.000
Flow Entry, veh/h	328	348	190	191
Cap Entry, veh/h	912	956	806	806
V/C Ratio	0.359	0.364	0.236	0.237
Control Delay, s/veh	7.9	7.7	7.0	7.0
LOS	A	A	A	A
95th %tile Queue, veh	2	2	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	283	43	150	208	138	63	404	160	168	398	89
Future Volume (vph)	92	283	43	150	208	138	63	404	160	168	398	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1791	3515		1797	1900	1577	1783	3574	1559	1794	3574	1560
Flt Permitted	0.57	1.00		0.53	1.00	1.00	0.50	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	1082	3515		1005	1900	1577	939	3574	1559	939	3574	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	308	47	163	226	150	68	439	174	183	433	97
RTOR Reduction (vph)	0	18	0	0	0	100	0	0	83	0	0	46
Lane Group Flow (vph)	100	337	0	163	226	50	68	439	91	183	433	51
Confl. Peds. (#/hr)	20		14	14		20	35		18	18		35
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	0	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	21.1	21.1		21.1	21.1	21.1	34.6	34.6	34.6	34.6	34.6	34.6
Effective Green, g (s)	23.1	23.1		23.1	23.1	23.1	36.1	36.1	36.1	36.1	36.1	36.1
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33	0.52	0.52	0.52	0.52	0.52	0.52
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	361	1173		335	634	526	489	1864	813	489	1864	813
v/s Ratio Prot		0.10			0.12			0.12			0.12	
v/s Ratio Perm	0.09			c0.16		0.03	0.07		0.06	c0.19		0.03
v/c Ratio	0.28	0.29		0.49	0.36	0.10	0.14	0.24	0.11	0.37	0.23	0.06
Uniform Delay, d1	16.9	17.0		18.3	17.4	15.9	8.5	9.0	8.4	9.8	9.0	8.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1		1.1	0.3	0.1	0.6	0.3	0.3	2.2	0.3	0.1
Delay (s)	17.3	17.1		19.4	17.8	15.9	9.1	9.3	8.7	12.0	9.3	8.3
Level of Service	B	B		B	B	B	A	A	A	B	A	A
Approach Delay (s)		17.2			17.8			9.1			9.9	
Approach LOS		B			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.42			
Actuated Cycle Length (s)	69.2	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	82.8%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	149	177	1226	1509	150
Future Volume (vph)	0	149	177	1226	1509	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.7	3.7	3.5
Total Lost time (s)		8.0	3.0	6.2	6.2	6.2
Lane Util. Factor		1.00	1.00	0.91	0.91	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00
Frt		0.86	1.00	1.00	1.00	0.85
Flt Protected		1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)		1563	1767	5193	5193	1526
Flt Permitted		1.00	0.14	1.00	1.00	1.00
Satd. Flow (perm)		1563	267	5193	5193	1526
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	149	177	1226	1509	150
RTOR Reduction (vph)	0	139	0	0	0	31
Lane Group Flow (vph)	0	10	177	1226	1509	119
Confl. Peds. (#/hr)	1		3			3
Heavy Vehicles (%)	2%	4%	1%	1%	1%	3%
Turn Type		Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)		11.0	134.8	134.8	122.4	122.4
Effective Green, g (s)		11.0	134.8	134.8	122.4	122.4
Actuated g/C Ratio		0.07	0.84	0.84	0.77	0.77
Clearance Time (s)		8.0	3.0	6.2	6.2	6.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		107	313	4375	3972	1167
v/s Ratio Prot			c0.03	0.24	0.29	
v/s Ratio Perm		c0.01	c0.44			0.08
v/c Ratio		0.10	0.57	0.28	0.38	0.10
Uniform Delay, d1		69.8	3.6	2.6	6.2	4.8
Progression Factor		1.00	12.95	0.18	0.36	0.03
Incremental Delay, d2		0.4	2.0	0.1	0.3	0.2
Delay (s)		70.2	48.6	0.6	2.5	0.3
Level of Service		E	D	A	A	A
Approach Delay (s)	70.2			6.7	2.3	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
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 (vph)	153	752	279	293	690	153	239	1532	235	154	1377	117
Future Volume (vph)	153	752	279	293	690	153	239	1532	235	154	1377	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00		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	
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)	3502	3574	1583	3467	3574	1510	3467	4959		3502	4963	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3574	1583	3467	3574	1510	3467	4959		3502	4963	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	817	303	318	750	166	260	1665	255	167	1497	127
RTOR Reduction (vph)	0	0	110	0	0	106	0	12	0	0	6	0
Lane Group Flow (vph)	166	817	193	318	750	60	260	1908	0	167	1618	0
Confl. Peds. (#/hr)	24		7	7		24	13		18	18		13
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	9	0	0	9	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	12.9	42.9	42.9	16.8	46.8	46.8	15.8	62.3		13.0	59.5	
Effective Green, g (s)	12.9	45.4	45.4	16.8	49.3	49.3	15.8	64.8		13.0	62.0	
Actuated g/C Ratio	0.08	0.28	0.28	0.11	0.31	0.31	0.10	0.40		0.08	0.39	
Clearance Time (s)	5.0	7.5	7.5	5.0	7.5	7.5	5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	282	1014	449	364	1101	465	342	2008		284	1923	
v/s Ratio Prot	0.05	c0.23		c0.09	c0.21		c0.07	c0.38		0.05	0.33	
v/s Ratio Perm			0.12			0.04						
v/c Ratio	0.59	0.81	0.43	0.87	0.68	0.13	0.76	0.95		0.59	0.84	
Uniform Delay, d1	71.0	53.2	46.7	70.6	48.5	39.9	70.3	46.0		70.9	44.5	
Progression Factor	1.00	1.00	1.00	1.14	1.18	3.18	1.00	1.00		1.31	0.64	
Incremental Delay, d2	3.1	4.7	0.7	19.2	1.7	0.1	9.6	11.4		2.6	3.9	
Delay (s)	74.1	58.0	47.4	99.9	58.9	126.8	79.8	57.4		95.6	32.5	
Level of Service	E	E	D	F	E	F	E	E		F	C	
Approach Delay (s)		57.6			78.6			60.1			38.4	
Approach LOS		E			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	57.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
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 (vph)	61	1186	21	50	1066	94	31	49	53	162	48	60
Future Volume (vph)	61	1186	21	50	1066	94	31	49	53	162	48	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.99		1.00	0.99		1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.98	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1790	5072		1801	4997		1773	1731		1791	1900	1565
Flt Permitted	0.18	1.00		0.17	1.00		0.70	1.00		0.65	1.00	1.00
Satd. Flow (perm)	340	5072		320	4997		1307	1731		1229	1900	1565
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	1289	23	54	1159	102	34	53	58	176	52	65
RTOR Reduction (vph)	0	1	0	0	5	0	0	28	0	0	0	50
Lane Group Flow (vph)	66	1311	0	54	1256	0	34	83	0	176	52	15
Confl. Peds. (#/hr)	23		6	6		23	17		8	8		17
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	102.4	102.4		102.4	102.4		35.5	35.5		34.3	34.3	34.3
Effective Green, g (s)	104.4	104.4		104.4	104.4		38.0	38.0		36.8	36.8	36.8
Actuated g/C Ratio	0.65	0.65		0.65	0.65		0.24	0.24		0.23	0.23	0.23
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	221	3309		208	3260		310	411		282	437	359
v/s Ratio Prot		c0.26			0.25			0.05			0.03	
v/s Ratio Perm	0.19			0.17			0.03			c0.14		0.01
v/c Ratio	0.30	0.40		0.26	0.39		0.11	0.20		0.62	0.12	0.04
Uniform Delay, d1	12.0	13.0		11.6	12.9		47.8	48.8		55.4	48.8	47.9
Progression Factor	0.48	0.46		0.40	0.41		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.6	0.3		2.7	0.3		0.2	0.2		4.3	0.1	0.0
Delay (s)	8.3	6.3		7.4	5.6		47.9	49.1		59.6	48.9	47.9
Level of Service	A	A		A	A		D	D		E	D	D
Approach Delay (s)		6.4			5.6			48.8			55.1	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
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 (vph)	139	1043	85	111	1128	155	93	320	70	225	347	105
Future Volume (vph)	139	1043	85	111	1128	155	93	320	70	225	347	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1793	5020		1798	5002		1757	3437		1797	3385	
Flt Permitted	0.14	1.00		0.17	1.00		0.44	1.00		0.33	1.00	
Satd. Flow (perm)	260	5020		331	5002		821	3437		616	3385	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	1134	92	121	1226	168	101	348	76	245	377	114
RTOR Reduction (vph)	0	4	0	0	9	0	0	14	0	0	22	0
Lane Group Flow (vph)	151	1222	0	121	1385	0	101	410	0	245	469	0
Confl. Peds. (#/hr)	47		19	19		47	42		27	27		42
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	7	0	0	0	7	0	3	0	0	3	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	89.8	89.8		89.8	89.8		34.7	34.7		50.7	46.1	
Effective Green, g (s)	91.8	91.8		91.8	91.8		37.2	37.2		52.7	48.6	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.23	0.23		0.33	0.30	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	149	2880		189	2869		190	799		313	1028	
v/s Ratio Prot		0.24			0.28			0.12		c0.07	0.14	
v/s Ratio Perm	c0.58			0.37			c0.12			0.18		
v/c Ratio	1.01	0.42		0.64	0.48		0.53	0.51		0.78	0.46	
Uniform Delay, d1	34.1	19.2		23.0	20.1		53.8	53.5		43.9	45.0	
Progression Factor	0.56	0.59		1.43	1.43		1.00	1.00		1.00	1.00	
Incremental Delay, d2	75.0	0.4		14.8	0.6		2.8	0.6		12.0	0.3	
Delay (s)	94.1	11.8		47.7	29.3		56.6	54.1		55.9	45.3	
Level of Service	F	B		D	C		E	D		E	D	
Approach Delay (s)		20.8			30.8			54.6			48.9	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
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 (vph)	186	1251	38	34	1119	143	28	32	48	201	52	109
Future Volume (vph)	186	1251	38	34	1119	143	28	32	48	201	52	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.97		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1803	5058		1798	4994		1766	1685		1737	1900	1559
Flt Permitted	0.16	1.00		0.15	1.00		0.72	1.00		0.67	1.00	1.00
Satd. Flow (perm)	299	5058		286	4994		1338	1685		1233	1900	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	1360	41	37	1216	155	30	35	52	218	57	118
RTOR Reduction (vph)	0	1	0	0	8	0	0	39	0	0	0	79
Lane Group Flow (vph)	202	1400	0	37	1363	0	30	48	0	218	57	39
Confl. Peds. (#/hr)	7		15	15		7	16		22	22		16
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	103.3	103.3		103.3	103.3		33.0	33.0		33.0	33.0	33.0
Effective Green, g (s)	105.3	105.3		105.3	105.3		35.5	35.5		35.5	35.5	35.5
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.22	0.22		0.22	0.22	0.22
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	196	3328		188	3286		296	373		273	421	345
v/s Ratio Prot		0.28			0.27			0.03			0.03	
v/s Ratio Perm	c0.68			0.13			0.02			c0.18		0.03
v/c Ratio	1.03	0.42		0.20	0.41		0.10	0.13		0.80	0.14	0.11
Uniform Delay, d1	27.4	12.9		10.7	12.9		49.6	49.9		58.9	49.9	49.7
Progression Factor	0.61	0.62		0.89	0.83		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	69.9	0.4		2.0	0.3		0.2	0.2		14.9	0.1	0.1
Delay (s)	86.6	8.4		11.6	11.1		49.7	50.0		73.8	50.1	49.8
Level of Service	F	A		B	B		D	D		E	D	D
Approach Delay (s)		18.2			11.1			49.9			63.2	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
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 (vph)	107	1069	316	143	893	228	331	1097	100	261	1225	129
Future Volume (vph)	107	1069	316	143	893	228	331	1097	100	261	1225	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.97
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)	3463	5193	1519	3429	5193	1469	3463	5193	1532	3463	5193	1553
Flt Permitted	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 (perm)	3463	5193	1519	3429	5193	1469	3463	5193	1532	3463	5193	1553
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)	107	1069	316	143	893	228	331	1097	100	261	1225	129
RTOR Reduction (vph)	0	0	137	0	0	147	0	0	61	0	0	82
Lane Group Flow (vph)	107	1069	179	143	893	81	331	1097	39	261	1225	47
Confl. Peds. (#/hr)	25		30	30		25	15		28	28		15
Heavy Vehicles (%)	0%	1%	1%	1%	1%	2%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	7	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Actuated Green, G (s)	9.8	48.4	48.4	10.5	49.1	49.1	16.9	62.5	62.5	13.0	58.6	58.6
Effective Green, g (s)	9.8	48.4	48.4	10.5	49.1	49.1	16.9	62.5	62.5	13.0	58.6	58.6
Actuated g/C Ratio	0.06	0.30	0.30	0.07	0.31	0.31	0.11	0.39	0.39	0.08	0.37	0.37
Clearance Time (s)	5.0	8.1	8.1	5.0	8.1	8.1	5.0	7.5	7.5	5.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	212	1570	459	225	1593	450	365	2028	598	281	1901	568
v/s Ratio Prot	0.03	c0.21		c0.04	0.17		c0.10	c0.21		0.08	c0.24	
v/s Ratio Perm			0.12			0.06			0.03			0.03
v/c Ratio	0.50	0.68	0.39	0.64	0.56	0.18	0.91	0.54	0.07	0.93	0.64	0.08
Uniform Delay, d1	72.7	49.0	44.1	72.9	46.4	40.7	70.8	37.7	30.5	73.0	42.1	33.1
Progression Factor	1.16	0.98	0.93	1.00	1.00	1.00	1.10	1.04	1.94	1.27	0.71	0.52
Incremental Delay, d2	1.7	1.1	0.5	5.8	0.5	0.2	23.8	1.0	0.2	33.6	1.6	0.3
Delay (s)	86.3	49.2	41.7	78.7	46.9	40.9	101.7	40.2	59.2	126.2	31.5	17.4
Level of Service	F	D	D	E	D	D	F	D	E	F	C	B
Approach Delay (s)		50.3			49.4			54.8			45.7	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	50.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	109.9%	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 (vph)	44	58	143	229	39	52	120	1612	261	32	1663	15
Future Volume (vph)	44	58	143	229	39	52	120	1612	261	32	1663	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	6.8	6.8	6.8
Lane Util. Factor	1.00	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	0.98	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.96
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)	1772	1921	1567	1778	1921	1566	1785	5193	1576	1785	5193	1514
Flt Permitted	0.73	1.00	1.00	0.61	1.00	1.00	0.10	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	1365	1921	1567	1149	1921	1566	192	5193	1576	260	5193	1514
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)	44	58	143	229	39	52	120	1612	261	32	1663	15
RTOR Reduction (vph)	0	0	127	0	0	37	0	0	76	0	0	6
Lane Group Flow (vph)	44	58	16	229	39	15	120	1612	185	32	1663	9
Confl. Peds. (#/hr)	7		6	6		7	9		1	1		9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	3
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		8		7	4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Actuated Green, G (s)	17.5	17.5	17.5	30.5	30.5	30.5	113.5	113.5	113.5	101.3	101.3	101.3
Effective Green, g (s)	17.5	17.5	17.5	30.5	30.5	30.5	113.5	113.5	113.5	101.3	101.3	101.3
Actuated g/C Ratio	0.11	0.11	0.11	0.19	0.19	0.19	0.71	0.71	0.71	0.63	0.63	0.63
Clearance Time (s)	9.2	9.2	9.2	3.0	9.2	9.2	3.0	6.8	6.8	6.8	6.8	6.8
Vehicle Extension (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	149	210	171	258	366	298	227	3683	1117	164	3287	958
v/s Ratio Prot		0.03		c0.06	0.02		c0.03	0.31			0.32	
v/s Ratio Perm	0.03		0.01	c0.11		0.01	c0.34		0.12	0.12		0.01
v/c Ratio	0.30	0.28	0.09	0.89	0.11	0.05	0.53	0.44	0.17	0.20	0.51	0.01
Uniform Delay, d1	65.6	65.4	64.1	62.3	53.5	52.9	11.3	9.8	7.7	12.3	15.8	10.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	2.52	0.87	1.22	0.73	0.65	1.00
Incremental Delay, d2	2.3	1.5	0.5	28.5	0.3	0.1	2.0	0.3	0.3	2.1	0.4	0.0
Delay (s)	67.9	66.9	64.6	90.7	53.8	53.1	30.5	8.9	9.7	11.1	10.8	10.9
Level of Service	E	E	E	F	D	D	C	A	A	B	B	B
Approach Delay (s)		65.7			80.1			10.3			10.8	
Approach LOS		E			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

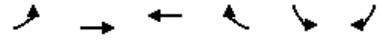
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	19	601	8	594	5	1386	0	0	2039	21
Future Volume (vph)	15	0	19	601	8	594	5	1386	0	0	2039	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.97	0.95	0.95	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	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
Frt	1.00		0.85	1.00	0.85	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1405		1044	3429	1514	1502	1275	5193			5193	1308
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)	1405		1044	3429	1514	1502	1275	5193			5193	1308
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)	15	0	19	601	8	594	5	1386	0	0	2039	21
RTOR Reduction (vph)	0	0	18	0	175	175	0	0	0	0	0	9
Lane Group Flow (vph)	15	0	1	601	124	128	5	1386	0	0	2039	12
Confl. Peds. (#/hr)							3					3
Heavy Vehicles (%)	27%	2%	53%	1%	75%	1%	40%	1%	0%	2%	1%	20%
Turn Type	Prot		Prot	Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases	3		3	4	4		1	6			2	
Permitted Phases	3					4						2
Actuated Green, G (s)	6.2		6.2	34.0	34.0	34.0	2.0	95.9			88.9	88.9
Effective Green, g (s)	6.2		6.2	34.0	34.0	34.0	2.0	95.9			88.9	88.9
Actuated g/C Ratio	0.04		0.04	0.21	0.21	0.21	0.01	0.60			0.56	0.56
Clearance Time (s)	8.4		8.4	8.4	8.4	8.4	5.0	7.1			7.1	7.1
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0	3.0	5.0			5.0	5.0
Lane Grp Cap (vph)	54		40	728	321	319	15	3112			2885	726
v/s Ratio Prot	c0.01		0.00	c0.18	0.08		0.00	c0.27			c0.39	
v/s Ratio Perm						0.09						0.01
v/c Ratio	0.28		0.02	0.83	0.39	0.40	0.33	0.45			0.71	0.02
Uniform Delay, d1	74.7		74.0	60.2	54.1	54.2	78.3	17.5			26.0	15.9
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.09	0.85			0.60	1.00
Incremental Delay, d2	5.8		0.4	8.5	1.6	1.7	12.5	0.5			1.3	0.0
Delay (s)	80.5		74.4	68.7	55.7	56.0	97.6	15.4			16.8	16.0
Level of Service	F		E	E	E	E	F	B			B	B
Approach Delay (s)		77.1			62.2			15.7			16.8	
Approach LOS		E			E			B			B	

Intersection Summary					
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.72				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.9		
Intersection Capacity Utilization	82.3%	ICU Level of Service	E		
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 (vph)	137	0	131	0	0	0	0	1116	0	5	1580	0
Future Volume (vph)	137	0	131	0	0	0	0	1116	0	5	1580	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Lane Util. Factor	0.95	0.95	1.00					0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					1.00		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1696	1734	1597					5193		892	5193	
Flt Permitted	0.95	0.95	1.00					1.00		0.23	1.00	
Satd. Flow (perm)	1696	1734	1597					5193		216	5193	
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)	137	0	131	0	0	0	0	1116	0	5	1580	0
RTOR Reduction (vph)	0	0	38	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	68	69	93	0	0	0	0	1116	0	5	1580	0
Confl. Peds. (#/hr)							6					6
Heavy Vehicles (%)	0%	58%	0%	2%	2%	2%	2%	1%	2%	100%	1%	1%
Turn Type	Split	NA	Prot					NA		pm+pt	NA	
Protected Phases	4	4	4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	16.7	16.7	16.7					124.8		129.2	129.2	
Effective Green, g (s)	16.7	16.7	16.7					124.8		129.2	129.2	
Actuated g/C Ratio	0.10	0.10	0.10					0.78		0.81	0.81	
Clearance Time (s)	7.9	7.9	7.9					6.2		3.0	6.2	
Vehicle Extension (s)	5.0	5.0	5.0					5.0		3.0	5.0	
Lane Grp Cap (vph)	177	180	166					4050		180	4193	
v/s Ratio Prot	0.04	0.04	c0.06					0.21		0.00	c0.30	
v/s Ratio Perm										0.02		
v/c Ratio	0.38	0.38	0.56					0.28		0.03	0.38	
Uniform Delay, d1	66.9	66.8	68.2					4.9		3.1	4.3	
Progression Factor	1.00	1.00	1.00					1.00		1.02	0.79	
Incremental Delay, d2	2.9	2.8	7.0					0.2		0.0	0.2	
Delay (s)	69.7	69.7	75.2					5.1		3.2	3.5	
Level of Service	E	E	E					A		A	A	
Approach Delay (s)		72.4			0.0			5.1			3.5	
Approach LOS		E			A			A			A	

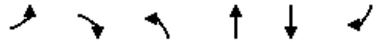
Intersection Summary					
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B		
HCM 2000 Volume to Capacity ratio	0.41				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.1		
Intersection Capacity Utilization	50.6%	ICU Level of Service	A		
Analysis Period (min)	15				
c Critical Lane Group					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	168	120	123	178	137	166
Future Volume (vph)	168	120	123	178	137	166
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	183	130	134	193	149	180

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	226	87	134	193	149	180
Volume Left (vph)	183	0	0	0	149	0
Volume Right (vph)	0	0	0	193	0	180
Hadj (s)	0.40	0.00	0.00	-0.60	0.57	-0.70
Departure Headway (s)	6.3	5.9	5.9	5.3	6.7	5.4
Degree Utilization, x	0.40	0.14	0.22	0.28	0.28	0.27
Capacity (veh/h)	549	583	580	648	512	625
Control Delay (s)	12.1	8.7	9.4	9.2	11.0	9.2
Approach Delay (s)	11.2		9.3		10.0	
Approach LOS	B		A		B	

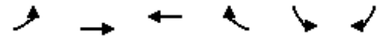
Intersection Summary				
Delay	10.1			
Level of Service	B			
Intersection Capacity Utilization	35.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	251	290	176	136	128	220
Future Volume (vph)	251	290	176	136	128	220
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	273	315	191	148	139	239

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	273	315	240	99	139	239
Volume Left (vph)	273	0	191	0	0	0
Volume Right (vph)	0	315	0	0	0	239
Hadj (s)	0.50	-0.68	0.40	0.00	0.00	-0.70
Departure Headway (s)	7.0	5.8	7.2	6.8	6.8	6.1
Degree Utilization, x	0.53	0.51	0.48	0.19	0.26	0.40
Capacity (veh/h)	500	601	476	504	504	566
Control Delay (s)	16.3	13.4	15.4	10.1	11.0	11.9
Approach Delay (s)	14.8		13.9		11.6	
Approach LOS	B		B		B	

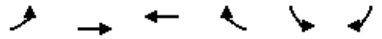
Intersection Summary				
Delay	13.6			
Level of Service	B			
Intersection Capacity Utilization	40.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	124	263	203	55	43	145
Future Volume (Veh/h)	124	263	203	55	43	145
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	135	286	221	60	47	158
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	281				664	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	281				664	140
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				87	82
cM capacity (veh/h)	1293				357	888

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	230	191	147	134	205
Volume Left	135	0	0	0	47
Volume Right	0	0	0	60	158
cSH	1293	1700	1700	1700	662
Volume to Capacity	0.10	0.11	0.09	0.08	0.31
Queue Length 95th (m)	2.8	0.0	0.0	0.0	10.5
Control Delay (s)	5.1	0.0	0.0	0.0	12.9
Lane LOS	A				B
Approach Delay (s)	2.8		0.0		12.9
Approach LOS					B

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	39.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	150	156	165	142	90	93
Future Volume (Veh/h)	150	156	165	142	90	93
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	163	170	179	154	98	101
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	333				667	166
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	333				667	166
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				72	88
cM capacity (veh/h)	1238				344	855

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	220	113	119	214	199
Volume Left	163	0	0	0	98
Volume Right	0	0	0	154	101
cSH	1238	1700	1700	1700	494
Volume to Capacity	0.13	0.07	0.07	0.13	0.40
Queue Length 95th (m)	3.6	0.0	0.0	0.0	15.4
Control Delay (s)	6.5	0.0	0.0	0.0	17.1
Lane LOS	A				C
Approach Delay (s)	4.3		0.0		17.1
Approach LOS					C

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	606	19	5	419	1	24
Future Volume (Veh/h)	606	19	5	419	1	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	659	21	5	455	1	26
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	174			187		
pX, platoon unblocked						
vC, conflicting volume			680		907	230
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			680		907	230
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	97
cM capacity (veh/h)			908		274	772

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	264	264	153	5	228	228	27
Volume Left	0	0	0	5	0	0	1
Volume Right	0	0	21	0	0	0	26
cSH	1700	1700	1700	908	1700	1700	723
Volume to Capacity	0.16	0.16	0.09	0.01	0.13	0.13	0.04
Queue Length 95th (m)	0.0	0.0	0.0	0.1	0.0	0.0	0.9
Control Delay (s)	0.0	0.0	0.0	9.0	0.0	0.0	10.2
Lane LOS				A			B
Approach Delay (s)	0.0			0.1			10.2
Approach LOS							B

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	22.1%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	561	17	0	646
Future Volume (Veh/h)	0	2	561	17	0	646
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2	610	18	0	702
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			109			193
pX, platoon unblocked	0.95	0.95			0.95	
vC, conflicting volume	970	314			628	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	648	183			512	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	384	790			1001	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	2	407	221	351	351
Volume Left	0	0	0	0	0
Volume Right	2	0	18	0	0
cSH	790	1700	1700	1700	1700
Volume to Capacity	0.00	0.24	0.13	0.21	0.21
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0
Control Delay (s)	9.6	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.6	0.0		0.0	
Approach LOS	A				

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	26.0%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	1043	85	111	1128	155	93	320	70	225	347	105
Future Volume (vph)	139	1043	85	111	1128	155	93	320	70	225	347	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		1.0	5.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.97	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1792	5019		1798	5001		1754	3437		1797	3385	
Flt Permitted	0.15	1.00		0.19	1.00		0.47	1.00		0.35	1.00	
Satd. Flow (perm)	288	5019		361	5001		866	3437		654	3385	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	143	1075	88	114	1163	160	96	330	72	232	358	108
RTOR Reduction (vph)	0	4	0	0	9	0	0	14	0	0	22	0
Lane Group Flow (vph)	143	1159	0	114	1314	0	96	388	0	232	444	0
Confl. Peds. (#/hr)	47		19	19		47	42		27	27		42
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	7	0	0	0	7	0	3	0	0	3	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	89.9	89.9		89.9	89.9		34.6	34.6		50.6	46.0	
Effective Green, g (s)	91.9	91.9		91.9	91.9		37.1	37.1		52.6	48.5	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.23	0.23		0.33	0.30	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		3.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	165	2882		207	2872		200	796		322	1026	
v/s Ratio Prot		0.23			0.26			c0.11		c0.07	0.13	
v/s Ratio Perm	c0.50			0.32			0.11			0.17		
v/c Ratio	0.87	0.40		0.55	0.46		0.48	0.49		0.72	0.43	
Uniform Delay, d1	28.9	18.8		21.2	19.7		53.1	53.2		42.7	44.7	
Progression Factor	0.54	0.60		1.46	1.46		1.00	1.00		1.00	1.00	
Incremental Delay, d2	40.0	0.4		9.8	0.5		1.8	0.5		7.7	0.3	
Delay (s)	55.5	11.6		40.7	29.3		54.9	53.7		50.4	45.0	
Level of Service	E	B		D	C		D	D		D	D	
Approach Delay (s)		16.4			30.2			53.9			46.8	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
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 (vph)	186	1251	38	34	1119	143	28	32	48	201	52	109
Future Volume (vph)	186	1251	38	34	1119	143	28	32	48	201	52	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
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	0.97		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1803	5058		1797	4994		1766	1685		1737	1900	1559
Flt Permitted	0.17	1.00		0.17	1.00		0.72	1.00		0.68	1.00	1.00
Satd. Flow (perm)	329	5058		317	4994		1342	1685		1249	1900	1559
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	192	1290	39	35	1154	147	29	33	49	207	54	112
RTOR Reduction (vph)	0	1	0	0	7	0	0	39	0	0	0	86
Lane Group Flow (vph)	192	1328	0	35	1294	0	29	43	0	207	54	26
Confl. Peds. (#/hr)	7		15	15		7	16		22	22		16
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	7	0	0	7	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	104.6	104.6		104.6	104.6		31.7	31.7		31.7	31.7	31.7
Effective Green, g (s)	106.6	106.6		106.6	106.6		34.2	34.2		34.2	34.2	34.2
Actuated g/C Ratio	0.67	0.67		0.67	0.67		0.21	0.21		0.21	0.21	0.21
Clearance Time (s)	7.0	7.0		7.0	7.0		7.5	7.5		7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	219	3369		211	3327		286	360		266	406	333
v/s Ratio Prot		0.26			0.26			0.03			0.03	
v/s Ratio Perm	c0.58			0.11			0.02			c0.17		0.02
v/c Ratio	0.88	0.39		0.17	0.39		0.10	0.12		0.78	0.13	0.08
Uniform Delay, d1	21.4	12.1		10.0	12.0		50.6	50.8		59.3	50.9	50.3
Progression Factor	0.58	0.64		0.93	0.84		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	33.8	0.3		1.4	0.3		0.2	0.2		13.4	0.1	0.1
Delay (s)	46.4	8.0		10.7	10.4		50.7	50.9		72.7	51.1	50.4
Level of Service	D	A		B	B		D	D		E	D	D
Approach Delay (s)		12.9			10.4			50.9			62.9	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

All way Stop Warrant (Local Roads)

Conditions	
1.	Vehicles > 200 on all intersection approaches
2.	Minor Street > 75
3.	Volume Split 70/30 or less (75/25 for 3-leg intersections)

Intersection:	Ring Road & North Mall Access to Erin Centre Boulevard
Date Taken:	Horizon 2040

Weekday Hours Ending	Total Vehicles	Minor Street Volumes	Volume Split of Minor Street
9:00	414	138	33.33%
10:00	231	112	48.48%
18:00	581	218	37.52%
19:00	610	202	33.11%
Met Conditions?	YES	YES	YES

All-way Stop Justified?	YES

Saturday Hours Ending	Total Vehicles	Minor Street Volumes	Volume Split of Minor Street
12:00	547	225	41.13%
13:00	704	255	36.22%
14:00	716	252	35.20%
no data			
Met Conditions?	YES	YES	YES

All-way Stop Justified?	YES

All way Stop Warrant (Local Roads)

Conditions	
1.	Vehicles > 200 on all intersection approaches
2.	Minor Street > 75
3.	Volume Split 70/30 or less (75/25 for 3-leg intersections)

Intersection:	Ring Road & West Mall Access to Glen Erin Drive
Date Taken:	Horizon 2040

Weekday Hours Ending	Total Vehicles	Minor Street Volumes	Volume Split of Minor Street
9:00	650	287	44.15%
10:00	420	229	54.52%
17:00	852	369	43.31%
18:00	919	378	41.13%
Met Conditions?	YES	YES	YES

All-way Stop Justified?	YES

Saturday Hours Ending	Total Vehicles	Minor Street Volumes	Volume Split of Minor Street
12:00	857	431	50.29%
13:00	1,067	518	48.55%
14:00	1,075	496	46.14%
no data			
Met Conditions?	YES	YES	YES

All-way Stop Justified?	YES

APPENDIX

G PARKING SURVEY INFORMATION

RESIDENTS AND VISITORS PARKING DEMAND SURVEY
Friday, February 18 and Saturday, February 19, 2016

WSP

Site Details

Location: 9500 Markham Road, Markham, On						Client Provided	On-Site Verification
Residential Units:	**215**		**Retail Sq.ft.**	**2,237sq.m**	**Parking Supply:**	**316**	**290**
1bd			Land Uses:		Residents	255	229
2bd					Visitors	61	40
3bd					Retail		21
Occupancy	100%		Tenancy	100%			

Parking Supply

By-Law	*1.25*	*0.25*	*1/23sqm (0.04)*	
Site By-Law	*1.25*	*0.10*	*0.027*	*37*
Site Observation	*1.07*	*0.19*	*0.009*	*107*

Parking Survey — **Parking Demand , Friday, February 19, 2016**

Time	Residents	Utilization	Rate/Unit	Visitors	Utilization	Rate/Unit	Retail	Utilization	Rate/Unit	Total	Utilization	Rate/Unit	Res.Rate/Unit
5:00-6:00pm	86	38%	0.40	15	38%	0.07	12	57%	0.005	113	39%	0.53	0.47
6:00-7:00pm	108	47%	0.50	15	38%	0.07	8	38%	0.004	131	45%	0.61	0.57
7:00-8:00pm	120	52%	0.56	16	40%	0.07	5	24%	0.002	141	49%	0.66	0.63
8:00-9:00pm	131	57%	0.61	15	38%	0.07	3	14%	0.001	149	51%	0.69	0.68
9:00-10:00pm	140	61%	0.65	18	45%	0.08	5	24%	0.002	163	56%	0.76	0.73
10:00-11:00pm	157	69%	0.73	15	38%	0.07	5	24%	0.002	177	61%	0.82	0.80
MAXIMUM	**157**	**69%**	**0.73**	**18**	**45%**	**0.08**	**12**	**57%**	**0.005**	**177**	**61%**	**0.82**	
AVERAGE				**16**	**39%**	**0.07**	**6**	**30%**	**0.003**				

Parking Survey — **Parking Demand , Saturday, February 20, 2016**

Time	Residents	Utilization	Rate/Unit	Visitors	Utilization	Rate/Unit	Retail	Utilization	Rate/Unit	Total	Utilization	Rate/Unit	Res.Rate/Unit
3:00-4:00pm	106	46%	0.49	30	75%	0.14	6	29%	0.003	142	49%	0.66	0.63
4:00-5:00pm	108	47%	0.50	31	78%	0.14	6	29%	0.003	145	50%	0.67	0.65
5:00-6:00pm	114	50%	0.53	28	70%	0.13	11	52%	0.005	153	53%	0.71	0.66
6:00-7:00pm	114	50%	0.53	27	68%	0.13	8	38%	0.004	149	51%	0.69	0.66
7:00-8:00pm	117	51%	0.54	21	53%	0.10	4	19%	0.002	142	49%	0.66	0.64
8:00-9:00pm	140	61%	0.65	23	58%	0.11	6	29%	0.003	169	58%	0.79	0.76
9:00-10:00pm	147	64%	0.68	19	48%	0.09	5	24%	0.002	171	59%	0.80	0.77
MAXIMUM	**147**	**64%**	**0.68**	**31**	**78%**	**0.14**	**11**	**52%**	**0.005**	**171**	**59%**	**0.80**	
AVERAGE				**25**	**62%**	**0.12**	**7**	**32%**	**0.003**				

Note: A party was held at the site on Saturday, February 20, 2016, from 3:00pm to 7:00pm.

Tuesday March 27 - Survey of Phase 1 - Olivia Marie Garden

Parking Demand

Time - Starting	Zone 1: @ Grade Parking (Retail)	Zone 1: @ Grade Parking (Residential)	Zone 1: @ Grade Parking (Res Visitor)	Zone 2: Underground Residential	Zone 1: Commercial +Unmarked	Illegal	Residential Total	Comments	Sum
5:30	4	34	7	56	4	1	98		105
6:00	4	33	7	56	4	1	97		104
6:30	10	30	7	51	5	1	89		103
7:00	4	25	7	46	5	1	79		87
7:30	4	21	7	39	4	1	68		75
8:00	5	20	7	37	4	1	65		73
20:00	8	23	5	50	2	1	79		88
20:30	8	23	5	51	3	1	80		90
21:00	9	28	5	51	3	1	85		96
21:30	8	25	7	51	2	1	84		93
22:00	3	29	4	57	2	1	91		95
22:30	3	31	5	60	2	1	97		101
23:00	3	31	5	61	2	1	98		102
23:30	2	31	5	62	2	1	99		102
0:00	4	32	5	62	2	1	100		105

Percent Utilized		
Zone 1	Zone 2	Zone 3
21%	-	29%
21%	-	29%
53%	-	36%
21%	-	36%
21%	-	29%
26%	-	29%
42%	-	14%
42%	-	21%
47%	-	21%
42%	-	14%
16%	-	14%
16%	-	14%
16%	-	14%
11%	-	14%
21%	-	14%

Supply/Capacity Counted

Zone 1: @ Grade Retail	19
Zone 1: @ Grade Parking (Residential)	52
Zone 1: @ Grade Parking (Res Visitor)	14
Zone 2: Underground Residential	81
Zone 1: Commercial + Unmarked	13

Existing

	Visitor	Resident			
Max demand	8	94	102	0.92	spaces/unit
111 units out of 113 sold	0.07	0.85	0.92		

Future

Future Unit	Visitor Demand	Res Demand	Total	Proposed	
112	8	95	103	150	(new build)

AM Average	27%	-	31%
PM Average	34%	-	17%

Saturday March 24 - Survey of Phase 1 - Olivia Marie Garden

Parking Demand

Time - Starting	Zone 1: @ Grade Parking (Retail)	Zone 1: @ Grade Parking (Residential)	Zone 1: @ Grade Parking (Res Visitor)	Zone 2: Underground Residential	Zone 1: Commercial + Unmarked	Illegal	Residential Total	Comments	Sum
11:00	19	30	2	36	4		68		91
11:30	19	30	3	37	4		70		93
12:00	19	28	2	37	3		67		89
12:30	16	30	4	39	2	3	76		91
13:00	19	33	7	39	2	2	81		100
13:30	18	27	7	38	6	2	74		96
14:00	18	26	6	38	7	1	71		95
14:30	19	23	8	37	9	2	70		96
15:00	18	23	9	38	5		70		93
15:30	18	24	9	39	5		72		95
16:00	13	24	9	41	3		74		90
16:30	8	23	10	39	3		72		83
17:00	10	21	10	38	4		69		83
17:30	11	23	10	36	4		69		84
18:00	12	25	9	36	4		70		86
18:30	10	23	10	40	4		73		87
19:00	9	27	9	36	5		72		86
19:30	10	27	10	40	6		77		93
20:00	9	29	11	40	5		80		94

Percent Utilized

Zone 1	Zone 2	Zone 3
100%	-	29%
100%	-	29%
100%	-	21%
84%	-	14%
100%	-	14%
95%	-	43%
95%	-	50%
100%	-	64%
95%	-	36%
95%	-	36%
68%	-	21%
42%	-	21%
53%	-	29%
58%	-	29%
63%	-	29%
53%	-	29%
47%	-	36%
53%	-	43%
47%	-	36%

Supply/Capacity Counted

Zone 1: @ Grade Retail	19
Zone 1: @ Grade Parking (Residential)	52
Zone 1: @ Grade Parking (Res Visitor)	14
Zone 2: Underground Residential	81
Zone 1: Commercial + Unmarked	13 (10 + 3)

Existing

	Visitor	Resident			
Max demand	11	72	83	0.75	spaces/unit
111 units out of 113 sold	0.10	0.65	0.75		

Future

Future Unit	Visitor Demand	Res Demand	Total	Proposed	
112	11	73	**84**	150	(new build)

AM Average	96%	-	25%
PM Average	82%	-	38%

Revised Final Report

Tribute (Simcoe Street) Limited Site 3 Parking Justification Report

Block 1, 40M-2605

Prepared by IBI Group

August 29, 2019

Document Control Page

CLIENT:	Tribute (Simcoe Street) Limited
PROJECT NAME:	Tribute (Simcoe Street) Limited Site 3, Block 1, 40M-2605
REPORT TITLE:	Tribute (Simcoe Street) Limited Site 3 Parking Justification Report
IBI REFERENCE:	116806
VERSION:	7.0
DIGITAL MASTER:	J:\116806_SmcoWindPark
ORIGINATOR:	Andrae Griffith
REVIEWER:	Peter Richards
AUTHORIZATION:	Ron Stewart
CIRCULATION LIST:	
HISTORY:	1.0 – Draft Report 2.0 – Final Report 3.0 – Draft Revised Final Report 4.0 – Draft Revised Final Report 5.0 – Revised Final Report 6.0 – Revised Final Report 7.0 – Revised Final Report

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1 Introduction

IBI Group was retained by Tribute (Simcoe Street) Limited to complete a parking justification study for a proposed residential condominium apartment development at 2535 Thoroughbred Street in the Windfields Planning Area in Oshawa, Ontario. The proposed development is located on the west side of Simcoe Street North, just south of Windfields Farm Drive West. The purpose of the parking study is to determine an appropriate parking supply to accommodate anticipated resident and visitor parking demand. This report considers existing zoning by-law requirements, parking observations at comparable residential sites in Oshawa, planned land use changes in the vicinity, and planned improvements to the sustainable transportation network in the city.

This report is outlined with the following sections:

- **Existing Parking Requirements and Demand** – This section examines the parking requirements as outlined in the City of Oshawa Zoning By-Law No. 60-94, as amended (September 2016), and parking occupancy observations conducted at three residential apartment buildings in the City of Oshawa.
- **Future Conditions** – This section examines the secondary plan for the Windfields Planning Area and the proposed land uses in the vicinity of the development; planned sustainable transportation improvements, and the northward expansion of the University of Ontario institute of Technology (UOIT) and Durham College campus.
- **Preliminary Unit and Parking Sales Data** – This section analyzes parking demand under actual market conditions at the proposed development, based on data provided by Tribute (Simcoe Street) Limited.
- **Anticipated Site Demand** – This section determines an appropriate parking supply ratio for the proposed development, based on observations at the parking proxy sites, anticipated parking demand, and future conditions in the vicinity of the development.
- **Study Conclusions** – This section provides a summary of the major findings of this study.

The scope of work for this parking requirements review was discussed with City of Oshawa and Regional Municipality of Durham staff on May 24, 2018. Correspondence from this discussion is presented in **Appendix A**.

This report takes into account site plan changes, and comments provided by City of Oshawa staff on February 11, 2019 on an initial submission dated October 2, 2018. These comments were provided to Tribute (Simcoe Street) Limited, and circulated to IBI Group in March, 2019.

1.1 Site Description

The Windfields Planning Area abuts Simcoe Street North in Oshawa, Ontario, and is roughly bounded by Conlin Road to the south, Winchester Road to the north, and the east and west branches of Oshawa Creek to the east and to the west, respectively. This area, when fully developed, is planned to house 13,000 people in a mixed-use community.

Tribute (Simcoe Street) Limited is proposing to development an approximately 1.41 hectare parcel on the west side of Simcoe Street North (known municipally as 2535 Thoroughbred Street), located approximately 150 metres south of Windfields Farm Drive West, as illustrated in **Exhibit 1-1**. The site is located approximately 600 metres north of Britannia Avenue West and approximately 2.0 km north of the Durham College / the University of Ontario Institute of Technology (UOIT) North Oshawa campus entrance at Commencement Circle.

Exhibit 1-1: Site Context

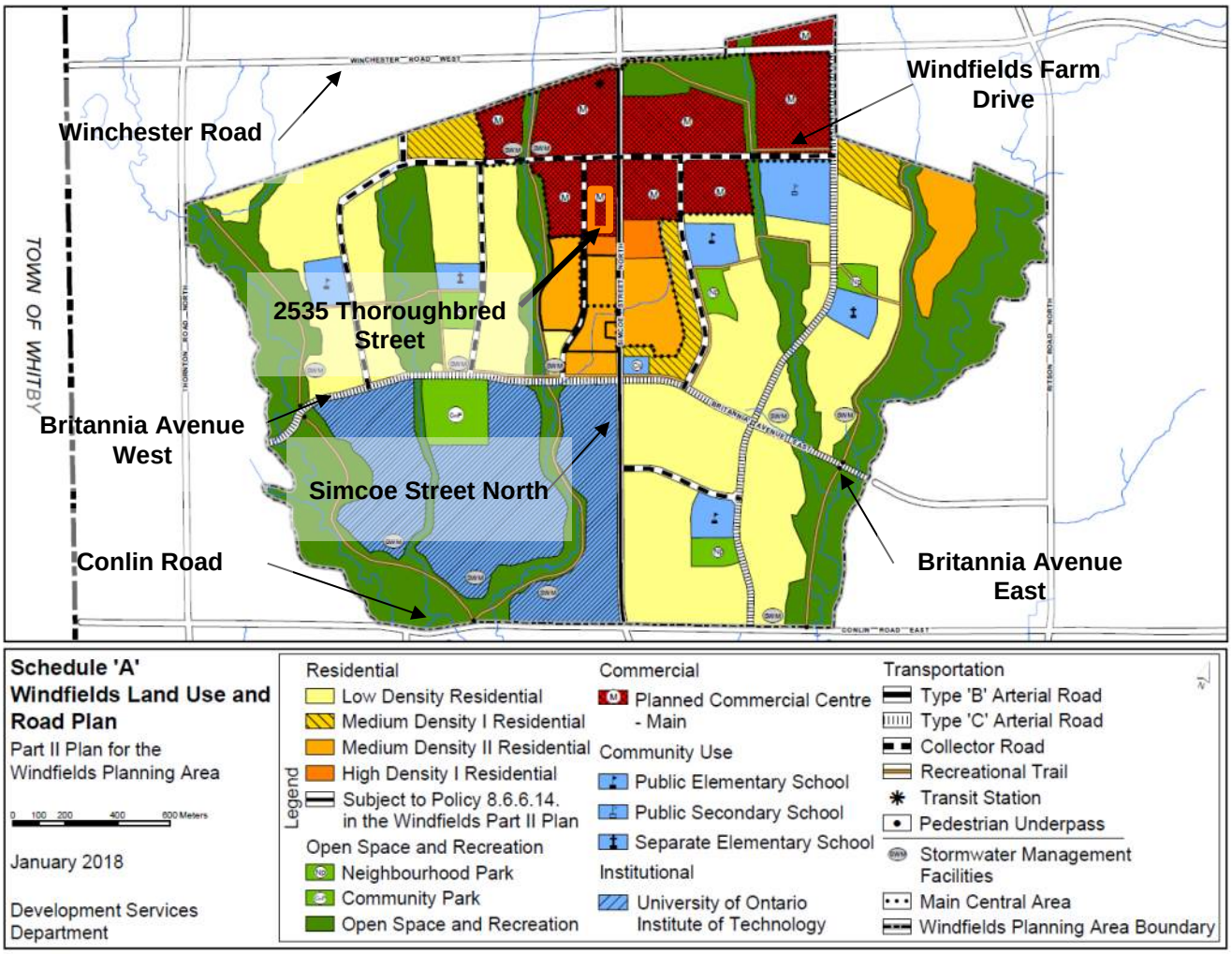
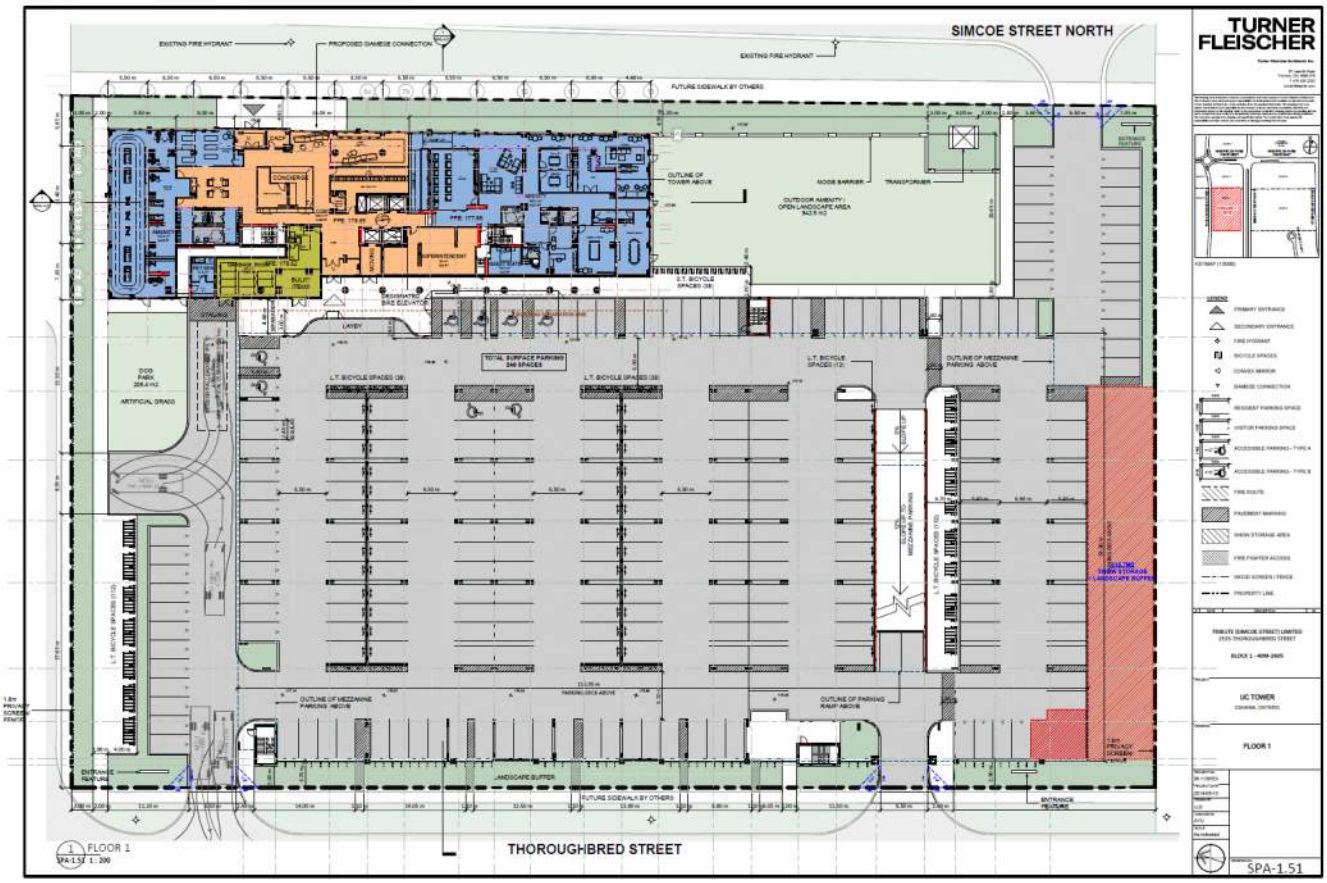


Image source: City of Oshawa. Retrieved 24 July, 2018 from https://www.oshawa.ca/business-and-investment/resources/City-of-Oshawa-Official-Plan.pdf

The proposed development will consist of a 504-unit[1] residential condominum apartment building fronting onto Simcoe Street North located at the northeast corner of the site. 408 resident parking spaces and 75 visitor parking spaces are proposed to be located at the south and west ends of the site. Primary vehicle access to the site is proposed to be from Thoroughbred Street, with secondary vehicle access onto Simcoe Street North. The development also proposes to provide 340 bicycle parking spaces for residents and 38 bicycle parking spaces for visitors. The development site is illustrated in **Exhibit 1-2**.

Exhibit 1-2: Development Site Plan



It must be noted that Tribute (Simcoe Street) Limited is proposing to provide all resident parking at the proposed development as “unbundled parking”. Unit purchasers may opt to purchase a parking space, if so desired. As purchased parking spaces will be reserved for the exclusive use of the owner, it is assumed that snow clearing contractors will ensure that parking spaces are not used for snow storage.

[1] 503 resident dwellings, plus 1 live-in superintendent dwelling.

2 Existing Parking Requirements and Demand

This section of the report examines existing parking requirements for developments in the City of Oshawa, and presents a review of existing parking demand in the vicinity of proposed development.

2.1 Zoning By-Law Review

The City of Oshawa Zoning By-Law (ZBL) No. 60-94 (September 2016) indicates that residential condominium apartment buildings are to provide 1.45 parking spaces per unit plus 0.3 visitor parking spaces per unit. Assuming 504 units, the proposed development would require a parking supply of 882 spaces, as shown in **Exhibit 2-1**.

Exhibit 2-1: Zoning By-Law Parking Requirements

Category	Units	ZBL Ratio	ZBL Required Supply (Parking Spaces)
Apartment – condominium Resident Parking Spaces	504	1.45 resident spaces per unit	731
Apartment – condominium Visitor Parking Spaces	504	0.30 visitor spaces per unit	151
Total			**882**

As stated in **Section 1.1**, the development proposes to supply 483 parking spaces. This results in a zoning bylaw deficiency of 399 spaces, as illustrated in **Exhibit 2-2**.

Exhibit 2-2: Proposed Development Parking Surplus / Deficiency

Category	Units	ZBL Required Supply (Parking Spaces)	Proposed Supply (Parking Spaces)	Surplus / Deficiency (Parking Spaces)
Apartment – condominium Resident Parking Spaces	504	731	408	-323
Apartment – condominium Visitor Parking Spaces	504	151	75	-76
Total		**882**	**483**	**-399**

2.2 Parking Occupancy Surveys

In order to inform an appropriate residential parking supply required on the site, parking utilization surveys were conducted at comparable developments in the City of Oshawa to determine a baseline parking demand at apartments in North Oshawa.

2.2.1 Occupancy Survey Sites

Through consultation with the City (as presented in **Appendix A**), parking occupancy was observed at the following sites on Fridays between 5:00 p.m. and 12:00 midnight, and on Saturdays between 6:00 a.m. and 1:00 p.m.:

- 191 Nonquon Road, Oshawa
  - Friday, June 1, 2018;
  - Saturday, June 2, 2018;

  - Friday, June 8, 2018; and
  - Saturday, June 9, 2018.
- 1221 Simcoe Street North, Oshawa
  - Friday, June 1, 2018;
  - Saturday, June 2, 2018;
  - Friday, June 8, 2018; and
  - Saturday, June 16, 2018.
- 177 Nonquon Road, Oshawa
  - Friday, March 22, 2019;
  - Saturday, March 23, 2019;
  - Friday, March 29, 2019; and
  - Saturday, March 30, 2019.

The above noted sites were chosen due to a number of similarities to the proposed development, including:

- Their similar size and built-form:
  - In order to obtain comparable parking data, the proxy site should be comparable in size and scale. Like the proposed development, the proxy sites are high-density, high-rise residential apartment buildings. Of note, 177 Nonquon Road is the largest residential apartment building in the City of Oshawa. In addition, like the proposed development, the proxy sites all contain a mix of unit sizes ranging from bachelor units to 3-bedroom family-oriented units.
- Their similar location within North Oshawa:
  - In order to obtain comparable parking data, the proxy sites should be located in geographically comparable areas to the proposed development. The proxy sites are located within North Oshawa, where land uses are primarily residential and retail oriented. The largest cluster of employment uses in the vicinity is the UOIT and Durham College campus, located approximately 2.0 km to the south of the development site. It is expected that the Windfields Planning Area will develop in a more transit-oriented manner than North Oshawa has historically been due to proposed rapid transit links (discussed in **Section 3**), but the mix of, and proximity to, diverse land uses is expected to be similar. In addition, the proposed development is also approximately 2.0 km from the UOIT and Durham College campus, the largest employment cluster in the vicinity.
- Their similar target demographic:
  - In order to obtain comparable parking data, the proxy sites and the proposed development should cater to occupants of a similar demographic. Like the proposed development, the proxy sites are general occupancy buildings which cater to a wide variety of occupants. The proximity to the campus may result in some incidental student occupancy, but like the proposed development, student occupancy is not the likely demographic.

With respect to unit tenure, it must be noted that the occupancy survey sites are rental buildings and the development site is proposed to be a condominium building. A review of the zoning regulations of 20 other municipalities in Durham Region, York Region, Peel Region, and the City of Toronto indicates that only two municipalities (Mississauga and Brampton) require rental and condominium buildings to provide parking at differing rates. This suggests that the majority of municipal policies at it relates to apartment building parking demand does not vary based on unit ownership style.

A further review of the Mississauga Zoning By-law 0225-2007 indicates that, within the City Centre Zones, there is no parking regulation differentiation between rental apartment buildings and condominium apartment buildings. This suggest that, when residents are located within areas with high densities, diverse land uses, and high-quality sustainable transportation services (which future residents of 2535 Thoroughbred Street will be, as discussed in **Section 3**), any real or perceived differentiation in parking demand is no longer present.

It is recognized that the City of Oshawa ZBL 60-94 differentiates between rental apartments and condominium apartments with respect to parking regulations. Specifically, ZBL 60-94 requires that rental apartments provide parking at a ratio of 1.33 spaces per dwelling unit and condominium apartments provide parking at a ratio of 1.75 spaces per dwelling unit. However, this differentiation is atypical within the Greater Toronto Area, where the consensus is to vary regulation based on built form, location within the municipality, or by intended occupancy (student residence, seniors apartment, etc.). Given the similar size and built form, location within North Oshawa, and the similar target demographic, the occupancy study survey sites are appropriate for informing an appropriate parking supply at the development site.

In addition to the above, our assertion that residential rental apartment demand is comparable to residential condominium apartment demand is consistent with updates made to the Institute of Transportation Engineers (ITE) publication Parking Generation Manual. In comparison to the 4th Edition (2010), the 5th edition (2019) combines rental and owner-occupied multi-family into land use categories based on building size (low-rise, mid-rise, and high-rise), and based on building location (Center City Core, Dense Multi-Use Urban, General Urban/Suburban, and Rural). This suggests that a comprehensive review of the data submitted to ITE for inclusion in the 5th edition found that dwelling tenure was not a statistically significant variable in predicting parking demand.

The site statistics of the 191 Nonquon Road, 1221 Simcoe Street North, and 177 Nonquon Road proxy sites are presented in **Exhibit 2-3**.

Exhibit 2-3: Occupancy Survey Site Statistics

Site	Total Number of Units	Unit Breakdown	Number of Occupied Units on Date of Study	Tenure	Number of Resident Parking Spaces	Number of Visitor Parking Spaces
191 Nonquon Road	142	57 1-Bedroom (40%) 85 2-Bedroom (60%)	141	Rental	192 Surface	10 Surface
1221 Simcoe Street North	153	3 Studio (2%) 55 1-Bedroom (36%) 95 2-Bedroom (62%)	151	Rental	189 Surface	23 Surface
177 Nonquon Road	245	68 1-Bedroom (30%) 143 2-Bedroom (56%) 34 3-Bedroom (14%)	243	Rental	163 Surface 160 Underground 323 Total Spaces	160 Surface

2.2.2 Parking Occupancy Surveys

Parking observations for both resident and visitor parking areas were observed every 30 minutes during the study periods, were converted to a per-occupied unit parking utilization ratio for comparison purposes, and were adjusted to account for vacancies. The key findings of the occupancy surveys are discussed in **Section 2.2.1** and **Section 2.2.2**., with observed data presented in **Appendix B**.

2.2.2.1 Resident Parking Utilization

Residential parking utilization was derived using occupancy at parking spaces identified as being for resident or authorized use only. The survey demonstrated that parking utilization was observed to be far below the zoning bylaw requirements for apartment uses. This data is presented in **Exhibit 2-4**, **Exhibit 2-5**, and **Exhibit 2-6**.

Exhibit 2-4: Resident Parking Utilization – 191 Nonquon Road

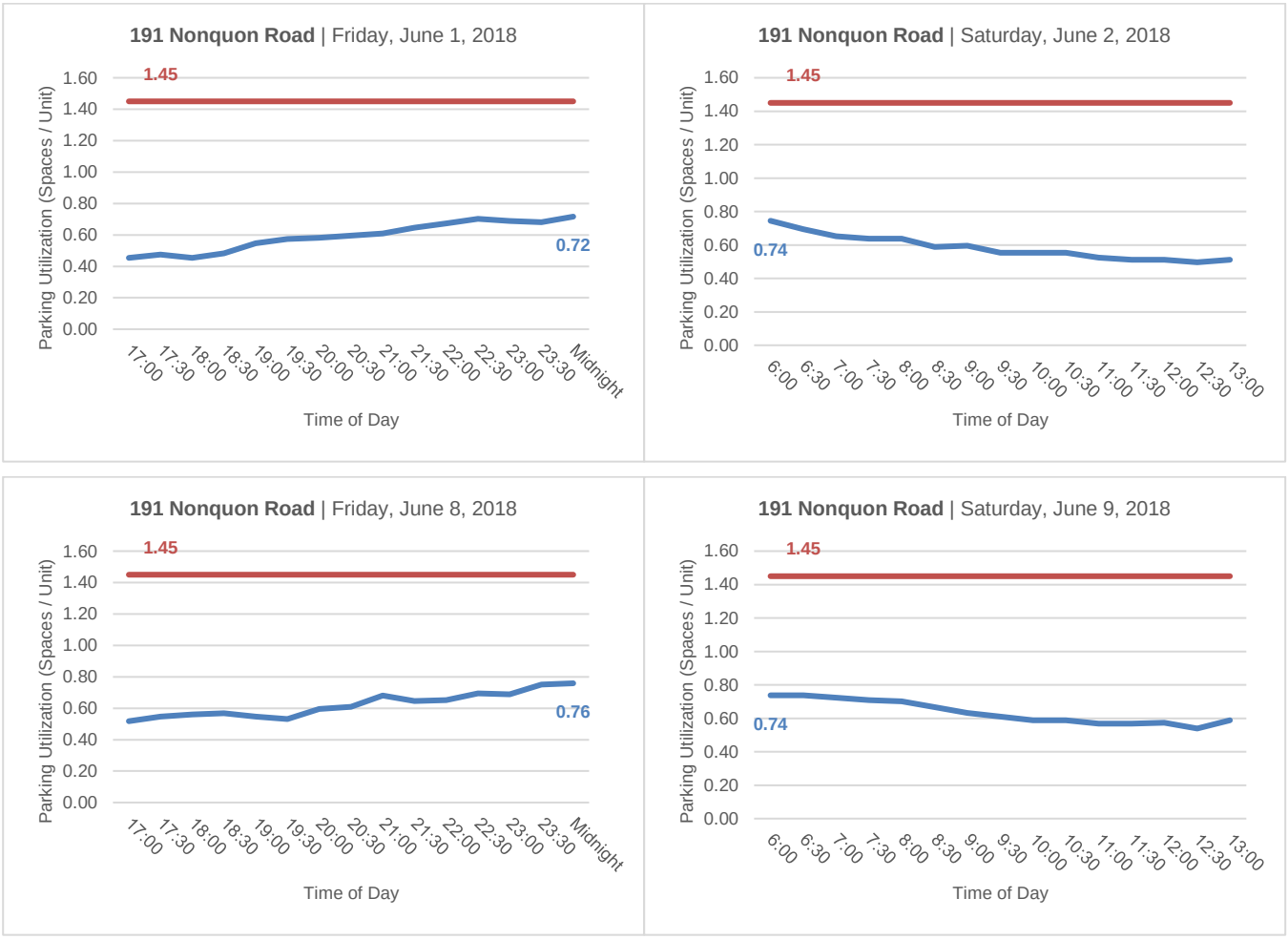


Exhibit 2-5: Resident Parking Utilization – 1221 Simcoe Street North

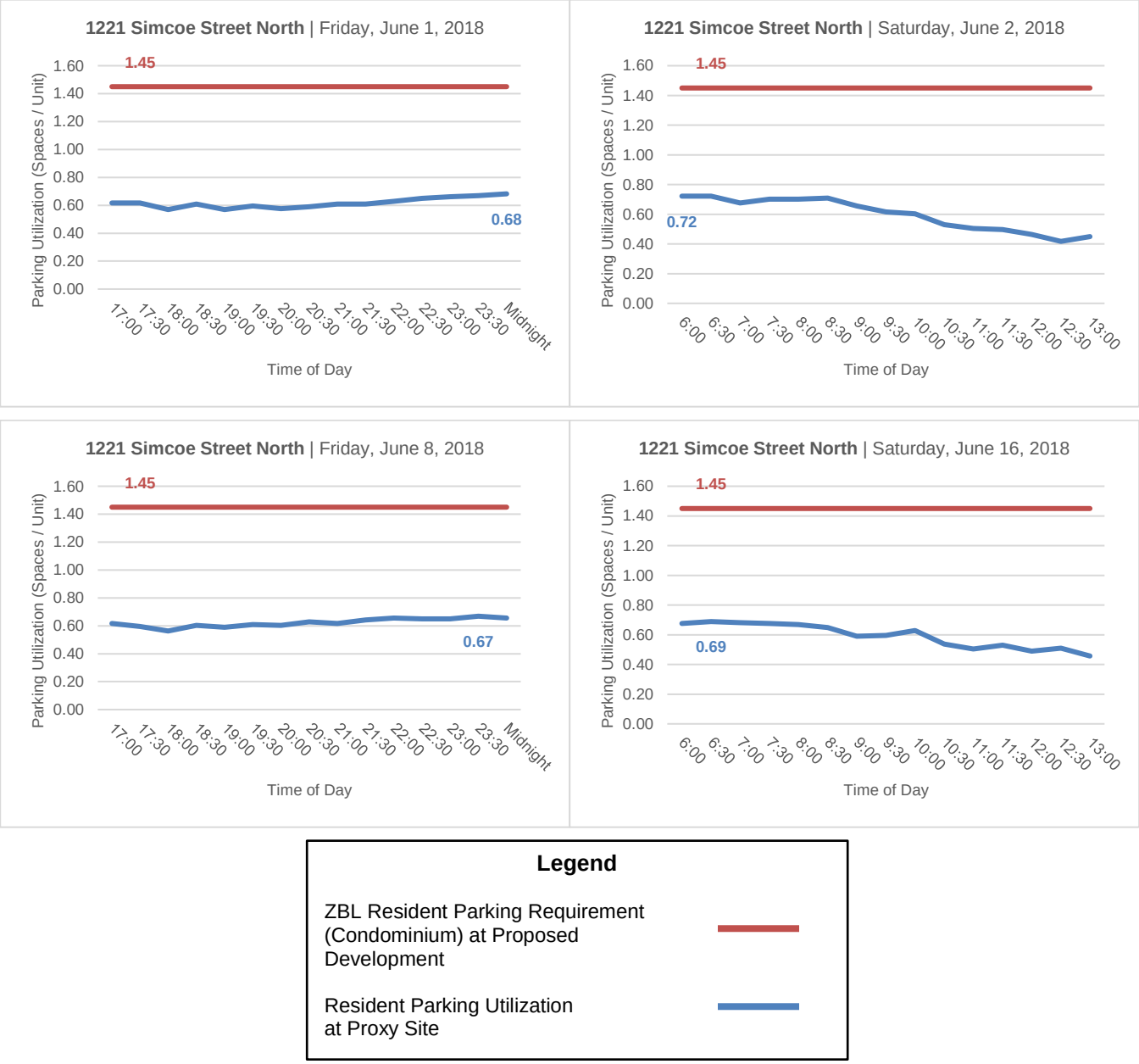
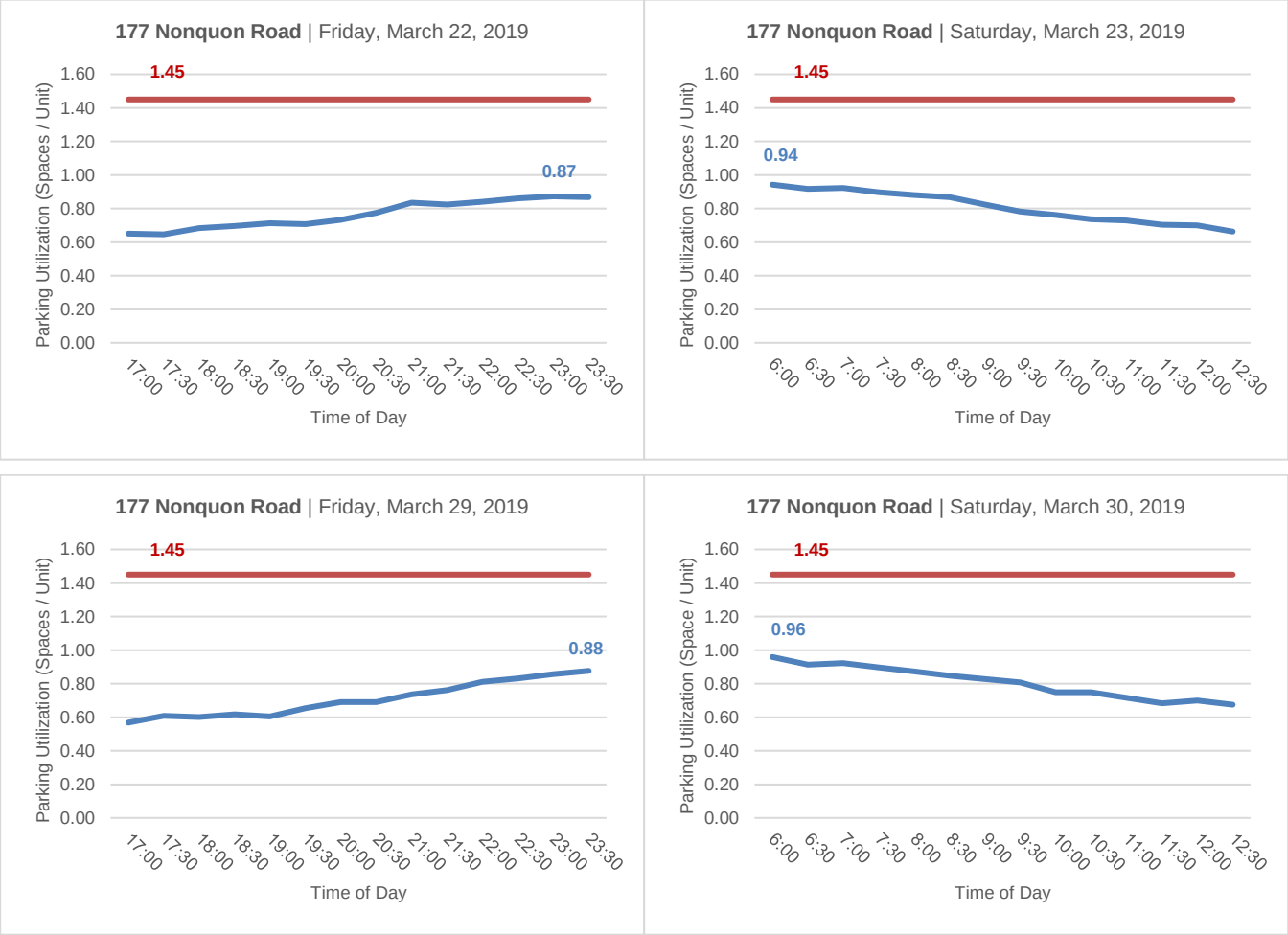


Exhibit 2-6: Resident Parking Utilization – 177 Nonquon Road



As shown in **Exhibit 2-3** through **Exhibit 2-6**, a peak resident parking utilization of 0.96 spaces per occupied unit was observed at 177 Nonquon Road on Saturday, March 30, 2019 at 6:00 a.m. A utilization rate of 0.96 spaces per occupied unit is far below the zoning bylaw requirement of 1.45 spaces per unit for residential condominiums, and is also below the lower zoning bylaw requirement of 1.00 spaces per unit for residential rental apartments.

177 Nonquon Road is the largest residential apartment building in Oshawa, but its complement of three-bedroom units (14%, compared to 5% at the proposed development and 0% at the other two proxy sites) likely contributes to higher per-unit parking demand in comparison to 191 Nonquon Road, 1221 Simcoe Street North, and the proposed development. If the per-unit

results from 177 Nonquon Road are excluded from the study, then the peak parking utilization would be the 0.76 spaces per occupied unit rate observed at 191 Nonquon Road on Friday, June 8, 2018 at 11:59 p.m. This level of utilization was only observed in 1 of 120 remaining study intervals (30 minutes of the remaining 60 hours observed), with 99% of all remaining resident parking observations being at or below 0.74 spaces per occupied unit.

2.2.2.2 Resident Parking Utilization – Per Bedroom Ratio

As discussed in **Section 2.2.2.1**, parking demand at a building with a significant complement of larger units is expected to be higher than demand at a building comprised of smaller units. In order to account for this, analyzing parking utilization on a per bedroom basis provides for a direct comparison between properties with differing unit mixes. The peak parking utilization, expressed as a ratio of spaces per bedroom, is presented in **Exhibit 2-7**.

Exhibit 2-7: Resident Parking Utilization – Spaces per Bedroom

Site	Total Number of Units	Number of Occupied Units	Total Number of Bedrooms	Assumed Number of Occupied Bedrooms[2]	Parking Supply (Spaces)	Parking Supply (Spaces per Occupied Bedroom)	Peak Parking Utilization (Spaces)[3]	Parking Utilization (Spaces Per Occupied Bedroom)
191 Nonquon Road	142	141	227	225	192	0.85	107	0.48
1221 Simcoe Street North	153	151	248	244	189	0.77	109	0.45
177 Nonquon Road	245	243	456	450	323	0.72	233	0.52
2535 Thoroughbred Street	504	504	745	745	408	0.55	384	0.52

As shown in **Exhibit 2-7**, peak parking utilization at 191 Nonquon Road, 1221 Simcoe Street North, and 177 Nonquon Road was 0.48 parking spaces per occupied bedroom, 0.45 parking spaces per occupied bedroom, and 0.52 parking spaces per occupied bedroom, respectively. These observations are generally consistent, which suggests that parking utilization at the occupancy sites are similar after differences in unit mixes are accounted for.

If the peak parking utilization rate of 0.52 space per bedroom were applied to the proposed development, 384 resident parking spaces would be required to accommodate demand. As the development proposed to supply 408 resident parking spaces, a slight surplus of resident parking is anticipated.

2.2.2.3 Visitor Parking Utilization

Visitor parking utilization was derived using occupancy at parking spaces identified as being for visitor or staff use. The survey demonstrated that parking utilization is often far below the zoning bylaw requirements for apartment uses. This data is presented in **Exhibit 2-8**, **Exhibit 2-9**, and **Exhibit 2-10**.

[2] In order to provide for a more conservative analysis, the unoccupied suites were assumed to be the largest suites available at the given study site.
[3] See Appendix B – Hourly Parking Occupancy Observations

Exhibit 2-8: Visitor Parking Utilization – 191 Nonquon Road

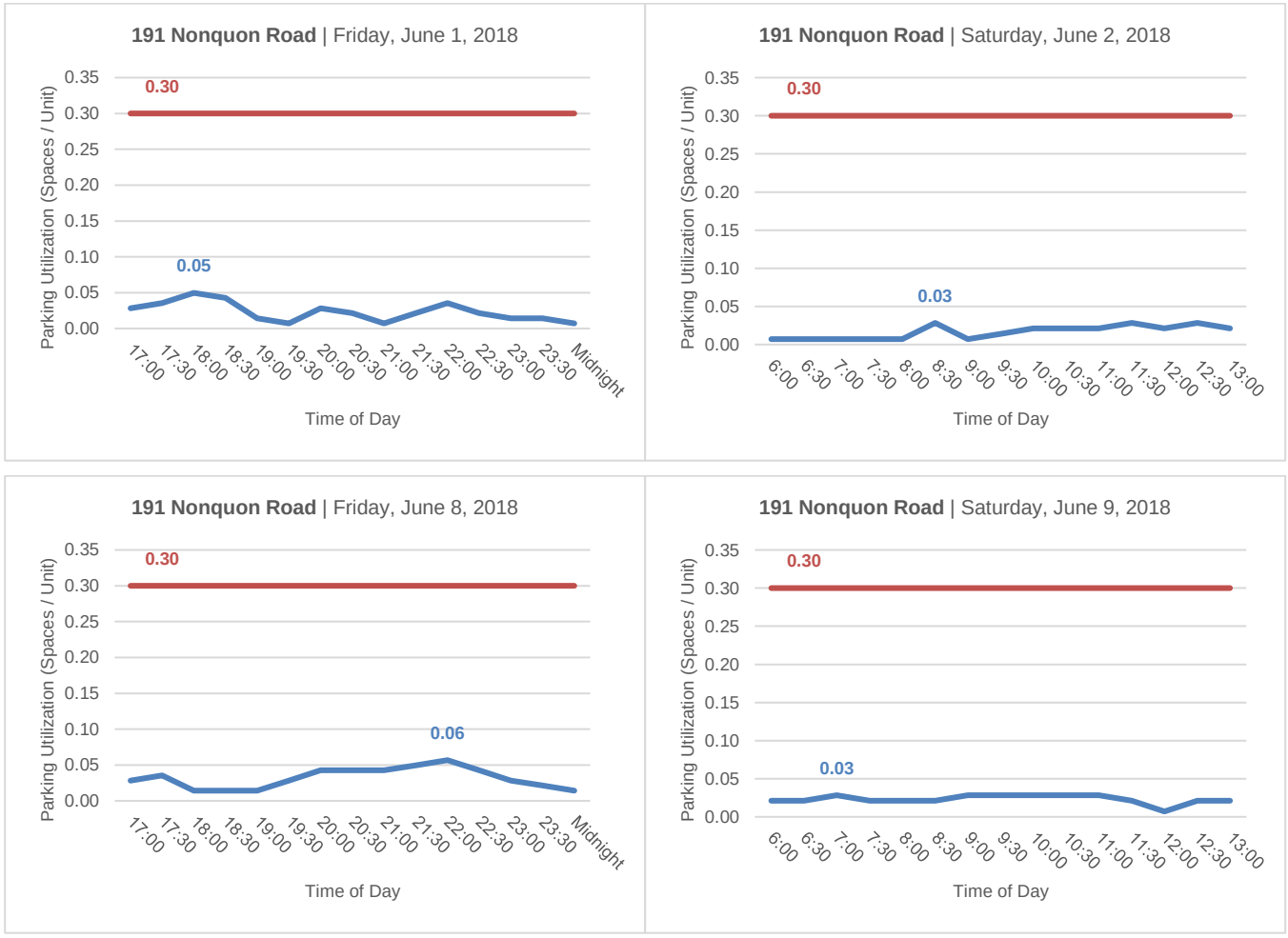


Exhibit 2-9: Visitor Parking Utilization – 1221 Simcoe Street North

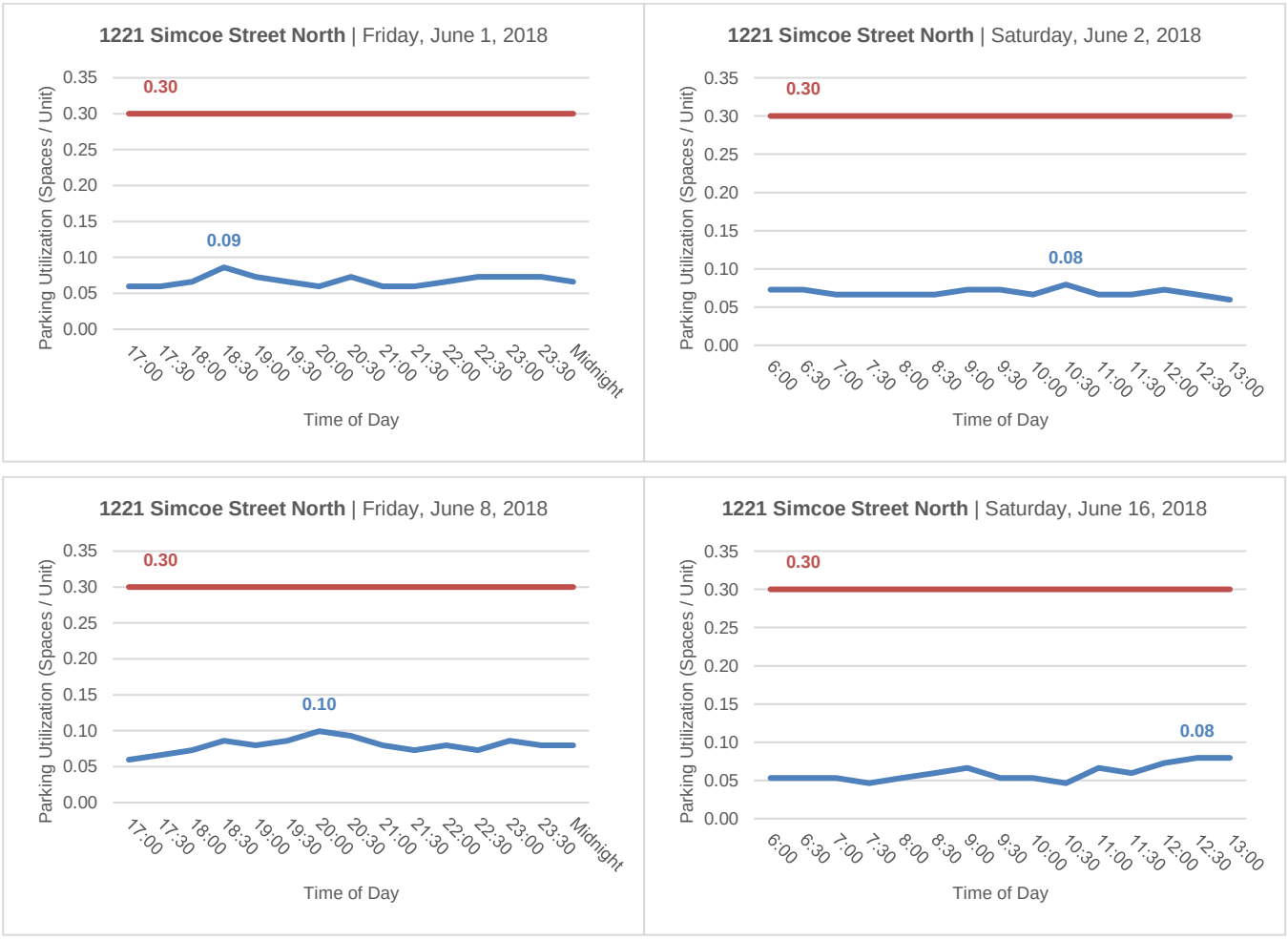
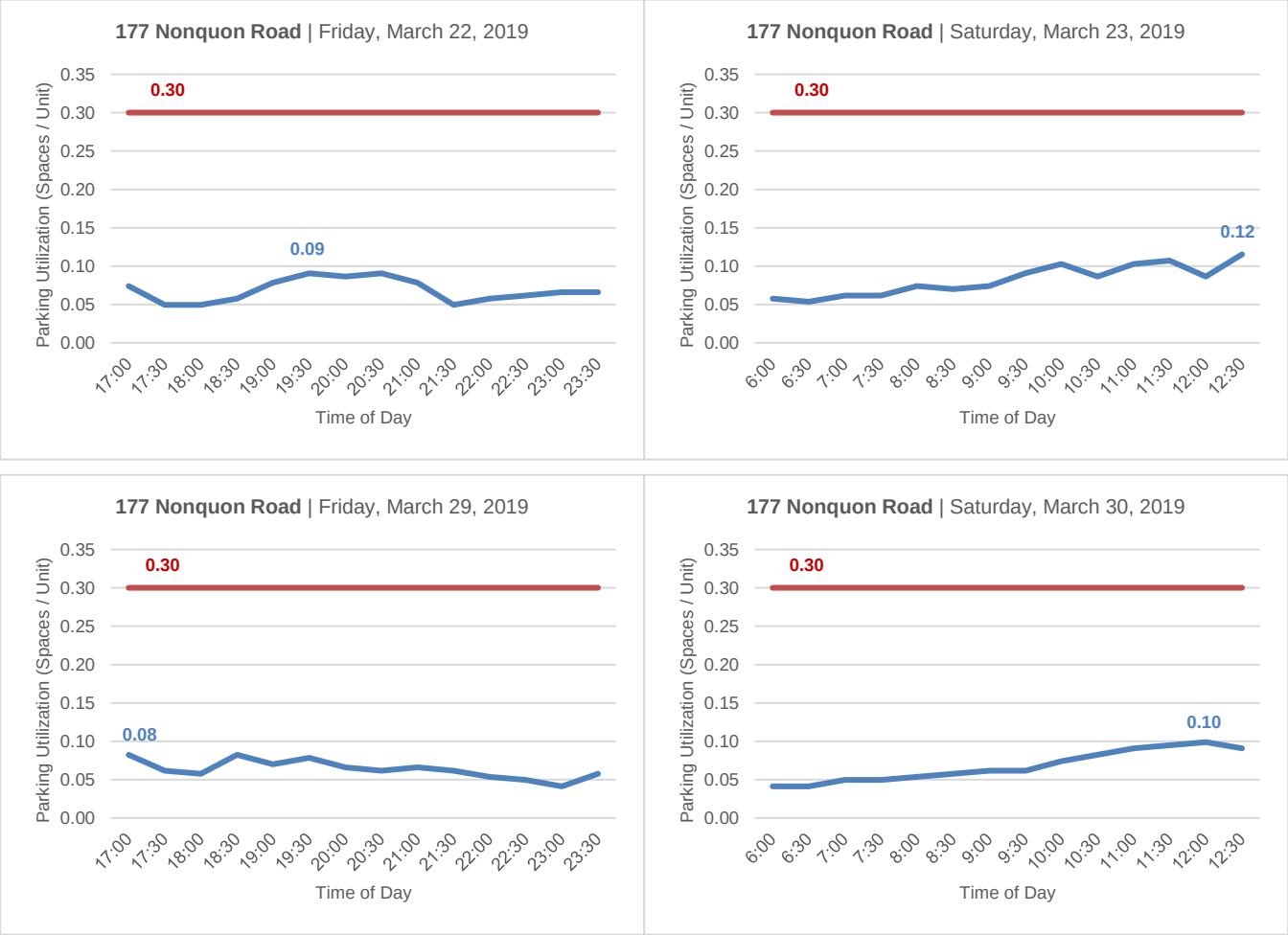


Exhibit 2-10: Visitor Parking Utilization – 177 Nonquon Road



As shown in **Exhibit 2-8** through **Exhibit 2-10**, a peak visitor parking utilization of 0.12 spaces per occupied unit was observed at 177 Nonquon Road on Saturday, March 23, 2019 at 2:30 p.m. It must be noted, however, that utilization in excess of 0.10 spaces per occupied unit was only observed in 2 of 180 study intervals (60 minutes of the 90 total hours observed). The remainder of all visitor parking observations were at or below 0.10 spaces per occupied unit. This level of utilization is far below the zoning bylaw requirement of 0.30 spaces per unit for residential condominium apartments, and the 0.33 spaces per unit requirement for residential rental apartments.

3 Future Conditions

Given that the Windfields Planning Area is expected to accommodate a planned population of approximately 13,000 people in a mixed-use, transit-oriented community, this section of the report analyzes the impact of development and transportation improvements on parking demand.

3.1 Windfields Planning Area Part II Plan

The Part II Plan (updated 2018) for the Windfields Planning Area envisions a complete community with a range of housing types and densities, as well as parks, community, retail, personal service, and office land uses. The plan envisions strong active transportation and transit linkages between these uses, as well as high-quality urban design that has been shown to encourage walking and cycling. A resident in the Windfields Planning Area will benefit from nearby shops and services, reducing the need to travel with a vehicle to other areas of Oshawa and Durham Region for groceries and other consumer goods.

The proposed development in the Windfields Planning Area is located in close proximity to retail lands being developed by RioCan. The RioCan lands are expected to contain up to 1 million square feet of retail development (illustrated in **Exhibit 3-1**) including a 50,000 ft^2 discount grocery store, a 36,000 ft^2 discount grocery store, and an approximately 121,600 ft^2 department store. This reduces the need to travel outside of the neighbourhood by automobile to shop and access services.

Exhibit 3-1: Proposed RioCan Retail Development

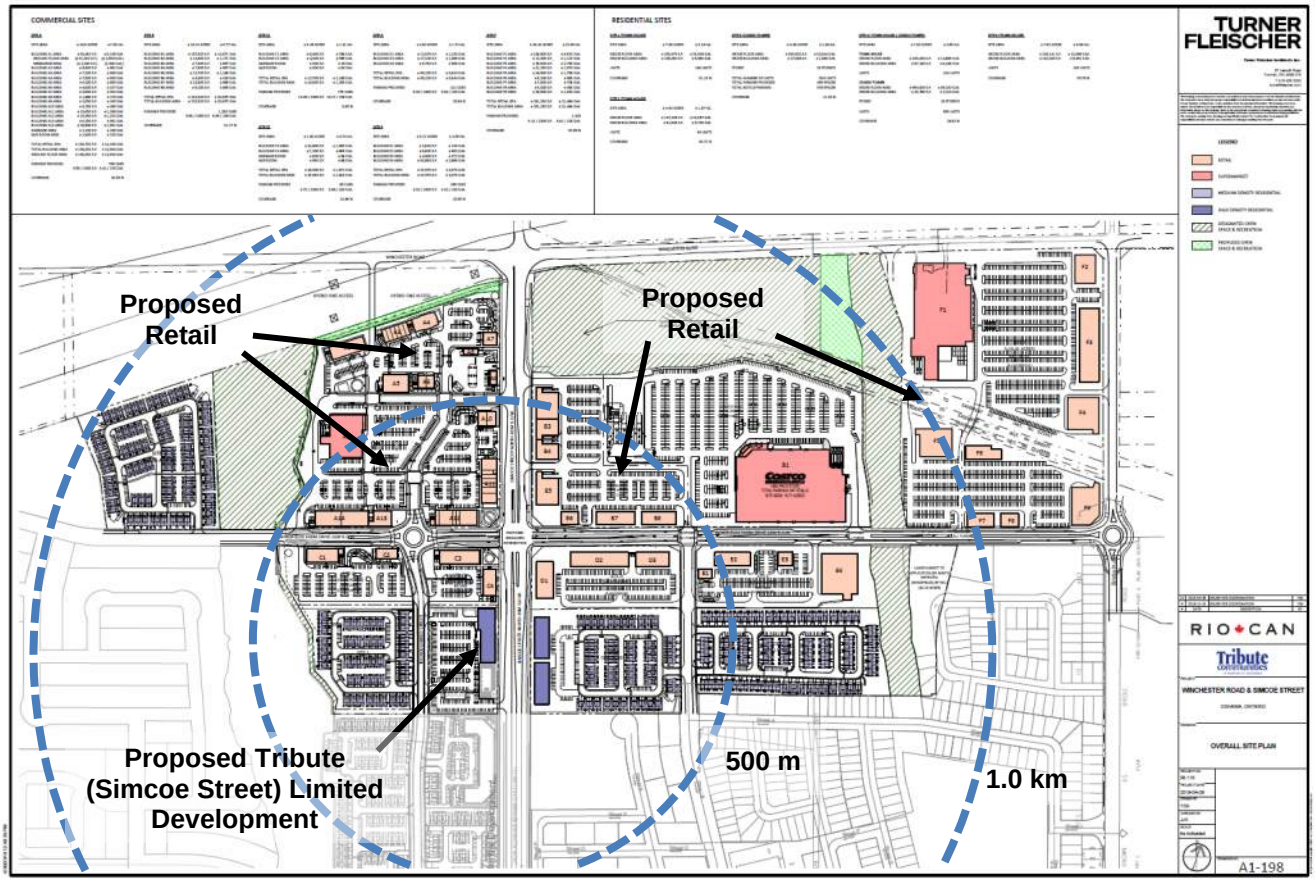


Image source: RioCan REIT Windfields Farm. Retrieved 14 July, 2017 from www.riocan.com

3.2 Durham Region Transportation Master Plan

A review of Durham Region planning documents revealed support for reduced parking requirements in order to meet long term development objectives. In the December 2017 Transportation Master Plan (TMP), Durham Region has made recommendations in support of increasing transit and active transportation mode share, creating more livable neighbourhoods, and developing the Region in a sustainable way. Requiring more parking spaces and larger parking lots are not consistent with these goals, and instead would likely increase reliance on the automobile.

The TMP specifically recommends that the Region promote transit, pedestrian, and cycling oriented developments near designated Transit Corridors. As shown below in **Exhibit 3-2**, the proposed development sits along a major transit corridor on Simcoe Street, midway between a designated transportation centre at Simcoe Street and Winchester Road, and the UOIT and Durham College campus – a major transportation hub. Bus Rapid Transit (BRT) is the expected to be implemented in the longer term in this corridor, but these services are often developed by implementing frequent limited-stop bus service in mixed traffic in the shorter term. Examples of this include York Region and Brampton where “BRT lite” services are being upgraded with designated lanes and higher-capacity services.

Exhibit 3-2: Proposed 2031 Durham Region Transit Priority Network

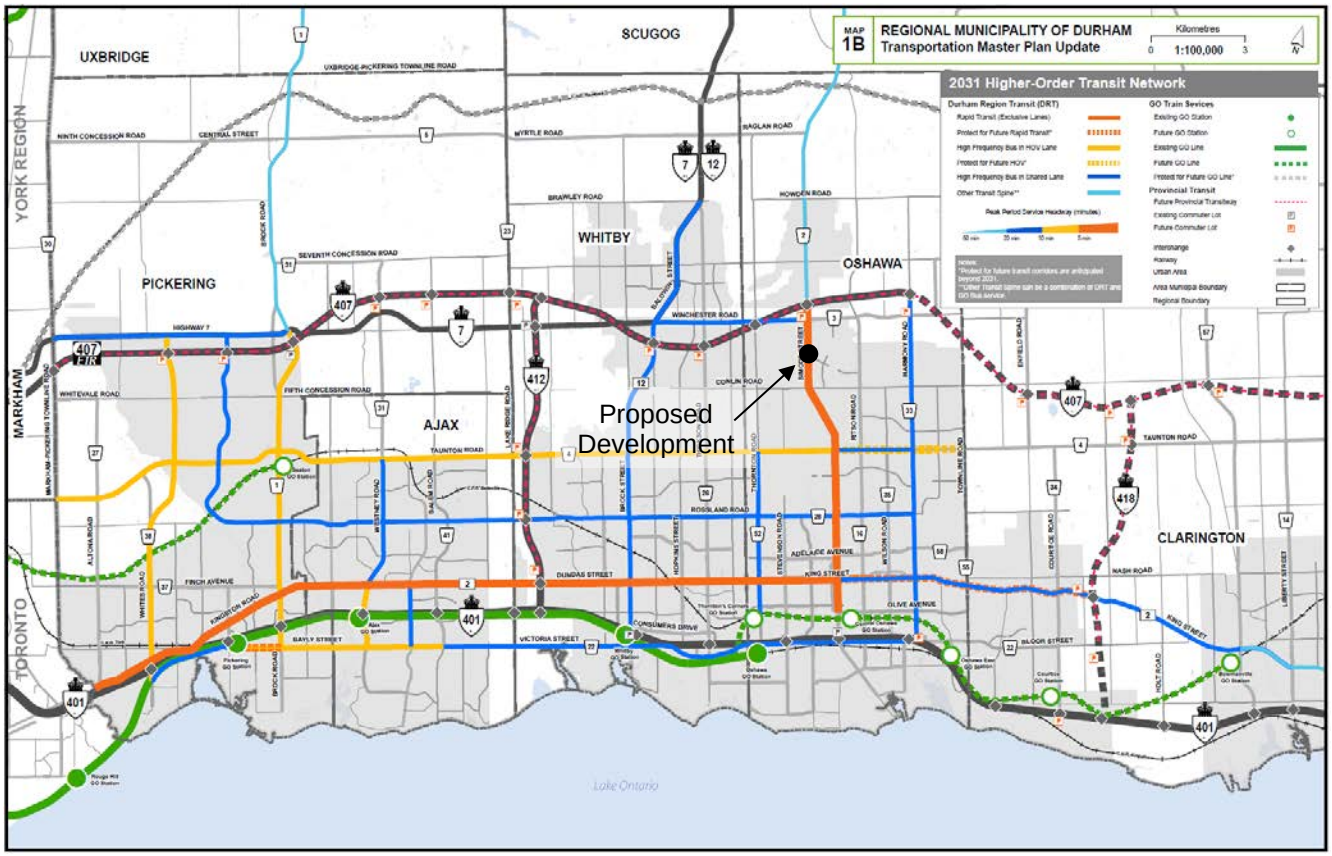


Image source: Durham Region (Draft) Transportation Master Plan. Retrieved 14 July, 2017 from www.durhamtmp.ca

In addition, the transportation demand management (TDM) principles in the TMP endorse reduced parking requirements and parking supply maximums in key districts, such as urban growth centres, as a means to promote sustainable transportation choices. Due to the mixture of land uses, higher densities, high-levels of transit access, and proximity of a major post-secondary institution, the Simcoe Street corridor within the Windfields Planning Area is consistent with an urban growth centre where parking reductions can be successfully applied.

3.3 Local Transit Network

As shown in **Exhibit 3-3**, the proposed development is in close proximity to a frequent transit corridor, where service operates every 10 minutes or better during the weekday a.m. peak, midday, and p.m. peak periods. The majority of this service connects to the UOIT and Durham College campus (bus routes 401, 905, 310, 416, 910, and 915), and links the area to a wide variety of destinations within Oshawa and the surrounding area. Most of the above-noted routes operate at frequencies of every 15 to 30 minutes.

Exhibit 3-3: 2017 Durham Region Transit Bus Network

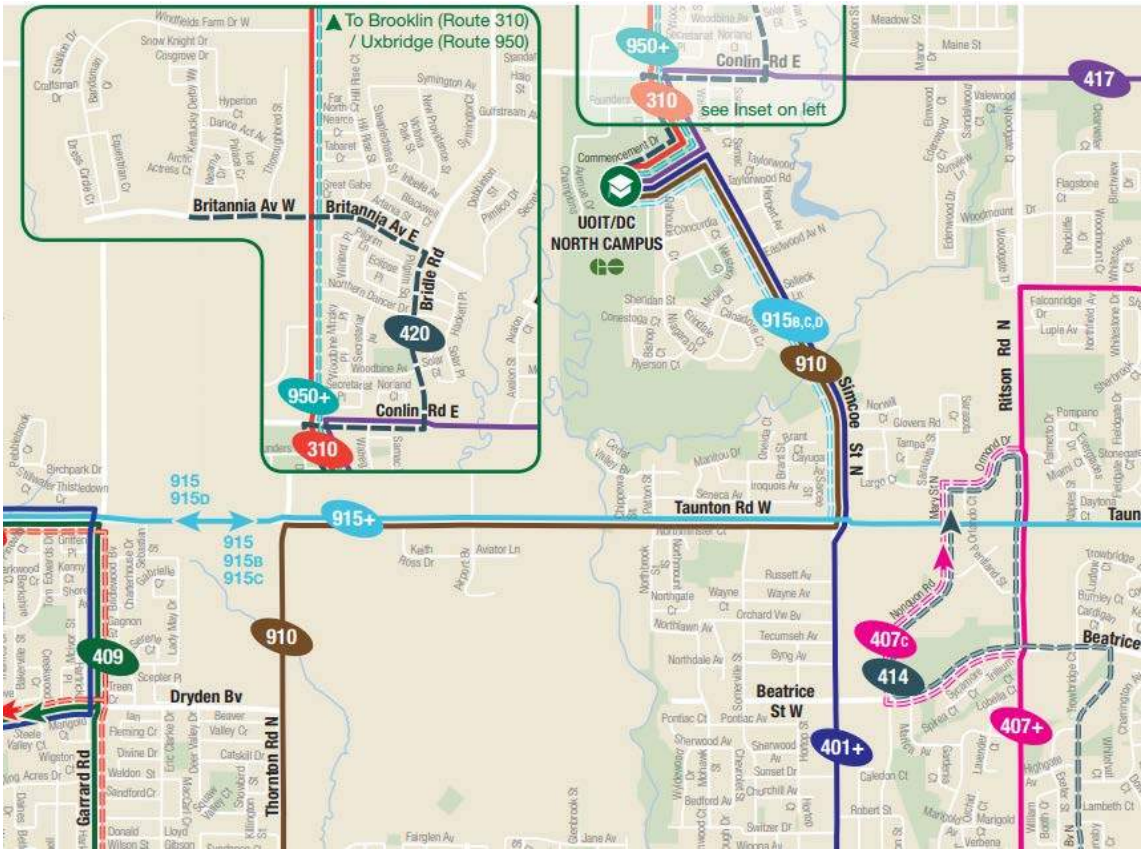


Image source: Durham Region Transit – Central System Map. Retrieved 17 July, 2018 from www.durhamregiontransit.com

In addition, GO Transit regional bus service is present in the study area and offers direct connections to the Downtown Oshawa, Markham Centre, Richmond Hill / Langstaff Gateway, and Vaughan Corporate Centre urban growth centres. Local transit connections to GO Transit regional rail service at Oshawa GO Station is also present in the study area, offering direct connections to the Downtown Pickering and Downtown Toronto urban growth centres.

In addition to the higher-order transit network discussed in **Section 3.2**, The Durham Region Transit five-year service strategy highlights several local transit improvement projects planned for the Windfields Planning Area which will further reduce the reliance on automobiles for travel. These projects include:

- Simcoe Street Transit Terminal – A new transit terminal would be constructed adjacent to Simcoe Street North, likely within the commercial lands to the north of the proposed development. Several routes (discussed below) would serve this terminal, enabling connections to the campus and to other destinations within Oshawa and Durham Region.
- Route 310 Brooklin-North Oshawa – This existing route would be modified to provide a connection between the Simcoe Street Terminal and regional services at the proposed Highway 407 Transitway station near Simcoe Street North & Winchester Road.

- Route 401 Simcoe – This existing route would be extended from its present terminus at the UOIT and Durham College campus to the new Simcoe Street Transit Terminal, potentially serving the proposed development along the way. Service could be provided every 10 minutes if all branches of route 401 are extended.
- Route 410 Olive Harmony Grandview – This existing route would be extended form its present terminus at the Harmony Terminal (where a large retail development is located) to the Simcoe Street Terminal.
- Route 419 / 420 – These new routes would provide additional connections between the Simcoe Street Terminal and the Harmony Terminal.

The 2020 bus network identified in the five year service strategy is illustrated in **Exhibit 3-4**.

Exhibit 3-4: Durham Region Transit Bus Network – Five-Year Service Strategy

Image source: Durham Region Transit Five-year Service Strategy. Retrieved 14 July, 2017 from www.durhamregiontransit.com

3.4 Walking and Cycling

The City of Oshawa Active Transportation Master Plan (2015) identifies a raised cycle track on Simcoe Street north from approximately 200 metres north of Conlin Road northward to Winchester Road, passing directly along the proposed development's frontage. Facilities of this type are described as being adjacent to but vertically separated from motor vehicle travel lanes, and for exclusive use of bicyclists. This raised cycle track would connect to an existing boulevard multi-use path continuing to and past the UOIT and Durham College campus, and would provide

for a convenient cycling connection to campus and to the rest of the city, or to transit connections for onward travel. In addition, the plan also identifies an off-road multi-use path following the Oshawa Creek from the Windfields Planning Area to the western edge of the campus. This would provide for an alternative active transportation connection between the development and the campus and its connections. Together, these links provide non-automobile transportation options for the future residents of the Tribute Communities development.

Exhibit 3-5: Proposed Cycling and Trail Network

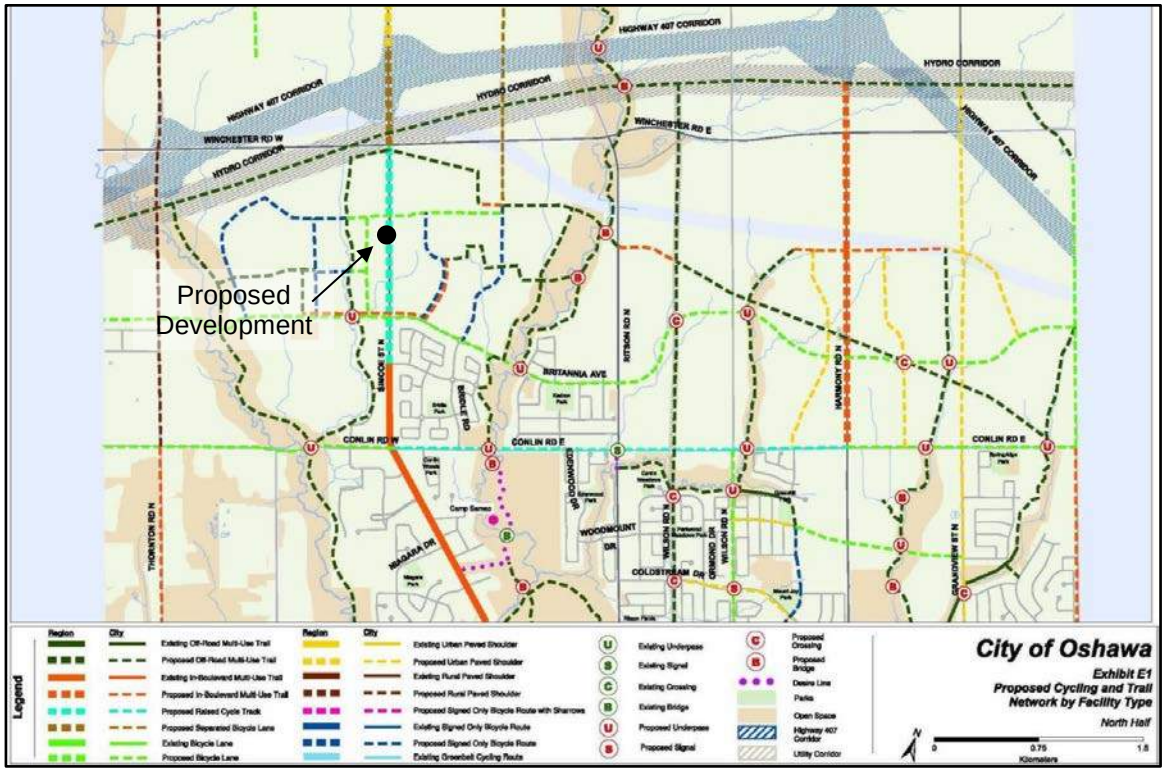


Image source: City of Oshawa Active Transportation Master Plan. Retrieved 14 July, 2017 from www.oshawa.ca

3.5 UOIT and Durham College Campus Expansion

While the proposed development is not intended to be a student-oriented rental apartment (given that it will be a private residential condominium complex), a portion of residents are likely to be members of the UOIT and Durham College community given the site's proximity to campus. Therefore, expansion to the campus would decrease walking, cycling and transit travel times for a portion of future residents.

Completed in 2015, the Durham College and University of Ontario Institute of Technology Campus Plan directs the development of the shared campus to the year 2030. While historically centred around Commencement Circle, the Campus Plan indicates that the centre of the campus will gradually shift northwards as new facilities are constructed. At full build-out, the campus is expected to extend as far north as Britannia Avenue West, with several distinct character areas located north of Conlin Road. This expansion will place much of the expanded campus within a 10 to 20 minute walking distance of the proposed Tribute (Simcoe Street) Limited site. This includes much of the 32,200 m^2 Innovation character area; much of the institutional, academic office and research facilities in the Gateway character area; and much of the academic and mixed-uses in the Quad character area. The future campus layout is

illustrated in **Exhibit 3-6**, and will likely serve as an anchor to realizing the Windfields Planning Area development vision.

Exhibit 3-6: University of Ontario Institute of Technology / Durham College Master Plan Map

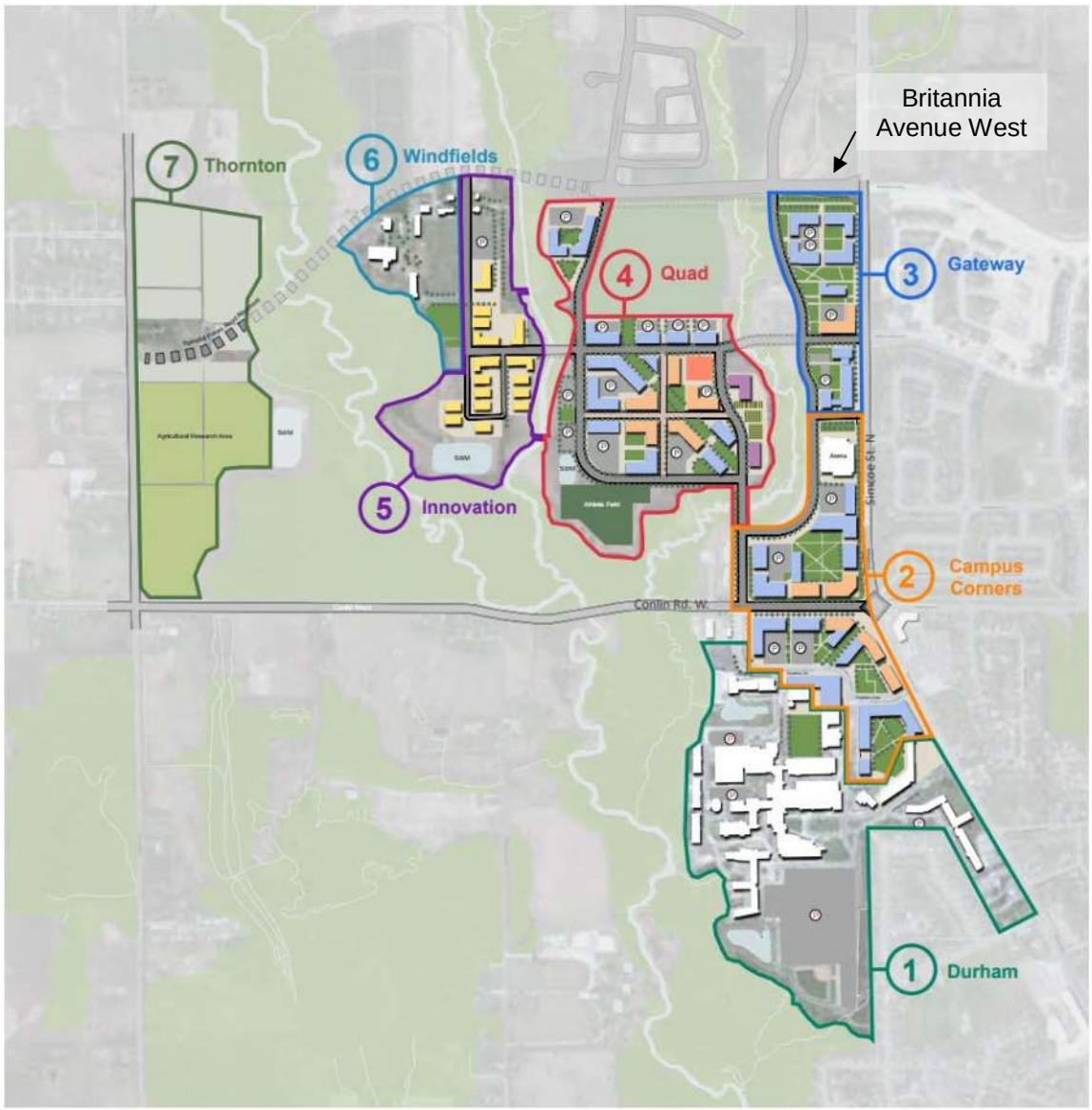


Image source: University of Ontario Institute of Technology / Durham College Master Plan. Retrieved 14 July, 2017 from www.campusmasterplan.ca

4 Preliminary Unit and Parking Space Sales Data

As noted in **Section 1.1**, Tribute (Simcoe Street) Limited is proposing to provide all resident parking at the proposed development as “unbundled parking”. Unit purchasers may opt to purchase a parking space, if so desired. In order to further inform the required parking supply for the 2535 Thoroughbred Street development, preliminary unit and parking space sales data was analyzed to forecast parking demand under actual market conditions.

Based on information provided by Tribute (Simcoe Street) Limited, 283 units and 199 parking spaces had been sold (either firm or pending sales) as of August 1, 2019. These figures allowed for actual market parking demand to be calculated, as illustrated in **Exhibit 4-1**.

Exhibit 4-1: Preliminary Unit and Parking Space Sales – August 1, 2019

Unit Type	Units Sold (Firm and Pending)	Parking Spaces Sold (Firm and Pending)	Total Units	Projected Parking Spaces Sold
Studio	44	0	56	1
1 Bedroom	101	58	231	133
2 Bedroom	131	125	193	185
3 Bedroom	14	17	24	30
Total	290	200	504	349

As shown in **Exhibit 4-1**, unit purchasers are opting to purchase parking spaces at a rate of 0.69 parking spaces per unit (alternatively, at a rate of 0.47 parking spaces per bedroom). If parking space purchases were to continue at this rate, 349 of the 408 resident parking spaces would be sold. This suggests that, under actual market conditions, 86% of the proposed parking supply would be occupied by authorized users. The remaining 59 parking space could be reserved by the condominium corporation, and potentially rented to resale unit purchasers at market rates. This strategy would accommodate unanticipated future demand.

5 Anticipated Site Demand

This section of the report considers the factors identified in preceding sections, and determines an appropriate parking supply for the proposed development.

5.1 Resident Parking Supply

Zoning By-law 60-94 stipulates that a residential condominium apartment is to provide parking for residents at a ratio of 1.45 spaces per dwelling unit. For a 504-unit development, 731 parking spaces are required. However, parking utilization surveys at comparable residential developments in North Oshawa indicate that parking utilization peaks well below zoning by-law rates. Based on these observations, providing parking at the ZBL ratio would result in an overabundance of parking, which would undermine the transit-supportive community planning objectives in the Windfields Planning Area Part II Plan.

Analysis of parking occupancy studies at three residential apartment buildings in North Oshawa indicate that resident parking utilization is sensitive to unit mix, as per-unit utilization at sites with a significant complement of three-bedroom units was observed to be higher than at sites with only one- and two-bedroom units. Peak resident parking utilization at the proxy sites most comparable to the proposed development was 0.76 spaces per occupied unit in 1 of 120 study intervals (30 minutes of the 60 hours observed). 99% of all remaining resident parking observations were at or below 0.74 spaces per occupied unit at the most comparable sites.

In order to account for varying unit mixes on parking utilization, observed parking utilization was also calculated on a per-bedroom basis. Using this metric, peak parking utilization at 177 Nonquon Road, 191 Nonquon Road, and 1221 Simcoe Street North were 0.52, 0.48, and 0.45 parking spaces per occupied bedroom, respectively. These levels of demand are in line with the development's proposed parking supply of 0.55 parking spaces per bedroom, and suggest that it is appropriate to accommodate anticipated demand.

While the Windfields Planning Area is currently under development, it must be noted that the proposed development site is located in an emerging mixed-use, transit-oriented district which is expected to house 13,000 people in close proximity to 1 million square feet of retail space, employment uses, parks, and other amenities. The development site is already within walking distance of the UOIT and Durham College campus and an ongoing northward campus expansion will place additional academic, institutional, research, and office employment areas within close proximity.

With respect to transportation, planned walking and cycling projects in the district are expected to provide high-quality, sustainable transportation links to existing destinations in the surrounding area. The Durham Region Transit five-year service strategy indicates that a transit terminal is to be constructed along Simcoe Street north adjacent to the development, which will enable the existing frequent bus service to the UOIT and Durham College campus to better serve the development and the Windfields Planning Area as a whole. Planned rapid transit services, including a Simcoe Street North rapid transit service and regional rapid transit along the Highway 407 corridor, will strengthen connections and reduce automobile reliance for future residents. The low parking utilization experienced at the proxy sites is partially due to the high-quality local transit services available in close proximity. Given that the proposed development is to be located in an area planned to have comparatively higher-quality transit service, it is expected that these lowering effects on parking demand will be more pronounced.

With respect to preliminary unit and parking space sales data, parking demand is 0.68 parking spaces per unit, or 0.47 parking spaces per bedroom, under actual market conditions. Trends indicate that approximately 56 parking spaces will be unsold when the development is fully

occupied, and these spaces could be rented to resale unit purchasers at market rates to accommodate unexpected future demand.

Given the above factors, a resident parking supply ratio of 0.81 resident parking spaces per dwelling unit (0.55 spaces per bedroom, or 408 parking spaces) is appropriate for this development. This ratio accommodates demand levels observed in North Oshawa, and accounts for the planned Windfields Planning Area amenities and planned improvements to sustainable transportation. In addition, this ratio is higher than demand for parking spaces under actual market conditions.

5.2 Visitor Parking Supply

ZBL 60-94 stipulates that a residential condominium apartment is to provide parking for visitors at a ratio of 0.30 spaces per dwelling unit. For a 504-unit development, 151 parking spaces are required. However, parking utilization surveys at comparable residential developments in North Oshawa indicate that actual utilization peaks at 0.12 visitor parking spaces per unit, with the vast majority of observations being at or below 0.10 spaces per unit. This suggests that providing visitor parking at the ZBL ratio would result in an over-abundance of parking.

As the Windfields Planning Area is an emerging transit-oriented districts, a review of comparable districts in the Greater Golden Horseshoe revealed that a visitor parking requirement of 0.15 spaces per unit is used in the Pickering City Centre area[4] and in the Mississauga City Centre area[5]. Additionally, reports commissioned by the municipalities have recommended visitor parking ratios of 0.15 spaces per unit in the downtown Newmarket area[6] and the Hamilton Pier 7/8 district.[7] This suggests that such a ratio is appropriate to accommodate demand in areas which are transforming into vibrant, mixed-use, transit-oriented neighbourhoods. Further, it must be noted that two of the proxy sites examined in this study are providing visitor parking at a ratio of 0.15 spaces per unit (177 Nonquon Road and 1221 Simcoe Street North). This suggests that this ratio is appropriate for the Oshawa context.

Given the above considerations, a visitor parking ratio of 0.15 spaces per unit (75 parking spaces) is appropriate for the proposed development. This ratio reflects the low utilization observed at the proxy sites, and regulations and recommendations in other comparable districts. Also, in recognition of the lack of on-street or municipal off-street parking, this ratio provides a buffer above expected demand.

[4] Pickering City Centre Zoning By-law 7553/17
[5] Mississauga Zoning By-law 0225-2007
[6] Town of Newmarket (HDR) (14 October, 2016). Parking Standards Background Study – Area-Specific Zoning By-law for the Urban Centres Secondary Plan. Retrieved 18 July, 2018 from http://www.newmarket.ca/
[7] City of Hamilton (IBI Group) (7 June, 2016). Pier 7/8 Transportation Impact Study. Retrieved 18 July, 2018 from http://www.hamilton.ca/

6 Study Conclusions

With respect to the proposed residential development in the Windfields Planning Area, IBI Group undertook a parking study to determine an appropriate parking supply ratio. The conclusions for the study are summarized below.

- Tribute (Simcoe Street) Limited proposes to construct a 504-unit residential condominium apartment building at 2535 Thoroughbred Street in the Windfields Planning Area in the City of Oshawa. The development would be located on the west side of Simcoe Street North, just south of Windfields Farm Drive West.
- The City of Oshawa ZBL 60-94 stipulates that a development of this nature provide 731 resident parking spaces and 151 visitor parking spaces (1.45 and 0.30 spaces per unit, respectively). The development proposes to provide 408 resident parking spaces and 75 visitor parking spaces (0.81 and 0.15 spaces per unit, respectively). This results in a ZBL deficiency of 323 resident parking spaces and 76 visitor parking spaces (399 total parking spaces).
- Resident parking spaces at the proposed development are being sold as “unbundled parking”, where unit purchasers may opt to purchase a parking space if so desired.
- Purchased parking spaces are considered guaranteed parking spaces for the exclusive use of their owners.
- A review of comparable developments in the City of Oshawa indicates that resident and visitor parking utilization is far lower than ZBL requirements for both residents and visitors.
- Peak parking utilization at all sites was 0.96 spaces per occupied unit for residents, and 0.12 parking spaces per occupied units for visitors. Analysis of resident utilization indicates that per-unit observations at 177 Nonquon Road may be an outlier, due to 14% of its suites being three-bedroom units (compared to 5% at the proposed development, and nil at the remaining study sites). If observations at 191 Nonquon Road and 1221 Simcoe Street North are considered, then peak parking utilization was observed to be 0.76 resident spaces per unit.
- In order to account for the differing unit mix at the study sites, parking observations were calculated on a per-occupied bedroom basis. Using this metric, peak parking utilization at 177 Nonquon Road, 191 Nonquon Road, and 1221 Simcoe Street North were 0.52, 0.48, and 0.45 parking spaces per occupied bedroom, respectively. These levels are in line with the proposed parking supply.
- The Windfields planning area is expected to be home to 13,000 people in a mixed-use community with employment uses, parks, and 1 million square feet of retail envisioned in close proximity. The site will benefit from convenient access to commercial areas within walking distance, reducing the need to travel elsewhere in Oshawa and Durham Region to access shopping and services.
- Regional planning documents have recommended reduced parking requirements in order to meet long term sustainable development goals. The 2017 Durham Region Transportation Master Plan recommends developing the Region in a sustainable way through increasing transit and active transportation mode share, and requiring more parking spaces and larger parking lots are not consistent with these goals. An over-abundance of parking would likely increase reliance on the automobile and would not create more liveable neighbourhoods.

- The Windfields Planning Area is to be well served by rapid transit, local transit and active transportation links. This includes rapid transit services on Simcoe Street North; a new transit terminal and local transit improvements in the district, and dedicated cycling facilities connecting with existing cycling routes at the UOIT and Durham College campus.
- The University of Ontario Institute of Technology / Durham College Master Plan envisions northward expansion, further reducing the distance between the proposed development and the employment, academic, and research facilities on campus.
- Under actual market conditions, unit purchasers at the development are opting to purchase parking spaces at a rate of 0.69 parking spaces per unit. This translates to a parking surplus of 59 spaces, which could be used to accommodate unexpected demand from resale unit purchasers.

Based on the above, a resident parking supply ratio of 0.81 spaces per unit (0.55 spaces per bedroom, or 408 parking spaces) is appropriate to accommodate anticipated demand from residents. This ratio is consistent with parking utilization observations in North Oshawa, and accounts for the planned Windfields Planning Area amenities and planned improvements to sustainable transportation.

With respect to visitor parking, a visitor supply ratio of 0.15 spaces per unit (or 75 parking spaces) is appropriate for the proposed development. This ratio reflects the low demand observed at the proxy sites, past approvals in the City of Oshawa, and regulations and recommendations in other comparable districts.

Appendix A

Scope of Investigation

Kathy Kozlowicz

From: Ranjit Gill
Sent: Thursday, May 24, 2018 8:23 AM
To: Peter Richards; Kathy Kozlowicz
Cc: Andrae Griffith; Louise Foster; Steve Deveaux
Subject: RE: 116806: Proposed Parking Scope of work: Simcoe St North / Windfields Farm Dr W

Hi Peter,

With all due respect, approving assumptions and methodologies previously does not mean that it will be approved again in the future. As this is a new application, it is an opportunity to include omissions and expand scope from what was previously approved.

Having said that, I am not asking you to survey overnight, you can address my concern by adopting any one of the following:

1) Since the overnight parking demand during the period from 11 pm to 6 am should be fairly constant, you can choose to collect one observation/data point during that period for both days; or
2) You can expand your Friday survey period by one hour to include 12 am and expand your Saturday survey period by 2 hours to start at 6 am.

Regards,

Ranjit Gill, Transportation Engineer | City of Oshawa
905-436-3311 ext. 2868 | 1-800-667-4292
RGill@oshawa.ca | **www.oshawa.ca**
"Dedicated to serving our community."

From: Peter Richards [mailto:peter.richards@ibigroup.com]
Sent: Wednesday, May 23, 2018 2:55 PM
To: Ranjit Gill; Kathy Kozlowicz
Cc: Andrae Griffith; Louise Foster; Steve Deveaux
Subject: RE: 116806: Proposed Parking Scope of work: Simcoe St North / Windfields Farm Dr W

Good afternoon Ranjit;

Thank you for providing comments on our scope of work. Based on your remarks we will select sites from the provided list and provide appropriate justification in our final report. Your other comments will also be addressed in the final report, as necessary.

In regards to overnight studies, the count hours and days we proposed were based on the City of Oshawa approved scopes of work for past IBI Group studies at 1900 Simcoe, 1800 Simcoe, and 157-163 Athol Street East. In each of those instances, count hours of Friday from 5:00 pm to 11:00 pm and Saturday from 8:00 am to 1:00 pm were approved for study (for both residents and visitors) by yourself and were deemed appropriate by approval authorities when the various developments were eventually approved. I have attached your approval of those hours for your reference. On that basis, we do not believe that parking observations between the hours of 11:00 pm and 6:00 am are required for the Simcoe Street North at Windfields Farm Drive West site. We are confident that the hours we have proposed reflect times of peak parking demand.

We trust that, as with the past three studies named above, that surveying parking occupancy on Friday between 5:00 p.m. and 11:00 p.m. and on Saturday between 8:00 a.m. and 1:00 p.m. is satisfactory.

Thank you.
Pete

Peter Richards P.ENG.

Associate Director - Practice Lead, Transportation Engineering

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Toronto ON M4V 2Y7 Canada
tel +1 416 596 1930 ext 61402 fax +1 416 596 0644

From: Ranjit Gill [mailto:RGill@oshawa.ca]
Sent: Wednesday, May 23, 2018 9:02 AM
To: Peter Richards <peter.richards@ibigroup.com>; Kathy Kozlowicz <KKozlowicz@oshawa.ca>
Cc: Andrae Griffith <andrae.griffith@ibigroup.com>; Louise Foster <lfoster@tributecommunities.com>; Steve Deveaux <sdeveaux@tributecommunities.com>
Subject: RE: 116806: Proposed Parking Scope of work: Simcoe St North / Windfields Farm Dr W

Hi Peter,

Three proxy sites are acceptable, but the selection and justification of the proxy sites will be your responsibility.
The selection of proxy sites should take into account your ability to gain access to survey all the available parking including underground or other inaccessible parking.
The time periods of the proposed surveys appears to capture the peak parking demand for residential visitors only and avoids the peak for the residents which occurs between 11 pm to 6 am.
Furthermore, the Parking Utilization Study should include the following:

1. A description of how proposed site and the proxy sites are similar and why they will generate a similar parking demand;
2. Details of each proxy site should be provided (the number of vacant units/occupancy, total number of units, number of or percentage of each unit type, tenure [rental, condominium, etc.], and the number of parking spaces for residents and visitors);
3. Each proxy site should be surveyed two days per week for two consecutive weeks;
4. The total parking demand should be recorded at the selected interval times, including legally and illegally parked vehicles (e.g., in the aisles/fire routes) and vehicles parked off-site (e.g., on-street or on neighbouring properties);

5. Vehicles parked illegally or off-site should be recorded separately;
6. Visitor and resident parking should be separated;
7. A review, comparison and analysis of industry guidelines, parking requirements from comparable municipalities, and Transportation Tomorrow Survey data should be undertaken;
8. If TDM measures are proposed, the applicant should identify how the measures are supported by complementary land use planning, good urban design and transit improvements ; and
9. If the future BRT along Simcoe Street is used as justification for reduced standards, a description of how the development is designed to be transit supportive should be provided.

Please do not hesitate to contact me if you need clarification on any of my comments.

Regards,

Ranjit Gill, Transportation Engineer | City of Oshawa
905-436-3311 ext. 2868 | 1-800-667-4292
RGill@oshawa.ca | **www.oshawa.ca**
"Dedicated to serving our community."

Visit voteoshawa.ca for Oshawa municipal and school board elections details.

Kathy Kozlowicz

From: Doug Robertson <Doug.Robertson@Durham.ca>
Sent: Thursday, May 24, 2018 11:08 AM
To: Kathy Kozlowicz
Cc: Ranjit Gill; Lynda Motschenbacher
Subject: RE: 116806: Proposed Parking Scope of work: Simcoe St North / Windfields Farm Dr W (2535 Thoroughbred St. in Oshawa)

Kathy,

I have reviewed the proposed scope of the parking study, and I am generally satisfied with it, subject to the following comments:

- The consultant (or developer) should confirm that the proposed proxy sites are generally consistent with the expected characteristics of the proposed development (e.g., mix of unit types, unit sizes, rental/purchase price ranges, etc.)
- If the consultant relies on TDM measures to justify a reduced parking supply, they should recommend a specific set of TDM measures that would be appropriate to implement at this development, rather than just providing a generic list of possible measures.

According to the preliminary site plan, the proposed development is significantly more intense than was anticipated in the latest version of the transportation study for the RioCan North Central Commercial and Joint Venture Lands (480 units proposed versus 211 units in the study). Will there be a transportation study update or site-specific transportation study for this revised development proposal?

Regards,
Doug

Doug Robertson, P.Eng., PTOE
Project Manager - Transportation Infrastructure
Works Department
Regional Municipality of Durham
605 Rossland Road East, Level 5
PO Box 623
Whitby, ON L1N 6A3
Phone: 905-668-4113 ext 3733
Fax: 905-668-2051

Andrae Griffith

From: Ranjit Gill <RGill@oshawa.ca>
Sent: Thursday, March 07, 2019 7:44 AM
To: Andrae Griffith
Cc: Peter Richards
Subject: RE: 2535 Thoroughbred Street Parking Justification

Hi Andrae,

The proposed times are consistent with what was agreed upon previously and I have no concerns with them.

Regards,

Ranjit Gill, P.Eng., PTOE, Transportation Engineer | City of Oshawa
905-436-3311 ext. 2868 | 1-800-667-4292
RGill@oshawa.ca | **www.oshawa.ca**
"Dedicated to serving our community."

From: Andrae Griffith <andrae.griffith@ibigroup.com>
Sent: Wednesday, March 6, 2019 3:28 PM
To: Ranjit Gill <RGill@oshawa.ca>
Cc: Peter Richards <peter.richards@ibigroup.com>
Subject: 2535 Thoroughbred Street Parking Justification

Hi Ranjit,

As you may recall, IBI Group has been working with Tribute Communities on their 2535 Thoroughbred Street development since the spring of 2018 (this pre-dates our involvement with the ongoing City of Oshawa Parking Study). In order to better respond to the City's comments on the first submission, could you please advise if counts on the following days and times would be of concern to the City? Given that March break is next week, I wanted to confirm potential study dates in advance (should additional counts be required):

Friday, March 23, 2019, from 5:00 p.m. to 12:00 midnight;
Saturday, March 24, 2019 from 6:00 a.m. to 1:00 p.m.;
Friday, March 29, 2019, from 5:00 p.m. to 12:00 midnight; and
Saturday, March 30, 2019 from 6:00 a.m. to 1:00 p.m.

As you may recall, Friday and Saturday parking counts during those count hours were agreed to in May of 2018, and maintaining the timeframe would ensure consistency with the work done to date.

Your comments on the suitability of those specific days would be greatly appreciated.

Sincerely,

Andrae Griffith

IBI GROUP

7th Floor - 55 St. Clair Avenue West
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Appendix B

Hourly Parking Occupancy Observations

IBI Group

Parking Surveys - Oshawa

June-1st-2018

191 NONQUON RD

Time	RESIDENT - SOUTH		VISITOR - WEST		RESIDENT - EAST	
	REGULAR	HC	REGULAR	HC	REGULAR	HC
SUPPLY	***150***	***0***	***8***	***2***	***40***	***2***
17:00	48	0	4	0	16	0
17:30	51	0	5	0	16	0
18:00	48	0	7	0	16	0
18:30	51	0	6	0	17	0
19:00	53	0	1	1	24	0
19:30	57	0	1	0	24	0
20:00	59	0	4	0	23	0
20:30	61	0	3	0	23	0
21:00	61	0	1	0	25	0
21:30	66	0	3	0	25	0
22:00	69	0	5	0	26	0
22:30	74	0	3	0	25	0
23:00	72	0	2	0	25	0
23:30	72	0	2	0	24	0
Midnight	76	0	1	0	25	0

IBI Group

Parking Surveys - Oshawa

June-2nd-2018

191 NONQUON RD

Time	RESIDENT - SOUTH		VISITOR - WEST		RESIDENT - EAST	
	REGULAR	HC	REGULAR	HC	REGULAR	HC
SUPPLY	***150***	***0***	***8***	***2***	***40***	***2***
6:00	82	0	1	0	23	0
6:30	75	0	1	0	23	0
7:00	71	0	1	0	21	0
7:30	69	0	1	0	21	0
8:00	69	0	1	0	21	0
8:30	63	0	4	0	20	0
9:00	61	0	1	0	23	0
9:30	57	0	2	0	21	0
10:00	58	0	3	0	20	0
10:30	59	0	3	0	19	0
11:00	55	0	3	0	19	0
11:30	54	0	3	1	18	0
12:00	53	0	2	1	19	0
12:30	52	0	3	1	18	0
13:00	51	0	1	2	21	0

IBI Group

Parking Surveys - Oshawa

June-8th-2018

191 NONQUON RD

Time	RESIDENT - SOUTH		VISITOR - WEST		RESIDENT - EAST	
	REGULAR	HC	REGULAR	HC	REGULAR	HC
SUPPLY	***150***	***0***	***8***	***2***	***40***	***2***
17:00	48	0	4	0	25	0
17:30	51	0	5	0	26	0
18:00	55	0	2	0	24	0
18:30	56	0	2	0	24	0
19:00	54	0	2	0	23	0
19:30	53	0	4	0	22	0
20:00	56	0	6	0	28	0
20:30	58	0	6	0	28	0
21:00	66	0	6	0	30	0
21:30	62	0	7	0	29	0
22:00	62	0	8	0	30	0
22:30	70	0	6	0	28	0
23:00	66	0	4	0	31	0
23:30	74	0	3	0	32	0
Midnight	76	0	2	0	31	0

IBI Group

Parking Surveys - Oshawa

June-9th-2018

191 NONQUON RD

Time	RESIDENT - SOUTH		VISITOR - WEST		RESIDENT - EAST	
	REGULAR	HC	REGULAR	HC	REGULAR	HC
SUPPLY	***150***	***0***	***8***	***2***	***40***	***2***
6:00	81	0	3	0	23	0
6:30	81	0	3	0	23	0
7:00	79	0	4	0	23	0
7:30	77	0	3	0	23	0
8:00	76	0	3	0	23	0
8:30	72	0	3	0	22	0
9:00	67	0	4	0	22	0
9:30	65	0	4	0	21	0
10:00	61	0	4	0	22	0
10:30	63	0	4	0	20	0
11:00	61	0	4	0	19	0
11:30	61	0	3	0	19	0
12:00	62	0	1	0	19	0
12:30	58	0	3	0	18	0
13:00	64	0	3	0	19	0

IBI Group

Parking Surveys - Oshawa

June-1st-2018

1221 SIMCOE STREET NORTH

Time	AUTHORIZED		VISITORS		STAFF	
	REGULAR	HC	REGULAR	HC	REGULAR	HC
SUPPLY	***189***	***0***	***19***	***2***	***2***	***0***
17:00	93	0	7	1	1	0
17:30	93	0	7	1	1	0
18:00	86	0	9	1	0	0
18:30	92	0	11	1	1	0
19:00	86	0	9	1	1	0
19:30	90	0	9	1	0	0
20:00	87	0	8	1	0	0
20:30	89	0	10	1	0	0
21:00	92	0	8	1	0	0
21:30	92	0	8	1	0	0
22:00	95	0	8	1	1	0
22:30	98	0	9	1	1	0
23:00	100	0	9	1	1	0
23:30	101	0	9	1	1	0
Midnight	103	0	8	1	1	0

IBI Group

Parking Surveys - Oshawa

June-2nd-2018

1221 SIMCOE STREET NORTH

Time	AUTHORIZED		VISITORS		STAFF	
	REGULAR	HC	REGULAR	HC	REGULAR	HC
SUPPLY	***189***	***0***	***19***	***2***	***2***	***0***
6:00	109	0	9	1	1	0
6:30	109	0	9	1	1	0
7:00	102	0	8	1	1	0
7:30	106	0	8	1	1	0
8:00	106	0	8	1	1	0
8:30	107	0	8	1	1	0
9:00	99	0	9	1	1	0
9:30	93	0	9	2	0	0
10:00	91	0	8	2	0	0
10:30	80	0	10	2	0	0
11:00	76	0	9	1	0	0
11:30	75	0	9	1	0	0
12:00	70	0	9	1	1	0
12:30	63	0	8	1	1	0
13:00	68	0	7	1	1	0

IBI Group

Parking Surveys - Oshawa

June-8th-2018

1221 SIMCOE STREET NORTH

Time	AUTHORIZED		VISITORS		STAFF	
	REGULAR	HC	REGULAR	HC	REGULAR	HC
SUPPLY	***189***	***0***	***19***	***2***	***2***	***0***
17:00	93	0	7	1	1	0
17:30	90	0	8	1	1	0
18:00	85	0	9	1	1	0
18:30	91	0	11	1	1	0
19:00	89	0	10	1	1	0
19:30	92	0	11	1	1	0
20:00	91	0	13	1	1	0
20:30	95	0	12	1	1	0
21:00	93	0	10	1	1	0
21:30	97	0	9	1	1	0
22:00	99	0	9	2	1	0
22:30	98	0	9	1	1	0
23:00	98	0	11	1	1	0
23:30	101	0	10	1	1	0
Midnight	99	0	10	1	1	0

IBI Group

Parking Surveys - Oshawa

June-16th-2018

1221 SIMCOE STREET NORTH

Time	AUTHORIZED		VISITORS		STAFF	
	REGULAR	HC	REGULAR	HC	REGULAR	HC
SUPPLY	***189***	***0***	***19***	***2***	***2***	***0***
6:00	102	0	7	1	0	0
6:30	104	0	7	1	0	0
7:00	103	0	7	1	0	0
7:30	102	0	6	1	0	0
8:00	101	0	7	1	0	0
8:30	98	0	8	1	0	0
9:00	89	0	9	1	0	0
9:30	90	0	7	1	0	0
10:00	95	0	7	1	0	0
10:30	81	0	6	1	0	0
11:00	76	0	9	1	0	0
11:30	80	0	8	1	0	0
12:00	74	0	10	1	0	0
12:30	77	0	11	1	0	0
13:00	69	0	10	2	0	0

IBI Group

Parking Surveys - Oshawa

FrIday, March 22nd, 2019

177 Nonquon Rd

5PM TO MIDNIGHT

			VISITORS		RESIDENTS	GARAGE
Time Period			*REG*	*HC*	*REG*	*REG*
17:00	-	17:30	18	0	74	84
17:30	-	18:00	12	0	70	87
18:00	-	18:30	12	0	77	89
18:30	-	19:00	14	0	76	93
19:00	-	19:30	19	0	77	96
19:30	-	20:00	21	1	76	96
20:00	-	20:30	20	1	83	95
20:30	-	21:00	21	1	88	100
21:00	-	21:30	19	0	97	106
21:30	-	22:00	12	0	95	105
22:00	-	22:30	14	0	98	106
22:30	-	23:00	15	0	98	111
23:00	-	23:30	16	0	101	111
23:30	-	0:00	16	0	101	110
SUPPLY			33	2	163	160

IBI Group

Parking Surveys - Oshawa

Saturday, March 23rd, 2019

177 Nonquon Rd

6 am to 1 pm

			VISITORS		RESIDENTS	GARAGE
Time Period			*REG*	*HC*	*REG*	*REG*
6:00	-	6:30	14	0	113	116
6:30	-	7:00	13	0	109	114
7:00	-	7:30	15	0	111	113
7:30	-	8:00	15	0	108	110
8:00	-	8:30	17	1	106	108
8:30	-	9:00	17	0	103	108
9:00	-	9:30	18	0	93	107
9:30	-	10:00	22	0	97	93
10:00	-	10:30	25	0	89	96
10:30	-	11:00	21	0	85	94
11:00	-	11:30	25	0	85	92
11:30	-	12:00	26	0	79	92
12:00	-	12:30	21	0	78	92
12:30	-	13:00	28	0	71	90
SUPPLY			33	2	163	160

IBI Group

Parking Surveys - Oshawa

FrIday, March 29th, 2019

177 Nonquon Rd

5PM TO MIDNIGHT

			VISITORS		RESIDENTS	GARAGE
Time Period			*REG*	*HC*	*REG*	*REG*
17:00	-	17:30	19	1	65	73
17:30	-	18:00	15	0	70	78
18:00	-	18:30	14	0	69	77
18:30	-	19:00	18	2	67	83
19:00	-	19:30	16	1	67	80
19:30	-	20:00	18	1	74	85
20:00	-	20:30	16	0	80	88
20:30	-	21:00	15	0	75	93
21:00	-	21:30	16	0	85	94
21:30	-	22:00	15		86	99
22:00	-	22:30	13	0	94	103
22:30	-	23:00	12	0	98	104
23:00	-	23:30	10	0	102	106
23:30	-	0:00	14	0	106	107
SUPPLY			33	2	163	160

IBI Group

Parking Surveys - Oshawa

Saturday, March 30th, 2019

177 Nonquon Rd

6am to 1 pm

			VISITORS		RESIDENTS	GARAGE
Time Period			*REG*	*HC*	*REG*	*REG*
6:00	-	6:30	10	0	118	115
6:30	-	7:00	10	0	112	110
7:00	-	7:30	12	0	115	109
7:30	-	8:00	12	0	111	107
8:00	-	8:30	13	0	109	103
8:30	-	9:00	14	0	106	100
9:00	-	9:30	15	0	102	99
9:30	-	10:00	15	0	98	98
10:00	-	10:30	18	0	90	92
10:30	-	11:00	19	1	91	91
11:00	-	11:30	21	1	87	87
11:30	-	12:00	22	1	83	83
12:00	-	12:30	23	1	83	87
12:30	-	13:00	21	1	79	85
SUPPLY			33	2	163	160