HANSEATIC HOLDINGS LIMITED

600 AND 620 LOLITA GARDENS REDEVELOPMENT

TRANSPORTATION IMPACT STUDY

July 12, 2019

wsp

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HANSEATIC HOLDINGS LIMITED

REPORT

PROJECT NO.: 18M-01595-00 T03
DATE: JULY 12, 2019

WSP
100 COMMERCE VALLEY DRIVE WEST
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July 12, 2019

HANSEATIC HOLDINGS LIMITED
c/o Mr. Gerd Wengler
President
16 Esna Park Drive, Suite 200
Markham, ON, L3R 5X1

Dear Mr. Wengler,

Subject: 600 and 620 Lolita Gardens Redevelopment

WSP Canada Group Limited (WSP) is pleased to present the findings of our Transportation Impact Study (TIS) for the proposed redevelopment located at 600 and 620 Lolita Gardens.

Based on the enclosed study findings, it is expected that the traffic generated by the proposed development can be readily accommodated by the local transportation network in the study area from a transportation perspective. The proposed auto parking arrangements will also 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,

WSP Canada Group Limited

Peter Yu, P. Eng.
Project Manager
Transportation Planning

WSP ref.: 18M-01595-00 T03

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TABLE OF CONTENTS

APPENDICES

1 INTRODUCTION

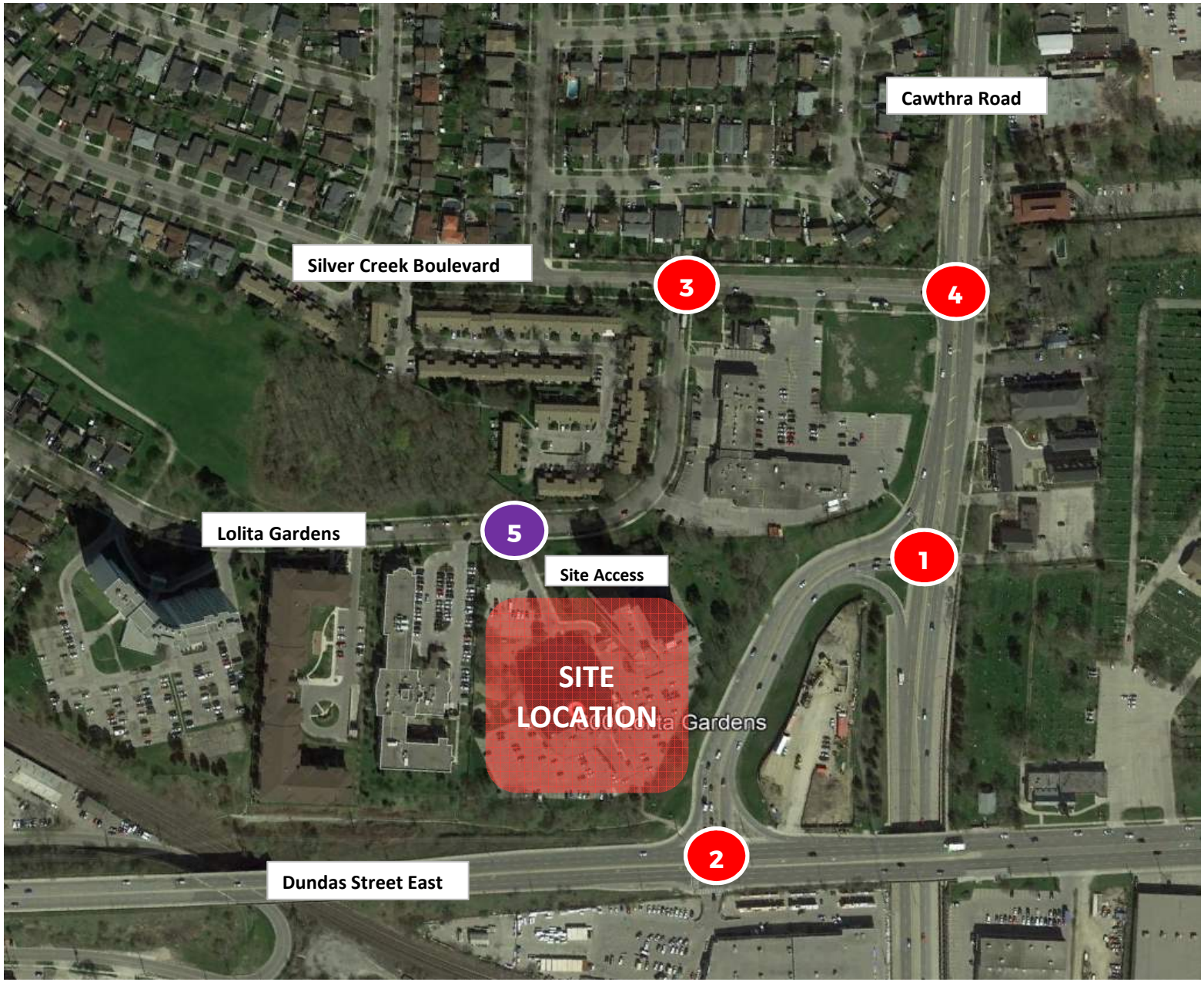
WSP was retained by Hanseatic Holdings Limited to prepare a Transportation Impact Study (TIS) for the 600 and 620 Lolita Gardens redevelopment in the City of Mississauga. The site location and study area are shown in **Figure 1-1**.

By way of background, the site is currently occupied by a 17-storey apartment building at 600 Lolita Gardens and a 21-storey apartment building at 620 Lolita Gardens. The proposed redevelopment will add 271 purpose built residential rental units. The site plan is shown in **Figure 1-2**.

The main objective of this study is to evaluate if there are any adverse impacts on the local transportation network related to the proposed development and to ensure the proposed parking and loading arrangements are adequate.

A terms of reference was agreed upon with the City of Mississauga and Region of Peel prior to commencing the TIS and is provided in **Appendix A**.

Our study approach and findings are documented herein.



Legend

- Intersection
- Site Driveway

1. Dundas Street East and Cawthra Road - North Terminal
2. Dundas Street East and Cawthra Road - South Terminal
3. Silver Creek Boulevard and Lolita Gardens
4. Cawthra Road and Silver Creek Boulevard
5. Existing Site Access at Lolita Gardens

Figure 1-1

Study Area

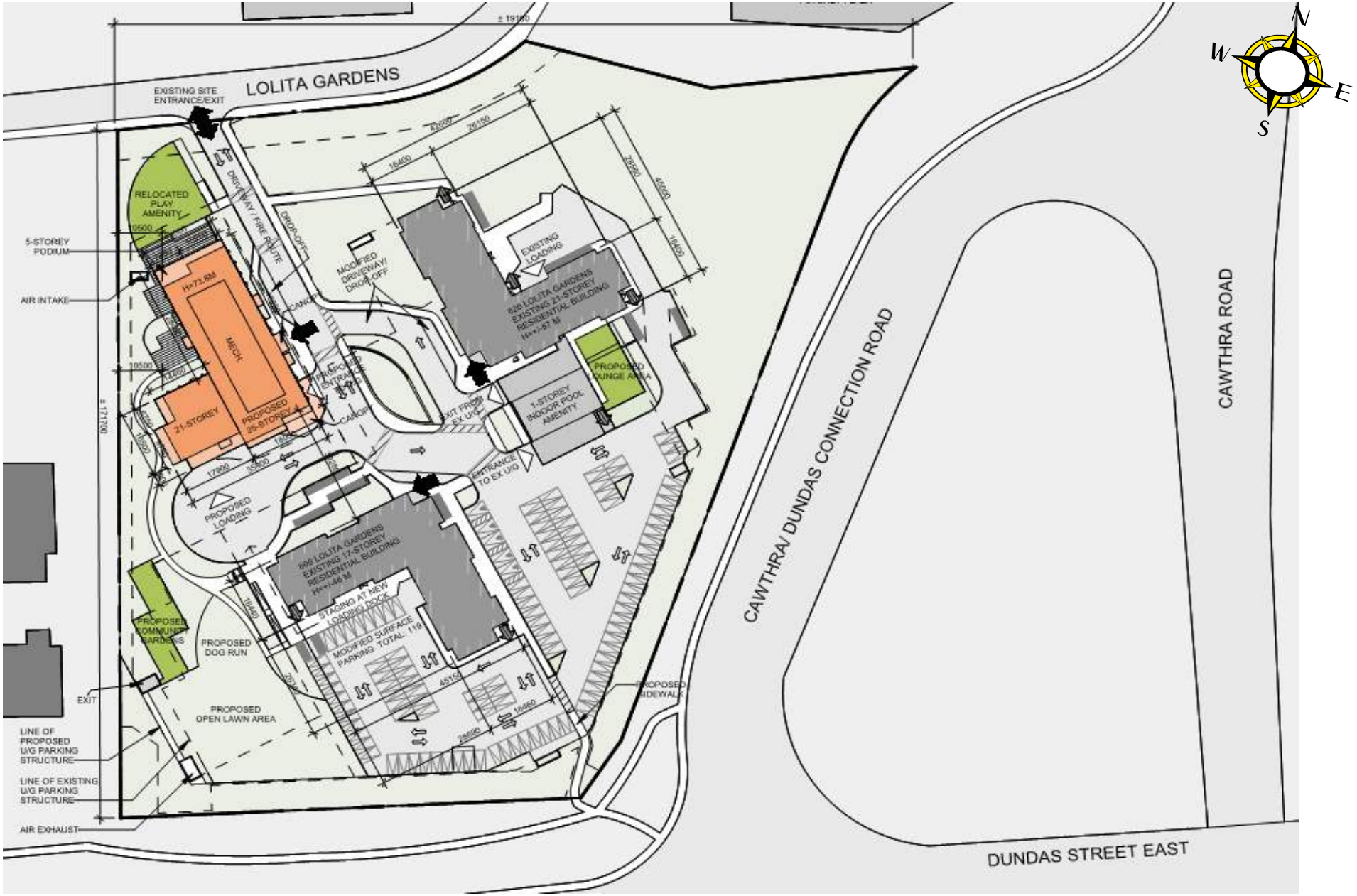


Figure 1-2

Site Plan

2 EXISTING CONDITIONS

This section of our assessment describes the existing road network and traffic conditions within the study area.

2.1 BOUNDARY ROADWAYS

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

Cawthra Road (Peel Regional Road 17), which is east of the site, is a north-south major arterial road with a posted speed limit of 50 km/h. Cawthra Road has a four-lane cross-section, with auxiliary left-turn lanes on both approaches at the signalized intersections.

Dundas Street East, which borders the site to the south, is an east-west major arterial road with a posted speed limit of 60 km/h. Dundas Street East has a six-lane cross-section through the study area.

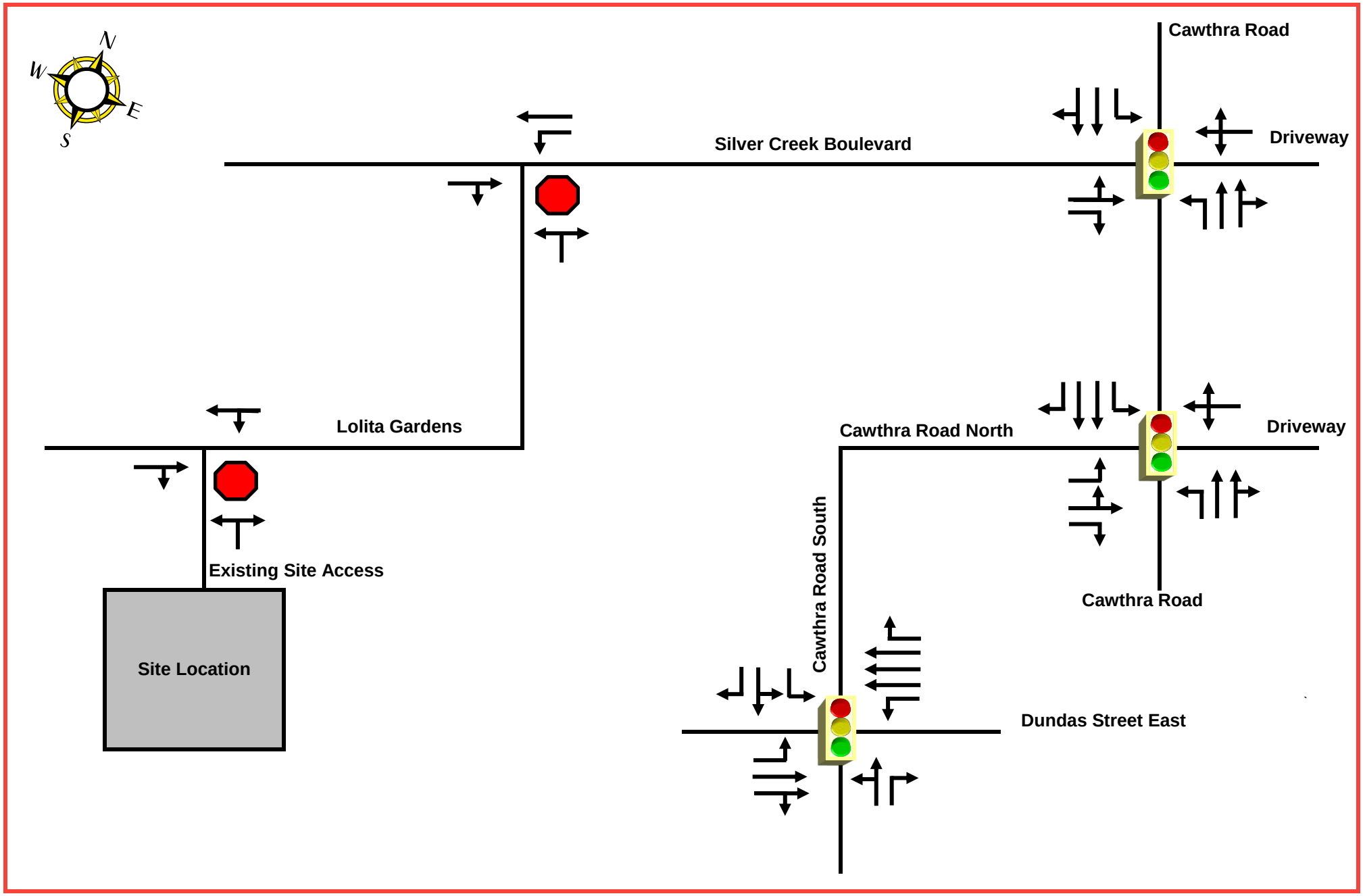
Silver Creek Boulevard, which is to the north of the site, is an east-west collector road under the jurisdiction of the City of Mississauga. Silver Creek Boulevard has a two-lane cross section and a posted speed limit of 40 km/h. Silver Creek is the primary link connecting the site via Lolita Gardens to Cawthra Road.

Lolita Gardens, which directly borders the site to the north, is a local road under the jurisdiction of the City of Mississauga. Lolita Gardens has a two-lane cross-section. The existing site access driveway connects to Lolita Gardens.

Based on the ToR with the City and the Region, the following study intersections were included:

- Dundas Street East and Cawthra Road (Peel Regional Road 17) - North Terminal (signalized);
- Dundas Street East and Cawthra Road (Peel Regional Road 17) - South Terminal (signalized);
- Silver Creek Boulevard and Lolita Gardens (unsignalized);
- Cawthra Road (Peel Regional Road 17) and Silver Creek Boulevard (signalized); and
- Existing Site Access at Lolita Gardens (unsignalized).

The lane configurations at all of the study intersections are illustrated in **Figure 2-1**.



Legend

Signalized Intersection

Stop Control

Lane Configurations

Figure 2-1

Existing Lane Configuration

2.2 TRANSIT ASSESSMENTS

The site is serviced by the following MiWay transit routes:

- The **8 Cawthra** bus route operates between City Centre Transit Terminal and Port Credit Go Station, generally in a north-south direction. The route runs along Hurontario Street and then along Cawthra Road in Mississauga. The stop is located on the City Centre Transit Terminal with the site's access to Square One. The closest bus stops for this route are within a 300m walk of the site.
- The **1 Dundas** bus route operates along Dundas Street, in an east-west direction along Dundas Street between Islington Subway Station (connection to Line 2 Bloor-Danforth) to the west and a bus loop on Laird Road just north of Dundas Street to the east. The closest bus stops for this route are within a 120m walk of the site.
- The **1C Dundas-Collegeway** bus route operates between Islington Subway Station (connection to Line 2 Bloor-Danforth) and South Common Center on Mississauga Road, and Collegeway. This route runs along Dundas Street in an east-west direction. The closest bus stops for this route are within a 120m walk of the site.
- The **101 Dundas Express** bus route operates between Islington Subway Station (connection to Line 2 Bloor-Danforth) and South common Center on Burnhamthorpe Road, and Erin Mills Parkway. This route runs along Dundas Street in an east-west direction. This route also offers another express version **101A** with limited services during AM/PM rush hour and has no service on UTM during summer term and winter holidays. The closest bus stops for this route are within a 120m walk of the site.

Table 2.1 summarizes the above-noted transit routes, along with their approximate headways throughout the service period. It should be noted that the headways shown are for each direction of travel. As shown in Table 2.1, most of the bus services operate with a headway ranging from 5 to 25 minutes, which is reasonable and reliable for daily use purposes. A map of the above transit routes is shown in **Figure 2-2**.

Table 2.1: Existing Transit Services within the Study Area

Route	Transit Service Operating Headways			
	A.M. Peak	Weekday Midday	P.M. Peak	Weekday Early Evening
8 Cawthra	20 minutes	30 minutes	20 minutes	30 minutes
1 Dundas	25 minutes	25-37 minutes	20 minutes	25 minutes
1C Dundas	25 minutes	25-37 minutes	5 minutes	25 minutes
101 Dundas Express	10 minutes	14 minutes	15 minutes	20 minutes
101A Dundas Express	20 minutes	N/A	15 minutes	20 minutes

wsp

Legend

S Site Location

Figure 2-2

Existing Transit Services

2.3 PEDESTRAIN FACILITIES

There are existing sidewalks on both sides of all boundary roadways. The sidewalks and the presence of crosswalks at all of the key study intersections facilitates convenient pedestrian travel in the study area.

2.4 TRAFFIC DATA

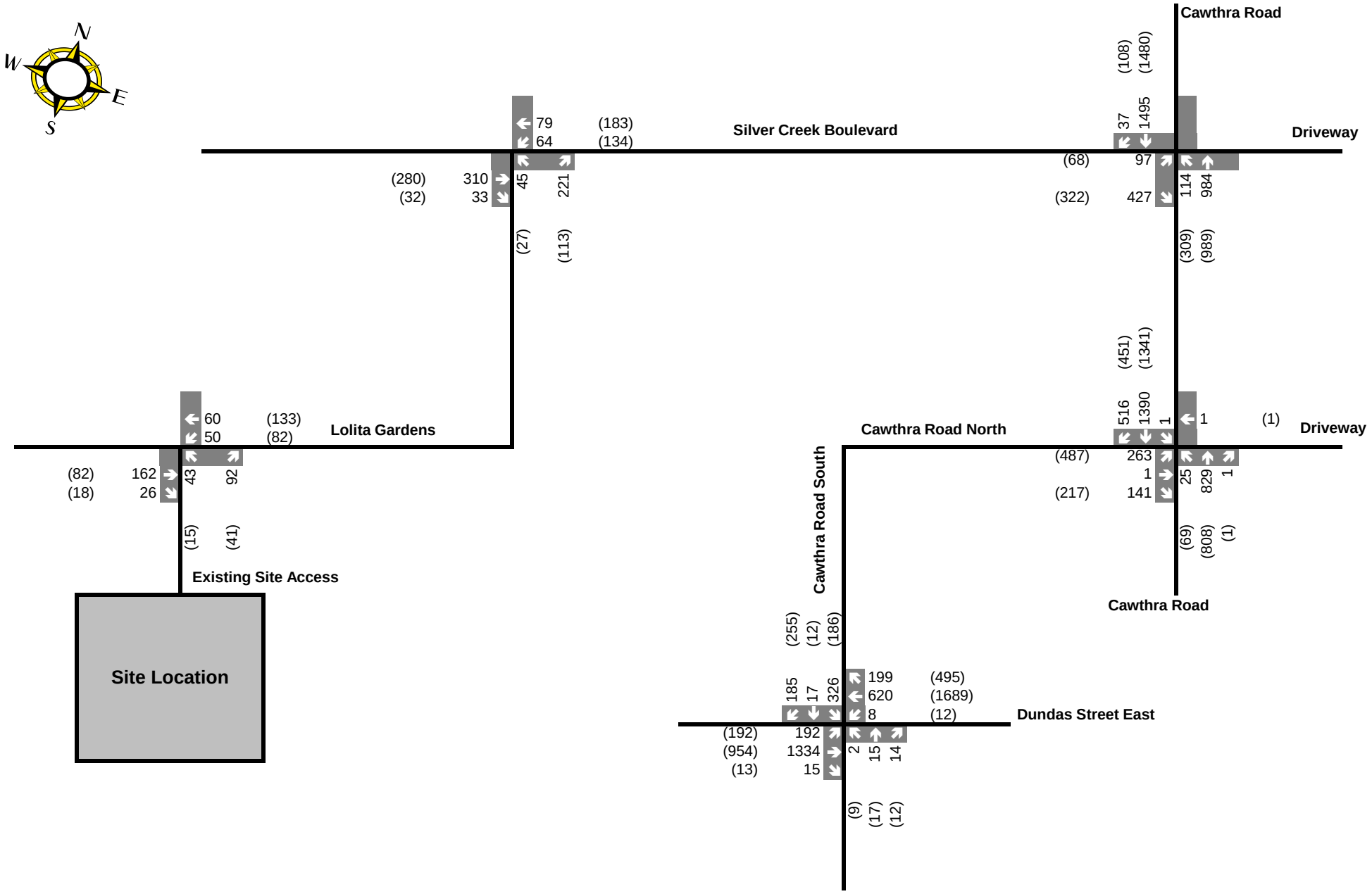
Table 2.2 summarizes the list of turning movement counts collected for this study, as well as the source and date of the counts. Traffic data were collected during the weekday a.m. and p.m. peak periods. The turning movement counts used are included in **Appendix B**. The a.m. and p.m. peak hour volumes at the study intersections were identified and are illustrated in **Figure 2-3**.

Table 2.2: Traffic Data Information

Intersections	Date of the count	Source
Dundas Street East and Cawthra Road- North Terminal	Wednesday December 12, 2018	Accu- Traffic Inc.
Dundas Street East and Cawthra Road- South Terminal	Wednesday December 12, 2018	Accu- Traffic Inc.
Silver Creek Boulevard and Lolita Gardens	Wednesday December 12, 2018	Accu- Traffic Inc.
Cawthra Road and Silver Creek Boulevard	Wednesday December 12, 2018	Accu- Traffic Inc.
Existing Site Access Driveway at Lolita Gardens	Wednesday December 12, 2018	Accu- Traffic Inc.

2.5 MODEL ASSUMPTIONS

The Synchro model has been established based on the City of Mississauga TIS Guidelines and the Region of Peel Guideline for Using Synchro version 7.73. The observed peak hour factors (PHF) for each approach of the city jurisdiction intersections were applied since they better reflect the site-specific traffic peaking patterns. For the Region of Peel jurisdiction intersections, PHFs were coded based on Peel Region TIS guideline, along with the appropriate lane widths. It should also be noted that the appropriate bus blockages were inputted in the Synchro models. PHF calculations can be found in **Appendix C**. All of these parameters are carried forward for the future assessment to allow for "Apples to Apples" comparisons.



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xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 2-3

Existing Traffic Volumes

2.6 EXISTING TRANSPORTATION CONDITIONS

To analyze existing traffic conditions in the study area, capacity analyses were undertaken using the Synchro 10 traffic analysis software. This software incorporates the methodology outlined in the Highway Capacity Manual (HCM), Transportation Research Board, 2000 and 2010. The signal timing plans for the study intersections were acquired from the Region of Peel and the City of Mississauga and are provided in **Appendix B**.

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. **Appendix D** provides the LOS definitions according to the HCM 2000 methodology.

EXISTING TRAFFIC CONDITIONS

Traffic operations were analyzed at the study intersections to understand the existing LOS during the weekday a.m. and p.m. peak hours. The results of the existing intersection capacity analysis are summarized in **Table 2.3**. It is important to note that under existing conditions, the splits at the signalized intersections have been maintained from the signal timing data provided (i.e., without optimization). Detailed intersection capacity analysis sheets are included in **Appendix E**.

Table 2.3: Existing Conditions Intersection Operations

Intersection	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)
Signalized Intersections				
Dundas Street East and Cawthra Road- North Terminal	D (46)	--	C (28)	SB-T (0.86)
Dundas Street East and Cawthra Road- South Terminal	C (31)	--	C (29)	EB-L (0.98)
Cawthra Road and Silver Creek Boulevard	D (44)	EB-TR (0.97)	C (25)	--
Unsignalized Intersections				
Silver Creek Boulevard and Lolita Gardens	B (14)	NB-LR (0.43)	B (12)	NB-LR (0.23)
Existing Site Access Driveway at Lolita Gardens	B (12)	NB-LR (0.25)	B (11)	NB-LR (0.09)

1 For signalized intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios are only listed for through or shared turning movements with values over 0.85 and dedicated turning movements with values over 0.90.

2 For unsignalized intersections, the level of service is based on average delay per vehicle or on individual movements with a LOS of 'E' or 'F'.

The results presented in Table 2.3 indicate that all of the study intersections operate at an acceptable LOS 'D' or better. As expected, at the arterial to arterial intersections of Dundas Street East and Cawthra Road- North and South Terminal, there are some busier movements during the p.m. peak hour. The Cawthra Road and Silver Creek Boulevard intersection also operates with a busier eastbound movement during the a.m. peak hour.

During the p.m. peak hour at the Dundas Street East and Cawthra Road - South Terminal intersection, the eastbound left-turn movement was initially modeled to be operating at slightly over capacity with a v/c ratio of 1.04. However, this is theoretically impossible under existing conditions since all of the cars were counted to have crossed the intersection during the peak hour. Therefore, this means that Synchro is underestimating the capacity of the eastbound left-turn movement. This is not surprising given the urban context of arterial to arterial intersection where driving behaviours may be different from the default Synchro parameters. As a result, a lost time adjustment of -1 second was applied to the eastbound left-turn movement during the p.m. peak hour. This minor calibration allows the movement to be modeled within capacity under existing conditions. Nonetheless, the focus of this study is to evaluate the incremental impact the proposed redevelopment-generated traffic will have at each of the study intersections.

3 FUTURE BACKGROUND TRAFFIC CONDITIONS

3.1 HORIZON YEAR

The proposed development is anticipated to be built in the next 5 years, therefore a horizon year of 2023 has been adopted for this study as confirmed in the TOR, since the TIS started in 2018.

3.2 BACKGROUND GENERAL TRAFFIC GROWTH

Based on discussions with the Region of Peel and City of Mississauga staff as provided in Appendix A, the general growth rates applied to the boundary road network are summarized in **Table 3-1.** Accordingly, these growth rates were applied to the existing traffic volumes shown in Figure 2-3 and the general growth volumes are shown in **Figure 3-1**.

Table 3-1: Background Development Information

Road	Growth (AM Peak hour)	Growth (PM Peak hour)	Type (simple/compound)	Source
Cawthra Road	Westbound: 1.5% Eastbound: 1.5%	Westbound: 1.5% Eastbound: 1.5%	Compound	Region of Peel
Dundas Street	Westbound: 3% Eastbound: 0%	Westbound: 0% Eastbound: 2%	Compound	City of Mississauga

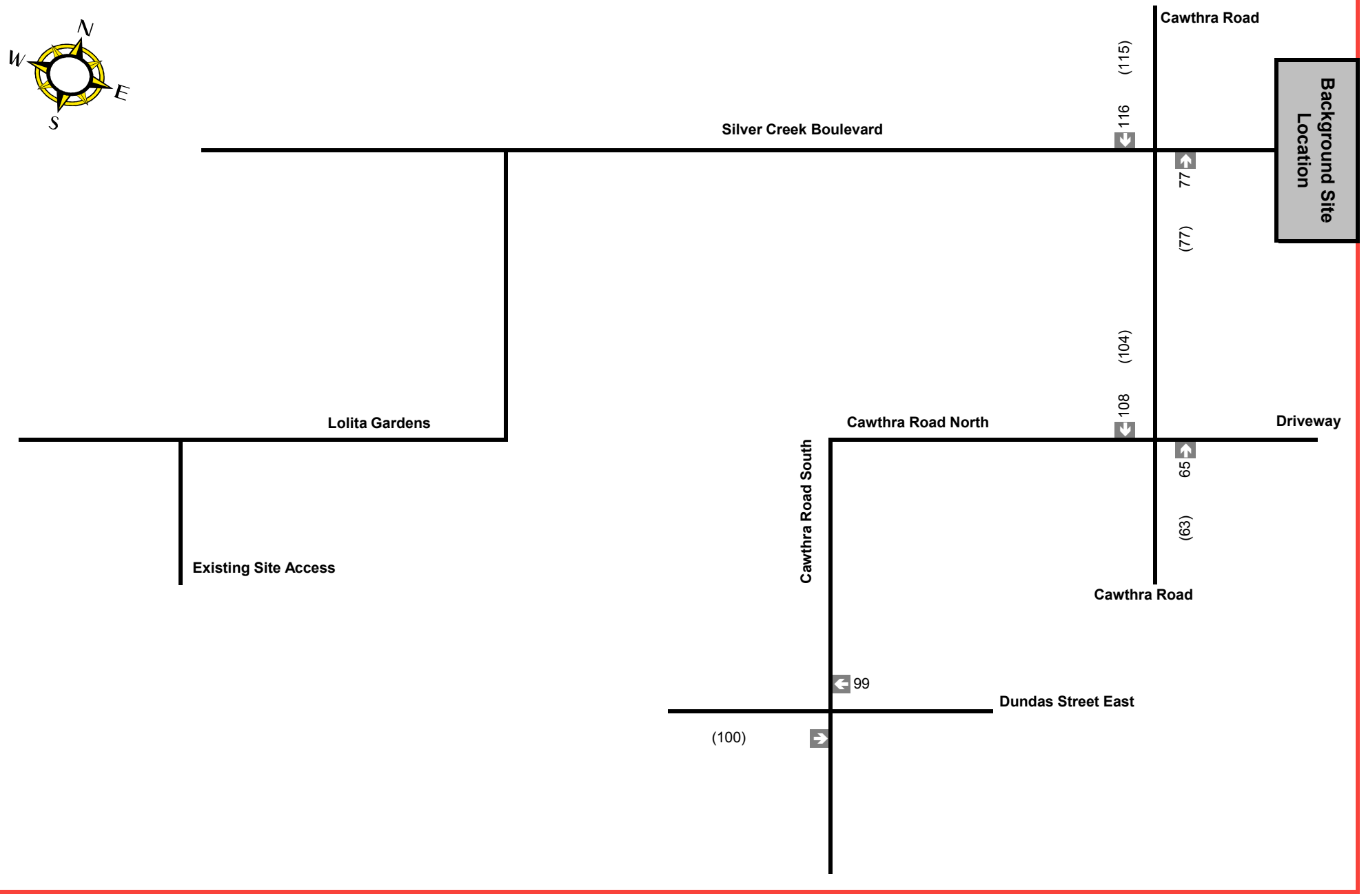
3.3 BACKGROUND DEVELOPMENTS

Based on our review of the Mississauga City's development application website, two background developments have been included as part of this TIS. Details of these background developments are summarized in **Table 3-2. Figure 3-2** illustrates the traffic volumes generated by these two background developments, which were determined through the respective TIS'. This is a conservative approach because both background developments are at various stages of review.

Table 3-2: Background Development Information

Development	Status	Statistics	Traffic Volume Source
3111/3123 Cawthra Road	Site plan - under review	34 residential units (32 townhouse units, and 2 detached dwellings)	Trip Generation Manual Version 9
3105 Cawthra Road	Rezoning - under review	6 three storey townhouse units	Trip Generation Manual Version 9

The person trips generated by the proposed background developments during the weekday a.m. and p.m. peak hours were estimated using the vehicle trip generation rates outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition. The overall vehicle trips generation rates used are shown in **Table 3-3**.



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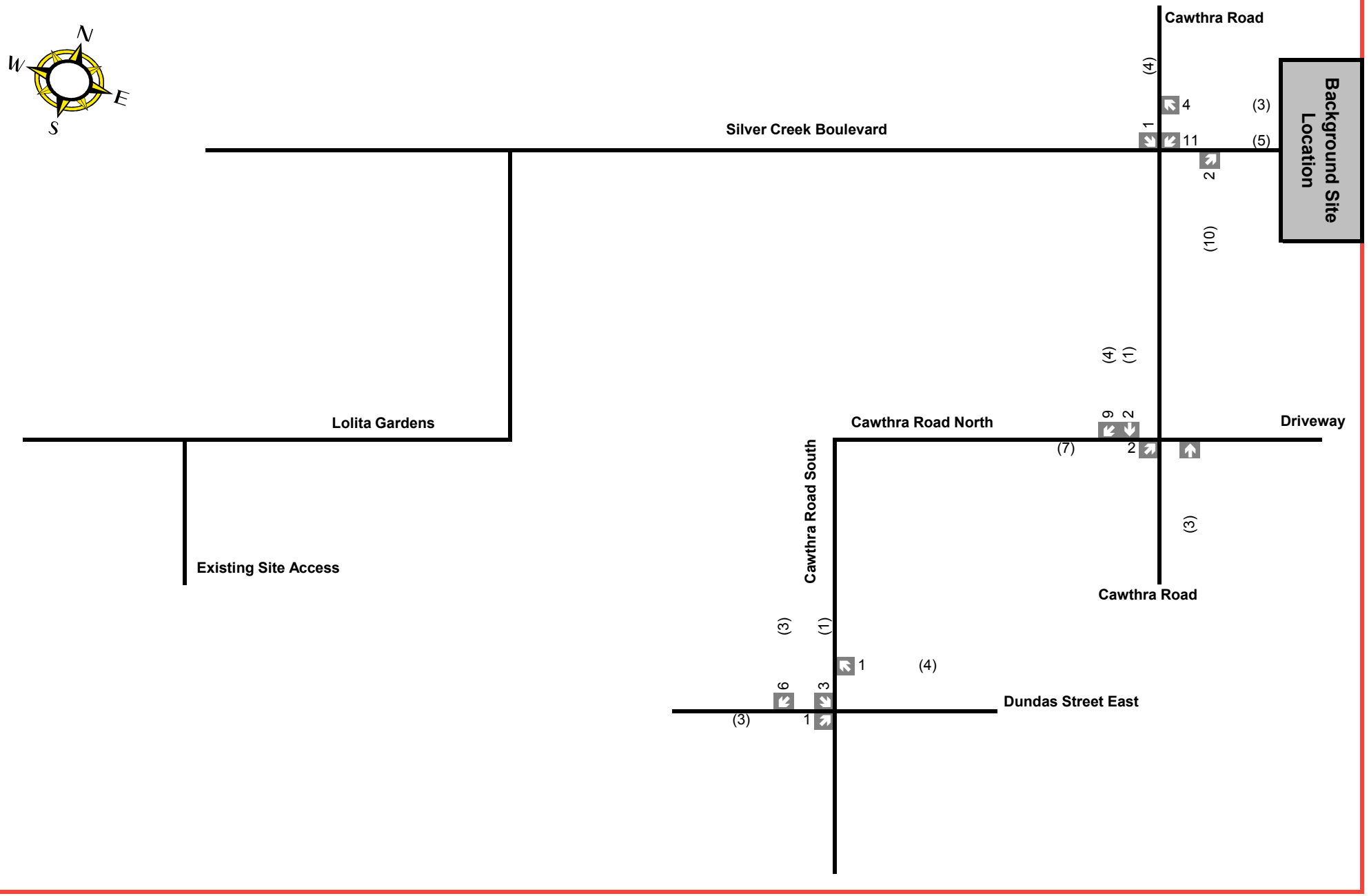
xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 3-1

General Growth

Traffic Volumes



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xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 3-2

Background Developments

Traffic Volumes

Table 3-3: Peak Hour Trip Generation Equations and Rates

Use ITE Land Use (Code)	Independent Variable	Equation					
		A.M. Peak Hour			P.M. Peak Hour		
Townhouse (230)	Equation (X=residential units)	T = 0.44(X)			T = 0.52(X)		
	Directional Splits	17%	83%	100%	67%	33%	100%
Single Detached (210)	Equation (X=residential units)	T = 0.75(X)			T = 1(X)		
	Directional Splits	25%	75%	100%	63%	37%	100%

Using the trip rates noted above, the forecast vehicle trips generated by the background developments are shown in **Table 3-4.**

Table 3-4: Peak Hour Traffic Generated by the Background Developments

Land Use	**Unit**	**Vehicle Trips**			
		Weekday A.M. Peak Hour		**Weekday P.M. Peak Hour**	
		Inbound	**Outbound**	**Inbound**	**Outbound**
Townhouses	38 units	3	14	13	7
Single Detached	2 units	0	1	1	1
Total Inbound/Outbound		**3**	**15**	**14**	**8**

As shown in Table 3-4, the proposed background development is forecast to generate 18 and 22 auto trips during the a.m. and p.m. peak hours, respectively.

3.4 BACKGROUND ROAD NETWORK

Based on discussions with staff at the City of Mississauga, WSP was informed that the City's noted that their traffic model assumes the widening of Cawthra Road from 2 through lanes to 3 through lanes in each direction south of Dundas Street. These potential changes do not impact the lane configurations of the study intersections. However, based on discussions with staff at the Region of Peel transportation division, WSP was informed that Cawthra Road is not planned to be expanded to 6 lanes and will remain a 4 lane road. A road improvements project will be happening on Cawthra Road along the segment of interest by year 2021, however, the project is aimed to enhance pedestrian and biker mobility, and will not affect the existing lane configuration for the most part. Therefore, therefore, the background road network lane configuration is assumed to remain the same as that of the existing conditions (Figure 2-1). The email exchanges with the City and the Region are provided in Appendix A.

3.5 FUTURE BACKGROUND OPERATIONS

The projected future background traffic volumes were developed by superimposing the general growth volumes in Figure 3-1, background development volumes in Figure 3-2 onto the existing traffic volumes. The resulting 2023 future background volumes are shown in **Figure 3-3**. For the future background evaluation, the cycle lengths for the signalized intersections have been maintained from existing conditions, with the signal timings optimized where necessary. The resulting intersection operations are outlined in **Table 3-5** and the Synchro worksheets are in **Appendix F**.

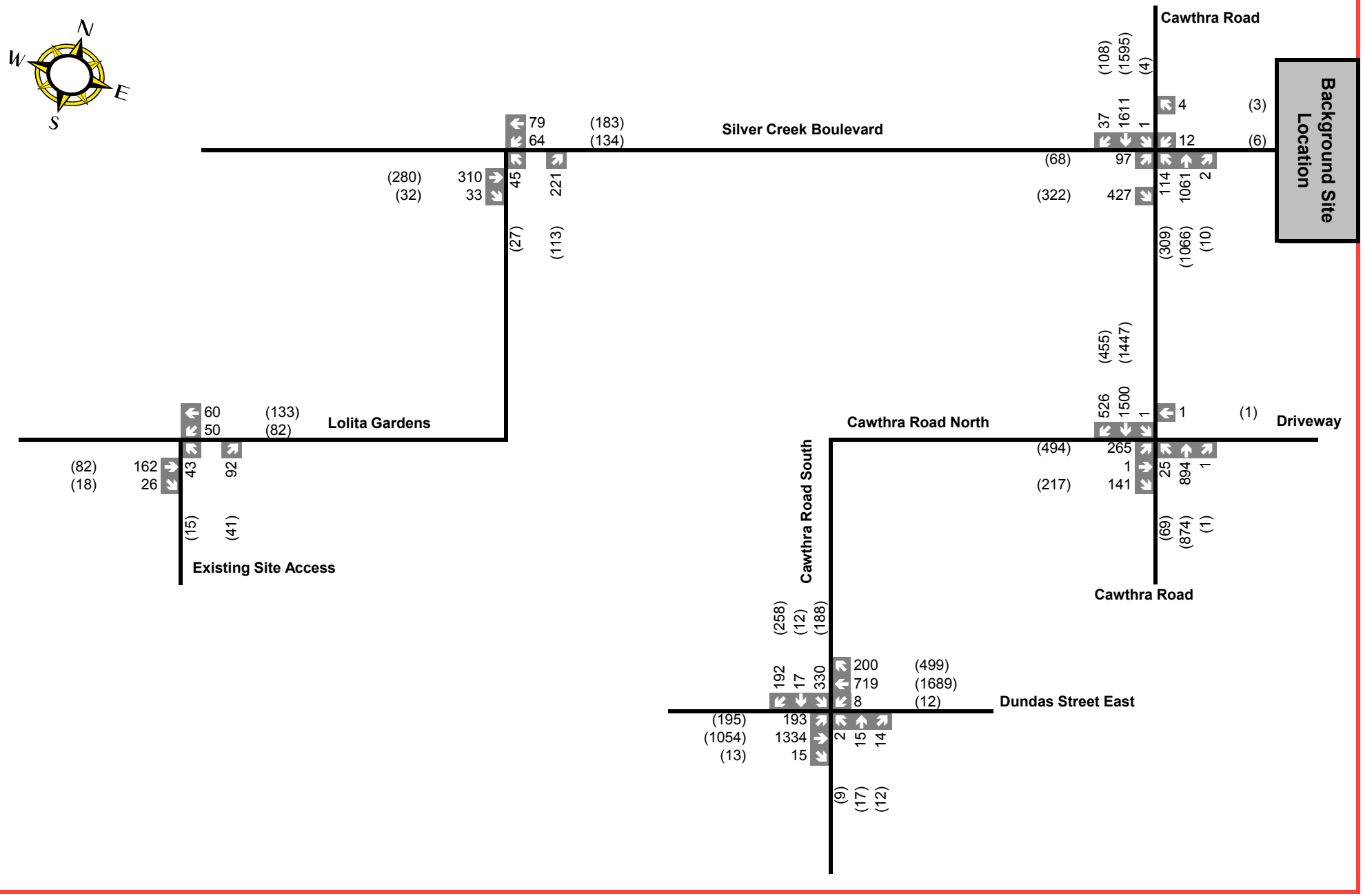
Table 3-5: Future Background Intersection Operations

Intersection	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)
Signalized Intersections				
Dundas Street East and Cawthra Road- North Terminal	B (17)	--	C (25)	--
Dundas Street East and Cawthra Road- South Terminal	C (29)	--	C (35)	--
Cawthra Road and Silver Creek Boulevard	B (17)	--	C (25)	--
Unsignalized Intersections				
Silver Creek Boulevard and Lolita Gardens	B (14)	NB-LR (0.43)	B (12)	NB-LR (0.23)
Existing Site Access Driveway at Lolita Gardens	B (12)	NB-LR (0.25)	B (11)	NB-LR (0.09)

1 For signalized intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios are only listed for through or shared turning movements with values over 0.85 and dedicated turning movements with values over 0.90.

2 For unsignalized intersections, the level of service is based on average delay per vehicle or on individual movements with a LOS of 'E' or 'F'.

The results presented in Table 3-5 indicate that the future background conditions are similar to the existing conditions. All of the intersections continue to operate at acceptable LOS 'C' or better. With signal timing optimizations, some of the critical movements that were modeled under the existing conditions are forecast to operate well. The future background conditions indicate that there are residual capacities at the study intersections to accommodate additional traffic volumes.



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xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 3-3

Future Background Traffic Volumes

4 SITE-GENERATED VOLUMES

4.1 SITE ACCESSES

The auto access/egress point for the redeveloped site will continue to be provided from the existing driveway onto Lolita Gardens. Therefore, the future road network and lane configurations will be the same as existing.

4.2 TRIP GENERATION

The proposed redevelopment features the addition of 271 apartment units. The auto trip generation of the redevelopment is based on a first principles approach where the site-specific patterns are applied rather than general rates in the *Institute of Transportation Engineers (ITE) Trip Generation Manual*. The weekday morning and afternoon peak hour in and out volumes were counted at the existing driveway on Lolita Gardens. The existing peak hour auto trip generation at the site are tabulated in **Table 4-1**.

Table 4-1: Auto Trips Generated at 600 and 620 Lolita Gardens – (Based on Counts)

Use	Auto Trip Generation					
	A.M. Peak Hour			P.M. Peak Hour		
	In	Out	Total	In	Out	Total
Existing Apartment (408 Units)	76	135	211	100	56	156

The site-specific auto trip generation rates of the existing residential uses were developed by relating the in/out volumes to the 408 apartment units on-site. WSP confirmed with the project team that all 408 units were leased at the time of our traffic data collection. **Table 4-2** summarizes the resulting site-specific trip generation rates.

Table 4-2: Site-Specific Auto Trip Generation Rates

Use	Auto Trips/Unit					
	A.M. Peak Hour			P.M. Peak Hour		
	In	Out	Total	In	Out	Total
Existing Apartment	0.186	0.331	0.517	0.245	0.137	0.382

The average trip generation rates in Table 4-2 were applied to the proposed addition of 271 units and the resulting auto trip generations are presented in **Table 4-**. Since the rates presented in Table 4-2 are already for the auto mode only, no modal split adjustment was applied.

Table 4-3: Peak Hour Auto Trip Generation

Development	Trip Generation Rates					
	A.M. Peak Hour			P.M. Peak Hour		
	In	Out	Total	In	Out	Total
Proposed Apartments (271 Units)	50	90	140	66	37	103

As shown in Table 4.3, the development is forecast to generate a total of 140 trips and 103 trips during the weekday a.m. and p.m. peak hours respectively.

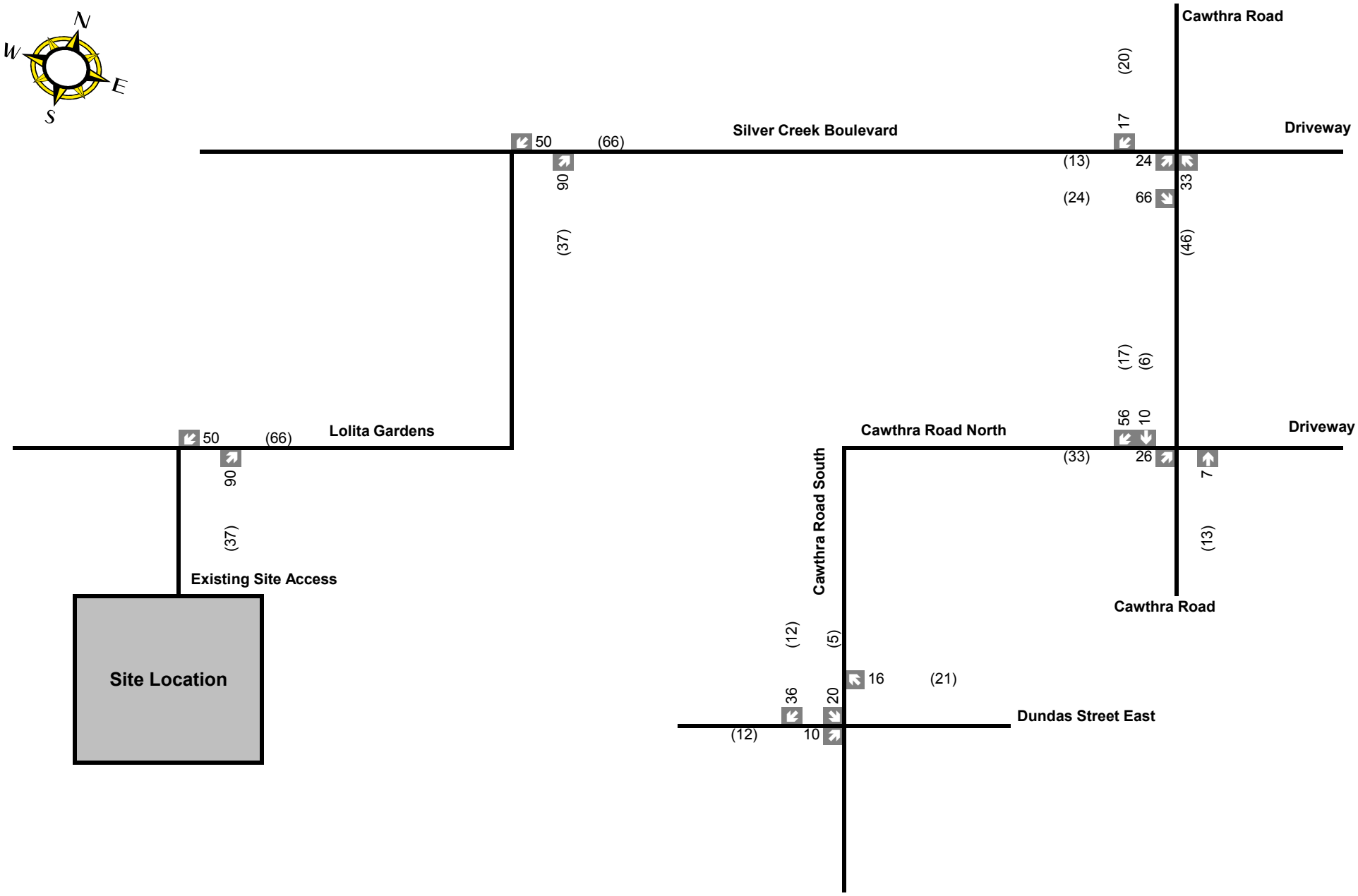
4.3 TRIP DISTRIBUTION AND ASSIGNMENT

Trip distribution information from the Transportation Tomorrow Survey (TTS) database were reviewed for the surrounding study area (Traffic Analysis Zones 3667, 3668 and 3669) for home-based trip patterns. **Table 4-4** outlines the resulting trip distribution by direction. The detailed TTS queries are provided in **Appendix G**.

Table 4-4: Site Traffic Analysis Zone Trip Distribution

Direction	A.M. Inbound	A.M. Outbound	P.M. Inbound	P.M. Outbound
Northwest	6%	10%	11%	30%
North	8%	10%	9%	7%
Northeast	30%	16%	21%	16%
East	21%	19%	19%	9%
Southeast	11%	0%	21%	4%
South	0%	0%	0%	5%
Southwest	6%	6%	7%	10%
West	17%	40%	12%	20%
Total	**100%**	**100%**	**100%**	**100%**

The site-generated auto traffic assignments were developed based on the trip distribution information in Table 4-4 and the most logical path for vehicles to travel in order to minimize travel time and distance. **Figure 4-1** illustrates the resulting traffic assignment to the boundary road network.



Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 4-1

Site-Generated Traffic Volumes

5 FUTURE TOTAL CONDITIONS

The 2023 future total traffic volumes were developed by superimposing the following volumes:

- Future background volumes shown in Figure 3-3; and
- Site-generated traffic volumes illustrated shown in Figure 4-1.

The resulting future total traffic forecasts are illustrated in **Figure 5-1**. The resulting LOS are outlined in **Table 5-1**. Detailed Synchro worksheets are available in **Appendix H**. The signal timing plans were optimized where necessary, but the cycle lengths were maintained as existing conditions.

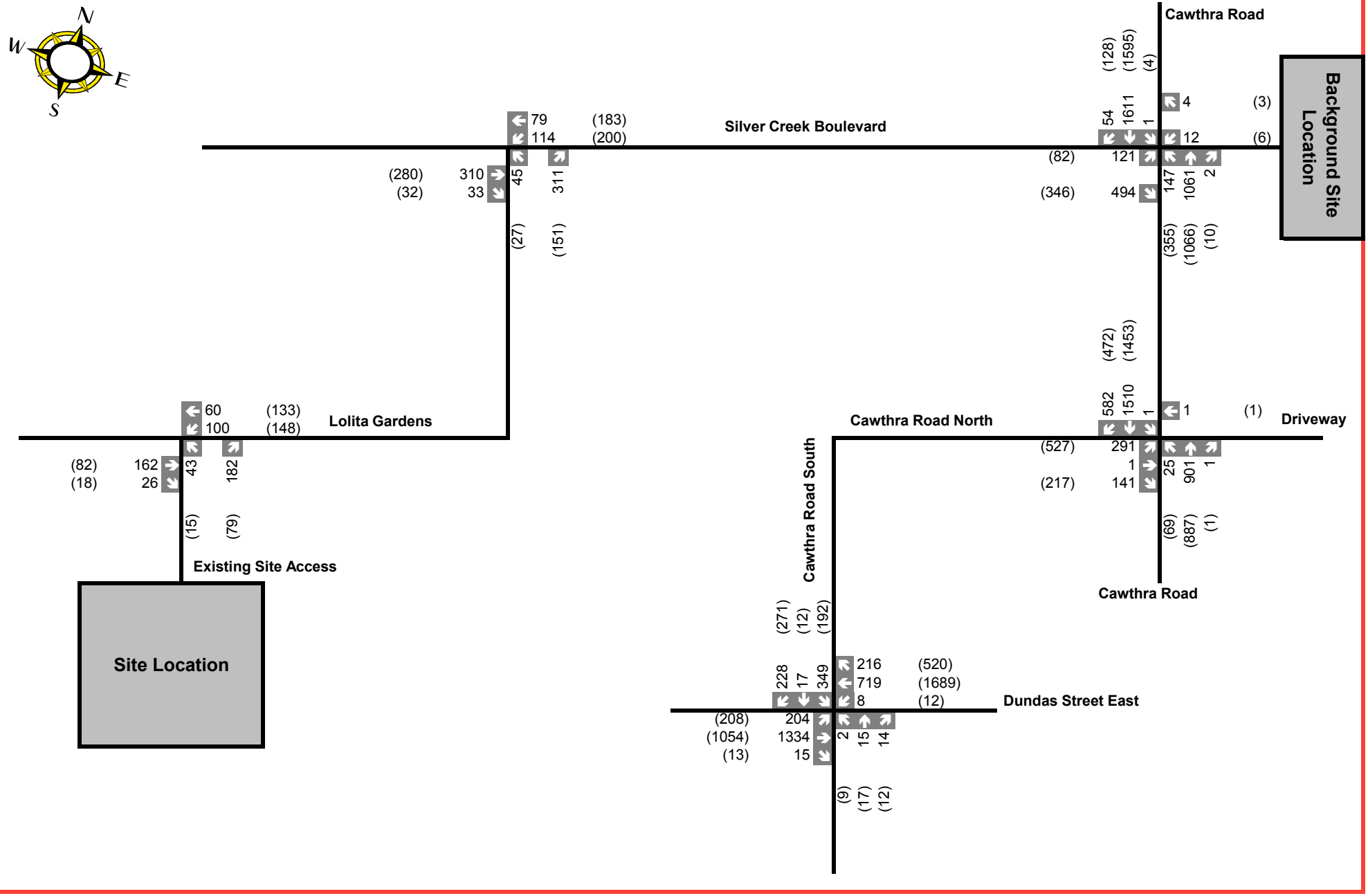
Table 5-1: Future Total Intersection Operations

Intersection	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)
Signalized Intersections				
Dundas Street East and Cawthra Road- North Terminal	B (18)	--	D (43)	--
Dundas Street East and Cawthra Road-South Terminal	C (29)	--	C (31)	EB-L (0.98) WB-T (0.92)
Cawthra Road and Silver Creek Boulevard	C (22)	EB-TR (0.85)	C (32)	SB-T (0.95)
Unsignalized Intersections				
Silver Creek Boulevard and Lolita Gardens	C (18)	NB-LR (0.60)	B (13)	NB-LR (0.3)
Existing Site Access Driveway at Lolita Gardens	C (15)	NB-LR (0.42)	B (11)	NB-LR (0.16)

1 For signalized intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios are only listed for through or shared turning movements with values over 0.85 and dedicated turning movements with values over 0.90.

2 For unsignalized intersections, the level of service is based on average delay per vehicle or on individual movements with a LOS of 'E' or 'F'.

The information presented in Table 5-1 indicate that the future total conditions are similar to the existing and future background conditions in Tables 2-3 and 3-5, respectively. For example, at Dundas Street East/Cawthra Road-south terminal, the v/c ratio of the busiest eastbound left-turn movement during the p.m. period is the same between existing and future total conditions. Even with the addition of the traffic generated by the redevelopment, all of the study intersections continue to operate at acceptable LOS 'D' or better, with all movements operating within capacity. Overall, the findings indicate that the site-generated traffic will have minimal impact on the boundary road network and can be readily accommodated.



Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 5-1

Future Total

Traffic Volumes

6 SITE PLAN REVIEW

6.1 CITY LOADING REQUIREMENT

The loading requirements related to the proposed redevelopment has been established based on the City of Mississauga Part 3- Parking, Loading and Stacking Lane Regulations. One loading space is required for an apartment building that contains more than 30 dwelling units. Accordingly, an indoor loading space (6m wide and 18.4m long) is proposed on the ground floor of the new residential building.

6.2 SITE CIRCULATION ASSESSMENT

Our site circulation assessment was completed using the AutoTURN 10.0 software package to ensure adequate manoeuverability through the site. The AutoTURN simulation assessed the access of fire routes to the principal entrances of the buildings, the access of garbage trucks and loading trucks to the proposed loading bay, and the circulation of passenger vehicles throughout the site. Our AutoTURN evaluation of the other vehicles are as follows.

6.2.1 FIRE TRUCK MANOEUVRES

A City of Mississauga custom Fire Truck was used to test the movement of emergency vehicles at the site. As per *Ontario Regulation 332/12: Building Code Section 3.2.5.5. Location of Access Routes*, fire trucks need to get to a distance of less than 15 m from the principal entrances of the buildings. The truck can enter the site and exit it in a forward direction and the manoeuvres work well as illustrated in **Figures 6-1A** and **6-1B**. The proposed fire route is a minimum of 6m wide, which meets the Ontario Building Code requirement.

6.2.2 WASTE COLLECTION TRUCK MANOEUVRES

The manoeuvres of a custom Region of Peel Garbage Truck was tested entering the site in a forward direction, fronting into the proposed loading bay and exiting the site in a forward direction. The manoeuvres work well as illustrated in **Figures 6-2A** and **6-2B**. WSP understands that on-site staff will wheel the solid waste bins from the existing 600 Lolita Gardens apartment building to the loading area of the proposed new building. Therefore, a garbage truck will not need to access the existing building at 600 Lolita Gardens. The solid waste collection method for the existing building at 620 Lolita Gardens is being maintained in the redevelopment.

6.2.3 LOADING TRUCK MANOEUVRES

A typical medium single unit vehicle known as the Transportation Association of Canada (TAC) MSU was tested entering the site, reversing into the proposed loading bay and exiting the site in a forward motion. The manoeuvres work well as illustrated in **Figure 6-3A**.

In addition, a typical light single unit vehicle known as a TAC LSU was tested reversing into the moving area for the existing 600 Lolita Gardens building, which has had its loading area reconfigured. The manoeuvres work well as illustrated in **Figure 6-3B**. The loading area for 620 Lolita Gardens remains the same and has there not been evaluated.

6.2.4 PASSENGER VEHICLE CIRCULATION

A P-TAC passenger vehicle was tested entering and exiting the site and circulating the ground level and the underground parking garage. The manoeuvres work well as illustrated in **Figures 6-4** to **Figure 6-7**. Convex mirrors are recommended at locations with 90 degree turn locations, and at the top and bottom of the ramp. It is also worth noting that a P-TAC vehicle's dimension is considered worst case as it represents a vehicle larger than a Hummer vehicle. All of the parking drive aisles are a minimum of 7m wide, which meets the City's requirement. To enhance visibility in the underground parking levels, convex mirrors are recommended at the locations as shown in **Figures 6-11** to **6-13**.

6.3 PASSENGER VEHICLE PARKING MANOEUVRE ASSESSMENT

A P-TAC passenger vehicle was tested entering and exiting the select parking spaces. As illustrated in **Figures 6-8** to **6-10** there are no parking manoeuvring issues and there is no parking space at dead-ends. Therefore, all of the parking spaces can be accessed and egressed. The existing underground parking area is being maintained, therefore, no modifications or manoeuvring issues are required.

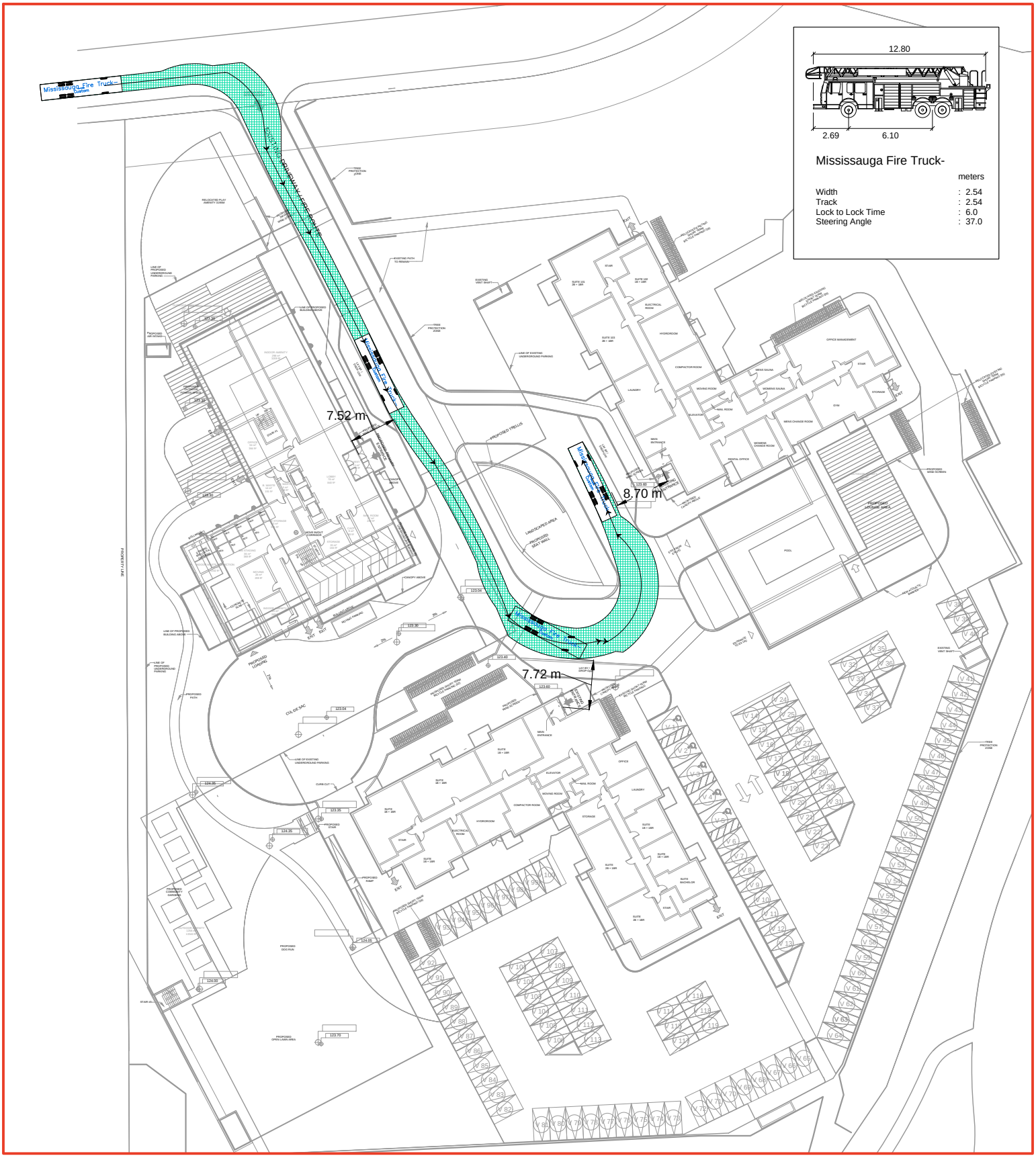
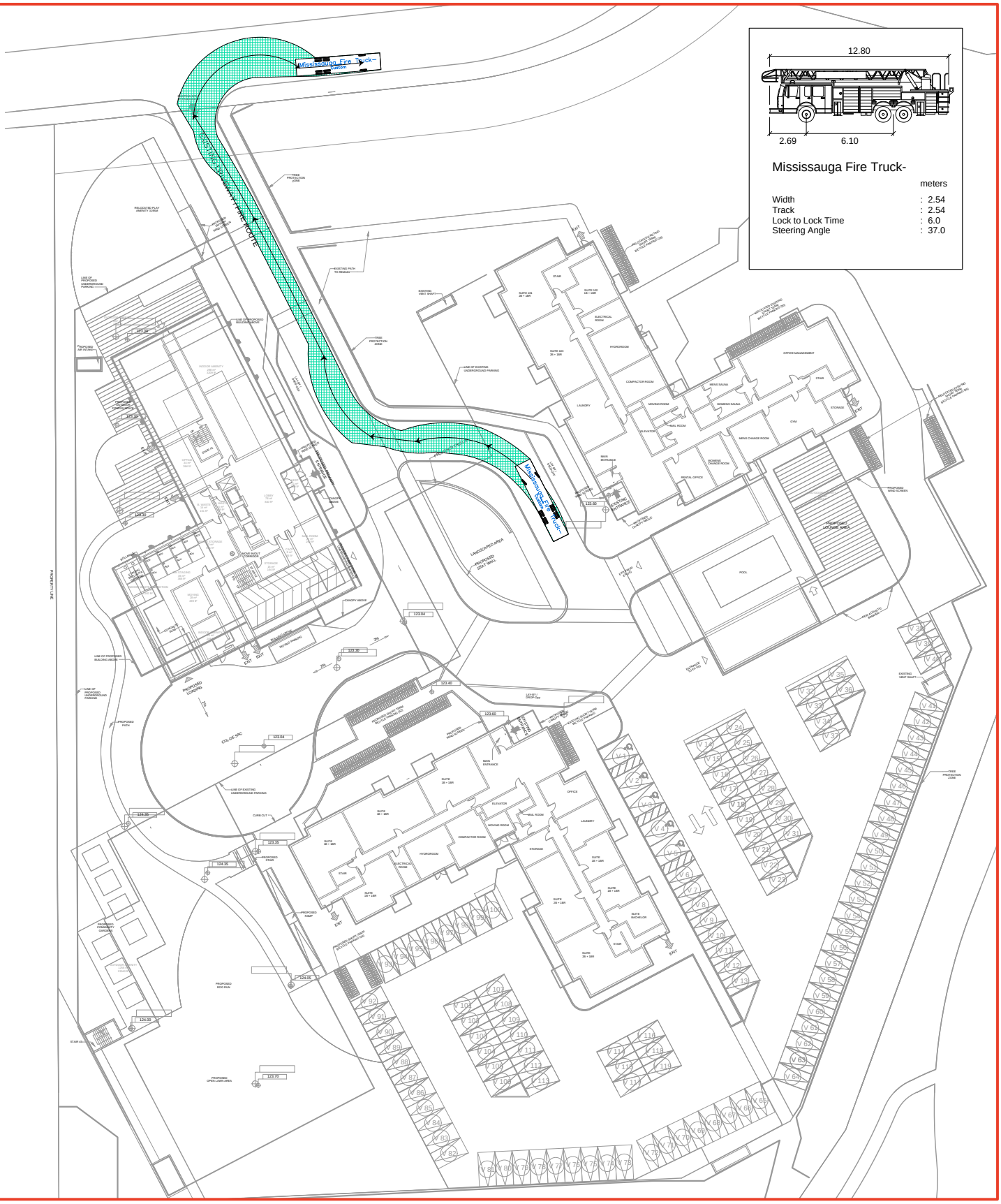


FIGURE 6-1A
FIRE TRUCK MOVEMENTS - INBOUND
600 - 620 LOLITA GARDENS
Scale 1:80



wsp

FIGURE 6-1B
FIRE TRUCK MOVEMENTS - OUTBOUND
600 - 620 LOLITA GARDENS
Scale 1:80

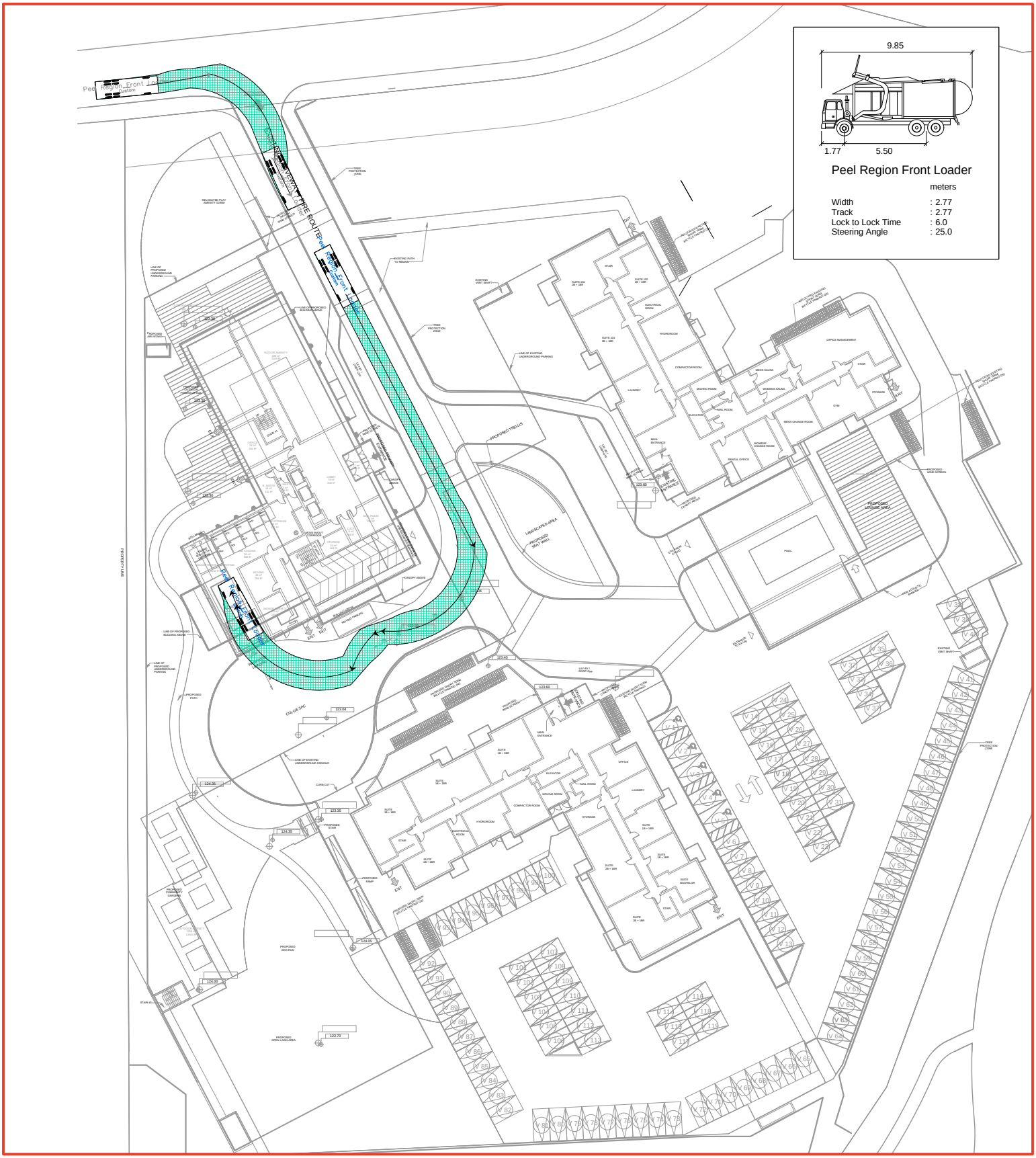


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FIGURE 6-2A
GARBAGE TRUCK MOVEMENT - INBOUND
600 - 620 LOLITA GARDENS
Scale 1:80

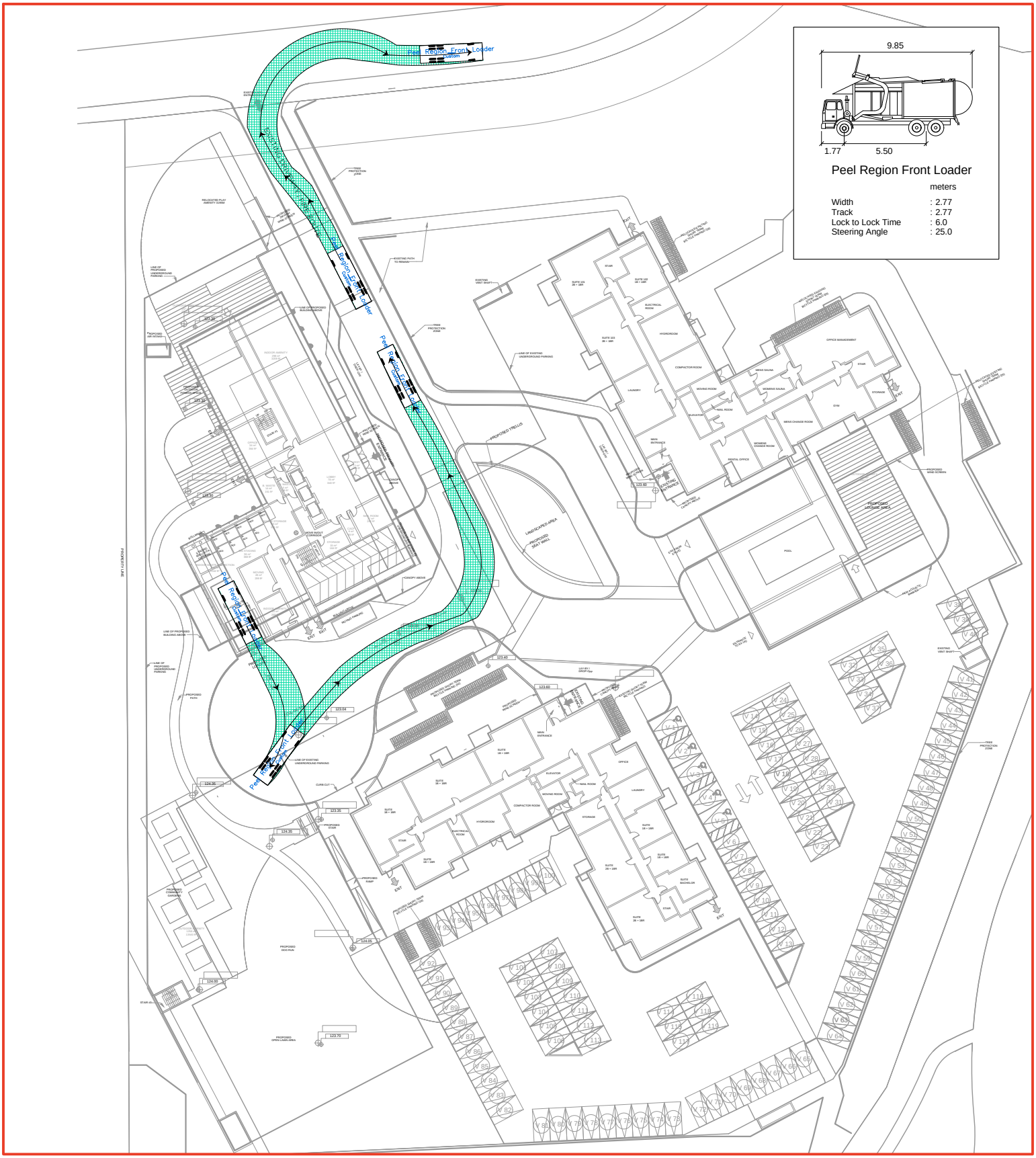


FIGURE 6-2B
GARBAGE TRUCK MOVEMENT - OUTBOUND
600 - 620 LOLITA GARDENS
Scale 1:80

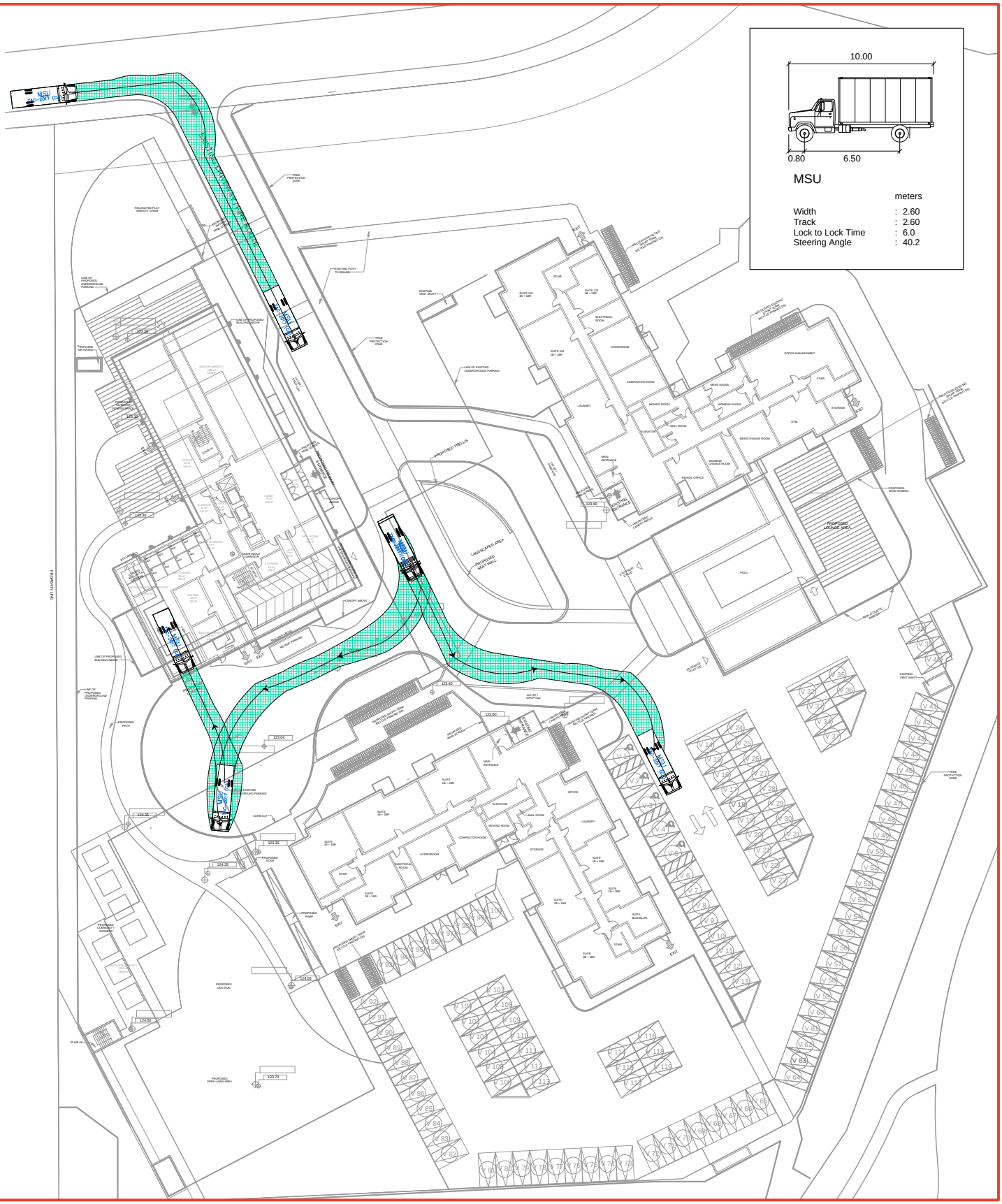


FIGURE 6-3A
LOADING TRUCK (MSU) MOVEMENT - INBOUND
600 - 620 LOLITA GARDENS
Scale 1:80

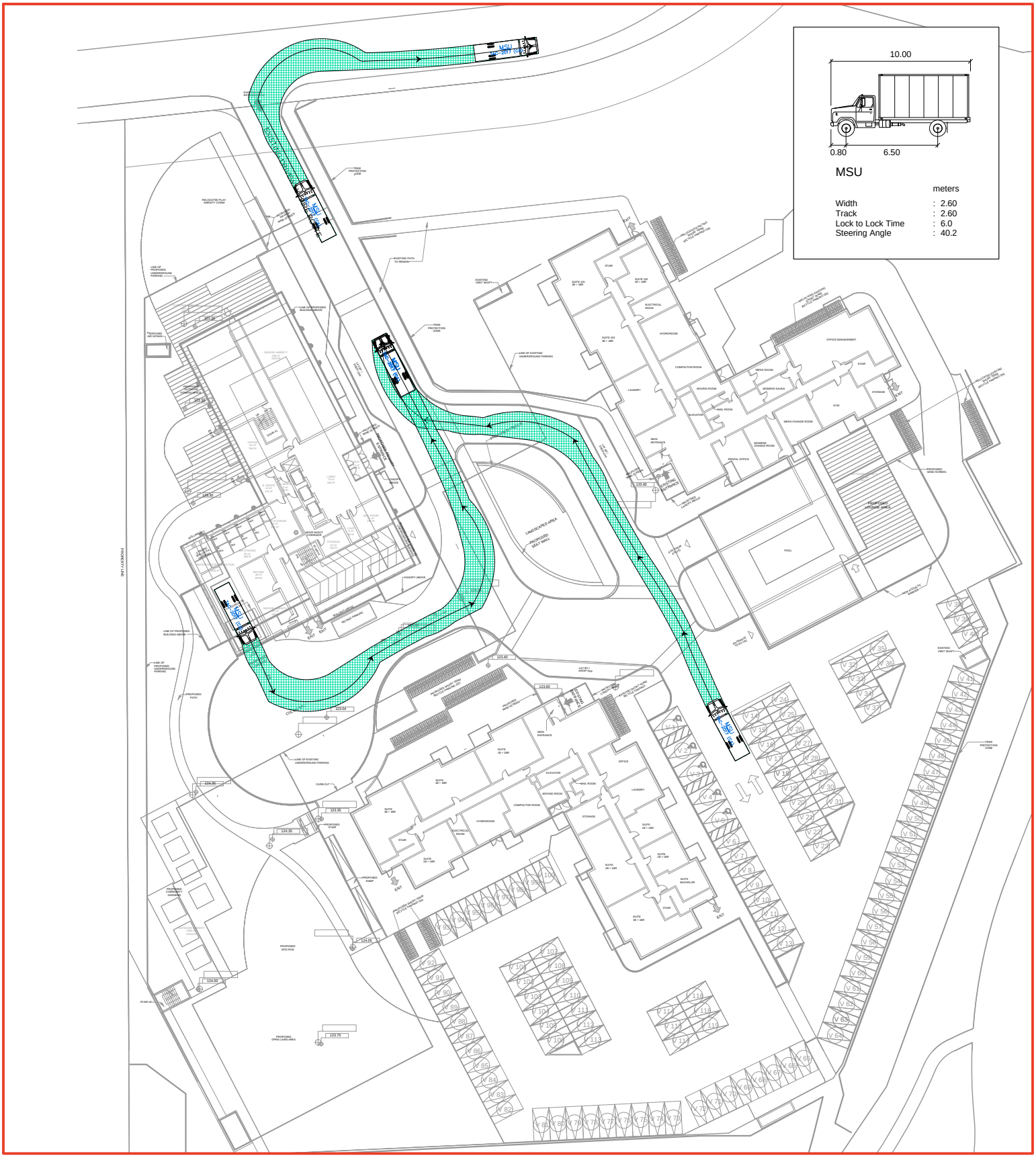


FIGURE 6-3B
LOADING TRUCK (MSU) MOVEMENT - OUTBOUND
600 - 620 LOLITA GARDENS
Scale 1:80

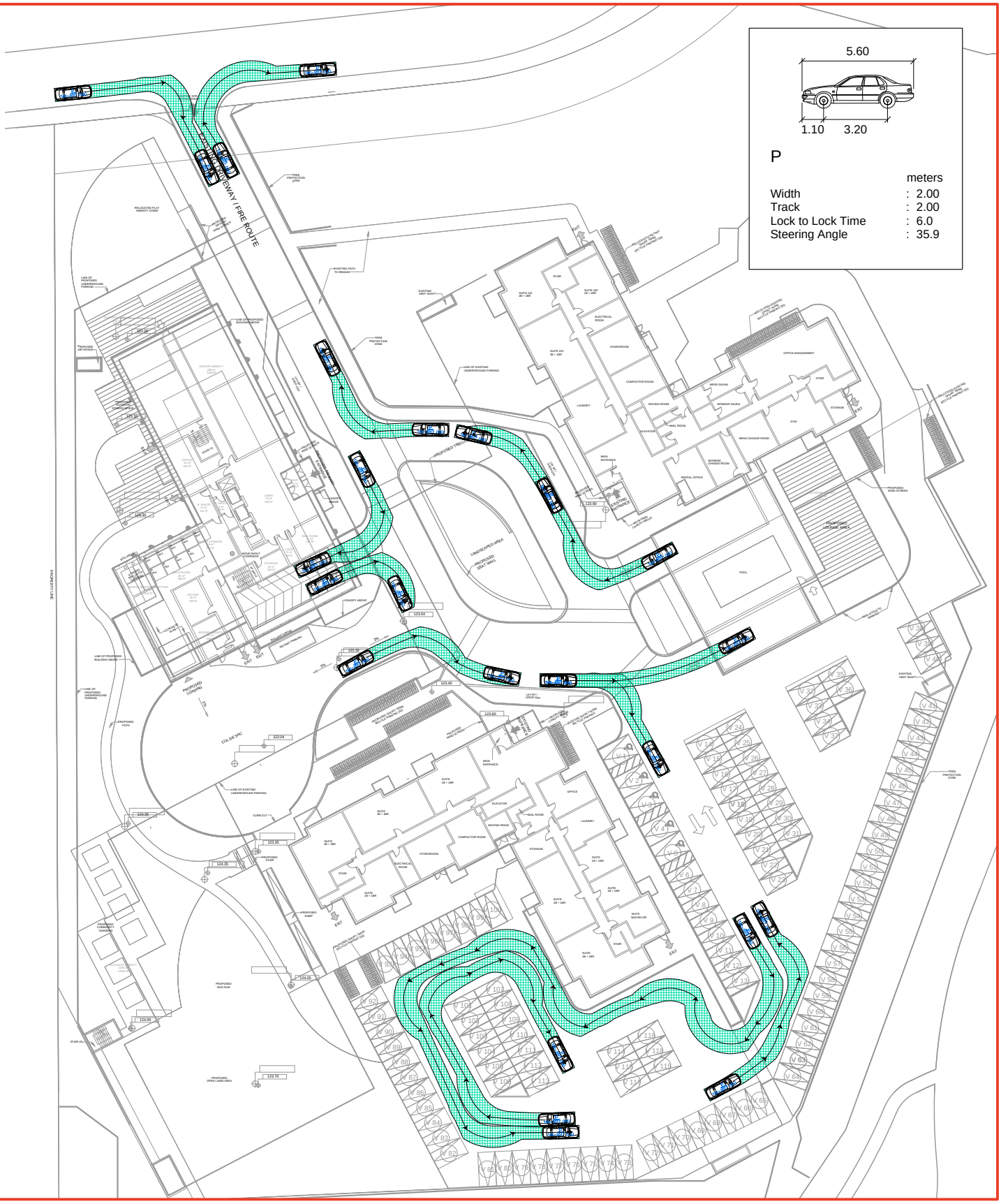


FIGURE 6-4
PASSENGER VEHICLE CIRCULATION
600 - 620 LOLITA GARDENS
Scale 1:80

FIGURE 6-5
PASSENGER VEHICLE CIRCULATION - P1 LEVEL
600-620 LOLITA GARDENS REDEVELOPMENT, MISSISSAUGA
Scale 1:50

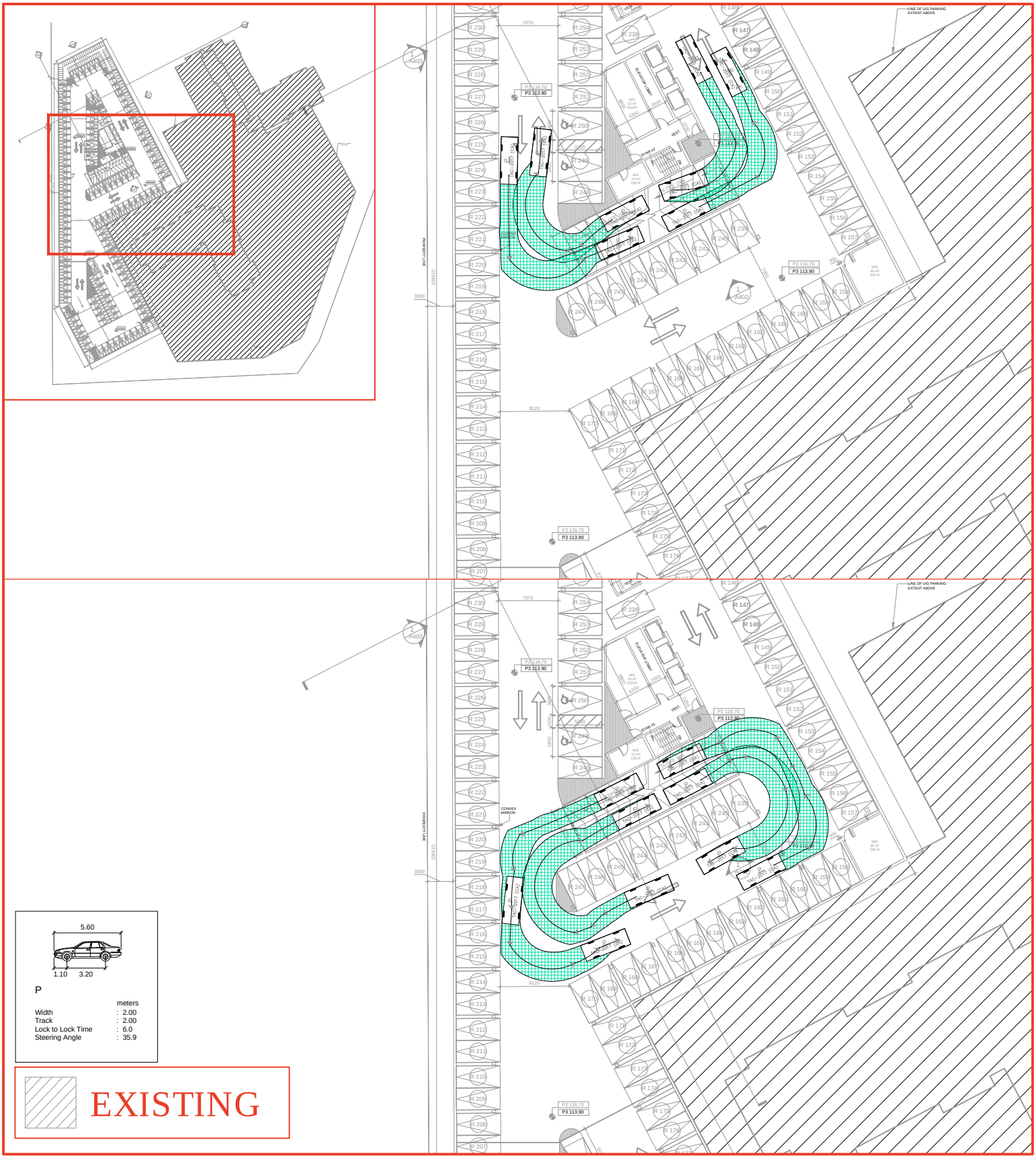


FIGURE 6-6
PASSENGER VEHICLE CIRCULATION - P2 LEVEL
600-620 LOLITA GARDENS REDEVELOPMENT, MISSISSAUGA
Scale 1:50

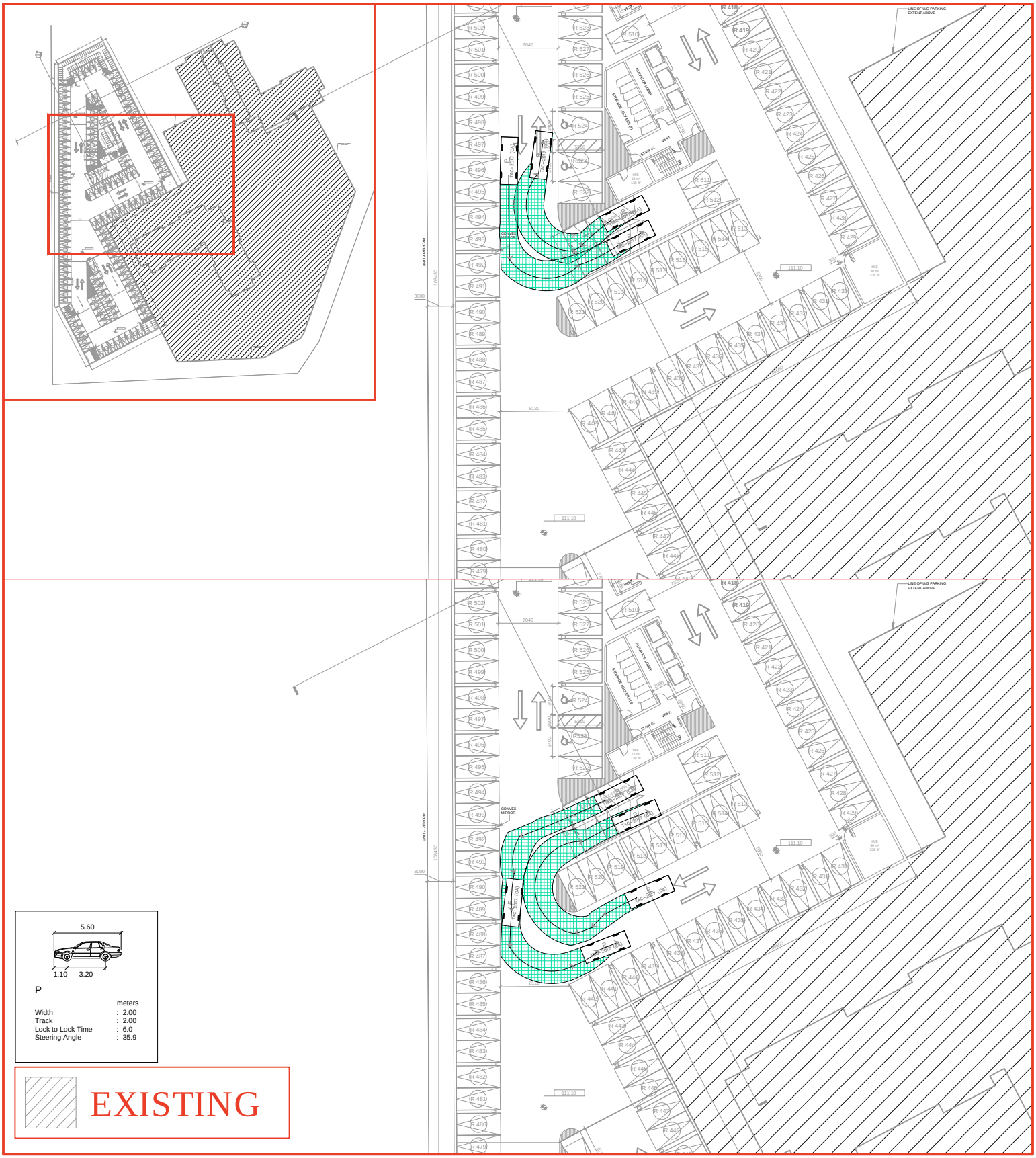


FIGURE 6-7
PASSENGER VEHICLE CIRCULATION - P3 LEVEL
600-620 LOLITA GARDENS REDEVELOPMENT, MISSISSAUGA
Scale 1:50

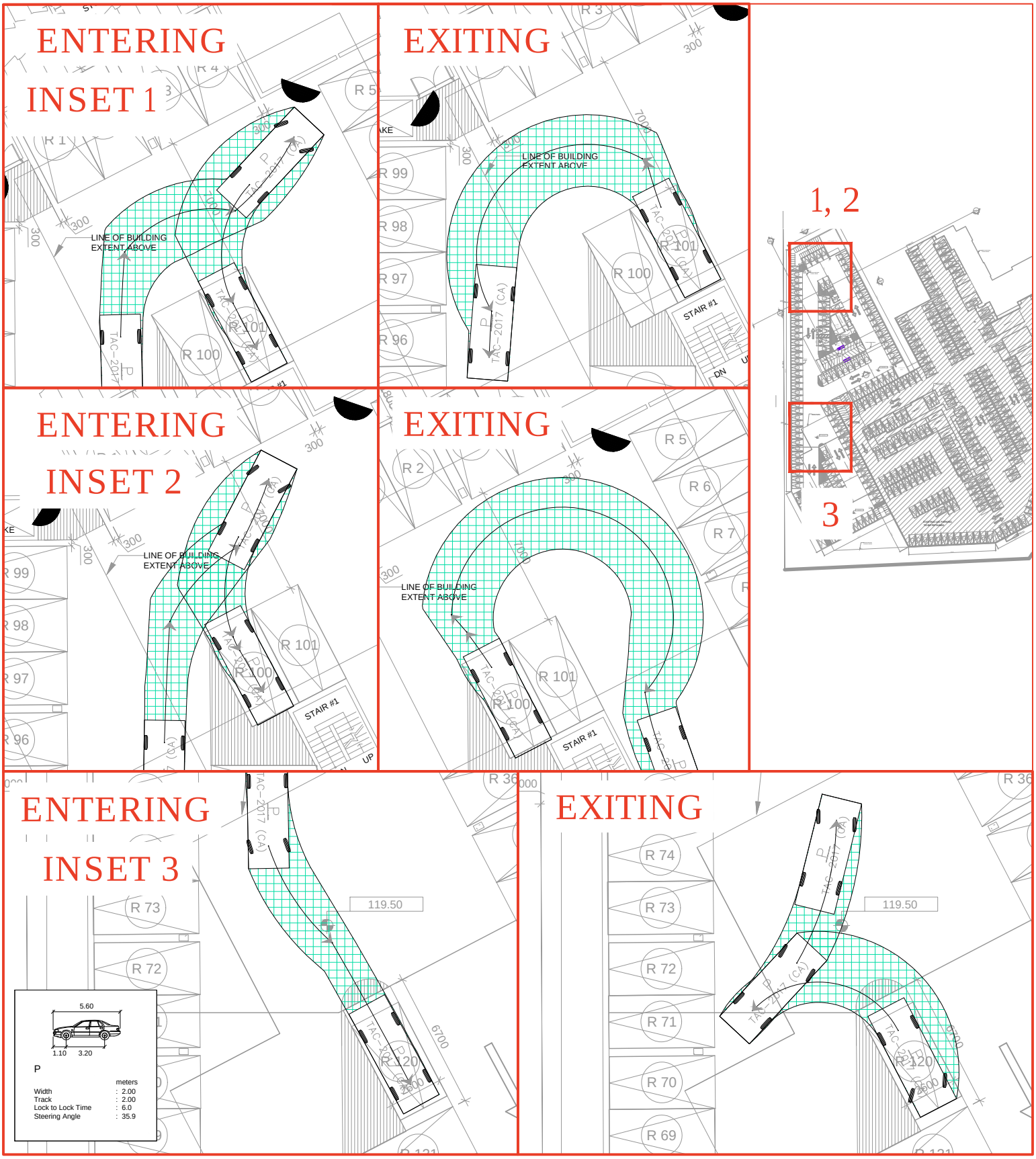


FIGURE 6-8
PASSENGER VEHICLE PARKING MOVEMENTS - P1 LEVEL
600-620 LOLITA GARDENS REDEVELOPMENT, MISSISSAUGA
Scale 1:25

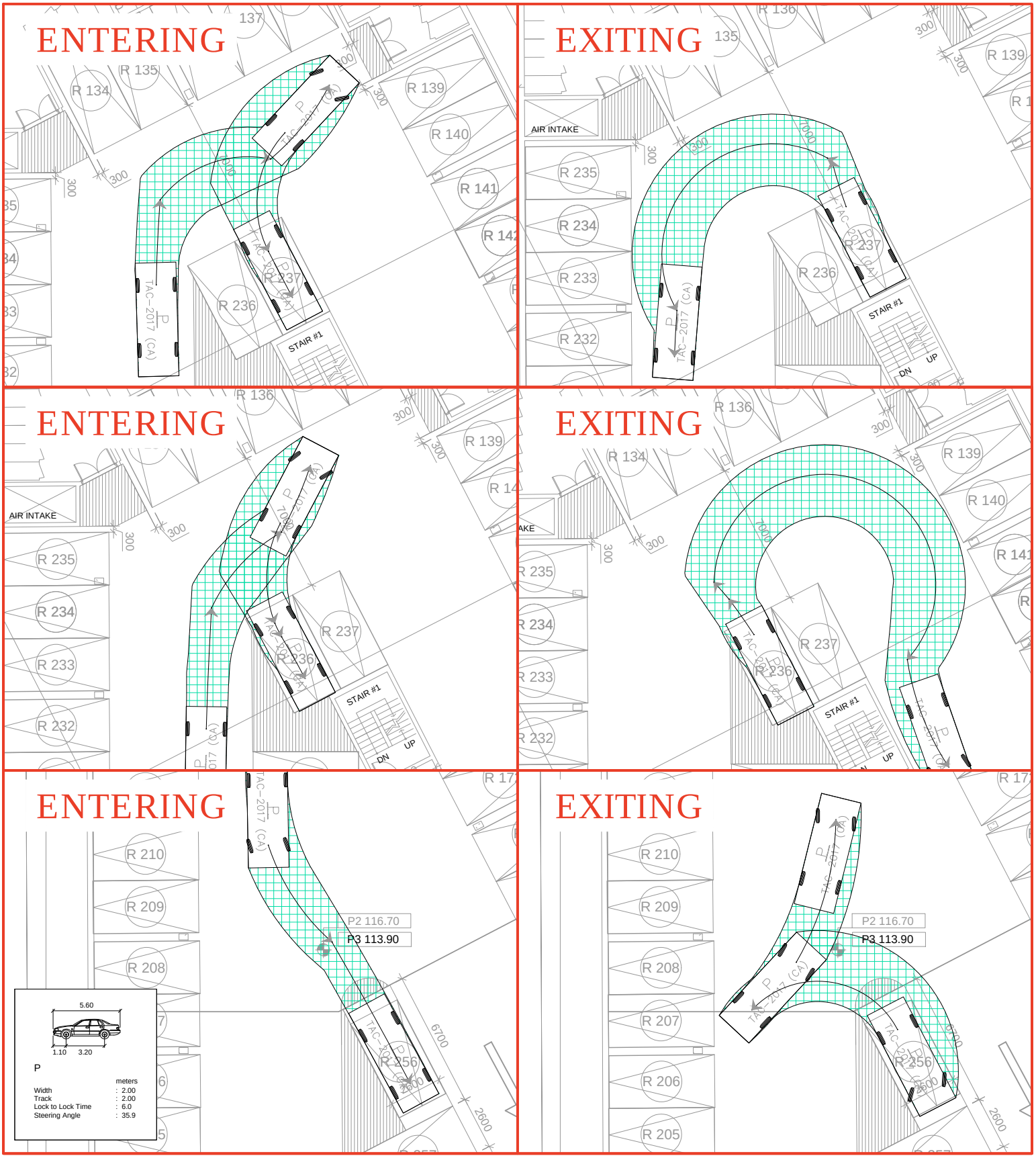


FIGURE 6-9
PASSENGER VEHICLE PARKING MOVEMENTS - P2 LEVEL
600-620 LOLITA GARDENS REDEVELOPMENT, MISSISSAUGA
Scale 1:25

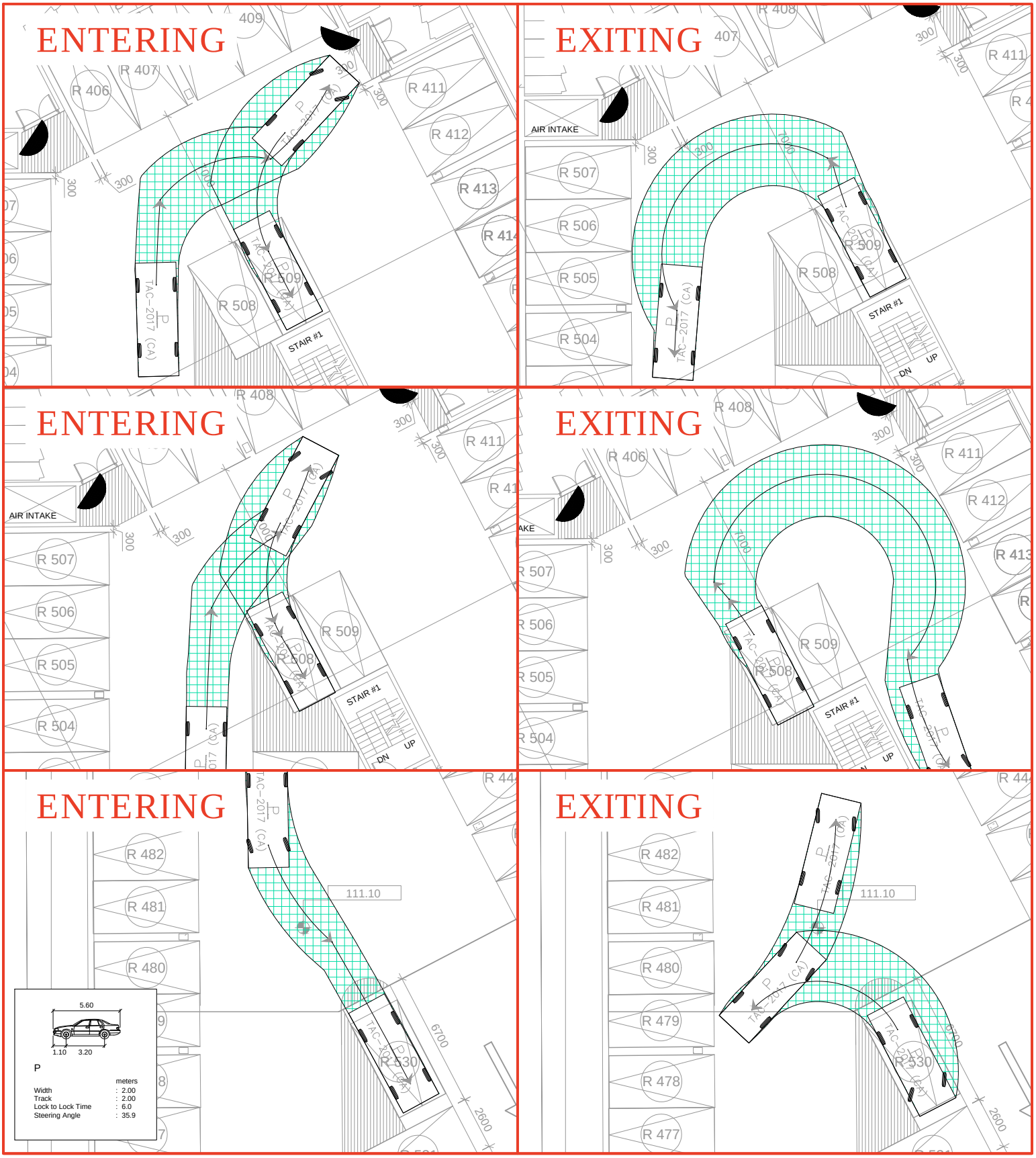


FIGURE 6-10
PASSENGER VEHICLE PARKING MOVEMENTS - P3 LEVEL
600-620 LOLITA GARDENS REDEVELOPMENT, MISSISSAUGA
Scale 1:25

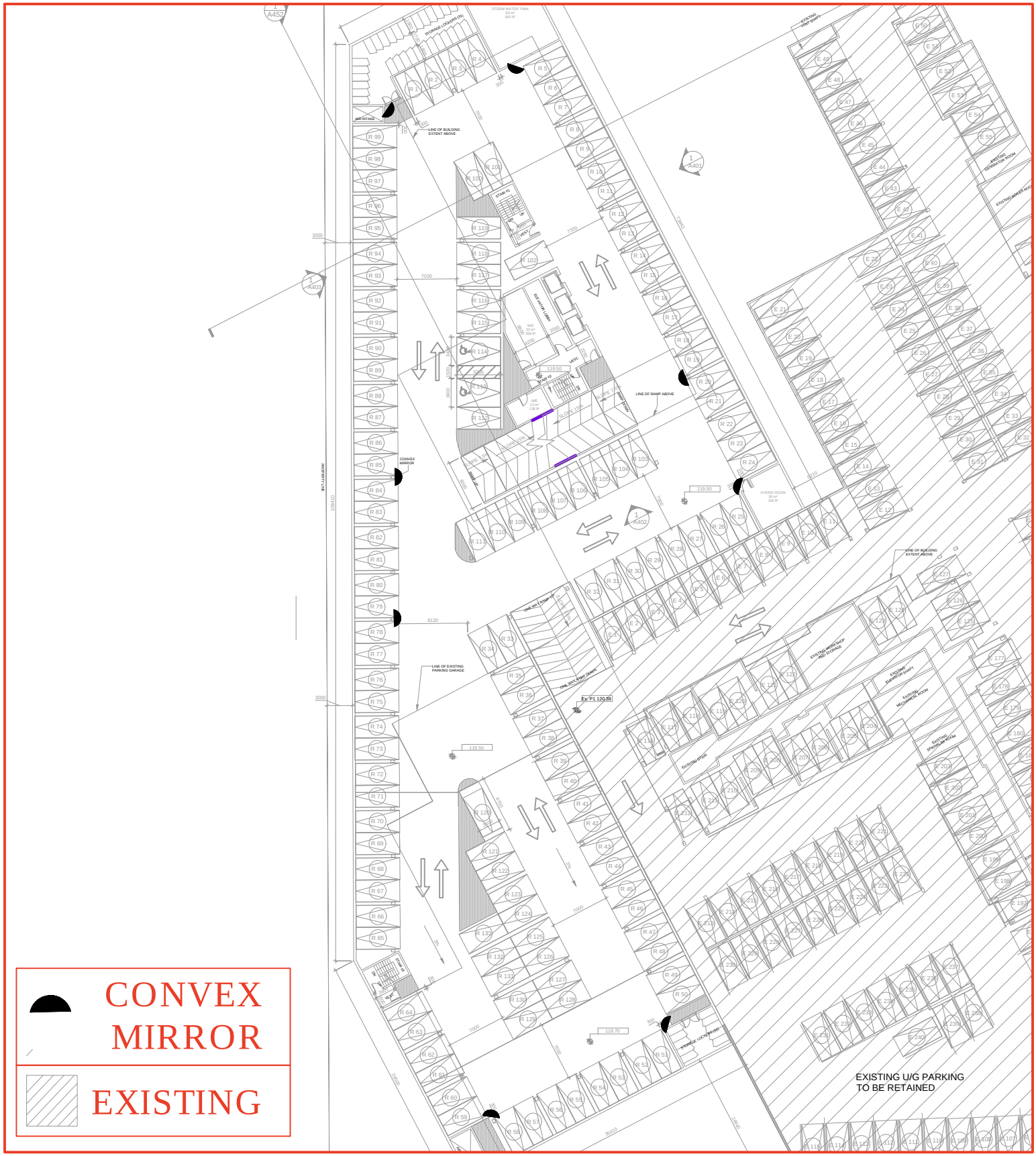


FIGURE 6-11
RECOMMENDED CONVEX MIRROR LOCATIONS - P1 LEVEL
600-620 LOLITA GARDENS REDEVELOPMENT, MISSISSAUGA
Scale 1:50

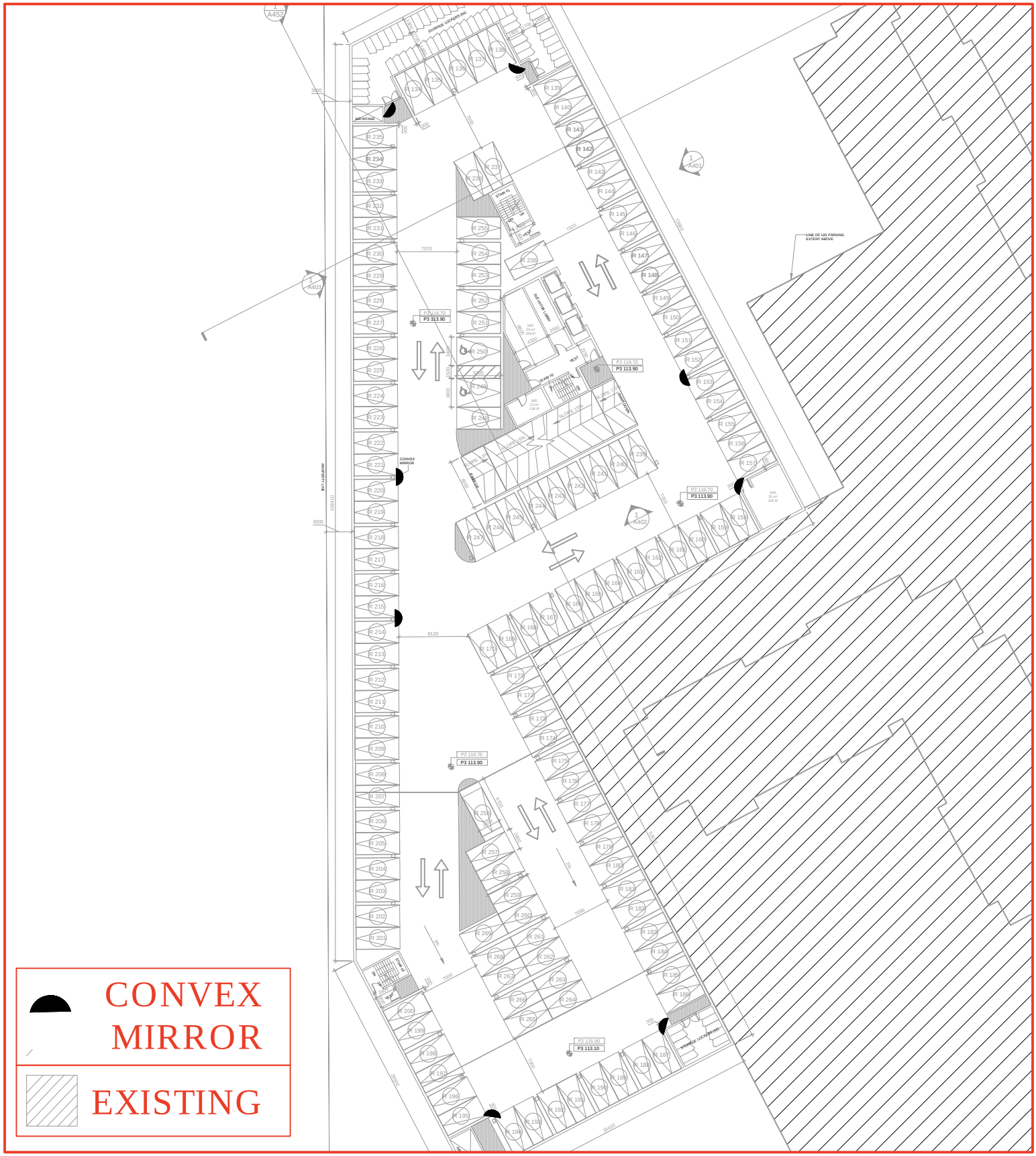


FIGURE 6-12
RECOMMENDED CONVEX MIRROR LOCATIONS - P2 LEVEL
600-620 LOLITA GARDENS REDEVELOPMENT, MISSISSAUGA
Scale 1:50

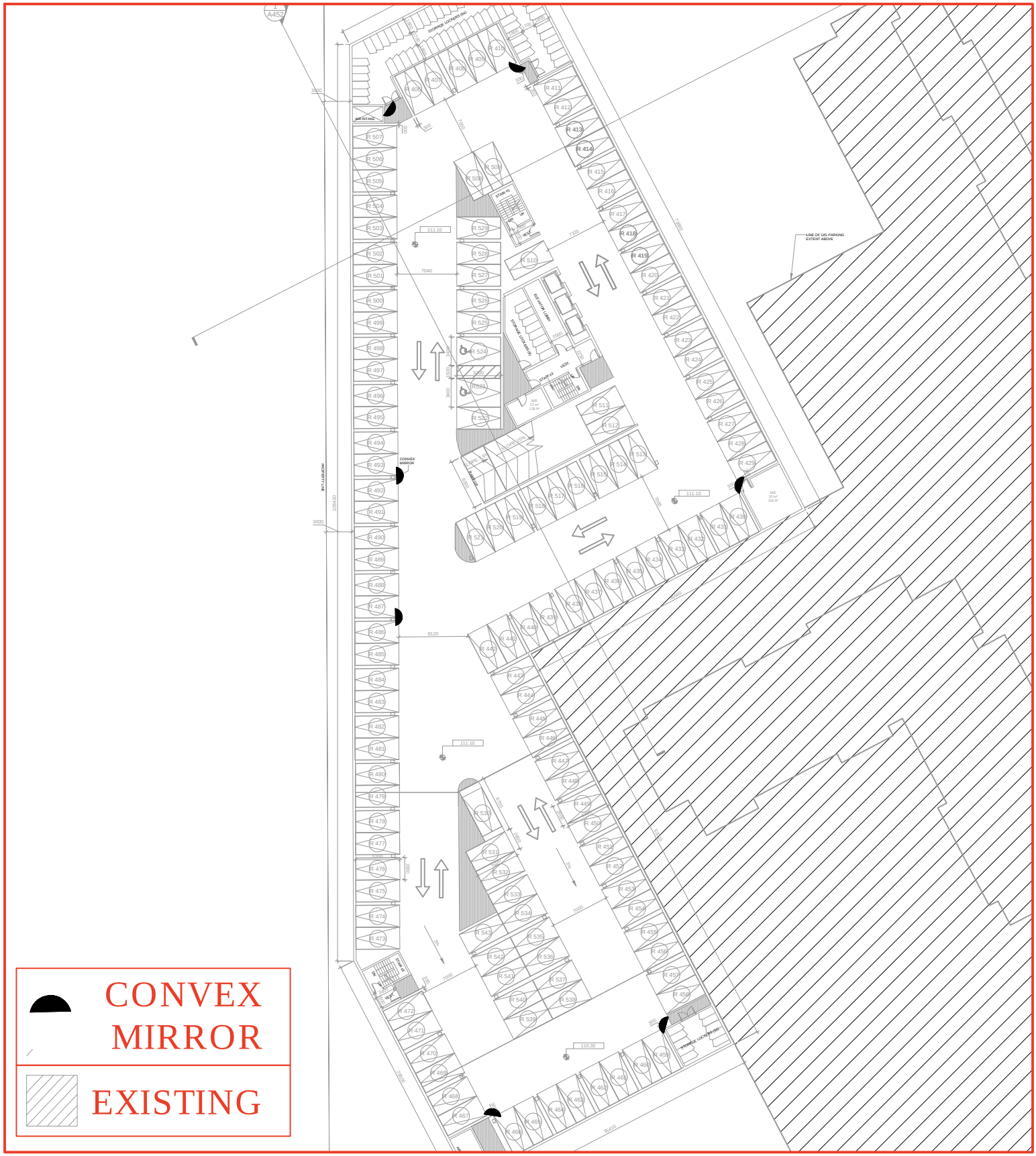


FIGURE 6-13
RECOMMENDED CONVEX MIRROR LOCATIONS - P3 LEVEL
600-620 LOLITA GARDENS REDEVELOPMENT, MISSISSAUGA
Scale 1:50

7 PARKING ASSESSMENT

The following section evaluates the proposed auto and bicycle parking provisions of the redevelopment.

7.1 MOTOR VEHICLE PARKING

The proposed parking supply for the redevelopment at 600 and 620 Lolita Gardens will be integrated with the existing parking garage that serves the site. Since both the existing and future residents will have similar parking demand characteristics in terms of types of residence and proximity to transit, the parking needs of the existing and proposed new uses at 600 and 620 Lolita Gardens have been evaluated together. A total of **902 parking spaces** are proposed to serve both the existing and proposed apartment uses.

7.1.1 AUTO PARKING REQUIREMENT

Based on the City of Mississauga's regulations, the required parking rates are shown in **Table 7-1**.

Table 7-1: Parking By-law Rates for Residential Uses (*City of Mississauga*)

Use	Parking rate
Studio	1.0 Spaces per Unit
1-Bedroom Unit	1.18 Spaces per Unit
2-Bedroom Unit	1.36 Spaces per Unit
3-Bedroom Unit	1.5 Spaces per Unit
Visitor	0.2 Spaces per Unit

The parking supply currently provided for the existing apartment buildings at 600 and 620 Lolita Gardens is detailed in **Table 7-2**.

Table 7-2: Existing Parking Supply at 600 and 620 Lolita Gardens

Use	600 and 620 Lolita Gardens
Residential	496
Visitor	56
Total	552

Based on the By-law parking requirements and the current parking supply of the existing building, the overall parking requirements are summarized in **Table 7-3**.

Table 7-3: By-Law Parking Requirements for 600 and 620 Lolita Gardens

Building	Unit Type	Minimum Rates (Space/Unit)	Magnitude	Minimum Parking Required
Proposed New Building	Bachelor	1.0	1	1
	One-Bedroom	1.18	84	99
	Two-Bedroom	1.36	135	184
	Three-Bedroom	1.5	51	77
	Total Residential	-	*271*	*361*
	Visitor	*0.2*	*271*	*54*
	Total Required for Proposed New Building			**415**
Existing Buildings	*Resident*		*408*	*496*
	Visitor		*408*	*56*
	Total Existing Parking Supply			**552**
TOTAL REQUIRED (679 units)				**967**

As shown above, a minimum of 967 parking spaces are required for the entire redeveloped site (existing plus proposed uses). This means that the proposed overall parking supply of 902 spaces is 65 spaces lower than the requirement. However, there are a number of rationale that contribute to why the proposed parking supply can adequately serve the needs of the subject redevelopment. The parking rationales are discussed in the following section.

7.1.2 JUSTIFICATION FOR A REDUCED PARKING SUPPLY

Site Specific Residential Parking Needs

In transportation planning, parking needs based on first principles is preferred over general rates that may result in the oversupply of parking. Therefore, the parking needs at the existing apartment buildings on-site represent the best indicator for future parking needs of the proposed apartment building.

Parking is currently available at the existing apartment buildings on a monthly rental basis, meaning that the demand would be captured by the parking rental records. Park Properties provided WSP with the parking rental records for the existing buildings in 2018, as documented in **Appendix I** and confirmed that the buildings were fully rented out. Based on this information the overall average parking demand rate was developed as shown in **Table 7-4**.

Table 7-4: Observed Residential Parking Demand for Existing Uses at 600 and 620 Lolita Gardens

Category	Magnitude
Average Number of Residential Parking Spaces Rented	442 spaces
Total Number of Units	408 units
Residential Parking Supply	496 spaces
Average Parking Demand	**1.08 spaces/unit**
Average Parking Utilization	**89.1%**

The parking records indicate that the residential parking utilization for the existing site is 89.1%, which means there is currently a surplus in parking. In addition, the site-specific overall residential parking demand rate is 1.08 spaces/unit. In comparison, the By-law residential parking requirement of 361 spaces for the 271 units as shown in Table 7-3 represents a rate of an average rate of 1.33 spaces/unit. This means that the general City rates are 23% higher than the site-specific parking requirements.

With consideration of the current residential parking demand at the site and the transportation demand management measures proposed in Section 8, the residential parking rates for all of the residential uses should be designed based on the current parking demand rates. **Therefore, the recommended parking rates for each type of units (i.e., one-bedroom, two-bedroom) will be based on the site-specific demand rates for each type of unit.** The detailed summary of the parking demand rates for each type of units are provided in Appendix I. To provide residential parking at a higher rate than the site-specific demand would encourage more people to drive to the site and result in further underutilized facilities.

Visitor Parking Needs

As noted in Table 7-3 a visitor parking rate of 0.2 space/unit applies to the site. However, the existing two buildings at the site currently operate with a visitor parking rate of 0.14 space/unit (56 visitor spaces for 408 units). Lower visitor parking rates are warranted given the exposure and proximity of the subject site next to the frequent bus routes along both Cawthra Road and Dundas Street East, along with the TDM measures discussed in Section 8. To provide visitor parking at a higher rate than the existing arrangement would encourage more people to drive to the site. **Therefore, a 0.14 visitor space/unit rate is proposed**.

7.1.3 PARKING STRATEGY

Based on the above information and rationale, the proposed parking strategy for both the existing units and proposed units is detailed in **Table 7-5**. The intent is to provide parking for both the existing and proposed buildings based on the residential parking demand observed at the site over the last year. In transportation planning, applying first principles approach such as the derivation of the site-specific parking demand is preferable to applying general rates. Doing so capture the site context and helps to ensure the proposed parking supply is not over or under supplying the proposed uses.

Table 7-5: Summary of Parking Strategy for 600 and 620 Lolita Gardens

Building	Unit Type	Observed Rates (Space/Unit)*	Magnitude	Parking Required
Proposed New Building	Bachelor	1.0	1	1
	One-Bedroom	0.85	84	71
	Two-Bedroom	1.13	135	153
	Three-Bedroom	1.22	51	62
	Total Residential	-	*271*	*286*
	Visitor	*0.14*	*271*	*38*
	Total parking required based on observed parking rates			**325**
Existing Buildings	*Residential*	*1.08*	*408*	*442*
	Visitor	*0.14*	*408*	*56*
	Total parking required based on observed parking rates			**498**
Total Parking Required for the Redeveloped Site				**823**
Total Parking Proposed				**902**
Parking Buffer				10%

*observed rates for each type of units are calculated based on the information in **Appendix I**

Table 7-5 findings indicate that the proposed parking supply of 902 spaces will more than adequately serve the residential and visitor parking needs of the proposed redevelopment, while accounting for the presence of TDM measures, and proximity to regular and frequent bus services.

7.2 BICYCLE PARKING

Based on the correspondence with city staff as provided in Appendix A, WSP understands that the subject site is required a minimum of 0.70 long term spaces and 0.08 short term spaces per residential unit. This means that for 271 units, 212 bike parking spaces are required. 140 bicycle spaces are currently proposed for the entire site. WSP understands that the proposed bicycle parking supply is to be examined further during the Site Plan Application stage, which will consider the balance between practical needs of the uses and site location.

8 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) is a general 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. TDM initiatives discourage single-occupant vehicle travel and encourage more efficient modes such as walking, cycling, ridesharing, public transit and teleworking, particularly under congested conditions. TDM elements are an essential part of any progressive transportation and traffic plan for a proposed development.

The objective of the proposed TDM strategy is to inform, encourage and facilitate the utilization of the non-automobile travel opportunities within the study area. In order to achieve this, it is recommended that the marketing strategy for the proposed residential component highlight key characteristics based on the below items via knowledgeable sales staff and visually attractive information packages to ensure that residents are well aware of the various opportunities and incentives available to them, so as to maximize the success of these TDM strategies and minimize the need for automobile use.

8.1.1 ON-SITE MOBILITY ALTERNATIVES INFORMATION AND INCENTIVES

Information regarding transit availability, schedule, arrival time, available cycling facilities and connections, as well as other non-auto travel options could be made available on-site in a convenient and logical location, and/or be included as part of the welcome package to residents of the development to inform them of the alternative modes of transportation available to them.

8.1.2 ENCOURAGING THE USE OF ACTIVE TRANSPORTATION

Residents will have access to 140 bicycle parking space on site. Information about these available facilities should be distributed to residents and displayed at prominent locations to maximize the utilization of these facilities and minimize the use of automobiles.

There are sidewalks on both sides of the study road network. This ensures that residents and visitors have a suitable walking environment to the surrounding transit facilities.

8.1.3 REDUCED VISITOR PARKING

Traditionally, there are limited options for visitors in the City (i.e., drive directly to the site, take transit or take taxi). However, in recent years, more and more people are shifting to the use of private transportation companies (PTC) such as Uber and Lyft to reach their destinations. As shown in the site plan in Figure 1-2, there is an adequate pick-up/drop-off loop that allows PTCs and taxis to pick up or drop off visitors conveniently within proximity to the main entrance. This type of technological trend and the continued high cost of car ownership reduces the demand for dedicated visitor parking spaces. Moreover, the visitor parking supply for the existing and proposed residential uses could be shared to support further efficiencies and higher utilizations. As discussed in Section 7, the proposed visitor parking rate of 0.14 spaces/unit is based on the existing provision rate, rather than the higher rate in the By-law, which would inherently encourage more visitors to drive to the site.

9 CONCLUSIONS

This TIS has assessed the ability of the existing road network to accommodate the traffic anticipated to be generated by the proposed residential redevelopment at 600 and 620 Lolita Gardens that will add 271 purpose built apartment rental units to the existing 408 apartment units on site.

The proposed addition of 271 units to the site is forecast to generate a total of 140 and 103 auto trips during the a.m. and p.m. peak hours, respectively. The analysis results indicates that the traffic impacts of the development proposal on the boundary road network are minimal and that the site-generated auto trips can be readily accommodated by the current road network.

The proposed loading supply features one loading space for the new building to be shared with the existing building at 600 Lolita Gardens, which is adequate for the redevelopment's loading needs.

From an auto parking perspective, the proposed overall parking supply of 902 spaces will more than adequately serve the site-specific needs of the existing and proposed uses, while maintaining a 10% buffer.

APPENDIX

A TERMS OF REFERENCES

To:	City of Mississauga	Date:	November 29, 2018
From:	WSP Canada	Job No.:	
Subject:	Terms of Reference – 600 and 620 Lolita Gardens	CC:	

WSP Canada Limited is undertaking a Transportation Impact Study (TIS) for the proposed rezoning application located at 600 and 620 Lolita Gardens in the city of Mississauga. The proposed rezoning will add a 25-storey apartment building with a total of approximately 280 residential units on the southwest corner of the site, with two new levels of underground parking. Currently there are two apartment buildings on site, one 17-storey building at 600 Lolita Gardens on the southern side of the site, and another 21-storey building at 620 Lolita Garden on the northeastern corner of the site. They are connected to Lolita Gardens with a single driveway. It is proposed that the underground garage of the new building will utilize the existing driveway.

The proposed work program related to the proposed rezoning is outlined below for your review:

1. Traffic Data Collection

Collect all pertinent information relating to the proposed development site, the affected road network and laneways as well as the surrounding area. This will include future plans for road widening and other roadway improvements in the immediate area.

Based on the site statistics and access arrangement, we have identified the following study intersections:

- Dundas Street East and Cawthra Road (Peel Regional Road 17) - North Junction (signalized)
- Dundas Street East and Cawthra Road (Peel Regional Road 17) - West Junction (signalized)
- Silver Creek Boulevard and Lolita Gardens (unsignalized)
- Cawthra Road (Peel Regional Road 17) and Silver Creek Boulevard (signalized)
- Existing Site Access Driveway at Lolita Gardens (unsignalized)

Turning movement counts (TMC) will be conducted on a typical weekday a.m. (7:00 to 9:00 a.m.) and p.m. (4:00 to 6:00 p.m.) peak periods at the study intersections. We will also purchase traffic signal timing plans from the City and the Region for the three signalized intersection noted above.

2. Existing Traffic Analysis

Analyze the existing conditions using the Synchro 10.0 Traffic Software, which is the software implementation of the Highway Capacity Manual 2010, the recognized standard for traffic operations analysis in North America. The existing conditions will be modelled based on the existing transportation network and the current peak hour traffic volumes. This will be the baseline scenario to which all subsequent scenarios will be compared with.

3. Future Background Traffic Analysis

a. Based on the subject expansion and anticipated completion, a **five-year horizon period of 2023** will be evaluated for future conditions.

b. Confirm with the City and the Region any **future road/intersection improvements** within the study area, which are anticipated to be in place within the 5-year horizon.

c. Discuss with the City and the Region the appropriate through growth rates to apply along Dundas Street West, Cawthra Road, Lolita Gardens, and Silver Creek Boulevard.

d. Apply the growth rates to the observed through traffic volumes for the study intersections.

e. Obtain from the City details related to any other new development applications in the vicinity of the site which need to be considered in the study.

f. Estimate the traffic increases related to these other developments (if not available through site specific traffic impact studies) and assign this traffic to the boundary roadways in the vicinity of the subject site.

g. Develop the future background traffic forecast for the 5-year horizon, on the basis of the existing traffic volumes, applicable traffic growth rate, and anticipated future traffic related to other developments in the vicinity of the site.

h. Analyze the future background traffic operations on the basis of 5-year background traffic forecasts. This includes identifying whether improvements to the study area road network are required as a result of other background developments and general background traffic growth in the area.

4. Trip Generation and Assignment

a. Develop the weekday a.m. and p.m. peak hour site traffic trip generation rates for the existing residential units. These rates will be developed by relating the traffic counts recorded at the site driveways to the number of occupied units in the existing two apartments at 600 and 620 Lolita Gardens. The resulting trip generation rates would already reflect current site-specific travel characteristics.

b. Transportation Tomorrow Survey (TTS) information will be consulted to determine the applicable non-auto modal adjustments to be applied.

c. The site-specific trip generation rates will be applied to the proposed expansions to develop the site-generated traffic volumes.

d. This site-generated traffic volume will be assigned to the study road network based on the existing traffic patterns, as well as the TTS distribution information. This traffic volume will be assigned to the site access driveway.

5. Future Total Traffic Analysis

The site-generated traffic from Task 4 d) will be superimposed onto the future background volumes to develop the future total traffic volumes.

The study will focus on demonstrating the limited impact the proposed redevelopment will have on the boundary road network. If necessary, improvements to facilitate the additional site-generated traffic would be outlined and evaluated as part of sensitivity scenarios. The future assessment includes review of queuing relative to existing and future background conditions.

6. Auto Parking Review

a. Review the proposed auto parking supply for the proposed redevelopment relative to the City of Mississauga Zoning By-law 0225-2007 Part 3 Parking, Loading and Stacking Lane Regulations.

b. Comment on the adequacy of the proposed parking supply relative to the needs of the redevelopment. This includes the provision for visitor and accessible parking for the sites.

c. Site-specific parking demand information from the existing apartment building will be reviewed and considered as part of the parking strategy for the expansion.

7. Loading Assessment

a. Evaluate The loading requirements of the proposed redevelopment with consideration of the City of Mississauga Zoning By-law 0225-2007 Part 3 Parking, Loading and Stacking Lane Regulations, and with consideration of the existing loading arrangements already in place. This includes loading needs of solid waste collection and various delivery needs.

b. Assess whether the proposed loading provisions can accommodate the by-law loading requirements.

8. Bicycle Parking Review

Review the proposed bicycle parking supply for the proposed redevelopment relative to the City of Mississauga requirements.

9. Transportation Demand Management Plan

Provide applicable Transportation Demand Management (TDM) strategies in the report that accounts for the site context and traffic conditions. This section typically includes initiatives such as:

- Real-time transportation Information display;
- Bike-share facility;
- Carpool-spaces;
- Car-share spaces;
- Low-emission and electric vehicle parking spaces;
- Pedestrian facilities; and

- Other potential funding and partnership opportunities for TDM.

Please provide your input on the above noted terms of reference at your earliest convenience. Thank you so much.

Azari, Kian

From: Zain Zia <Zain.Zia@mississauga.ca>
Sent: Friday, December 07, 2018 11:22 AM
To: Azari, Kian
Cc: Lin Rogers
Subject: RE: Terms of Reference – 600 and 620 Lolita Gardens

Hi Kian,

Based on our review of the Terms of Reference for the proposed development at 600-620 Lolita Gardens dated November 29, 2018 , the following comments are provided:

- Please ensure the Region of Peel review and approve the Terms of Reference for this Traffic Impact Study.
- Turning Movement Counts can be obtained from William Wright (William.Wright@mississauga.ca, Ext. 3221). If the data is older than 2 years, then the consultant is responsible to conduct the latest counts. Please ensure the counts are taken on Tuesday – Thursday. Please contact the Region of Peel for additional count data should these locations not be available through the City.
- Please contact Tyler Xuereb (Tyler.Xuereb@mississauga.ca, Ext. 4783) to confirm growth rates for City of Mississauga roads. These rates should be reviewed and confirmed with the Region of Peel.
- Please use the following link to gather information of any developments proposed in the neighbouring lands for background traffic: http://www.mississauga.ca/portal/residents/developmentinformation. Please contact the Region of Peel for additional development proposals.
    - Note: A development proposal at 3111/3123 Cawthra Road is in progress for 24 stacked townhouse units , 8 townhouse units, and 2 detached dwellings.
- The signal timing plan for signalized intersections can be obtained from Jim Kartsomaniz (Jim.Kartsomanis@mississauga.ca, Ext. 3964). Please contact the Region of Peel for signal timing plans under their jurisdiction.
- Please include truck turning templates for loading areas for each of the buildings, or waste management facilities.
- The Traffic Impact Study is to discuss internal site circulation including but not limited to; vehicle manoeuvring for waste management, loading, access to/from parking areas etc.
- Please incorporate proper pedestrian connectivity from the roadways and parking lots to the building accesses.
- The Traffic Impact Study is to comply with the City of Mississauga Traffic Impact Study Guidelines.
- The Traffic Impact Study is required to be signed and stamped by a Professional Engineer.

Please note that these are preliminary comments. Additional comments may forthcoming as the application progresses. Please let me know if you have any questions.

Regards,
Zain

MISSISSAUGA

Zain Zia, B.Eng.Mgt
Engineer in Training, Transportation Projects
T 905-615-3200 ext.5318 | M 289-937-6567
zain.zia@mississauga.ca

City of Mississauga | Transportation & Infrastructure Planning,
Transportation & Works

Azari, Kian

From: Kol, Rani <rani.kol@peelregion.ca>
Sent: Monday, December 10, 2018 12:34 PM
To: Azari, Kian
Cc: Yu, Peter; Martino, Alex
Subject: Traffic Engineering Comments - Terms of Reference – 600 and 620 Lolita Gardens
Attachments: image001.png

Kian,

The Traffic Engineering section offers no comments on the proposed Terms of Reference for the subject site. We do wish to be circulated on the Traffic Impact Study for any comments and concerns we may have related to the Regional intersection of Cawthra Road and Silver Creek Boulevard.

Regards,

Rani Kol

_____

From: Azari, Kian [Kian.Azari@wsp.com]
Sent: December 10, 2018 10:50 AM
To: Kol, Rani
Cc: Yu, Peter
Subject: Terms of Reference – 600 and 620 Lolita Gardens

Hi Rani,

WSP is in the process of undertaking a TIS for this project. We'd like to confirm the scope of work with the Region as the first step. The Terms of Reference is attached.

We are also confirming the TOR with the City of Mississauga via a separate email.

Can you please advise the appropriate staff to contact for review?

Thank you very much

Kian Azari, EIT
Transportation Planner
Planning & Advisory
Transportation

[cid:image001.png@01D47042.07B98C20]
T + 1 905-882-1100 #6430
100 Commerce Valley Drive West,

Azari, Kian

From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: Wednesday, December 12, 2018 11:37 AM
To: Azari, Kian
Subject: RE: 600 and 620 Lolita Gardens

Hello Kian,

Using the City's Travel Demand Model and supporting traffic count data, the city's Transportation Planning section has determined the projected growth on Dundas Street to be used as part of your study. The recommended projected growth is shown below:

Dundas Street

	Compound Annual Growth from Existing to 2023	
	EB	WB
Time		
AM Peak Hour	0.0%	3.0%
PM Peak Hour	2.0%	0.0%

-This analysis assumes the lane reduction on Hurontario Street from 3 through lanes in each direction to 2 through lanes in each direction, therefore your analysis should also reflect these network changes.

-This analysis assumes the lane reduction on Kirwin Avenue from 2 through lanes in each direction to 1 through lane in each direction.

- Also, this analysis assumes the widening of Cawthra Road from 2 through lanes to 3 though lanes in each direction south of Dundas Street.

If you have any question regarding the information provided please let me know!

Thanks,

Tyler

From: Azari, Kian [mailto:Kian.Azari@wsp.com]
Sent: 2018/12/12 11:19 AM
To: Tyler Xuereb
Cc: Yu, Peter
Subject: RE: 600 and 620 Lolita Gardens

Azari, Kian

From: Zaytseva, Viktoriya <viktoriya.zaytseva@peelregion.ca>
Sent: Thursday, January 03, 2019 2:37 PM
To: Azari, Kian
Subject: 600 and 620 Lolita Gardens
Attachments: Lane Configuration - Draft.pdf

Good afternoon Kian,

A growth rate analysis was done Cawthra Rd between Silver Creek Boulevard and Dundas Street for a 5 year buildout. The following numbers were concluded from the historical data as well as EMME forecasting model that is calibrated for years 2011, 2021 and 2031 for the AM peak period.

Please use the following compound annual growth rate:

2018 – 2023: 1.5%/yr

Also, as per our earlier conversation, Cawthra Road is not planned to be expanded to 6 lanes and will remain a 4 lane road. A road improvements project will be happening on Cawthra Road along the segment of interest by year 2021, however, the project is aimed to enhance pedestrian and biker mobility, and will not affect the existing lane configuration for the most part. The only change to the existing lane configuration will be an addition of the right turn lane in southbound direction at Cawthra Road and Silver Creek Boulevard (please see the attached document). The project is currently being reviewed by the Region's Environmental Assessment team and is not finalised yet, therefore I can only send you the rough sketch of existing and proposed lane configuration.

For questions regarding developments along Regional roads, please contact the Regional Planning Assistant, Nancy Baker at (905) 791 7800 ext. 4343

Have a nice day,

Viktoriya Zaytseva | Transportation Analyst

Region of Peel
Public Works Services
Transportation Division
10 Peel Centre Drive, Suite B, 4th Floor
Brampton, Ontario L6T 4B9
Tel: (905) 791-7800 ext. 4810
E-Mail: viktoriya.zaytseva@peelregion.ca

Azari, Kian

From: Azari, Kian
Sent: Tuesday, June 25, 2019 6:16 PM
To: Azari, Kian
Subject: FW: 600 Lolita Gardens - Amenity Question
Attachments: UPDATED - DARC 18-258 - Submission Requirements .pdf

From: Stephanie Kwast [mailto:skwast@bousfields.ca]
Sent: June-24-19 1:07 PM
To: Yu, Peter <Peter.Yu@wsp.com>
Cc: Hector Tuminan <htuminan@quadrangle.ca>
Subject: FW: 600 Lolita Gardens - Amenity Question

Hi Peter, please see below from Zain Zia. I just want to make sure you have this correspondence and will address accordingly.

Thanks,
Stephanie

Stephanie Kwast, RPP, MCIP
Bousfields Inc.

3 Church Street, Suite 200
Toronto, Ontario M5E 1M2
t: 416.947.9744
f: 416.947.0781

From: Shaesta Hussen <shaesta.hussen@mississauga.ca>
Date: Wednesday, January 9, 2019 at 12:41 PM
To: Stephanie Kwast <skwast@bousfields.ca>
Cc: Marianne Cassin <Marianne.Cassin@mississauga.ca>
Subject: RE: 600 Lolita Gardens - Amenity Question

Good afternoon Stephanie,

I have received confirmation from the departments for the attached UPDATED Submission Requirements Checklist. The checklist is in our new updated format and the requirements remained relatively the same from the DARC Meeting, with the addition of a Pre-Submission Community Engagement Meeting (as highlighted).

I have also received the following updated comments from the reviewers:

- Comments from Erinma Chibututu, Urban Designer at the City of Mississauga (905-615-3200 ext.5546; erinma.chibututu@mississauga.ca) are as follows:
    - Confirm the proposal for loading/garbage storage and removal for the existing buildings. I am assuming that any new loading and garbage storage areas are enclosed within the buildings.

- Confirm if there are ground floor residential units along the perimeter of the existing 17 storey building, and how these units are protected from the loading area associated with the proposed 25 storey building.
- There should also be sufficient buffers to protect the adjacent long term care facility from views of the loading and service areas.

- Comments from Zain Zia, Traffic Review at the City of Mississauga (905-615-3200 ext.5318; zain.zia@mississauga.ca) are as follows:
  - The applicant is required to provide accessible and secure short term (outdoor) and long term (indoor) bicycle storage facilities as follows:
    - a minimum of 0.70 long term spaces and 0.08 short term spaces per residential unit.
    - Outdoor bicycle parking is to be located near the front entrances to the proposed and existing buildings.
  - Please describe where the loading & garbage zone for the existing 21 storey building is to be relocated. The loading area vehicle maneuvers for the existing and proposed buildings shall be confined to the drive aisles and minimize conflicts with adjacent parking spaces. Turning movement diagrams for loading/unloading manoeuvers of each building are to be provided.
  - A Transportation Impact Study representative of the proposed land use and gross floor area is required. The study is to include a Transportation Demand Management component. Turning movement diagrams are to be included. The traffic consultant should provide a terms of reference to the City's Traffic Section for review and receive confirmation prior to commencing of the study.
  - A bypass to the drop-off area for each existing building is recommended to reduce possible conflict and improve vehicle flow.
  - Please clarify that the proposed building does not have an underground parking garage exit.
  - Please provide proper pedestrian connectivity from the parking lots to the building entrances, such as through a centralized pedestrian walkway through the parking lots.

If you have any questions on these comments, you can contact the specific reviewer directly.

With regards to the Pre-Submission Community Meeting we are preparing further information/details for this meeting but for now, this meeting is coordinated through the Ward Councillors office.

Regards,
Shaesta

Shaesta Hussen, MCIP, RPP
Planner, Planning Services Centre
T 905-615-3200 ext.5532

APPENDIX

B TRAFFIC DATA

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:45:00
To: 8:45:00

Municipality: Mississauga
Site #: 1816400001
Intersection: Cawthra Rd & North Junction Acce
TFR File #: 1
Count date: 12-Dec-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Cawthra Rd runs N/S

North Leg Total:	2999			
North Entering:	1907			
North Peds:	9			
Peds Cross:	⋈			

Heavys	7	39	0	46
Trucks	3	10	0	13
Cars	506	1341	1	1848
Totals	516	1390	1	

Heavys	33	
Trucks	11	
Cars	1048	
Totals	1092	

East Leg Total:	4
East Entering:	1
East Peds:	7
Peds Cross:	⧖

Cawthra Rd

Heavys	Trucks	Cars	Totals
12	3	527	542

North Junction Access to Dundas St E

Cars	Trucks	Heavys	Totals
0	0	0	0
1	0	0	1
0	0	0	0
1	0	0	

N
W E
S

Heavys	Trucks	Cars	Totals
11	4	248	263
0	0	1	1
7	2	132	141
18	6	381	

driveway

Cars	Trucks	Heavys	Totals
3	0	0	3

Cawthra Rd

Peds Cross:	⧖			
West Peds:	9			
West Entering:	405			
West Leg Total:	947			

Cars	1473			
Trucks	12			
Heavys	46			
Totals	1531			

Cars	20	800	1	821
Trucks	0	7	0	7
Heavys	5	22	0	27
Totals	25	829	1	

Peds Cross:	⋈
South Peds:	6
South Entering:	855
South Leg Total:	2386

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 18:00:00

One Hour Peak
From: 17:00:00
To: 18:00:00

Municipality: Mississauga
Site #: 1816400001
Intersection: Cawthra Rd & North Junction Acce
TFR File #: 1
Count date: 12-Dec-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Cawthra Rd runs N/S

North Leg Total:	3087			
North Entering:	1792			
North Peds:	0			
Peds Cross:	⋈			

Heavys	2	12	0	14
Trucks	0	5	0	5
Cars	449	1324	0	1773
Totals	451	1341	0	

Heavys	13	
Trucks	7	
Cars	1275	
Totals	1295	

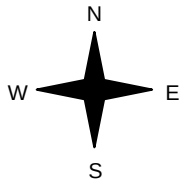
East Leg Total:	2
East Entering:	1
East Peds:	1
Peds Cross:	⧖

Cawthra Rd

Heavys	Trucks	Cars	Totals
4	0	517	521

North Junction Access to Dundas St E

Heavys	Trucks	Cars	Totals
2	3	482	487
0	0	0	0
4	0	213	217
6	3	695	



Cars	Trucks	Heavys	Totals
0	0	0	0
1	0	0	1
0	0	0	0
1	0	0	

driveway

Cars	Trucks	Heavys	Totals
1	0	0	1

Cawthra Rd

Peds Cross:	⧖			
West Peds:	3			
West Entering:	704			
West Leg Total:	1225			

Cars	1537			
Trucks	5			
Heavys	16			
Totals	1558			

Cars	67	793	1	861
Trucks	0	4	0	4
Heavys	2	11	0	13
Totals	69	808	1	

Peds Cross:	⋈
South Peds:	5
South Entering:	878
South Leg Total:	2436

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Total Count Diagram

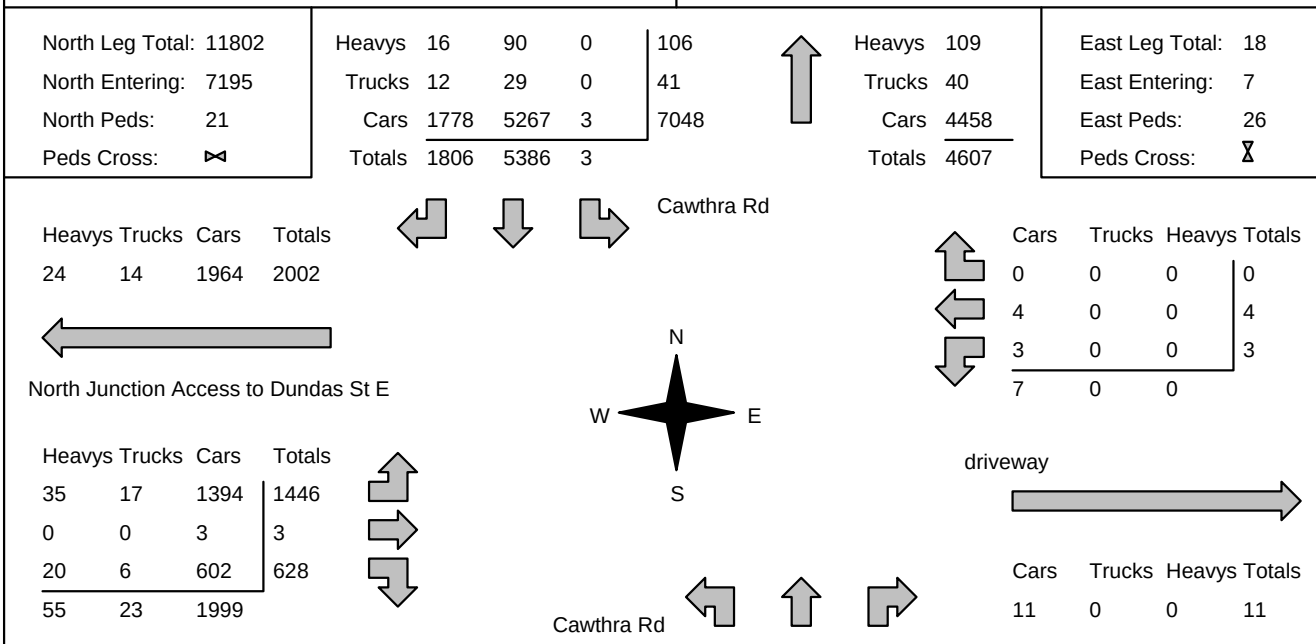
Municipality: Mississauga
Site #: 1816400001
Intersection: Cawthra Rd & North Junction Acce
TFR File #: 1
Count date: 12-Dec-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Cawthra Rd runs N/S



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Traffic Count Summary

Intersection: Cawthra Rd & North Junction Acc | **Count Date:** 12-Dec-18 | **Municipality:** Mississauga

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*1441*	*432*	*1873*	*3*
9:00:00	*1*	*1309*	*508*	*1818*	*8*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*2*	*1295*	*415*	*1712*	*10*
18:00:00	*0*	*1341*	*451*	*1792*	*0*
Totals:	3	5386	1806	7195	21

North/South Total Approaches: 10553

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*21*	*786*	*1*	*808*	*3*
9:00:00	*27*	*812*	*0*	*839*	*7*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*75*	*755*	*3*	*833*	*2*
18:00:00	*69*	*808*	*1*	*878*	*5*
S Totals:	192	3161	5	3358	17

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*0*	*0*	*0*	*3*
9:00:00	*0*	*2*	*0*	*2*	*10*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*3*	*1*	*0*	*4*	*12*
18:00:00	*0*	*1*	*0*	*1*	*1*
Totals:	3	4	0	7	26

East/West Total Approaches: 2084

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*224*	*1*	*99*	*324*	*5*
9:00:00	*265*	*1*	*148*	*414*	*6*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*470*	*1*	*164*	*635*	*8*
18:00:00	*487*	*0*	*217*	*704*	*3*
W Totals:	1446	3	628	2077	22

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*16:00*	*17:00*	*18:00*	*0:00*	*0:00*
Crossing Values:	*0*	*231*	*282*	*0*	*486*	*493*	*0*	*0*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:45:00
To: 8:45:00

Municipality: Mississauga
Site #: 1816400002
Intersection: Dundas St E & West Junction Acce
TFR File #: 1
Count date: 12-Dec-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Dundas St E runs W/E

North Leg Total:	934
North Entering:	528
North Peds:	43
Peds Cross:	⋈

Heavys	7	0	5	12
Trucks	1	0	2	3
Cars	177	17	319	513
Totals	185	17	326	

Heavys	18	
Trucks	7	
Cars	381	
Totals	406	

East Leg Total:	2501
East Entering:	827
East Peds:	0
Peds Cross:	⧖

Heavys	Trucks	Cars	Totals
34	13	760	807

West Junction Access to Cawthra Rd

Cars	Trucks	Heavys	Totals
186	4	9	199
581	12	27	620
7	1	0	8
774	17	36	

Dundas St E

N
W E
S

Heavys	Trucks	Cars	Totals
9	2	181	192
23	9	1302	1334
0	0	15	15
32	11	1498	

Dundas St E

Cars	Trucks	Heavys	Totals
1635	11	28	1674

driveway

Peds Cross:	⧖
West Peds:	23
West Entering:	1541
West Leg Total:	2348

Cars	39
Trucks	1
Heavys	0
Totals	40

Cars	2	14	14	30
Trucks	0	1	0	1
Heavys	0	0	0	0
Totals	2	15	14	

Peds Cross:	⋈
South Peds:	6
South Entering:	31
South Leg Total:	71

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 18:00:00

One Hour Peak
From: 16:45:00
To: 17:45:00

Municipality: Mississauga
Site #: 1816400002
Intersection: Dundas St E & West Junction Acce
TFR File #: 1
Count date: 12-Dec-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

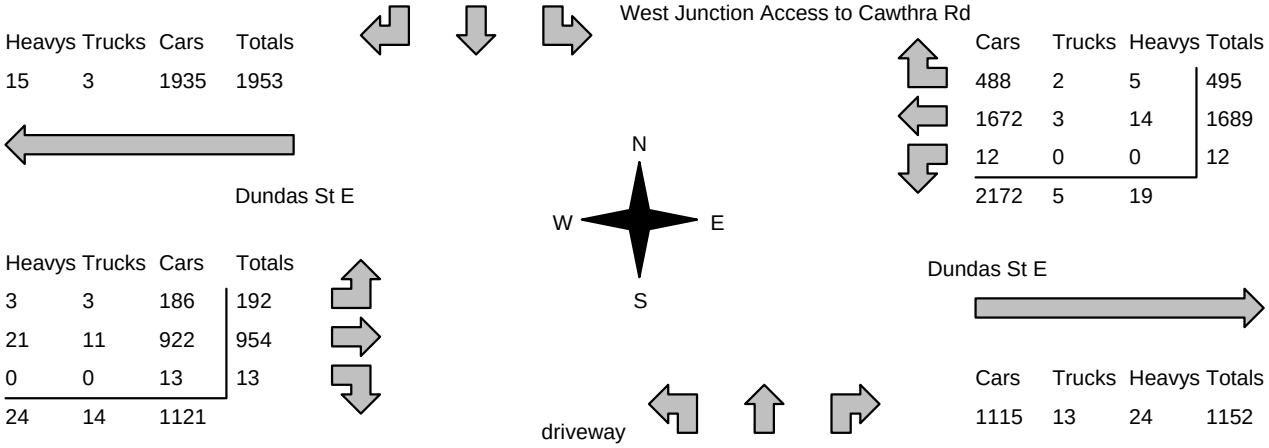
Major Road: Dundas St E runs W/E

North Leg Total: 1157
North Entering: 453
North Peds: 7
Peds Cross: ⋈

Heavys	1	0	3	4
Trucks	0	0	2	2
Cars	254	12	181	447
Totals	255	12	186	

Heavys	8
Trucks	5
Cars	691
Totals	704

East Leg Total: 3348
East Entering: 2196
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 15
West Entering: 1159
West Leg Total: 3112

Cars	37
Trucks	0
Heavys	0
Totals	37

Cars	9	17	12	38
Trucks	0	0	0	0
Heavys	0	0	0	0
Totals	9	17	12	

Peds Cross: ⋈
South Peds: 7
South Entering: 38
South Leg Total: 75

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Total Count Diagram

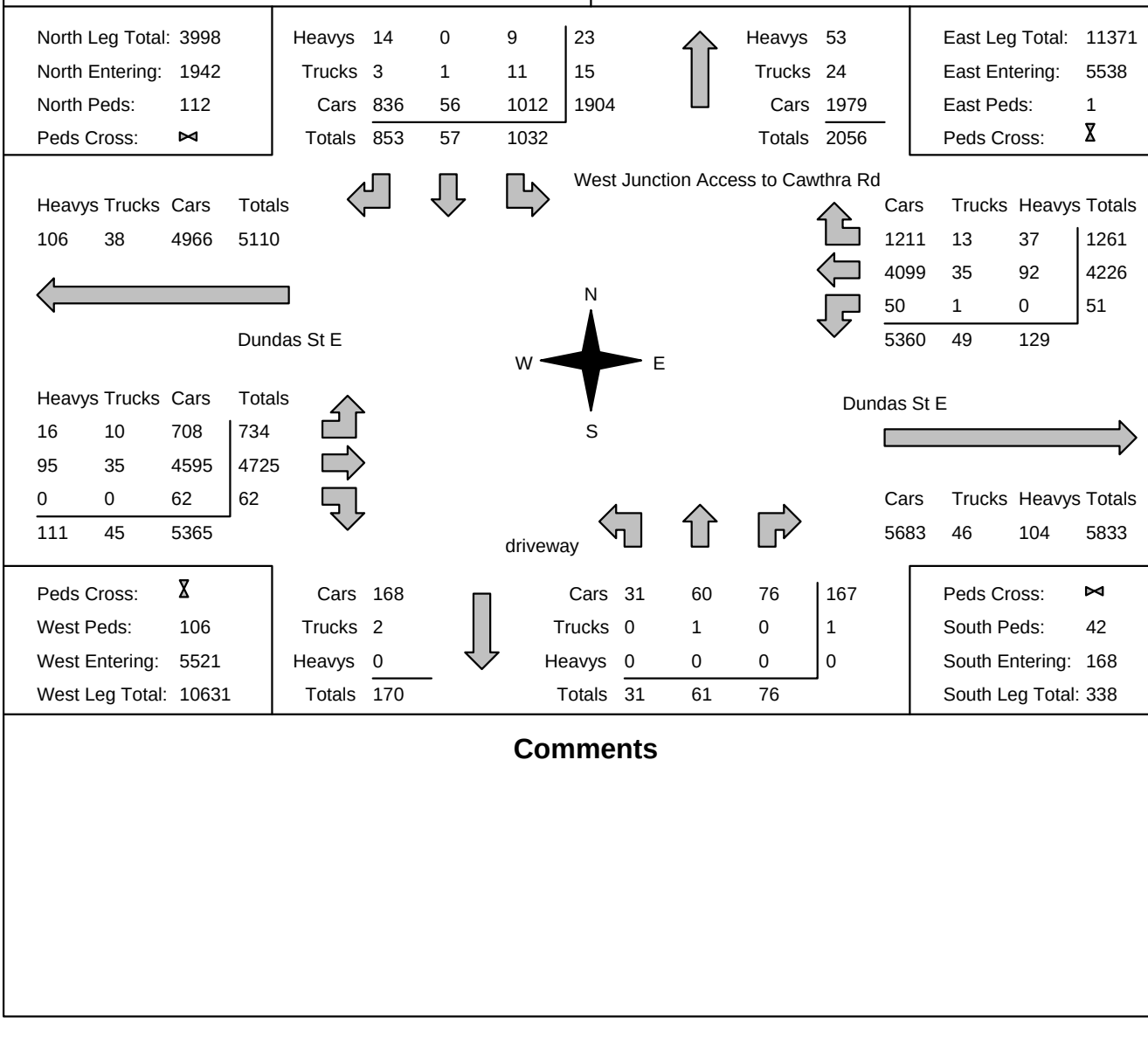
Municipality: Mississauga
Site #: 1816400002
Intersection: Dundas St E & West Junction Acce
TFR File #: 1
Count date: 12-Dec-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Dundas St E runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Traffic Count Summary

Intersection: Dundas St E & West Junction Acc | **Count Date:** 12-Dec-18 | **Municipality:** Mississauga

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*309*	*7*	*129*	*445*	*34*
9:00:00	*319*	*16*	*199*	*534*	*40*
16:00:00	*0*	*0*	*0*	*0*	*1*
17:00:00	*209*	*19*	*255*	*483*	*31*
18:00:00	*195*	*15*	*270*	*480*	*6*
Totals:	1032	57	853	1942	112

North/South Total Approaches: 2110

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*6*	*9*	*22*	*37*	*13*
9:00:00	*4*	*16*	*15*	*35*	*4*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*14*	*17*	*22*	*53*	*21*
18:00:00	*7*	*19*	*17*	*43*	*4*
S Totals:	31	61	76	168	42

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*14*	*410*	*157*	*581*	*0*
9:00:00	*9*	*652*	*206*	*867*	*0*
16:00:00	*0*	*2*	*0*	*2*	*0*
17:00:00	*13*	*1510*	*410*	*1933*	*1*
18:00:00	*15*	*1652*	*488*	*2155*	*0*
Totals:	51	4226	1261	5538	1

East/West Total Approaches: 11059

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*179*	*1547*	*18*	*1744*	*29*
9:00:00	*181*	*1281*	*12*	*1474*	*23*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*185*	*954*	*16*	*1155*	*34*
18:00:00	*189*	*943*	*16*	*1148*	*20*
W Totals:	734	4725	62	5521	106

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*16:00*	*17:00*	*18:00*	*0:00*	*0:00*
Crossing Values:	*0*	*353*	*362*	*0*	*277*	*241*	*0*	*0*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Morning Peak Diagram

Specified Period		One Hour Peak	
From:	7:00:00	**From:**	7:45:00
To:	9:00:00	**To:**	8:45:00

Municipality: Mississauga
Site #: 1816400003
Intersection: Silver Creek Blvd & Lolita Gardens
TFR File #: 1
Count date: 12-Dec-18

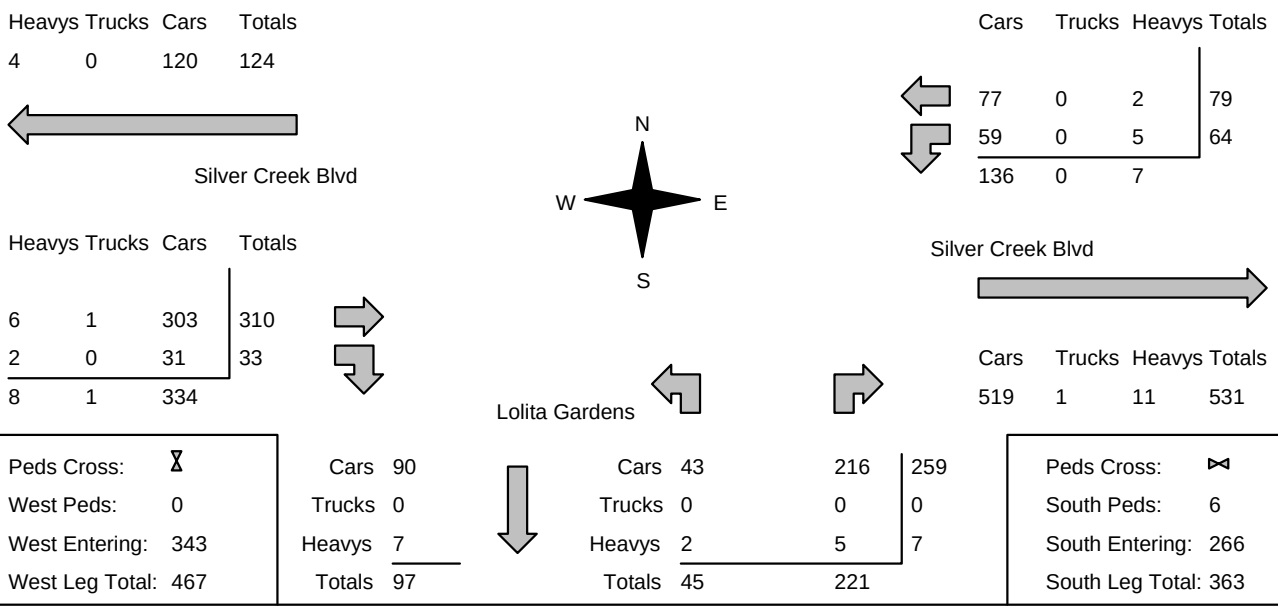
Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Silver Creek Blvd runs W/E

East Leg Total: 674
East Entering: 143
East Peds: 1
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 343
West Leg Total: 467

Cars 90
Trucks 0
Heavys 7
Totals 97

Cars 43 216 259
Trucks 0 0 0
Heavys 2 5 7
Totals 45 221

Peds Cross: ⋈
South Peds: 6
South Entering: 266
South Leg Total: 363

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 18:00:00

One Hour Peak
From: 16:15:00
To: 17:15:00

Municipality: Mississauga
Site #: 1816400003
Intersection: Silver Creek Blvd & Lolita Gardens
TFR File #: 1
Count date: 12-Dec-18

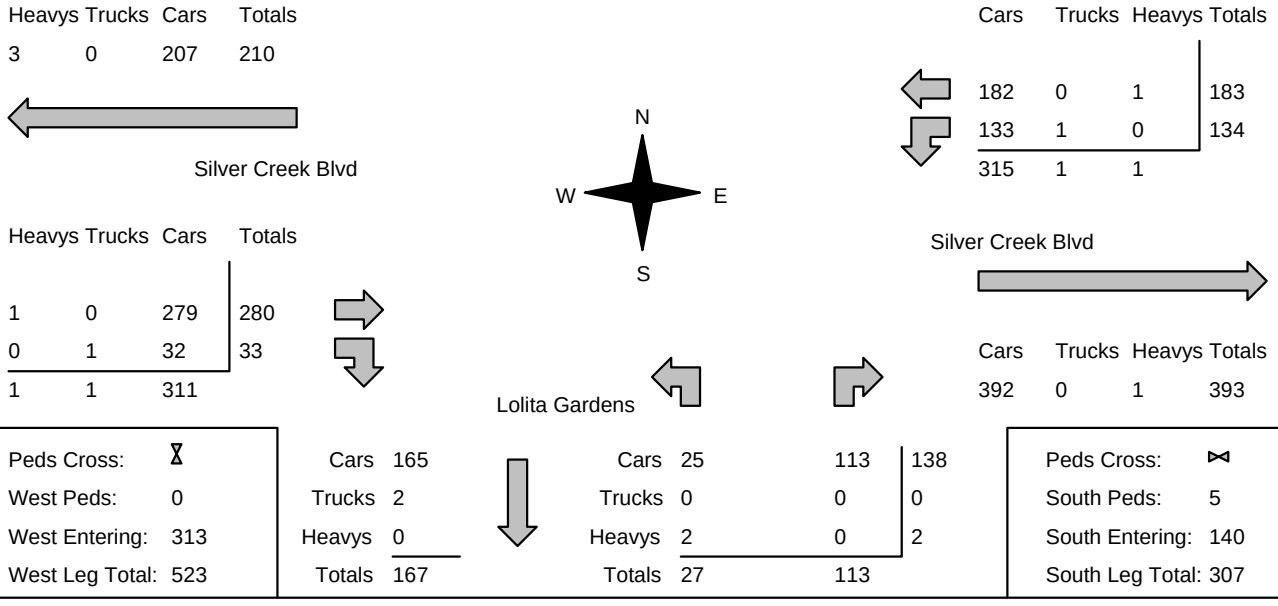
Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Silver Creek Blvd runs W/E

East Leg Total: 710
East Entering: 317
East Peds: 1
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 313
West Leg Total: 523

Cars 165
Trucks 2
Heavys 0
Totals 167

Cars 25 113 138
Trucks 0 0 0
Heavys 2 0 2
Totals 27 113

Peds Cross: ⋈
South Peds: 5
South Entering: 140
South Leg Total: 307

Comments

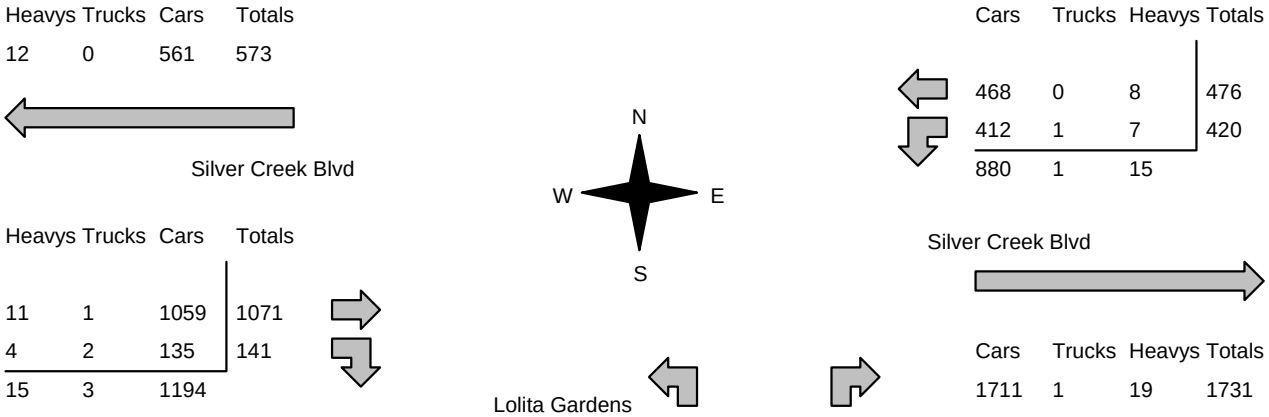
Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Total Count Diagram

Municipality: Mississauga **Site #:** 1816400003 **Intersection:** Silver Creek Blvd & Lolita Gardens **TFR File #:** 1 **Count date:** 12-Dec-18	**Weather conditions:** **Person counted:** **Person prepared:** **Person checked:**
**** Non-Signalized Intersection ****	**Major Road:** Silver Creek Blvd runs W/E

East Leg Total: 2627
East Entering: 896
East Peds: 5
Peds Cross: ⧖



Peds Cross:	⧖		Cars	547		Cars	93	652	745	Peds Cross:	⋈
West Peds:	2		Trucks	3		Trucks	0	0	0	South Peds:	32
West Entering:	1212		Heavys	11		Heavys	4	8	12	South Entering:	757
West Leg Total:	1785		Totals	561		Totals	97	660		South Leg Total:	1318

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Traffic Count Summary

Intersection: Silver Creek Blvd & Lolita Gardens | **Count Date:** 12-Dec-18 | **Municipality:** Mississauga

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*0*	*0*	*0*	*0*
9:00:00	*0*	*0*	*0*	*0*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*0*	*0*	*0*	*0*
Totals:	0	0	0	0	0

North/South Total Approaches: 757

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*6*	*0*	*212*	*218*	*7*
9:00:00	*46*	*0*	*217*	*263*	*5*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*23*	*0*	*111*	*134*	*9*
18:00:00	*22*	*0*	*120*	*142*	*11*
S Totals:	97	0	660	757	32

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*57*	*59*	*0*	*116*	*2*
9:00:00	*71*	*72*	*0*	*143*	*1*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*123*	*170*	*0*	*293*	*0*
18:00:00	*169*	*175*	*0*	*344*	*2*
Totals:	420	476	0	896	5

East/West Total Approaches: 2108

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*252*	*13*	*265*	*0*
9:00:00	*0*	*288*	*44*	*332*	*2*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*295*	*39*	*334*	*0*
18:00:00	*0*	*236*	*45*	*281*	*0*
W Totals:	0	1071	141	1212	2

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*16:00*	*17:00*	*18:00*	*0:00*	*0:00*
Crossing Values:	*0*	*8*	*49*	*0*	*23*	*24*	*0*	*0*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:45:00
To: 8:45:00

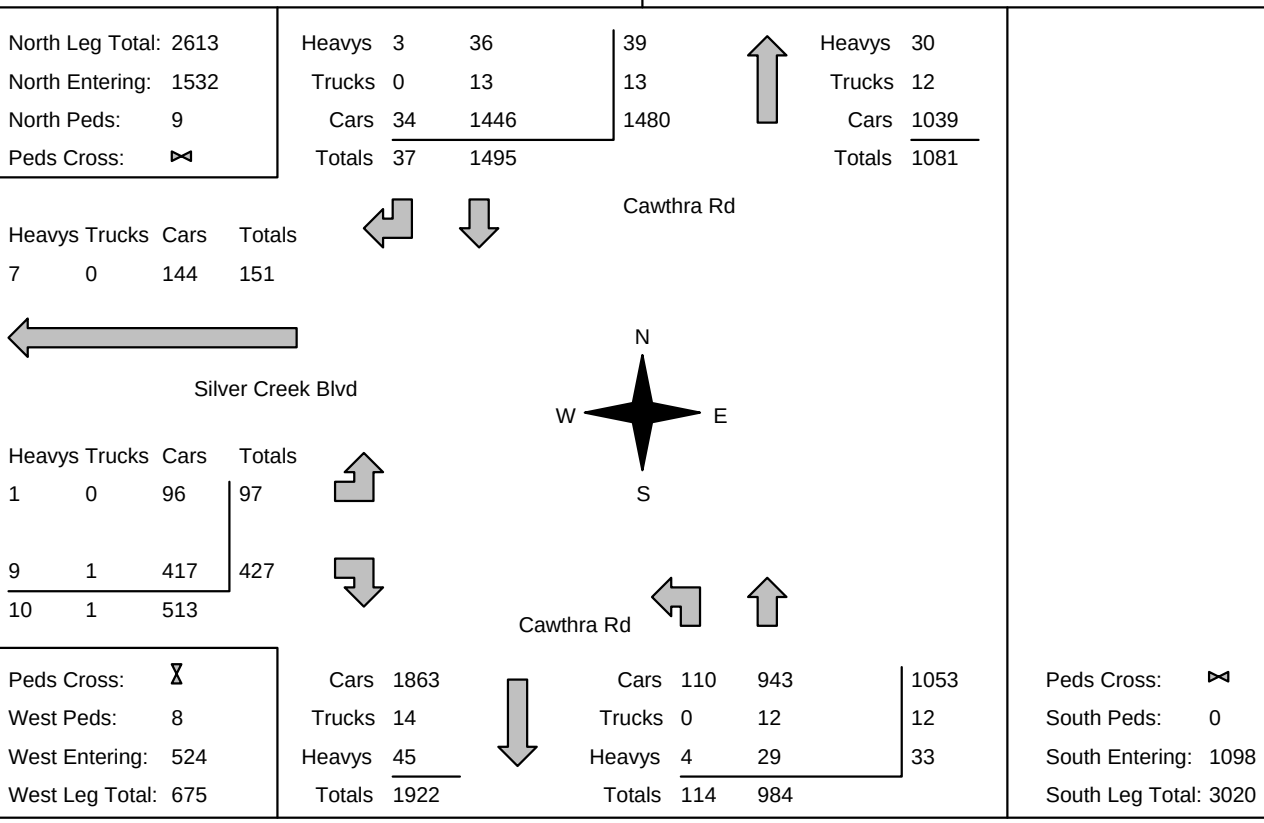
Municipality: Mississauga
Site #: 1816400004
Intersection: Cawthra Rd & Silver Creek Blvd
TFR File #: 1
Count date: 12-Dec-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Cawthra Rd runs N/S



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 18:00:00

One Hour Peak
From: 17:00:00
To: 18:00:00

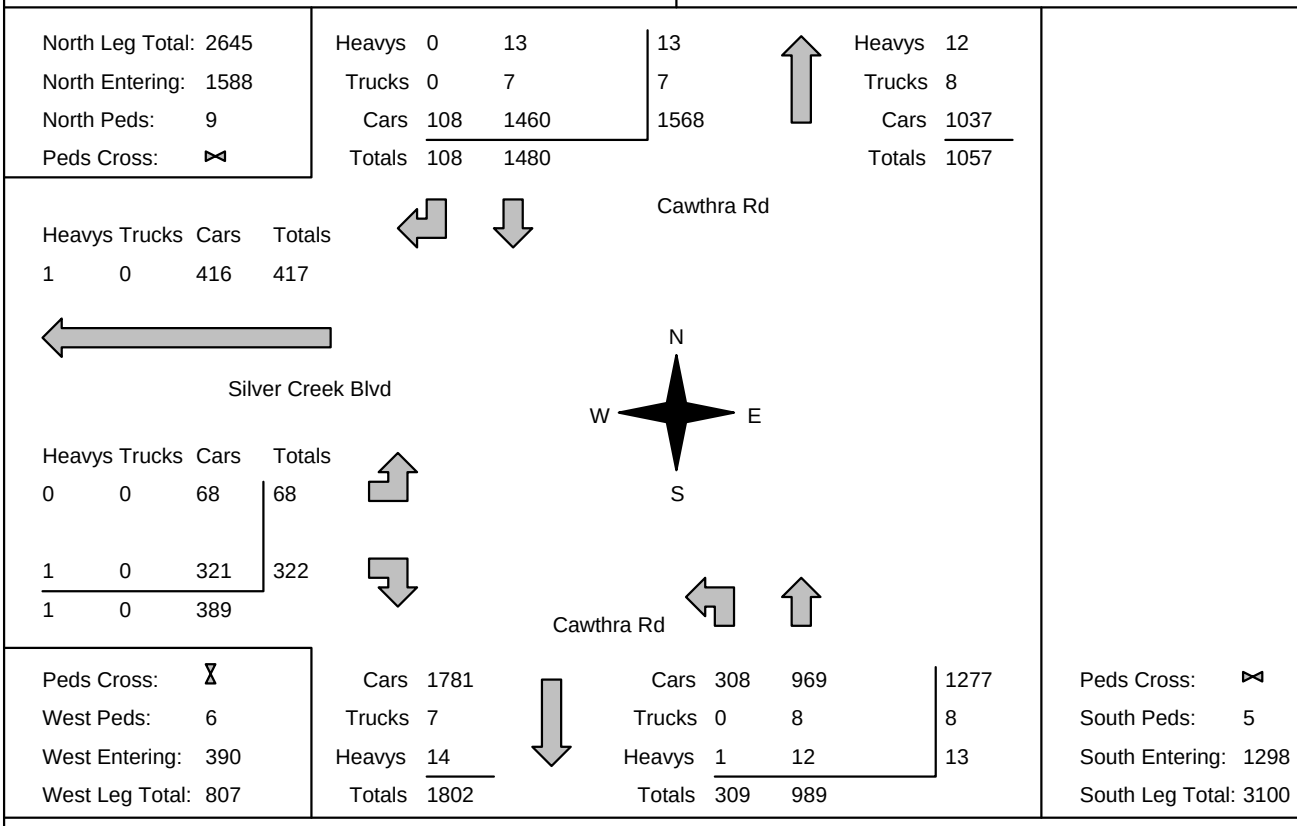
Municipality: Mississauga
Site #: 1816400004
Intersection: Cawthra Rd & Silver Creek Blvd
TFR File #: 1
Count date: 12-Dec-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Cawthra Rd runs N/S



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Total Count Diagram

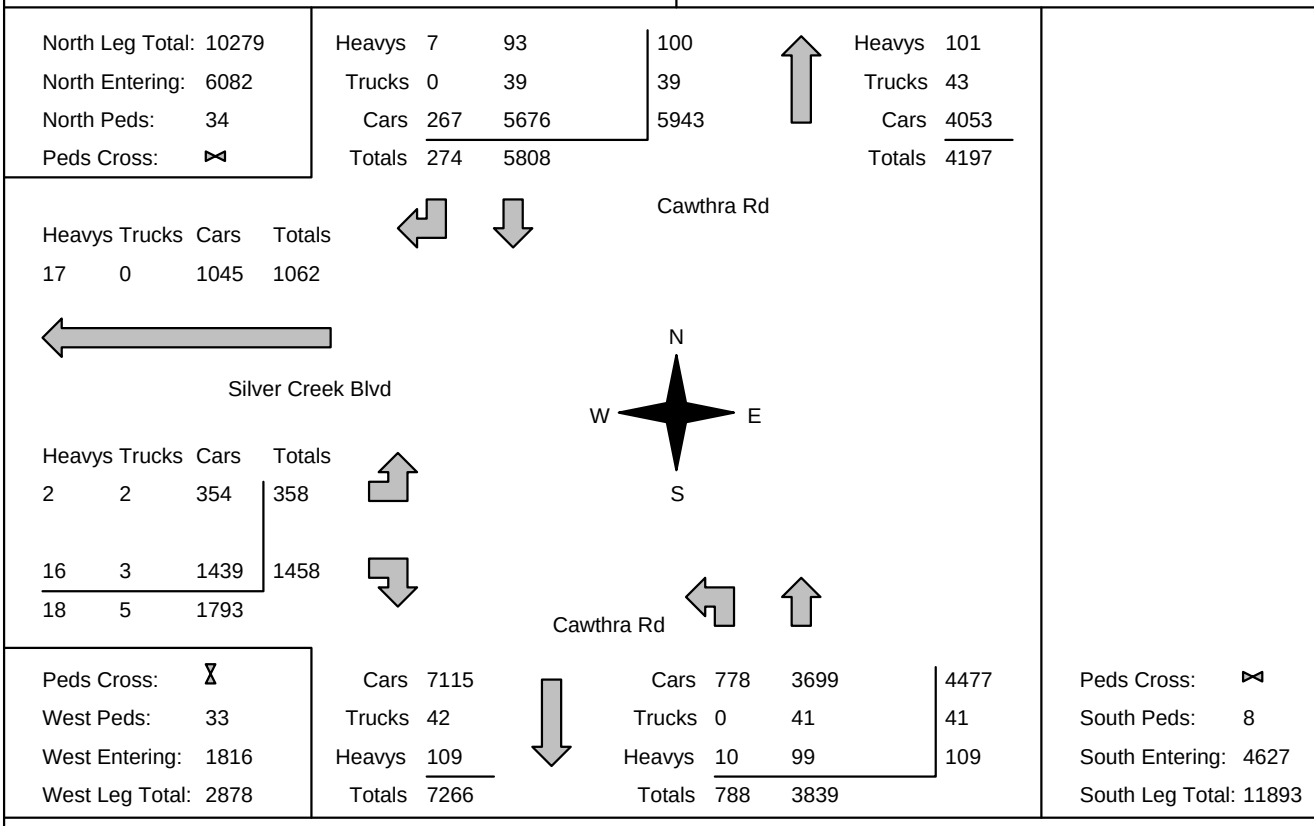
Municipality: Mississauga
Site #: 1816400004
Intersection: Cawthra Rd & Silver Creek Blvd
TFR File #: 1
Count date: 12-Dec-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Cawthra Rd runs N/S



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Traffic Count Summary

Intersection: Cawthra Rd & Silver Creek Blvd | **Count Date:** 12-Dec-18 | **Municipality:** Mississauga

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*1540*	*30*	*1570*	*7*
9:00:00	*0*	*1420*	*45*	*1465*	*8*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*1368*	*91*	*1459*	*10*
18:00:00	*0*	*1480*	*108*	*1588*	*9*
Totals:	0	5808	274	6082	34

North/South Total Approaches: 10709

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*97*	*918*	*0*	*1015*	*0*
9:00:00	*110*	*980*	*0*	*1090*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*272*	*952*	*0*	*1224*	*3*
18:00:00	*309*	*989*	*0*	*1298*	*5*
S Totals:	788	3839	0	4627	8

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*0*	*0*	*0*	*0*
9:00:00	*0*	*0*	*0*	*0*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*0*	*0*	*0*	*0*
Totals:	0	0	0	0	0

East/West Total Approaches: 1816

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*101*	*0*	*369*	*470*	*10*
9:00:00	*99*	*0*	*412*	*511*	*5*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*90*	*0*	*355*	*445*	*12*
18:00:00	*68*	*0*	*322*	*390*	*6*
W Totals:	358	0	1458	1816	33

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*16:00*	*17:00*	*18:00*	*0:00*	*0:00*
Crossing Values:	*0*	*108*	*107*	*0*	*103*	*82*	*0*	*0*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

Municipality: Mississauga
Site #: 1816400005
Intersection: Lolita Gardens & Existing site acce
TFR File #: 1
Count date: 12-Dec-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Lolita Gardens runs N/S

North Leg Total: 364
North Entering: 110
North Peds: 32
Peds Cross: ⋈

Heavys	4	3	7
Trucks	1	0	1
Cars	55	47	102
Totals	60	50	

Heavys	5
Trucks	0
Cars	249
Totals	254

East Leg Total: 211
East Entering: 135
East Peds: 28
Peds Cross: ⋈

Lolita Gardens

	Cars	Trucks	Heavys	Totals
	90	0	2	92
	41	0	2	43
	131	0	4	

N
W E
S

Existing site access driveway at Lolita Gardens

	Cars	Trucks	Heavys	Totals
	73	0	3	76

Lolita Gardens

Cars	96
Trucks	1
Heavys	6
Totals	103

Cars	159	26	185
Trucks	0	0	0
Heavys	3	0	3
Totals	162	26	

Peds Cross: ⋈
South Peds: 3
South Entering: 188
South Leg Total: 291

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 18:00:00

One Hour Peak
From: 17:00:00
To: 18:00:00

Municipality: Mississauga
Site #: 1816400005
Intersection: Lolita Gardens & Existing site acce
TFR File #: 1
Count date: 12-Dec-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

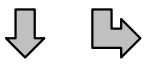
Major Road: Lolita Gardens runs N/S

North Leg Total: 338
North Entering: 215
North Peds: 2
Peds Cross: ⋈

Heavys	0	0	0
Trucks	0	1	1
Cars	133	81	214
Totals	133	82	

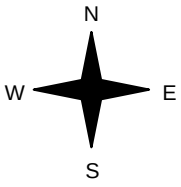
Heavys	0
Trucks	0
Cars	123
Totals	123

East Leg Total: 156
East Entering: 56
East Peds: 24
Peds Cross: ⋈



Lolita Gardens

Cars	Trucks	Heavys	Totals
41	0	0	41
14	1	0	15
55	1	0	

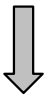


Existing site access driveway at Lolita Gardens

Cars	Trucks	Heavys	Totals
99	1	0	100

Lolita Gardens

Cars	147
Trucks	1
Heavys	0
Totals	148



Cars	82	18	100
Trucks	0	0	0
Heavys	0	0	0
Totals	82	18	

Peds Cross: ⋈
South Peds: 2
South Entering: 100
South Leg Total: 248

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Total Count Diagram

Municipality: Mississauga
Site #: 1816400005
Intersection: Lolita Gardens & Existing site acce
TFR File #: 1
Count date: 12-Dec-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Lolita Gardens runs N/S

North Leg Total: 1248
North Entering: 547
North Peds: 46
Peds Cross: ⋈

Heavys	7	5	12
Trucks	2	2	4
Cars	332	199	531
Totals	341	206	

Heavys	9
Trucks	1
Cars	691
Totals	701

East Leg Total: 593
East Entering: 326
East Peds: 90
Peds Cross: ⋈

Lolita Gardens

	Cars	Trucks	Heavys	Totals
	230	1	2	233
	88	2	3	93
	318	3	5	

N
W E
S

Existing site access driveway at Lolita Gardens

	Cars	Trucks	Heavys	Totals
	259	3	5	267

Lolita Gardens

Cars	420	Cars	461	60	521
Trucks	4	Trucks	0	1	1
Heavys	10	Heavys	7	0	7
Totals	434	Totals	468	61	

Peds Cross: ⋈
South Peds: 7
South Entering: 529
South Leg Total: 963

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc

Traffic Count Summary

Intersection: Lolita Gardens & Existing site acc | **Count Date:** 12-Dec-18 | **Municipality:** Mississauga

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*22*	*39*	*0*	*61*	*9*
9:00:00	*50*	*60*	*0*	*110*	*32*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*52*	*109*	*0*	*161*	*3*
18:00:00	*82*	*133*	*0*	*215*	*2*
Totals:	206	341	0	547	46

North/South Total Approaches: *0*, *205*, *298*, *0*, *258*, *315*, 1076

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*142*	*2*	*144*	*0*
9:00:00	*0*	*162*	*26*	*188*	*3*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*82*	*15*	*97*	*2*
18:00:00	*0*	*82*	*18*	*100*	*2*
S Totals:	0	468	61	529	7

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*20*	*0*	*68*	*88*	*16*
9:00:00	*43*	*0*	*92*	*135*	*28*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*15*	*0*	*32*	*47*	*22*
18:00:00	*15*	*0*	*41*	*56*	*24*
Totals:	93	0	233	326	90

East/West Total Approaches: *0*, *88*, *135*, *0*, *47*, *56*, 326

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*0*	*0*	*0*	*0*
9:00:00	*0*	*0*	*0*	*0*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*0*	*0*	*0*	*0*
W Totals:	0	0	0	0	0

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*16:00*	*17:00*	*18:00*	*0:00*	*0:00*
Crossing Values:	*0*	*29*	*78*	*0*	*20*	*19*	*0*	*0*

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	December 14, 2018		Prepared Date:	December 18, 2018
Database Rev	iNet		Completed By:	RS
Timing Card / Field rev	iNet		Checked By:	JA.P

Location:	Cawthra Road at Silvercreek Drive						TIME PERIOD (sec.) (Green+Amber+All Red)		
Phase #	Direction	Vehicle Minimum (sec.)	Pedestrian Minimum (sec.)		Amber (sec.)	All Red (sec.)	AM MAX	OFF MAX	PM MAX
			WALK	FDWALK					
1	NB LT Arrow - Cawthra Road	5.0			3.0		16.0	19.0	30.0
2	N/S Arrow - Cawthra Road	15.0	10.0	13.0	4.0	2.0	106.0	99.0	93.0
3	NIU								
4	E/W Arrow - Silvercreek Drive	8.0	9.0	13.0	4.0	2.0	38.0	42.0	37.0
5	NIU								
6	NIU								
7	NIU								
8	NIU								

System Control	Yes
Local Control	No
Semi-Actuated Mode	Yes

TIME (M-F)	PEAK	CYCLE LENGTH (sec.)	OFFSET (sec.)
06:00-09:30	AM	160	10.0
09:30 - 15:00 19:30 - 00:00	OFF	160	152.0
15:00 - 19:30	PM	160	25.0

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	December 14, 2018		Prepared Date:	December 18, 2018
Database Rev	iNet		Completed By:	RS
Timing Card / Field rev	iNet		Checked By:	JA.P

Location:	Cawthra Road at Dundas Street (South Terminal)						TIME PERIOD (sec.) (Green+Amber+All Red)		
Phase #	Direction	Vehicle Minimum (sec.)	Pedestrian Minimum (sec.)		Amber (sec.)	All Red (sec.)	AM MAX	OFF MAX	PM MAX
			WALK	FDWALK					
1	EB PP LT Arrow - Dundas Street	5.0			3.0		35.0	19.0	14.0
2	EB/WB Arrow - Dundas Street	8.0	8.0	13.0	4.0	2.8	69.0	58.0	87.0
3	NB Green- Cawthra Road	8.0			4.0	3.0	26.0	42.0	27.0
4	SB Green - Cawthra Road	8.0	11.0	18.0	4.0	3.0	30.0	41.0	32.0
5	NIU								
6	NIU								
7	NIU								
8	NIU								

System Control	Yes
Local Control	No
Semi-Actuated Mode	Yes

TIME (M-F)	PEAK	CYCLE LENGTH (sec.)	OFFSET (sec.)
06:00-09:30	AM	160	85.0
09:30 - 15:00 19:30 - 00:00	OFF	160	22.0
15:00 - 19:30	PM	160	14.0

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	December 14, 2018		Prepared Date:	December 18, 2018
Database Rev	iNet		Completed By:	RS
Timing Card / Field rev	iNet		Checked By:	JA.P

Location: Cawthra Road at Dundas Street (North Terminal)

Phase #	Direction	Vehicle Minimum (sec.)	Pedestrian Minimum (sec.)		Amber (sec.)	All Red (sec.)	TIME PERIOD (sec.) (Green+Amber+All Red)		
			WALK	FDWALK			AM MAX	OFF MAX	PM MAX
1	NB PP LT Arrow - Cawthra Road	5.0			3.0		13.0	18.0	11.0
2	SB Green - Cawthra Road	8.0	8.0	13.0	4.0	2.4	88.0	72.0	77.0
3	WB Green - Dundas Street	8.0			4.0	2.4	19.0	22.0	19.0
4	EB Green - Dundas Street	8.0	9.0	14.0	4.0	2.4	40.0	48.0	53.0
5	NIU								
6	NB GREEN - Cawthra Road	8.0	8.0	13.0	4.0	2.4	101.0	90.0	88.0
7	NIU								
8	Computer Phase	8.0	9.0	14.0	4.0	2.4	59.0	70.0	72.0

System Control	Yes
Local Control	No
Semi-Actuated Mode	Yes

TIME (M-F)	PEAK	CYCLE LENGTH (sec.)	OFFSET (sec.)
06:00-09:30	AM	160	67.0
09:30 - 15:00 19:30 - 00:00	OFF	160	11.0
15:00 - 19:30	PM	160	53.0

APPENDIX

C PEAK HOUR FACTOR

Intersaection: **Dundas St E & Cawthra Rd_North junction**
Site: **.816400001**
Facing: **NORTH**

DATE	TIME	15min total	Volume	PHF
--- Recording started at:06:45:00				
12/12/2018	7:00:00			
12/12/2018	7:15:00	688		
12/12/2018	7:30:00	760		
12/12/2018	7:45:00	730	2178	
12/12/2018	8:00:00	827	3005	0.96
12/12/2018	8:15:00	799	3116	
12/12/2018	8:30:00	751	3107	
12/12/2018	8:45:00	791	3168	
12/12/2018	9:00:00	732	3073	
12/12/2018	9:15:00	0	2274	
--- Recording restarted at:15:45:00				
12/12/2018	16:00:00			
12/12/2018	16:15:00	804		
12/12/2018	16:30:00	781		
12/12/2018	16:45:00	777	2362	
12/12/2018	17:00:00	822	3184	
12/12/2018	17:15:00	821	3201	0.98
12/12/2018	17:30:00	860	3280	
12/12/2018	17:45:00	832	3335	
12/12/2018	18:00:00	862	3375	
12/12/2018	18:15:00	0	2554	
12/12/2018	18:15:15	0	1694	

Intersaection: **Dundas St E & Cawthra Rd_West junction**
Site: **.816400002**
Facing: **NORTH**

DATE	TIME	15min total	Volume	PHF
--- Recording started at:06:45:00				
12/12/2018	7:00:00	0		
12/12/2018	7:15:00	746		
12/12/2018	7:30:00	707		
12/12/2018	7:45:00	654	2107	
12/12/2018	8:00:00	700	2807	
12/12/2018	8:15:00	759	2820	0.96
12/12/2018	8:30:00	726	2839	
12/12/2018	8:45:00	742	2927	
12/12/2018	9:00:00	683	2910	
12/12/2018	9:15:00	2	2153	
--- Recording restarted at:15:45:00				
12/12/2018	16:00:00	0		
12/12/2018	16:15:00	940		
12/12/2018	16:30:00	894		
12/12/2018	16:45:00	832	2666	
12/12/2018	17:00:00	958	3624	
12/12/2018	17:15:00	937	3621	0.98
12/12/2018	17:30:00	978	3705	
12/12/2018	17:45:00	973	3846	
12/12/2018	18:00:00	938	3826	
12/12/2018	18:15:00	0	2889	
12/12/2018	18:15:15	0	1911	

Intersaection: **Existing site access driveway at Lolita Gardens**
Site: **.816400004**
Facing: **NORTH**

DATE	TIME	15min total	Volume	PHF
--- Recording started at:06:45:00				
12/12/2018	7:00:00	0		
12/12/2018	7:15:00	67		
12/12/2018	7:30:00	73		
12/12/2018	7:45:00	79	219	
12/12/2018	8:00:00	74	293	
12/12/2018	8:15:00	109	335	0.83
12/12/2018	8:30:00	116	378	
12/12/2018	8:45:00	130	429	
12/12/2018	9:00:00	78	433	
12/12/2018	9:15:00	0	324	
--- Recording restarted at:15:45:00				
12/12/2018	16:00:00	0		
12/12/2018	16:15:00	82		
12/12/2018	16:30:00	82		
12/12/2018	16:45:00	62	226	
12/12/2018	17:00:00	79	305	
12/12/2018	17:15:00	89	312	0.85
12/12/2018	17:30:00	76	306	
12/12/2018	17:45:00	97	341	
12/12/2018	18:00:00	109	371	
12/12/2018	18:15:00	0	282	
12/12/2018	18:15:15	0	206	

Intersaection: **Silver Creek Blvd & Lolita Gardens**
Site: **.816400003**
Facing: **NORTH**

DATE	TIME	15min total	Volume	PHF
--- Recording started at:06:45:00				
12/12/2018	7:00:00			
12/12/2018	7:15:00	0		
12/12/2018	7:30:00	139		
12/12/2018	7:45:00	135		
12/12/2018	8:00:00	156	430	
12/12/2018	8:15:00	169	599	0.92
12/12/2018	8:30:00	193	653	
12/12/2018	8:45:00	185	703	
12/12/2018	9:00:00	205	752	
12/12/2018	9:15:00	155	738	
--- Recording restarted at:15:45:00		0	545	
12/12/2018	16:00:00	0		
12/12/2018	16:15:00	186		
12/12/2018	16:30:00	181		
12/12/2018	16:45:00	186	553	
12/12/2018	17:00:00	208	761	
12/12/2018	17:15:00	195	770	0.93
12/12/2018	17:30:00	178	767	
12/12/2018	17:45:00	186	767	
12/12/2018	18:00:00	208	767	
12/12/2018	18:15:00	0	572	
12/12/2018	18:15:15	0	394	

Intersaection: **Cawthra Rd & Silver Creek Blvd**
Site: **.816400004**
Facing: **NORTH**

DATE	TIME	15min total	Volume	PHF
--- Recording started at:06:45:00				
12/12/2018	7:00:00	0		
12/12/2018	7:15:00	704		
12/12/2018	7:30:00	757		
12/12/2018	7:45:00	766	2227	
12/12/2018	8:00:00	828	3055	
12/12/2018	8:15:00	785	3136	0.95
12/12/2018	8:30:00	757	3136	
12/12/2018	8:45:00	784	3154	
12/12/2018	9:00:00	740	3066	
12/12/2018	9:15:00	0	2281	
--- Recording restarted at:15:45:00				
12/12/2018	16:00:00	0		
12/12/2018	16:15:00	762		
12/12/2018	16:30:00	777		
12/12/2018	16:45:00	782	2321	
12/12/2018	17:00:00	807	3128	
12/12/2018	17:15:00	806	3172	0.96
12/12/2018	17:30:00	818	3213	
12/12/2018	17:45:00	801	3232	
12/12/2018	18:00:00	851	3276	
12/12/2018	18:15:00	0	2470	
12/12/2018	18:15:15	0	1652	

APPENDIX

D LEVEL OF SERVICE DEFINITIONS

LEVEL OF SERVICE DEFINITIONS AT SIGNALIZED INTERSECTIONS[1]

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average control delay per vehicle, typically for a 15-min analysis period. The criteria are given in the table below. Delay may be measured in the field or estimated using software such as Highway Capacity Software. Delay is a complex measure and is dependent upon a number of variables, including quality of progression, the cycle length, the green ratio, and the *v/c* ratio for the lane group in question.

Level of Service	Features	Control Delay per vehicle (sec)
A	LOS A describes operations with very low delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favourable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	≤ 10
B	LOS B describes operations with delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10 and ≤ 20
C	LOS C describes operations with delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	> 20 and ≤ 35
D	LOS D describes operations with delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavourable progression, long cycle lengths, of high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35 and ≤ 55
E	LOS E describes operations with delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high *v/c* ratios. Individual cycle failures are frequent occurrences.	> 55 and ≤ 80
F	LOS F describes operations with delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	> 80

(1) Highway Capacity Manual 2000

LEVEL OF SERVICE DEFINITIONS AT UNSIGNALIZED INTERSECTIONS[1]

The level of service criteria for unsignalized intersections are given in the table below. As used here, total delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position. The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation.

Level of Service	Features	Average Total Delay (sec/veh)
A	Little or no traffic delay occurs. Approaches appear open, turning movements are easily made, and drivers have freedom of operation.	≤ 10
B	Short traffic delays occur. Many drivers begin to feel somewhat restricted in terms of freedom of operation.	> 10 and ≤ 15
C	Average traffic delays occur. Operations are generally stable, but drivers emerging from the minor street may experience difficulty in completing their movement. This may occasionally impact on the stability of flow on the major street.	> 15 and ≤ 25
D	Long traffic delays occur. Motorists emerging from the minor street experience significant restriction and frustration. Drivers on the major street will experience congestion and delay as drivers emerging from the minor street interfere with the major through movements.	> 25 and ≤ 35
E	Very long traffic delays occur. Operations approach the capacity of the intersection.	> 35 and ≤ 50
F	Saturation occurs, with vehicle demand exceeding the available capacity. Very long traffic delays occur.	> 50

(1) Highway Capacity Manual 2000.

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APPENDIX

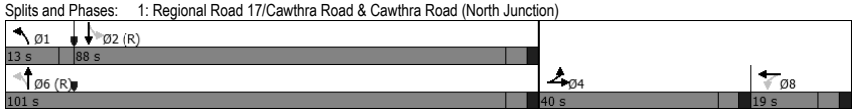
E EXISTING TRAFFIC CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	263	1	141	0	1	0	25	829	1	1	1390	516
Future Volume (vph)	263	1	141	0	1	0	25	829	1	1	1390	516
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.5	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5
Storage Length (m)	0.0		1.0	0.0		0.0	30.0		0.0	22.0		1.0
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (m)	2.5			2.5			85.0			40.0		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.98	0.98	0.99					1.00		0.99		0.99
Frt			0.850									0.850
Flt Protected	0.950	0.953					0.950			0.950		
Satd. Flow (prot)	1600	1642	1493	0	1921	0	1487	3482	0	1785	3482	1566
Flt Permitted	0.950	0.953					0.063			0.339		
Satd. Flow (perm)	1568	1610	1472	0	1921	0	99	3482	0	632	3482	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131									131
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.0			54.2			277.9			80.6	
Travel Time (s)		11.3			3.9			20.0			5.8	
Confl. Peds. (#/hr)	9		6	6		9	9		7	7		9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	0%	7%	2%	0%	2%	20%	4%	0%	0%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	4	0
Adj. Flow (vph)	263	1	141	0	1	0	25	829	1	1	1390	516
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	131	133	141	0	1	0	25	830	0	1	1390	516
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	0.99	1.01	0.99	0.99	0.99	1.01	1.00	0.99	1.01	1.00	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1	1	1		1	0		0	0	0
Detector Template	Left		Right	Left	Thru		Left					
Leading Detector (m)	10.0	10.0	10.0	6.1	4.0		21.5	0.0		0.0	0.0	0.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		12.5	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		12.5	0.0		0.0	0.0	0.0
Detector 1 Size(m)	10.0	10.0	10.0	6.1	4.0		9.0	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Split	NA	Free		NA		pm+pt	NA		Perm	NA	Free
Protected Phases	4	4			8		1	6			2	
Permitted Phases			Free	8			6			2		Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	29.4	29.4		14.4	14.4		8.0	29.4		29.4	29.4	
Total Split (s)	40.0	40.0		19.0	19.0		13.0	101.0		88.0	88.0	
Total Split (%)	25.0%	25.0%		11.9%	11.9%		8.1%	63.1%		55.0%	55.0%	
Maximum Green (s)	33.6	33.6		12.6	12.6		10.0	94.6		81.6	81.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.4	2.4		2.4	2.4		0.0	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4			6.4		3.0	6.4		6.4	6.4	
Lead/Lag	Lead	Lead		Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	None		Max	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0					0.0	10.0		10.0	10.0	
Flash Dont Walk (s)	13.0	13.0					0.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	33.6	33.6	160.0		8.0		114.1	110.7		81.6	81.6	160.0
Actuated g/C Ratio	0.21	0.21	1.00		0.05		0.71	0.69		0.51	0.51	1.00
v/c Ratio	0.39	0.39	0.10		0.01		0.08	0.34		0.00	0.78	0.33
Control Delay	59.2	59.0	0.1		73.0		8.5	10.9		19.0	37.8	0.4
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	48.3	0.0
Total Delay	59.2	59.0	0.1		73.0		8.5	10.9		19.0	86.1	0.4
LOS	E	E	A		E		A	B		B	F	A
Approach Delay		38.6			73.0			10.9			62.8	
Approach LOS		D			E			B			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 67 (42%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 45.7		Intersection LOS: D	
Intersection Capacity Utilization 67.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Regional Road 17/Cawthra Road & Cawthra Road (North Junction)

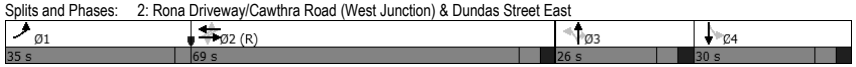


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	1334	15	8	620	199	2	15	14	326	17	185
Future Volume (vph)	192	1334	15	8	620	199	2	15	14	326	17	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.7	3.5	3.7	3.7	3.7	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	50.0		23.0	30.0		15.0	0.0		0.0	0.0		40.0
Storage Lanes	1		0	1		1	0		1	1		1
Taper Length (m)	100.0			100.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor	0.97	1.00				0.98		1.00				0.98
Frt		0.998				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.994		0.950	0.957	
Satd. Flow (prot)	1684	3536	0	1580	4836	1526	0	1799	1597	1646	1701	1521
Flt Permitted	0.381			0.085				0.344		0.746	0.735	
Satd. Flow (perm)	652	3536	0	141	4836	1489	0	621	1597	1293	1306	1492
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				142			94			151
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		384.3			333.1			50.8			90.9	
Travel Time (s)		23.1			20.0			3.0			5.5	
Confl. Peds. (#/hr)	43		6	6		43	23					23
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	3%	0%	13%	7%	7%	0%	7%	0%	3%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	0
Adj. Flow (vph)	192	1334	15	8	620	199	2	15	14	326	17	185
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	192	1349	0	8	620	199	0	17	14	170	173	185
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	0.99	0.99	1.01	1.00	0.99	0.99	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0	0	1	1	1	1	1	0
Detector Template	Left						Left		Right	Left		
Leading Detector (m)	21.5	0.0		0.0	0.0	0.0	6.1	10.0	6.1	10.0	10.0	0.0
Trailing Detector (m)	12.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	10.0		6.1	1.8	6.1	6.1	10.0	6.1	10.0	10.0	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA	Free	Perm	NA	Perm	Perm	NA	Free
Protected Phases	1	2			2			3			4	
Permitted Phases	2			2		Free	3		3	4		Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	2		2	2		3	3	3	4	4	
Switch Phase												
Minimum Initial (s)	5.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	8.0	27.8		27.8	27.8		15.0	15.0	15.0	36.0	36.0	
Total Split (s)	35.0	69.0		69.0	69.0		26.0	26.0	26.0	30.0	30.0	
Total Split (%)	21.9%	43.1%		43.1%	43.1%		16.3%	16.3%	16.3%	18.8%	18.8%	
Maximum Green (s)	32.0	62.2		62.2	62.2		19.0	19.0	19.0	23.0	23.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	0.0	2.8		2.8	2.8		3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.8		6.8	6.8			7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lag	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	Max	Max	
Walk Time (s)		8.0		8.0	8.0					11.0	11.0	
Flash Dont Walk (s)		13.0		13.0	13.0					18.0	18.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)	98.0	81.9		81.9	81.9	160.0		9.7	9.7	38.3	38.3	160.0
Actuated g/C Ratio	0.61	0.51		0.51	0.51	1.00		0.06	0.06	0.24	0.24	1.00
v/c Ratio	0.40	0.75		0.11	0.25	0.13		0.45	0.08	0.55	0.55	0.12
Control Delay	15.0	34.4		26.6	22.5	0.2		107.2	0.8	79.1	79.2	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	34.4		26.6	22.5	0.2		107.2	0.8	79.1	79.2	0.2
LOS	B	C		C	C	A		F	A	E	E	A
Approach Delay		32.0			17.2			59.2			51.5	
Approach LOS		C			B			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 85 (53%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 31.6		Intersection LOS: C	
Intersection Capacity Utilization 85.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Rona Driveway/Cawthra Road (West Junction) & Dundas Street East



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	310	33	64	79	45	221
Future Volume (vph)	310	33	64	79	45	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	15.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			10.0		2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.987				0.888	
Flt Protected			0.950		0.992	
Satd. Flow (prot)	1834	0	1690	1865	1664	0
Flt Permitted			0.950		0.992	
Satd. Flow (perm)	1834	0	1690	1865	1664	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	318.8			157.5	210.9	
Travel Time (s)	28.7			14.2	19.0	
Confl. Peds. (#/hr)		4	4			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	7%	8%	3%	5%	1%
Adj. Flow (vph)	337	36	70	86	49	240
Shared Lane Traffic (%)						
Lane Group Flow (vph)	373	0	70	86	289	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	310	33	64	79	45	221
Future Volume (Veh/h)	310	33	64	79	45	221
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)	337	36	70	86	49	240
Pedestrians				1	4	
Lane Width (m)				3.7	3.7	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (m)				158		
pX, platoon unblocked						
vC, conflicting volume			377		585	360
vC1, stage 1 conf vol					359	
vC2, stage 2 conf vol					226	
vCu, unblocked vol			377		585	360
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.3		3.5	3.3
p0 queue free %			94		92	65
cM capacity (veh/h)			1145		613	683

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	373	70	86	289
Volume Left	0	70	0	49
Volume Right	36	0	0	240
cSH	1700	1145	1700	670
Volume to Capacity	0.22	0.06	0.05	0.43
Queue Length 95th (m)	0.0	1.5	0.0	16.5
Control Delay (s)	0.0	8.3	0.0	14.4
Lane LOS		A		B
Approach Delay (s)	0.0	3.7		14.4
Approach LOS				B

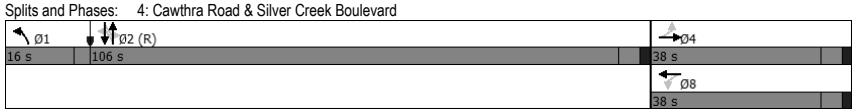
Intersection Summary				
Average Delay		5.8		
Intersection Capacity Utilization		48.1%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	427	0	0	0	114	984	0	0	1495	37
Future Volume (vph)	97	0	427	0	0	0	114	984	0	0	1495	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	50.0		0.0	0.0		0.0	22.0		0.0	20.0		0.0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (m)	18.0			2.5			35.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.98										1.00	
Frt		0.850									0.996	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1750	1585	0	0	1883	0	1716	3448	0	1842	3488	0
Flt Permitted	0.757						0.108					
Satd. Flow (perm)	1367	1585	0	0	1883	0	195	3448	0	1842	3488	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		163									3	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.5			41.5			87.3			256.0	
Travel Time (s)		11.3			3.0			6.3			18.4	
Confl. Peds. (#/hr)	9					9	8					8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	4%	5%	2%	2%	4%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Adj. Flow (vph)	97	0	427	0	0	0	114	984	0	0	1495	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	427	0	0	0	0	114	984	0	0	1532	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			0.0			1.6			1.6	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.99	0.99	0.99	0.99	0.99	1.01	1.00	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	0		0	0	
Detector Template	Left			Left								
Leading Detector (m)	10.0	10.0		6.1	10.0		21.5	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		12.5	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		12.5	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	10.0		6.1	10.0		9.0	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA					pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	2			2	
Permitted Phases	4			8			2			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		1	2		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	15.0		15.0	15.0	
Minimum Split (s)	28.0	28.0		28.0	28.0		10.0	29.0		29.0	29.0	
Total Split (s)	38.0	38.0		38.0	38.0		16.0	106.0		106.0	106.0	
Total Split (%)	23.8%	23.8%		23.8%	23.8%		10.0%	66.3%		66.3%	66.3%	
Maximum Green (s)	32.0	32.0		32.0	32.0		13.0	100.0		100.0	100.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		3.0	6.0		6.0	6.0	
Lead/Lag							Lead	Lag		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0		9.0	9.0			10.0		10.0	10.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0			13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	31.1	31.1					116.9	106.2			106.2	
Actuated g/C Ratio	0.19	0.19					0.73	0.66			0.66	
v/c Ratio	0.37	0.97					0.53	0.43			0.66	
Control Delay	60.1	75.4					21.1	10.5			18.2	
Queue Delay	0.0	23.6					0.0	0.3			31.8	
Total Delay	60.1	99.0					21.1	10.8			50.1	
LOS	E	F					C	B			D	
Approach Delay		91.8						11.8			50.1	
Approach LOS		F						B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 10 (6%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 43.7		Intersection LOS: D	
Intersection Capacity Utilization 88.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: Cawthra Road & Silver Creek Boulevard



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	162	26	50	60	43	92
Future Volume (vph)	162	26	50	60	43	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.981				0.908	
Flt Protected				0.978	0.984	
Satd. Flow (prot)	1853	0	0	1746	1656	0
Flt Permitted				0.978	0.984	
Satd. Flow (perm)	1853	0	0	1746	1656	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	180.3			210.9	104.3	
Travel Time (s)	16.2			19.0	9.4	
Confl. Peds. (#/hr)		28	28		3	32
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	2%	0%	6%	9%	5%	3%
Adj. Flow (vph)	195	31	60	72	52	111
Shared Lane Traffic (%)						
Lane Group Flow (vph)	226	0	0	132	163	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.3%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	162	26	50	60	43	92
Future Volume (Veh/h)	162	26	50	60	43	92
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	195	31	60	72	52	111
Pedestrians	3			32	28	
Lane Width (m)	3.7			3.7	3.7	
Walking Speed (m/s)	1.1			1.1	1.1	
Percent Blockage	0			3	3	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			254		434	270
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			254		434	270
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			95		90	85
cM capacity (veh/h)			1253		530	721

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	226	132	163
Volume Left	0	60	52
Volume Right	31	0	111
cSH	1700	1253	647
Volume to Capacity	0.13	0.05	0.25
Queue Length 95th (m)	0.0	1.1	7.6
Control Delay (s)	0.0	3.9	12.4
Lane LOS		A	B
Approach Delay (s)	0.0	3.9	12.4
Approach LOS			B

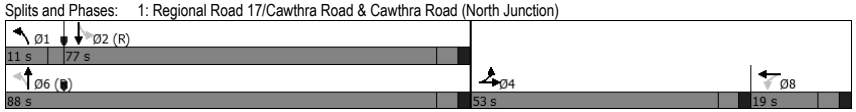
Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	487	0	217	0	1	0	69	808	1	0	1341	451
Future Volume (vph)	487	0	217	0	1	0	69	808	1	0	1341	451
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.5	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5
Storage Length (m)	0.0		1.0	0.0		0.0	30.0		0.0	22.0		1.0
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (m)	2.5			2.5			85.0			40.0		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor			0.99					1.00				0.99
Frt			0.850									0.850
Flt Protected	0.950	0.950					0.950					
Satd. Flow (prot)	1662	1700	1566	0	1921	0	1733	3550	0	1879	3550	1581
Flt Permitted	0.950	0.950					0.058					
Satd. Flow (perm)	1662	1700	1545	0	1921	0	106	3550	0	1879	3550	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131									131
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.0			54.2			277.9			80.6	
Travel Time (s)		11.3			3.9			20.0			5.8	
Confl. Peds. (#/hr)			5	5			3		1	1		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	0%	2%	2%	0%	2%	3%	2%	0%	0%	2%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	4	0
Adj. Flow (vph)	487	0	217	0	1	0	69	808	1	0	1341	451
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	243	244	217	0	1	0	69	809	0	0	1341	451
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	0.99	1.01	0.99	0.99	0.99	1.01	1.00	0.99	1.01	1.00	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1	1	1		1	0		0	0	0
Detector Template	Left		Right	Left	Thru		Left					
Leading Detector (m)	10.0	10.0	10.0	6.1	4.0		21.5	0.0		0.0	0.0	0.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		12.5	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		12.5	0.0		0.0	0.0	0.0
Detector 1 Size(m)	10.0	10.0	10.0	6.1	4.0		9.0	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Split	NA	Free		NA		pm+pt	NA		Perm	NA	Free
Protected Phases	4	4			8		1	6			2	
Permitted Phases			Free	8			6			2		Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	28.4	28.4		14.4	14.4		8.0	29.4		29.4	29.4	
Total Split (s)	53.0	53.0		19.0	19.0		11.0	88.0		77.0	77.0	
Total Split (%)	33.1%	33.1%		11.9%	11.9%		6.9%	55.0%		48.1%	48.1%	
Maximum Green (s)	46.6	46.6		12.6	12.6		8.0	81.6		70.6	70.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.4	2.4		2.4	2.4		0.0	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4			6.4		3.0	6.4		6.4	6.4	
Lead/Lag	Lead	Lead		Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	None		Max	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0					0.0	10.0		10.0	10.0	
Flash Dont Walk (s)	13.0	13.0					0.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	46.6	46.6	160.0		8.0		101.1	97.7			70.6	160.0
Actuated g/C Ratio	0.29	0.29	1.00		0.05		0.63	0.61			0.44	1.00
v/c Ratio	0.50	0.49	0.14		0.01		0.22	0.37			0.86	0.29
Control Delay	64.5	64.1	0.2		73.0		16.3	16.9			30.1	0.3
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0			6.5	0.0
Total Delay	64.5	64.1	0.2		73.0		16.3	16.9			36.5	0.3
LOS	E	E	A		E		B	B			D	A
Approach Delay		44.6			73.0			16.8			27.4	
Approach LOS		D			E			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 53 (33%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 75.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Regional Road 17/Cawthra Road & Cawthra Road (North Junction)

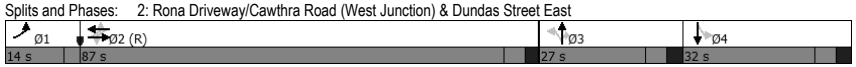


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	954	13	12	1689	495	9	17	12	186	12	255
Future Volume (vph)	192	954	13	12	1689	495	9	17	12	186	12	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.7	3.5	3.7	3.7	3.7	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	50.0		23.0	30.0		15.0	0.0		0.0	0.0		40.0
Storage Lanes	1		0	1		1	0		1	1		1
Taper Length (m)	100.0			100.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		1.00				0.99		1.00				0.98
Frt		0.998				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.983		0.950	0.958	
Satd. Flow (prot)	1716	3502	0	1785	5108	1601	0	1888	1597	1646	1703	1581
Flt Permitted	0.071			0.198				0.264		0.740	0.733	
Satd. Flow (perm)	128	3502	0	372	5108	1578	0	505	1597	1282	1303	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				142			94			255
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		384.3			333.1			50.8			90.9	
Travel Time (s)		23.1			20.0			3.0			5.5	
Confl. Peds. (#/hr)	7		7	7		7	15					15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%	0%	0%	0%	3%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Adj. Flow (vph)	192	954	13	12	1689	495	9	17	12	186	12	255
Shared Lane Traffic (%)										47%		
Lane Group Flow (vph)	192	967	0	12	1689	495	0	26	12	99	99	255
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	0.99	0.99	1.01	0.99	0.99	0.99	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0	0	1	1	1	1	1	0
Detector Template	Left						Left		Right	Left		
Leading Detector (m)	21.5	0.0		0.0	0.0	0.0	6.1	10.0	6.1	10.0	10.0	0.0
Trailing Detector (m)	12.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	10.0		6.1	1.8	6.1	6.1	10.0	6.1	10.0	10.0	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA	Free	Perm	NA	Perm	Perm	NA	Free
Protected Phases	1	2			2			3			4	
Permitted Phases	2			2		Free	3		3	4		Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	2		2	2		3	3	3	4	4	
Switch Phase												
Minimum Initial (s)	5.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	8.0	27.8		27.8	27.8		15.0	15.0	15.0	36.0	36.0	
Total Split (s)	14.0	87.0		87.0	87.0		27.0	27.0	27.0	32.0	32.0	
Total Split (%)	8.8%	54.4%		54.4%	54.4%		16.9%	16.9%	16.9%	20.0%	20.0%	
Maximum Green (s)	11.0	80.2		80.2	80.2		20.0	20.0	20.0	25.0	25.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	0.0	2.8		2.8	2.8		3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	-1.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)	2.0	6.8		6.8	6.8			7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lag	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	Max	Max	
Walk Time (s)		8.0		8.0	8.0					11.0	11.0	
Flash Dont Walk (s)		13.0		13.0	13.0					18.0	18.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)	97.0	80.2		80.2	80.2	160.0		13.7	13.7	37.6	37.6	160.0
Actuated g/C Ratio	0.61	0.50		0.50	0.50	1.00		0.09	0.09	0.24	0.24	1.00
v/c Ratio	0.98	0.55		0.06	0.66	0.31		0.60	0.05	0.33	0.32	0.16
Control Delay	93.4	29.0		22.0	31.3	0.5		120.2	0.5	49.8	49.5	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	93.4	29.0		22.0	31.3	0.5		120.2	0.5	49.8	49.5	0.2
LOS	F	C		C	C	A		F	A	D	D	A
Approach Delay		39.6			24.3			82.4			21.8	
Approach LOS		D			C			F			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 14 (9%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 82.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Rona Driveway/Cawthra Road (West Junction) & Dundas Street East



Lanes, Volumes, Timings
3: Lolita Gardens & Silver Creek Boulevard

05/29/2019

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	280	32	134	183	27	113
Future Volume (vph)	280	32	134	183	27	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	15.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			10.0		2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.986				0.891	
Flt Protected			0.950		0.991	
Satd. Flow (prot)	1870	0	1807	1902	1671	0
Flt Permitted			0.950		0.991	
Satd. Flow (perm)	1870	0	1807	1902	1671	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	318.8			157.5	210.9	
Travel Time (s)	28.7			14.2	19.0	
Confl. Peds. (#/hr)		5	5			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	4%	1%	1%	8%	0%
Adj. Flow (vph)	304	35	146	199	29	123
Shared Lane Traffic (%)						
Lane Group Flow (vph)	339	0	146	199	152	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
3: Lolita Gardens & Silver Creek Boulevard

05/29/2019

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	280	32	134	183	27	113
Future Volume (Veh/h)	280	32	134	183	27	113
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)	304	35	146	199	29	123
Pedestrians				1	5	
Lane Width (m)				3.7	3.7	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (m)				158		
pX, platoon unblocked						
vC, conflicting volume			344		818	328
vC1, stage 1 conf vol					326	
vC2, stage 2 conf vol					491	
vCu, unblocked vol			344		818	328
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)			2.2		3.6	3.3
p0 queue free %			88		94	83
cM capacity (veh/h)			1215		479	714

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	339	146	199	152
Volume Left	0	146	0	29
Volume Right	35	0	0	123
cSH	1700	1215	1700	653
Volume to Capacity	0.20	0.12	0.12	0.23
Queue Length 95th (m)	0.0	3.1	0.0	6.8
Control Delay (s)	0.0	8.4	0.0	12.2
Lane LOS		A		B
Approach Delay (s)	0.0	3.5		12.2
Approach LOS				B

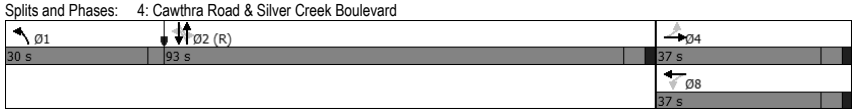
Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	0	322	0	0	0	309	989	0	0	1480	108
Future Volume (vph)	68	0	322	0	0	0	309	989	0	0	1480	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	50.0		0.0	0.0		0.0	22.0		0.0	20.0		0.0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (m)	18.0			2.5			35.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.98	0.98									1.00	
Frt		0.850									0.990	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1785	1580	0	0	1883	0	1767	3515	0	1842	3538	0
Flt Permitted	0.757						0.091					
Satd. Flow (perm)	1394	1580	0	0	1883	0	169	3515	0	1842	3538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		279									7	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.5			41.5			87.3			256.0	
Travel Time (s)		11.3			3.0			6.3			18.4	
Confl. Peds. (#/hr)	9		5	5		9	6					6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	2%	2%	2%	1%	3%	2%	2%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Adj. Flow (vph)	68	0	322	0	0	0	309	989	0	0	1480	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	322	0	0	0	0	309	989	0	0	1588	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			0.0			1.6			1.6	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.99	0.99	0.99	0.99	0.99	1.01	1.00	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	0		0	0	
Detector Template	Left			Left								
Leading Detector (m)	10.0	10.0		6.1	10.0		21.5	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		12.5	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		12.5	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	10.0		6.1	10.0		9.0	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA					pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	2			2	
Permitted Phases	4			8			2			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		1	2		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	15.0		15.0	15.0	
Minimum Split (s)	28.0	28.0		28.0	28.0		8.0	29.0		29.0	29.0	
Total Split (s)	37.0	37.0		37.0	37.0		30.0	93.0		93.0	93.0	
Total Split (%)	23.1%	23.1%		23.1%	23.1%		18.8%	58.1%		58.1%	58.1%	
Maximum Green (s)	31.0	31.0		31.0	31.0		27.0	87.0		87.0	87.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		3.0	6.0		6.0	6.0	
Lead/Lag							Lead	Lag		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0		9.0	9.0			10.0		10.0	10.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0			13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	14.4	14.4					133.6	102.7			102.7	
Actuated g/C Ratio	0.09	0.09					0.84	0.64			0.64	
v/c Ratio	0.54	0.81					0.74	0.44			0.70	
Control Delay	83.8	28.4					39.9	15.8			22.6	
Queue Delay	0.0	0.5					0.0	0.3			1.9	
Total Delay	83.8	28.9					39.9	16.0			24.5	
LOS	F	C					D	B			C	
Approach Delay		38.5						21.7			24.5	
Approach LOS		D						C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 25 (16%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 25.1		Intersection LOS: C	
Intersection Capacity Utilization 95.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4: Cawthra Road & Silver Creek Boulevard



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	82	18	82	133	15	41
Future Volume (vph)	82	18	82	133	15	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.975				0.901	
Flt Protected				0.981	0.987	
Satd. Flow (prot)	1873	0	0	1870	1677	0
Flt Permitted				0.981	0.987	
Satd. Flow (perm)	1873	0	0	1870	1677	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	180.3			210.9	104.3	
Travel Time (s)	16.2			19.0	9.4	
Confl. Peds. (#/hr)		24	24		2	2
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	2%	0%	7%	0%
Adj. Flow (vph)	99	22	99	160	18	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	121	0	0	259	67	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	82	18	82	133	15	41
Future Volume (Veh/h)	82	18	82	133	15	41
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	99	22	99	160	18	49
Pedestrians	2			2	24	
Lane Width (m)	3.7			3.7	3.7	
Walking Speed (m/s)	1.1			1.1	1.1	
Percent Blockage	0			0	2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			145		494	136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			145		494	136
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.3
p0 queue free %			93		96	95
cM capacity (veh/h)			1403		476	895

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	121	259	67
Volume Left	0	99	18
Volume Right	22	0	49
cSH	1700	1403	724
Volume to Capacity	0.07	0.07	0.09
Queue Length 95th (m)	0.0	1.7	2.3
Control Delay (s)	0.0	3.3	10.5
Lane LOS		A	B
Approach Delay (s)	0.0	3.3	10.5
Approach LOS			B

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX

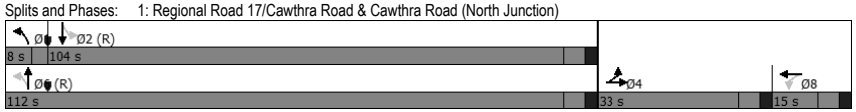
F FUTURE BACKGROUND TRAFFIC CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	1	141	0	1	0	25	894	1	1	1500	526
Future Volume (vph)	265	1	141	0	1	0	25	894	1	1	1500	526
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.5	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5
Storage Length (m)	0.0		1.0	0.0		0.0	30.0		0.0	22.0		1.0
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (m)	2.5			2.5			85.0			40.0		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.98	0.98	0.99					1.00		0.99		0.99
Frt			0.850									0.850
Flt Protected	0.950	0.953					0.950			0.950		
Satd. Flow (prot)	1600	1642	1493	0	1921	0	1487	3482	0	1785	3482	1566
Flt Permitted	0.950	0.953					0.084			0.318		
Satd. Flow (perm)	1568	1610	1472	0	1921	0	132	3482	0	594	3482	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131									131
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.0			54.2			277.9			80.6	
Travel Time (s)		11.3			3.9			20.0			5.8	
Confl. Peds. (#/hr)	9		6	6		9	9		7	7		9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	0%	7%	2%	0%	2%	20%	4%	0%	0%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	4	0
Adj. Flow (vph)	265	1	141	0	1	0	25	894	1	1	1500	526
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	132	134	141	0	1	0	25	895	0	1	1500	526
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	0.99	1.01	0.99	0.99	0.99	1.01	1.00	0.99	1.01	1.00	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1	1	1		1	0		0	0	0
Detector Template	Left		Right	Left	Thru		Left					
Leading Detector (m)	10.0	10.0	10.0	6.1	4.0		21.5	0.0		0.0	0.0	0.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		12.5	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		12.5	0.0		0.0	0.0	0.0
Detector 1 Size(m)	10.0	10.0	10.0	6.1	4.0		9.0	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Split	NA	Free		NA		pm+pt	NA		Perm	NA	Free
Protected Phases	4	4			8		1	6			2	
Permitted Phases			Free	8			6			2		Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	29.4	29.4		14.4	14.4		8.0	29.4		29.4	29.4	
Total Split (s)	33.0	33.0		15.0	15.0		8.0	112.0		104.0	104.0	
Total Split (%)	20.6%	20.6%		9.4%	9.4%		5.0%	70.0%		65.0%	65.0%	
Maximum Green (s)	26.6	26.6		8.6	8.6		5.0	105.6		97.6	97.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.4	2.4		2.4	2.4		0.0	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4			6.4		3.0	6.4		6.4	6.4	
Lead/Lag	Lead	Lead		Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	None		Max	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0					0.0	10.0		10.0	10.0	
Flash Dont Walk (s)	13.0	13.0					0.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	26.6	26.6	160.0		8.0		121.1	117.7		97.6	97.6	160.0
Actuated g/C Ratio	0.17	0.17	1.00		0.05		0.76	0.74		0.61	0.61	1.00
v/c Ratio	0.50	0.49	0.10		0.01		0.10	0.35		0.00	0.71	0.34
Control Delay	73.3	73.0	0.1		73.0		6.7	8.4		15.0	17.9	0.5
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.7	0.0
Total Delay	73.3	73.0	0.1		73.0		6.7	8.4		15.0	18.6	0.5
LOS	E	E	A		E		A	A		B	B	A
Approach Delay		47.8			73.0			8.4			13.9	
Approach LOS		D			E			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 67 (42%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 70.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Regional Road 17/Cawthra Road & Cawthra Road (North Junction)

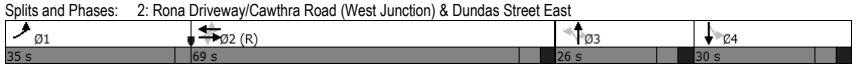


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	1334	15	8	719	200	2	15	14	330	17	192
Future Volume (vph)	193	1334	15	8	719	200	2	15	14	330	17	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.7	3.5	3.7	3.7	3.7	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	50.0		23.0	30.0		15.0	0.0		0.0	0.0		40.0
Storage Lanes	1		0	1		1	0		1	1		1
Taper Length (m)	100.0			100.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor	0.97	1.00				0.98		1.00				0.98
Frt		0.998				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.994		0.950	0.957	
Satd. Flow (prot)	1684	3536	0	1580	4836	1526	0	1799	1597	1646	1701	1521
Flt Permitted	0.334			0.084				0.344		0.746	0.734	
Satd. Flow (perm)	576	3536	0	140	4836	1489	0	621	1597	1293	1304	1492
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				142			94			155
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		384.3			333.1			50.8			90.9	
Travel Time (s)		23.1			20.0			3.0			5.5	
Confl. Peds. (#/hr)	43		6	6		43	23					23
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	3%	0%	13%	7%	7%	0%	7%	0%	3%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	0
Adj. Flow (vph)	193	1334	15	8	719	200	2	15	14	330	17	192
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	193	1349	0	8	719	200	0	17	14	172	175	192
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	0.99	0.99	1.01	1.00	0.99	0.99	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0	0	1	1	1	1	1	0
Detector Template	Left						Left		Right	Left		
Leading Detector (m)	21.5	0.0		0.0	0.0	0.0	6.1	10.0	6.1	10.0	10.0	0.0
Trailing Detector (m)	12.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	10.0		6.1	1.8	6.1	6.1	10.0	6.1	10.0	10.0	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA	Free	Perm	NA	Perm	Perm	NA	Free
Protected Phases	1	2			2			3			4	
Permitted Phases	2			2		Free	3		3	4		Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	2		2	2		3	3	3	4	4	
Switch Phase												
Minimum Initial (s)	5.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	8.0	27.8		27.8	27.8		15.0	15.0	15.0	36.0	36.0	
Total Split (s)	35.0	69.0		69.0	69.0		26.0	26.0	26.0	30.0	30.0	
Total Split (%)	21.9%	43.1%		43.1%	43.1%		16.3%	16.3%	16.3%	18.8%	18.8%	
Maximum Green (s)	32.0	62.2		62.2	62.2		19.0	19.0	19.0	23.0	23.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	0.0	2.8		2.8	2.8		3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.8		6.8	6.8			7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lag	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	Max	Max	
Walk Time (s)		8.0		8.0	8.0					11.0	11.0	
Flash Dont Walk (s)		13.0		13.0	13.0					18.0	18.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)	98.0	81.8		81.8	81.8	160.0		9.7	9.7	38.3	38.3	160.0
Actuated g/C Ratio	0.61	0.51		0.51	0.51	1.00		0.06	0.06	0.24	0.24	1.00
v/c Ratio	0.44	0.75		0.11	0.29	0.13		0.45	0.08	0.56	0.56	0.13
Control Delay	15.7	34.5		26.8	23.1	0.2		107.2	0.8	54.7	54.7	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	34.5		26.8	23.1	0.2		107.2	0.8	54.7	54.7	0.2
LOS	B	C		C	C	A		F	A	D	D	A
Approach Delay		32.2			18.2			59.2			35.3	
Approach LOS		C			B			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 85 (53%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 28.7		Intersection LOS: C	
Intersection Capacity Utilization 85.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Rona Driveway/Cawthra Road (West Junction) & Dundas Street East



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	310	33	64	79	45	221
Future Volume (vph)	310	33	64	79	45	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	15.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			10.0		2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.987				0.888	
Flt Protected			0.950		0.992	
Satd. Flow (prot)	1834	0	1690	1865	1664	0
Flt Permitted			0.950		0.992	
Satd. Flow (perm)	1834	0	1690	1865	1664	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	318.8			157.5	210.9	
Travel Time (s)	28.7			14.2	19.0	
Confl. Peds. (#/hr)		4	4			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	7%	8%	3%	5%	1%
Adj. Flow (vph)	337	36	70	86	49	240
Shared Lane Traffic (%)						
Lane Group Flow (vph)	373	0	70	86	289	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	48.1%	ICU Level of Service A	
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	310	33	64	79	45	221
Future Volume (Veh/h)	310	33	64	79	45	221
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)	337	36	70	86	49	240
Pedestrians				1	4	
Lane Width (m)				3.7	3.7	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (m)				158		
pX, platoon unblocked						
vC, conflicting volume			377		585	360
vC1, stage 1 conf vol					359	
vC2, stage 2 conf vol					226	
vCu, unblocked vol			377		585	360
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.3		3.5	3.3
p0 queue free %			94		92	65
cM capacity (veh/h)			1145		613	683

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	373	70	86	289
Volume Left	0	70	0	49
Volume Right	36	0	0	240
cSH	1700	1145	1700	670
Volume to Capacity	0.22	0.06	0.05	0.43
Queue Length 95th (m)	0.0	1.5	0.0	16.5
Control Delay (s)	0.0	8.3	0.0	14.4
Lane LOS		A		B
Approach Delay (s)	0.0	3.7		14.4
Approach LOS				B

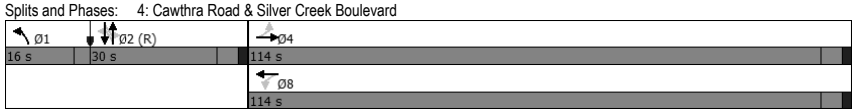
Intersection Summary				
Average Delay		5.8		
Intersection Capacity Utilization		48.1%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	427	12	0	4	114	1061	2	1	1611	37
Future Volume (vph)	97	0	427	12	0	4	114	1061	2	1	1611	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	50.0		0.0	0.0		0.0	22.0		0.0	20.0		0.0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (m)	18.0			2.5			35.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.98				0.99						1.00	
Frt		0.850			0.966						0.997	
Flt Protected	0.950				0.964		0.950			0.950		
Satd. Flow (prot)	1750	1585	0	0	1740	0	1716	3449	0	1750	3492	0
Flt Permitted	0.747				0.236		0.104			0.237		
Satd. Flow (perm)	1350	1585	0	0	426	0	188	3449	0	437	3492	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		383			41						1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.5			41.5			87.3			256.0	
Travel Time (s)		11.3			3.0			6.3			18.4	
Confl. Peds. (#/hr)	9					9	8					8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	4%	5%	2%	2%	4%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Adj. Flow (vph)	97	0	427	12	0	4	114	1061	2	1	1611	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	427	0	0	16	0	114	1063	0	1	1648	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			0.0			1.6			1.6	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.99	0.99	0.99	0.99	0.99	1.01	1.00	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	0		0	0	
Detector Template	Left			Left								
Leading Detector (m)	10.0	10.0		6.1	10.0		21.5	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		12.5	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		12.5	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	10.0		6.1	10.0		9.0	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	2			2	
Permitted Phases	4			8			2			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		1	2		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	15.0		15.0	15.0	
Minimum Split (s)	28.0	28.0		28.0	28.0		10.0	29.0		29.0	29.0	
Total Split (s)	114.0	114.0		114.0	114.0		16.0	30.0		30.0	30.0	
Total Split (%)	71.3%	71.3%		71.3%	71.3%		10.0%	18.8%		18.8%	18.8%	
Maximum Green (s)	108.0	108.0		108.0	108.0		13.0	24.0		24.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		3.0	6.0		6.0	6.0	
Lead/Lag							Lead	Lag		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0		9.0	9.0			10.0		10.0	10.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0			13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	18.5	18.5			18.5		129.5	116.1		116.1	116.1	
Actuated g/C Ratio	0.12	0.12			0.12		0.81	0.73		0.73	0.73	
v/c Ratio	0.63	0.82			0.19		0.45	0.42		0.00	0.65	
Control Delay	83.1	22.6			4.9		10.2	11.4		10.0	14.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	83.1	22.6			4.9		10.2	11.4		10.0	14.8	
LOS	F	C			A		B	B		A	B	
Approach Delay		33.8			4.9			11.3			14.8	
Approach LOS		C			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 10 (6%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 91.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4: Cawthra Road & Silver Creek Boulevard



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	162	26	50	60	43	92
Future Volume (vph)	162	26	50	60	43	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.981				0.908	
Flt Protected				0.978	0.984	
Satd. Flow (prot)	1853	0	0	1746	1656	0
Flt Permitted				0.978	0.984	
Satd. Flow (perm)	1853	0	0	1746	1656	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	180.3			210.9	104.3	
Travel Time (s)	16.2			19.0	9.4	
Confl. Peds. (#/hr)		28	28		3	32
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	2%	0%	6%	9%	5%	3%
Adj. Flow (vph)	195	31	60	72	52	111
Shared Lane Traffic (%)						
Lane Group Flow (vph)	226	0	0	132	163	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	162	26	50	60	43	92
Future Volume (Veh/h)	162	26	50	60	43	92
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	195	31	60	72	52	111
Pedestrians	3			32	28	
Lane Width (m)	3.7			3.7	3.7	
Walking Speed (m/s)	1.1			1.1	1.1	
Percent Blockage	0			3	3	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			254		434	270
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			254		434	270
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			95		90	85
cM capacity (veh/h)			1253		530	721

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	226	132	163
Volume Left	0	60	52
Volume Right	31	0	111
cSH	1700	1253	647
Volume to Capacity	0.13	0.05	0.25
Queue Length 95th (m)	0.0	1.1	7.6
Control Delay (s)	0.0	3.9	12.4
Lane LOS		A	B
Approach Delay (s)	0.0	3.9	12.4
Approach LOS			B

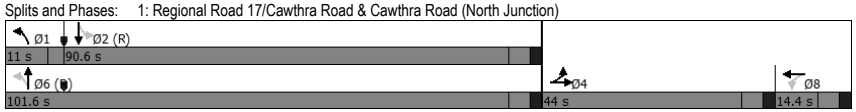
Intersection Summary				
Average Delay		4.9		
Intersection Capacity Utilization		40.3%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	494	0	217	0	1	0	69	874	1	0	1447	455
Future Volume (vph)	494	0	217	0	1	0	69	874	1	0	1447	455
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.5	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5
Storage Length (m)	0.0		1.0	0.0		0.0	30.0		0.0	22.0		1.0
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (m)	2.5			2.5			85.0			40.0		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor			0.99					1.00				0.99
Frt			0.850									0.850
Flt Protected	0.950	0.950					0.950					
Satd. Flow (prot)	1662	1700	1566	0	1921	0	1733	3550	0	1879	3550	1581
Flt Permitted	0.950	0.950					0.058					
Satd. Flow (perm)	1662	1700	1545	0	1921	0	106	3550	0	1879	3550	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131									131
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.0			54.2			277.9			80.6	
Travel Time (s)		11.3			3.9			20.0			5.8	
Confl. Peds. (#/hr)			5	5			3		1	1		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	0%	2%	2%	0%	2%	3%	2%	0%	0%	2%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	4	0
Adj. Flow (vph)	494	0	217	0	1	0	69	874	1	0	1447	455
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	247	247	217	0	1	0	69	875	0	0	1447	455
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	0.99	1.01	0.99	0.99	0.99	1.01	1.00	0.99	1.01	1.00	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1	1	1		1	0		0	0	0
Detector Template	Left		Right	Left	Thru		Left					
Leading Detector (m)	10.0	10.0	10.0	6.1	4.0		21.5	0.0		0.0	0.0	0.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		12.5	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		12.5	0.0		0.0	0.0	0.0
Detector 1 Size(m)	10.0	10.0	10.0	6.1	4.0		9.0	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Split	NA	Free		NA		pm+pt	NA		Perm	NA	Free
Protected Phases	4	4			8		1	6			2	
Permitted Phases			Free	8			6			2		Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	28.4	28.4		14.4	14.4		8.0	29.4		29.4	29.4	
Total Split (s)	44.0	44.0		14.4	14.4		11.0	101.6		90.6	90.6	
Total Split (%)	27.5%	27.5%		9.0%	9.0%		6.9%	63.5%		56.6%	56.6%	
Maximum Green (s)	37.6	37.6		8.0	8.0		8.0	95.2		84.2	84.2	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.4	2.4		2.4	2.4		0.0	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4			6.4		3.0	6.4		6.4	6.4	
Lead/Lag	Lead	Lead		Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	None		Max	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0					0.0	10.0		10.0	10.0	
Flash Dont Walk (s)	13.0	13.0					0.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	37.6	37.6	160.0		8.0		110.1	106.7			84.2	160.0
Actuated g/C Ratio	0.24	0.24	1.00		0.05		0.69	0.67			0.53	1.00
v/c Ratio	0.63	0.62	0.14		0.01		0.25	0.37			0.77	0.29
Control Delay	57.5	56.8	0.2		73.0		13.9	12.8			23.4	0.3
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0			8.6	0.0
Total Delay	57.5	56.8	0.2		73.0		13.9	12.8			32.1	0.3
LOS	E	E	A		E		B	B			C	A
Approach Delay		39.8			73.0			12.9			24.5	
Approach LOS		D			E			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 53 (33%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 24.5		Intersection LOS: C	
Intersection Capacity Utilization 78.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Regional Road 17/Cawthra Road & Cawthra Road (North Junction)

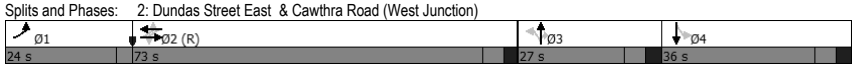


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	1054	13	12	1689	499	9	17	12	188	12	258
Future Volume (vph)	195	1054	13	12	1689	499	9	17	12	188	12	258
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.7	3.5	3.7	3.7	3.7	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	50.0		23.0	30.0		15.0	0.0		0.0	0.0		40.0
Storage Lanes	1		0	1		1	0		1	1		1
Taper Length (m)	100.0			100.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor		1.00				0.99		1.00				0.98
Frt		0.998				0.850		0.994	0.850			0.850
Flt Protected	0.950			0.950				0.984		0.950	0.958	
Satd. Flow (prot)	1716	3502	0	1785	5073	1601	0	1785	1517	1646	1703	1581
Flt Permitted	0.057			0.133				0.215		0.739	0.731	
Satd. Flow (perm)	103	3502	0	250	5073	1578	0	388	1517	1281	1300	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				142		1	94			258
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		384.3			333.1			50.8			90.9	
Travel Time (s)		23.1			20.0			3.0			5.5	
Confl. Peds. (#/hr)	7		7	7		7	15					15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%	0%	0%	0%	3%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	0
Adj. Flow (vph)	195	1054	13	12	1689	499	9	17	12	188	12	258
Shared Lane Traffic (%)									10%	47%		
Lane Group Flow (vph)	195	1067	0	12	1689	499	0	27	11	100	100	258
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	0.99	0.99	1.01	1.00	0.99	0.99	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0	0	1	1	1	1	1	0
Detector Template	Left						Left		Right	Left		
Leading Detector (m)	21.5	0.0		0.0	0.0	0.0	6.1	10.0	6.1	10.0	10.0	0.0
Trailing Detector (m)	12.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	10.0		6.1	1.8	6.1	6.1	10.0	6.1	10.0	10.0	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA	Free	Perm	NA	Perm	Perm	NA	Free
Protected Phases	1	2			2			3			4	
Permitted Phases	2			2		Free	3		3	4		Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	2		2	2		3	3	3	4	4	
Switch Phase												
Minimum Initial (s)	5.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	8.0	27.8		27.8	27.8		15.0	15.0	15.0	36.0	36.0	
Total Split (s)	24.0	73.0		73.0	73.0		27.0	27.0	27.0	36.0	36.0	
Total Split (%)	15.0%	45.6%		45.6%	45.6%		16.9%	16.9%	16.9%	22.5%	22.5%	
Maximum Green (s)	21.0	66.2		66.2	66.2		20.0	20.0	20.0	29.0	29.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	0.0	2.8		2.8	2.8		3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	-1.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)	2.0	6.8		6.8	6.8			7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lag	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	Max	Max	
Walk Time (s)		8.0		8.0	8.0					11.0	11.0	
Flash Dont Walk (s)		13.0		13.0	13.0					18.0	18.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)	93.0	70.1		70.1	70.1	160.0		14.0	14.0	38.0	38.0	160.0
Actuated g/C Ratio	0.58	0.44		0.44	0.44	1.00		0.09	0.09	0.24	0.24	1.00
v/c Ratio	0.81	0.70		0.11	0.76	0.32		0.79	0.05	0.33	0.32	0.17
Control Delay	65.7	39.9		32.1	41.2	0.5		163.7	0.5	40.8	40.6	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	65.7	39.9		32.1	41.2	0.5		163.7	0.5	40.8	40.6	0.2
LOS	E	D		C	D	A		F	A	D	D	A
Approach Delay		43.9			31.9			116.4			17.9	
Approach LOS		D			C			F			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 14 (9%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 34.9		Intersection LOS: C	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Dundas Street East & Cawthra Road (West Junction)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	280	32	134	183	27	113
Future Volume (vph)	280	32	134	183	27	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	15.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			10.0		2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.986				0.891	
Flt Protected			0.950		0.991	
Satd. Flow (prot)	1870	0	1807	1902	1671	0
Flt Permitted			0.950		0.991	
Satd. Flow (perm)	1870	0	1807	1902	1671	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	318.8			157.5	210.9	
Travel Time (s)	28.7			14.2	19.0	
Confl. Peds. (#/hr)		5	5			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	4%	1%	1%	8%	0%
Adj. Flow (vph)	304	35	146	199	29	123
Shared Lane Traffic (%)						
Lane Group Flow (vph)	339	0	146	199	152	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	280	32	134	183	27	113
Future Volume (Veh/h)	280	32	134	183	27	113
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)	304	35	146	199	29	123
Pedestrians				1	5	
Lane Width (m)				3.7	3.7	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (m)				158		
pX, platoon unblocked						
vC, conflicting volume			344		818	328
vC1, stage 1 conf vol					326	
vC2, stage 2 conf vol					491	
vCu, unblocked vol			344		818	328
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)			2.2		3.6	3.3
p0 queue free %			88		94	83
cM capacity (veh/h)			1215		479	714

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	339	146	199	152
Volume Left	0	146	0	29
Volume Right	35	0	0	123
cSH	1700	1215	1700	653
Volume to Capacity	0.20	0.12	0.12	0.23
Queue Length 95th (m)	0.0	3.1	0.0	6.8
Control Delay (s)	0.0	8.4	0.0	12.2
Lane LOS		A		B
Approach Delay (s)	0.0	3.5		12.2
Approach LOS				B

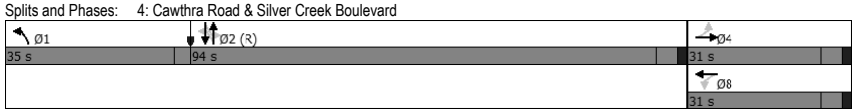
Intersection Summary				
Average Delay		3.7		
Intersection Capacity Utilization		42.9%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	0	322	6	0	3	309	1066	10	4	1595	108
Future Volume (vph)	68	0	322	6	0	3	309	1066	10	4	1595	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	50.0		0.0	0.0		0.0	22.0		0.0	20.0		0.0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (m)	18.0			2.5			35.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.98	0.98			0.99						1.00	
Frt		0.850			0.955			0.999			0.990	
Flt Protected	0.950				0.968		0.950			0.950		
Satd. Flow (prot)	1785	1580	0	0	1723	0	1767	3512	0	1750	3538	0
Flt Permitted	0.752				0.250		0.072			0.214		
Satd. Flow (perm)	1386	1580	0	0	445	0	134	3512	0	394	3538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		306			41			1			7	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.5			41.5			87.3			256.0	
Travel Time (s)		11.3			3.0			6.3			18.4	
Confl. Peds. (#/hr)	9		5	5		9	6					6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	2%	2%	2%	1%	3%	2%	2%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Adj. Flow (vph)	68	0	322	6	0	3	309	1066	10	4	1595	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	322	0	0	9	0	309	1076	0	4	1703	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			0.0			1.6			1.6	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.99	0.99	0.99	0.99	0.99	1.01	1.00	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	0		0	0	
Detector Template	Left			Left								
Leading Detector (m)	10.0	10.0		6.1	10.0		21.5	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		12.5	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		12.5	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	10.0		6.1	10.0		9.0	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	2			2	
Permitted Phases	4			8			2			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		1	2		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	15.0		15.0	15.0	
Minimum Split (s)	28.0	28.0		28.0	28.0		8.0	29.0		29.0	29.0	
Total Split (s)	31.0	31.0		31.0	31.0		35.0	94.0		94.0	94.0	
Total Split (%)	19.4%	19.4%		19.4%	19.4%		21.9%	58.8%		58.8%	58.8%	
Maximum Green (s)	25.0	25.0		25.0	25.0		32.0	88.0		88.0	88.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		3.0	6.0		6.0	6.0	
Lead/Lag							Lead	Lag		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0		9.0	9.0			10.0		10.0	10.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0			13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	13.7	13.7			13.7		134.3	103.3		103.3	103.3	
Actuated g/C Ratio	0.09	0.09			0.09		0.84	0.65		0.65	0.65	
v/c Ratio	0.58	0.78			0.12		0.78	0.47		0.02	0.74	
Control Delay	87.8	21.8			3.2		55.0	13.4		14.8	23.9	
Queue Delay	0.0	0.7			0.0		0.2	0.3		0.0	2.6	
Total Delay	87.8	22.5			3.2		55.2	13.7		14.8	26.5	
LOS	F	C			A		E	B		B	C	
Approach Delay		33.9			3.2			22.9			26.5	
Approach LOS		C			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 25 (16%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 25.8		Intersection LOS: C	
Intersection Capacity Utilization 98.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4: Cawthra Road & Silver Creek Boulevard



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	82	18	82	133	15	41
Future Volume (vph)	82	18	82	133	15	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.975				0.901	
Flt Protected				0.981	0.987	
Satd. Flow (prot)	1873	0	0	1870	1677	0
Flt Permitted				0.981	0.987	
Satd. Flow (perm)	1873	0	0	1870	1677	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	180.3			210.9	104.3	
Travel Time (s)	16.2			19.0	9.4	
Confl. Peds. (#/hr)		24	24		2	2
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	2%	0%	7%	0%
Adj. Flow (vph)	99	22	99	160	18	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	121	0	0	259	67	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	82	18	82	133	15	41
Future Volume (Veh/h)	82	18	82	133	15	41
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	99	22	99	160	18	49
Pedestrians	2			2	24	
Lane Width (m)	3.7			3.7	3.7	
Walking Speed (m/s)	1.1			1.1	1.1	
Percent Blockage	0			0	2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			145		494	136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			145		494	136
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.3
p0 queue free %			93		96	95
cM capacity (veh/h)			1403		476	895

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	121	259	67
Volume Left	0	99	18
Volume Right	22	0	49
cSH	1700	1403	724
Volume to Capacity	0.07	0.07	0.09
Queue Length 95th (m)	0.0	1.7	2.3
Control Delay (s)	0.0	3.3	10.5
Lane LOS		A	B
Approach Delay (s)	0.0	3.3	10.5
Approach LOS			B

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX

G 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) 2011 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: 600 and 620 Lolita Gardens

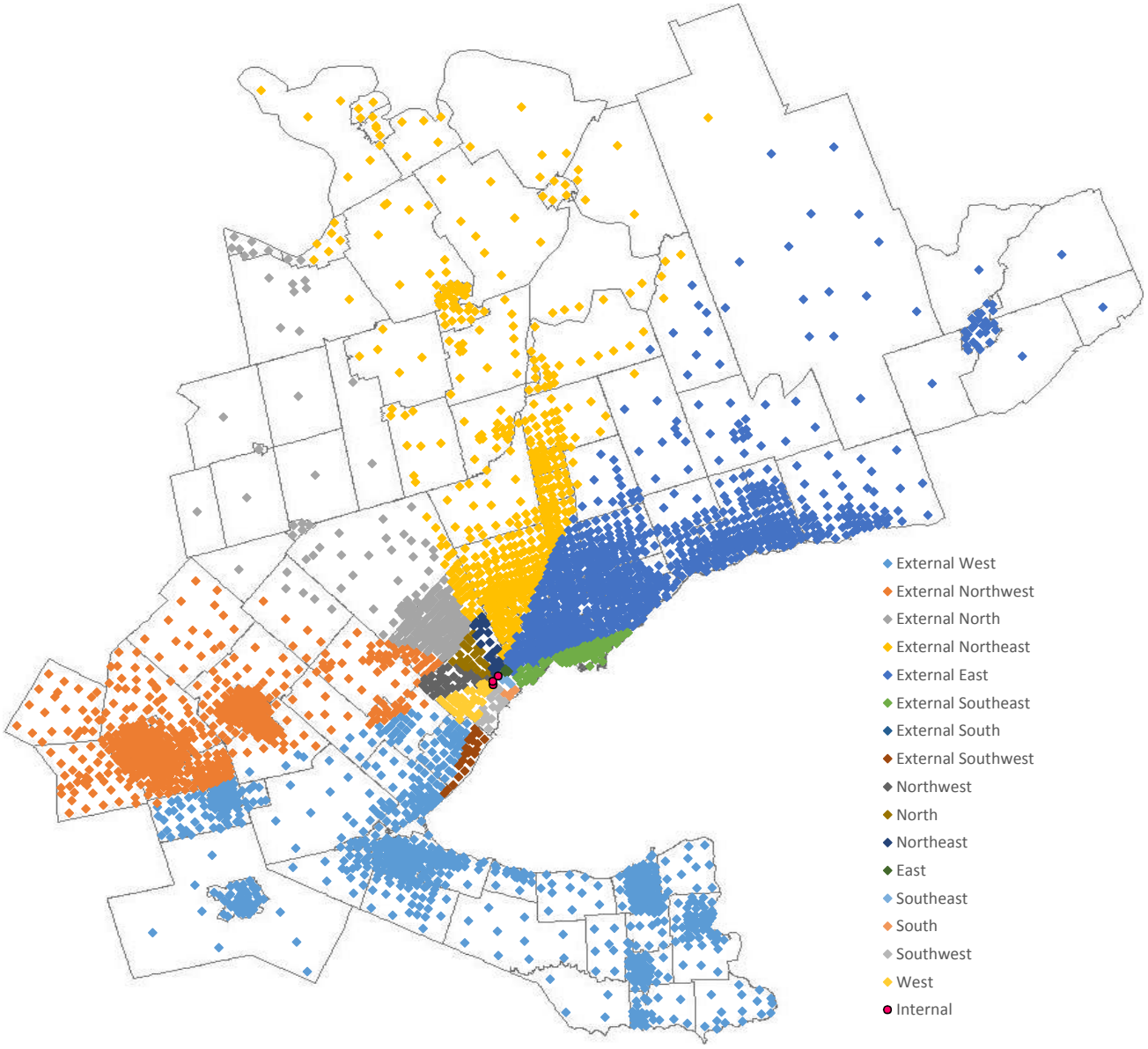
Notes:

1. Directions determined based on centroid coordinates of destination/origin traffic analysis zones.

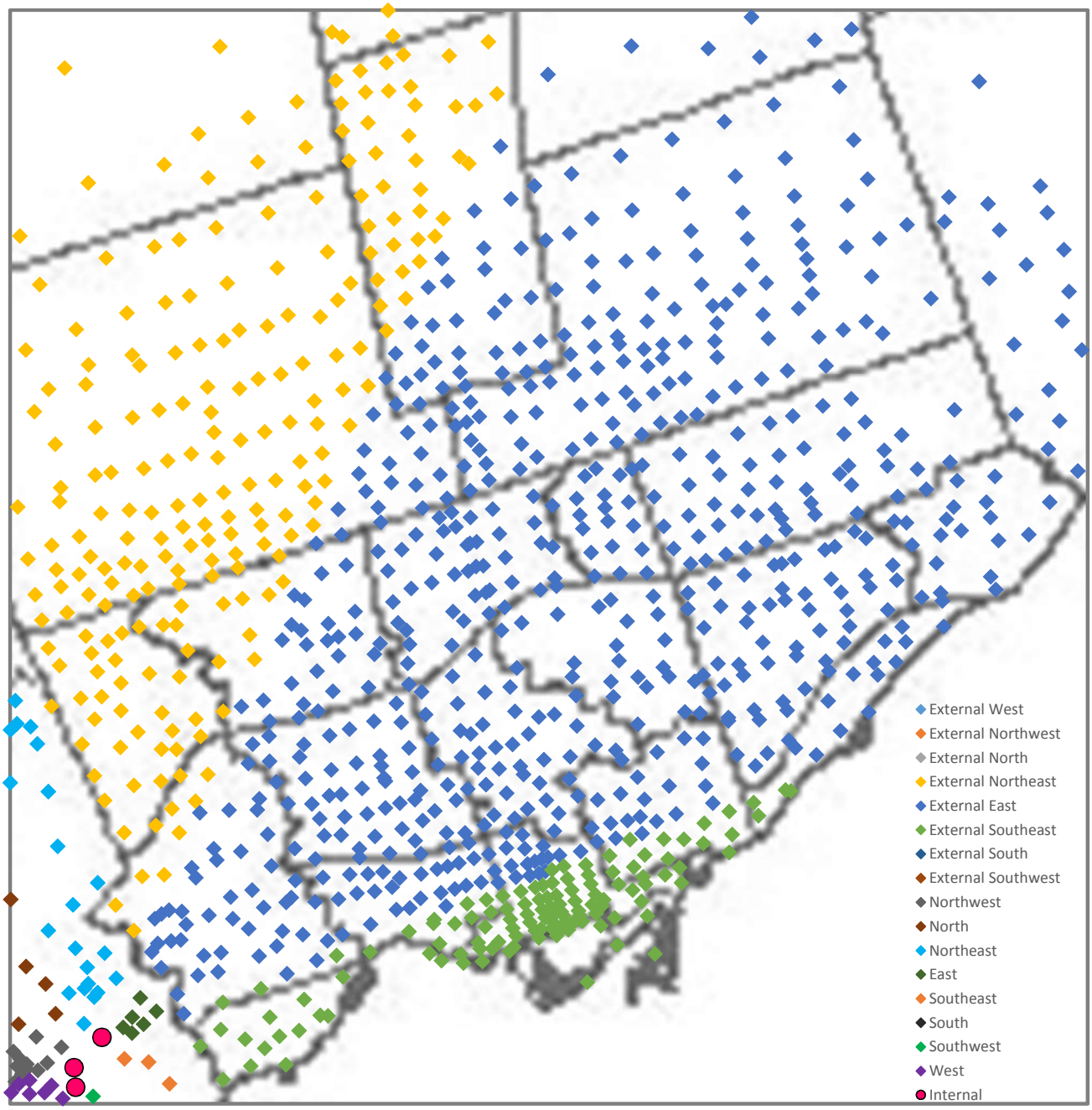
2. 'Internal' refers to trips made within the home planning district(s), while 'External' refers to trips made to areas outside of the home planning district(s).

			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	34	0	139	16	59	0	29	91	368	0	43	21	95	0	0	0	0	159
		Outbound	21	16	34	23	0	0	12	88	194	0	6	0	18	0	0	0	0	24
	P.M.	Inbound	455	388	575	176	153	7	298	312	2364	104	66	448	783	874	0	39	281	2595
		Outbound	321	50	159	0	13	53	97	213	906	0	24	11	92	25	0	15	0	167
Percentage	A.M.	Inbound	4%	0%	18%	2%	8%	0%	4%	12%	48%	0%	6%	3%	12%	0%	0%	0%	0%	21%
		Outbound	5%	4%	7%	5%	0%	0%	3%	19%	43%	0%	1%	0%	4%	0%	0%	0%	0%	5%
	P.M.	Inbound	9%	7%	11%	3%	3%	0%	6%	6%	45%	2%	1%	9%	15%	17%	0%	1%	5%	50%
		Outbound	24%	4%	12%	0%	1%	4%	7%	16%	69%	0%	2%	1%	7%	2%	0%	1%	0%	13%

TAZ Directional Categorisation Visualisation (Complete TTS Survey Area)



TAZ Directional Categorisation Visualisation (City of Toronto)



APPENDIX

H FUTURE TOTAL TRAFFIC CONDITION

Lanes, Volumes, Timings
1: Regional Road 17/Cawthra Road & Cawthra Road (North Junction) 06/26/2019

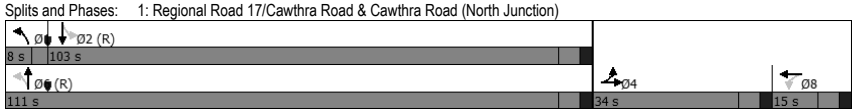
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	291	1	141	0	1	0	25	901	1	1	1510	582
Future Volume (vph)	291	1	141	0	1	0	25	901	1	1	1510	582
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.5	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5
Storage Length (m)	0.0		1.0	0.0		0.0	30.0		0.0	22.0		1.0
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (m)	2.5			2.5			85.0			40.0		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.98	0.98	0.99					1.00		0.99		0.99
Frt			0.850									0.850
Flt Protected	0.950	0.953					0.950			0.950		
Satd. Flow (prot)	1600	1641	1493	0	1921	0	1487	3482	0	1785	3482	1566
Flt Permitted	0.950	0.953					0.079			0.316		
Satd. Flow (perm)	1568	1609	1472	0	1921	0	124	3482	0	590	3482	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131									131
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.0			54.2			277.9			80.6	
Travel Time (s)		11.3			3.9			20.0			5.8	
Confl. Peds. (#/hr)	9		6	6		9	9		7	7		9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	0%	7%	2%	0%	2%	20%	4%	0%	0%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	4	0
Adj. Flow (vph)	291	1	141	0	1	0	25	901	1	1	1510	582
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	145	147	141	0	1	0	25	902	0	1	1510	582
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	0.99	1.01	0.99	0.99	0.99	1.01	1.00	0.99	1.01	1.00	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1	1	1		1	0		0	0	0
Detector Template	Left		Right	Left	Thru		Left					
Leading Detector (m)	10.0	10.0	10.0	6.1	4.0		21.5	0.0		0.0	0.0	0.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		12.5	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		12.5	0.0		0.0	0.0	0.0
Detector 1 Size(m)	10.0	10.0	10.0	6.1	4.0		9.0	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Split	NA	Free		NA		pm+pt	NA		Perm	NA	Free
Protected Phases	4	4			8		1	6			2	
Permitted Phases			Free	8			6			2		Free

Lanes, Volumes, Timings
1: Regional Road 17/Cawthra Road & Cawthra Road (North Junction) 06/26/2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	29.4	29.4		14.4	14.4		8.0	29.4		29.4	29.4	
Total Split (s)	34.0	34.0		15.0	15.0		8.0	111.0		103.0	103.0	
Total Split (%)	21.3%	21.3%		9.4%	9.4%		5.0%	69.4%		64.4%	64.4%	
Maximum Green (s)	27.6	27.6		8.6	8.6		5.0	104.6		96.6	96.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.4	2.4		2.4	2.4		0.0	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4			6.4		3.0	6.4		6.4	6.4	
Lead/Lag	Lead	Lead		Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	None		Max	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0					0.0	10.0		10.0	10.0	
Flash Dont Walk (s)	13.0	13.0					0.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	27.6	27.6	160.0		8.0		120.1	116.7		96.6	96.6	160.0
Actuated g/C Ratio	0.17	0.17	1.00		0.05		0.75	0.73		0.60	0.60	1.00
v/c Ratio	0.53	0.52	0.10		0.01		0.11	0.36		0.00	0.72	0.38
Control Delay	73.4	73.0	0.1		73.0		7.0	8.8		18.0	20.0	0.5
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	1.3	0.0
Total Delay	73.4	73.0	0.1		73.0		7.0	8.8		18.0	21.4	0.5
LOS	E	E	A		E		A	A		B	C	A
Approach Delay		49.4			73.0			8.8			15.6	
Approach LOS		D			E			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 67 (42%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Regional Road 17/Cawthra Road & Cawthra Road (North Junction)

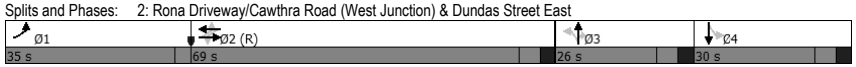


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	1334	15	8	719	216	2	15	14	349	17	228
Future Volume (vph)	204	1334	15	8	719	216	2	15	14	349	17	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.7	3.5	3.7	3.7	3.7	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	50.0		23.0	30.0		15.0	0.0		0.0	0.0		40.0
Storage Lanes	1		0	1		1	0		1	1		1
Taper Length (m)	100.0			100.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor	0.97	1.00				0.98		1.00				0.98
Frt		0.998				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.994		0.950	0.957	
Satd. Flow (prot)	1684	3536	0	1580	4836	1526	0	1799	1597	1646	1700	1521
Flt Permitted	0.333			0.083				0.344		0.746	0.733	
Satd. Flow (perm)	574	3536	0	138	4836	1489	0	621	1597	1293	1302	1492
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				142			94			174
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		384.3			333.1			50.8			90.9	
Travel Time (s)		23.1			20.0			3.0			5.5	
Confl. Peds. (#/hr)	43		6	6		43	23					23
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	3%	0%	13%	7%	7%	0%	7%	0%	3%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	0
Adj. Flow (vph)	204	1334	15	8	719	216	2	15	14	349	17	228
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	204	1349	0	8	719	216	0	17	14	181	185	228
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	0.99	0.99	1.01	1.00	0.99	0.99	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0	0	1	1	1	1	1	0
Detector Template	Left						Left		Right	Left		
Leading Detector (m)	21.5	0.0		0.0	0.0	0.0	6.1	10.0	6.1	10.0	10.0	0.0
Trailing Detector (m)	12.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	10.0		6.1	1.8	6.1	6.1	10.0	6.1	10.0	10.0	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA	Free	Perm	NA	Perm	Perm	NA	Free
Protected Phases	1	2			2			3			4	
Permitted Phases	2			2		Free	3		3	4		Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	2		2	2		3	3	3	4	4	
Switch Phase												
Minimum Initial (s)	5.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	8.0	27.8		27.8	27.8		15.0	15.0	15.0	36.0	36.0	
Total Split (s)	35.0	69.0		69.0	69.0		26.0	26.0	26.0	30.0	30.0	
Total Split (%)	21.9%	43.1%		43.1%	43.1%		16.3%	16.3%	16.3%	18.8%	18.8%	
Maximum Green (s)	32.0	62.2		62.2	62.2		19.0	19.0	19.0	23.0	23.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	0.0	2.8		2.8	2.8		3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.8		6.8	6.8			7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lag	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	Max	Max	
Walk Time (s)		8.0		8.0	8.0					11.0	11.0	
Flash Dont Walk (s)		13.0		13.0	13.0					18.0	18.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)	98.0	81.3		81.3	81.3	160.0		9.7	9.7	38.3	38.3	160.0
Actuated g/C Ratio	0.61	0.51		0.51	0.51	1.00		0.06	0.06	0.24	0.24	1.00
v/c Ratio	0.46	0.75		0.11	0.29	0.15		0.45	0.08	0.59	0.59	0.15
Control Delay	16.1	35.0		27.4	23.5	0.2		107.2	0.8	55.6	55.9	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	35.0		27.4	23.5	0.2		107.2	0.8	55.6	55.9	0.2
LOS	B	D		C	C	A		F	A	E	E	A
Approach Delay		32.6			18.2			59.2			34.4	
Approach LOS		C			B			E			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 85 (53%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 28.8		Intersection LOS: C	
Intersection Capacity Utilization 85.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Rona Driveway/Cawthra Road (West Junction) & Dundas Street East



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	310	33	114	79	45	311
Future Volume (vph)	310	33	114	79	45	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	15.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			10.0		2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.987				0.882	
Flt Protected			0.950		0.994	
Satd. Flow (prot)	1834	0	1690	1865	1659	0
Flt Permitted			0.950		0.994	
Satd. Flow (perm)	1834	0	1690	1865	1659	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	318.8			157.5	210.9	
Travel Time (s)	28.7			14.2	19.0	
Confl. Peds. (#/hr)		4	4			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	7%	8%	3%	5%	1%
Adj. Flow (vph)	337	36	124	86	49	338
Shared Lane Traffic (%)						
Lane Group Flow (vph)	373	0	124	86	387	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	310	33	114	79	45	311
Future Volume (Veh/h)	310	33	114	79	45	311
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)	337	36	124	86	49	338
Pedestrians				1	4	
Lane Width (m)				3.7	3.7	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (m)				158		
pX, platoon unblocked						
vC, conflicting volume			377		693	360
vC1, stage 1 conf vol					359	
vC2, stage 2 conf vol					334	
vCu, unblocked vol			377		693	360
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.3		3.5	3.3
p0 queue free %			89		91	51
cM capacity (veh/h)			1145		550	683

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	373	124	86	387
Volume Left	0	124	0	49
Volume Right	36	0	0	338
cSH	1700	1145	1700	663
Volume to Capacity	0.22	0.11	0.05	0.58
Queue Length 95th (m)	0.0	2.8	0.0	28.8
Control Delay (s)	0.0	8.5	0.0	17.8
Lane LOS		A		C
Approach Delay (s)	0.0	5.0		17.8
Approach LOS				C

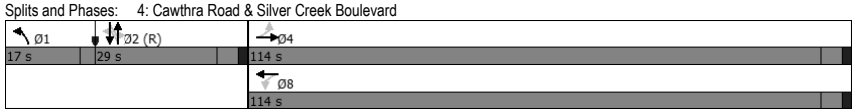
Intersection Summary				
Average Delay		8.2		
Intersection Capacity Utilization		56.5%	ICU Level of Service	B
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	0	494	12	0	4	147	1061	2	1	1611	54
Future Volume (vph)	121	0	494	12	0	4	147	1061	2	1	1611	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	50.0		0.0	0.0		0.0	22.0		0.0	20.0		0.0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (m)	18.0			2.5			35.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.98				0.99		1.00				1.00	
Frt		0.850			0.966						0.995	
Flt Protected	0.950				0.964		0.950			0.950		
Satd. Flow (prot)	1750	1585	0	0	1740	0	1716	3449	0	1750	3481	0
Flt Permitted	0.747				0.297		0.089			0.226		
Satd. Flow (perm)	1350	1585	0	0	536	0	161	3449	0	416	3481	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		413			41						2	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.5			41.5			87.3			256.0	
Travel Time (s)		11.3			3.0			6.3			18.4	
Confl. Peds. (#/hr)	9					9	8					8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	4%	5%	2%	2%	4%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Adj. Flow (vph)	121	0	494	12	0	4	147	1061	2	1	1611	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	494	0	0	16	0	147	1063	0	1	1665	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			0.0			1.6			1.6	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.99	0.99	0.99	0.99	0.99	1.01	1.00	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	0		0	0	
Detector Template	Left			Left								
Leading Detector (m)	10.0	10.0		6.1	10.0		21.5	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		12.5	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		12.5	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	10.0		6.1	10.0		9.0	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	2			2	
Permitted Phases	4			8			2			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		1	2		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	15.0		15.0	15.0	
Minimum Split (s)	28.0	28.0		28.0	28.0		10.0	29.0		29.0	29.0	
Total Split (s)	114.0	114.0		114.0	114.0		17.0	29.0		29.0	29.0	
Total Split (%)	71.3%	71.3%		71.3%	71.3%		10.6%	18.1%		18.1%	18.1%	
Maximum Green (s)	108.0	108.0		108.0	108.0		14.0	23.0		23.0	23.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		3.0	6.0		6.0	6.0	
Lead/Lag							Lead	Lag		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0		9.0	9.0			10.0		10.0	10.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0			13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	22.8	22.8			22.8		125.2	108.5		108.5	108.5	
Actuated g/C Ratio	0.14	0.14			0.14		0.78	0.68		0.68	0.68	
v/c Ratio	0.63	0.85			0.14		0.57	0.45		0.00	0.71	
Control Delay	77.0	25.9			2.7		17.4	16.3		15.0	20.7	
Queue Delay	0.0	0.1			0.0		0.0	0.0		0.0	0.0	
Total Delay	77.0	26.0			2.7		17.4	16.3		15.0	20.7	
LOS	E	C			A		B	B		B	C	
Approach Delay		36.1			2.7			16.4			20.7	
Approach LOS		D			A			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 10 (6%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 21.8		Intersection LOS: C	
Intersection Capacity Utilization 98.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4: Cawthra Road & Silver Creek Boulevard



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	162	26	100	60	43	182
Future Volume (vph)	162	26	100	60	43	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.981				0.891	
Flt Protected				0.970	0.990	
Satd. Flow (prot)	1853	0	0	1740	1639	0
Flt Permitted				0.970	0.990	
Satd. Flow (perm)	1853	0	0	1740	1639	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	180.3			210.9	104.3	
Travel Time (s)	16.2			19.0	9.4	
Confl. Peds. (#/hr)		28	28		3	32
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	2%	0%	6%	9%	5%	3%
Adj. Flow (vph)	195	31	120	72	52	219
Shared Lane Traffic (%)						
Lane Group Flow (vph)	226	0	0	192	271	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	162	26	100	60	43	182
Future Volume (Veh/h)	162	26	100	60	43	182
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	195	31	120	72	52	219
Pedestrians	3			32	28	
Lane Width (m)	3.7			3.7	3.7	
Walking Speed (m/s)	1.1			1.1	1.1	
Percent Blockage	0			3	3	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			254		554	270
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			254		554	270
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			90		88	70
cM capacity (veh/h)			1253		428	721

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	226	192	271
Volume Left	0	120	52
Volume Right	31	0	219
cSH	1700	1253	638
Volume to Capacity	0.13	0.10	0.42
Queue Length 95th (m)	0.0	2.4	16.1
Control Delay (s)	0.0	5.4	14.8
Lane LOS		A	B
Approach Delay (s)	0.0	5.4	14.8
Approach LOS			B

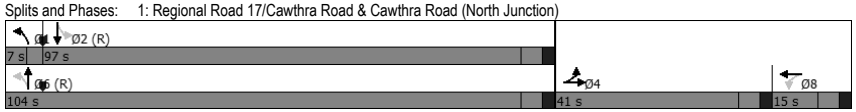
Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	527	0	217	0	1	0	69	887	1	0	1453	472
Future Volume (vph)	527	0	217	0	1	0	69	887	1	0	1453	472
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.5	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5
Storage Length (m)	0.0		1.0	0.0		0.0	30.0		0.0	22.0		1.0
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (m)	2.5			2.5			85.0			40.0		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor			0.99					1.00				0.99
Frt			0.850									0.850
Flt Protected	0.950	0.950					0.950					
Satd. Flow (prot)	1662	1700	1566	0	1921	0	1733	3550	0	1879	3550	1581
Flt Permitted	0.950	0.950					0.076					
Satd. Flow (perm)	1662	1700	1545	0	1921	0	139	3550	0	1879	3550	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131									131
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.0			54.2			277.9			80.6	
Travel Time (s)		11.3			3.9			20.0			5.8	
Confl. Peds. (#/hr)			5	5			3		1	1		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	0%	2%	2%	0%	2%	3%	2%	0%	0%	2%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	4	0
Adj. Flow (vph)	527	0	217	0	1	0	69	887	1	0	1453	472
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	263	264	217	0	1	0	69	888	0	0	1453	472
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	0.99	1.01	0.99	0.99	0.99	1.01	1.00	0.99	1.01	1.00	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1	1	1		1	0		0	0	0
Detector Template	Left		Right	Left	Thru		Left					
Leading Detector (m)	10.0	10.0	10.0	6.1	4.0		21.5	0.0		0.0	0.0	0.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		12.5	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		12.5	0.0		0.0	0.0	0.0
Detector 1 Size(m)	10.0	10.0	10.0	6.1	4.0		9.0	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Split	NA	Free		NA		pm+pt	NA		Perm	NA	Free
Protected Phases	4	4			8		1	6			2	
Permitted Phases			Free	8			6			2		Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	28.4	28.4		14.4	14.4		8.0	29.4		29.4	29.4	
Total Split (s)	41.0	41.0		15.0	15.0		7.0	104.0		97.0	97.0	
Total Split (%)	25.6%	25.6%		9.4%	9.4%		4.4%	65.0%		60.6%	60.6%	
Maximum Green (s)	34.6	34.6		8.6	8.6		4.0	97.6		90.6	90.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.4	2.4		2.4	2.4		0.0	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4			6.4		3.0	6.4		6.4	6.4	
Lead/Lag	Lead	Lead		Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	None		Max	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0					0.0	10.0		10.0	10.0	
Flash Dont Walk (s)	13.0	13.0					0.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	34.6	34.6	160.0		8.0		113.1	109.7			90.6	160.0
Actuated g/C Ratio	0.22	0.22	1.00		0.05		0.71	0.69			0.57	1.00
v/c Ratio	0.73	0.72	0.14		0.01		0.27	0.36			0.72	0.30
Control Delay	71.6	70.5	0.2		73.0		10.6	11.6			28.1	0.5
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0			46.3	0.0
Total Delay	71.6	70.5	0.2		73.0		10.6	11.6			74.4	0.5
LOS	E	E	A		E		B	B			E	A
Approach Delay		50.4			73.0			11.5			56.3	
Approach LOS		D			E			B			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 53 (33%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 43.3		Intersection LOS: D	
Intersection Capacity Utilization 79.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Regional Road 17/Cawthra Road & Cawthra Road (North Junction)

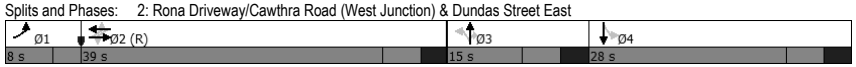


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	1054	13	12	1689	520	9	17	12	192	12	271
Future Volume (vph)	208	1054	13	12	1689	520	9	17	12	192	12	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.7	3.5	3.7	3.7	3.7	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	50.0		23.0	30.0		15.0	0.0		0.0	0.0		40.0
Storage Lanes	1		0	1		1	0		1	1		1
Taper Length (m)	100.0			100.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		1.00		1.00		0.99		1.00				0.98
Frt		0.998				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.983		0.950	0.958	
Satd. Flow (prot)	1716	3503	0	1785	5108	1601	0	1888	1597	1646	1703	1581
Flt Permitted	0.132			0.136				0.561		0.740	0.732	
Satd. Flow (perm)	238	3503	0	255	5108	1578	0	1074	1597	1282	1301	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				252			167			271
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		384.3			333.1			50.8			90.9	
Travel Time (s)		23.1			20.0			3.0			5.5	
Confl. Peds. (#/hr)	7		7	7		7	15					15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%	0%	0%	0%	3%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Adj. Flow (vph)	208	1054	13	12	1689	520	9	17	12	192	12	271
Shared Lane Traffic (%)										47%		
Lane Group Flow (vph)	208	1067	0	12	1689	520	0	26	12	102	102	271
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	0.99	0.99	1.01	0.99	0.99	0.99	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0	0	1	1	1	1	1	0
Detector Template	Left						Left		Right	Left		
Leading Detector (m)	21.5	0.0		0.0	0.0	0.0	6.1	10.0	6.1	10.0	10.0	0.0
Trailing Detector (m)	12.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	10.0		6.1	1.8	6.1	6.1	10.0	6.1	10.0	10.0	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA	Free	Perm	NA	Perm	Perm	NA	Free
Protected Phases	1	2			2			3			4	
Permitted Phases	2			2		Free	3		3	4		Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	2		2	2		3	3	3	4	4	
Switch Phase												
Minimum Initial (s)	5.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	8.0	27.8		27.8	27.8		15.0	15.0	15.0	36.0	36.0	
Total Split (s)	8.0	39.0		39.0	39.0		15.0	15.0	15.0	28.0	28.0	
Total Split (%)	8.9%	43.3%		43.3%	43.3%		16.7%	16.7%	16.7%	31.1%	31.1%	
Maximum Green (s)	5.0	32.2		32.2	32.2		8.0	8.0	8.0	21.0	21.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	0.0	2.8		2.8	2.8		3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	-1.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)	2.0	6.8		6.8	6.8			7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lag	Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	Max	Max	
Walk Time (s)		8.0		8.0	8.0					11.0	11.0	
Flash Dont Walk (s)		13.0		13.0	13.0					18.0	18.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)	43.0	32.2		32.2	32.2	90.0		8.0	8.0	27.0	27.0	90.0
Actuated g/C Ratio	0.48	0.36		0.36	0.36	1.00		0.09	0.09	0.30	0.30	1.00
v/c Ratio	0.98	0.85		0.13	0.92	0.33		0.27	0.04	0.27	0.26	0.17
Control Delay	77.4	34.7		24.1	37.8	0.6		46.1	0.2	29.4	29.3	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	77.4	34.7		24.1	37.8	0.6		46.1	0.2	29.4	29.3	0.2
LOS	E	C		C	D	A		D	A	C	C	A
Approach Delay		41.7			29.0			31.6			12.7	
Approach LOS		D			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 31.1		Intersection LOS: C	
Intersection Capacity Utilization 83.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Rona Driveway/Cawthra Road (West Junction) & Dundas Street East



Lanes, Volumes, Timings
3: Lolita Gardens & Silver Creek Boulevard

06/26/2019

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	280	32	200	183	27	151
Future Volume (vph)	280	32	200	183	27	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	15.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			10.0		2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.986				0.885	
Flt Protected			0.950		0.993	
Satd. Flow (prot)	1870	0	1807	1902	1668	0
Flt Permitted			0.950		0.993	
Satd. Flow (perm)	1870	0	1807	1902	1668	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	318.8			157.5	210.9	
Travel Time (s)	28.7			14.2	19.0	
Confl. Peds. (#/hr)		5	5			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	4%	1%	1%	8%	0%
Adj. Flow (vph)	304	35	217	199	29	164
Shared Lane Traffic (%)						
Lane Group Flow (vph)	339	0	217	199	193	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane	Yes			Yes		
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
3: Lolita Gardens & Silver Creek Boulevard

06/26/2019

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	280	32	200	183	27	151
Future Volume (Veh/h)	280	32	200	183	27	151
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)	304	35	217	199	29	164
Pedestrians				1	5	
Lane Width (m)				3.7	3.7	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (m)				158		
pX, platoon unblocked						
vC, conflicting volume			344		960	328
vC1, stage 1 conf vol					326	
vC2, stage 2 conf vol					633	
vCu, unblocked vol			344		960	328
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)			2.2		3.6	3.3
p0 queue free %			82		93	77
cM capacity (veh/h)			1215		395	714

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	339	217	199	193
Volume Left	0	217	0	29
Volume Right	35	0	0	164
cSH	1700	1215	1700	637
Volume to Capacity	0.20	0.18	0.12	0.30
Queue Length 95th (m)	0.0	4.9	0.0	9.7
Control Delay (s)	0.0	8.6	0.0	13.1
Lane LOS		A		B
Approach Delay (s)	0.0	4.5		13.1
Approach LOS				B

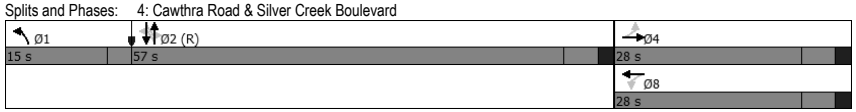
Intersection Summary				
Average Delay		4.6		
Intersection Capacity Utilization		48.8%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	0	346	6	0	3	355	1066	10	4	1595	128
Future Volume (vph)	82	0	346	6	0	3	355	1066	10	4	1595	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	50.0		0.0	0.0		0.0	22.0		0.0	20.0		0.0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (m)	18.0			2.5			35.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.98			0.99						1.00	
Frt		0.850			0.955			0.999			0.989	
Flt Protected	0.950				0.968		0.950			0.950		
Satd. Flow (prot)	1785	1587	0	0	1727	0	1767	3512	0	1750	3536	0
Flt Permitted	0.752				0.365		0.078			0.180		
Satd. Flow (perm)	1396	1587	0	0	650	0	145	3512	0	332	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		220			65			1			12	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.5			41.5			87.3			256.0	
Travel Time (s)		11.3			3.0			6.3			18.4	
Confl. Peds. (#/hr)	9		5	5		9	6					6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	2%	2%	2%	1%	3%	2%	2%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Adj. Flow (vph)	82	0	346	6	0	3	355	1066	10	4	1595	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	346	0	0	9	0	355	1076	0	4	1723	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			0.0			1.6			1.6	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.99	0.99	0.99	0.99	0.99	1.01	1.00	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	0		0	0	
Detector Template	Left			Left								
Leading Detector (m)	10.0	10.0		6.1	10.0		21.5	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		12.5	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		12.5	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	10.0		6.1	10.0		9.0	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	2			2	
Permitted Phases	4			8			2			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		1	2		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	15.0		15.0	15.0	
Minimum Split (s)	28.0	28.0		28.0	28.0		8.0	29.0		29.0	29.0	
Total Split (s)	28.0	28.0		28.0	28.0		15.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		15.0%	57.0%		57.0%	57.0%	
Maximum Green (s)	22.0	22.0		22.0	22.0		12.0	51.0		51.0	51.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		3.0	6.0		6.0	6.0	
Lead/Lag							Lead	Lag		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0		9.0	9.0			10.0		10.0	10.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0			13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	14.7	14.7			14.7		73.3	51.0		51.0	51.0	
Actuated g/C Ratio	0.15	0.15			0.15		0.73	0.51		0.51	0.51	
v/c Ratio	0.40	0.82			0.06		0.85	0.60		0.02	0.95	
Control Delay	42.6	31.1			0.8		47.7	19.1		12.8	36.5	
Queue Delay	0.0	0.0			0.0		0.0	0.6		0.0	0.0	
Total Delay	42.6	31.1			0.8		47.7	19.6		12.8	36.5	
LOS	D	C			A		D	B		B	D	
Approach Delay		33.3			0.8			26.6			36.5	
Approach LOS		C			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 32.1		Intersection LOS: C	
Intersection Capacity Utilization 103.2%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 4: Cawthra Road & Silver Creek Boulevard



Lanes, Volumes, Timings
5: Site Access Driveway & Lolita Gardens

06/26/2019

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	82	18	148	133	15	79
Future Volume (vph)	82	18	148	133	15	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.975				0.887	
Flt Protected				0.974	0.992	
Satd. Flow (prot)	1873	0	0	1852	1672	0
Flt Permitted				0.974	0.992	
Satd. Flow (perm)	1873	0	0	1852	1672	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	180.3			210.9	104.3	
Travel Time (s)	16.2			19.0	9.4	
Confl. Peds. (#/hr)		24	24		2	2
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	2%	0%	7%	0%
Adj. Flow (vph)	99	22	178	160	18	95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	121	0	0	338	113	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
5: Site Access Driveway & Lolita Gardens

06/26/2019

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	82	18	148	133	15	79
Future Volume (Veh/h)	82	18	148	133	15	79
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	99	22	178	160	18	95
Pedestrians	2			2	24	
Lane Width (m)	3.7			3.7	3.7	
Walking Speed (m/s)	1.1			1.1	1.1	
Percent Blockage	0			0	2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			145		652	136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			145		652	136
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.3
p0 queue free %			87		95	89
cM capacity (veh/h)			1403		362	895

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	121	338	113
Volume Left	0	178	18
Volume Right	22	0	95
cSH	1700	1403	724
Volume to Capacity	0.07	0.13	0.16
Queue Length 95th (m)	0.0	3.3	4.2
Control Delay (s)	0.0	4.7	10.9
Lane LOS		A	B
Approach Delay (s)	0.0	4.7	10.9
Approach LOS			B

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX

I PARKING UTILIZATION SURVEY

600 LOLITA GARDENS
PARKING HISTORY FOR AUGUST 2017 TO SEPTEMBER 2018

Suite No.		Suite Type	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Total
105	1	BEDROOOM			1	1	1	1	1	1	1	1	1	1	1	1	**12**
106	1	BEDROOOM			1	1	1	1	1	1	1	1	1	1	1	1	**12**
305	1	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
306	1	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
405	1	BEDROOM STANDARD			1	1	1	1	1	1	1	0	1	1	1	1	**11**
406	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
505	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	0	1	**11**
506	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
605	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
606	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
705	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
806	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
905	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
906	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1006	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1105	1	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1106	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1206	1	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1405	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1505	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1606	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1805	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	2	**13**
1806	1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
				TOTAL	**27**	**27**	**27**	**27**	**27**	**27**	**27**	**26**	**27**	**27**	**26**	**28**	**323**
108	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
110	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
201	2	BEDROOM STANDARD			1	2	2	2	2	2	2	2	2	2	2		**21**
202	2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
203	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
204	2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
207	2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
208	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
210	2	BEDROOM STANDARD			1	1	3	3	3	3	3	3	3	3	3	3	**32**
211	2	BEDROOM STANDARD			1	1	1	1	1	2	2	2	2	2	2	2	**19**
301	2	BEDROOM STANDARD			3	3	3	3	3	3	3	3	3	3	3	2	**35**
302	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	2	**13**
303	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
304	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
307	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
308	2	BEDROOM STANDARD			2	2	2	2	2	2	2	1	1	1	1	1	**19**
310	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
311	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
401	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
402	2	BEDROOM STANDARD			1	2	2	2	2	2	2	2	2	2	2	2	**23**
403	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
404	2	BEDROOM STANDARD			1	1	1	1	1	1	0	0	0	0	0	0	**6**
407	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
408	2	BEDROOM STANDARD			3	3	3	2	2	2	2	2	2	2	2	2	**27**
410	2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
411	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
501	2	BEDROOM STANDARD			2	2	2	2	2	1	1	1	1	1	1	1	**17**
502	2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
503	2	BEDROOM STANDARD			1	1	2	2	2	2	1	1	1	1	2	2	**18**
504	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
507	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
510	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
511	2	BEDROOM STANDARD			3	3	3	3	3	3	3	3	3	3	3	3	**36**
601	2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
602	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
603	2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
604	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
607	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
608	2	BEDROOM STANDARD			2	1	1	1	1	1	1	1	1	1	1	1	**13**
610	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
701	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
702	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
703	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
704	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
707	2	BEDROOM STANDARD			1	1	1	1	1	1	2	2	2	2	2	2	**18**
708	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
710	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
711	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
801	2	BEDROOM STANDARD			1	1	1	2	2	2	2	2	2	2	2	2	**21**
802	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
803	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
804	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
807	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
808	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
810	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
811	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
901	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
902	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
903	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
904	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
908	2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
910	2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**

600 LOLITA GARDENS
PARKING HISTORY FOR AUGUST 2017 TO SEPTEMBER 2018

911	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1001	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1002	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1003	2 BEDROOM STANDARD			1	1	2	2	2	2	2	1	1	1	1	1	**17**
1004	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1007	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1008	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1010	2 BEDROOM STANDARD			1	2	2	2	2	2	2	1	1	1	1	1	**18**
1011	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1102	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1103	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1104	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1107	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1108	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1110	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1111	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1201	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1302	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1204	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1207	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1208	2 BEDROOM STANDARD			0	0	0	0	0	0	0	0	0	0	0	0	**0**
1210	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1401	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1402	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1403	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1404	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1408	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	2	2	**14**
1410	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1411	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1502	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1503	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1504	2 BEDROOM STANDARD			0	0	0	0	1	1	1	1	1	1	1	1	**8**
1507	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1508	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1510	2 BEDROOM STANDARD			2	1	1	1	2	2	2	2	2	2	2	2	**21**
1511	2 BEDROOM STANDARD			2	2	1	1	1	1	1	1	1	2	2	2	**17**
1601	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	2	**13**
1602	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1603	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1604	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1607	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1608	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1610	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1611	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1701	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1702	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1703	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1704	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1707	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1710	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1711	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1801	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1802	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1803	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1804	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1807	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1808	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1810	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1811	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	1	**23**
		0	**0**	**152**	**153**	**156**	**156**	**158**	**158**	**157**	**154**	**154**	**155**	**157**	**155**	**1865**
309	3 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
409	3 BEDROOM STANDARD			2	2	2	3	3	3	3	3	3	3	3	3	**33**
509	3 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
609	3 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
709	3 BEDROOM STANDARD			1	1	1	1	0	0	0	0	0	0	0	0	**4**
809	3 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
909	3 BEDROOM STANDARD			2	2	2	2	2	1	1	1	1	1	1	1	**17**
1009	3 BEDROOM STANDARD			3	3	3	0	0	0	0	0	0	0	0	0	**9**
1109	3 BEDROOM STANDARD			1	1	2	2	2	3	3	3	3	3	3	2	**28**
1209	3 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1409	3 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1609	3 BEDROOM STANDARD			1	1	1	1	1	1	1	0	0	0	0	0	**7**
1709	3 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1809	3 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
																0
				21	**21**	**22**	**20**	**19**	**19**	**19**	**18**	**18**	**18**	**18**	**17**	**230**
107	BACHELOR			1	1	1	1	1	1	1	1	1	1	1	1	**12**
				1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**12**

620 LOLITA GARDENS
PARKING HISTORY FOR AUGUST 2017 - SEPTEMBER 2018

Suite No.	Suite Type	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Total
102 1	BEDROOOM			2	2	2	2	2	2	2	2	2	2	2	2	**24**
206 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
306 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
406 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
505 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
506 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
606 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
705 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
706 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
806 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
905 1	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
906 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1005 1	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1105 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1106 1	BEDROOM STANDARD			1	2	2	2	2	2	2	2	2	2	2	2	**23**
1205 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1206 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1405 1	BEDROOM STANDARD			2	2	2	2	2	3	3	3	3	3	3	3	**31**
1406 1	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1505 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	2	**13**
1506 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1605 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1606 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1706 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1805 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1806 1	BEDROOM STANDARD			1	1	1	1	0	0	0	0	0	0	0	0	**4**
1905 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
2005 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	0	0	0	**9**
2006 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
2205 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
2206 1	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
			TOTAL	**36**	**37**	**37**	**37**	**36**	**37**	**37**	**37**	**37**	**36**	**36**	**37**	**440**
101 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
201 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
202 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
203 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
204 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1		**11**
207 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
208 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
210 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
211 2	BEDROOM STANDARD			1	0	0	0	0	0	0	0	0	0	0	0	**1**
302 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
303 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
304 2	BEDROOM STANDARD			2	2	2	2	2	2	1	1	1	1	1	1	**18**
307 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
308 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
310 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
311 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
401 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
402 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	0	0	**20**
403 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
404 2	BEDROOM STANDARD			2	2	2	0	0	0	0	0	0	0	0	0	**6**
407 2	BEDROOM STANDARD			0	0	0	1	1	1	2	3	3	3	3	3	**20**
408 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
410 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
411 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
501 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
502 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	0	0	0	0	**16**
503 2	BEDROOM STANDARD			2	2	2	2	2	2	1	1	1	1	1	1	**18**
507 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	0	0	0	**9**
508 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
510 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
511 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
601 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
604 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
607 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
608 2	BEDROOM STANDARD			1	1	1	1	1	2	2	2	2	2	2	2	**19**
610 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
611 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
701 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
702 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
703 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	2	**13**
704 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	0	0	0	**9**
707 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
708 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
711 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
802 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
803 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
804 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
807 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
808 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
810 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	2	2	2	**15**
901 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
902 2	BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
903 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
904 2	BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**

620 LOLITA GARDENS
PARKING HISTORY FOR AUGUST 2017 - SEPTEMBER 2018

907	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
908	2 BEDROOM STANDARD			1	1	1	1	0	0	0	0	0	0	0	0	**4**
910	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
911	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1001	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	1	**23**
1002	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1003	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1007	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1008	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1010	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1011	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1101	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1102	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1103	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1104	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1107	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1108	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1110	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1111	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1201	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1203	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1204	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1207	2 BEDROOM STANDARD			1	1	1	0	0	0	0	0	0	0	0	0	**3**
1210	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1211	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1401	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1402	2 BEDROOM STANDARD			0	0	0	0	0	0	0	0	1	1	1	1	**4**
1403	2 BEDROOM STANDARD			2	2	2	2	2	2	0	0	0	0	0	0	**12**
1404	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1501	2 BEDROOM STANDARD			1	1	1	2	2	0	0	0	1	1	1	1	**11**
1502	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1503	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1504	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1507	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1508	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1510	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1511	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1601	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1602	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1603	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1607	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1608	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1610	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1611	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1701	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1702	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1703	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1704	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1707	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1708	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1710	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1711	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1801	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1803	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1804	2 BEDROOM STANDARD			1	1	0	0	0	0	0	0	0	0	0	0	**2**
1807	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1808	2 BEDROOM STANDARD			2	2	2	2	2	1	1	1	1	1	1	1	**17**
1810	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1811	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1901	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1902	2 BEDROOM STANDARD			1	1	1	1	1	2	2	2	2	2	2	2	**19**
1903	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1904	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
1907	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1908	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1910	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
1911	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
2001	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
2002	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
2003	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
2004	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
2008	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
2010	2 BEDROOM STANDARD			0	0	0	0	0	1	1	1	1	1	1	1	**7**
2011	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
2101	2 BEDROOM STANDARD			1	1	2	2	2	2	2	2	2	2	2	2	**22**
2102	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
2103	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
2104	2 BEDROOM STANDARD			1	1	1	1	1	1	2	2	2	2	2	2	**18**
2107	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
2110	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
2111	2 BEDROOM STANDARD			2	2	2	2	2	2	2	2	2	2	2	2	**24**
2201	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
2202	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
2204	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
2207	2 BEDROOM STANDARD			1	1	1	1	2	2	2	2	2	2	2	2	**20**
2208	2 BEDROOM STANDARD			0	0	0	0	0	0	1	1	1	1	1	1	**6**
2210	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	2	2	**14**
2211	2 BEDROOM STANDARD			1	1	1	1	1	1	1	1	1	1	1	1	**12**
		0	**0**	**180**	**179**	**179**	**178**	**178**	**178**	**177**	**178**	**178**	**177**	**176**	**175**	**2133**

620 LOLITA GARDENS
PARKING HISTORY FOR AUGUST 2017 - SEPTEMBER 2018

309 3 BEDROOM STANDARD	1	1	1	1	1	1	1	1	1	1	1	1	**12**
409 3 BEDROOM STANDARD	1	1	1	1	1	1	1	1	1	1	1	1	**12**
509 3 BEDROOM STANDARD	1	1	1	1	1	1	1	1	1	1	1	1	**12**
609 3 BEDROOM STANDARD	2	0	0	0	0	0	0	0	0	0	0	1	**3**
709 3 BEDROOM STANDARD	1	1	1	1	1	1	1	1	2	2	2	2	**16**
809 3 BEDROOM STANDARD	1	1	1	1	1	1	1	1	1	1	1	1	**12**
909 3 BEDROOM STANDARD	1	1	1	1	1	1	1	1	1	1	1	1	**12**
1009 3 BEDROOM STANDARD	1	1	1	1	1	1	1	1	1	1	1	1	**12**
1109 3 BEDROOM STANDARD	2	2	2	2	2	2	2	2	2	2	2	2	**24**
1209 3 BEDROOM STANDARD	1	1	1	1	1	1	1	1	1	1	1	1	**12**
1409 3 BEDROOM STANDARD	2	2	2	2	2	2	2	1	1	1	1	1	**19**
1509 3 BEDROOM STANDARD	2	2	2	2	2	2	2	2	2	2	2	2	**24**
1609 3 BEDROOM STANDARD	1	1	1	1	1	1	1	1	1	1	1	1	**12**
1709 3 BEDROOM STANDARD	1	1	1	1	1	1	1	1	1	1	1	1	**12**
1809 3 BEDROOM STANDARD	2	2	2	2	2	2	2	2	2	2	2	2	**24**
1909 3 BEDROOM STANDARD	2	2	2	2	2	2	2	2	2	2	2	2	**24**
2009 3 BEDROOM STANDARD	1	1	1	1	1	1	1	1	1	1	1	1	**12**
2109 3 BEDROOM STANDARD	2	2	2	2	2	2	2	2	2	2	2	2	**24**
2209 3 BEDROOM STANDARD	2	2	2	2	2	2	2	2	1	1	1	1	**20**
													0
	27	**25**	**25**	**25**	**25**	**25**	**25**	**24**	**24**	**24**	**24**	**25**	**298**

Existing Parking 600 & 620 Lolita Gardens				
	Total No. of Units	Total # of spaces utilizes/month	Demand rate per unit	Parking Supply
Residential				
600 Lolita Gardens				
BACHELOR	1	1	1.00	244
1 B unit	34	27	0.79	
2 B unit	134	155	1.16	
3 B unit	16	19	1.20	
Residential total	185	203		
620 Lolita Gardens				
BACHELOR	0	0	0.00	252
1 B unit	41	37	0.89	
2 B unit	162	178	1.10	
3 B unit	20	25	1.24	
Residential total	223	239		
Visitor	408	56	0.14	56

Summary of Existing Parking 600 & 620 Lolita Gardens (Combined)				
	Total No. of Units	Total # of spaces utilizes/month	Demand rate per unit	Parking Supply
Existing Unit				
BACHELOR	1	1	1.00	496
1 B unit	75	64	0.85	
2 B unit	296	333	1.13	
3 B unit	36	44	1.22	
Visitors	408	56	0.14	56
total	408	442		552

Proposed Parking Traget Unit Mix - Building A					
	Unit Count	By-law rate per unit	By-law Requirments	Site Demand rate per unit	Site Demand Requirements
Traget Unit Mix - Building A					
BACHELOR	1	1	1	1.00	**1**
1 B unit	84	1.18	99	0.85	**71**
2 B unit	135	1.36	184	1.13	**153**
3 B unit	51	1.5	77	1.22	**62**
Residential total	271		360		**287**
Visitors	271	0.20	54	0.14	**38**
total	271		414		**325**

Overall Site Summary	Residential	Visitor	Total
Existing use based on observed demand	442	56	498
Future building demand	287	38	325
Total	**729**	**94**	**823**