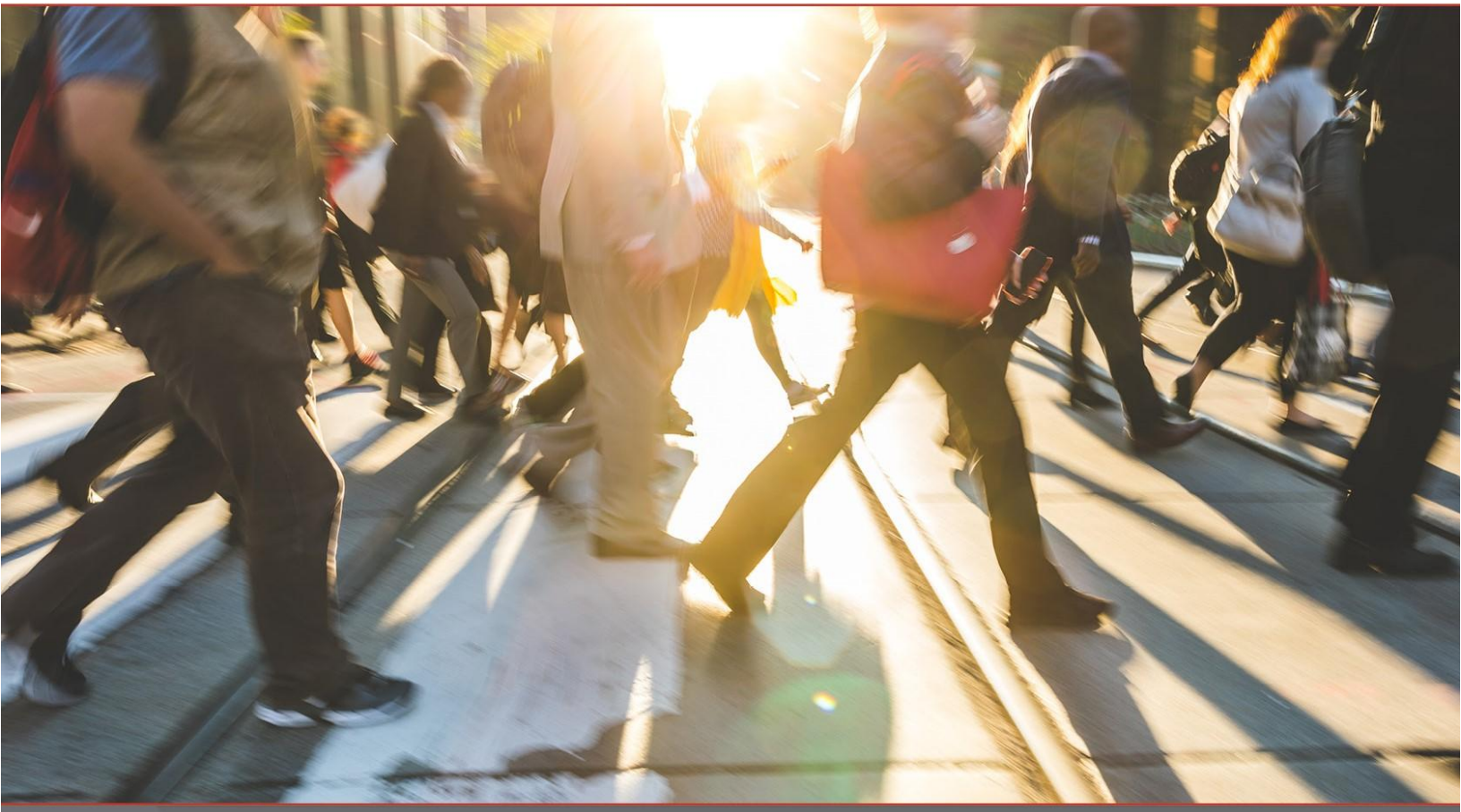
6490 FIRST LINE
TOWNSHIP OF CENTRE WELLINGTON

Proposed Residential Subdivision
Transportation Impact Study



Prepared For: The Sorbara Group

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March 30, 2026	Version 1	First OPA Submission Final Report

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1.0 INTRODUCTION

1.1 Overview

BA Group is retained by The Sorbara Group to provide transportation consulting services in relation to the proposed residential subdivision located at 6490 First Line in the Township of Centre Wellington (the "site"). An Official Plan Amendment ("OPA") application is being made to the Township for the proposed development.

This report is being submitted in support of the proposed development and provides an assessment of the transportation impacts of the development proposal.

1.2 The Site

The site is located on the northwest corner of the Wellington Road 19 / First Line / Anderson Street North intersection and is generally bound by Wellington Road 19 to the south, First Line to the east, rural land to the north and residential to the west. The Elora Cataract Trailway bisects the northwest corner of the site into two parcels of land. The site is currently occupied by a residential dwelling at the south end of the site, with a driveway to Wellington Road 19. Surrounding land use is generally residential in nature. Maranatha Christian School, which operates classes for Kindergarten to Grade 8, is located south of the site on the opposite side of Wellington Road 19.

The site location is shown in **Figure 1**.

1.3 The Proposed Development

The proposed development contemplates the construction of a residential subdivision. For the purpose of this assessment, BA Group have been advised of the following high level stats:

- 700 residential units, including:
  - 420 detached dwellings;
  - 280 townhouses

It should be noted that the above stats are high level, and remain subject to change as the planning process for this site progresses.

The dwellings will be serviced by an internal public road network, including access to the site conceptually shown at three locations as follows:

- A new unsignalized intersection at Wellington Road 19 / Site Access, located approximately 380 metres west of First Line;
- A new unsignalized intersection at First Line / South Site Access, located approximately 180 metres north of Wellington Road 19; and
- A new unsignalized intersection at First Line / North Site Access, located approximately 400 metres north of Wellington Road 19.

The proposed accesses and the internal public road network will be detailed out further as part of a future Draft Plan of Subdivision application.

In addition to the abovementioned residential units and internal public road network, the redevelopment will include other features including a storm water management facility and a park.

The concept plan is shown in **Figure 2** and attached in **Appendix A**.

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Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographies, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

FIGURE 1 SITE LOCATION

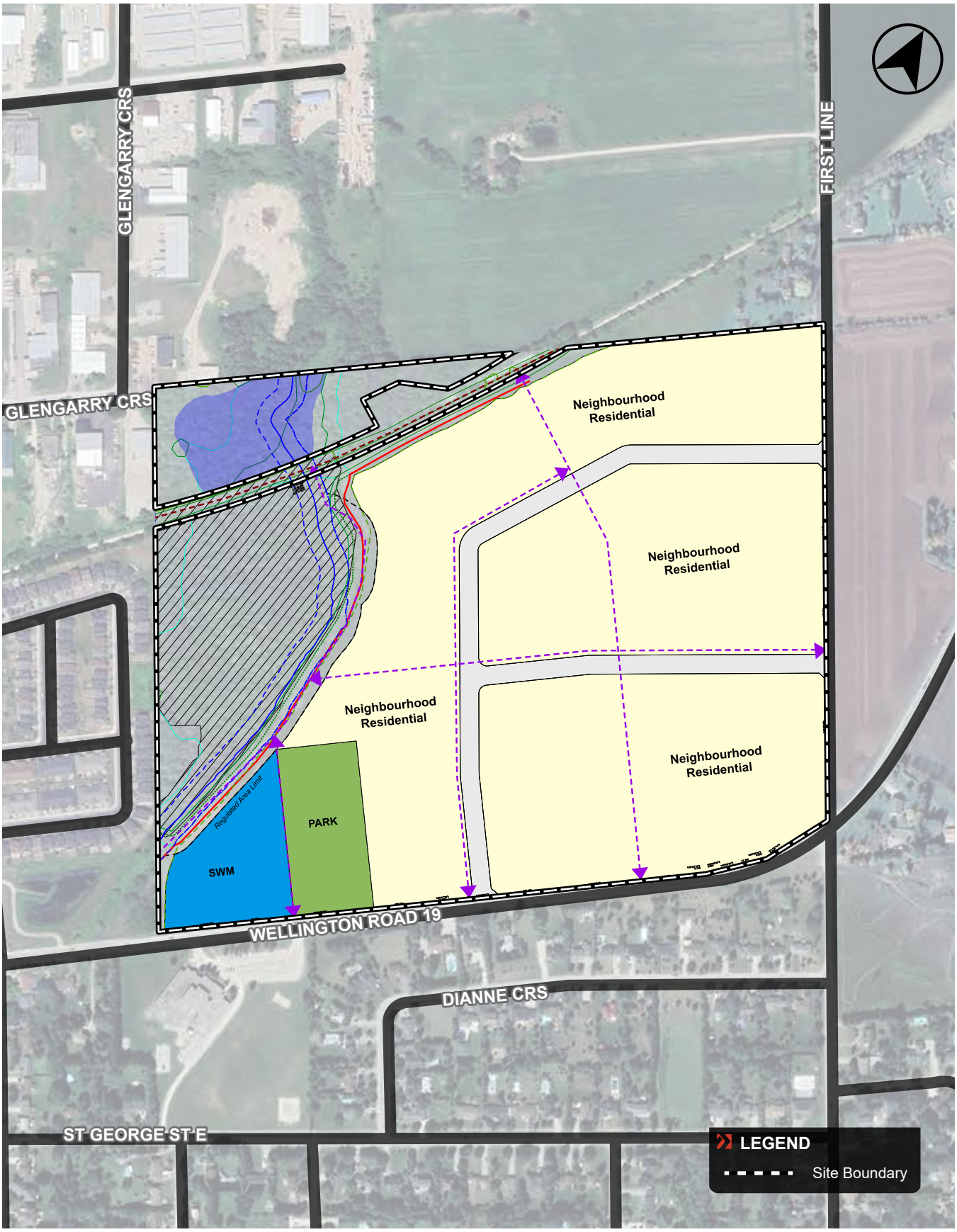

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FIGURE 2 CONCEPT PLAN

2.0 PLANNING POLICIES

2.1 Wellington County Road Master Action Plan

The Wellington County Road Master Action Plan, dated December 2021 ("RMAP") provides long-term guidance on transportation in the County by identifying future policy direction and transportation infrastructure needs on the County transportation network to accommodate future population and employment growth into 2041.

In the vicinity of the site, the RMAP identifies Wellington Road 19 as a Wellington County road with an existing Annual Average Daily Traffic ("AADT") of 0-5,000 and an existing volume to capacity ("v/c") ratio between 0.00-0.50.

Based on the projected 2041 Wellington County population of 140,000 (increase from 96,000 in 2016) and employment of 61,000 (increase from 40,100 in 2016), future traffic forecasts were undertaken to assess short-term and long-term needs. Based on these projections, the RMAP estimates that the AADT on Wellington Road 19 adjacent the site will be in the range of 5,000-10,000, and the v/c ratio will be in the range of 0.00-0.50. No specific mitigation works were identified to be required for Wellington Road 19.

In addition to the corridor-specific review, potential bypass options were also reviewed to potentially improve capacity generally between Fergus and Elora. The RMAP recommended that a detailed Area Wide Feasibility Study be undertaken to confirm area needs.

The RMAP also reviewed a number of potential transit service models when assessing the future of transit in Wellington County. The RMAP ultimately recommended that Wellington County continue to operate the Ride Well service (discussed in **Section 3.2**) and undertake a number of additional actions such as increasing the number of vehicles, expanding service hours, reduce passenger fares, potential partnerships with Ride Well to allow other types of service, and coordination with Community Care Agencies.

2.2 Township of Centre Wellington Transportation Master Plan

The Township of Centre Wellington Transportation Master Plan, dated January 2019 ("TMP") sets a vision for a sustainable transportation future that maintains and enhances the quality of life in the Township.

In the vicinity of the site, the TMP identifies First Line as a local road with an existing v/c ratio between 0.00-0.59. The TMP also identifies Wellington Road 19 as an arterial road, but does not provide an existing v/c ratio.

The TMP estimates a future 2041 Township population of 52,310 (increase from 29,885 in 2016) and employment of 22,780 (increase from 11,970 in 2016). Accordingly the road network was analyzed through an EMME strategic travel mode and identifies a preferred 2041 road network.

The preferred 2041 road network proposes to extend the existing Wellington Road 29 north as an arterial road to Lamond Street via a new bridge across the Grand River ("the Wellington Road 29 Extension").

A new collector road is proposed which extends east from the Anderson Street South/Lamond Street/Wellington Road 29 Extension intersection, then curves north across Wellington Road 19 and loops back to connect to First Line in the vicinity of the Elora Cataract Trailway (the "New NS Collector"). The Wellington Road 19/New NS Collector intersection is identified to potentially include signalization, turning lanes or roundabouts.

The existing Dickson Drive is proposed to be extended east as a collector road to First Line (the "Dickson Drive Extension").

Subsequent to the above new connections, the section of First Line between the New NS Collector and the Dickson Drive Extension is proposed to be redesignated as an arterial road.

The Dickson Drive Extension is identified as a medium-term improvement (i.e. by 2031) and the other noted improvements are identified as long-term improvements (i.e. by 2041 and beyond).

The TMP also consolidates active transportation recommendations from the Township of Centre Wellington Trails Master Plan, dated May 2014, and the Wellington County Active Transportation Plan, dated September 2012. In the vicinity of the site, the TMP identifies Wellington Road 19 as a proposed on-road route. In addition, two proposed off-road routes are shown generally extending north-south within the site, connecting from the existing residential subdivision to the west of the site and Wellington Road 19 respectively, to the Elora Cataract Trailway at the north end of the site.

With regards to transit, the TMP recommends that a Transit Service Strategy report be prepared, discussing with existing service providers on whether or not there is an opportunity to serve Centre Wellington, and participating in any future studies regarding transit expansion or provision led by others. It's noted that the TMP is dated January 2019 and pre-dates the implementation of the Ride Well transit service that was implemented in October 2019, as outlined further in **Section 3.2**.

3.0 AREA TRANSPORTATION CONTEXT

3.1 Road Network

3.1.1 Overview

The following sections provide an overview of the existing and future area road network, as shown graphically in **Figure 3**.

3.1.2 Wellington Road 19

Wellington Road 19 is an arterial road operated by Wellington County which extends generally in an east-west direction from East West Garafraxa Townline at the east boundary of Wellington County to Highway 6 in Fergus. In the vicinity of the site, Wellington Road 19 is also known as Belwood Road and Garafraxa Street East.

East of East West Garafraxa Townline, Wellington Road 19 continues as Dufferin County Road 5 and west of Highway 6, Wellington Road 19 continues as Garafraxa Street West.

Adjacent the site, Wellington Road 19 operates with a single traffic lane in each direction. East of Maranatha Christian School, Wellington Road has a posted speed limit of 70 kilometres per hour. Across the school frontage and west of the school, the posted speed limit reduces to 40 kilometres per hour. There are no sidewalks along Wellington Road 19 adjacent the site.

3.1.3 First Line

First Line extends generally in a north-south direction from Wellington Road 109 in Arthur to Wellington Road 19 in Fergus. Adjacent the site, First Line operates as a local road operated by the Township of Centre Wellington.

South of Wellington Road 19, First Line continues as Anderson Street North.

Adjacent the site, First Line operates with a single traffic lane in each direction and a posted speed limit of 60 kilometres per hour. There are no sidewalks along First Line adjacent the site.

3.1.4 Township of Centre Wellington TMP Preferred 2041 Road Network

As discussed in **Section 2.2**, the preferred 2041 road network as outlined in the TMP proposes the following in the vicinity of the site:

- The Wellington Road 29 Extension, extending the existing Wellington Road 29 north as an arterial road to Lamond Street via a new bridge across the Grand River (long-term improvement by 2041 and beyond);
- The New NS Collector, a new collector road which extends east from the Anderson Street South/Lamond Street/Wellington Road 29 Extension intersection, then curves north across Wellington Road 19 and loops back to connect to First Line in the vicinity of the Elora Cataract Trailway. The Wellington Road 19/New NS Collector intersection is identified to potentially include signalization, turning lanes or roundabouts (long-term improvement by 2041 and beyond);
- The Dickson Drive Extension, extending the existing Dickson Drive as a collector road to First Line (medium-term improvement by 2031); and
- Redesignate the section of First Line between the New NS Collector and the Dickson Drive Extension as an arterial road (long-term improvement by 2041 and beyond).

3.2 Transit Network

On October 1, 2019, Wellington County launched a County wide, demand based, public transit service available to all residents and visitors ("Ride Well"). This service operates Monday to Friday, 6:00am-7:00pm. Bookings can be made to or from any address in Wellington County or Guelph.

This service also provides opportunities to connect to other nearby transit agencies and routes, including Guelph Transit, GO Transit, and Guelph Owen Sound Transportation (a transit service which extends from Owen Sound to Guelph with stops in Chatsworth, Williamsford, Durham, Mount Forest, Arthur, Fergus and Elora).

3.3 Bicycle Network

The TMP identifies the following existing and future bicycle infrastructure in the vicinity of the site:

- Existing on-road route on Wellington Road 19 east of First Line
- Proposed on-road route on Wellington Road 19 between First Line and James Street
- Proposed on-road route on Anderson Street North

The above routes provide connections to the broader existing and future bicycle network through the Township of Centre Wellington and beyond.

The existing and future area bicycle network is shown in **Figure 4**.

3.4 Pedestrian Network

There are currently no sidewalks adjacent the site. West of the site, there are sidewalks along one or both sides of Wellington Road 19, Gartshore Street, and a number of local streets in nearby residential subdivisions. A signalized crossing location is available at the Wellington Road 19/Gartshore Street intersection.

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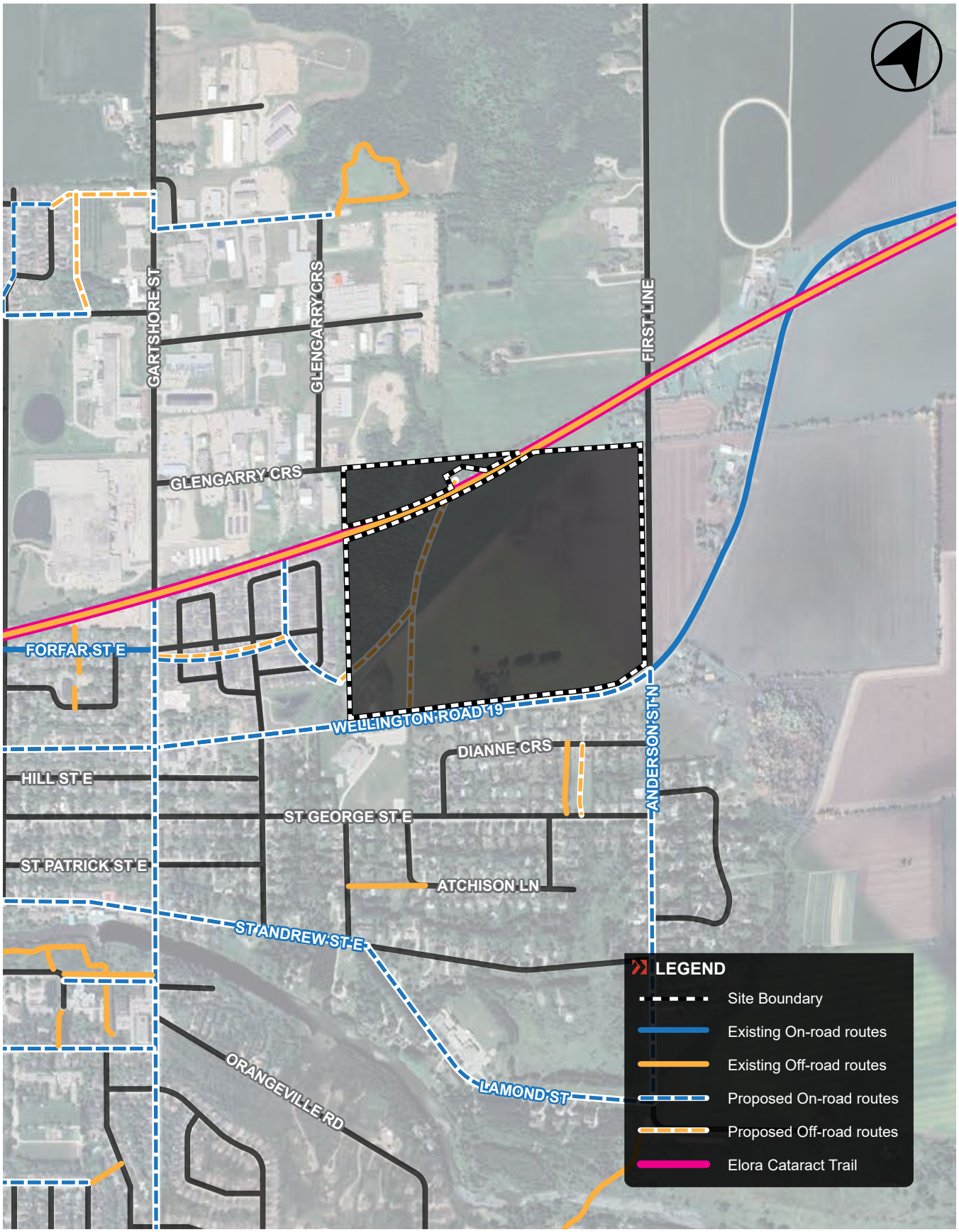
FIGURE 3 EXISTING AND PROPOSED STREET NETWORK



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Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographies, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

FIGURE 4 EXISTING AND PROPOSED BICYCLE NETWORK

4.0 TRAFFIC VOLUME PROJECTIONS

4.1 Scope

For the purpose of analysis, a build-out timeframe of 5-years has been assumed. In accordance with County of Wellington Traffic Impact Study Guidelines, analysis has been undertaken for opening year (i.e. 5-year horizon) and opening year plus 5 years (i.e. 10-year horizon).

Accordingly, analysis has been completed for the following scenarios during the AM and PM peak hour:

- Existing Conditions;
- Future Background Conditions (5-Year Horizon);
- Future Background Conditions (10-Year Horizon);
- Future Total Conditions (5-Year Horizon); and
- Future Total Conditions (10-Year Horizon).

Intersections included within the analysis study area are listed below:

- Wellington Road 19 / Gartshore Street
- Wellington Road 19 / First Line / Anderson Street North
- Wellington Road 19 / Robinson Road / Tom Street
- Gartshore Street / Forfar Street East / Middleton Avenue
- Gartshore Street / Gordon Street
- Gartshore Street / St Andrew Street East
- Wellington Road 19 / Site Access
- First Line / South Site Access
- First Line / North Site Access

Existing lane configurations are shown in **Figure 5** and future lane configurations are shown in **Figure 6**.

4.2 Existing Traffic Volumes

Existing peak hour traffic volumes have been established based on traffic counts undertaken by Spectrum Traffic Data on behalf of BA Group. The intersections which were counted are summarized in **Table 1**. The existing baseline area traffic volumes for the AM and PM peak hours are provided in **Figure 7**, and the raw data is attached in **Appendix B**.

Table 1 Existing Traffic Data Sources

Intersection	Count Date	Count Times	Source
Wellington Rd 19 / Gartshore St	Wednesday, June 19, 2024	7:00am-7:00pm	Spectrum Traffic Data
Wellington Rd 19 / Robinson Rd / Tom St			
Gartshore St / Forfar St E / Middleton Ave			
Wellington Rd 19 / First Line / Anderson St N		12:00am-12:00am (24 hr count)	
Gartshore St / Gordon St	Tuesday, February 11, 2025	7:00am-7:00pm	
Gartshore St / St Andrew St E			

4.3 Future Background Traffic Volumes

4.3.1 Corridor Growth

For the purpose of this assessment, a growth rate of 2% per annum has conservatively been adopted along Gartshore Street, Wellington Road 19 and First Line, as requested by Township of Centre Wellington staff.

Corridor growth traffic volumes for the 5-year and 10-year horizons are shown in **Figure 8** and **Figure 9** respectively.

4.3.2 Background Development Growth

Background development traffic allowances included within the analysis were based on information available within the Norfolk County pending development applications map, as summarized in **Table 2**. In the absence of an available transportation study, trip generation and distribution assumptions consistent with those adopted for the site were manually applied to the proposed redevelopment.

Background development traffic volumes are shown in **Figure 10**.

Table 2 Area Background Development

Site	Development Statistics	Study
965, 970 Gartshore St & 101 Gregson Ct, Fergus	3,560 m^2 operations centre	Report prepared by Burnside, dated May, 2023
8243, 8262 & 8282 Wellington Rd 19, Belwood (Fergus Golf Club)	118 residential units	Report prepared by BA Group, dated February, 2022
6518 First Line, Fergus (Fergus (Dickson Drive) Business Park)	33,445 m^2 business park	Report prepared by Triton Engineering, dated January, 2022

4.3.3 Future Background Traffic Volumes

The future background traffic volumes are determined by adding existing traffic volumes, background development traffic volumes and corridor growth traffic volumes.

Future background traffic volumes for the 5-year and 10-year horizons are shown in **Figure 11** and **Figure 12** respectively.

4.4 Site Traffic Forecasts

4.4.1 Vehicle Trip Generation Rates

Vehicle trip generation rates in the ITE Trip Generation Manual 12th Edition and in proxy data collected by BA Group in Fergus were reviewed, as outlined in **Table 3**. For the purpose of this assessment, trip generation has been adopted in accordance with the rates outlined in the ITE Trip Generation Manual.

Table 3 Adopted Vehicle Trip Generation Rates

Land Use	Trip Rate Source	Vehicle Trip Generation Rate (vehicle trips per unit)					
		AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
ITE Trip Generation Manual 11th Edition							
Detached Dwelling	LUC 210 (Single-Family Detached Housing) General Urban/Suburban	0.18	0.55	0.70	0.59	0.35	0.94
Townhouse	LUC 215 (Single-Family Attached Housing) General Urban/Suburban	0.12	0.36	0.48	0.34	0.23	0.57
Proxy Data							
Mix of Detached / Townhouse	Vincent St / Steele St Neighbourhood, Fergus 201 residential units Survey undertaken Wednesday, December 13, 2023	0.22	0.49	0.71	0.53	0.32	0.85
	Robinson Rd / Middleton Ave Neighbourhood, Fergus 213 residential units Survey undertaken Wednesday, June 19, 2024	0.32	0.58	0.90	0.58	0.45	1.03
Adopted Rates							
Detached Dwelling		**0.19**	**0.51**	**0.70**	**0.58**	**0.35**	**0.93**
Townhouse		**0.12**	**0.36**	**0.48**	**0.34**	**0.23**	**0.57**

4.4.2 Site Vehicle Trip Generation

Based on the above adopted rates, the traffic volumes projected to be generated by the redevelopment are summarized in **Table 4**.

Overall, it is projected that the proposed redevelopment will generate in the order of 430 and 555 two-way vehicle trips during the AM and PM peak hours respectively.

Table 4 Site Vehicle Trip Generation

Type of Units	Number of Units	AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
Detached Dwellings	420 units	*0.18*	*0.52*	*0.70*	*0.59*	*0.35*	*0.94*
		75	**220**	**295**	**250**	**145**	**395**
Townhouses	280 units	*0.12*	*0.36*	*0.48*	*0.34*	*0.23*	*0.57*
		35	**100**	**135**	**95**	**65**	**160**
Total		**110**	**320**	**430**	**345**	**210**	**555**

4.4.3 Vehicle Trip Distribution

Site traffic was assigned onto the area road network based on the results of the 2022 Transportation Tomorrow Survey (TTS), prevailing traffic patterns and area turn restrictions. General direction of approach percentages for residential traffic was based on the results of the TTS and is summarized in **Table 5**.

Table 5 Site Traffic Distribution

Road	Direction	Inbound	Outbound
Wellington Rd 19	West	60%	50%
	East	10%	10%
First Line	North	0%	5%
Highway 6	North	5%	10%
Gartshore Street	South	25%	25%
Total		**100%**	**100%**

Notes:
1. Based on TTS zone 8351

4.4.4 Site Traffic Volumes

The site traffic volumes are shown in **Figure 13**.

4.4.5 Future Total Traffic Volumes

Future total traffic volumes are determined by adding the future background traffic volumes and the site traffic volumes.

The future total traffic volumes are shown in **Figure 14** and **Figure 15** for the 5-year and 10-year horizons respectively.

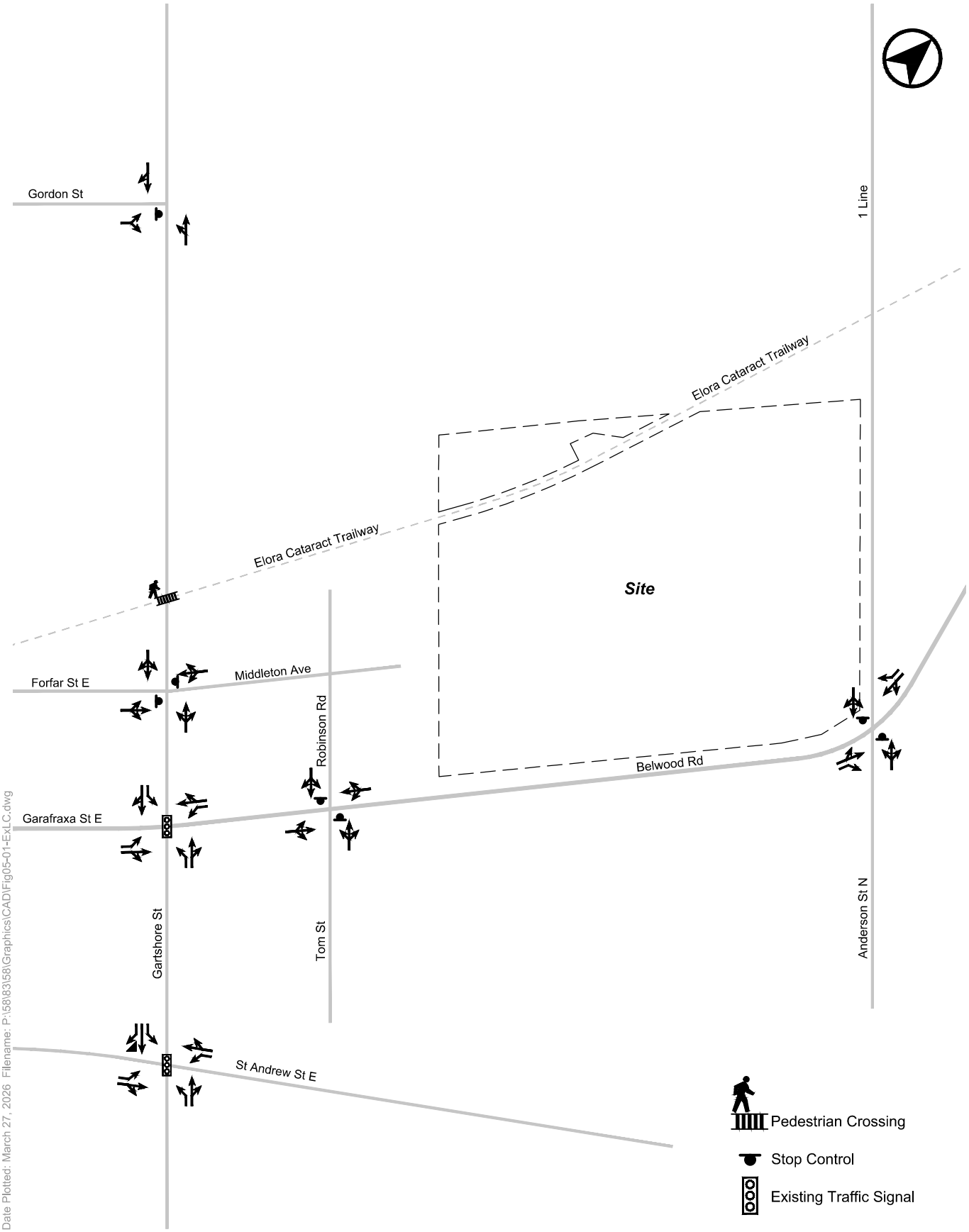


FIGURE 5 EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL

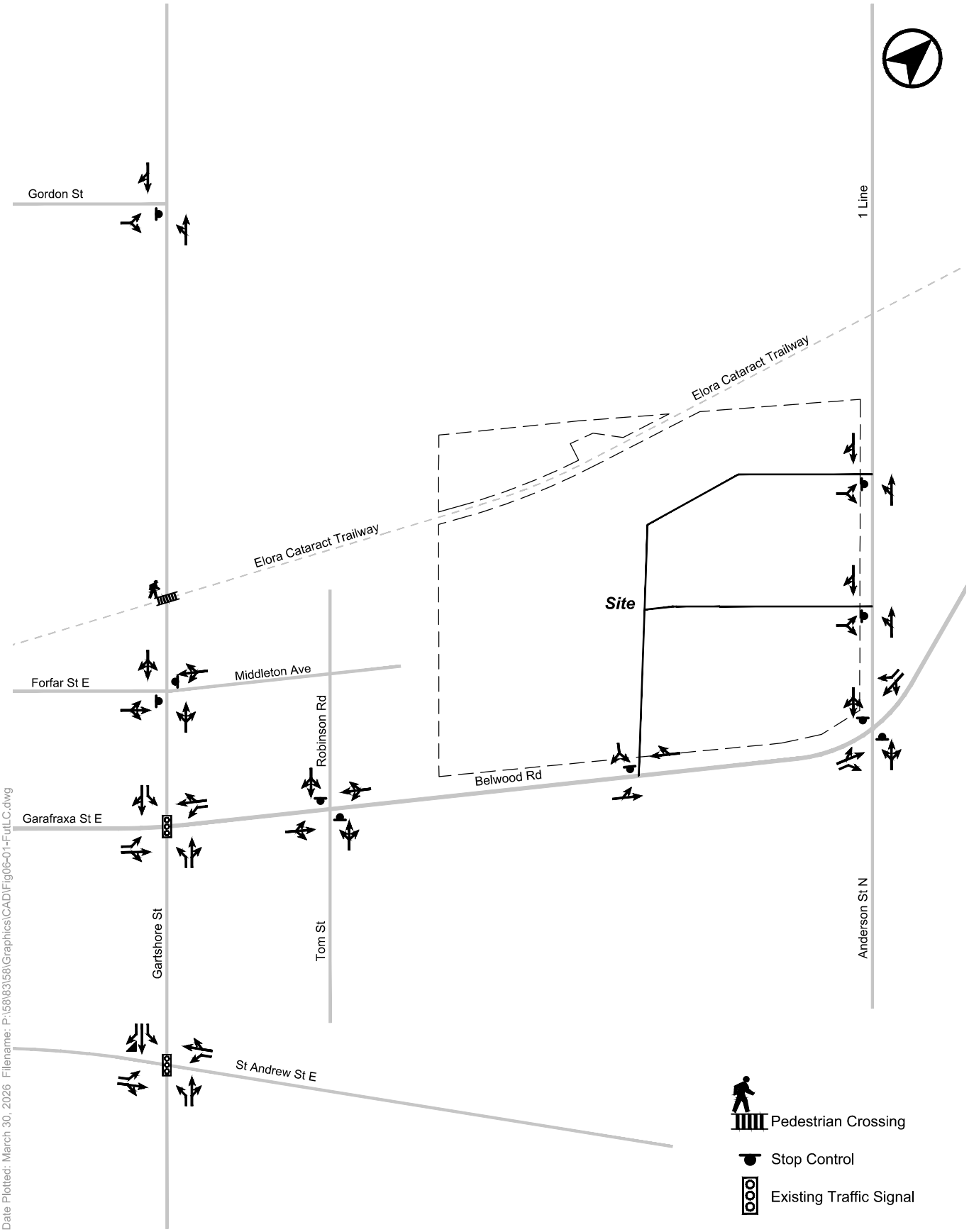


FIGURE 6 FUTURE LANE CONFIGURATION AND TRAFFIC CONTROL

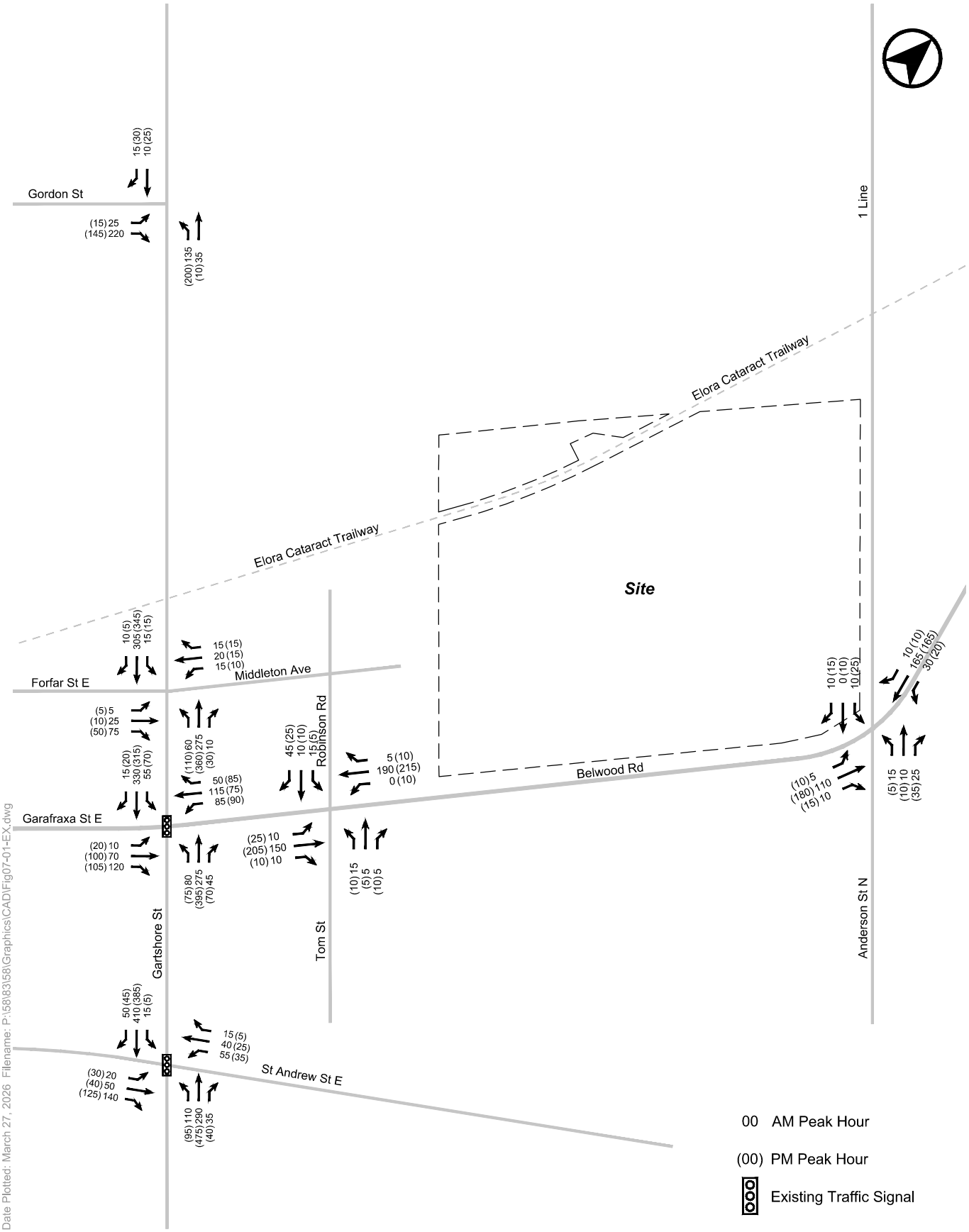


FIGURE 7 EXISTING TRAFFIC VOLUMES

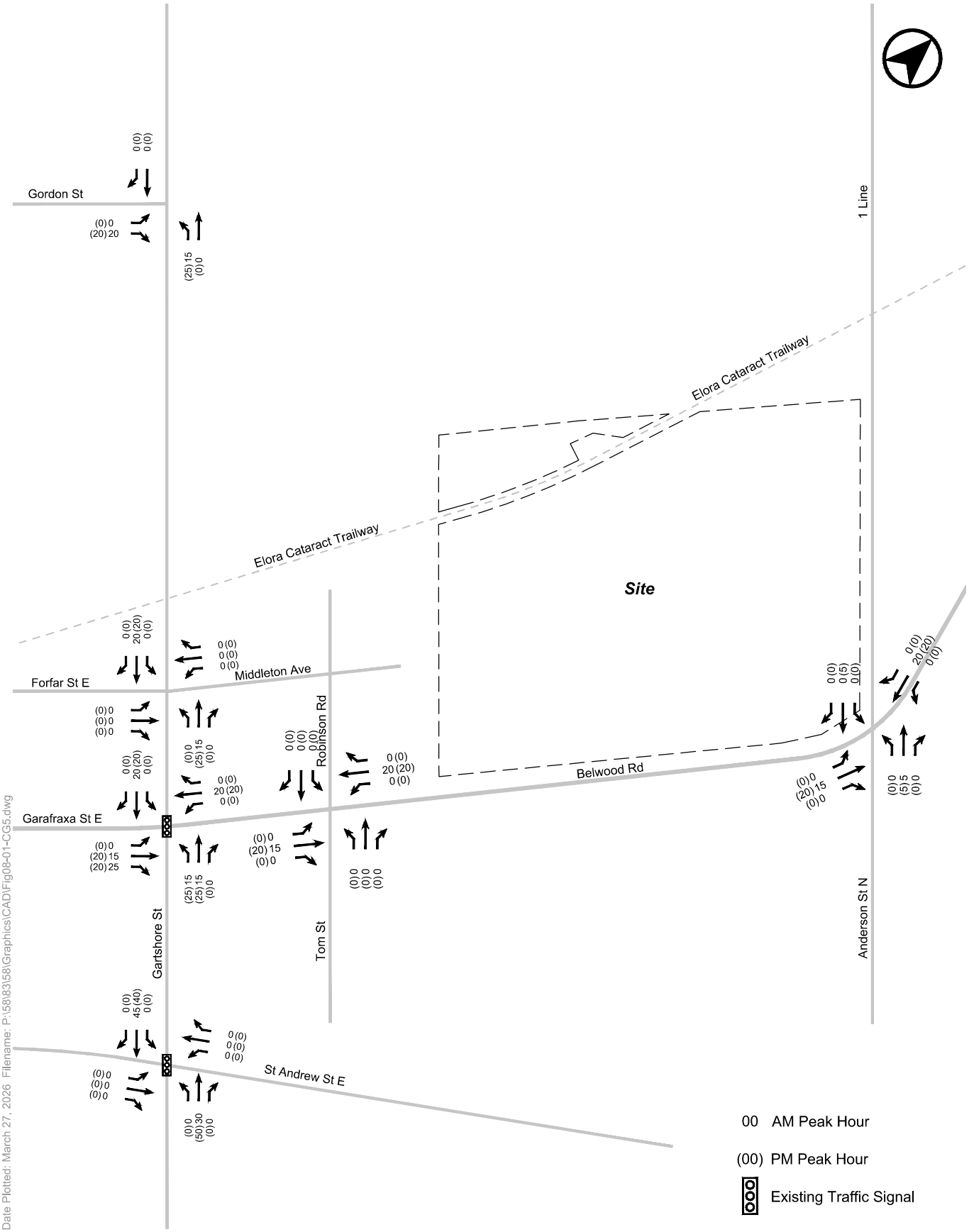


FIGURE 8 CORRIDOR GROWTH TRAFFIC VOLUMES (5-YEAR HORIZON)

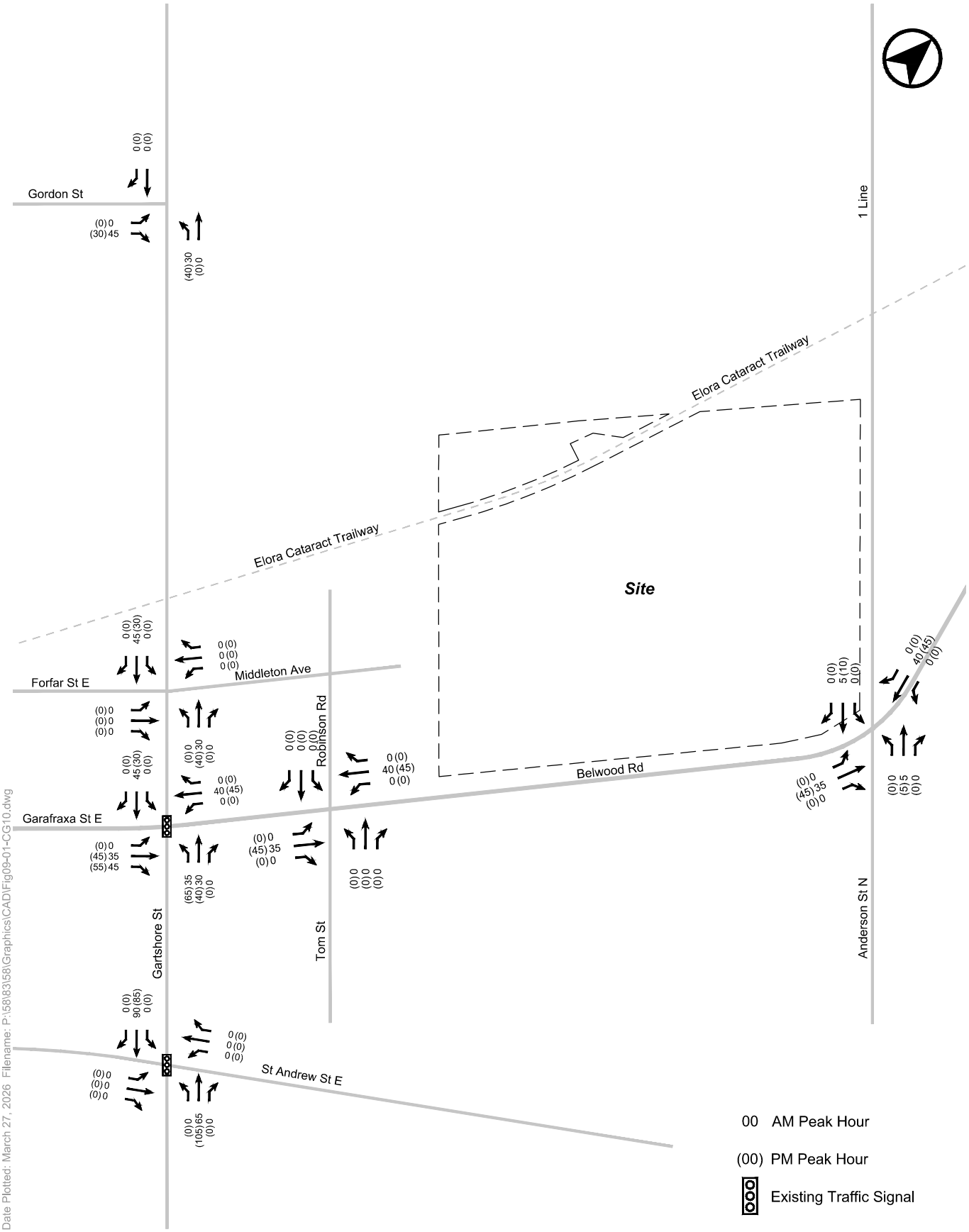


FIGURE 9 CORRIDOR GROWTH TRAFFIC VOLUMES (10-YEAR HORIZON)

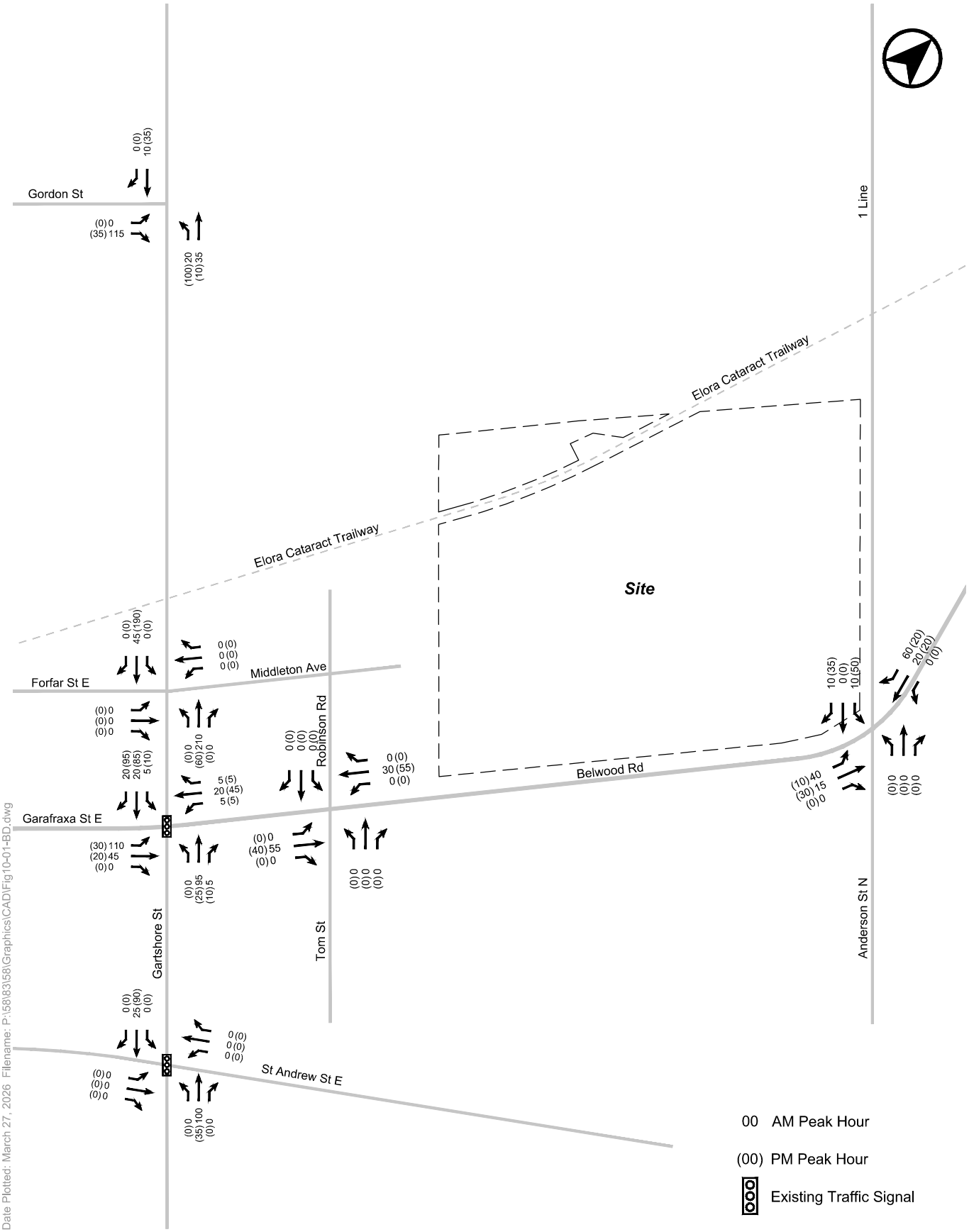


FIGURE 10 BACKGROUND DEVELOPMENT TRAFFIC VOLUMES

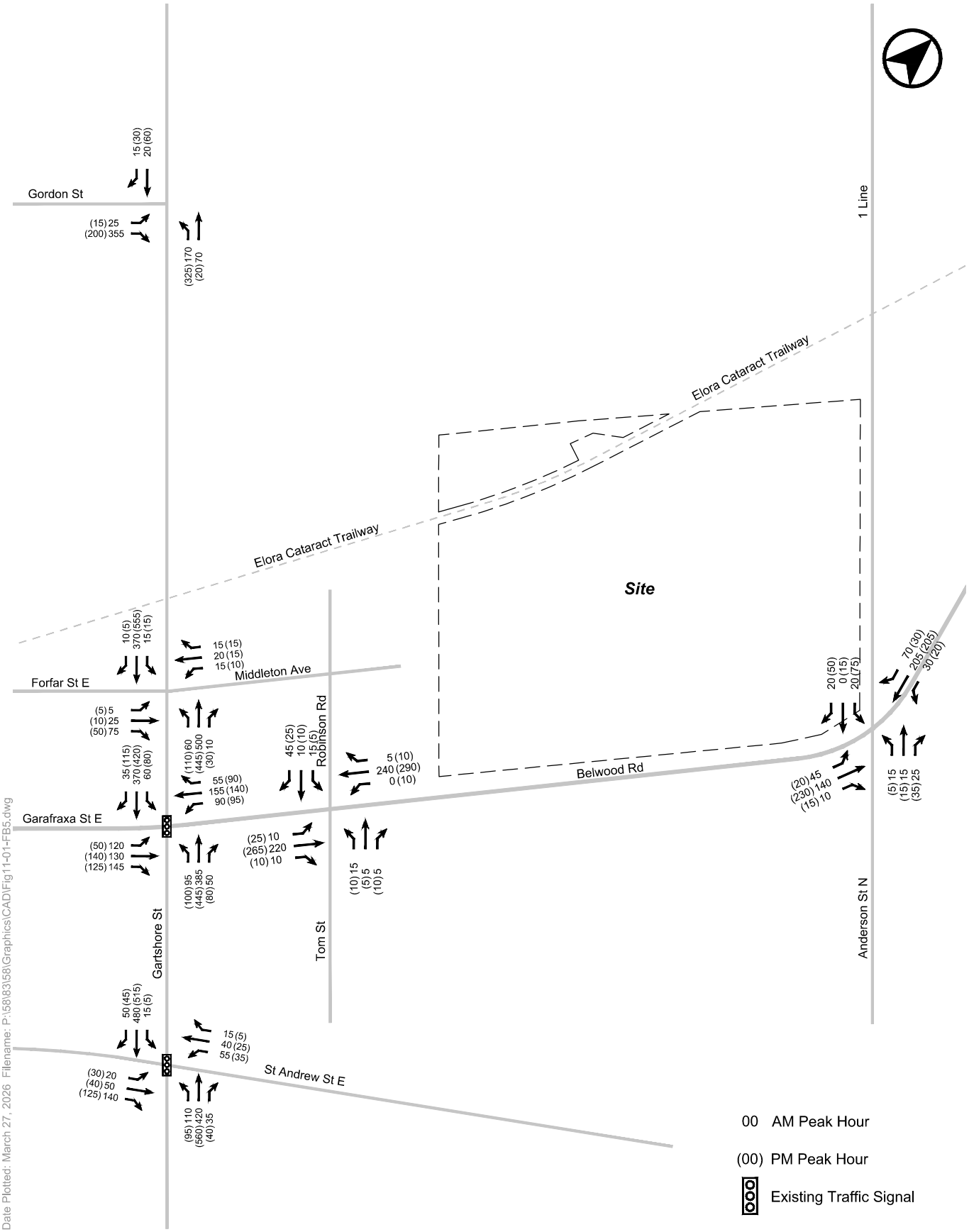


FIGURE 11 FUTURE BACKGROUND TRAFFIC VOLUMES (5-YEAR HORIZON)

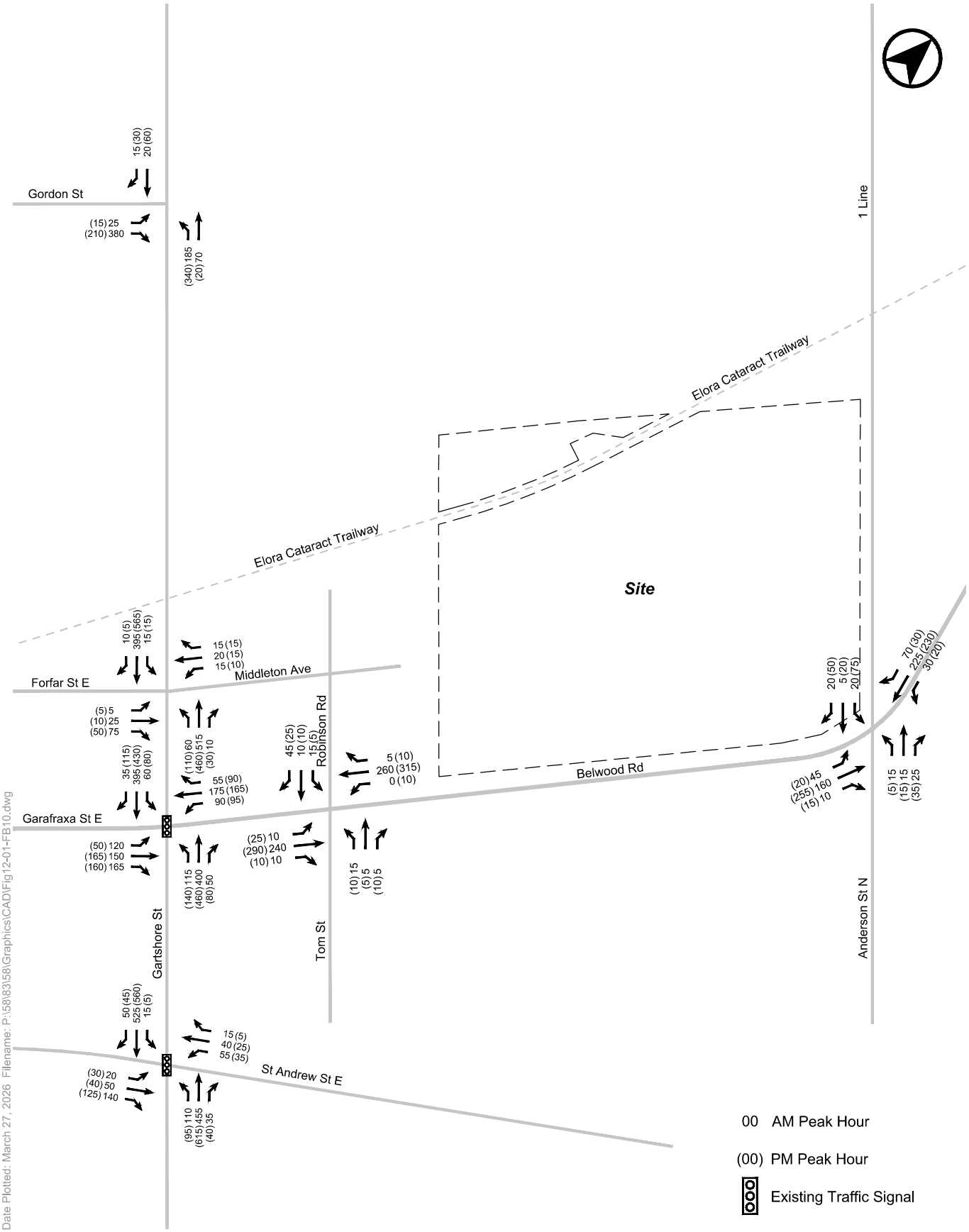


FIGURE 12 FUTURE BACKGROUND TRAFFIC VOLUMES (10-YEAR HORIZON)

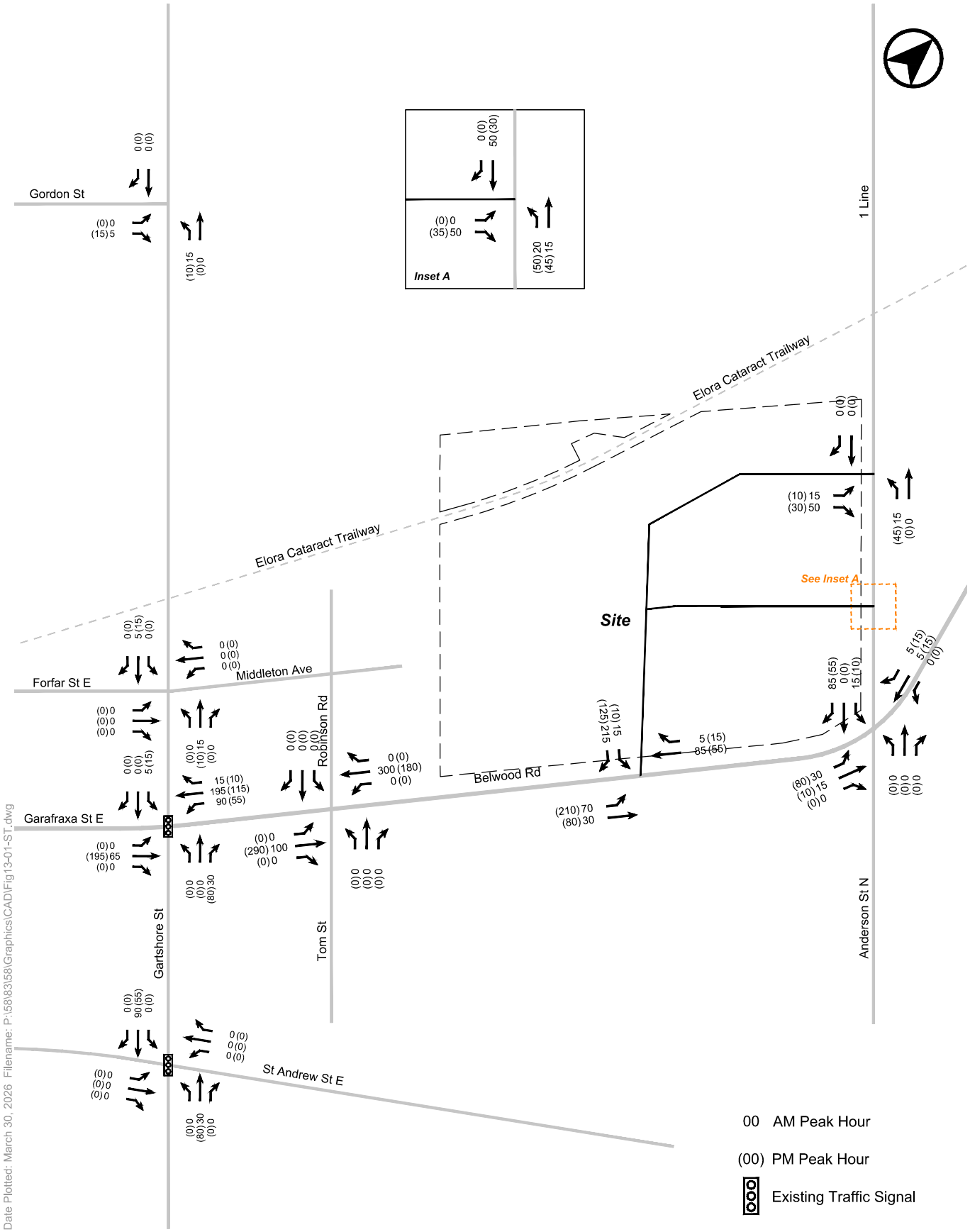


FIGURE 13 SITE TRAFFIC VOLUMES

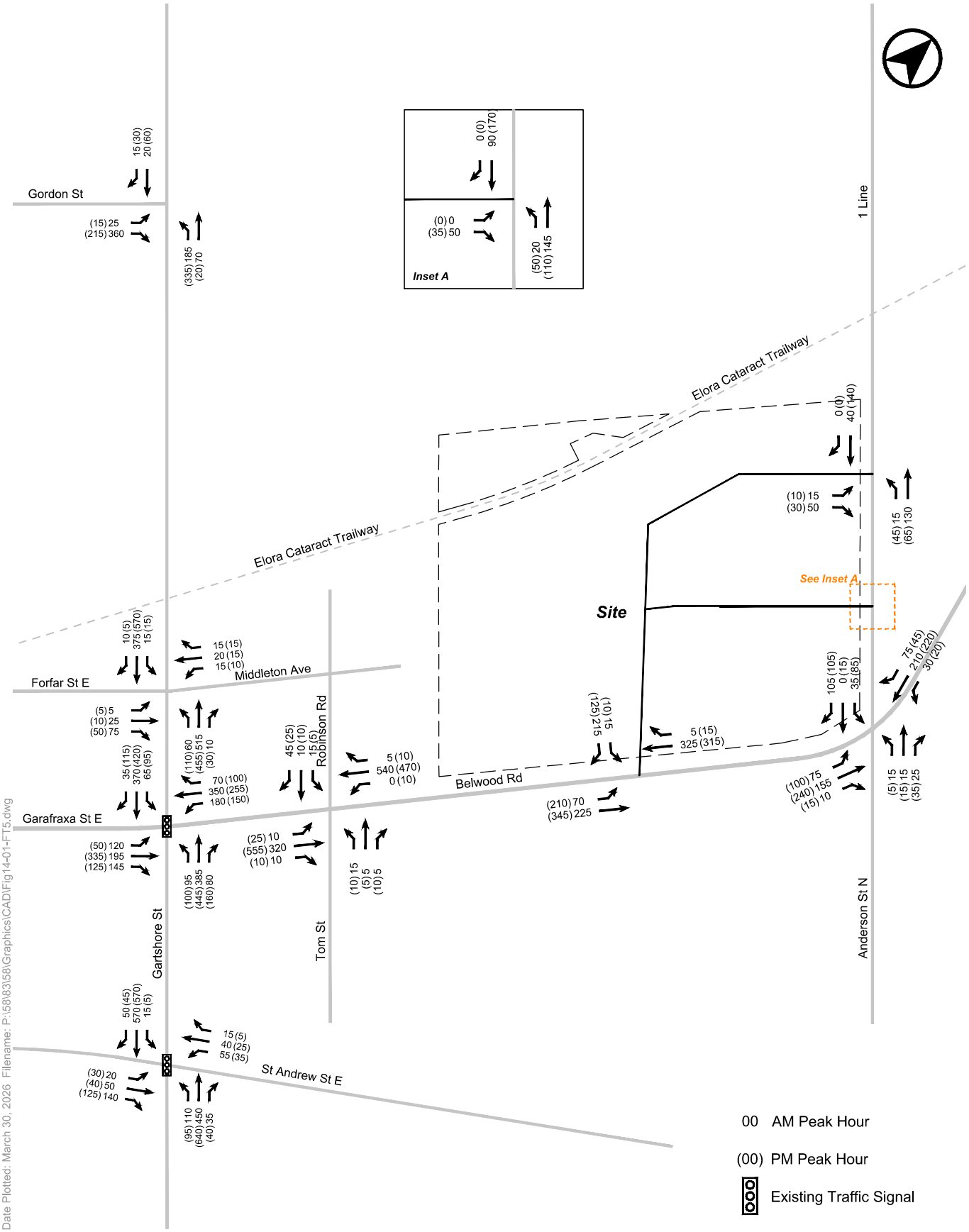


FIGURE 14 FUTURE TOTAL TRAFFIC VOLUMES (5-YEAR HORIZON)

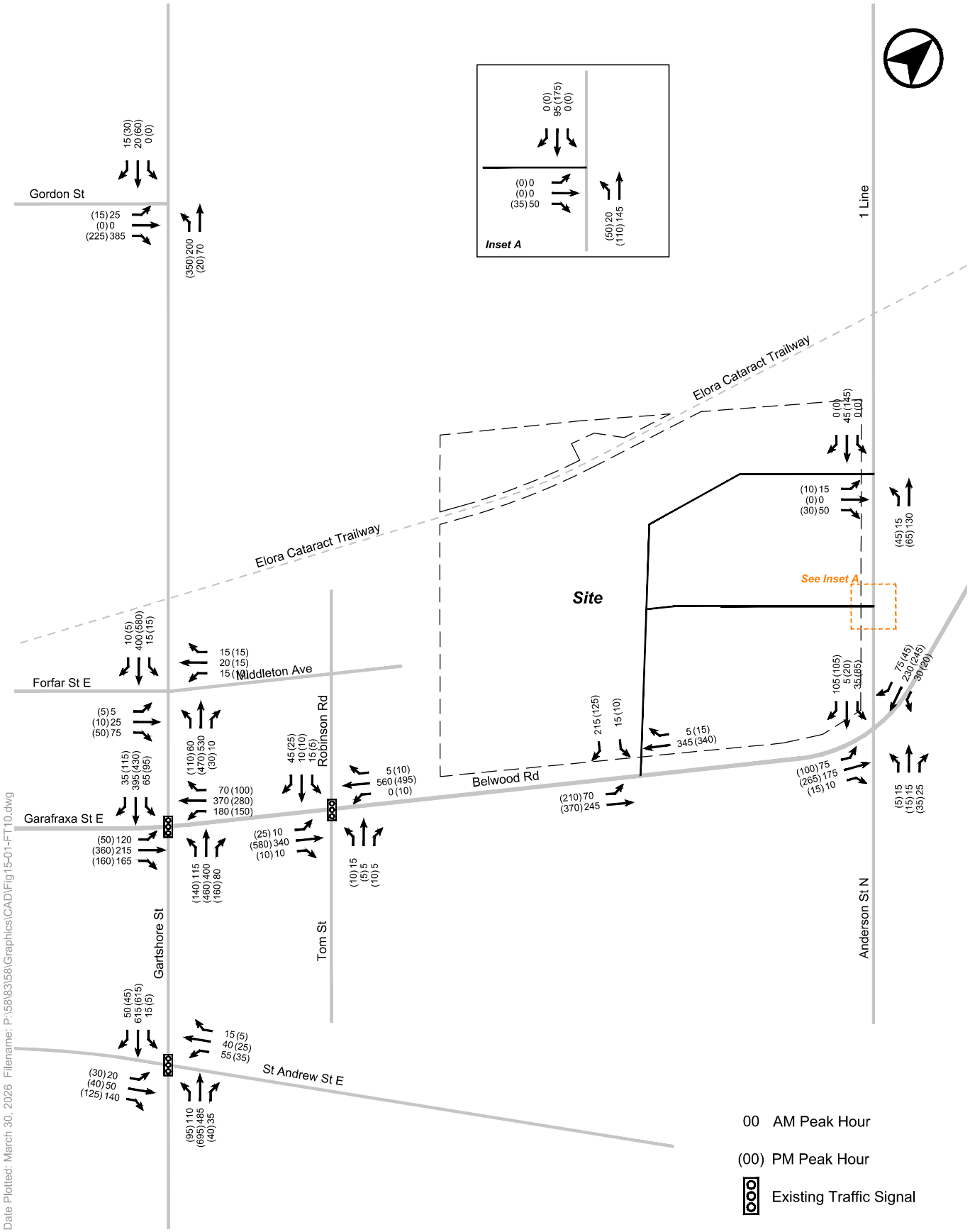


FIGURE 15 FUTURE TOTAL TRAFFIC VOLUMES (10-YEAR HORIZON)

5.0 OPERATION ANALYSIS

5.1 Analysis Methodology

Synchro Version 11 and the Highway Capacity Manual (HCM) methodology were used to analyze the study area intersections and site access points.

For signalized intersections, the volume-to-capacity ratio (v/c) is an indicator of the capacity utilization for the key movements in the intersection. A v/c of 1.00 indicates that a traffic movement through an intersection is operating at or near maximum capacity.

For unsignalized intersections, level of service (LOS) characterizes operational conditions for key movements in terms of average delay experienced by vehicles attempting to complete a manoeuvre through the intersection. LOS 'A' represents a good level of service with short delays, while LOS 'F' represents a poor level of service with extended delays.

Further to the above, it is noted that Wellington County TIS Guidelines specify that at signalized intersections, a v/c ratio of greater than 0.85 for the overall intersection and on through or shared though/turn lanes, and a v/c ratio of greater than 0.9 on dedicated turn lanes is deemed to be "critical" in terms of operations. Wellington County TIS Guidelines also note that the assessment should identify unsignalized intersections where the overall intersection LOS is 'E' or 'F'. For both signalized and unsignalized intersections, the Wellington County TIS Guidelines specify that the analysis should identify where 95th percentile queues exceed the available storage.

Capacity analysis and queue length results for the signalized intersections can be found in **Table 6** and **Table 7** respectively. Capacity analysis and queue results for the unsignalized intersections can be found in **Table 8** and **Table 9** respectively. Detailed analysis worksheets are attached in **Appendix C**.

5.2 Analysis Assumptions and Parameters

5.2.1 Existing Signal Timings

Existing signal timings were obtained and are attached in **Appendix D**. These parameters were adopted for analysis of existing and future conditions.

5.2.2 Heavy Vehicle Assumptions

Heavy and medium truck percentages incorporated into the analysis were based upon information in the traffic counts.

5.2.3 Saturation Flow Assumptions

A base saturation flow rate of 1,900 passenger cars per hour of green time per lane (pcphgpl) was adopted for signalized and unsignalized intersections.

5.2.4 Lost Time Adjustments

A base lost time adjustment factor of 0 seconds (i.e. a total lost time per phase equal to the amber plus all-red time) was adopted for signalized intersections.

5.2.5 Peak Hour Factor

Peak hour factors were calculated from information in the traffic counts.

5.3 Intersection Operations Analysis

5.3.1 Wellington Road 19 / Gartshore Street

The intersection of Wellington Road 19 / Gartshore Street is signalized.

Under existing conditions, the intersection operate at v/c ratios of 0.38 and 0.47 in the AM and PM peak hours, respectively.

Under future background conditions, the intersection is projected to operate at the following overall v/c ratios:

- **5-Year Horizon:** 0.54 and 0.55 in the AM and PM peak hours, respectively.
- **10-Year Horizon:** 0.58 and 0.64 in the AM and PM peak hours, respectively.

Under future total conditions, the intersection is projected to operate at the following overall v/c ratios:

- **5-Year Horizon:** 0.70 and 0.83 in the AM and PM peak hours, respectively.
- **10-Year Horizon:** 0.76 and 0.92 in the AM and PM peak hours, respectively.

Some movements and the overall intersection are projected to exceed the thresholds identified in the Wellington County TIS Guidelines in some scenarios as follows:

- The overall intersection is projected to operate with a v/c ratio of 0.92 during the PM peak hour in the future total 10-year horizon.
- The westbound left movement is projected to operate with a v/c ratio of 0.92 during the PM peak hour in the future total 10-year horizon.
- The shared northbound through and right movement is projected to operate with a v/c ratio of and 0.91 during the PM peak hour in the future total 10-year horizon.
- The southbound left movement is projected to operate with a v/c ratio of 0.93 during the PM peak hour in the future total 10-year horizon.

Some 95th percentile turn lane queue lengths are projected to exceed the available turn lane lengths as follows:

- The westbound left movement is projected to have a 95th percentile queue length which exceeds the available storage during the AM and PM peak hours in the future total 5-year and 10-year horizons. It should be noted that given this is related to the 95th percentile queue, this is expected to occur infrequently. When this occurs, westbound through vehicles will wait behind the left turn queue and will be processed once the light turns green. As noted above, the operations analysis results indicate that the queue is cleared each cycle, with a v/c value of less than 1.00.
- The northbound left movement is projected to have a 95th percentile queue length which meets or exceeds the available storage during the AM and PM peak hours under the future background 5-year horizon, and in subsequent scenarios. It should be noted that given this is related to the 95th percentile queue, this is expected to occur infrequently. When this occurs, northbound through vehicles will wait behind the left turn queue and will be processed once the light turns green. As noted above, the operations analysis results indicate that the queue is cleared each cycle, with a v/c value of less than 1.00.
- The southbound left movement is projected to have a 95th percentile queue length which exceeds the available storage during the PM peak hour in the future total 5-year and 10-year horizons. It should be noted that given this is related to the 95th percentile queue, this is expected to occur infrequently. When this occurs, southbound through vehicles will wait behind the left turn queue and will be processed once the light turns green. As noted above, the operations analysis results indicate that the queue is cleared each cycle, with a v/c value of less than 1.00.

While the above v/c ratios exceed the thresholds identified in the Wellington County TIS Guidelines, it's important to note that the intersection and all movements are projected to remain operating within capacity under all analysis scenarios. Additionally, it should be noted that queuing conditions such as the above are not uncommon in urban areas.

Furthermore, the analysis assumes a 2% growth rate that is applied across a 10-year horizon, in addition to the background and site assumptions made as part of this analysis. This is considered to be a conservative assumption that may not eventuate to the extent assumed in this analysis. Overall, it is concluded that the traffic associated with the development can be accommodated at this intersection, and it's recommended that the intersection be monitored over time.

Capacity analysis and queue results are provided in **Table 6** and **Table 7** respectively. Synchro output sheets are provided in **Appendix C**.

5.3.2 Gartshore Street / St Andrew Street East

The intersection of Gartshore Street / St Andrew Street East is signalized.

Under existing conditions, the intersection operate at v/c ratios of 0.63 and 0.45 in the AM and PM peak hours, respectively.

Under future background conditions, the intersection is projected to operate at the following overall v/c ratios:

- **5-Year Horizon:** 0.57 and 0.47 in the AM and PM peak hours, respectively.
- **10-Year Horizon:** 0.62 and 0.51 in the AM and PM peak hours, respectively.

Under future total conditions, the intersection is projected to operate at the following overall v/c ratios:

- **5-Year Horizon:** 0.66 and 0.53 in the AM and PM peak hours, respectively.
- **10-Year Horizon:** 0.70 and 0.57 in the AM and PM peak hours, respectively.

All v/c ratios are projected within the thresholds identified in the Wellington County TIS Guidelines. In addition, the 50th and 95th percentile turn lane queue lengths are projected to be accommodated within the available storage length under all analysis scenarios.

Capacity analysis and queue results are provided in **Table 6** and **Table 7** respectively. Synchro output sheets are provided in **Appendix C**.

5.3.3 Wellington Road 19 / First Line / Anderson Street North

The intersection of Wellington Road 19 / First Line / Anderson Street North is unsignalized and is projected to operate at LOS D or better in all analysis scenarios.

The 95th percentile turn lane queue lengths are projected to be accommodated within the available storage length under all analysis scenarios.

Overall, it is projected that site traffic can be accommodated at this intersection. Capacity analysis and queue results can be found in **Table 8** and **Table 9** respectively. Synchro output sheets are provided in **Appendix C**.

5.3.4 Wellington Road 19 / Robinson Road / Tom Street

The intersection of Wellington Road 19 / Robinson Road / Tom Street is unsignalized. All movements are projected to operate at LOS E or better in all analysis scenarios. The overall intersection is projected to operate at LOS A in all analysis scenarios.

The 95th percentile turn lane queue lengths are projected to be accommodated within the available storage length under all analysis scenarios.

Overall, it is projected that site traffic can be accommodated at this intersection. Capacity analysis and queue results can be found in **Table 8** and **Table 9** respectively. Synchro output sheets are provided in **Appendix C**.

5.3.5 Gartshore Street / Forfar Street East / Middleton Avenue

The intersection of Gartshore Street / Forfar Street East / Middleton Avenue is unsignalized. All movements are projected to operate at LOS E or better in all analysis scenarios. The overall intersection is projected to operate at LOS D or better in all analysis scenarios.

The 95th percentile turn lane queue lengths are projected to be accommodated within the available storage length under all analysis scenarios.

Overall, it is projected that site traffic can be accommodated at this intersection. Capacity analysis and queue results can be found in **Table 8** and **Table 9** respectively. Synchro output sheets are provided in **Appendix C**.

5.3.6 Gartshore Street / Gordon Street

The intersection of Gartshore Street / Gordon Street is unsignalized and is projected to operate at LOS B or better in all analysis scenarios.

The 95th percentile turn lane queue lengths are projected to be accommodated within the available storage length under all analysis scenarios.

Overall, it is projected that site traffic can be accommodated at this intersection. Capacity analysis and queue results can be found in **Table 8** and **Table 9** respectively. Synchro output sheets are provided in **Appendix C**.

5.3.7 Wellington Road 19 / Site Access

The intersection of Wellington Road 19 / Site Access is a proposed new unsignalized intersection and is projected to operate at LOS C or better in all analysis scenarios.

The 95th percentile turn lane queue lengths are projected to be accommodated within the available storage length under all analysis scenarios.

Overall, it is projected that site traffic can be accommodated at this intersection. Capacity analysis and queue results can be found in **Table 8** and **Table 9** respectively. Synchro output sheets are provided in **Appendix C**.

5.3.8 First Line / South Site Access

The intersection of First Line / South Site Access is a proposed new unsignalized intersection and is projected to operate at LOS A in all analysis scenarios.

The 95th percentile turn lane queue lengths are projected to be accommodated within the available storage length under all analysis scenarios.

The 95th percentile turn lane queue lengths are projected to be accommodated within the available storage length under all analysis scenarios.

Overall, it is projected that site traffic can be accommodated at this intersection. Capacity analysis and queue results can be found in **Table 8** and **Table 9** respectively. Synchro output sheets are provided in **Appendix C**.

5.3.9 First Line / North Site Access

The intersection of First Line / North Site Access is a proposed new unsignalized intersection and is projected to operate at LOS A in all analysis scenarios.

The 95th percentile turn lane queue lengths are projected to be accommodated within the available storage length under all analysis scenarios.

Overall, it is projected that site traffic can be accommodated at this intersection. Capacity analysis and queue results can be found in **Table 8** and **Table 9** respectively. Synchro output sheets are provided in **Appendix C**.

Table 6 Signalized Intersections Capacity Analysis Summary

Movement	Existing			Future Background						Future Total					
				5-Year Horizon			10-Year Horizon			5-Year Horizon			10-Year Horizon		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
Wellington Rd 19 / Gartshore St															
EBL	0.02 (0.04)	A (B)	8.1 (10.6)	0.29 (0.17)	B (B)	14.7 (17.8)	0.37 (0.16)	C (B)	20.2 (16.0)	0.51 (0.22)	C (B)	22.5 (17.9)	0.60 (0.22)	C (B)	29.1 (16.8)
EBTR	0.17 (0.22)	A (B)	9.2 (12.1)	0.34 (0.36)	B (B)	14.7 (19.7)	0.46 (0.45)	C (B)	20.3 (19.3)	0.46 (0.68)	B (C)	17.4 (25.2)	0.55 (0.75)	C (C)	20.3 (26.5)
WBL	0.16 (0.18)	A (B)	9.4 (11.9)	0.24 (0.30)	B (B)	14.2 (19.8)	0.34 (0.31)	C (B)	20.1 (18.5)	0.60 (0.81)	C (D)	24.2 (50.2)	0.73 (0.92)	C (E)	34.5 (71.2)
WBTR	0.18 (0.16)	A (B)	9.2 (11.6)	0.27 (0.33)	B (B)	13.8 (19.2)	0.35 (0.36)	B (B)	18.5 (17.9)	0.58 (0.52)	B (C)	19.4 (21.1)	0.64 (0.54)	C (C)	22.2 (20.4)
NBL	0.54 (0.31)	C (B)	27.4 (15.7)	0.49 (0.46)	B (B)	18.4 (19.6)	0.45 (0.82)	A (D)	9.0 (45.0)	0.44 (0.52)	B (C)	18.0 (22.3)	0.52 (0.88)	B (E)	12.0 (57.7)
NBTR	0.74 (0.81)	C (C)	31.7 (25.8)	0.79 (0.69)	C (C)	26.1 (21.5)	0.68 (0.76)	B (C)	13.0 (27.7)	0.81 (0.85)	C (C)	27.6 (30.2)	0.79 (0.91)	B (D)	18.1 (37.7)
SBL	0.35 (0.52)	C (C)	23.4 (23.7)	0.37 (0.36)	B (B)	19.0 (14.3)	0.26 (0.46)	B (B)	14.1 (17.4)	0.41 (0.69)	B (C)	18.8 (30.3)	0.38 (0.93)	B (F)	17.1 (83.4)
SBTR	0.76 (0.57)	C (C)	32.4 (22.1)	0.69 (0.69)	C (B)	24.0 (19.0)	0.62 (0.75)	B (C)	18.0 (22.8)	0.66 (0.72)	C (C)	22.1 (21.2)	0.67 (0.77)	C (C)	20.9 (24.3)
Overall	**0.38 (0.47)**	**C (B)**	**23.2 (19.6)**	**0.54 (0.55)**	**C (B)**	**20.1 (19.6)**	**0.58 (0.64)**	**B (C)**	**16.8 (23.9)**	**0.70 (0.83)**	**C (C)**	**21.9 (26.5)**	**0.76 (0.92)**	**C (C)**	**21.4 (34.3)**
Gartshore St / St Andrew St E															
EBL	0.14 (0.21)	C (C)	26.3 (33.2)	0.14 (0.21)	C (C)	30.0 (33.2)	0.14 (0.21)	C (C)	30.0 (33.2)	0.14 (0.21)	C (C)	30.0 (33.2)	0.14 (0.21)	C (C)	30.0 (33.2)
EBTR	0.38 (0.32)	C (C)	27.9 (33.9)	0.45 (0.32)	C (C)	32.4 (33.9)	0.45 (0.32)	C (C)	32.4 (33.9)	0.45 (0.32)	C (C)	32.4 (33.9)	0.46 (0.32)	C (C)	32.5 (33.9)
WBL	0.67 (0.35)	D (D)	43.1 (35.1)	0.76 (0.35)	E (D)	61.3 (35.1)	0.76 (0.35)	E (D)	61.3 (35.1)	0.76 (0.35)	E (D)	61.3 (35.1)	0.76 (0.35)	E (D)	61.3 (35.1)
WBTR	0.21 (0.14)	C (C)	26.6 (32.6)	0.21 (0.14)	C (C)	30.3 (32.6)	0.21 (0.14)	C (C)	30.3 (32.6)	0.21 (0.14)	C (C)	30.3 (32.6)	0.21 (0.14)	C (C)	30.3 (32.6)

Movement	Existing			Future Background						Future Total					
				5-Year Horizon			10-Year Horizon			5-Year Horizon			10-Year Horizon		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
NBL	0.29 (0.15)	A (A)	6.5 (4.1)	0.31 (0.17)	A (A)	7.4 (4.6)	0.34 (0.18)	A (A)	8.1 (4.8)	0.38 (0.18)	A (A)	8.9 (4.8)	0.42 (0.20)	B (A)	10.2 (5.0)
NBT	0.39 (0.42)	A (A)	7.2 (6.0)	0.52 (0.49)	A (A)	8.6 (6.7)	0.56 (0.54)	A (A)	9.2 (7.3)	0.55 (0.56)	A (A)	9.1 (7.5)	0.59 (0.60)	A (A)	9.8 (8.2)
SBL	0.04 (0.01)	B (B)	10.1 (11.1)	0.04 (0.01)	A (A)	3.1 (3.4)	0.04 (0.01)	A (A)	3.2 (3.2)	0.04 (0.01)	A (A)	4.6 (3.5)	0.04 (0.01)	A (A)	3.5 (3.2)
SBT	0.64 (0.39)	B (B)	17.7 (14.2)	0.53 (0.42)	A (A)	5.9 (5.1)	0.59 (0.46)	A (A)	8.4 (5.4)	0.64 (0.46)	A (A)	8.9 (4.9)	0.69 (0.50)	A (A)	9.9 (4.9)
SBR	0.04 (0.03)	B (A)	10.1 (7.6)	0.04 (0.03)	A (A)	2.3 (3.6)	0.04 (0.03)	A (A)	3.4 (3.3)	0.04 (0.03)	A (A)	5.0 (3.7)	0.05 (0.03)	A (A)	2.3 (3.2)
Overall	**0.63 (0.45)**	**B (B)**	**16.8 (13.9)**	**0.57 (0.47)**	**B (B)**	**13.6 (10.6)**	**0.62 (0.51)**	**B (B)**	**14.4 (10.6)**	**0.66 (0.53)**	**B (B)**	**14.6 (10.5)**	**0.70 (0.57)**	**B (B)**	**14.9 (10.5)**

Notes:

1. xx (xx) – AM Peak (PM Peak)

Table 7 Signalized Intersections Queue Length Summary

Movement	Approx. Storage Length (m)	Existing		Future Background				Future Total			
				5-Year Horizon		10-Year Horizon		5-Year Horizon		10-Year Horizon	
		50%ile (m)	95%ile (m)	50%ile (m)	95%ile (m)	50%ile (m)	95%ile (m)	50%ile (m)	95%ile (m)	50%ile (m)	95%ile (m)
Wellington Rd 19 / Gartshore St											
EBL	**40**	0.7 (1.6)	3.5 (6.1)	12.1 (5.3)	27.9 (13.0)	14.7 (5.4)	28.6 (13.1)	14.5 (5.5)	27.8 (11.2)	16.9 (5.0)	28.7 (12.7)
EBTR	**1,000**	5.4 (12.3)	18.2 (31.0)	18.9 (21.8)	42.9 (42.7)	29.2 (33.9)	52.1 (59.5)	33.9 (63.3)	49.5 (80.6)	44.8 (70.7)	54.1 (111.4)
WBL	**40**	6.7 (8.4)	17.4 (21.0)	9.0 (11.6)	22.1 (24.2)	11.0 (11.7)	23.2 (25.1)	23.4 (23.8)	40.4 (#51.4)	27.8 (23.9)	43.0 (#62.5)
WBTR	**> 1,000**	11.0 (7.3)	25.6 (21.8)	18.8 (20.4)	39.3 (39.2)	25.9 (27.4)	43.8 (48.2)	53.8 (43.4)	72.0 (57.3)	64.3 (45.6)	72.5 (73.3)
NBL	**25**	12.0 (7.1)	23.0 (11.4)	13.9 (10.8)	29.0 (30.0)	13.8 (16.3)	16.3 (#53.4)	13.7 (11.8)	m33.2 (m#37.0)	13.9 (18.8)	m#41.2 (m#57.5)
NBTR	**350**	47.6 (42.4)	63.7 (46.9)	69.1 (55.3)	100.1 (110.7)	57.9 (60.4)	63.5 (114.7)	75.8 (71.4)	#128.5 (#172.8)	63.1 (78.6)	#138.0 (#161.0)
SBL	**30**	7.5 (9.6)	15.5 (21.1)	7.3 (8.6)	15.1 (20.9)	6.0 (8.9)	14.3 (23.0)	7.7 (12.4)	21.5 (#45.8)	6.8 (15.6)	22.1 (#47.6)
SBLTR	**> 1,000**	54.3 (45.9)	70.7 (61.1)	57.7 (68.3)	73.0 (106.2)	52.3 (69.8)	79.2 (108.5)	54.3 (68.3)	91.8 (#147.4)	52.3 (77.3)	#115.7 (#125.6)
Gartshore St / St Andrew St E											
EBL	**15**	3.1 (4.8)	7.3 (12.2)	3.6 (4.8)	8.1 (12.2)	3.6 (4.8)	8.1 (12.2)	3.6 (4.8)	8.1 (12.2)	3.6 (4.8)	8.1 (12.2)
EBTR	**900**	8.0 (6.4)	17.8 (23.1)	12.1 (6.4)	21.9 (23.2)	12.1 (6.4)	21.9 (23.2)	12.1 (6.4)	21.9 (23.2)	12.7 (6.4)	22.6 (23.2)
WBL	**25**	9.1 (5.6)	16.7 (13.8)	10.6 (5.6)	18.9 (13.9)	10.6 (5.6)	18.9 (13.9)	10.6 (5.6)	18.9 (13.9)	10.6 (5.6)	18.9 (13.9)
WBTR	**> 1,000**	6.4 (4.0)	12.9 (11.1)	7.4 (4.0)	14.2 (11.1)	7.4 (4.0)	14.2 (11.1)	7.4 (4.0)	14.2 (11.1)	7.4 (4.0)	14.2 (11.1)
NBL	**25**	5.3 (3.1)	11.4 (8.9)	8.4 (4.3)	18.1 (12.3)	8.6 (4.4)	19.0 (12.6)	8.8 (4.4)	20.1 (12.7)	9.3 (4.4)	21.6 (13.0)

Movement	Approx. Storage Length (m)	Existing		Future Background				Future Total			
				5-Year Horizon		10-Year Horizon		5-Year Horizon		10-Year Horizon	
		50%ile (m)	95%ile (m)	50%ile (m)	95%ile (m)	50%ile (m)	95%ile (m)	50%ile (m)	95%ile (m)	50%ile (m)	95%ile (m)
NBTR	**800**	22.3 (28.8)	37.4 (58.9)	39.7 (36.1)	61.1 (73.3)	44.8 (41.3)	68.0 (84.3)	44.0 (44.1)	67.0 (90.0)	49.3 (50.4)	74.3 (103.1)
SBL	**40**	1.4 (0.4)	5.0 (m1.4)	0.4 (0.1)	m1.4 (m0.6)	0.7 (0.1)	m2.0 (m0.4)	0.6 (0.1)	m2.0 (m0.4)	0.7 (0.1)	m1.1 (m0.3)
SBLTR	**360**	51.9 (42.5)	#82.5 (75.4)	12.7 (29.8)	65.4 (54.8)	65.4 (33.9)	81.7 (64.4)	22.7 (17.7)	64.2 (64.3)	73.3 (18.2)	107.4 (m64.5)

Notes:

1. xx (xx) – AM Peak (PM Peak)

Table 8 Unsignalized Intersections Capacity Analysis Summary

Movement	Existing			Future Background						Future Total					
				5-Year Horizon			10-Year Horizon			5-Year Horizon			10-Year Horizon		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
Wellington Rd 19 / First Line / Anderson St N															
EBLTR	0.00* (0.00*)	A (A)	0.3 (0.5)	0.04 (0.02)	A (A)	2.2 (0.7)	0.04 (0.02)	A (A)	2.0 (0.7)	0.06 (0.08)	A (A)	3.0 (2.9)	0.06 (0.08)	A (A)	2.8 (2.8)
WBLTR	0.02 (0.02)	A (A)	1.3 (0.9)	0.02 (0.02)	A (A)	1.2 (0.8)	0.02 (0.02)	A (A)	1.1 (0.8)	0.02 (0.02)	A (A)	1.1 (0.8)	0.02 (0.02)	A (A)	1.1 (0.7)
NBLTR	0.08 (0.08)	B (B)	10.8 (10.5)	0.11 (0.10)	B (B)	12.8 (11.8)	0.12 (0.10)	B (B)	13.4 (12.2)	0.14 (0.13)	C (B)	15.0 (13.9)	0.15 (0.13)	C (B)	15.8 (14.6)
SBLTR	0.03 (0.10)	B (B)	10.7 (12.4)	0.08 (0.32)	B (C)	12.4 (16.2)	0.10 (0.36)	B (C)	13.3 (17.8)	0.24 (0.54)	B (C)	12.8 (24.1)	0.27 (0.60)	B (D)	13.8 (28.5)
Overall		**A (A)**	**2.6 (2.8)**		**A (A)**	**3.2 (4.6)**		**A (A)**	**3.2 (4.7)**		**A (B)**	**4.8 (7.7)**		**A (B)**	**4.8 (8.4)**
Wellington Rd 19 / Robinson Rd / Tom St															
EBLTR	0.00* (0.02)	A (A)	0.5 (1.0)	0.00* (0.03)	A (A)	0.4 (0.9)	0.00* (0.03)	A (A)	0.4 (0.9)	0.01 (0.03)	A (A)	0.4 (0.8)	0.01 (0.03)	A (A)	0.4 (0.8)
WBLTR	0.00 (0.00*)	A (A)	0.0 (0.4)	0.00 (0.00*)	A (A)	0.0 (0.3)	0.00 (0.01)	A (A)	0.0 (0.3)	0.00 (0.01)	A (A)	0.0 (0.4)	0.00 (0.01)	A (A)	0.0 (0.4)
NBLTR	0.05 (0.07)	B (B)	12.3 (13.6)	0.06 (0.08)	B (C)	13.9 (16.0)	0.06 (0.09)	B (C)	14.5 (17.0)	0.12 (0.22)	C (E)	23.2 (39.4)	0.12 (0.26)	C (E)	24.7 (46.1)
SBLTR	0.11 (0.09)	B (B)	10.8 (12.1)	0.12 (0.11)	B (B)	11.6 (13.7)	0.13 (0.11)	B (B)	12.0 (14.4)	0.21 (0.23)	C (D)	17.6 (26.4)	0.22 (0.25)	C (D)	18.4 (29.8)
Overall		**A (A)**	**2.5 (2.1)**		**A (A)**	**2.1 (2.0)**		**A (A)**	**2.1 (1.9)**		**A (A)**	**2.0 (2.3)**		**A (A)**	**2.0 (2.5)**
Gartshore St / Forfar St E / Middleton Ave															
EBLTR	0.24 (0.15)	B (B)	14.7 (14.7)	0.35 (0.24)	C (C)	21.4 (22.0)	0.37 (0.25)	C (C)	22.9 (23.2)	0.36 (0.26)	C (C)	22.2 (23.3)	0.39 (0.27)	C (C)	24.1 (24.9)
WBLTR	0.19 (0.16)	C (C)	19.9 (21.5)	0.35 (0.27)	E (E)	39.3 (38.4)	0.38 (0.29)	E (E)	43.7 (41.9)	0.37 (0.29)	E (E)	41.8 (42.3)	0.40 (0.32)	E (E)	47.7 (47.0)

Movement	Existing			Future Background						Future Total					
				5-Year Horizon			10-Year Horizon			5-Year Horizon			10-Year Horizon		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
NBLTR	0.06 (0.09)	A (A)	1.9 (2.6)	0.06 (0.11)	A (A)	1.6 (2.8)	0.06 (0.11)	A (A)	1.6 (2.9)	0.06 (0.11)	A (A)	1.6 (2.9)	0.06 (0.11)	A (A)	1.6 (2.9)
SBLTR	0.01 (0.01)	A (A)	0.5 (0.4)	0.02 (0.01)	A (A)	0.5 (0.4)	0.02 (0.01)	A (A)	0.5 (0.4)	0.02 (0.01)	A (A)	0.5 (0.4)	0.02 (0.01)	A (A)	0.5 (0.4)
Overall		**A (B)**	**4.1 (3.4)**		**C (D)**	**4.8 (3.8)**		**C (D)**	**5.1 (4.0)**		**C (D)**	**4.9 (4.0)**		**C (D)**	**5.2 (4.1)**
Gartshore St / Gordon St															
EBLR	0.28 (0.18)	B (A)	10.2 (9.7)	0.44 (0.26)	B (B)	11.6 (10.8)	0.47 (0.28)	B (B)	12.0 (10.9)	0.44 (0.25)	B (B)	11.8 (10.7)	0.47 (0.29)	B (B)	12.2 (11.1)
NBLT	0.10 (0.14)	A (A)	6.2 (7.6)	0.12 (0.24)	A (A)	5.8 (8.0)	0.13 (0.25)	A (A)	5.9 (8.1)	0.13 (0.23)	A (A)	5.9 (7.9)	0.15 (0.26)	A (A)	6.1 (8.1)
Overall		**A (A)**	**8.1 (7.4)**		**A (A)**	**8.9 (7.8)**		**A (A)**	**9.2 (7.9)**		**A (A)**	**9.0 (7.9)**		**A (A)**	**9.3 (8.1)**
Wellington Rd 19 / Site Access															
EBLT	-[2]			-[2]			-[2]			0.06 (0.17)	A (A)	2.3 (4.3)	0.06 (0.17)	A (A)	2.2 (4.3)
SBLR										0.34 (0.22)	B (B)	13.0 (12.6)	0.35 (0.23)	B (B)	13.3 (13.1)
Overall											**B (C)**	**4.3 (4.0)**		**B (C)**	**4.2 (4.0)**
First Line / South Site Access															
EBLR	-[2]			-[2]			-[2]			0.05 (0.04)	A (A)	8.9 (9.3)	0.05 (0.04)	A (A)	8.9 (9.3)
NBLT										0.01 (0.04)	A (A)	1.0 (2.6)	0.01 (0.04)	A (A)	1.0 (2.6)
Overall											**A (A)**	**2.0 (2.0)**		**A (A)**	**2.0 (2.0)**
First Line / North Site Access															

Movement	Existing			Future Background						Future Total					
				5-Year Horizon			10-Year Horizon			5-Year Horizon			10-Year Horizon		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
EBLR	-[2]			-[2]			-[2]			0.07 (0.05)	A (A)	9.0 (9.5)	0.07 (0.05)	A (A)	9.0 (9.5)
NBLT										0.00* (0.03)	A (A)	0.8 (3.2)	0.00* (0.03)	A (A)	0.8 (3.2)
Overall											**A (A)**	**2.8 (2.5)**		**A (A)**	**2.8 (2.5)**

Notes:

1. xx (xx) – AM Peak (PM Peak)
2. Intersection does not exist under existing or future background conditions

Table 9 Unsignalized Intersection Queue Length Summary

Movement	Approx Storage Length (m)	Existing	Future Background		Future Total	
			5-Year Horizon	10-Year Horizon	5-Year Horizon	10-Year Horizon
		95%ile (m)	95%ile (m)	95%ile (m)	95%ile (m)	95%ile (m)
Wellington Rd 19 / First Line / Anderson St N						
EBLTR	**> 1,000**	0.1 (0.2)	0.9 (0.4)	0.9 (0.4)	1.6 (2.1)	1.6 (2.2)
ssWBLTR	**> 1,000**	0.5 (0.4)	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)
NBLTR	**1,000**	2.0 (1.9)	3.0 (2.6)	3.2 (2.8)	3.8 (3.4)	4.1 (3.7)
SBLTR	**> 1,000**	0.8 (2.7)	2.1 (10.8)	2.6 (12.7)	7.5 (25.1)	8.6 (30.3)
Wellington Rd 19 / Robinson Rd / Tom St						
EBLTR	**220**	0.2 (0.6)	0.2 (0.6)	0.2 (0.7)	0.3 (0.8)	0.3 (0.8)
WBLTR	**> 1,000**	0.0 (0.2)	0.0 (0.2)	0.0 (0.2)	0.0 (0.3)	0.0 (0.3)
NBLTR	**180**	1.3 (1.7)	1.5 (2.2)	1.6 (2.4)	3.1 (6.5)	3.4 (7.6)
SBLTR	**340**	2.9 (2.3)	3.3 (2.8)	3.5 (3.1)	6.2 (6.8)	6.6 (7.7)
Gartshore St / Forfar St E / Middleton Ave						
EBLTR	**1,000**	7.5 (4.3)	12.2 (7.3)	13.2 (7.8)	12.7 (7.9)	14.0 (8.5)
WBLTR	**370**	5.5 (4.3)	11.7 (8.3)	12.9 (9.1)	12.4 (9.2)	14.0 (10.1)
NBLTR	**200**	1.4 (2.5)	1.5 (3.0)	1.6 (3.1)	1.5 (3.1)	1.6 (3.1)
SBLTR	**> 1,000**	0.3 (0.3)	0.4 (0.3)	0.4 (0.3)	0.4 (0.3)	0.4 (0.3)
Gartshore St / Gordon St						
EBLR	**320**	9.1 (5.1)	17.9 (8.4)	20.1 (9.0)	18.6 (8.1)	20.8 (9.8)
NBLT	**1,000**	2.6 (4.0)	3.4 (7.5)	3.7 (7.9)	3.7 (7.0)	4.1 (8.2)
Wellington Rd 19 / Site Access						
EBLT	**750**	-[2]	-[2]	-[2]	1.4 (4.9)	1.5 (5.0)
SBLR	**400**				11.9 (6.8)	12.4 (7.1)
First Line / South Site Access						

EBLR	**450**	-[2]	-[2]	-[2]	1.3 (1.0)	1.3 (1.0)
NBLT	**150**				0.3 (0.9)	0.3 (0.9)
First Line / North Site Access						
EBLR	**300**	-[2]	-[2]	-[2]	1.7 (1.2)	1.7 (1.2)
NBLT	**400**				0.2 (0.8)	0.2 (0.8)

Notes:

1. xx (xx) – AM Peak (PM Peak)
2. Intersection does not exist under existing or future background condition

6.0 TRANSPORTATION DEMAND MANAGEMENT

6.1 Mobility Choice Travel Plan

The location of the site and its surrounding uses greatly influence the success of a Mobility Choice Travel Plan. The purpose of the Mobility Choice Travel Plan is to guide the provision of viable alternative personal transportation options beyond the single-occupant, private automobile. This plan intends to support the proposed redevelopment by outlining Transportation Demand Management (TDM) measures and the suite of strategies under consideration to promote the use of more active and sustainable transportation modes; respond to the mobility needs of residents and visitors of the site; and to reduce the overall dependence on the private automobile.

Four specific objectives define the policy framework for the Mobility Choice Travel Plan:

- Encourage the use of alternate travel modes (transit, cycling, walking);
- Increase vehicle occupancy;
- Shift travel to off-peak periods; and
- Reduce vehicle kilometres travelled.

6.2 Organizational Framework

The four broader objectives can be organized within the following categories:

- Encourage Transit Use;
- Encourage and Facilitate Bicycle Use;
- Enhance Pedestrian Access and Walkability;
- Facilitation of Reduced Car Ownership and Usage;
- Vehicular Parking Supply and Management;
- Land Use and Building Infrastructure; and
- Coordination, Communication, and Promotion.

Potential Mobility Choice Travel Plan Strategies for the proposed redevelopment are summarized in **Table 10**.

Table 10 Potential Mobility Choice Travel Plan Strategies

TRANSIT USE		**Intent:** **Encourage Transit Use** Support for and the promotion of the use of area transit services for both short and long-distance travel by residents and visitors will reduce the overall use of a vehicle and the need to own one.	**Existing and Future Context:** • Wellington County operates a demand based, public transit service available to all residents and visitors. Bookings can be made to or from any address in Wellington County or Guelph. **Mobility Strategies:** • At first occupancy, provide new residents with a transit information package detailing available transit services in the area
BICYCLE FACILITIES		**Intent:** **Encourage Bicycle Use** Provide cycling infrastructure that supports and promotes cycling as a convenient and viable travel alternative to the personal automobile.	**Existing and Future Context:** • Bicycle infrastructure in the area includes an existing on-road route on Wellington Road 19 east of First Line, and proposed on-road routes on Wellington Road 19 between First Line and James Street, and on Anderson Street North. **Mobility Strategies:** • At first occupancy, provide new residents with a cycling information package detailing available routes in the area
PEDESTRIAN CONNECTIVITY		**Intent:** **Encourage Pedestrian Use** A high-quality, safe, connection between the site and transit stations / stops, cycling network, and public street system encourages residents, employees, and visitors to travel around the site area without a vehicle.	**Existing and Future Context:** • There are currently no sidewalks adjacent the site. West of the site, there are sidewalks along one or both sides of Wellington Road 19, Gartshore Street, and a number of local streets in nearby residential subdivisions. A signalized crossing location is available at the Wellington Road 19/Gartshore Street intersection. **Mobility Strategies:** • Provision of sidewalks along both sides of proposed roads within the site.

7.0 SUMMARY AND CONCLUSIONS

Proposal Overview

1. The proposal is for a residential subdivision.
2. For the purpose of this assessment, BA Group have been advised of high level stats comprising 700 residential units. It should be noted that these stats are high level, and remain subject to change as the planning process for this site progresses.
3. The dwellings will be serviced by an internal public road network, including access to the site conceptually shown at three locations as follows:
    - A new unsignalized intersection at Wellington Road 19 / Site Access, located approximately 380 metres west of First Line;
    - A new unsignalized intersection at First Line / South Site Access, located approximately 180 metres north of Wellington Road 19; and
    - A new unsignalized intersection at First Line / North Site Access, located approximately 400 metres north of Wellington Road 19.

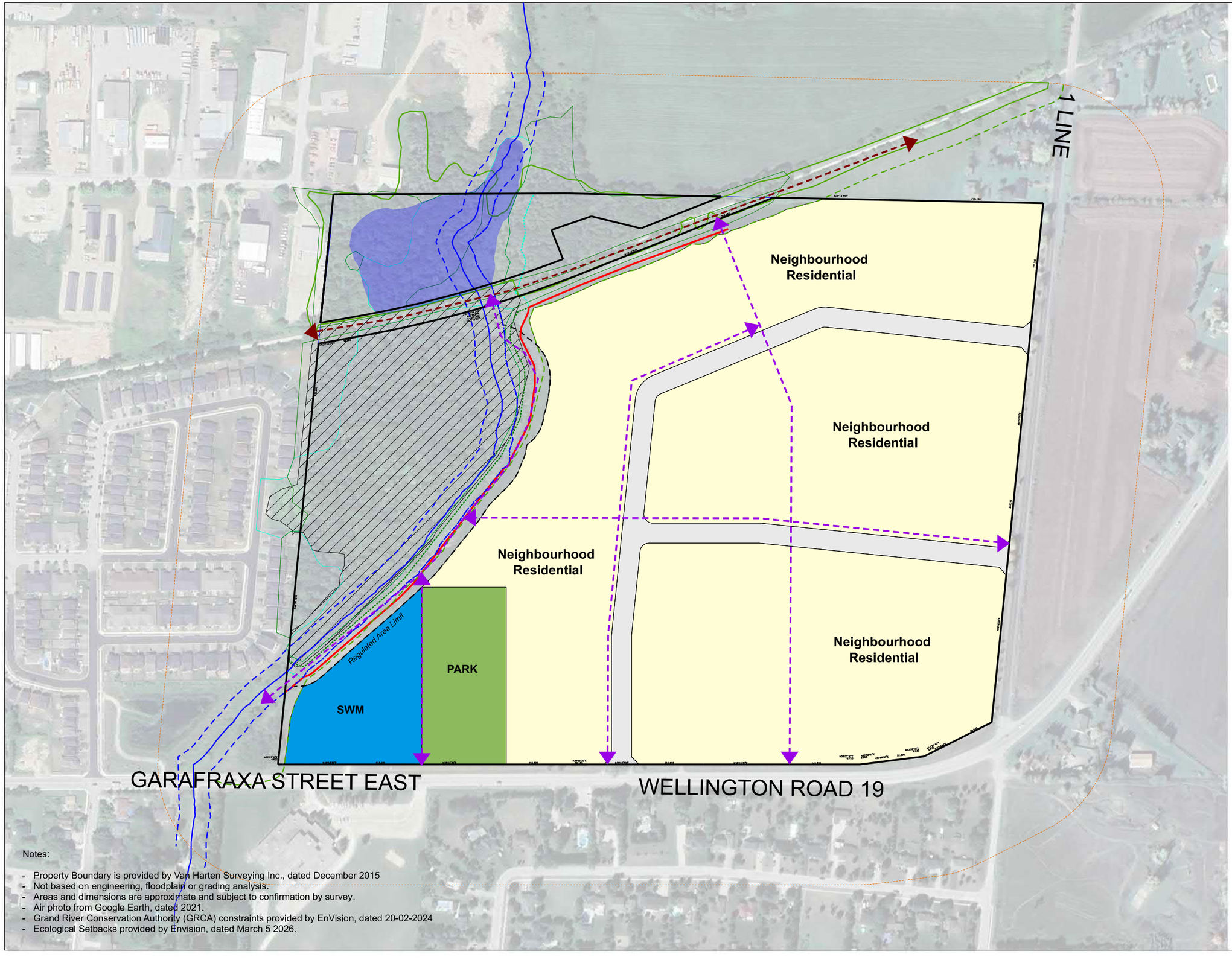
Traffic Analysis

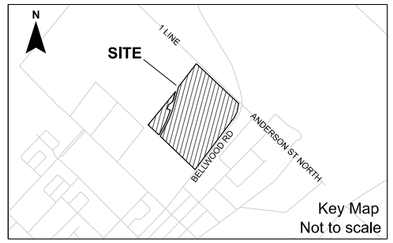
4. Analysis has been completed for the following scenarios during the AM and PM peak hour:
    - Existing Conditions;
    - Future Background Conditions (5-Year Horizon);
    - Future Background Conditions (10-Year Horizon);
    - Future Total Conditions (5-Year Horizon); and
    - Future Total Conditions (10-Year Horizon).
5. Capacity analysis was undertaken to determine the site vehicular traffic impact within the analysis study area listed below:
    - Wellington Road 19 / Gartshore Street
    - Wellington Road 19 / First Line / Anderson Street North
    - Wellington Road 19 / Robinson Road / Tom Street
    - Gartshore Street / Forfar Street East / Middleton Avenue
    - Gartshore Street / Gordon Street
    - Gartshore Street / St Andrew Street East
    - Wellington Road 19 / Site Access
    - First Line / South Site Access
    - First Line / North Site Access
6. The proposed redevelopment is expected to generate in the order of 430 and 555 two-way vehicle trips during the AM and PM peak hours respectively.
7. It is projected that traffic associated with the proposed development can be suitably accommodated at all intersections within the study area.

Transportation Demand Management

8. Proposed Transportation Demand Management measures include:
    - Provision of transit information package
    - Provision of cycling information package
    - Provision of sidewalks within the site

Appendix A:
Concept Plan





LEGEND

- Study Area
- Neighbourhood Residential
- SMW
- Park
- Elora Cataract Trailway
- Potential Trail Connection
- Development Limit (EnVision)
- Proposed Street Network

Grand River Conservation Authority (GRCA)

- Environmental Land Classification
- Wetland
- Regulated Watercourse
- Regulated Watercourse Setback
- Woodland
- Woodland Setback

DEVELOPMENT STATISTICS:

Gross Study Area:	39.0 ha
GRCA Area:	9.0 ha
Estimated Net Developable Area:	**30.0 ha**
- Neighbourhood Residential	24.8 ha
- Park	5%
- SMW	5%

DRAWN / REVISED

18 MAR 2026	Issued for Review
11 MAR 2026	Issued for Review
17 MAY 2024	Issued for Review

PROPOSED LAND USE PLAN

PT LT 8 CON 1 WEST GARAFRAXA
PT 1, 61R11802 TOWNSHIP OF
CENTRE WELLINGTON
WELLINGTON COUNTY

SCALE
0 25 50 75 100m

WESTON CONSULTING

File Number: 11630
Date: 2026-03-18
Drawn By: NDC
Planner: RG
CAD: 11630_Proposed Land Use Plan_2026-03-18.dgn

Drawing
LUP

Notes:

- Property Boundary is provided by Van Harten Surveying Inc., dated December 2015
- Not based on engineering, floodplain or grading analysis.
- Areas and dimensions are approximate and subject to confirmation by survey.
- Air photo from Google Earth, dated 2021.
- Grand River Conservation Authority (GRCA) constraints provided by EnVision, dated 20-02-2024
- Ecological Setbacks provided by Envision, dated March 5 2026.

Appendix B:
Turning Movement Counts

Spectrum

Turning Movement Count
Location Name: GARTSHORE ST & GATAFRAXA ST E
Date: Wed, Jun 19, 2024 Deployment Lead: David Chu

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Turning Movement Count (2 . GARTSHORE ST & GATAFRAXA ST E)

Start Time	N Approach GARTSHORE ST						E Approach GATAFRAXA ST E						S Approach GARTSHORE ST						W Approach GATAFRAXA ST E						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	0	53	5	0	0	58	9	6	15	0	2	30	10	38	6	0	0	54	24	4	3	0	0	31	173	
07:15:00	3	47	10	0	0	60	11	12	14	0	0	37	4	69	6	0	0	79	20	11	3	0	1	34	210	
07:30:00	3	88	6	0	0	97	19	24	19	0	1	62	11	65	8	0	1	84	26	12	5	0	0	43	286	
07:45:00	5	63	10	0	0	78	18	13	18	0	0	49	15	88	12	0	0	115	22	13	2	0	0	37	279	948
08:00:00	1	87	13	0	0	101	21	24	16	0	0	61	15	63	8	0	3	86	19	11	5	0	2	35	283	1058
08:15:00	1	70	19	0	1	90	10	30	23	0	0	63	17	52	12	0	1	81	22	16	2	0	0	40	274	1122
08:30:00	4	106	12	0	0	122	14	43	25	0	1	82	10	73	21	0	1	104	31	13	2	0	1	46	354	1190
08:45:00	3	72	10	0	1	85	16	19	23	0	0	58	8	86	23	0	2	117	44	20	3	0	2	67	327	1238
09:00:00	6	82	16	0	0	104	11	19	16	0	0	46	12	62	23	0	0	97	22	21	1	0	0	44	291	1246
09:15:00	2	45	8	0	0	55	13	14	22	0	0	49	5	55	11	0	1	71	23	12	4	0	1	39	214	1186
09:30:00	1	59	7	0	1	67	12	15	18	0	0	45	10	51	9	0	0	70	10	18	7	0	1	35	217	1049
09:45:00	1	47	13	0	0	61	8	16	29	0	0	53	4	66	8	0	1	78	11	10	2	0	0	23	215	937
10:00:00	3	44	8	0	0	55	14	15	23	0	0	52	4	59	19	0	1	82	13	9	1	0	0	23	212	858
10:15:00	0	45	13	0	0	58	15	15	15	0	0	45	14	52	13	0	1	79	10	10	1	0	1	21	203	847
10:30:00	3	40	9	0	0	52	9	25	13	0	1	47	10	64	9	0	0	83	16	11	2	0	1	29	211	841
10:45:00	3	65	11	0	0	79	10	27	20	0	0	57	17	54	12	0	0	83	18	15	1	0	0	34	253	879
11:00:00	1	48	10	0	0	59	12	9	18	0	0	39	7	55	15	0	0	77	13	19	2	0	0	34	209	876
11:15:00	2	55	18	0	0	75	15	20	18	0	0	53	11	67	13	0	0	91	20	15	3	0	0	38	257	930
11:30:00	5	48	14	0	0	67	8	20	16	0	0	44	6	56	16	0	0	78	13	18	4	0	0	35	224	943
11:45:00	3	71	13	0	0	87	14	26	16	0	0	56	7	75	12	0	0	94	21	24	5	0	0	50	287	977
12:00:00	6	71	17	0	0	94	11	15	20	0	0	46	16	64	7	0	0	87	20	20	5	0	0	45	272	1040
12:15:00	1	59	19	0	0	79	12	21	17	0	0	50	12	74	11	0	0	97	23	13	8	0	0	44	270	1053
12:30:00	8	63	13	0	0	84	10	18	11	0	0	39	5	81	16	0	0	102	9	24	6	0	0	39	264	1093
12:45:00	3	64	13	0	0	80	8	14	11	0	0	33	8	69	6	0	0	83	20	21	3	0	0	44	240	1046
13:00:00	3	60	14	0	0	77	15	17	9	0	0	41	17	60	9	0	0	86	18	21	1	0	0	40	244	1018
13:15:00	2	52	7	0	0	61	14	14	11	0	0	39	13	58	17	0	0	88	25	18	4	0	0	47	235	983
13:30:00	2	62	10	0	0	74	12	22	17	0	0	51	9	57	16	0	0	82	18	15	3	0	0	36	243	962
13:45:00	4	53	9	0	0	66	8	20	9	0	0	37	8	63	19	0	0	90	16	15	7	0	1	38	231	953
14:00:00	7	64	12	0	0	83	13	18	15	0	0	46	14	66	12	0	0	92	24	13	2	0	0	39	260	969
14:15:00	2	63	11	0	0	76	10	18	21	0	0	49	10	71	14	0	0	95	24	12	6	0	0	42	262	996
14:30:00	12	59	12	0	0	83	14	20	10	0	0	44	10	71	15	0	1	96	20	15	0	0	1	35	258	1011
14:45:00	4	65	13	0	0	82	10	24	15	0	0	49	14	76	33	0	0	123	24	17	6	0	0	47	301	1081
15:00:00	9	102	19	0	0	130	12	19	31	0	0	62	15	81	23	0	0	119	29	30	7	0	1	66	377	1198
15:15:00	2	63	15	0	1	80	21	20	23	0	0	64	16	101	29	0	2	146	33	31	2	0	4	66	356	1292
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16:00:00	11	94	19	0	0	124	16	15	25	0	0	56	16	89	14	0	0	119	23	22	8	0	0	53	352	1378
16:15:00	4	70	21	0	0	95	12	16	13	0	0	41	23	105	26	0	0	154	23	22	2	0	0	47	337	1359
16:30:00	6	85	16	0	0	107	40	26	32	0	0	98	18	102	19	0	0	139	24	22	2	0	0	48	392	1416
16:45:00	3	69	12	0	0	84	15	20	16	0	0	51	17	99	23	0	0	139	25	26	0	0	0	51	325	1406
17:00:00	5	102	15	0	1	122	17	9	14	0	0	40	10	107	27	0	0	144	20	17	2	0	0	39	345	1399
17:15:00	1	84	18	0	0	103	14	15	22	0	0	51	6	102	22	0	0	130	26	14	2	0	1	42	326	1388
17:30:00	4	72	8	0	0	84	11	15	14	0	0	40	20	83	31	0	0	134	22	13	1	0	0	36	294	1290
17:45:00	3	41	9	0	0	53	12	10	22	0	0	44	20	67	14	0	0	101	24	10	4	0	0	38	236	1201
18:00:00	0	44	9	0	0	53	11	8	11	0	0	30	16	75	16	0	0	107	11	12	2	0	0	25	215	1071

18:15:00	3	36	4	0	0	43	3	8	14	0	0	25	10	65	13	0	0	88	24	8	0	0	0	32	188	933
18:30:00	3	40	6	0	0	49	11	11	10	0	0	32	11	55	19	0	0	85	22	13	0	0	0	35	201	840
18:45:00	1	51	7	0	0	59	4	16	11	0	0	31	9	81	14	0	0	104	22	11	2	0	0	35	229	833
Grand Total	164	3061	588	0	5	3813	628	855	842	0	5	2325	573	3464	760	0	18	4797	1030	783	154	0	20	1967	**12902**	-
Approach%	4.3%	80.3%	15.4%	0%		-	27%	36.8%	36.2%	0%		-	11.9%	72.2%	15.8%	0%		-	52.4%	39.8%	7.8%	0%		-	**-**	-
Totals %	1.3%	23.7%	4.6%	0%		29.6%	4.9%	6.6%	6.5%	0%		18%	4.4%	26.8%	5.9%	0%		37.2%	8%	6.1%	1.2%	0%		15.2%	**-**	-
Heavy	11	224	28	0		-	32	20	25	0		-	26	207	23	0		-	28	26	9	0		-	**-**	-
Heavy %	6.7%	7.3%	4.8%	0%		-	5.1%	2.3%	3%	0%		-	4.5%	6%	3%	0%		-	2.7%	3.3%	5.8%	0%		-	**-**	-
Bicycles	0	4	0	0		-	1	5	2	0		-	0	2	0	0		-	3	5	2	0		-	**-**	-
Bicycle %	0%	0.1%	0%	0%		-	0.2%	0.6%	0.2%	0%		-	0%	0.1%	0%	0%		-	0.3%	0.6%	1.3%	0%		-	**-**	-

Peak Hour: 03:45 PM - 04:45 PM Weather: Overcast Clouds (21.85 °C)

Start Time	N Approach GARTSHORE ST						E Approach GATAFRAXA ST E						S Approach GARTSHORE ST						W Approach GATAFRAXA ST E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
15:45:00	1	64	16	0	0	81	16	17	18	0	0	51	14	98	14	0	1	126	37	32	8	0	0	77	335
16:00:00	11	94	19	0	0	124	16	15	25	0	0	56	16	89	14	0	0	119	23	22	8	0	0	53	352
16:15:00	4	70	21	0	0	95	12	16	13	0	0	41	23	105	26	0	0	154	23	22	2	0	0	47	337
16:30:00	6	85	16	0	0	107	40	26	32	0	0	98	18	102	19	0	0	139	24	22	2	0	0	48	392
Grand Total	22	313	72	0	0	407	84	74	88	0	0	246	71	394	73	0	1	538	107	98	20	0	0	225	**1416**
Approach%	5.4%	76.9%	17.7%	0%		-	34.1%	30.1%	35.8%	0%		-	13.2%	73.2%	13.6%	0%		-	47.6%	43.6%	8.9%	0%		-	**-**
Totals %	1.6%	22.1%	5.1%	0%		28.7%	5.9%	5.2%	6.2%	0%		17.4%	5%	27.8%	5.2%	0%		38%	7.6%	6.9%	1.4%	0%		15.9%	**-**
PHF	0.5	0.83	0.86	0		0.82	0.53	0.71	0.69	0		0.63	0.77	0.94	0.7	0		0.87	0.72	0.77	0.63	0		0.73	**-**
Heavy	0	10	1	0		11	6	0	3	0		9	6	17	0	0		23	4	1	4	0		9	**-**
Heavy %	0%	3.2%	1.4%	0%		2.7%	7.1%	0%	3.4%	0%		3.7%	8.5%	4.3%	0%	0%		4.3%	3.7%	1%	20%	0%		4%	**-**
Lights	22	303	71	0		396	78	74	85	0		237	65	377	73	0		515	103	97	16	0		216	**-**
Lights %	100%	96.8%	98.6%	0%		97.3%	92.9%	100%	96.6%	0%		96.3%	91.5%	95.7%	100%	0%		95.7%	96.3%	99%	80%	0%		96%	**-**
Single-Unit Trucks	0	2	0	0		2	1	0	3	0		4	0	1	0	0		1	3	1	0	0		4	**-**
Single-Unit Trucks %	0%	0.6%	0%	0%		0.5%	1.2%	0%	3.4%	0%		1.6%	0%	0.3%	0%	0%		0.2%	2.8%	1%	0%	0%		1.8%	**-**
Buses	0	4	0	0		4	5	0	0	0		5	6	10	0	0		16	0	0	4	0		4	**-**
Buses %	0%	1.3%	0%	0%		1%	6%	0%	0%	0%		2%	8.5%	2.5%	0%	0%		3%	0%	0%	20%	0%		1.8%	**-**
Articulated Trucks	0	4	1	0		5	0	0	0	0		0	0	6	0	0		6	1	0	0	0		1	**-**
Articulated Trucks %	0%	1.3%	1.4%	0%		1.2%	0%	0%	0%	0%		0%	0%	1.5%	0%	0%		1.1%	0.9%	0%	0%	0%		0.4%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	2	0	0	0	-	1	4	2	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	100%		-	-	-	-	0%		**-**

Spectrum

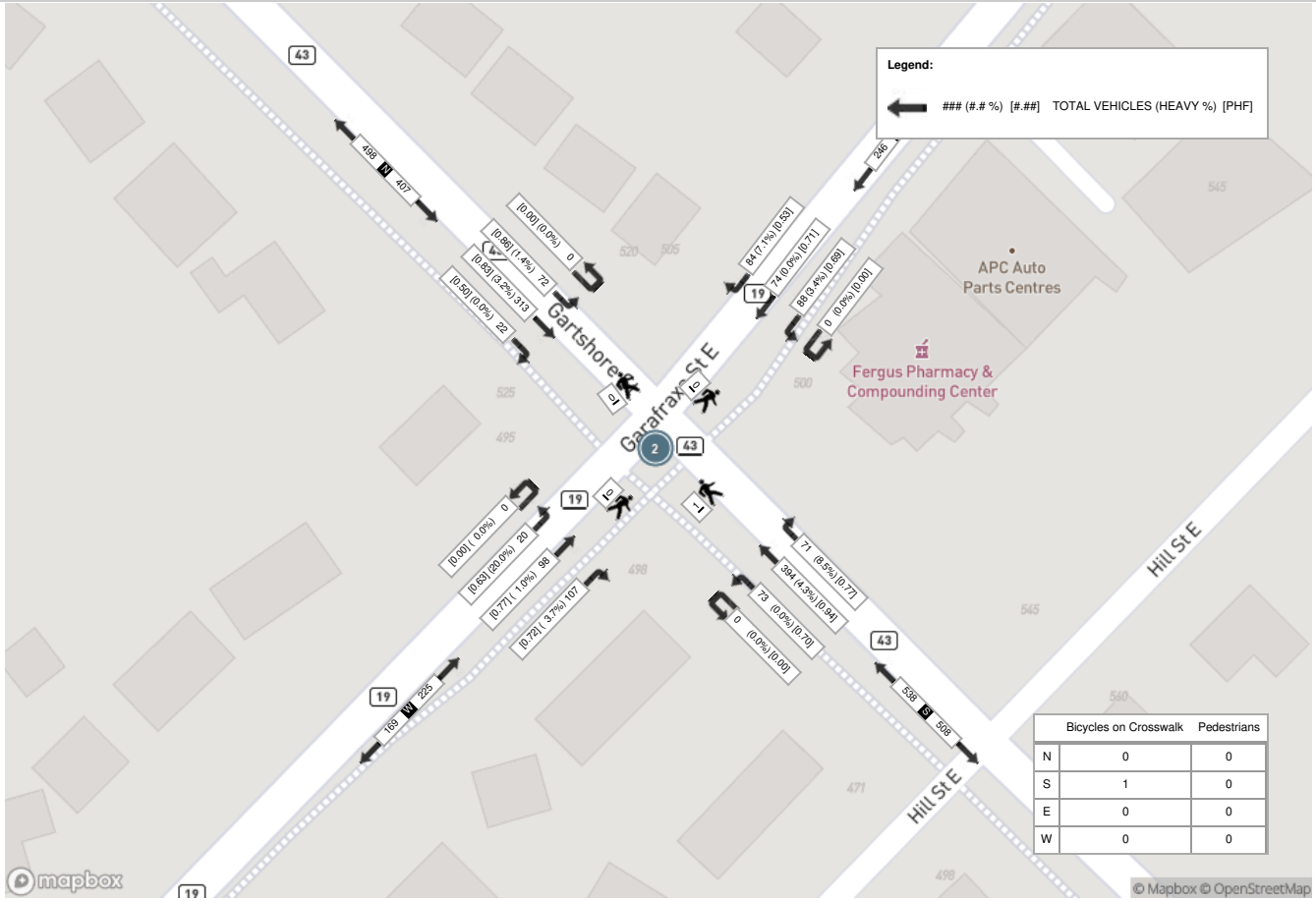
Turning Movement Count
Location Name: GARTSHORE ST & GATAFRAXA ST E
Date: Wed, Jun 19, 2024 Deployment Lead: David Chu

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Selected Hour: 08:15 AM - 09:15 AM **Weather:**

Start Time	N Approach GARTSHORE ST						E Approach GATAFRAXA ST E						S Approach GARTSHORE ST						W Approach GATAFRAXA ST E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:15:00	1	70	19	0	1	90	10	30	23	0	0	63	17	52	12	0	1	81	22	16	2	0	0	40	274
08:30:00	4	106	12	0	0	122	14	43	25	0	1	82	10	73	21	0	1	104	31	13	2	0	1	46	354
08:45:00	3	72	10	0	1	85	16	19	23	0	0	58	8	86	23	0	2	117	44	20	3	0	2	67	327
09:00:00	6	82	16	0	0	104	11	19	16	0	0	46	12	62	23	0	0	97	22	21	1	0	0	44	291
Grand Total	14	330	57	0	2	401	51	111	87	0	1	249	47	273	79	0	4	399	119	70	8	0	3	197	**1246**
Approach%	3.5%	82.3%	14.2%	0%		-	20.5%	44.6%	34.9%	0%		-	11.8%	68.4%	19.8%	0%		-	60.4%	35.5%	4.1%	0%		-	**-**
Totals %	1.1%	26.5%	4.6%	0%		32.2%	4.1%	8.9%	7%	0%		20%	3.8%	21.9%	6.3%	0%		32%	9.6%	5.6%	0.6%	0%		15.8%	**-**
PHF	0.58	0.78	0.75	0		0.82	0.8	0.65	0.87	0		0.76	0.69	0.79	0.86	0		0.85	0.68	0.83	0.67	0		0.74	**-**
Heavy	2	26	6	0		34	3	2	9	0		14	7	37	3	0		47	5	4	1	0		10	**-**
Heavy %	14.3%	7.9%	10.5%	0%		8.5%	5.9%	1.8%	10.3%	0%		5.6%	14.9%	13.6%	3.8%	0%		11.8%	4.2%	5.7%	12.5%	0%		5.1%	**-**
Lights	12	304	51	0		367	48	109	78	0		235	40	236	76	0		352	114	66	7	0		187	**-**
Lights %	85.7%	92.1%	89.5%	0%		91.5%	94.1%	98.2%	89.7%	0%		94.4%	85.1%	86.4%	96.2%	0%		88.2%	95.8%	94.3%	87.5%	0%		94.9%	**-**
Single-Unit Trucks	1	7	1	0		9	1	0	0	0		1	4	11	1	0		16	4	1	0	0		5	**-**
Single-Unit Trucks %	7.1%	2.1%	1.8%	0%		2.2%	2%	0%	0%	0%		0.4%	8.5%	4%	1.3%	0%		4%	3.4%	1.4%	0%	0%		2.5%	**-**
Buses	1	10	4	0		15	2	2	9	0		13	3	18	1	0		22	1	3	1	0		5	**-**
Buses %	7.1%	3%	7%	0%		3.7%	3.9%	1.8%	10.3%	0%		5.2%	6.4%	6.6%	1.3%	0%		5.5%	0.8%	4.3%	12.5%	0%		2.5%	**-**
Articulated Trucks	0	9	1	0		10	0	0	0	0		0	0	8	1	0		9	0	0	0	0		0	**-**
Articulated Trucks %	0%	2.7%	1.8%	0%		2.5%	0%	0%	0%	0%		0%	0%	2.9%	1.3%	0%		2.3%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	10%		-	-	-	-	10%		-	-	-	-	40%		-	-	-	-	20%		**-**
Bicycles on Road	0	1	0	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	10%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	10%		**-**

Peak Hour: 03:45 PM - 04:45 PM Weather: Overcast Clouds (21.85 °C)

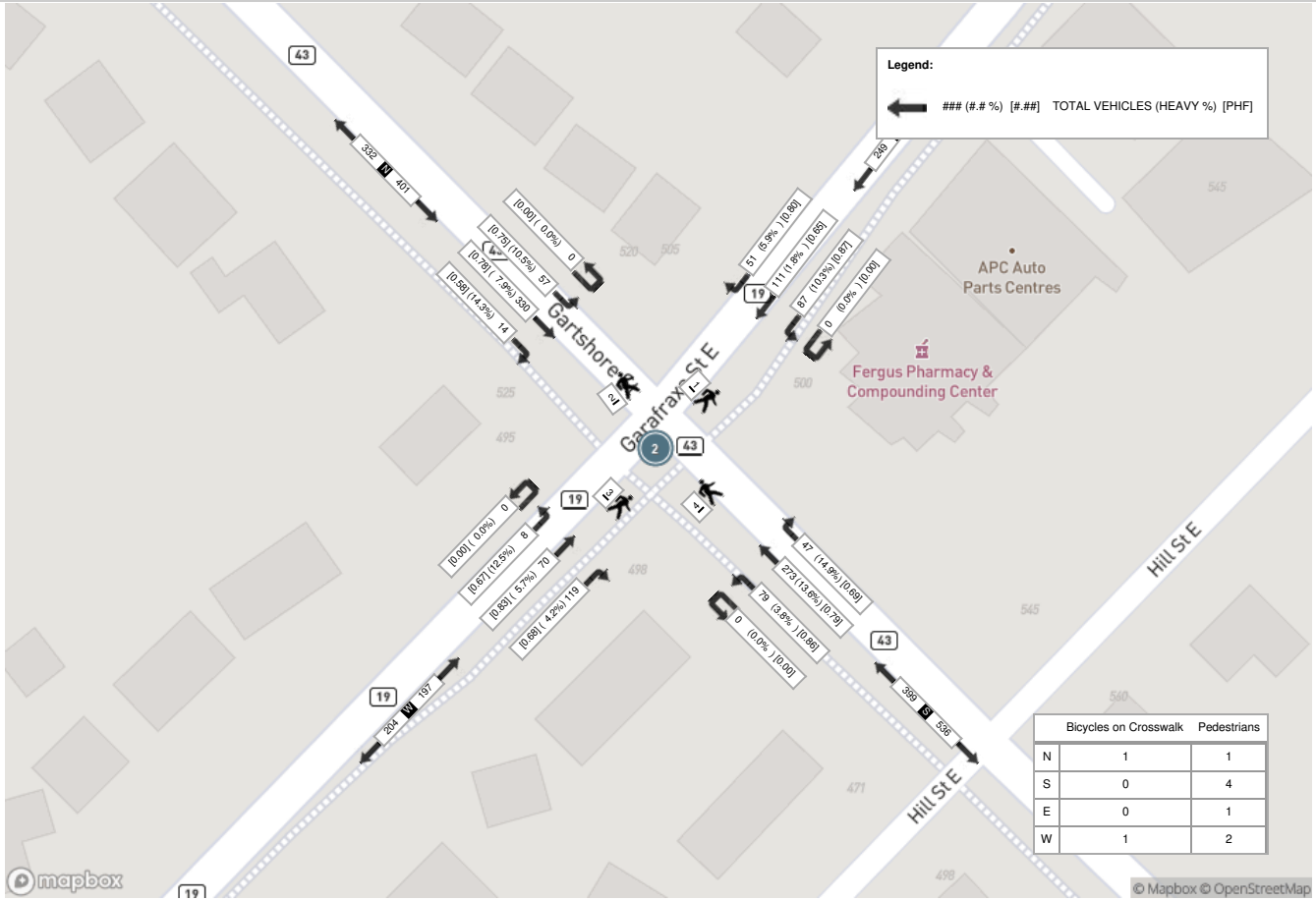


Spectrum

Turning Movement Count
Location Name: GARTSHORE ST & GATAFRAXA ST E
Date: Wed, Jun 19, 2024 Deployment Lead: David Chu

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Selected Hour: 08:15 AM - 09:15 AM **Weather:**



	Bicycles on Crosswalk	Pedestrians
N	1	1
S	0	4
E	0	1
W	1	2

Spectrum

Turning Movement Count
Location Name: GATAFRAXA ST E & FIRST LIN
Date: Wed, Jun 19, 2024 Deployment Lead: David Chu

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Turning Movement Count (6 . GATAFRAXA ST E & FIRST LIN)

Start Time	N Approach FIRST LIN						E Approach GATAFRAXA ST E						S Approach FIRST LIN						W Approach GATAFRAXA ST E						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
00:00:00	0	0	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	6	0	0	0	6	8	
00:15:00	0	1	0	0	0	1	0	1	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	1	4	
00:30:00	0	0	0	0	0	0	0	3	0	0	0	3	1	0	0	0	0	1	0	1	0	0	0	1	5	
00:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
01:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	10
01:15:00	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	0	3	0	0	0	3	5	11
01:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
01:45:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7
02:00:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7
02:15:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2	4
02:30:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	5
02:45:00	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	2	3	7
03:00:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2	0	0	0	2	3	9
03:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
03:30:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	7
03:45:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	5
04:00:00	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	3	5
04:15:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	2	3	8
04:30:00	0	0	0	0	0	0	1	2	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	2	5	12
04:45:00	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3	14
05:00:00	0	0	0	0	0	0	0	6	0	0	0	6	0	0	1	0	0	1	0	5	0	0	0	5	12	23
05:15:00	0	0	0	0	0	0	0	7	0	0	0	7	1	0	0	0	0	1	0	5	0	0	0	5	13	33
05:30:00	0	0	0	0	0	0	0	17	0	0	0	17	1	0	0	0	0	1	0	6	0	0	0	6	24	52
05:45:00	0	0	0	0	0	0	0	10	0	0	0	10	0	0	1	0	0	1	0	7	1	0	0	8	19	68
06:00:00	0	0	1	0	0	1	1	4	0	0	0	5	0	0	1	0	0	1	0	10	0	0	0	10	17	73
06:15:00	0	0	0	0	0	0	1	15	2	0	0	18	1	1	0	0	0	2	0	18	0	0	0	18	38	98
06:30:00	0	0	1	0	0	1	0	14	1	0	0	15	3	0	1	0	0	4	0	10	0	0	0	10	30	104
06:45:00	2	0	2	0	0	4	4	22	1	0	0	27	4	1	2	0	0	7	0	17	0	0	1	17	55	140
07:00:00	0	0	3	0	0	3	1	23	0	0	1	24	2	0	0	0	0	2	2	14	0	0	0	16	45	168
07:15:00	1	0	3	0	0	4	4	24	2	0	0	30	4	0	1	0	0	5	0	19	0	0	1	19	58	188
07:30:00	2	0	1	0	0	3	3	40	2	0	0	45	2	1	2	0	0	5	0	27	3	0	0	30	83	241
07:45:00	0	1	2	0	0	3	4	33	3	0	1	40	9	3	1	0	1	13	1	20	8	0	0	29	85	271
08:00:00	3	1	2	0	0	6	2	48	1	0	0	51	5	5	4	0	0	14	0	30	2	0	0	32	103	329
08:15:00	5	1	2	0	1	8	1	38	4	0	0	43	5	3	4	0	0	12	1	28	2	0	1	31	94	365
08:30:00	2	0	3	0	0	5	4	45	11	1	0	61	4	3	3	0	1	10	4	18	2	0	0	24	100	382
08:45:00	2	0	2	0	0	4	4	31	14	0	0	49	9	0	2	0	0	11	7	25	1	0	1	33	97	394
09:00:00	2	0	2	0	0	4	0	36	5	0	0	41	2	2	3	0	0	7	2	36	0	0	0	38	90	381
09:15:00	2	0	2	0	0	4	3	36	1	0	0	40	8	0	1	0	0	9	0	22	2	0	0	24	77	364
09:30:00	2	1	2	0	1	5	1	31	3	0	1	35	3	0	0	0	0	3	1	33	0	0	1	34	77	341
09:45:00	2	1	1	0	0	4	2	45	1	0	0	48	4	1	2	0	0	7	0	24	0	0	0	24	83	327
10:00:00	3	2	1	0	0	6	1	41	3	0	0	45	6	1	1	0	0	8	2	17	0	0	0	19	78	315
10:15:00	3	0	2	0	0	5	1	39	3	0	1	43	5	2	0	0	0	7	3	32	1	0	0	36	91	329
10:30:00	1	1	0	0	0	2	0	47	2	0	0	49	6	1	2	0	0	9	1	22	1	0	0	24	84	336
10:45:00	2	2	2	0	0	6	1	45	5	0	0	51	5	0	3	0	0	8	1	37	4	0	0	42	107	360
11:00:00	0	2	1	0	0	3	2	29	5	0	0	36	12	1	1	0	0	14	2	40	1	0	0	43	96	378

11:15:00	2	3	1	0	0	6	1	44	10	0	0	55	5	1	3	0	0	9	3	30	0	0	0	33	103	390
11:30:00	0	0	0	0	0	0	1	33	6	0	0	40	7	0	1	0	0	8	1	34	1	0	0	36	84	390
11:45:00	1	1	2	0	0	4	1	41	6	0	0	48	4	2	4	0	0	10	1	30	2	0	0	33	95	378
12:00:00	2	1	2	0	0	5	2	32	3	0	0	37	4	1	1	0	0	6	1	44	3	0	0	48	96	378
12:15:00	0	2	2	0	0	4	2	45	11	0	0	58	8	3	1	0	0	12	3	35	0	0	0	38	112	387
12:30:00	0	0	0	0	0	0	0	36	4	0	0	40	3	1	1	0	0	5	3	32	3	0	0	38	83	386
12:45:00	2	1	3	0	0	6	0	28	6	0	0	34	4	1	2	0	0	7	2	39	0	0	0	41	88	379
13:00:00	3	1	1	0	0	5	0	26	2	0	0	28	6	0	2	0	0	8	1	32	1	0	0	34	75	358
13:15:00	0	2	1	0	0	3	1	32	3	0	0	36	7	1	2	0	0	10	1	33	0	0	0	34	83	329
13:30:00	0	1	4	0	0	5	2	44	4	0	0	50	6	1	0	0	0	7	5	21	0	0	0	26	88	334
13:45:00	0	2	4	0	0	6	1	28	3	0	0	32	6	0	2	0	0	8	0	28	3	0	0	31	77	323
14:00:00	0	0	3	0	0	3	1	37	2	0	0	40	12	2	3	0	0	17	1	30	0	0	0	31	91	339
14:15:00	1	0	3	0	0	4	1	33	2	0	0	36	6	1	2	0	0	9	1	22	3	0	0	26	75	331
14:30:00	1	1	1	0	0	3	2	34	6	0	1	42	8	1	2	0	0	11	3	23	1	0	0	27	83	326
14:45:00	2	3	1	0	0	6	1	35	6	0	0	42	8	0	3	0	0	11	1	22	3	0	0	26	85	334
15:00:00	5	3	1	0	0	9	4	32	6	0	0	42	3	0	1	0	0	4	3	46	1	0	0	50	105	348
15:15:00	0	2	3	0	0	5	4	44	3	0	0	51	11	3	4	0	0	18	5	39	2	0	0	46	120	393
15:30:00	1	0	5	0	0	6	1	36	2	0	0	39	15	2	1	0	0	18	2	42	0	0	0	44	107	417
15:45:00	2	0	4	0	0	6	3	40	3	0	0	46	10	2	0	0	0	12	3	42	1	0	0	46	110	442
16:00:00	5	3	10	0	0	18	5	45	4	0	0	54	9	1	1	0	0	11	3	42	0	0	0	45	128	465
16:15:00	3	3	7	0	0	13	1	42	6	0	0	49	15	1	0	0	0	16	3	34	1	0	0	38	116	461
16:30:00	1	0	3	0	0	4	2	41	7	0	0	50	2	2	2	0	0	6	4	52	5	0	0	61	121	475
16:45:00	4	2	4	0	0	10	3	36	5	0	0	44	7	6	1	0	0	14	7	41	2	0	0	50	118	483
17:00:00	0	0	2	0	0	2	1	27	3	0	0	31	10	0	2	0	0	12	1	39	0	0	0	40	85	440
17:15:00	1	1	4	0	0	6	4	32	3	0	0	39	5	1	0	0	0	6	0	29	0	0	0	29	80	404
17:30:00	2	0	4	0	0	6	1	32	4	0	0	37	5	0	3	0	0	8	2	28	1	0	0	31	82	365
17:45:00	2	2	3	0	0	7	0	29	4	0	0	33	10	1	3	0	0	14	2	25	0	0	0	27	81	328
18:00:00	0	2	1	0	0	3	0	23	4	0	0	27	10	1	2	0	0	13	4	25	4	0	0	33	76	319
18:15:00	2	0	3	0	0	5	2	19	2	0	0	23	3	3	0	0	0	6	0	19	0	0	0	19	53	292
18:30:00	3	1	1	0	0	5	0	23	0	0	0	23	2	0	2	0	0	4	2	22	2	0	0	26	58	268
18:45:00	6	0	1	0	0	7	1	22	1	0	0	24	3	1	0	0	0	4	1	17	0	0	0	18	53	240
19:00:00	0	1	3	0	0	4	0	27	0	0	0	27	3	0	3	0	0	6	3	12	0	0	0	15	52	216
19:15:00	1	1	1	0	0	3	0	24	1	0	0	25	4	1	0	0	0	5	1	12	0	0	0	13	46	209
19:30:00	1	3	2	0	0	6	2	14	1	0	0	17	2	2	1	0	0	5	0	18	0	0	0	18	46	197
19:45:00	1	1	0	0	0	2	1	10	2	0	0	13	1	2	1	0	0	4	1	19	0	0	0	20	39	183
20:00:00	0	0	0	0	0	0	0	14	0	0	0	14	6	0	0	0	0	6	0	12	0	0	0	12	32	163
20:15:00	2	0	1	0	0	3	1	15	0	0	0	16	3	1	1	0	0	5	1	18	3	0	0	22	46	163
20:30:00	1	0	0	0	0	1	0	6	2	0	0	8	0	1	1	0	0	2	0	7	1	0	0	8	19	136
20:45:00	0	0	0	0	0	0	0	3	0	0	0	3	2	0	3	0	0	5	2	7	0	0	0	9	17	114
21:00:00	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	3	9	0	0	0	12	14	96
21:15:00	0	0	0	0	0	0	0	4	1	0	0	5	3	1	1	0	0	5	0	10	0	0	0	10	20	70
21:30:00	0	0	0	0	0	0	0	8	0	0	0	8	3	0	1	0	0	4	0	5	2	0	0	7	19	70
21:45:00	0	0	2	0	0	2	0	14	2	0	0	16	2	0	1	0	0	3	3	2	1	0	0	6	27	80
22:00:00	0	0	1	0	0	1	1	8	1	0	0	10	2	0	0	0	0	2	2	6	0	0	0	8	21	87
22:15:00	0	0	0	0	0	0	1	2	2	0	0	5	0	0	0	0	0	0	2	13	0	0	0	15	20	87
22:30:00	0	0	0	0	0	0	1	3	0	0	0	4	3	0	0	0	0	3	0	7	0	0	0	7	14	82
22:45:00	0	1	1	0	0	2	0	4	1	0	0	5	0	0	1	0	0	1	1	2	0	0	0	3	11	66
23:00:00	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	3	5	50

23:15:00	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	4	0	0	0	4	6	36
23:30:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	2	24
23:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	2	3	16
Grand Total	92	58	130	0	2	280	97	1955	214	1	5	2267	353	72	103	0	2	528	117	1709	75	0	5	1901	**4976**	-
Approach%	32.9%	20.7%	46.4%	0%		-	4.3%	86.2%	9.4%	0%		-	66.9%	13.6%	19.5%	0%		-	6.2%	89.9%	3.9%	0%		-	**-**	-
Totals %	1.8%	1.2%	2.6%	0%		5.6%	1.9%	39.3%	4.3%	0%		45.6%	7.1%	1.4%	2.1%	0%		10.6%	2.4%	34.3%	1.5%	0%		38.2%	**-**	-
Heavy	2	3	19	0		-	11	58	8	0		-	10	5	5	0		-	14	58	1	0		-	**-**	-
Heavy %	2.2%	5.2%	14.6%	0%		-	11.3%	3%	3.7%	0%		-	2.8%	6.9%	4.9%	0%		-	12%	3.4%	1.3%	0%		-	**-**	-
Bicycles	2	3	0	0		-	0	1	0	0		-	2	4	1	0		-	0	1	1	0		-	**-**	-
Bicycle %	2.2%	5.2%	0%	0%		-	0%	0.1%	0%	0%		-	0.6%	5.6%	1%	0%		-	0%	0.1%	1.3%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: GATAFRAXA ST E & FIRST LIN
Date: Wed, Jun 19, 2024 Deployment Lead: David Chu

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

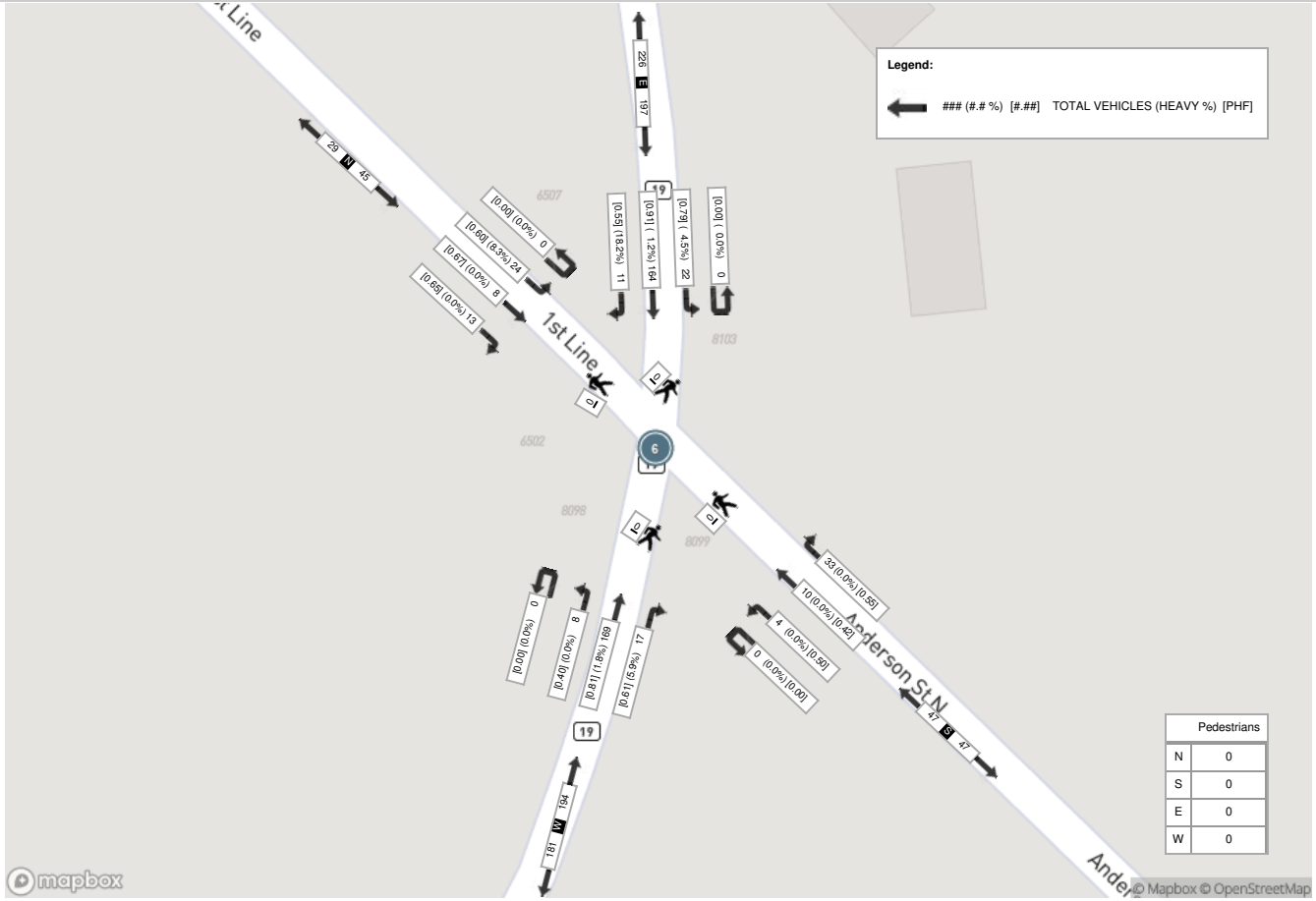
Peak Hour: 04:00 PM - 05:00 PM **Weather:**

Start Time	N Approach FIRST LIN						E Approach GATAFRAXA ST E						S Approach FIRST LIN						W Approach GATAFRAXA ST E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:00:00	5	3	10	0	0	18	5	45	4	0	0	54	9	1	1	0	0	11	3	42	0	0	0	45	128
16:15:00	3	3	7	0	0	13	1	42	6	0	0	49	15	1	0	0	0	16	3	34	1	0	0	38	116
16:30:00	1	0	3	0	0	4	2	41	7	0	0	50	2	2	2	0	0	6	4	52	5	0	0	61	121
16:45:00	4	2	4	0	0	10	3	36	5	0	0	44	7	6	1	0	0	14	7	41	2	0	0	50	118
Grand Total	13	8	24	0	0	45	11	164	22	0	0	197	33	10	4	0	0	47	17	169	8	0	0	194	**483**
Approach%	28.9%	17.8%	53.3%	0%		-	5.6%	83.2%	11.2%	0%		-	70.2%	21.3%	8.5%	0%		-	8.8%	87.1%	4.1%	0%		-	**-**
Totals %	2.7%	1.7%	5%	0%		9.3%	2.3%	34%	4.6%	0%		40.8%	6.8%	2.1%	0.8%	0%		9.7%	3.5%	35%	1.7%	0%		40.2%	**-**
PHF	0.65	0.67	0.6	0		0.63	0.55	0.91	0.79	0		0.91	0.55	0.42	0.5	0		0.73	0.61	0.81	0.4	0		0.8	**-**
Heavy	0	0	2	0		2	2	2	1	0		5	0	0	0	0		0	1	3	0	0		4	**-**
Heavy %	0%	0%	8.3%	0%		4.4%	18.2%	1.2%	4.5%	0%		2.5%	0%	0%	0%	0%		0%	5.9%	1.8%	0%	0%		2.1%	**-**
Lights	13	8	22	0		43	9	162	21	0		192	33	10	4	0		47	16	166	8	0		190	**-**
Lights %	100%	100%	91.7%	0%		95.6%	81.8%	98.8%	95.5%	0%		97.5%	100%	100%	100%	0%		100%	94.1%	98.2%	100%	0%		97.9%	**-**
Single-Unit Trucks	0	0	1	0		1	0	1	1	0		2	0	0	0	0		0	1	0	0	0		1	**-**
Single-Unit Trucks %	0%	0%	4.2%	0%		2.2%	0%	0.6%	4.5%	0%		1%	0%	0%	0%	0%		0%	5.9%	0%	0%	0%		0.5%	**-**
Buses	0	0	1	0		1	2	1	0	0		3	0	0	0	0		0	0	2	0	0		2	**-**
Buses %	0%	0%	4.2%	0%		2.2%	18.2%	0.6%	0%	0%		1.5%	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		1%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.5%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

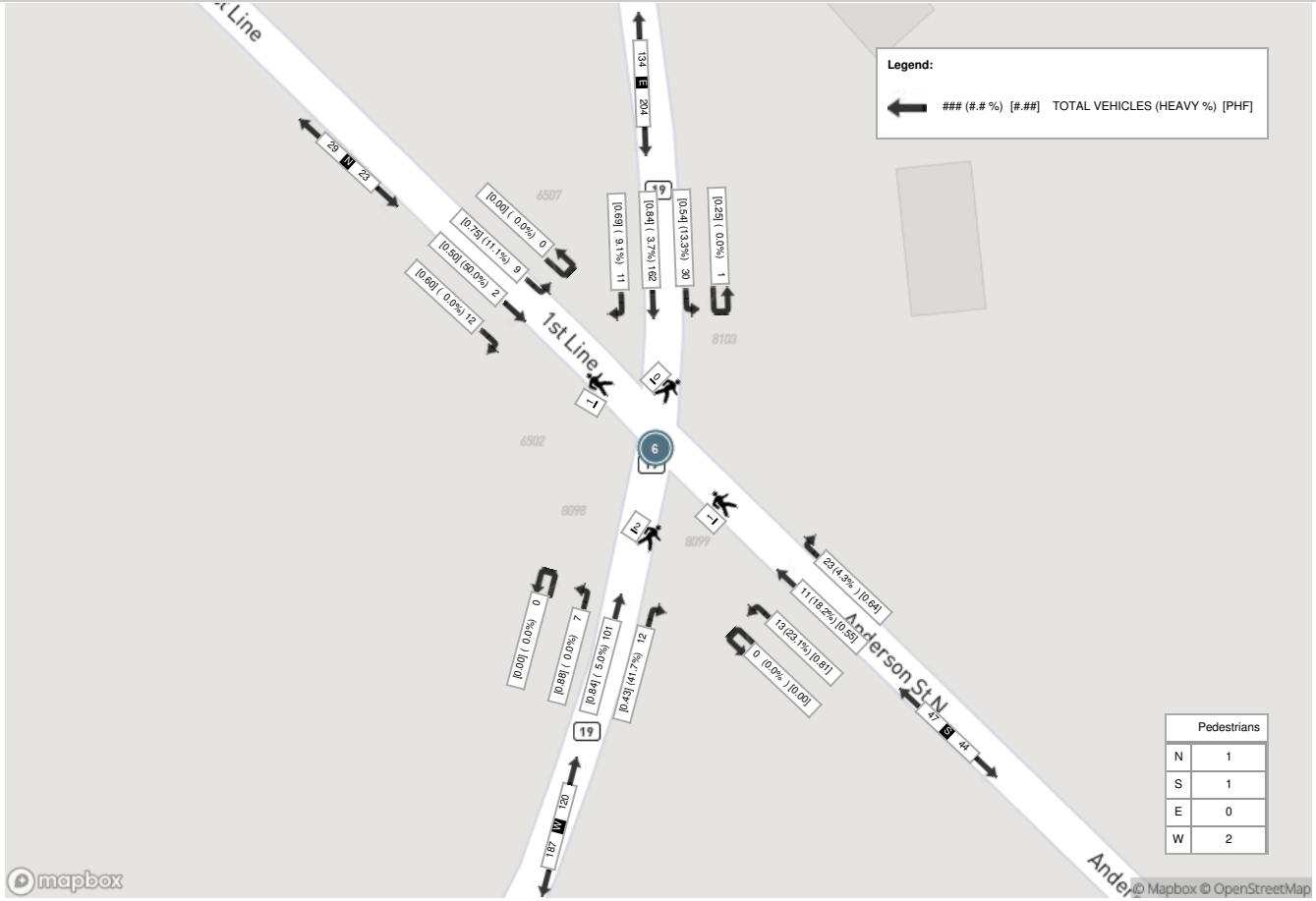
Selected Hour: 08:00 AM - 09:00 AM **Weather:**

Start Time	N Approach FIRST LIN						E Approach GATAFRAXA ST E						S Approach FIRST LIN						W Approach GATAFRAXA ST E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	3	1	2	0	0	6	2	48	1	0	0	51	5	5	4	0	0	14	0	30	2	0	0	32	103
08:15:00	5	1	2	0	1	8	1	38	4	0	0	43	5	3	4	0	0	12	1	28	2	0	1	31	94
08:30:00	2	0	3	0	0	5	4	45	11	1	0	61	4	3	3	0	1	10	4	18	2	0	0	24	100
08:45:00	2	0	2	0	0	4	4	31	14	0	0	49	9	0	2	0	0	11	7	25	1	0	1	33	97
Grand Total	12	2	9	0	1	23	11	162	30	1	0	204	23	11	13	0	1	47	12	101	7	0	2	120	**394**
Approach%	52.2%	8.7%	39.1%	0%		-	5.4%	79.4%	14.7%	0.5%		-	48.9%	23.4%	27.7%	0%		-	10%	84.2%	5.8%	0%		-	**-**
Totals %	3%	0.5%	2.3%	0%		5.8%	2.8%	41.1%	7.6%	0.3%		51.8%	5.8%	2.8%	3.3%	0%		11.9%	3%	25.6%	1.8%	0%		30.5%	**-**
PHF	0.6	0.5	0.75	0		0.72	0.69	0.84	0.54	0.25		0.84	0.64	0.55	0.81	0		0.84	0.43	0.84	0.88	0		0.91	**-**
Heavy	0	1	1	0		2	1	6	4	0		11	1	2	3	0		6	5	5	0	0		10	**-**
Heavy %	0%	50%	11.1%	0%		8.7%	9.1%	3.7%	13.3%	0%		5.4%	4.3%	18.2%	23.1%	0%		12.8%	41.7%	5%	0%	0%		8.3%	**-**
Lights	12	1	8	0		21	10	156	26	1		193	22	9	10	0		41	7	96	7	0		110	**-**
Lights %	100%	50%	88.9%	0%		91.3%	90.9%	96.3%	86.7%	100%		94.6%	95.7%	81.8%	76.9%	0%		87.2%	58.3%	95%	100%	0%		91.7%	**-**
Single-Unit Trucks	0	0	1	0		1	0	3	1	0		4	1	1	0	0		2	0	5	0	0		5	**-**
Single-Unit Trucks %	0%	0%	11.1%	0%		4.3%	0%	1.9%	3.3%	0%		2%	4.3%	9.1%	0%	0%		4.3%	0%	5%	0%	0%		4.2%	**-**
Buses	0	1	0	0		1	1	3	3	0		7	0	0	3	0		3	5	0	0	0		5	**-**
Buses %	0%	50%	0%	0%		4.3%	9.1%	1.9%	10%	0%		3.4%	0%	0%	23.1%	0%		6.4%	41.7%	0%	0%	0%		4.2%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	9.1%	0%	0%		2.1%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	25%		-	-	-	-	0%		-	-	-	-	25%		-	-	-	-	50%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 04:00 PM - 05:00 PM **Weather:**



Selected Hour: 08:00 AM - 09:00 AM **Weather:**



Spectrum

Turning Movement Count
Location Name: GATAFRAXA ST E & ROBINSON RD
Date: Wed, Jun 19, 2024 Deployment Lead: David Chu

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Turning Movement Count (3 . GATAFRAXA ST E & ROBINSON RD)

Start Time	N Approach ROBINSON RD						E Approach GATAFRAXA ST E						S Approach TOM ST						W Approach GATAFRAXA ST E						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
00:00:00	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	3	1	0	0	4	6	
00:15:00	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	3	
00:30:00	0	0	0	0	0	0	1	2	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	1	4	
00:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2	15
01:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
01:15:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	4	5	11
01:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
01:45:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	6
02:00:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2	8
02:15:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2	5
02:30:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	2	3	8
02:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2	9
03:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2	9
03:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
03:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
03:45:00	1	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	4
04:00:00	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	3	5
04:15:00	1	0	1	0	0	2	0	1	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	1	4	9
04:30:00	4	0	1	0	0	5	0	2	0	0	0	2	0	0	1	0	0	1	0	1	0	0	0	1	9	18
04:45:00	1	0	1	0	0	2	0	1	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	1	5	21
05:00:00	3	0	0	0	0	3	0	7	0	0	0	7	0	0	0	0	0	0	0	5	0	0	0	5	15	33
05:15:00	2	0	0	0	0	2	0	7	0	0	0	7	0	1	0	0	0	1	1	5	0	0	0	6	16	45
05:30:00	2	1	3	0	0	6	0	18	0	0	0	18	0	0	1	0	0	1	0	4	0	0	0	4	29	65
05:45:00	6	0	0	0	1	6	0	10	0	0	0	10	0	1	0	0	0	1	0	9	0	0	0	9	26	86
06:00:00	3	0	3	0	0	6	0	5	0	0	0	5	0	0	2	0	0	2	0	8	1	0	0	9	22	93
06:15:00	5	0	1	0	0	6	0	15	0	0	0	15	1	1	1	0	0	3	0	16	0	0	1	16	40	117
06:30:00	10	0	1	0	0	11	0	15	0	0	0	15	0	0	1	0	0	1	0	8	2	0	0	10	37	125
06:45:00	8	0	1	0	0	9	0	25	1	0	0	26	1	1	3	0	0	5	3	15	0	0	0	18	58	157
07:00:00	5	0	0	0	0	5	0	21	1	0	0	22	2	0	3	0	0	5	0	15	2	0	0	17	49	184
07:15:00	4	0	2	0	1	6	0	32	1	0	0	33	0	0	0	0	0	0	0	21	0	0	1	21	60	204
07:30:00	8	0	0	0	0	8	0	44	0	0	0	44	2	0	4	0	0	6	0	29	1	0	0	30	88	255
07:45:00	11	2	0	0	0	13	0	32	0	0	1	32	1	2	4	0	1	7	2	35	1	0	0	38	90	287
08:00:00	10	1	8	0	0	19	0	48	1	0	0	49	1	1	4	0	0	6	1	35	2	0	0	38	112	350
08:15:00	11	1	7	0	2	19	1	42	0	0	0	43	4	1	4	0	0	9	2	47	2	0	1	51	122	412
08:30:00	18	4	2	0	0	24	1	56	0	0	1	57	1	0	3	0	0	4	4	27	1	0	0	32	117	441
08:45:00	6	2	0	0	0	8	1	43	1	0	0	45	0	4	6	0	0	10	1	27	6	0	0	34	97	448
09:00:00	6	0	3	0	0	9	3	38	1	0	0	42	2	0	1	0	0	3	1	37	7	0	0	45	99	435
09:15:00	7	0	2	0	0	9	1	36	1	0	0	38	2	1	1	0	0	4	1	22	2	0	0	25	76	389
09:30:00	8	0	0	0	1	8	1	34	0	0	0	35	2	0	2	0	0	4	0	30	1	0	2	31	78	350
09:45:00	5	0	1	0	1	6	1	45	1	0	1	47	1	1	0	0	0	2	1	25	1	0	0	27	82	335
10:00:00	3	1	0	0	1	4	2	48	1	0	0	51	1	0	2	0	0	3	0	18	2	0	1	20	78	314
10:15:00	2	2	1	0	0	5	4	38	0	0	1	42	1	0	3	0	1	4	1	35	1	0	0	37	88	326
10:30:00	4	1	2	0	0	7	2	44	2	1	0	49	1	1	0	0	0	2	1	26	1	0	0	28	86	334
10:45:00	7	0	0	0	1	7	2	48	0	0	1	50	1	0	4	0	0	5	3	40	3	0	0	46	108	360
11:00:00	4	2	2	0	1	8	0	34	0	0	0	34	0	2	1	0	0	3	1	37	1	0	1	39	84	366

11:15:00	4	1	0	0	1	5	2	46	1	0	0	49	2	0	1	0	0	3	1	36	2	0	1	39	96	374
11:30:00	8	1	3	0	1	12	1	31	0	0	0	32	1	1	1	0	0	3	0	36	1	0	1	37	84	372
11:45:00	1	1	0	0	0	2	0	46	1	0	0	47	0	0	2	0	0	2	1	32	4	0	0	37	88	352
12:00:00	5	1	2	0	0	8	1	34	1	0	0	36	0	0	3	0	0	3	1	48	7	0	0	56	103	371
12:15:00	2	0	1	0	0	3	3	44	0	0	0	47	0	1	2	0	0	3	0	37	0	0	0	37	90	365
12:30:00	1	2	2	0	0	5	0	37	1	0	0	38	1	0	2	0	0	3	3	36	3	0	0	42	88	369
12:45:00	0	0	0	0	0	0	1	29	1	0	0	31	1	0	4	0	0	5	2	32	1	0	0	35	71	352
13:00:00	2	0	1	0	0	3	1	30	0	0	0	31	1	2	2	0	0	5	3	40	6	0	0	49	88	337
13:15:00	1	0	0	0	0	1	1	36	0	0	0	37	1	1	1	0	0	3	0	32	3	0	0	35	76	323
13:30:00	5	1	1	0	0	7	1	41	0	0	0	42	0	0	1	0	0	1	0	28	6	1	0	35	85	320
13:45:00	2	1	0	0	0	3	0	32	1	0	0	33	2	0	1	0	0	3	2	26	4	0	0	32	71	320
14:00:00	1	0	0	0	0	1	1	43	0	0	0	44	0	0	0	0	0	0	0	32	3	1	0	36	81	313
14:15:00	8	2	0	0	0	10	0	33	1	0	0	34	3	1	5	0	0	9	3	24	4	0	0	31	84	321
14:30:00	4	0	1	0	1	5	3	37	0	0	0	40	0	0	1	0	0	1	1	29	4	0	0	34	80	316
14:45:00	12	1	0	0	1	13	0	35	3	0	0	38	1	0	2	0	0	3	3	31	6	0	0	40	94	339
15:00:00	11	3	3	0	0	17	1	41	4	0	0	46	2	1	1	0	1	4	3	48	7	0	0	58	125	383
15:15:00	3	2	4	1	0	10	0	44	1	0	14	45	1	5	13	0	4	19	3	41	11	0	0	55	129	428
15:30:00	4	4	6	0	1	14	0	50	2	0	1	52	1	2	4	0	0	7	2	39	10	0	1	51	124	472
15:45:00	10	0	0	0	0	10	3	35	2	0	1	40	6	0	4	0	1	10	2	46	10	0	0	58	118	496
16:00:00	6	2	0	0	0	8	2	47	0	0	0	49	2	2	2	0	0	6	2	48	5	0	0	55	118	489
16:15:00	3	3	2	0	0	8	0	38	3	0	0	41	2	2	0	0	0	4	1	57	6	0	0	64	117	477
16:30:00	4	3	1	0	0	8	3	87	4	0	0	94	2	1	4	0	0	7	4	44	2	0	0	50	159	512
16:45:00	1	0	2	0	1	3	3	47	3	0	0	53	2	2	2	0	0	6	2	40	6	0	1	48	110	504
17:00:00	4	1	0	0	0	5	2	29	0	0	0	31	2	5	7	0	0	14	1	37	6	0	0	44	94	480
17:15:00	7	2	3	0	0	12	3	34	0	0	0	37	0	5	3	0	0	8	3	27	4	0	0	34	91	454
17:30:00	3	0	1	0	0	4	2	34	0	0	0	36	0	1	0	0	0	1	2	31	6	1	0	40	81	376
17:45:00	4	0	4	0	0	8	1	34	0	0	0	35	0	1	3	0	0	4	2	23	9	0	0	34	81	347
18:00:00	5	2	2	0	0	9	1	22	0	1	0	24	1	1	0	0	0	2	1	31	5	0	0	37	72	325
18:15:00	6	0	2	0	0	8	2	20	0	0	0	22	0	0	0	0	0	0	1	14	4	0	0	19	49	283
18:30:00	4	2	2	0	0	8	1	28	0	0	0	29	0	1	1	0	0	2	0	25	8	0	0	33	72	274
18:45:00	1	0	1	0	1	2	1	27	0	0	0	28	0	2	3	0	0	5	1	17	5	0	0	23	58	251
19:00:00	2	0	1	0	2	3	1	32	0	0	0	33	0	0	6	0	0	6	2	14	2	0	0	18	60	239
19:15:00	4	0	0	0	0	4	2	21	0	0	0	23	0	0	1	0	0	1	3	16	6	0	0	25	53	243
19:30:00	2	0	0	0	0	2	2	17	0	0	0	19	0	0	1	0	0	1	2	18	12	0	0	32	54	225
19:45:00	1	0	0	0	1	1	1	12	0	0	0	13	1	2	2	0	0	5	1	20	5	0	0	26	45	212
20:00:00	1	3	0	0	1	4	0	15	1	0	0	16	0	1	0	0	0	1	1	14	2	0	1	17	38	190
20:15:00	1	0	2	0	0	3	0	20	0	0	0	20	1	0	2	0	0	3	1	20	2	0	0	23	49	186
20:30:00	2	0	0	0	0	2	0	9	0	0	1	9	0	0	2	0	1	2	2	8	1	0	1	11	24	156
20:45:00	1	0	1	0	0	2	0	7	0	0	0	7	0	0	1	0	0	1	1	7	2	0	0	10	20	131
21:00:00	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	15	1	0	0	16	19	112
21:15:00	2	0	1	0	0	3	1	4	0	0	0	5	0	0	0	0	0	0	0	7	2	0	0	9	17	80
21:30:00	2	0	0	0	0	2	2	7	0	0	0	9	0	0	1	0	0	1	0	8	1	0	0	9	21	77
21:45:00	0	0	2	0	0	2	0	14	0	0	0	14	0	0	0	0	0	0	0	4	0	1	0	5	21	78
22:00:00	0	0	2	0	0	2	1	8	0	0	1	9	0	0	1	0	0	1	0	6	4	0	0	10	22	81
22:15:00	0	1	1	0	0	2	0	1	0	0	0	1	0	0	0	0	0	0	1	14	1	0	0	16	19	83
22:30:00	1	0	0	0	0	1	0	3	0	0	0	3	0	0	1	0	0	1	0	5	1	0	0	6	11	73
22:45:00	1	0	0	0	0	1	1	4	0	0	0	5	0	0	0	0	0	0	0	5	1	0	0	6	12	64
23:00:00	1	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	1	2	0	0	3	5	47

23:15:00	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	4	4	0	0	8	10	38
23:30:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	2	3	30
23:45:00	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	1	0	1	3	4	22
Grand Total	318	56	97	1	21	472	71	2155	41	2	24	2269	60	57	145	0	10	262	87	1851	251	4	14	2193	**5196**	-
Approach%	67.4%	11.9%	20.6%	0.2%		-	3.1%	95%	1.8%	0.1%		-	22.9%	21.8%	55.3%	0%		-	4%	84.4%	11.4%	0.2%		-	**-**	-
Totals %	6.1%	1.1%	1.9%	0%		9.1%	1.4%	41.5%	0.8%	0%		43.7%	1.2%	1.1%	2.8%	0%		5%	1.7%	35.6%	4.8%	0.1%		42.2%	**-**	-
Heavy	4	3	1	0		-	3	76	1	1		-	2	0	8	0		-	4	81	3	0		-	**-**	-
Heavy %	1.3%	5.4%	1%	0%		-	4.2%	3.5%	2.4%	50%		-	3.3%	0%	5.5%	0%		-	4.6%	4.4%	1.2%	0%		-	**-**	-
Bicycles	0	2	0	0		-	0	12	1	0		-	0	1	1	0		-	1	7	1	0		-	**-**	-
Bicycle %	0%	3.6%	0%	0%		-	0%	0.6%	2.4%	0%		-	0%	1.8%	0.7%	0%		-	1.1%	0.4%	0.4%	0%		-	**-**	-

Peak Hour: 03:45 PM - 04:45 PM Weather:

Start Time	N Approach ROBINSON RD						E Approach GATAFRAXA ST E						S Approach TOM ST						W Approach GATAFRAXA ST E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
15:45:00	10	0	0	0	0	10	3	35	2	0	1	40	6	0	4	0	1	10	2	46	10	0	0	58	118
16:00:00	6	2	0	0	0	8	2	47	0	0	0	49	2	2	2	0	0	6	2	48	5	0	0	55	118
16:15:00	3	3	2	0	0	8	0	38	3	0	0	41	2	2	0	0	0	4	1	57	6	0	0	64	117
16:30:00	4	3	1	0	0	8	3	87	4	0	0	94	2	1	4	0	0	7	4	44	2	0	0	50	159
Grand Total	23	8	3	0	0	34	8	207	9	0	1	224	12	5	10	0	1	27	9	195	23	0	0	227	**512**
Approach%	67.6%	23.5%	8.8%	0%		-	3.6%	92.4%	4%	0%		-	44.4%	18.5%	37%	0%		-	4%	85.9%	10.1%	0%		-	**-**
Totals %	4.5%	1.6%	0.6%	0%		6.6%	1.6%	40.4%	1.8%	0%		43.8%	2.3%	1%	2%	0%		5.3%	1.8%	38.1%	4.5%	0%		44.3%	**-**
PHF	0.58	0.67	0.38	0		0.85	0.67	0.59	0.56	0		0.6	0.5	0.63	0.63	0		0.68	0.56	0.86	0.58	0		0.89	**-**
Heavy	0	1	0	0		1	0	8	0	0		8	2	0	1	0		3	0	8	0	0		8	**-**
Heavy %	0%	12.5%	0%	0%		2.9%	0%	3.9%	0%	0%		3.6%	16.7%	0%	10%	0%		11.1%	0%	4.1%	0%	0%		3.5%	**-**
Lights	23	7	3	0		33	8	199	9	0		216	10	5	9	0		24	9	187	23	0		219	**-**
Lights %	100%	87.5%	100%	0%		97.1%	100%	96.1%	100%	0%		96.4%	83.3%	100%	90%	0%		88.9%	100%	95.9%	100%	0%		96.5%	**-**
Single-Unit Trucks	0	0	0	0		0	0	3	0	0		3	2	0	1	0		3	0	1	0	0		1	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	1.4%	0%	0%		1.3%	16.7%	0%	10%	0%		11.1%	0%	0.5%	0%	0%		0.4%	**-**
Buses	0	1	0	0		1	0	5	0	0		5	0	0	0	0		0	0	6	0	0		6	**-**
Buses %	0%	12.5%	0%	0%		2.9%	0%	2.4%	0%	0%		2.2%	0%	0%	0%	0%		0%	0%	3.1%	0%	0%		2.6%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.4%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	50%		-	-	-	-	50%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	9	0	0	0	-	0	0	1	0	0	-	0	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: GATAFRAXA ST E & ROBINSON RD
Date: Wed, Jun 19, 2024 Deployment Lead: David Chu

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Selected Hour: 08:00 AM - 09:00 AM **Weather:**

Start Time	N Approach ROBINSON RD						E Approach GATAFRAXA ST E						S Approach TOM ST						W Approach GATAFRAXA ST E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	10	1	8	0	0	19	0	48	1	0	0	49	1	1	4	0	0	6	1	35	2	0	0	38	112
08:15:00	11	1	7	0	2	19	1	42	0	0	0	43	4	1	4	0	0	9	2	47	2	0	1	51	122
08:30:00	18	4	2	0	0	24	1	56	0	0	1	57	1	0	3	0	0	4	4	27	1	0	0	32	117
08:45:00	6	2	0	0	0	8	1	43	1	0	0	45	0	4	6	0	0	10	1	27	6	0	0	34	97
Grand Total	45	8	17	0	2	70	3	189	2	0	1	194	6	6	17	0	0	29	8	136	11	0	1	155	**448**
Approach%	64.3%	11.4%	24.3%	0%		-	1.5%	97.4%	1%	0%		-	20.7%	20.7%	58.6%	0%		-	5.2%	87.7%	7.1%	0%		-	**-**
Totals %	10%	1.8%	3.8%	0%		15.6%	0.7%	42.2%	0.4%	0%		43.3%	1.3%	1.3%	3.8%	0%		6.5%	1.8%	30.4%	2.5%	0%		34.6%	**-**
PHF	0.63	0.5	0.53	0		0.73	0.75	0.84	0.5	0		0.85	0.38	0.38	0.71	0		0.73	0.5	0.72	0.46	0		0.76	**-**
Heavy	0	0	0	0		0	0	15	0	0		15	0	0	2	0		2	2	16	0	0		18	**-**
Heavy %	0%	0%	0%	0%		0%	0%	7.9%	0%	0%		7.7%	0%	0%	11.8%	0%		6.9%	25%	11.8%	0%	0%		11.6%	**-**
Lights	45	8	17	0		70	3	174	2	0		179	6	6	15	0		27	6	120	11	0		137	**-**
Lights %	100%	100%	100%	0%		100%	100%	92.1%	100%	0%		92.3%	100%	100%	88.2%	0%		93.1%	75%	88.2%	100%	0%		88.4%	**-**
Single-Unit Trucks	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	2	5	0	0		7	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	1.6%	0%	0%		1.5%	0%	0%	0%	0%		0%	25%	3.7%	0%	0%		4.5%	**-**
Buses	0	0	0	0		0	0	12	0	0		12	0	0	2	0		2	0	11	0	0		11	**-**
Buses %	0%	0%	0%	0%		0%	0%	6.3%	0%	0%		6.2%	0%	0%	11.8%	0%		6.9%	0%	8.1%	0%	0%		7.1%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	50%		-	-	-	-	25%		-	-	-	-	0%		-	-	-	-	25%		**-**
Bicycles on Road	0	0	0	0	0	-	0	1	0	0	0	-	0	1	0	0	0	-	1	4	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Peak Hour: 03:45 PM - 04:45 PM **Weather:**

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Selected Hour: 08:00 AM - 09:00 AM **Weather:**

	Bicycles on Crosswalk	Pedestrians
N	0	2
S	0	0
E	0	1
W	0	1

Spectrum

Turning Movement Count
Location Name: GARTSHORE ST & MIDDLETON AVE
Date: Wed, Jun 19, 2024 Deployment Lead: David Chu

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Turning Movement Count (1 . GARTSHORE ST & MIDDLETON AVE)

Start Time	N Approach GARTSHORE ST						E Approach MIDDLETON AVE						S Approach GARTSHORE ST						W Approach FORFAR ST E						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
00:00:00	0	6	2	0	0	8	0	0	0	0	0	0	1	4	1	0	0	6	0	0	0	0	0	0	14	
00:15:00	0	2	0	0	0	2	0	0	0	0	0	0	0	8	1	0	0	9	0	0	0	0	0	0	11	
00:30:00	0	4	0	0	0	4	1	0	0	0	0	1	0	3	1	0	0	4	2	0	0	0	0	2	11	
00:45:00	0	2	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	4	40
01:00:00	0	4	0	0	0	4	0	0	0	0	0	0	1	3	1	0	0	5	0	0	0	0	1	0	9	35
01:15:00	0	1	1	0	0	2	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	4	28
01:30:00	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	19
01:45:00	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3	18
02:00:00	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	10
02:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	7
02:30:00	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	9
02:45:00	0	1	0	0	0	1	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	4	10
03:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2	11
03:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2	12
03:30:00	0	3	0	0	0	3	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	6	14
03:45:00	0	1	0	0	0	1	0	0	1	0	0	1	0	2	1	0	0	3	0	0	0	0	0	0	5	15
04:00:00	0	5	0	0	0	5	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	8	21
04:15:00	0	1	1	0	0	2	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	1	0	5	24
04:30:00	0	11	0	0	0	11	0	0	1	0	0	1	0	2	1	0	0	3	0	0	0	0	0	0	15	33
04:45:00	0	10	0	0	0	10	0	1	3	0	0	4	0	8	0	0	0	8	1	0	1	0	0	2	24	52
05:00:00	0	6	0	0	0	6	1	2	1	0	0	4	0	7	3	0	0	10	3	1	0	0	0	4	24	68
05:15:00	0	19	0	0	0	19	1	0	3	0	0	4	1	13	4	0	0	18	6	1	1	0	0	8	49	112
05:30:00	1	20	1	0	0	22	0	0	2	0	0	2	1	24	3	0	0	28	4	0	0	0	0	4	56	153
05:45:00	1	16	0	0	0	17	1	1	2	0	0	4	0	27	1	0	0	28	1	0	2	0	0	3	52	181
06:00:00	0	22	0	0	0	22	3	2	2	0	0	7	0	28	2	0	0	30	3	1	1	0	0	5	64	221
06:15:00	2	35	0	0	0	37	4	1	2	0	0	7	0	35	4	0	0	39	9	0	2	0	0	11	94	266
06:30:00	0	41	1	0	0	42	0	2	3	0	0	5	0	45	4	0	0	49	9	0	1	0	1	10	106	316
06:45:00	1	38	0	0	0	39	0	0	2	0	1	2	0	67	3	0	0	70	7	0	4	0	2	11	122	386
07:00:00	0	48	2	0	0	50	1	1	4	0	2	6	1	42	11	0	0	54	10	0	1	0	3	11	121	443
07:15:00	1	46	2	0	0	49	3	1	7	0	0	11	0	68	8	0	0	76	5	0	1	0	1	6	142	491
07:30:00	1	76	2	0	1	79	2	4	5	0	1	11	3	69	9	0	0	81	11	0	6	0	4	17	188	573
07:45:00	3	62	2	0	0	67	8	2	4	0	0	14	4	91	12	0	1	107	12	2	4	0	1	18	206	657
08:00:00	4	80	4	0	1	88	5	2	3	0	1	10	4	75	15	0	0	94	18	2	1	0	1	21	213	749
08:15:00	3	68	5	0	0	76	4	2	7	0	0	13	1	50	9	0	5	60	16	5	1	0	1	22	171	778
08:30:00	1	90	4	0	0	95	6	12	5	0	1	23	2	55	20	0	0	77	28	7	1	0	0	36	231	821
08:45:00	1	66	3	0	0	70	2	4	1	0	1	7	3	96	16	0	2	115	14	9	2	0	1	25	217	832
09:00:00	2	81	2	0	1	85	1	1	3	0	0	5	2	56	14	0	2	72	17	3	2	0	1	22	184	803
09:15:00	1	44	0	0	1	45	1	0	4	0	0	5	3	65	5	0	1	73	8	2	6	0	0	16	139	771
09:30:00	4	53	0	0	1	57	1	1	3	0	0	5	2	62	12	0	0	76	11	3	1	0	1	15	153	693
09:45:00	1	51	1	0	0	53	6	0	3	0	1	9	0	54	13	0	0	67	2	1	2	0	0	5	134	610
10:00:00	2	44	1	0	0	47	1	0	1	0	0	2	5	62	14	0	0	81	11	1	2	0	0	14	144	570
10:15:00	1	50	1	0	0	52	0	1	1	0	0	2	3	53	11	0	0	67	7	1	2	0	0	10	131	562
10:30:00	0	40	1	0	0	41	4	0	2	0	1	6	2	56	13	0	0	71	16	4	2	0	0	22	140	549
10:45:00	4	55	2	0	0	61	5	3	2	0	0	10	0	61	9	0	0	70	14	2	6	0	0	22	163	578
11:00:00	0	54	1	0	2	55	2	1	0	0	0	3	3	51	11	0	0	65	8	0	1	0	0	9	132	566

11:15:00	1	56	4	0	0	61	1	1	1	0	1	3	2	69	10	0	0	81	17	3	1	0	1	21	166	601
11:30:00	1	53	4	0	0	58	3	1	3	0	0	7	1	59	15	0	0	75	14	3	1	0	0	18	158	619
11:45:00	5	72	5	0	0	82	2	1	0	0	0	3	0	77	10	0	0	87	15	1	3	0	0	19	191	647
12:00:00	3	76	5	0	0	84	2	0	1	0	0	3	3	67	11	0	0	81	12	1	2	0	0	15	183	698
12:15:00	1	61	2	0	0	64	5	2	1	0	0	8	7	73	13	0	0	93	13	2	6	0	0	21	186	718
12:30:00	5	72	2	0	0	79	0	3	5	0	0	8	9	75	14	0	0	98	7	4	0	0	1	11	196	756
12:45:00	2	62	2	0	1	66	3	0	3	0	0	6	3	71	7	0	2	81	17	1	1	0	1	19	172	737
13:00:00	5	58	1	0	0	64	1	2	4	0	0	7	1	56	9	0	0	66	13	1	2	0	0	16	153	707
13:15:00	3	52	3	0	0	58	1	6	0	0	0	7	2	64	8	0	0	74	12	1	1	0	0	14	153	674
13:30:00	2	58	1	0	0	61	1	0	4	0	0	5	0	69	8	0	0	77	12	1	0	0	0	13	156	634
13:45:00	1	51	0	0	0	52	2	1	2	0	0	5	1	61	17	0	1	79	17	4	2	0	0	23	159	621
14:00:00	1	65	1	0	0	67	2	1	3	0	0	6	5	70	7	0	0	82	10	1	1	0	0	12	167	635
14:15:00	2	65	0	0	0	67	1	0	3	0	0	4	5	63	15	0	0	83	8	1	2	0	0	11	165	647
14:30:00	3	68	1	0	0	72	3	2	4	0	0	9	2	70	17	0	0	89	15	5	1	0	1	21	191	682
14:45:00	2	69	0	0	0	71	4	3	1	0	0	8	4	65	21	0	0	90	11	2	3	0	0	16	185	708
15:00:00	4	103	4	0	0	111	4	5	4	0	0	13	5	73	15	0	1	93	16	3	3	0	2	22	239	780
15:15:00	1	53	6	0	0	60	4	2	4	0	0	10	5	85	33	0	8	123	25	10	2	0	3	37	230	845
15:30:00	7	75	9	0	0	91	3	2	2	0	2	7	8	85	22	0	2	115	21	3	2	0	2	26	239	893
15:45:00	2	65	5	0	1	72	7	4	4	0	0	15	13	91	17	0	0	121	12	2	2	0	0	16	224	932
16:00:00	6	104	6	0	0	116	0	3	1	0	1	4	6	80	23	0	0	109	16	2	1	0	0	19	248	941
16:15:00	3	83	5	0	0	91	3	2	3	0	0	8	8	91	22	0	0	121	13	2	0	0	0	15	235	946
16:30:00	4	85	3	0	0	92	1	3	2	0	0	6	5	107	21	0	0	133	17	3	1	0	0	21	252	959
16:45:00	1	71	4	0	1	76	4	2	5	0	0	11	6	92	34	0	0	132	11	5	0	0	1	16	235	970
17:00:00	1	97	4	0	1	102	3	4	1	0	0	8	10	80	24	0	0	114	11	0	1	0	3	12	236	958
17:15:00	0	93	5	0	0	98	5	4	1	0	0	10	9	92	29	0	3	130	9	4	1	0	0	14	252	975
17:30:00	2	70	5	0	0	77	0	5	3	0	0	8	8	65	17	0	0	90	9	4	0	0	1	13	188	911
17:45:00	1	34	5	0	0	40	2	2	3	0	1	7	4	68	18	0	0	90	17	0	1	0	0	18	155	831
18:00:00	2	44	4	0	0	50	5	3	2	0	0	10	6	70	11	0	3	87	9	6	0	0	0	15	162	757
18:15:00	1	30	3	0	0	34	1	1	3	0	0	5	7	48	17	0	0	72	7	3	0	0	0	10	121	626
18:30:00	0	39	3	0	0	42	5	4	1	0	0	10	2	47	7	0	0	56	8	1	1	0	0	10	118	556
18:45:00	4	47	3	0	0	54	0	1	2	0	0	3	2	68	15	0	0	85	10	1	1	0	0	12	154	555
19:00:00	2	38	0	0	1	40	2	1	3	0	0	6	5	57	11	0	1	73	2	2	1	0	1	5	124	517
19:15:00	0	24	2	0	0	26	4	3	0	0	0	7	6	56	17	0	0	79	8	2	1	0	2	11	123	519
19:30:00	2	40	4	0	2	46	1	5	4	0	0	10	7	70	8	0	1	85	6	6	1	0	3	13	154	555
19:45:00	0	37	1	0	2	38	1	3	1	0	2	5	3	38	9	0	0	50	5	3	0	0	0	8	101	502
20:00:00	3	39	2	0	0	44	0	1	2	0	0	3	2	48	13	0	2	63	6	2	1	0	0	9	119	497
20:15:00	0	35	2	0	0	37	0	0	0	0	0	0	5	43	14	0	0	62	6	1	1	0	0	8	107	481
20:30:00	0	16	1	0	0	17	1	1	3	0	0	5	1	33	6	0	0	40	6	2	2	0	0	10	72	399
20:45:00	0	16	0	0	0	16	1	1	1	0	0	3	1	28	10	0	2	39	3	2	1	0	0	6	64	362
21:00:00	1	27	5	0	0	33	0	2	2	0	0	4	3	28	5	0	0	36	4	1	0	0	0	5	78	321
21:15:00	0	14	1	0	0	15	1	0	3	0	0	4	4	29	4	0	0	37	3	2	0	0	1	5	61	275
21:30:00	1	15	1	0	0	17	2	0	0	0	0	2	1	20	5	0	0	26	2	2	0	0	0	4	49	252
21:45:00	0	10	1	0	0	11	2	2	1	0	0	5	2	12	5	0	0	19	4	1	0	0	0	5	40	228
22:00:00	1	14	1	0	0	16	0	1	0	0	0	1	3	15	3	0	0	21	0	1	0	0	0	1	39	189
22:15:00	1	12	3	0	0	16	0	2	1	0	0	3	4	14	0	0	1	18	2	3	0	0	0	5	42	170
22:30:00	0	9	0	0	0	9	0	0	1	0	0	1	1	12	4	0	0	17	1	0	0	0	1	1	28	149
22:45:00	1	6	0	0	0	7	1	0	0	0	0	1	1	14	2	0	0	17	0	0	1	0	0	1	26	135
23:00:00	0	5	0	0	0	5	0	0	1	0	0	1	2	7	1	0	0	10	1	0	0	0	0	1	17	113

23:15:00	1	7	0	0	0	8	0	0	0	0	0	0	0	10	1	0	0	11	1	0	0	0	0	1	20	91
23:30:00	0	5	0	0	0	5	0	1	0	0	0	1	0	10	2	0	0	12	0	0	0	0	1	0	18	81
23:45:00	1	3	0	0	1	4	0	1	0	0	0	1	1	4	1	0	0	6	0	0	0	0	0	0	11	66
Grand Total	124	3666	168	0	17	3958	157	138	176	0	16	471	244	4160	863	0	38	5267	718	155	104	0	44	977	**10673**	-
Approach%	3.1%	92.6%	4.2%	0%		-	33.3%	29.3%	37.4%	0%		-	4.6%	79%	16.4%	0%		-	73.5%	15.9%	10.6%	0%		-	**-**	-
Totals %	1.2%	34.3%	1.6%	0%		37.1%	1.5%	1.3%	1.6%	0%		4.4%	2.3%	39%	8.1%	0%		49.3%	6.7%	1.5%	1%	0%		9.2%	**-**	-
Heavy	4	280	2	0		-	5	2	2	0		-	6	263	13	0		-	12	3	1	0		-	**-**	-
Heavy %	3.2%	7.6%	1.2%	0%		-	3.2%	1.4%	1.1%	0%		-	2.5%	6.3%	1.5%	0%		-	1.7%	1.9%	1%	0%		-	**-**	-
Bicycles	3	3	1	0		-	0	7	0	0		-	0	7	0	0		-	0	3	2	0		-	**-**	-
Bicycle %	2.4%	0.1%	0.6%	0%		-	0%	5.1%	0%	0%		-	0%	0.2%	0%	0%		-	0%	1.9%	1.9%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: GARTSHORE ST & MIDDLETON AVE
Date: Wed, Jun 19, 2024 Deployment Lead: David Chu

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Peak Hour: 04:30 PM - 05:30 PM Weather:

Start Time	N Approach GARTSHORE ST						E Approach MIDDLETON AVE						S Approach GARTSHORE ST						W Approach FORFAR ST E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:30:00	4	85	3	0	0	92	1	3	2	0	0	6	5	107	21	0	0	133	17	3	1	0	0	21	252
16:45:00	1	71	4	0	1	76	4	2	5	0	0	11	6	92	34	0	0	132	11	5	0	0	1	16	235
17:00:00	1	97	4	0	1	102	3	4	1	0	0	8	10	80	24	0	0	114	11	0	1	0	3	12	236
17:15:00	0	93	5	0	0	98	5	4	1	0	0	10	9	92	29	0	3	130	9	4	1	0	0	14	252
Grand Total	6	346	16	0	2	368	13	13	9	0	0	35	30	371	108	0	3	509	48	12	3	0	4	63	**975**
Approach%	1.6%	94%	4.3%	0%		-	37.1%	37.1%	25.7%	0%		-	5.9%	72.9%	21.2%	0%		-	76.2%	19%	4.8%	0%		-	**-**
Totals %	0.6%	35.5%	1.6%	0%		37.7%	1.3%	1.3%	0.9%	0%		3.6%	3.1%	38.1%	11.1%	0%		52.2%	4.9%	1.2%	0.3%	0%		6.5%	**-**
PHF	0.38	0.89	0.8	0		0.9	0.65	0.81	0.45	0		0.8	0.75	0.87	0.79	0		0.96	0.71	0.6	0.75	0		0.75	**-**
Heavy	0	10	0	0		10	0	0	0	0		0	0	23	0	0		23	0	0	0	0		0	**-**
Heavy %	0%	2.9%	0%	0%		2.7%	0%	0%	0%	0%		0%	0%	6.2%	0%	0%		4.5%	0%	0%	0%	0%		0%	**-**
Lights	6	336	16	0		358	13	13	9	0		35	30	348	108	0		486	48	12	3	0		63	**-**
Lights %	100%	97.1%	100%	0%		97.3%	100%	100%	100%	0%		100%	100%	93.8%	100%	0%		95.5%	100%	100%	100%	0%		100%	**-**
Single-Unit Trucks	0	3	0	0		3	0	0	0	0		0	0	6	0	0		6	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0.9%	0%	0%		0.8%	0%	0%	0%	0%		0%	0%	1.6%	0%	0%		1.2%	0%	0%	0%	0%		0%	**-**
Buses	0	2	0	0		2	0	0	0	0		0	0	9	0	0		9	0	0	0	0		0	**-**
Buses %	0%	0.6%	0%	0%		0.5%	0%	0%	0%	0%		0%	0%	2.4%	0%	0%		1.8%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	5	0	0		5	0	0	0	0		0	0	8	0	0		8	0	0	0	0		0	**-**
Articulated Trucks %	0%	1.4%	0%	0%		1.4%	0%	0%	0%	0%		0%	0%	2.2%	0%	0%		1.6%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	11.1%		-	-	-	-	0%		-	-	-	-	11.1%		-	-	-	-	11.1%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	3	-	**-**
Bicycles on Crosswalk%	-	-	-	-	11.1%		-	-	-	-	0%		-	-	-	-	22.2%		-	-	-	-	33.3%		**-**

Spectrum

Turning Movement Count
Location Name: GARTSHORE ST & MIDDLETON AVE
Date: Wed, Jun 19, 2024 Deployment Lead: David Chu

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Selected Hour: 08:00 AM - 09:00 AM **Weather:**

Start Time	N Approach GARTSHORE ST						E Approach MIDDLETON AVE						S Approach GARTSHORE ST						W Approach FORFAR ST E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	4	80	4	0	1	88	5	2	3	0	1	10	4	75	15	0	0	94	18	2	1	0	1	21	213
08:15:00	3	68	5	0	0	76	4	2	7	0	0	13	1	50	9	0	5	60	16	5	1	0	1	22	171
08:30:00	1	90	4	0	0	95	6	12	5	0	1	23	2	55	20	0	0	77	28	7	1	0	0	36	231
08:45:00	1	66	3	0	0	70	2	4	1	0	1	7	3	96	16	0	2	115	14	9	2	0	1	25	217
Grand Total	9	304	16	0	1	329	17	20	16	0	3	53	10	276	60	0	7	346	76	23	5	0	3	104	**832**
Approach%	2.7%	92.4%	4.9%	0%		-	32.1%	37.7%	30.2%	0%		-	2.9%	79.8%	17.3%	0%		-	73.1%	22.1%	4.8%	0%		-	**-**
Totals %	1.1%	36.5%	1.9%	0%		39.5%	2%	2.4%	1.9%	0%		6.4%	1.2%	33.2%	7.2%	0%		41.6%	9.1%	2.8%	0.6%	0%		12.5%	**-**
PHF	0.56	0.84	0.8	0		0.87	0.71	0.42	0.57	0		0.58	0.63	0.72	0.75	0		0.75	0.68	0.64	0.63	0		0.72	**-**
Heavy	0	38	1	0		39	0	1	1	0		2	0	37	3	0		40	1	0	0	0		1	**-**
Heavy %	0%	12.5%	6.3%	0%		11.9%	0%	5%	6.3%	0%		3.8%	0%	13.4%	5%	0%		11.6%	1.3%	0%	0%	0%		1%	**-**
Lights	9	266	15	0		290	17	19	15	0		51	10	239	57	0		306	75	23	5	0		103	**-**
Lights %	100%	87.5%	93.8%	0%		88.1%	100%	95%	93.8%	0%		96.2%	100%	86.6%	95%	0%		88.4%	98.7%	100%	100%	0%		99%	**-**
Single-Unit Trucks	0	14	0	0		14	0	0	0	0		0	0	15	1	0		16	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	4.6%	0%	0%		4.3%	0%	0%	0%	0%		0%	0%	5.4%	1.7%	0%		4.6%	0%	0%	0%	0%		0%	**-**
Buses	0	17	1	0		18	0	1	0	0		1	0	15	1	0		16	1	0	0	0		1	**-**
Buses %	0%	5.6%	6.3%	0%		5.5%	0%	5%	0%	0%		1.9%	0%	5.4%	1.7%	0%		4.6%	1.3%	0%	0%	0%		1%	**-**
Articulated Trucks	0	7	0	0		7	0	0	1	0		1	0	7	1	0		8	0	0	0	0		0	**-**
Articulated Trucks %	0%	2.3%	0%	0%		2.1%	0%	0%	6.3%	0%		1.9%	0%	2.5%	1.7%	0%		2.3%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	7	-	-	-	-	-	3	-	**-**
Pedestrians%	-	-	-	-	7.1%		-	-	-	-	21.4%		-	-	-	-	50%		-	-	-	-	21.4%		**-**
Bicycles on Road	0	1	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	0	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 04:30 PM - 05:30 PM **Weather:**

Selected Hour: 08:00 AM - 09:00 AM **Weather:**

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Turning Movement Count (1 . GARTSHORE ST & GORDON ST)

Start Time	N Approach GARTSHORE ST					S Approach GARTSHORE ST					W Approach GORDON ST					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	UTurn N:N	Peds N:	Approach Total	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Left W:N	UTurn W:W	Peds W:	Approach Total		
2025-02-11 07:00:00	0	1	1	0	2	1	34	0	0	35	27	12	0	0	39	76	
2025-02-11 07:15:00	3	0	0	0	3	5	20	0	0	25	47	18	0	0	65	93	
2025-02-11 07:30:00	2	7	0	0	9	3	19	0	0	22	51	4	9	0	64	95	
2025-02-11 07:45:00	5	2	0	0	7	14	26	0	0	40	66	7	0	0	73	120	384
2025-02-11 08:00:00	3	2	0	0	5	13	40	0	0	53	37	6	0	0	43	101	409
2025-02-11 08:15:00	2	4	0	0	6	4	38	0	0	42	62	4	0	0	66	114	430
2025-02-11 08:30:00	6	3	0	0	9	4	30	0	0	34	55	6	0	0	61	104	439
2025-02-11 08:45:00	12	5	0	0	17	5	41	0	0	46	42	5	0	0	47	110	429
2025-02-11 09:00:00	8	3	0	0	11	8	37	0	1	45	34	8	0	0	42	98	426
2025-02-11 09:15:00	0	2	0	0	2	5	28	0	0	33	22	4	0	0	26	61	373
2025-02-11 09:30:00	4	4	0	0	8	8	17	0	0	25	20	7	0	0	27	60	329
2025-02-11 09:45:00	4	2	0	1	6	1	32	0	0	33	29	6	0	1	35	74	293
2025-02-11 10:00:00	3	5	0	0	8	4	37	0	0	41	28	8	0	0	36	85	280
2025-02-11 10:15:00	3	4	0	0	7	7	33	0	0	40	36	4	0	0	40	87	306
2025-02-11 10:30:00	2	3	0	0	5	3	29	0	0	32	16	2	0	0	18	55	301
2025-02-11 10:45:00	4	5	0	0	9	5	25	0	0	30	33	6	0	0	39	78	305
2025-02-11 11:00:00	6	2	0	0	8	6	34	0	0	40	23	4	2	0	29	77	297
2025-02-11 11:15:00	6	4	0	0	10	7	35	0	0	42	23	6	0	0	29	81	291
2025-02-11 11:30:00	6	3	0	0	9	1	28	0	0	29	34	2	0	0	36	74	310
2025-02-11 11:45:00	7	5	0	0	12	7	39	0	0	46	24	3	1	0	28	86	318
2025-02-11 12:00:00	10	12	0	0	22	11	35	0	0	46	29	7	1	0	37	105	346
2025-02-11 12:15:00	5	4	0	0	9	9	36	0	1	45	27	4	0	0	31	85	350
2025-02-11 12:30:00	7	8	0	0	15	12	36	0	0	48	33	8	0	0	41	104	380
2025-02-11 12:45:00	3	0	0	0	3	1	18	0	0	19	22	2	0	0	24	46	340
2025-02-11 13:00:00	4	11	0	0	15	4	25	0	0	29	27	8	0	0	35	79	314
2025-02-11 13:15:00	2	3	0	0	5	2	28	0	0	30	26	5	2	0	33	68	297
2025-02-11 13:30:00	5	5	0	0	10	4	18	0	0	22	40	3	0	0	43	75	268
2025-02-11 13:45:00	6	6	0	0	12	3	35	1	0	39	24	6	0	0	30	81	303
2025-02-11 14:00:00	5	5	0	0	10	3	28	0	0	31	40	5	0	0	45	86	310
2025-02-11 14:15:00	6	6	0	0	12	3	19	0	0	22	28	1	0	0	29	63	305
2025-02-11 14:30:00	9	0	0	0	9	2	44	0	0	46	35	3	0	0	38	93	323
2025-02-11 14:45:00	2	6	0	0	8	6	28	0	0	34	21	4	0	0	25	67	309
2025-02-11 15:00:00	10	4	0	0	14	5	70	0	0	75	27	1	0	0	28	117	340

2025-02-11 15:15:00	2	2	0	0	4	6	70	0	0	76	33	11	0	0	44	124	401
2025-02-11 15:30:00	12	5	0	0	17	3	28	0	0	31	33	10	0	0	43	91	399
2025-02-11 15:45:00	6	4	0	0	10	3	38	0	1	41	26	4	0	1	30	81	413
2025-02-11 16:00:00	10	7	0	0	17	0	58	0	0	58	45	3	0	0	48	123	419
2025-02-11 16:15:00	4	5	0	0	9	1	34	0	0	35	37	3	0	0	40	84	379
2025-02-11 16:30:00	6	10	0	0	16	4	49	0	0	53	20	3	0	0	23	92	380
2025-02-11 16:45:00	1	3	0	0	4	1	69	0	0	70	34	1	0	1	35	109	408
2025-02-11 17:00:00	14	5	0	0	19	3	42	0	0	45	34	5	0	0	39	103	388
2025-02-11 17:15:00	4	7	0	0	11	1	40	0	0	41	51	6	0	0	57	109	413
2025-02-11 17:30:00	11	8	0	0	19	6	50	0	0	56	24	4	0	0	28	103	424
2025-02-11 17:45:00	4	2	0	0	6	5	47	0	0	52	28	1	0	0	29	87	402
2025-02-11 18:00:00	6	3	0	0	9	2	47	0	0	49	20	1	0	0	21	79	378
2025-02-11 18:15:00	1	4	0	0	5	1	28	0	0	29	23	3	0	0	26	60	329
2025-02-11 18:30:00	4	1	0	0	5	0	31	0	0	31	27	2	0	0	29	65	291
2025-02-11 18:45:00	1	2	0	0	3	2	46	0	0	48	25	1	0	1	26	77	281
Grand Total	246	204	1	1	451	214	1719	1	3	1934	1548	237	15	4	1800	**4185**	-
Approach%	54.5%	45.2%	0.2%		-	11.1%	88.9%	0.1%		-	86%	13.2%	0.8%		-	**-**	-
Totals %	5.9%	4.9%	0%		10.8%	5.1%	41.1%	0%		46.2%	37%	5.7%	0.4%		43%	**-**	-
Heavy	19	22	0		-	22	104	0		-	119	12	0		-	**-**	-
Heavy %	7.7%	10.8%	0%		-	10.3%	6.1%	0%		-	7.7%	5.1%	0%		-	**-**	-
Bicycles	0	0	0		-	0	1	0		-	0	1	0		-	**-**	-
Bicycle %	0%	0%	0%		-	0%	0.1%	0%		-	0%	0.4%	0%		-	**-**	-

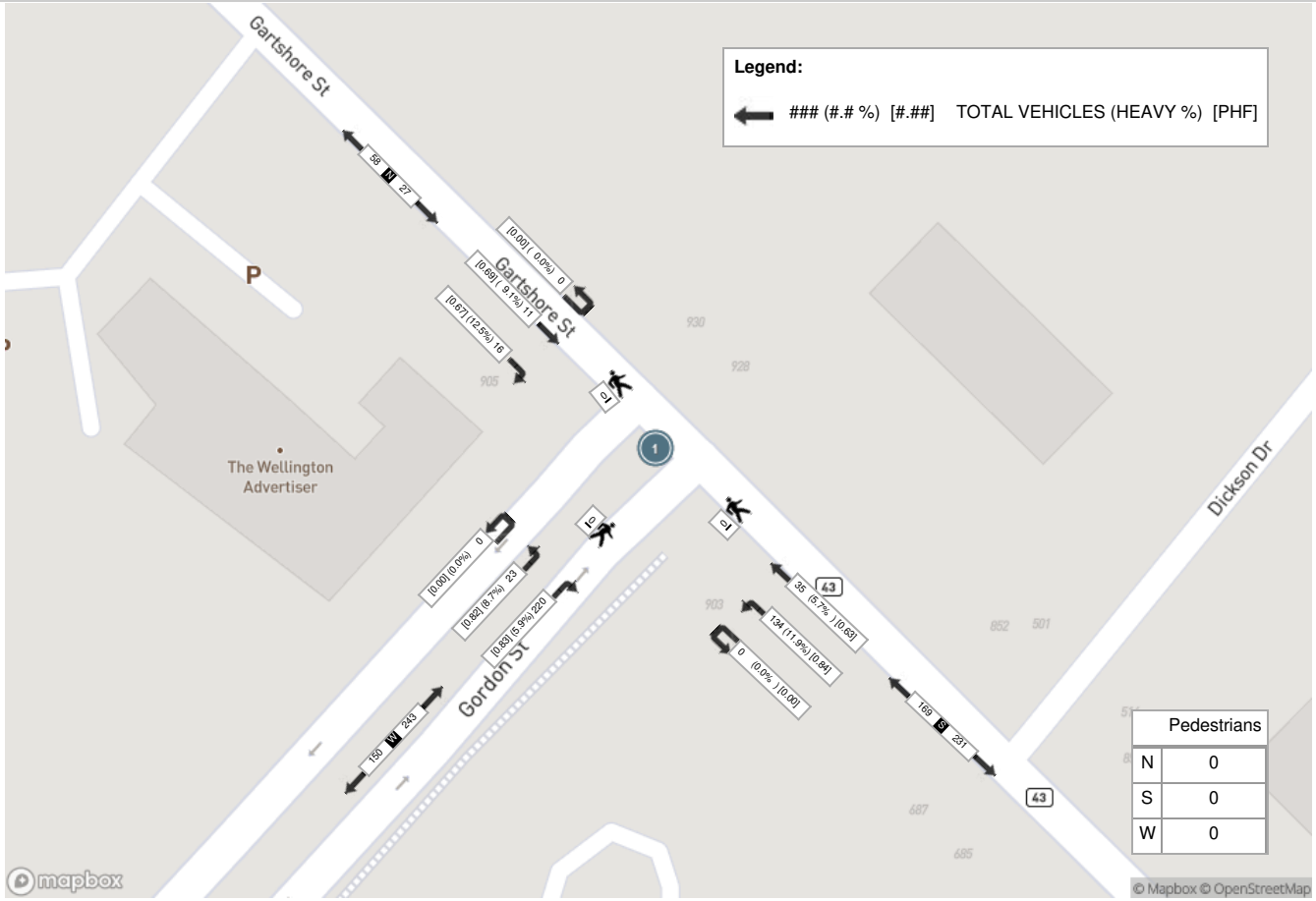
Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast Clouds (-13.31 °C)

Start Time	N Approach GARTSHORE ST					S Approach GARTSHORE ST					W Approach GORDON ST					Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	
2025-02-11 07:45:00	5	2	0	0	7	14	26	0	0	40	66	7	0	0	73	120
2025-02-11 08:00:00	3	2	0	0	5	13	40	0	0	53	37	6	0	0	43	101
2025-02-11 08:15:00	2	4	0	0	6	4	38	0	0	42	62	4	0	0	66	114
2025-02-11 08:30:00	6	3	0	0	9	4	30	0	0	34	55	6	0	0	61	104
Grand Total	16	11	0	0	27	35	134	0	0	169	220	23	0	0	243	**439**
Approach%	59.3%	40.7%	0%		-	20.7%	79.3%	0%		-	90.5%	9.5%	0%		-	**-**
Totals %	3.6%	2.5%	0%		6.2%	8%	30.5%	0%		38.5%	50.1%	5.2%	0%		55.4%	**-**
PHF	0.67	0.69	0		0.75	0.63	0.84	0		0.8	0.83	0.82	0		0.83	0.91
Heavy	2	1	0		3	2	16	0		18	13	2	0		15	36
Heavy %	12.5%	9.1%	0%		11.1%	5.7%	11.9%	0%		10.7%	5.9%	8.7%	0%		6.2%	8.2%
Lights	14	10	0		24	33	118	0		151	207	21	0		228	403
Lights %	87.5%	90.9%	0%		88.9%	94.3%	88.1%	0%		89.3%	94.1%	91.3%	0%		93.8%	91.8%
Single-Unit Trucks	0	0	0		0	0	2	0		2	4	1	0		5	7
Single-Unit Trucks %	0%	0%	0%		0%	0%	1.5%	0%		1.2%	1.8%	4.3%	0%		2.1%	1.6%
Buses	1	0	0		1	0	11	0		11	4	1	0		5	17
Buses %	6.3%	0%	0%		3.7%	0%	8.2%	0%		6.5%	1.8%	4.3%	0%		2.1%	3.9%
Articulated Trucks	1	1	0		2	2	3	0		5	5	0	0		5	12
Articulated Trucks %	6.3%	9.1%	0%		7.4%	5.7%	2.2%	0%		3%	2.3%	0%	0%		2.1%	2.7%
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Road	0	0	0		-	0	0	0		-	0	1	0		-	**-**
Bicycles on Road%	0%	0%	0%			0%	0%	0%			0%	100%	0%			**-**

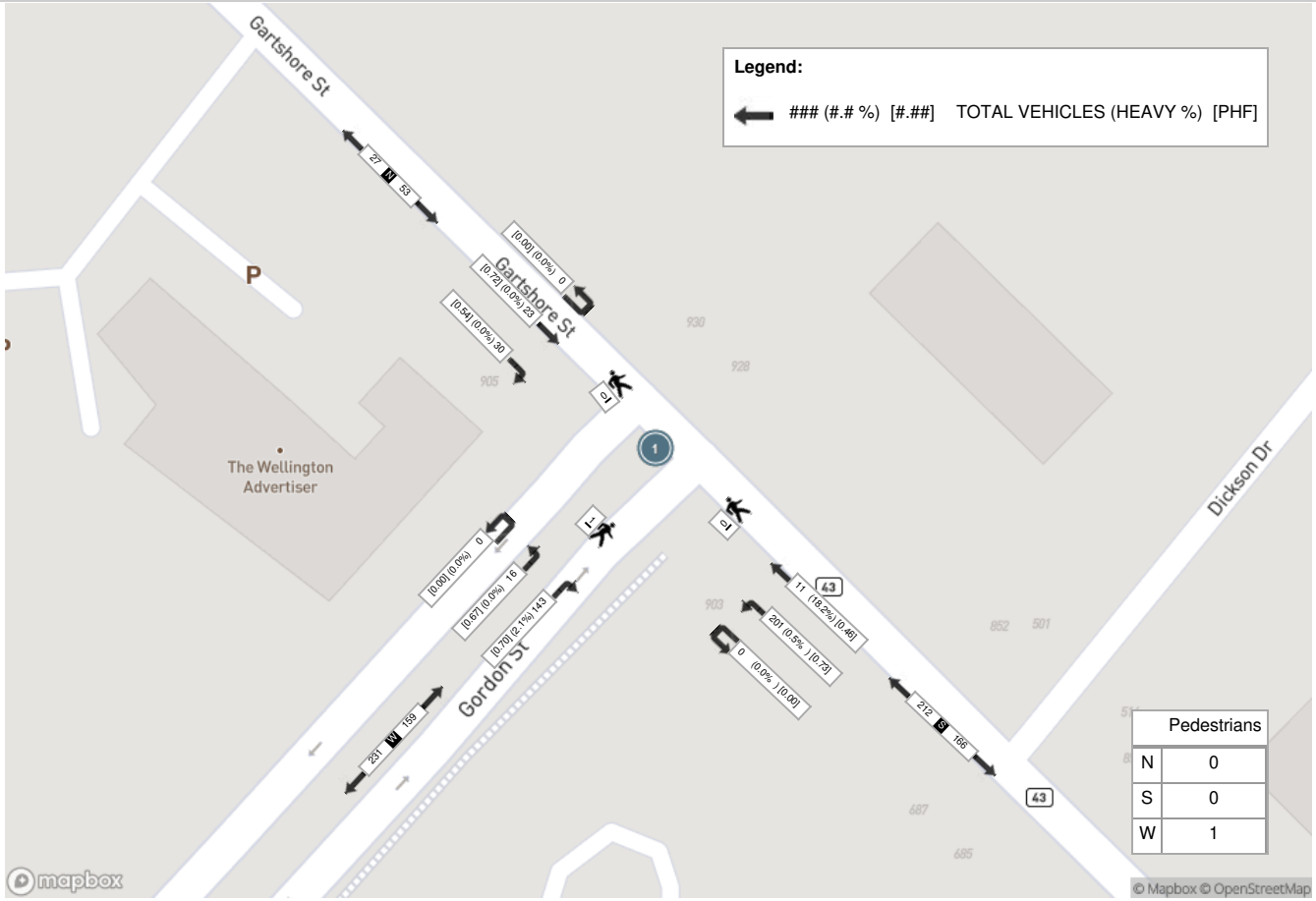
Selected Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (-13.31 °C)

Start Time	N Approach GARTSHORE ST					S Approach GARTSHORE ST					W Approach GORDON ST					Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	
2025-02-11 16:45:00	1	3	0	0	4	1	69	0	0	70	34	1	0	1	35	109
2025-02-11 17:00:00	14	5	0	0	19	3	42	0	0	45	34	5	0	0	39	103
2025-02-11 17:15:00	4	7	0	0	11	1	40	0	0	41	51	6	0	0	57	109
2025-02-11 17:30:00	11	8	0	0	19	6	50	0	0	56	24	4	0	0	28	103
Grand Total	30	23	0	0	53	11	201	0	0	212	143	16	0	1	159	**424**
Approach%	56.6%	43.4%	0%		-	5.2%	94.8%	0%		-	89.9%	10.1%	0%		-	**-**
Totals %	7.1%	5.4%	0%		12.5%	2.6%	47.4%	0%		50%	33.7%	3.8%	0%		37.5%	**-**
PHF	0.54	0.72	0		0.7	0.46	0.73	0		0.76	0.7	0.67	0		0.7	0.97
Heavy	0	0	0		0	2	1	0		3	3	0	0		3	6
Heavy %	0%	0%	0%		0%	18.2%	0.5%	0%		1.4%	2.1%	0%	0%		1.9%	1.4%
Lights	30	23	0		53	9	200	0		209	140	16	0		156	418
Lights %	100%	100%	0%		100%	81.8%	99.5%	0%		98.6%	97.9%	100%	0%		98.1%	98.6%
Single-Unit Trucks	0	0	0		0	1	0	0		1	2	0	0		2	3
Single-Unit Trucks %	0%	0%	0%		0%	9.1%	0%	0%		0.5%	1.4%	0%	0%		1.3%	0.7%
Buses	0	0	0		0	1	0	0		1	1	0	0		1	2
Buses %	0%	0%	0%		0%	9.1%	0%	0%		0.5%	0.7%	0%	0%		0.6%	0.5%
Articulated Trucks	0	0	0		0	0	1	0		1	0	0	0		0	1
Articulated Trucks %	0%	0%	0%		0%	0%	0.5%	0%		0.5%	0%	0%	0%		0%	0.2%
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	100%		**-**
Bicycles on Road	0	0	0		-	0	0	0		-	0	0	0		-	**-**
Bicycles on Road%	0%	0%	0%			0%	0%	0%			0%	0%	0%			**-**

Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast Clouds (-13.31 °C)



Selected Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (-13.31 °C)



Spectrum

Turning Movement Count
Location Name: GARTSHORE ST & ST ANDREW ST E
Date: Tue, Feb 11, 2025 Deployment Lead: Rey Fernandez

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Turning Movement Count (2 . GARTSHORE ST & ST ANDREW ST E)

Start Time	N Approach GARTSHORE ST						E Approach ST ANDREW ST E						S Approach GARTSHORE ST						W Approach ST ANDREW ST E						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
2025-02-11 07:00:00	7	66	0	0	0	73	0	5	4	0	2	9	3	56	11	0	1	70	24	0	3	0	2	27	179	
2025-02-11 07:15:00	5	78	1	0	0	84	2	2	2	0	1	6	2	52	7	0	1	61	19	4	5	0	1	28	179	
2025-02-11 07:30:00	7	71	2	0	1	80	1	3	7	0	0	11	4	58	17	0	0	79	31	2	5	0	0	38	208	
2025-02-11 07:45:00	7	88	3	0	0	98	3	4	7	0	0	14	2	72	19	0	1	93	16	2	3	0	2	21	226	792
2025-02-11 08:00:00	13	93	0	0	1	106	3	2	7	0	1	12	2	69	26	0	1	97	28	7	2	0	5	37	252	865
2025-02-11 08:15:00	18	92	1	0	11	111	1	5	8	0	0	14	5	56	23	0	0	84	27	8	5	0	12	40	249	935
2025-02-11 08:30:00	5	112	8	0	7	125	3	12	16	0	2	31	14	63	25	0	2	102	44	19	11	0	8	74	332	1059
2025-02-11 08:45:00	15	115	4	0	1	134	8	23	22	0	0	53	12	104	36	0	1	152	42	14	3	0	3	59	398	1231
2025-02-11 09:00:00	10	56	1	0	2	67	1	5	4	0	0	10	5	71	21	0	1	97	20	4	3	0	3	27	201	1180
2025-02-11 09:15:00	7	54	2	0	1	63	3	5	4	0	0	12	4	47	19	0	0	70	16	6	4	0	2	26	171	1102
2025-02-11 09:30:00	6	45	2	0	0	53	1	3	2	0	0	6	2	48	13	0	0	63	22	1	8	0	2	31	153	923
2025-02-11 09:45:00	15	52	0	0	1	67	1	9	4	0	0	14	2	52	16	0	0	70	16	2	5	0	3	23	174	699
2025-02-11 10:00:00	6	54	1	0	0	61	1	4	6	0	0	11	6	41	15	0	0	62	23	4	7	0	2	34	168	666
2025-02-11 10:15:00	10	52	1	0	0	63	1	2	5	0	0	8	2	63	20	0	0	85	18	3	4	0	0	25	181	676
2025-02-11 10:30:00	8	39	1	0	0	48	2	1	4	0	0	7	2	35	19	0	0	56	20	4	8	0	0	32	143	666
2025-02-11 10:45:00	14	47	0	0	0	61	0	5	4	0	0	9	0	45	25	0	0	70	12	4	6	0	1	22	162	654
2025-02-11 11:00:00	11	55	1	0	0	67	0	3	5	0	0	8	5	41	18	0	0	64	26	10	6	0	1	42	181	667
2025-02-11 11:15:00	6	35	1	0	0	42	0	6	7	0	0	13	4	52	17	0	0	73	26	4	3	0	0	33	161	647
2025-02-11 11:30:00	12	62	0	0	0	74	1	2	6	0	0	9	5	59	18	0	0	82	20	3	9	0	2	32	197	701
2025-02-11 11:45:00	10	55	0	0	0	65	0	2	1	0	0	3	9	60	13	0	0	82	21	6	6	0	2	33	183	722
2025-02-11 12:00:00	14	60	2	0	0	76	0	1	6	0	0	7	4	66	16	0	0	86	15	2	8	0	2	25	194	735
2025-02-11 12:15:00	7	51	0	0	0	58	1	8	6	0	0	15	6	55	18	0	0	79	17	7	6	0	2	30	182	756
2025-02-11 12:30:00	11	54	0	0	0	65	1	2	6	0	0	9	5	62	17	0	0	84	17	8	11	0	3	36	194	753
2025-02-11 12:45:00	8	57	0	0	0	65	3	7	6	0	0	16	6	61	19	0	0	86	15	7	6	0	3	28	195	765
2025-02-11 13:00:00	10	52	2	0	1	64	0	3	2	0	0	5	5	59	14	0	0	78	16	5	8	0	5	29	176	747
2025-02-11 13:15:00	8	46	1	0	2	55	3	6	6	0	0	15	4	57	16	0	0	77	26	8	5	0	1	39	186	751
2025-02-11 13:30:00	14	50	0	0	0	64	1	4	3	0	0	8	7	49	14	0	0	70	13	3	4	0	1	20	162	719
2025-02-11 13:45:00	8	44	2	0	2	54	2	4	5	0	0	11	5	60	29	0	0	94	16	10	9	0	1	35	194	718
2025-02-11 14:00:00	14	56	2	0	1	72	0	5	4	0	0	9	3	63	21	0	0	87	17	4	5	0	3	26	194	736
2025-02-11 14:15:00	14	65	1	0	0	80	0	3	2	0	0	5	3	70	14	0	0	87	27	4	9	0	3	40	212	762
2025-02-11 14:30:00	15	57	1	0	0	73	0	8	4	0	0	12	4	92	19	0	1	115	23	5	7	0	4	35	235	835
2025-02-11 14:45:00	5	76	5	0	1	86	0	3	5	0	1	8	6	64	20	0	0	90	29	8	7	0	2	44	228	869
2025-02-11 15:00:00	9	89	3	0	0	101	3	2	3	0	0	8	12	98	31	0	0	141	25	14	7	0	2	46	296	971
2025-02-11 15:15:00	8	70	3	0	16	81	11	12	18	0	0	41	23	106	32	0	3	161	33	11	7	0	14	51	334	1093
2025-02-11 15:30:00	10	80	3	0	5	93	0	2	8	0	0	10	15	84	25	0	3	124	31	6	8	0	15	45	272	1130
2025-02-11 15:45:00	9	71	3	0	1	83	0	2	7	0	0	9	9	86	22	0	0	117	23	3	5	0	5	31	240	1142
2025-02-11 16:00:00	6	90	1	0	1	97	1	3	4	0	0	8	8	89	31	0	0	128	33	7	10	0	2	50	283	1129
2025-02-11 16:15:00	16	82	0	0	0	98	0	1	4	0	0	5	11	95	26	0	0	132	38	9	11	0	4	58	293	1088
2025-02-11 16:30:00	17	109	4	0	1	130	0	5	4	0	0	9	10	120	24	0	0	154	18	8	8	0	1	34	327	1143
2025-02-11 16:45:00	16	89	0	0	0	105	1	8	13	0	0	22	8	130	29	0	0	167	37	9	8	0	2	54	348	1251
2025-02-11 17:00:00	11	101	0	0	0	112	1	8	8	0	0	17	16	115	19	0	0	150	27	11	4	0	1	42	321	1289
2025-02-11 17:15:00	1	86	1	0	1	88	1	4	11	0	0	16	8	111	21	0	0	140	42	10	10	0	0	62	306	1302
2025-02-11 17:30:00	4	76	2	0	0	82	0	4	5	0	0	9	11	107	36	0	0	154	29	1	5	0	3	35	280	1255
2025-02-11 17:45:00	11	60	2	0	0	73	3	1	5	0	0	9	11	116	23	0	0	150	16	9	4	0	2	29	261	1168
2025-02-11 18:00:00	4	49	0	0	0	53	0	0	6	0	0	6	8	84	19	0	0	111	19	10	2	0	0	31	201	1048

2025-02-11 18:15:00	3	39	1	0	0	43	1	3	2	0	1	6	8	75	22	0	1	105	19	6	4	0	1	29	183	925
2025-02-11 18:30:00	1	50	0	0	0	51	1	2	5	0	0	8	5	73	22	0	0	100	15	2	3	0	5	20	179	824
2025-02-11 18:45:00	7	51	1	0	1	59	1	1	0	0	2	2	8	76	12	0	2	96	14	5	6	0	6	25	182	745
Grand Total	453	3181	69	0	58	3703	67	215	283	0	10	565	319	3467	989	0	18	4775	1121	299	293	0	144	1713	**10756**	-
Approach%	12.2%	85.9%	1.9%	0%		-	11.9%	38.1%	50.1%	0%		-	6.7%	72.6%	20.7%	0%		-	65.4%	17.5%	17.1%	0%		-	**-**	-
Totals %	4.2%	29.6%	0.6%	0%		34.4%	0.6%	2%	2.6%	0%		5.3%	3%	32.2%	9.2%	0%		44.4%	10.4%	2.8%	2.7%	0%		15.9%	**-**	-
Heavy	13	175	2	0		-	7	2	11	0		-	8	204	11	0		-	14	5	11	0		-	**-**	-
Heavy %	2.9%	5.5%	2.9%	0%		-	10.4%	0.9%	3.9%	0%		-	2.5%	5.9%	1.1%	0%		-	1.2%	1.7%	3.8%	0%		-	**-**	-
Bicycles	0	1	0	0		-	0	0	0	0		-	0	0	1	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0.1%	0%		-	0%	0%	0%	0%		-	**-**	-

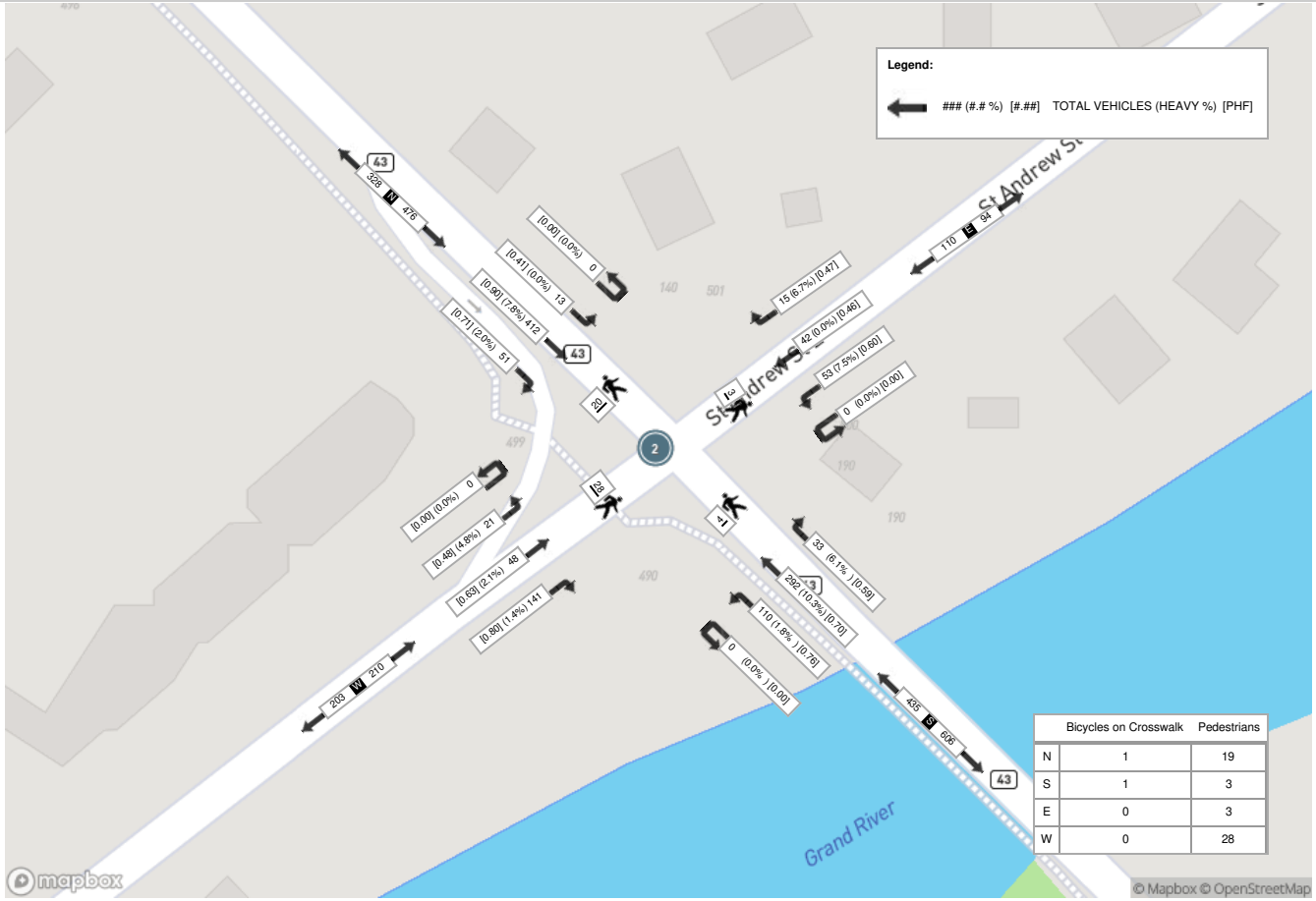
Selected Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (-13.31 °C)

Start Time	N Approach GARTSHORE ST						E Approach ST ANDREW ST E						S Approach GARTSHORE ST						W Approach ST ANDREW ST E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
2025-02-11 08:00:00	13	93	0	0	1	106	3	2	7	0	1	12	2	69	26	0	1	97	28	7	2	0	5	37	252
2025-02-11 08:15:00	18	92	1	0	11	111	1	5	8	0	0	14	5	56	23	0	0	84	27	8	5	0	12	40	249
2025-02-11 08:30:00	5	112	8	0	7	125	3	12	16	0	2	31	14	63	25	0	2	102	44	19	11	0	8	74	332
2025-02-11 08:45:00	15	115	4	0	1	134	8	23	22	0	0	53	12	104	36	0	1	152	42	14	3	0	3	59	398
Grand Total	51	412	13	0	20	476	15	42	53	0	3	110	33	292	110	0	4	435	141	48	21	0	28	210	**1231**
Approach%	10.7%	86.6%	2.7%	0%		-	13.6%	38.2%	48.2%	0%		-	7.6%	67.1%	25.3%	0%		-	67.1%	22.9%	10%	0%		-	**-**
Totals %	4.1%	33.5%	1.1%	0%		38.7%	1.2%	3.4%	4.3%	0%		8.9%	2.7%	23.7%	8.9%	0%		35.3%	11.5%	3.9%	1.7%	0%		17.1%	**-**
PHF	0.71	0.9	0.41	0		0.89	0.47	0.46	0.6	0		0.52	0.59	0.7	0.76	0		0.72	0.8	0.63	0.48	0		0.71	0.77
Heavy	1	32	0	0		33	1	0	4	0		5	2	30	2	0		34	2	1	1	0		4	76
Heavy %	2%	7.8%	0%	0%		6.9%	6.7%	0%	7.5%	0%		4.5%	6.1%	10.3%	1.8%	0%		7.8%	1.4%	2.1%	4.8%	0%		1.9%	6.2%
Lights	50	380	13	0		443	14	42	49	0		105	31	262	108	0		401	139	47	20	0		206	1155
Lights %	98%	92.2%	100%	0%		93.1%	93.3%	100%	92.5%	0%		95.5%	93.9%	89.7%	98.2%	0%		92.2%	98.6%	97.9%	95.2%	0%		98.1%	93.8%
Single-Unit Trucks	0	6	0	0		6	0	0	0	0		0	0	7	0	0		7	1	0	0	0		1	14
Single-Unit Trucks %	0%	1.5%	0%	0%		1.3%	0%	0%	0%	0%		0%	0%	2.4%	0%	0%		1.6%	0.7%	0%	0%	0%		0.5%	1.1%
Buses	1	20	0	0		21	1	0	4	0		5	2	17	2	0		21	1	1	1	0		3	50
Buses %	2%	4.9%	0%	0%		4.4%	6.7%	0%	7.5%	0%		4.5%	6.1%	5.8%	1.8%	0%		4.8%	0.7%	2.1%	4.8%	0%		1.4%	4.1%
Articulated Trucks	0	6	0	0		6	0	0	0	0		0	0	6	0	0		6	0	0	0	0		0	12
Articulated Trucks %	0%	1.5%	0%	0%		1.3%	0%	0%	0%	0%		0%	0%	2.1%	0%	0%		1.4%	0%	0%	0%	0%		0%	1%
Pedestrians	-	-	-	-	19	-	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	28	-	**-**
Pedestrians%	-	-	-	-	34.5%		-	-	-	-	5.5%		-	-	-	-	5.5%		-	-	-	-	50.9%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	1.8%		-	-	-	-	0%		-	-	-	-	1.8%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

Peak Hour: 04:30 PM - 05:30 PM Weather: Overcast Clouds (-13.31 °C)

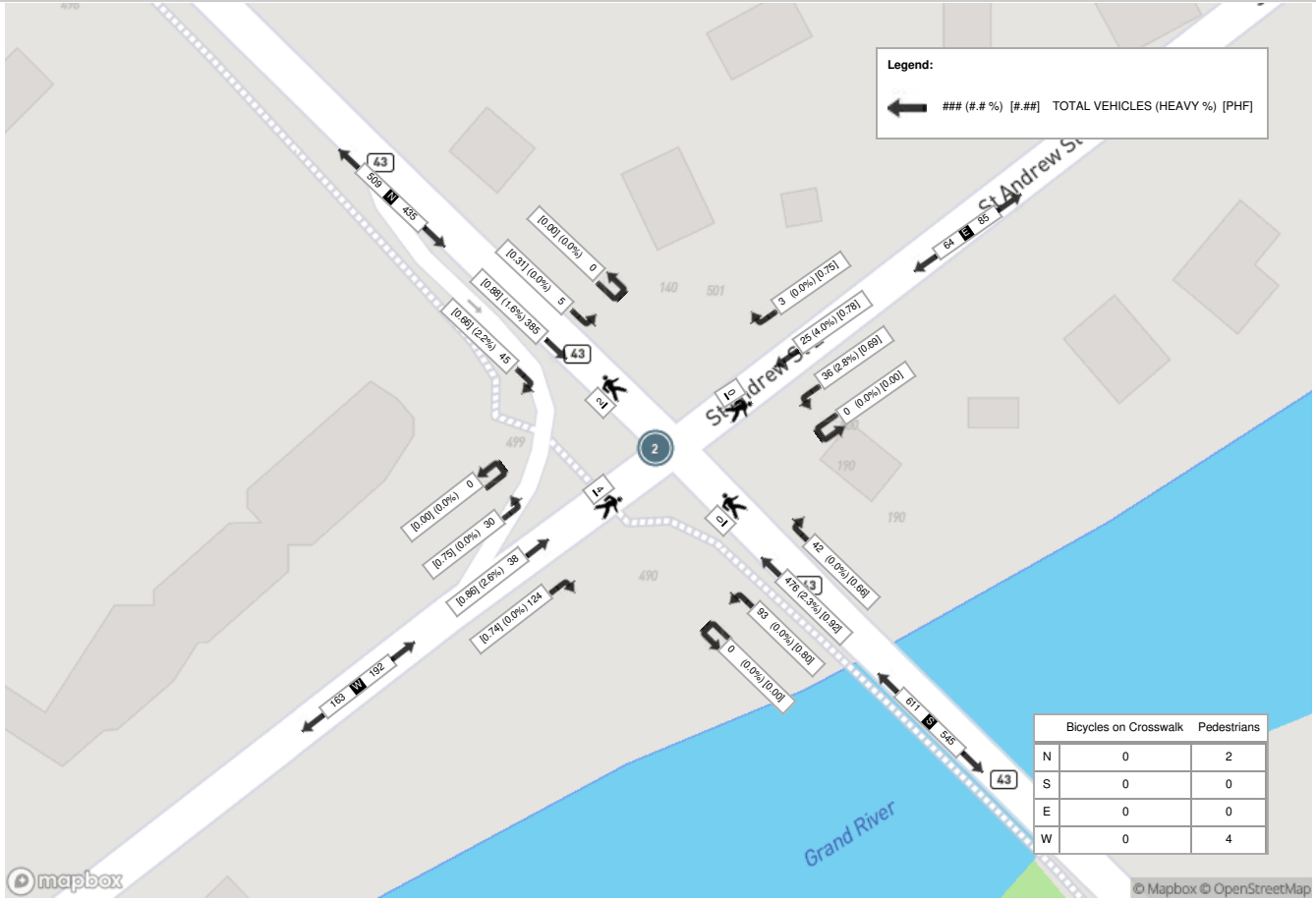
Start Time	N Approach GARTSHORE ST						E Approach ST ANDREW ST E						S Approach GARTSHORE ST						W Approach ST ANDREW ST E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
2025-02-11 16:30:00	17	109	4	0	1	130	0	5	4	0	0	9	10	120	24	0	0	154	18	8	8	0	1	34	327
2025-02-11 16:45:00	16	89	0	0	0	105	1	8	13	0	0	22	8	130	29	0	0	167	37	9	8	0	2	54	348
2025-02-11 17:00:00	11	101	0	0	0	112	1	8	8	0	0	17	16	115	19	0	0	150	27	11	4	0	1	42	321
2025-02-11 17:15:00	1	86	1	0	1	88	1	4	11	0	0	16	8	111	21	0	0	140	42	10	10	0	0	62	306
Grand Total	45	385	5	0	2	435	3	25	36	0	0	64	42	476	93	0	0	611	124	38	30	0	4	192	**1302**
Approach%	10.3%	88.5%	1.1%	0%		-	4.7%	39.1%	56.3%	0%		-	6.9%	77.9%	15.2%	0%		-	64.6%	19.8%	15.6%	0%		-	**-**
Totals %	3.5%	29.6%	0.4%	0%		33.4%	0.2%	1.9%	2.8%	0%		4.9%	3.2%	36.6%	7.1%	0%		46.9%	9.5%	2.9%	2.3%	0%		14.7%	**-**
PHF	0.66	0.88	0.31	0		0.84	0.75	0.78	0.69	0		0.73	0.66	0.92	0.8	0		0.91	0.74	0.86	0.75	0		0.77	0.94
Heavy	1	6	0	0		7	0	1	1	0		2	0	11	0	0		11	0	1	0	0		1	21
Heavy %	2.2%	1.6%	0%	0%		1.6%	0%	4%	2.8%	0%		3.1%	0%	2.3%	0%	0%		1.8%	0%	2.6%	0%	0%		0.5%	1.6%
Lights	44	379	5	0		428	3	24	35	0		62	42	465	93	0		600	124	37	30	0		191	1281
Lights %	97.8%	98.4%	100%	0%		98.4%	100%	96%	97.2%	0%		96.9%	100%	97.7%	100%	0%		98.2%	100%	97.4%	100%	0%		99.5%	98.4%
Single-Unit Trucks	1	3	0	0		4	0	1	1	0		2	0	5	0	0		5	0	1	0	0		1	12
Single-Unit Trucks %	2.2%	0.8%	0%	0%		0.9%	0%	4%	2.8%	0%		3.1%	0%	1.1%	0%	0%		0.8%	0%	2.6%	0%	0%		0.5%	0.9%
Buses	0	1	0	0		1	0	0	0	0		0	0	4	0	0		4	0	0	0	0		0	5
Buses %	0%	0.3%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0.8%	0%	0%		0.7%	0%	0%	0%	0%		0%	0.4%
Articulated Trucks	0	2	0	0		2	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	4
Articulated Trucks %	0%	0.5%	0%	0%		0.5%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	0%	0%	0%	0%		0%	0.3%
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	**-**
Pedestrians%	-	-	-	-	33.3%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	66.7%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

Selected Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (-13.31 °C)**



	Bicycles on Crosswalk	Pedestrians
N	1	19
S	1	3
E	0	3
W	0	28

Peak Hour: 04:30 PM - 05:30 PM **Weather: Overcast Clouds (-13.31 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	2
S	0	0
E	0	0
W	0	4

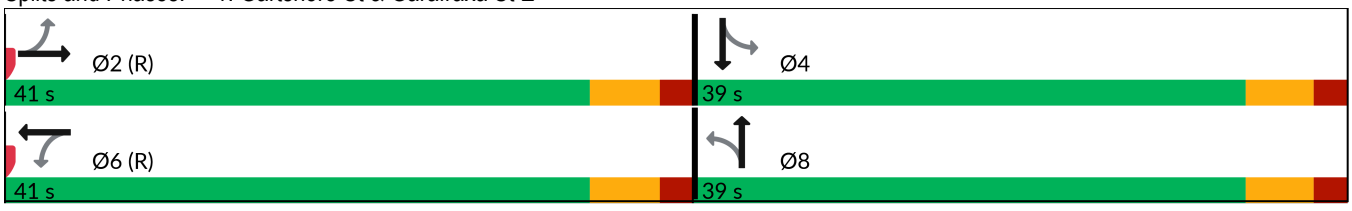
Appendix C:
Synchro Outputs

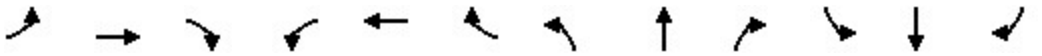
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	70	85	115	80	275	55	330
Future Volume (vph)	10	70	85	115	80	275	55	330
Lane Group Flow (vph)	11	216	97	188	91	364	63	392
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	36.1	36.1	27.1	27.1	27.1	27.1
Total Split (s)	41.0	41.0	41.0	41.0	39.0	39.0	39.0	39.0
Total Split (%)	51.3%	51.3%	51.3%	51.3%	48.8%	48.8%	48.8%	48.8%
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio	0.02	0.23	0.16	0.19	0.55	0.75	0.35	0.77
Control Delay (s/veh)	10.9	5.2	11.6	9.1	35.0	34.0	26.0	35.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	10.9	5.2	11.6	9.1	35.0	34.0	26.0	35.2
Queue Length 50th (m)	0.7	5.4	6.7	11.0	12.0	47.6	7.5	54.3
Queue Length 95th (m)	3.5	18.2	17.4	25.6	23.0	63.7	15.5	70.7
Internal Link Dist (m)		114.2		223.2		361.2		201.3
Turn Bay Length (m)	40.0		35.0		30.0		35.0	
Base Capacity (vph)	595	956	593	990	234	677	251	717
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.23	0.16	0.19	0.39	0.54	0.25	0.55

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 1: Gartshore St & Garafraxa St E

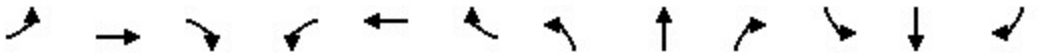




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	70	120	85	115	50	80	275	45	55	330	15
Future Volume (vph)	10	70	120	85	115	50	80	275	45	55	330	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1615		1633	1757		1728	1630		1641	1741	
Flt Permitted	0.64	1.00		0.62	1.00		0.31	1.00		0.35	1.00	
Satd. Flow (perm)	1075	1615		1071	1757		569	1630		611	1741	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	11	80	136	97	131	57	91	312	51	63	375	17
RTOR Reduction (vph)	0	61	0	0	16	0	0	8	0	0	2	0
Lane Group Flow (vph)	11	155	0	97	172	0	91	356	0	63	390	0
Confl. Peds. (#/hr)			5	5			5					5
Heavy Vehicles (%)	13%	6%	4%	10%	2%	6%	4%	14%	15%	10%	8%	14%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.3	44.3		44.3	44.3		23.5	23.5		23.5	23.5	
Effective Green, g (s)	44.3	44.3		44.3	44.3		23.5	23.5		23.5	23.5	
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.29	0.29		0.29	0.29	
Clearance Time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	595	894		593	972		167	478		179	511	
v/s Ratio Prot		0.10			c0.10			0.22			c0.22	
v/s Ratio Perm	0.01			0.09			0.16			0.10		
v/c Ratio	0.02	0.17		0.16	0.18		0.54	0.74		0.35	0.76	
Uniform Delay, d1	8.0	8.8		8.8	8.8		23.8	25.5		22.3	25.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.4		0.6	0.4		3.6	6.2		1.2	6.7	
Delay (s)	8.1	9.2		9.4	9.2		27.4	31.7		23.4	32.4	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s/veh)		9.2			9.3			30.8			31.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

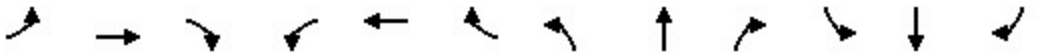


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	150	10	0	190	5	15	5	5	15	10	45
Future Volume (Veh/h)	10	150	10	0	190	5	15	5	5	15	10	45
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	163	11	0	207	5	16	5	5	16	11	49
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		247										
pX, platoon unblocked												
vC, conflicting volume	212			174			455	403	169	408	406	210
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	212			174			455	403	169	408	406	210
tC, single (s)	4.1			4.1			7.2	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			97	99	99	97	98	94
cM capacity (veh/h)	1370			1415			460	535	881	547	533	836

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	185	212	26	76
Volume Left	11	0	16	16
Volume Right	11	5	5	49
cSH	1370	1415	522	701
Volume to Capacity	0.00*	0.00	0.05	0.11
Queue Length 95th (m)	0.2	0.0	1.3	2.9
Control Delay (s/veh)	0.5	0.0	12.3	10.8
Lane LOS	A		B	B
Approach Delay (s/veh)	0.5	0.0	12.3	10.8
Approach LOS			B	B

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	27.6%	ICU Level of Service	A	
Analysis Period (min)	15			

* Value less than 0.01.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	110	10	30	165	10	15	10	25	10	0	10
Future Volume (Veh/h)	5	110	10	30	165	10	15	10	25	10	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	5	115	10	31	172	10	16	10	26	10	0	10
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	182			125			369	369	115	390	369	172
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	182			125			369	369	115	390	369	172
tC, single (s)	4.1			4.2			7.3	6.7	6.2	7.2	7.0	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.7	4.2	3.3	3.6	4.4	3.3
p0 queue free %	100			98			97	98	97	98	100	99
cM capacity (veh/h)	1405			1396			534	522	932	519	479	877

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	120	10	203	10	52	20
Volume Left	5	0	31	0	16	10
Volume Right	0	10	0	10	26	10
cSH	1405	1700	1396	1700	675	652
Volume to Capacity	0.00*	0.00*	0.02	0.00*	0.08	0.03
Queue Length 95th (m)	0.1	0.0	0.5	0.0	2.0	0.8
Control Delay (s/veh)	0.3	0.0	1.3	0.0	10.8	10.7
Lane LOS	A		A		B	B
Approach Delay (s/veh)	0.3		1.3		10.8	10.7
Approach LOS					B	B

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	27.0%	ICU Level of Service	A	
Analysis Period (min)	15			

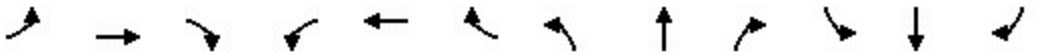
* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	220	135	35	10	15
Future Volume (Veh/h)	25	220	135	35	10	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	242	148	38	11	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	353	19	27			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	353	19	27			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	95	77	90			
cM capacity (veh/h)	570	1048	1524			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	269	186	27
Volume Left	27	148	0
Volume Right	242	0	16
cSH	966	1524	1700
Volume to Capacity	0.28	0.10	0.02
Queue Length 95th (m)	9.1	2.6	0.0
Control Delay (s/veh)	10.2	6.2	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	10.2	6.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	37.6%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	25	75	15	20	15	60	275	10	15	305	10
Future Volume (Veh/h)	5	25	75	15	20	15	60	275	10	15	305	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	28	83	17	22	17	67	306	11	17	339	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								225				
pX, platoon unblocked	0.85	0.85		0.85	0.85	0.85				0.85		
vC, conflicting volume	852	830	345	921	830	312	350			317		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	738	712	345	820	712	103	350			110		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	98	90	88	91	92	98	94			99		
cM capacity (veh/h)	249	285	701	190	280	814	1192			1239		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	117	56	384	367
Volume Left	6	17	67	17
Volume Right	83	17	11	11
cSH	486	297	1192	1239
Volume to Capacity	0.24	0.19	0.06	0.01
Queue Length 95th (m)	7.5	5.5	1.4	0.3
Control Delay (s/veh)	14.7	19.9	1.9	0.5
Lane LOS	B	C	A	A
Approach Delay (s/veh)	14.7	19.9	1.9	0.5
Approach LOS	B	C		

Intersection Summary				
Average Delay	4.1			
Intersection Capacity Utilization	54.2%	ICU Level of Service	A	
Analysis Period (min)	15			

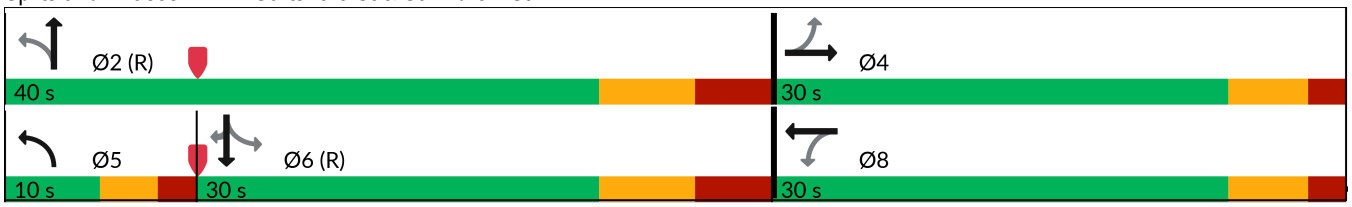
* Value less than 0.01.

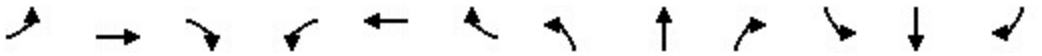
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	20	50	55	40	110	290	15	410	50
Future Volume (vph)	20	50	55	40	110	290	15	410	50
Lane Group Flow (vph)	26	247	71	71	143	422	19	532	65
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm
Protected Phases		4		8	5	2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	5	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.1	24.1	24.1	24.1	10.0	27.0	27.0	27.0	27.0
Total Split (s)	30.0	30.0	30.0	30.0	10.0	40.0	30.0	30.0	30.0
Total Split (%)	42.9%	42.9%	42.9%	42.9%	14.3%	57.1%	42.9%	42.9%	42.9%
Yellow Time (s)	4.1	4.1	4.1	4.1	3.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	5.0	9.0	9.0	9.0	9.0
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.14	0.62	0.67	0.26	0.26	0.39	0.04	0.62	0.08
Control Delay (s/veh)	25.5	15.5	56.5	21.5	5.6	8.1	13.9	21.2	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.5	15.5	56.5	21.5	5.6	8.1	13.9	21.2	0.8
Queue Length 50th (m)	3.1	8.0	9.1	6.4	5.3	22.3	1.4	51.9	0.0
Queue Length 95th (m)	7.3	17.8	16.7	12.9	11.4	37.4	5.0	#82.5	0.0
Internal Link Dist (m)		95.5		92.4		135.0		361.2	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		50.0
Base Capacity (vph)	423	677	244	614	541	1085	474	856	776
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.36	0.29	0.12	0.26	0.39	0.04	0.62	0.08

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 56.1 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Gartshore St & St Andrew St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	50	140	55	40	15	110	290	35	15	410	50
Future Volume (vph)	20	50	140	55	40	15	110	290	35	15	410	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		5.0	9.0		9.0	9.0	9.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	1.00		1.00	1.00	0.92
Flpb, ped/bikes	0.96	1.00		0.99	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	0.89		1.00	0.96		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1658	1633		1661	1762		1760	1701		1795	1759	1461
Flt Permitted	0.71	1.00		0.41	1.00		0.33	1.00		0.52	1.00	1.00
Satd. Flow (perm)	1241	1633		715	1762		603	1701		975	1759	1461
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	26	65	182	71	52	19	143	377	45	19	532	65
RTOR Reduction (vph)	0	155	0	0	16	0	0	4	0	0	0	34
Lane Group Flow (vph)	26	92	0	71	55	0	143	418	0	19	532	31
Confl. Peds. (#/hr)	20		5	5		20	30		5	5		30
Heavy Vehicles (%)	5%	2%	1%	8%	0%	7%	2%	10%	6%	0%	8%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	10.4	10.4		10.4	10.4		44.5	44.5		33.1	33.1	33.1
Effective Green, g (s)	10.4	10.4		10.4	10.4		44.5	44.5		33.1	33.1	33.1
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.64	0.64		0.47	0.47	0.47
Clearance Time (s)	6.1	6.1		6.1	6.1		5.0	9.0		9.0	9.0	9.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	184	242		106	261		489	1081		461	831	690
v/s Ratio Prot		0.06			0.03		0.03	c0.25			c0.30	
v/s Ratio Perm	0.02			c0.10			0.16			0.02		0.02
v/c Ratio	0.14	0.38		0.67	0.21		0.29	0.39		0.04	0.64	0.04
Uniform Delay, d1	25.9	26.9		28.2	26.2		6.2	6.2		9.9	13.9	9.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	1.0		14.9	0.4		0.3	1.0		0.2	3.8	0.1
Delay (s)	26.3	27.9		43.1	26.6		6.5	7.2		10.1	17.7	10.1
Level of Service	C	C		D	C		A	A		B	B	B
Approach Delay (s/veh)		27.7			34.8			7.0			16.7	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

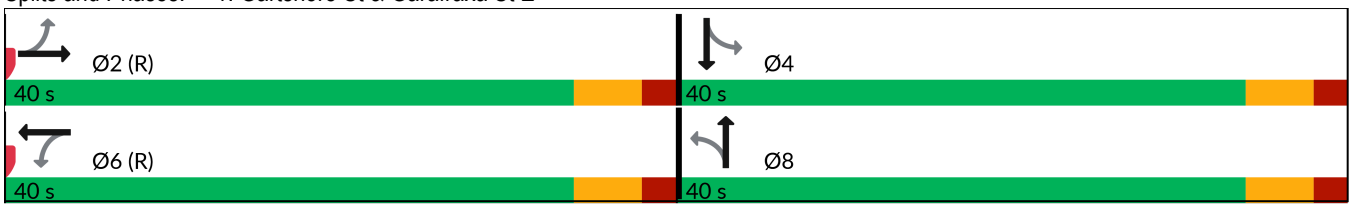
c Critical Lane Group

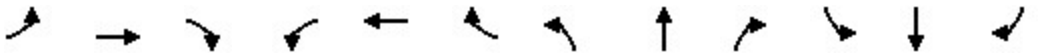
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	100	90	75	75	395	70	315
Future Volume (vph)	20	100	90	75	75	395	70	315
Lane Group Flow (vph)	22	228	100	177	83	517	78	372
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	36.1	36.1	27.1	27.1	27.1	27.1
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio	0.04	0.26	0.18	0.20	0.31	0.81	0.52	0.57
Control Delay (s/veh)	13.7	9.7	14.6	7.9	16.6	27.8	31.8	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.7	9.7	14.6	7.9	16.6	27.8	31.8	23.4
Queue Length 50th (m)	1.6	12.3	8.4	7.3	7.1	42.4	9.6	45.9
Queue Length 95th (m)	6.1	31.0	21.0	21.8	11.4	46.9	21.1	61.1
Internal Link Dist (m)		114.2		223.2		361.2		201.3
Turn Bay Length (m)	40.0		35.0		30.0		35.0	
Base Capacity (vph)	511	894	567	875	326	767	182	788
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.26	0.18	0.20	0.25	0.67	0.43	0.47

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 11.4 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 1: Gartshore St & Garafraxa St E

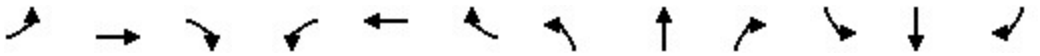




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	100	105	90	75	85	75	395	70	70	315	20
Future Volume (vph)	20	100	105	90	75	85	75	395	70	70	315	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.92		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1504	1710		1752	1665		1805	1773		1787	1831	
Flt Permitted	0.65	1.00		0.62	1.00		0.40	1.00		0.23	1.00	
Satd. Flow (perm)	1022	1710		1137	1665		759	1773		426	1831	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	22	111	117	100	83	94	83	439	78	78	350	22
RTOR Reduction (vph)	0	42	0	0	45	0	0	9	0	0	3	0
Lane Group Flow (vph)	22	186	0	100	132	0	83	508	0	78	369	0
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	20%	1%	4%	3%	0%	7%	0%	4%	9%	1%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	39.5	39.5		39.5	39.5		28.3	28.3		28.3	28.3	
Effective Green, g (s)	39.5	39.5		39.5	39.5		28.3	28.3		28.3	28.3	
Actuated g/C Ratio	0.49	0.49		0.49	0.49		0.35	0.35		0.35	0.35	
Clearance Time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	504	844		561	822		268	627		150	647	
v/s Ratio Prot		c0.11			0.08			c0.29			0.20	
v/s Ratio Perm	0.02			0.09			0.11			0.18		
v/c Ratio	0.04	0.22		0.18	0.16		0.31	0.81		0.52	0.57	
Uniform Delay, d1	10.5	11.5		11.2	11.1		18.8	23.4		20.5	20.9	
Progression Factor	1.00	1.00		1.00	1.00		0.80	0.78		1.00	1.00	
Incremental Delay, d2	0.2	0.6		0.7	0.4		0.6	7.5		3.2	1.2	
Delay (s)	10.6	12.1		11.9	11.6		15.7	25.8		23.7	22.1	
Level of Service	B	B		B	B		B	C		C	C	
Approach Delay (s/veh)		12.0			11.7			24.4			22.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

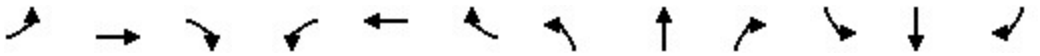


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	205	10	10	215	10	10	5	10	5	10	25
Future Volume (Veh/h)	25	205	10	10	215	10	10	5	10	5	10	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	31	253	12	12	265	12	12	6	12	6	12	31
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		247										
pX, platoon unblocked												
vC, conflicting volume	277			265			653	622	259	631	622	271
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	277			265			653	622	259	631	622	271
tC, single (s)	4.1			4.1			7.2	6.5	6.4	7.1	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.5	3.5	4.1	3.3
p0 queue free %	98			99			96	98	98	98	97	96
cM capacity (veh/h)	1298			1311			338	392	745	376	376	773

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	296	289	30	49
Volume Left	31	12	12	6
Volume Right	12	12	12	31
cSH	1298	1311	448	557
Volume to Capacity	0.02	0.00*	0.07	0.09
Queue Length 95th (m)	0.6	0.2	1.7	2.3
Control Delay (s/veh)	1.0	0.4	13.6	12.1
Lane LOS	A	A	B	B
Approach Delay (s/veh)	1.0	0.4	13.6	12.1
Approach LOS			B	B

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	31.3%	ICU Level of Service	A	
Analysis Period (min)	15			

* Value less than 0.01.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	180	15	20	165	10	5	10	35	25	10	15
Future Volume (Veh/h)	10	180	15	20	165	10	5	10	35	25	10	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	191	16	21	176	11	5	11	37	27	11	16
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	187			207			453	442	191	474	447	176
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	187			207			453	442	191	474	447	176
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	99			98			99	98	96	94	98	98
cM capacity (veh/h)	1399			1346			494	501	856	454	498	872

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	202	16	197	11	53	54
Volume Left	11	0	21	0	5	27
Volume Right	0	16	0	11	37	16
cSH	1399	1700	1346	1700	704	540
Volume to Capacity	0.00*	0.00*	0.02	0.00*	0.08	0.10
Queue Length 95th (m)	0.2	0.0	0.4	0.0	1.9	2.7
Control Delay (s/veh)	0.5	0.0	0.9	0.0	10.5	12.4
Lane LOS	A		A		B	B
Approach Delay (s/veh)	0.4		0.9		10.5	12.4
Approach LOS					B	B

Intersection Summary				
Average Delay	2.8			
Intersection Capacity Utilization	39.0%	ICU Level of Service		A
Analysis Period (min)	15			

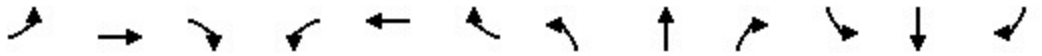
* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	145	200	10	25	30
Future Volume (Veh/h)	15	145	200	10	25	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	15	149	206	10	26	31
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	464	42	57			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	464	42	57			
tC, single (s)	6.4	6.2	4.3			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.4			
p0 queue free %	97	86	86			
cM capacity (veh/h)	481	1029	1451			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	164	216	57
Volume Left	15	206	0
Volume Right	149	0	31
cSH	932	1451	1700
Volume to Capacity	0.18	0.14	0.03
Queue Length 95th (m)	5.1	4.0	0.0
Control Delay (s/veh)	9.7	7.6	0.0
Lane LOS	A	A	
Approach Delay (s/veh)	9.7	7.6	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	10	50	10	15	15	110	360	30	15	345	5
Future Volume (Veh/h)	5	10	50	10	15	15	110	360	30	15	345	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	5	10	52	10	15	15	113	371	31	15	356	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								225				
pX, platoon unblocked	0.78	0.78		0.78	0.78	0.78				0.78		
vC, conflicting volume	1024	1017	359	1058	1004	387	361			402		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	891	882	359	935	866	78	361			98		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	95	92	94	93	98	91			99		
cM capacity (veh/h)	177	201	690	159	206	774	1209			1181		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	67	40	515	376
Volume Left	5	10	113	15
Volume Right	52	15	31	5
cSH	437	257	1209	1181
Volume to Capacity	0.15	0.16	0.09	0.01
Queue Length 95th (m)	4.3	4.3	2.5	0.3
Control Delay (s/veh)	14.7	21.5	2.6	0.4
Lane LOS	B	C	A	A
Approach Delay (s/veh)	14.7	21.5	2.6	0.4
Approach LOS	B	C		

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	61.1%	ICU Level of Service	B	
Analysis Period (min)	15			

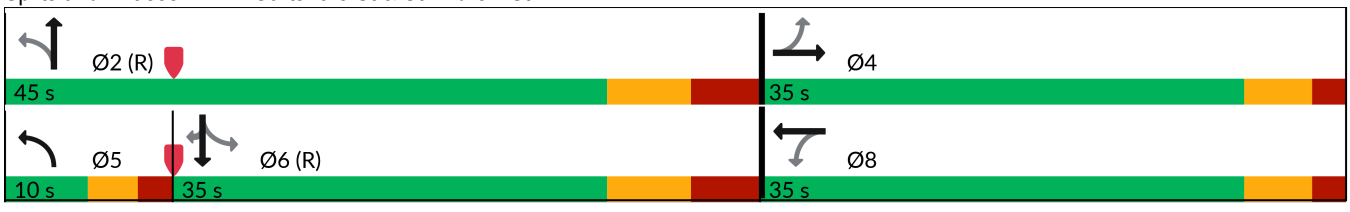
* Value less than 0.01.

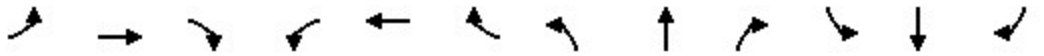
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	30	40	35	25	95	475	5	385	45
Future Volume (vph)	30	40	35	25	95	475	5	385	45
Lane Group Flow (vph)	32	176	37	32	101	548	5	410	48
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm
Protected Phases		4		8	5	2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	5	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.1	24.1	24.1	24.1	10.0	27.0	27.0	27.0	27.0
Total Split (s)	35.0	35.0	35.0	35.0	10.0	45.0	35.0	35.0	35.0
Total Split (%)	43.8%	43.8%	43.8%	43.8%	12.5%	56.3%	43.8%	43.8%	43.8%
Yellow Time (s)	4.1	4.1	4.1	4.1	3.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	5.0	9.0	9.0	9.0	9.0
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.21	0.59	0.35	0.16	0.14	0.42	0.01	0.38	0.05
Control Delay (s/veh)	34.2	18.6	41.1	28.8	3.6	6.7	15.0	16.1	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.2	18.6	41.1	28.8	3.6	6.7	15.0	16.1	2.1
Queue Length 50th (m)	4.8	6.4	5.6	4.0	3.1	28.8	0.4	42.5	0.0
Queue Length 95th (m)	12.2	23.1	13.8	11.1	8.9	58.9	m1.4	75.4	m1.5
Internal Link Dist (m)		95.5		92.4		135.0		361.2	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		50.0
Base Capacity (vph)	505	689	349	651	731	1297	507	1084	939
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.26	0.11	0.05	0.14	0.42	0.01	0.38	0.05

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 56.1 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Gartshore St & St Andrew St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	40	125	35	25	5	95	475	40	5	385	45
Future Volume (vph)	30	40	125	35	25	5	95	475	40	5	385	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		5.0	9.0		9.0	9.0	9.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.89		1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	1672		1752	1795		1801	1844		1805	1863	1534
Flt Permitted	0.74	1.00		0.53	1.00		0.46	1.00		0.46	1.00	1.00
Satd. Flow (perm)	1399	1672		969	1795		869	1844		873	1863	1534
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	43	133	37	27	5	101	505	43	5	410	48
RTOR Reduction (vph)	0	119	0	0	4	0	0	2	0	0	0	21
Lane Group Flow (vph)	32	57	0	37	28	0	101	546	0	5	410	27
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	3%	0%	3%	4%	0%	0%	2%	0%	0%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	8.7	8.7		8.7	8.7		56.2	56.2		45.6	45.6	45.6
Effective Green, g (s)	8.7	8.7		8.7	8.7		56.2	56.2		45.6	45.6	45.6
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.70	0.70		0.57	0.57	0.57
Clearance Time (s)	6.1	6.1		6.1	6.1		5.0	9.0		9.0	9.0	9.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	152	181		105	195		675	1295		497	1061	874
v/s Ratio Prot		0.03			0.02		0.01	c0.30			0.22	
v/s Ratio Perm	0.02			c0.04			0.09			0.01		0.02
v/c Ratio	0.21	0.32		0.35	0.14		0.15	0.42		0.01	0.39	0.03
Uniform Delay, d1	32.5	32.9		33.0	32.3		4.0	5.0		7.4	9.5	7.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.49	1.39	1.00
Incremental Delay, d2	0.7	1.0		2.0	0.3		0.1	1.0		0.0	1.0	0.1
Delay (s)	33.2	33.9		35.1	32.6		4.1	6.0		11.1	14.2	7.6
Level of Service	C	C		D	C		A	A		B	B	A
Approach Delay (s/veh)		33.8			33.9			5.7			13.5	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

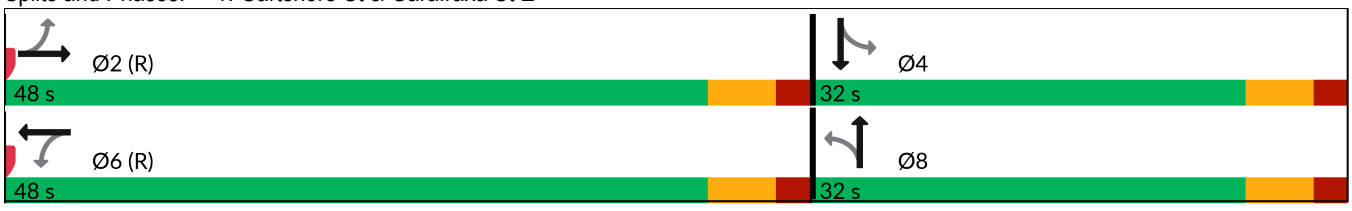
c Critical Lane Group

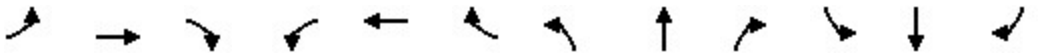
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	120	130	90	155	95	385	60	370
Future Volume (vph)	120	130	90	155	95	385	60	370
Lane Group Flow (vph)	136	313	102	239	108	495	68	460
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	36.1	36.1	27.1	27.1	27.1	27.1
Total Split (s)	48.0	48.0	48.0	48.0	32.0	32.0	32.0	32.0
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio	0.29	0.38	0.24	0.28	0.49	0.79	0.37	0.70
Control Delay (s/veh)	17.2	11.8	17.0	13.7	22.9	28.1	22.3	26.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.2	11.8	17.0	13.7	22.9	28.1	22.3	26.0
Queue Length 50th (m)	12.1	18.9	9.0	18.8	13.9	69.1	7.3	57.7
Queue Length 95th (m)	27.9	42.9	22.1	39.3	29.0	100.1	15.1	73.0
Internal Link Dist (m)		114.2		223.2		361.2		201.3
Turn Bay Length (m)	40.0		35.0		30.0		35.0	
Base Capacity (vph)	538	922	479	955	226	641	189	672
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.34	0.21	0.25	0.48	0.77	0.36	0.68

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 11.4 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 1: Gartshore St & Garafraxa St E

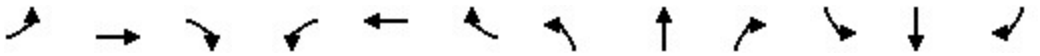




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	130	145	90	155	55	95	385	50	60	370	35
Future Volume (vph)	120	130	145	90	155	55	95	385	50	60	370	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.96		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1644		1634	1771		1729	1636		1641	1724	
Flt Permitted	0.60	1.00		0.53	1.00		0.32	1.00		0.28	1.00	
Satd. Flow (perm)	1014	1644		905	1771		583	1636		487	1724	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	136	148	165	102	176	63	108	438	57	68	420	40
RTOR Reduction (vph)	0	56	0	0	18	0	0	6	0	0	4	0
Lane Group Flow (vph)	136	257	0	102	221	0	108	489	0	68	456	0
Confl. Peds. (#/hr)			5	5			5					5
Heavy Vehicles (%)	13%	6%	4%	10%	2%	6%	4%	14%	15%	10%	8%	14%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	37.3	37.3		37.3	37.3		30.5	30.5		30.5	30.5	
Effective Green, g (s)	37.3	37.3		37.3	37.3		30.5	30.5		30.5	30.5	
Actuated g/C Ratio	0.47	0.47		0.47	0.47		0.38	0.38		0.38	0.38	
Clearance Time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	472	766		421	825		222	623		185	657	
v/s Ratio Prot		c0.16			0.12			c0.30			0.26	
v/s Ratio Perm	0.13			0.11			0.19			0.14		
v/c Ratio	0.29	0.34		0.24	0.27		0.49	0.79		0.37	0.69	
Uniform Delay, d1	13.2	13.5		12.8	13.0		18.8	21.9		17.8	20.8	
Progression Factor	1.00	1.00		1.00	1.00		0.90	0.93		1.00	1.00	
Incremental Delay, d2	1.5	1.2		1.4	0.8		1.5	5.8		1.2	3.2	
Delay (s)	14.7	14.7		14.2	13.8		18.4	26.1		19.0	24.0	
Level of Service	B	B		B	B		B	C		B	C	
Approach Delay (s/veh)		14.7			13.9			24.8			23.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	220	10	0	240	5	15	5	5	15	10	45
Future Volume (Veh/h)	10	220	10	0	240	5	15	5	5	15	10	45
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	239	11	0	261	5	16	5	5	16	11	49
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		247										
pX, platoon unblocked												
vC, conflicting volume	266			250			585	533	245	538	536	264
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	266			250			585	533	245	538	536	264
tC, single (s)	4.1			4.1			7.2	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			96	99	99	96	98	94
cM capacity (veh/h)	1310			1327			373	452	799	448	450	780

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	261	266	26	76
Volume Left	11	0	16	16
Volume Right	11	5	5	49
cSH	1310	1327	432	618
Volume to Capacity	0.00*	0.00	0.06	0.12
Queue Length 95th (m)	0.2	0.0	1.5	3.3
Control Delay (s/veh)	0.4	0.0	13.9	11.6
Lane LOS	A		B	B
Approach Delay (s/veh)	0.4	0.0	13.9	11.6
Approach LOS			B	B

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	31.2%	ICU Level of Service	A	
Analysis Period (min)	15			

* Value less than 0.01.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	140	10	30	205	70	15	15	25	20	0	20
Future Volume (Veh/h)	45	140	10	30	205	70	15	15	25	20	0	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	47	146	10	31	214	73	16	16	26	21	0	21
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	287			156			537	589	146	550	526	214
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	287			156			537	589	146	550	526	214
tC, single (s)	4.1			4.2			7.3	6.7	6.2	7.2	7.0	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.7	4.2	3.3	3.6	4.4	3.3
p0 queue free %	96			98			96	96	97	95	100	97
cM capacity (veh/h)	1287			1360			394	376	896	388	373	831

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	193	10	245	73	58	42
Volume Left	47	0	31	0	16	21
Volume Right	0	10	0	73	26	21
cSH	1287	1700	1360	1700	517	529
Volume to Capacity	0.04	0.00*	0.02	0.04	0.11	0.08
Queue Length 95th (m)	0.9	0.0	0.6	0.0	3.0	2.1
Control Delay (s/veh)	2.2	0.0	1.2	0.0	12.8	12.4
Lane LOS	A		A		B	B
Approach Delay (s/veh)	2.1		0.9		12.8	12.4
Approach LOS					B	B

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		

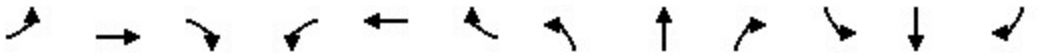
* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	355	170	70	20	15
Future Volume (Veh/h)	25	355	170	70	20	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	390	187	77	22	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	481	30	38			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	481	30	38			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	94	62	88			
cM capacity (veh/h)	466	1033	1510			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	417	264	38
Volume Left	27	187	0
Volume Right	390	0	16
cSH	958	1510	1700
Volume to Capacity	0.44	0.12	0.02
Queue Length 95th (m)	17.9	3.4	0.0
Control Delay (s/veh)	11.6	5.8	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	11.6	5.8	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	8.9		
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	25	75	15	20	15	60	500	10	15	370	10
Future Volume (Veh/h)	5	25	75	15	20	15	60	500	10	15	370	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	28	83	17	22	17	67	556	11	17	411	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								225				
pX, platoon unblocked	0.77	0.77		0.77	0.77	0.77				0.77		
vC, conflicting volume	1174	1152	417	1243	1152	562	422			567		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1078	1048	417	1167	1048	284	422			291		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	95	83	87	82	86	97	94			98		
cM capacity (veh/h)	125	164	638	92	160	586	1121			963		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	117	56	634	439
Volume Left	6	17	67	17
Volume Right	83	17	11	11
cSH	335	160	1121	963
Volume to Capacity	0.35	0.35	0.06	0.02
Queue Length 95th (m)	12.2	11.7	1.5	0.4
Control Delay (s/veh)	21.4	39.3	1.6	0.5
Lane LOS	C	E	A	A
Approach Delay (s/veh)	21.4	39.3	1.6	0.5
Approach LOS	C	E		

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	67.0%	ICU Level of Service	C	
Analysis Period (min)	15			

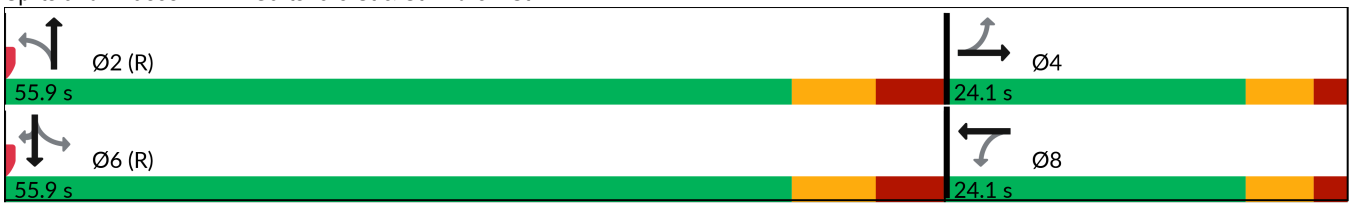
* Value less than 0.01.

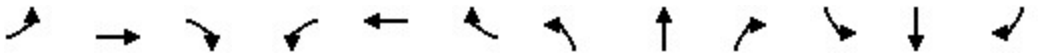
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	20	50	55	40	110	420	15	480	50
Future Volume (vph)	20	50	55	40	110	420	15	480	50
Lane Group Flow (vph)	26	247	71	71	143	590	19	623	65
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.1	24.1	24.1	24.1	27.0	27.0	27.0	27.0	27.0
Total Split (s)	24.1	24.1	24.1	24.1	55.9	55.9	55.9	55.9	55.9
Total Split (%)	30.1%	30.1%	30.1%	30.1%	69.9%	69.9%	69.9%	69.9%	69.9%
Yellow Time (s)	4.1	4.1	4.1	4.1	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	9.0	9.0	9.0	9.0	9.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.14	0.65	0.76	0.26	0.31	0.52	0.04	0.53	0.07
Control Delay (s/veh)	28.8	19.4	73.7	23.9	9.2	9.9	4.2	6.7	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.8	19.4	73.7	23.9	9.2	9.9	4.2	6.7	1.0
Queue Length 50th (m)	3.6	12.1	10.6	7.4	8.4	39.7	0.4	12.7	0.0
Queue Length 95th (m)	8.1	21.9	18.9	14.2	18.1	61.1	m1.4	65.4	m0.3
Internal Link Dist (m)		95.5		92.4		135.0		361.2	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		50.0
Base Capacity (vph)	277	493	143	410	466	1135	510	1165	981
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.50	0.50	0.17	0.31	0.52	0.04	0.53	0.07

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Gartshore St & St Andrew St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	50	140	55	40	15	110	420	35	15	480	50
Future Volume (vph)	20	50	140	55	40	15	110	420	35	15	480	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	1.00		1.00	1.00	0.91
Flpb, ped/bikes	0.96	1.00		0.99	1.00		0.98	1.00		1.00	1.00	1.00
Frt	1.00	0.89		1.00	0.96		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1650	1631		1660	1760		1727	1708		1797	1759	1448
Flt Permitted	0.71	1.00		0.36	1.00		0.39	1.00		0.41	1.00	1.00
Satd. Flow (perm)	1234	1631		638	1760		701	1708		770	1759	1448
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	26	65	182	71	52	19	143	545	45	19	623	65
RTOR Reduction (vph)	0	139	0	0	16	0	0	3	0	0	0	22
Lane Group Flow (vph)	26	108	0	71	55	0	143	587	0	19	623	43
Confl. Peds. (#/hr)	20		5	5		20	30		5	5		30
Heavy Vehicles (%)	5%	2%	1%	8%	0%	7%	2%	10%	6%	0%	8%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	11.9	11.9		11.9	11.9		53.0	53.0		53.0	53.0	53.0
Effective Green, g (s)	11.9	11.9		11.9	11.9		53.0	53.0		53.0	53.0	53.0
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.66	0.66		0.66	0.66	0.66
Clearance Time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	183	242		94	261		464	1131		510	1165	959
v/s Ratio Prot		0.07			0.03			0.34			c0.35	
v/s Ratio Perm	0.02			c0.11			0.20			0.02		0.03
v/c Ratio	0.14	0.45		0.76	0.21		0.31	0.52		0.04	0.53	0.04
Uniform Delay, d1	29.6	31.1		32.7	29.9		5.7	6.9		4.7	7.1	4.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.64	0.61	0.47
Incremental Delay, d2	0.4	1.3		28.6	0.4		1.7	1.7		0.1	1.5	0.1
Delay (s)	30.0	32.4		61.3	30.3		7.4	8.6		3.1	5.9	2.3
Level of Service	C	C		E	C		A	A		A	A	A
Approach Delay (s/veh)		32.1			45.8			8.4			5.5	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

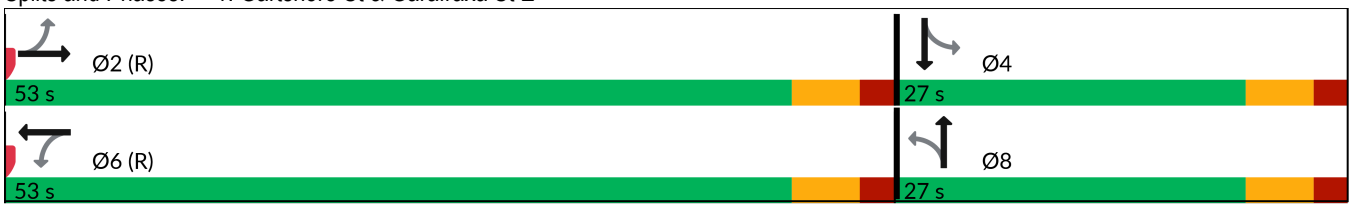
c Critical Lane Group

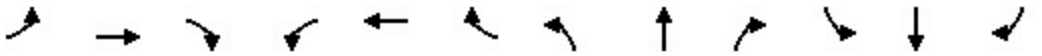
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	50	140	95	140	100	445	80	420
Future Volume (vph)	50	140	95	140	100	445	80	420
Lane Group Flow (vph)	56	295	106	256	111	583	89	595
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	36.1	36.1	27.1	27.1	27.1	27.1
Total Split (s)	53.0	53.0	53.0	53.0	27.0	27.0	27.0	27.0
Total Split (%)	66.3%	66.3%	66.3%	66.3%	33.8%	33.8%	33.8%	33.8%
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio	0.17	0.42	0.30	0.37	0.46	0.69	0.36	0.69
Control Delay (s/veh)	18.5	14.2	20.6	14.8	26.2	24.0	18.7	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.5	14.2	20.6	14.8	26.2	24.0	18.7	21.3
Queue Length 50th (m)	5.3	21.8	11.6	20.4	10.8	55.3	8.6	68.3
Queue Length 95th (m)	13.0	42.7	24.2	39.2	30.0	110.7	20.9	106.2
Internal Link Dist (m)		114.2		223.2		361.2		201.3
Turn Bay Length (m)	40.0		35.0		30.0		35.0	
Base Capacity (vph)	517	1050	549	1040	240	843	248	858
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.28	0.19	0.25	0.46	0.69	0.36	0.69

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 11.4 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Gartshore St & Garafraxa St E

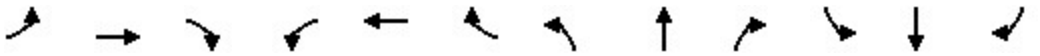




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	140	125	95	140	90	100	445	80	80	420	115
Future Volume (vph)	50	140	125	95	140	90	100	445	80	80	420	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.94		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1504	1724		1752	1724		1805	1772		1787	1796	
Flt Permitted	0.56	1.00		0.51	1.00		0.27	1.00		0.28	1.00	
Satd. Flow (perm)	882	1724		937	1724		510	1772		524	1796	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	56	156	139	106	156	100	111	494	89	89	467	128
RTOR Reduction (vph)	0	61	0	0	44	0	0	6	0	0	9	0
Lane Group Flow (vph)	56	234	0	106	212	0	111	577	0	89	586	0
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	20%	1%	4%	3%	0%	7%	0%	4%	9%	1%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	30.0	30.0		30.0	30.0		37.8	37.8		37.8	37.8	
Effective Green, g (s)	30.0	30.0		30.0	30.0		37.8	37.8		37.8	37.8	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.47	0.47		0.47	0.47	
Clearance Time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	330	646		351	646		240	837		247	848	
v/s Ratio Prot		c0.14			0.12			0.33			c0.33	
v/s Ratio Perm	0.06			0.11			0.22			0.17		
v/c Ratio	0.17	0.36		0.30	0.33		0.46	0.69		0.36	0.69	
Uniform Delay, d1	16.7	18.1		17.6	17.8		14.2	16.5		13.4	16.5	
Progression Factor	1.00	1.00		1.00	1.00		1.28	1.17		1.00	1.00	
Incremental Delay, d2	1.1	1.6		2.2	1.4		1.3	2.2		0.9	2.4	
Delay (s)	17.8	19.7		19.8	19.2		19.6	21.5		14.3	19.0	
Level of Service	B	B		B	B		B	C		B	B	
Approach Delay (s/veh)		19.4			19.4			21.2			18.4	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	107.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

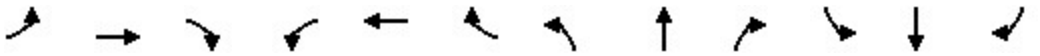


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	265	10	10	290	10	10	5	10	5	10	25
Future Volume (Veh/h)	25	265	10	10	290	10	10	5	10	5	10	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	31	327	12	12	358	12	12	6	12	6	12	31
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		247										
pX, platoon unblocked												
vC, conflicting volume	370			339			820	789	333	798	789	364
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	370			339			820	789	333	798	789	364
tC, single (s)	4.1			4.1			7.2	6.5	6.4	7.1	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.5	3.5	4.1	3.3
p0 queue free %	97			99			95	98	98	98	96	95
cM capacity (veh/h)	1200			1231			257	314	676	289	299	685

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	370	382	30	49
Volume Left	31	12	12	6
Volume Right	12	12	12	31
cSH	1200	1231	359	462
Volume to Capacity	0.03	0.00*	0.08	0.11
Queue Length 95th (m)	0.6	0.2	2.2	2.8
Control Delay (s/veh)	0.9	0.3	16.0	13.7
Lane LOS	A	A	C	B
Approach Delay (s/veh)	0.9	0.3	16.0	13.7
Approach LOS			C	B

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	35.7%	ICU Level of Service	A	
Analysis Period (min)	15			

* Value less than 0.01.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	230	15	20	205	30	5	15	35	75	15	50
Future Volume (Veh/h)	20	230	15	20	205	30	5	15	35	75	15	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	21	245	16	21	218	32	5	16	37	80	16	53
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	250			261			608	579	245	592	563	218
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	250			261			608	579	245	592	563	218
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	98			98			99	96	95	78	96	94
cM capacity (veh/h)	1327			1286			364	415	799	370	424	827

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	266	16	239	32	58	149
Volume Left	21	0	21	0	5	80
Volume Right	0	16	0	32	37	53
cSH	1327	1700	1286	1700	588	468
Volume to Capacity	0.02	0.00*	0.02	0.02	0.10	0.32
Queue Length 95th (m)	0.4	0.0	0.4	0.0	2.6	10.8
Control Delay (s/veh)	0.7	0.0	0.8	0.0	11.8	16.2
Lane LOS	A		A		B	C
Approach Delay (s/veh)	0.7		0.7		11.8	16.2
Approach LOS					B	C

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	200	325	20	60	30
Future Volume (Veh/h)	15	200	325	20	60	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	15	206	335	21	62	31
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	769	78	93			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	769	78	93			
tC, single (s)	6.4	6.2	4.3			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.4			
p0 queue free %	95	79	76			
cM capacity (veh/h)	284	983	1407			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	221	356	93
Volume Left	15	335	0
Volume Right	206	0	31
cSH	842	1407	1700
Volume to Capacity	0.26	0.24	0.05
Queue Length 95th (m)	8.4	7.5	0.0
Control Delay (s/veh)	10.8	8.0	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	10.8	8.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	10	50	10	15	15	110	445	30	15	555	5
Future Volume (Veh/h)	5	10	50	10	15	15	110	445	30	15	555	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	5	10	52	10	15	15	113	459	31	15	572	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								225				
pX, platoon unblocked	0.79	0.79		0.79	0.79	0.79				0.79		
vC, conflicting volume	1328	1321	575	1362	1308	475	577			490		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1281	1273	575	1325	1256	200	577			220		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	91	90	88	87	98	89			99		
cM capacity (veh/h)	91	117	522	81	119	667	1006			1074		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	67	40	603	592
Volume Left	5	10	113	15
Volume Right	52	15	31	5
cSH	279	147	1006	1074
Volume to Capacity	0.24	0.27	0.11	0.01
Queue Length 95th (m)	7.3	8.3	3.0	0.3
Control Delay (s/veh)	22.0	38.4	2.8	0.4
Lane LOS	C	E	A	A
Approach Delay (s/veh)	22.0	38.4	2.8	0.4
Approach LOS	C	E		

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

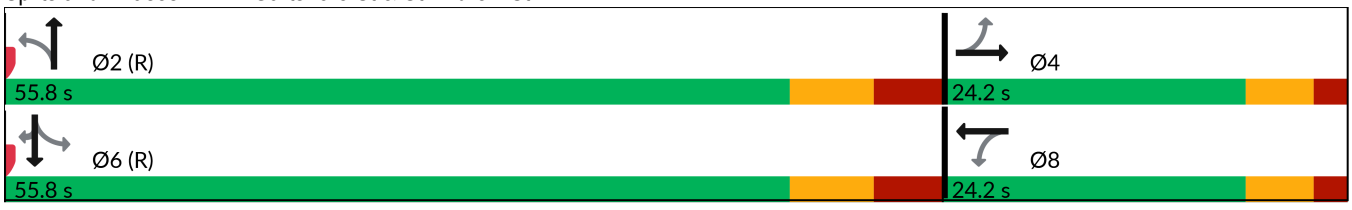
* Value less than 0.01.

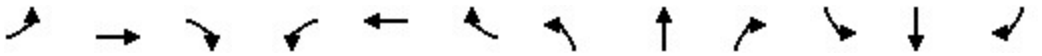
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	30	40	35	25	95	560	5	515	45
Future Volume (vph)	30	40	35	25	95	560	5	515	45
Lane Group Flow (vph)	32	176	37	32	101	639	5	548	48
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.1	24.1	24.1	24.1	27.0	27.0	27.0	27.0	27.0
Total Split (s)	24.2	24.2	24.2	24.2	55.8	55.8	55.8	55.8	55.8
Total Split (%)	30.3%	30.3%	30.3%	30.3%	69.8%	69.8%	69.8%	69.8%	69.8%
Yellow Time (s)	4.1	4.1	4.1	4.1	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	9.0	9.0	9.0	9.0	9.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.21	0.59	0.36	0.16	0.17	0.49	0.01	0.42	0.04
Control Delay (s/veh)	34.3	18.7	41.2	28.9	5.5	7.4	4.4	5.6	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.3	18.7	41.2	28.9	5.5	7.4	4.4	5.6	1.6
Queue Length 50th (m)	4.8	6.4	5.6	4.0	4.3	36.1	0.1	29.8	0.2
Queue Length 95th (m)	12.2	23.2	13.9	11.1	12.3	73.3	m0.6	54.8	m1.5
Internal Link Dist (m)		95.5		92.4		135.0		361.2	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		50.0
Base Capacity (vph)	316	481	219	410	595	1300	522	1309	1092
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.37	0.17	0.08	0.17	0.49	0.01	0.42	0.04

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 56.1 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Gartshore St & St Andrew St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	40	125	35	25	5	95	560	40	5	515	45
Future Volume (vph)	30	40	125	35	25	5	95	560	40	5	515	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.89		1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	1672		1752	1795		1796	1846		1805	1863	1534
Flt Permitted	0.74	1.00		0.53	1.00		0.45	1.00		0.39	1.00	1.00
Satd. Flow (perm)	1399	1672		969	1795		846	1846		744	1863	1534
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	43	133	37	27	5	101	596	43	5	548	48
RTOR Reduction (vph)	0	119	0	0	4	0	0	2	0	0	0	14
Lane Group Flow (vph)	32	57	0	37	28	0	101	637	0	5	548	34
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	3%	0%	3%	4%	0%	0%	2%	0%	0%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	8.7	8.7		8.7	8.7		56.2	56.2		56.2	56.2	56.2
Effective Green, g (s)	8.7	8.7		8.7	8.7		56.2	56.2		56.2	56.2	56.2
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.70	0.70		0.70	0.70	0.70
Clearance Time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	152	181		105	195		594	1296		522	1308	1077
v/s Ratio Prot		0.03			0.02			c0.34			0.29	
v/s Ratio Perm	0.02			c0.04			0.12			0.01		0.02
v/c Ratio	0.21	0.32		0.35	0.14		0.17	0.49		0.01	0.42	0.03
Uniform Delay, d1	32.5	32.9		33.0	32.3		4.0	5.4		3.6	5.0	3.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.94	0.84	0.97
Incremental Delay, d2	0.7	1.0		2.0	0.3		0.6	1.3		0.0	0.8	0.0
Delay (s)	33.2	33.9		35.1	32.6		4.6	6.7		3.4	5.1	3.6
Level of Service	C	C		D	C		A	A		A	A	A
Approach Delay (s/veh)		33.8			33.9			6.5			4.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

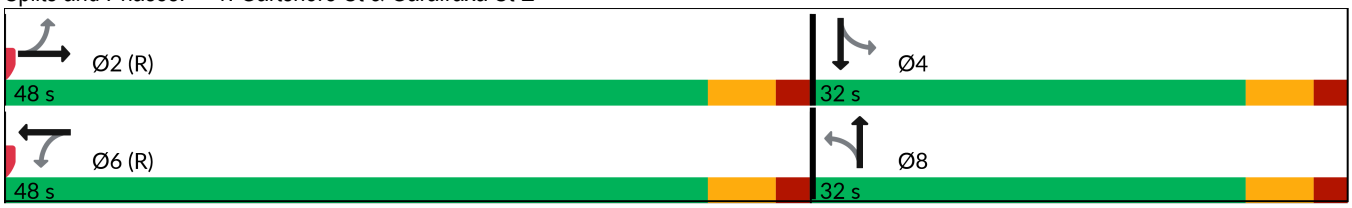
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	120	150	90	175	115	400	60	395
Future Volume (vph)	120	150	90	175	115	400	60	395
Lane Group Flow (vph)	136	358	102	262	131	512	68	489
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	36.1	36.1	27.1	27.1	27.1	27.1
Total Split (s)	48.0	48.0	48.0	48.0	32.0	32.0	32.0	32.0
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio	0.37	0.51	0.34	0.37	0.45	0.68	0.26	0.62
Control Delay (s/veh)	21.8	16.2	22.0	17.5	12.6	15.1	16.2	20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.8	16.2	22.0	17.5	12.6	15.1	16.2	20.1
Queue Length 50th (m)	14.7	29.2	11.0	25.9	13.8	57.9	6.0	52.3
Queue Length 95th (m)	28.6	52.1	23.2	43.8	16.3	63.5	14.3	79.2
Internal Link Dist (m)		114.2		223.2		361.2		201.3
Turn Bay Length (m)	40.0		35.0		30.0		35.0	
Base Capacity (vph)	489	910	399	946	289	749	257	789
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.39	0.26	0.28	0.45	0.68	0.26	0.62

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

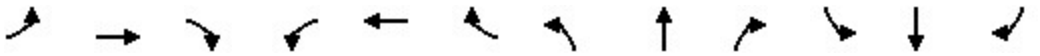
Splits and Phases: 1: Gartshore St & Garafraxa St E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	150	165	90	175	55	115	400	50	60	395	35
Future Volume (vph)	120	150	165	90	175	55	115	400	50	60	395	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.96		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1645		1635	1779		1729	1637		1641	1726	
Flt Permitted	0.56	1.00		0.44	1.00		0.35	1.00		0.33	1.00	
Satd. Flow (perm)	935	1645		763	1779		636	1637		567	1726	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	136	170	188	102	199	63	131	455	57	68	449	40
RTOR Reduction (vph)	0	63	0	0	18	0	0	4	0	0	3	0
Lane Group Flow (vph)	136	295	0	102	244	0	131	508	0	68	486	0
Confl. Peds. (#/hr)			5	5			5					5
Heavy Vehicles (%)	13%	6%	4%	10%	2%	6%	4%	14%	15%	10%	8%	14%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	31.4	31.4		31.4	31.4		36.4	36.4		36.4	36.4	
Effective Green, g (s)	31.4	31.4		31.4	31.4		36.4	36.4		36.4	36.4	
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.45	0.45		0.45	0.45	
Clearance Time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	366	645		299	698		289	744		257	785	
v/s Ratio Prot		c0.18			0.14			c0.31			0.28	
v/s Ratio Perm	0.15			0.13			0.21			0.12		
v/c Ratio	0.37	0.46		0.34	0.35		0.45	0.68		0.26	0.62	
Uniform Delay, d1	17.3	18.0		17.0	17.1		15.0	17.2		13.5	16.5	
Progression Factor	1.00	1.00		1.00	1.00		0.53	0.62		1.00	1.00	
Incremental Delay, d2	2.9	2.3		3.1	1.4		1.0	2.2		0.6	1.5	
Delay (s)	20.2	20.3		20.1	18.5		9.0	13.0		14.1	18.0	
Level of Service	C	C		C	B		A	B		B	B	
Approach Delay (s/veh)		20.3			18.9			12.1			17.5	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	240	10	0	260	5	15	5	5	15	10	45
Future Volume (Veh/h)	10	240	10	0	260	5	15	5	5	15	10	45
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	261	11	0	283	5	16	5	5	16	11	49
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		247										
pX, platoon unblocked												
vC, conflicting volume	288			272			629	577	267	582	580	286
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	288			272			629	577	267	582	580	286
tC, single (s)	4.1			4.1			7.2	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			95	99	99	96	97	94
cM capacity (veh/h)	1286			1303			347	427	777	418	425	758

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	283	288	26	76
Volume Left	11	0	16	16
Volume Right	11	5	5	49
cSH	1286	1303	405	590
Volume to Capacity	0.00*	0.00	0.06	0.13
Queue Length 95th (m)	0.2	0.0	1.6	3.5
Control Delay (s/veh)	0.4	0.0	14.5	12.0
Lane LOS	A		B	B
Approach Delay (s/veh)	0.4	0.0	14.5	12.0
Approach LOS			B	B

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	32.2%	ICU Level of Service	A	
Analysis Period (min)	15			

* Value less than 0.01.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	160	10	30	225	70	15	15	25	20	5	20
Future Volume (Veh/h)	45	160	10	30	225	70	15	15	25	20	5	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	47	167	10	31	234	73	16	16	26	21	5	21
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	307			177			581	630	167	591	567	234
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	307			177			581	630	167	591	567	234
tC, single (s)	4.1			4.2			7.3	6.7	6.2	7.2	7.0	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.7	4.2	3.3	3.6	4.4	3.3
p0 queue free %	96			98			96	96	97	94	99	97
cM capacity (veh/h)	1265			1335			364	356	872	363	351	810

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	214	10	265	73	58	47
Volume Left	47	0	31	0	16	21
Volume Right	0	10	0	73	26	21
cSH	1265	1700	1335	1700	488	479
Volume to Capacity	0.04	0.00*	0.02	0.04	0.12	0.10
Queue Length 95th (m)	0.9	0.0	0.6	0.0	3.2	2.6
Control Delay (s/veh)	2.0	0.0	1.1	0.0	13.4	13.3
Lane LOS	A		A		B	B
Approach Delay (s/veh)	1.9		0.9		13.4	13.3
Approach LOS					B	B

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	38.7%	ICU Level of Service		A
Analysis Period (min)	15			

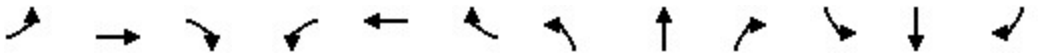
* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	380	185	70	20	15
Future Volume (Veh/h)	25	380	185	70	20	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	418	203	77	22	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	513	30	38			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	513	30	38			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	94	60	87			
cM capacity (veh/h)	441	1033	1510			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	445	280	38
Volume Left	27	203	0
Volume Right	418	0	16
cSH	955	1510	1700
Volume to Capacity	0.47	0.13	0.02
Queue Length 95th (m)	20.1	3.7	0.0
Control Delay (s/veh)	12.0	5.9	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	12.0	5.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	25	75	15	20	15	60	515	10	15	395	10
Future Volume (Veh/h)	5	25	75	15	20	15	60	515	10	15	395	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	28	83	17	22	17	67	572	11	17	439	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								225				
pX, platoon unblocked	0.79	0.79		0.79	0.79	0.79				0.79		
vC, conflicting volume	1218	1196	445	1287	1196	578	450			583		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1144	1115	445	1231	1115	334	450			341		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	95	82	87	80	85	97	94			98		
cM capacity (veh/h)	115	153	616	84	150	564	1095			946		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	117	56	650	467
Volume Left	6	17	67	17
Volume Right	83	17	11	11
cSH	316	147	1095	946
Volume to Capacity	0.37	0.38	0.06	0.02
Queue Length 95th (m)	13.2	12.9	1.6	0.4
Control Delay (s/veh)	22.9	43.7	1.6	0.5
Lane LOS	C	E	A	A
Approach Delay (s/veh)	22.9	43.7	1.6	0.5
Approach LOS	C	E		

Intersection Summary				
Average Delay	5.0			
Intersection Capacity Utilization	68.5%	ICU Level of Service	C	
Analysis Period (min)	15			

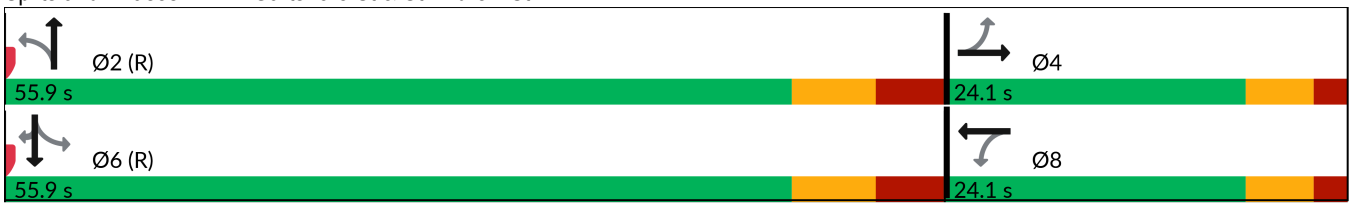
* Value less than 0.01.

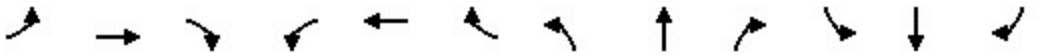
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	20	50	55	40	110	455	15	525	50
Future Volume (vph)	20	50	55	40	110	455	15	525	50
Lane Group Flow (vph)	26	247	71	71	143	636	19	682	65
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.1	24.1	24.1	24.1	27.0	27.0	27.0	27.0	27.0
Total Split (s)	24.1	24.1	24.1	24.1	55.9	55.9	55.9	55.9	55.9
Total Split (%)	30.1%	30.1%	30.1%	30.1%	69.9%	69.9%	69.9%	69.9%	69.9%
Yellow Time (s)	4.1	4.1	4.1	4.1	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	9.0	9.0	9.0	9.0	9.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.14	0.65	0.76	0.26	0.34	0.56	0.04	0.59	0.07
Control Delay (s/veh)	28.8	19.4	73.7	23.9	10.0	10.6	4.3	9.7	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.8	19.4	73.7	23.9	10.0	10.6	4.3	9.7	1.5
Queue Length 50th (m)	3.6	12.1	10.6	7.4	8.6	44.8	0.7	65.4	0.8
Queue Length 95th (m)	8.1	21.9	18.9	14.2	19.0	68.0	m2.0	81.7	m2.6
Internal Link Dist (m)		95.5		92.4		135.0		361.2	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		50.0
Base Capacity (vph)	277	493	143	410	421	1134	473	1165	981
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.50	0.50	0.17	0.34	0.56	0.04	0.59	0.07

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Gartshore St & St Andrew St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	50	140	55	40	15	110	455	35	15	525	50
Future Volume (vph)	20	50	140	55	40	15	110	455	35	15	525	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	1.00		1.00	1.00	0.91
Flpb, ped/bikes	0.96	1.00		0.99	1.00		0.98	1.00		1.00	1.00	1.00
Frt	1.00	0.89		1.00	0.96		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1650	1631		1660	1760		1733	1710		1798	1759	1448
Flt Permitted	0.71	1.00		0.36	1.00		0.35	1.00		0.38	1.00	1.00
Satd. Flow (perm)	1234	1631		638	1760		636	1710		714	1759	1448
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	26	65	182	71	52	19	143	591	45	19	682	65
RTOR Reduction (vph)	0	139	0	0	16	0	0	3	0	0	0	22
Lane Group Flow (vph)	26	108	0	71	55	0	143	633	0	19	682	43
Confl. Peds. (#/hr)	20		5	5		20	30		5	5		30
Heavy Vehicles (%)	5%	2%	1%	8%	0%	7%	2%	10%	6%	0%	8%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	11.9	11.9		11.9	11.9		53.0	53.0		53.0	53.0	53.0
Effective Green, g (s)	11.9	11.9		11.9	11.9		53.0	53.0		53.0	53.0	53.0
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.66	0.66		0.66	0.66	0.66
Clearance Time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	183	242		94	261		421	1132		473	1165	959
v/s Ratio Prot		0.07			0.03			0.37			c0.39	
v/s Ratio Perm	0.02			c0.11			0.22			0.03		0.03
v/c Ratio	0.14	0.45		0.76	0.21		0.34	0.56		0.04	0.59	0.04
Uniform Delay, d1	29.6	31.1		32.7	29.9		5.9	7.2		4.7	7.4	4.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.65	0.87	0.70
Incremental Delay, d2	0.4	1.3		28.6	0.4		2.2	2.0		0.1	1.9	0.1
Delay (s)	30.0	32.4		61.3	30.3		8.1	9.2		3.2	8.4	3.4
Level of Service	C	C		E	C		A	A		A	A	A
Approach Delay (s/veh)		32.1			45.8			9.0			7.8	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

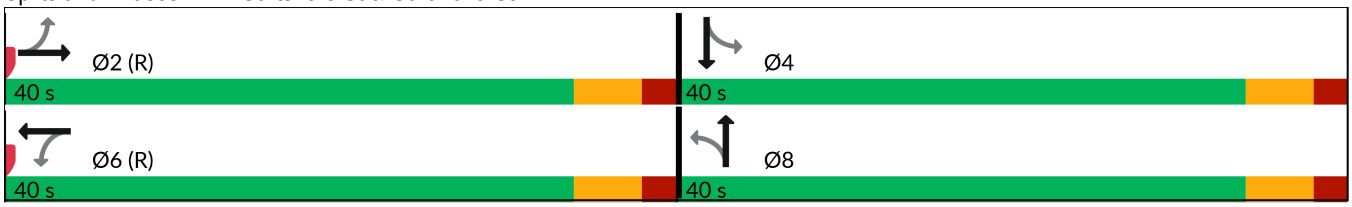
c Critical Lane Group

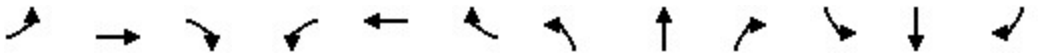
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	50	165	95	165	140	460	80	430
Future Volume (vph)	50	165	95	165	140	460	80	430
Lane Group Flow (vph)	56	361	106	283	156	600	89	606
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	36.1	36.1	27.1	27.1	27.1	27.1
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio	0.16	0.48	0.31	0.39	0.81	0.76	0.46	0.76
Control Delay (s/veh)	18.4	17.2	21.0	16.9	54.0	29.5	23.6	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.4	17.2	21.0	16.9	54.0	29.5	23.6	24.6
Queue Length 50th (m)	5.4	33.9	11.7	27.4	16.3	60.4	8.9	69.8
Queue Length 95th (m)	13.1	59.5	25.1	48.2	#53.4	114.7	23.0	108.5
Internal Link Dist (m)		114.2		223.2		361.2		201.3
Turn Bay Length (m)	40.0		35.0		30.0		35.0	
Base Capacity (vph)	378	806	368	798	201	824	203	839
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.45	0.29	0.35	0.78	0.73	0.44	0.72

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 11.4 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Gartshore St & Garafraxa St E

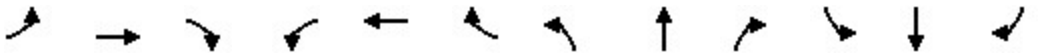




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	165	160	95	165	90	140	460	80	80	430	115
Future Volume (vph)	50	165	160	95	165	90	140	460	80	80	430	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.95		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1504	1717		1752	1741		1805	1774		1787	1797	
Flt Permitted	0.54	1.00		0.45	1.00		0.23	1.00		0.24	1.00	
Satd. Flow (perm)	850	1717		828	1741		436	1774		442	1797	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	56	183	178	106	183	100	156	511	89	89	478	128
RTOR Reduction (vph)	0	45	0	0	25	0	0	8	0	0	12	0
Lane Group Flow (vph)	56	316	0	106	258	0	156	592	0	89	594	0
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	20%	1%	4%	3%	0%	7%	0%	4%	9%	1%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	32.6	32.6		32.6	32.6		35.2	35.2		35.2	35.2	
Effective Green, g (s)	32.6	32.6		32.6	32.6		35.2	35.2		35.2	35.2	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.44	0.44		0.44	0.44	
Clearance Time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	346	699		337	709		191	780		194	790	
v/s Ratio Prot		c0.18			0.15			0.33			0.33	
v/s Ratio Perm	0.07			0.13			c0.36			0.20		
v/c Ratio	0.16	0.45		0.31	0.36		0.82	0.76		0.46	0.75	
Uniform Delay, d1	15.0	17.2		16.1	16.5		19.6	18.8		15.7	18.7	
Progression Factor	1.00	1.00		1.00	1.00		1.23	1.27		1.00	1.00	
Incremental Delay, d2	1.0	2.1		2.4	1.4		20.9	3.9		1.7	4.1	
Delay (s)	16.0	19.3		18.5	17.9		45.0	27.7		17.4	22.8	
Level of Service	B	B		B	B		D	C		B	C	
Approach Delay (s/veh)		18.9			18.1			31.3			22.1	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	108.3%	ICU Level of Service	G
Analysis Period (min)	15		

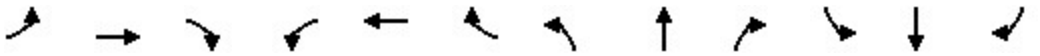
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	290	10	10	315	10	10	5	10	5	10	25
Future Volume (Veh/h)	25	290	10	10	315	10	10	5	10	5	10	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	31	358	12	12	389	12	12	6	12	6	12	31
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		247										
pX, platoon unblocked												
vC, conflicting volume	401			370			882	851	364	860	851	395
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	401			370			882	851	364	860	851	395
tC, single (s)	4.1			4.1			7.2	6.5	6.4	7.1	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.5	3.5	4.1	3.3
p0 queue free %	97			99			95	98	98	98	96	95
cM capacity (veh/h)	1169			1200			231	289	649	261	275	659

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	401	413	30	49
Volume Left	31	12	12	6
Volume Right	12	12	12	31
cSH	1169	1200	329	431
Volume to Capacity	0.03	0.01	0.09	0.11
Queue Length 95th (m)	0.7	0.2	2.4	3.1
Control Delay (s/veh)	0.9	0.3	17.0	14.4
Lane LOS	A	A	C	B
Approach Delay (s/veh)	0.9	0.3	17.0	14.4
Approach LOS			C	B

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	37.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	255	15	20	230	30	5	15	35	75	20	50
Future Volume (Veh/h)	20	255	15	20	230	30	5	15	35	75	20	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	21	271	16	21	245	32	5	16	37	80	21	53
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	277			287			664	632	271	645	616	245
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	277			287			664	632	271	645	616	245
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	98			98			98	96	95	76	95	93
cM capacity (veh/h)	1298			1258			329	387	773	339	395	799

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	292	16	266	32	58	154
Volume Left	21	0	21	0	5	80
Volume Right	0	16	0	32	37	53
cSH	1298	1700	1258	1700	556	433
Volume to Capacity	0.02	0.00*	0.02	0.02	0.10	0.36
Queue Length 95th (m)	0.4	0.0	0.4	0.0	2.8	12.7
Control Delay (s/veh)	0.7	0.0	0.8	0.0	12.2	17.8
Lane LOS	A		A		B	C
Approach Delay (s/veh)	0.7		0.7		12.2	17.8
Approach LOS					B	C

Intersection Summary				
Average Delay	4.7			
Intersection Capacity Utilization	51.5%	ICU Level of Service		A
Analysis Period (min)	15			

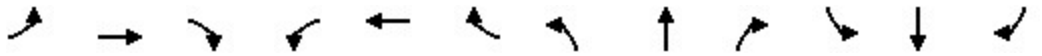
* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	210	340	20	60	30
Future Volume (Veh/h)	15	210	340	20	60	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	15	216	351	21	62	31
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	801	78	93			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	801	78	93			
tC, single (s)	6.4	6.2	4.3			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.4			
p0 queue free %	94	78	75			
cM capacity (veh/h)	268	983	1407			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	231	372	93
Volume Left	15	351	0
Volume Right	216	0	31
cSH	838	1407	1700
Volume to Capacity	0.28	0.25	0.05
Queue Length 95th (m)	9.0	7.9	0.0
Control Delay (s/veh)	10.9	8.1	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	10.9	8.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	10	50	10	15	15	110	460	30	15	565	5
Future Volume (Veh/h)	5	10	50	10	15	15	110	460	30	15	565	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	5	10	52	10	15	15	113	474	31	15	582	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								225				
pX, platoon unblocked	0.76	0.76		0.76	0.76	0.76				0.76		
vC, conflicting volume	1353	1346	585	1387	1333	490	587			505		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1306	1296	585	1351	1279	168	587			189		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	91	90	86	86	98	89			99		
cM capacity (veh/h)	83	108	515	74	111	668	998			1060		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	67	40	618	602
Volume Left	5	10	113	15
Volume Right	52	15	31	5
cSH	265	137	998	1060
Volume to Capacity	0.25	0.29	0.11	0.01
Queue Length 95th (m)	7.8	9.1	3.1	0.3
Control Delay (s/veh)	23.2	41.9	2.9	0.4
Lane LOS	C	E	A	A
Approach Delay (s/veh)	23.2	41.9	2.9	0.4
Approach LOS	C	E		

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

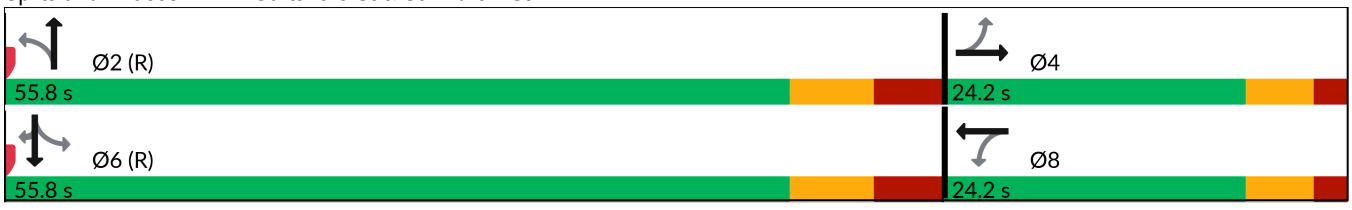
* Value less than 0.01.

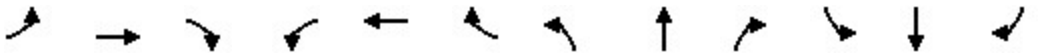
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	30	40	35	25	95	615	5	560	45
Future Volume (vph)	30	40	35	25	95	615	5	560	45
Lane Group Flow (vph)	32	176	37	32	101	697	5	596	48
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.1	24.1	24.1	24.1	27.0	27.0	27.0	27.0	27.0
Total Split (s)	24.2	24.2	24.2	24.2	55.8	55.8	55.8	55.8	55.8
Total Split (%)	30.3%	30.3%	30.3%	30.3%	69.8%	69.8%	69.8%	69.8%	69.8%
Yellow Time (s)	4.1	4.1	4.1	4.1	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	9.0	9.0	9.0	9.0	9.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.21	0.59	0.36	0.16	0.18	0.54	0.01	0.46	0.04
Control Delay (s/veh)	34.3	18.7	41.2	28.9	5.7	8.0	4.2	6.0	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.3	18.7	41.2	28.9	5.7	8.0	4.2	6.0	1.5
Queue Length 50th (m)	4.8	6.4	5.6	4.0	4.4	41.3	0.1	33.9	0.1
Queue Length 95th (m)	12.2	23.2	13.9	11.1	12.6	84.3	m0.4	64.4	m1.3
Internal Link Dist (m)		95.5		92.4		135.0		361.2	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		50.0
Base Capacity (vph)	316	481	219	410	556	1301	476	1309	1092
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.37	0.17	0.08	0.18	0.54	0.01	0.46	0.04

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 56.1 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Gartshore St & St Andrew St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	40	125	35	25	5	95	615	40	5	560	45
Future Volume (vph)	30	40	125	35	25	5	95	615	40	5	560	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.89		1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	1672		1752	1795		1797	1848		1805	1863	1534
Flt Permitted	0.74	1.00		0.53	1.00		0.42	1.00		0.36	1.00	1.00
Satd. Flow (perm)	1399	1672		969	1795		790	1848		678	1863	1534
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	43	133	37	27	5	101	654	43	5	596	48
RTOR Reduction (vph)	0	119	0	0	4	0	0	2	0	0	0	14
Lane Group Flow (vph)	32	57	0	37	28	0	101	695	0	5	596	34
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	3%	0%	3%	4%	0%	0%	2%	0%	0%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	8.7	8.7		8.7	8.7		56.2	56.2		56.2	56.2	56.2
Effective Green, g (s)	8.7	8.7		8.7	8.7		56.2	56.2		56.2	56.2	56.2
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.70	0.70		0.70	0.70	0.70
Clearance Time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	152	181		105	195		554	1298		476	1308	1077
v/s Ratio Prot		0.03			0.02			c0.38			0.32	
v/s Ratio Perm	0.02			c0.04			0.13			0.01		0.02
v/c Ratio	0.21	0.32		0.35	0.14		0.18	0.54		0.01	0.46	0.03
Uniform Delay, d1	32.5	32.9		33.0	32.3		4.1	5.7		3.6	5.2	3.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.89	0.85	0.90
Incremental Delay, d2	0.7	1.0		2.0	0.3		0.7	1.6		0.0	0.9	0.0
Delay (s)	33.2	33.9		35.1	32.6		4.8	7.3		3.2	5.4	3.3
Level of Service	C	C		D	C		A	A		A	A	A
Approach Delay (s/veh)		33.8			33.9			6.9			5.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

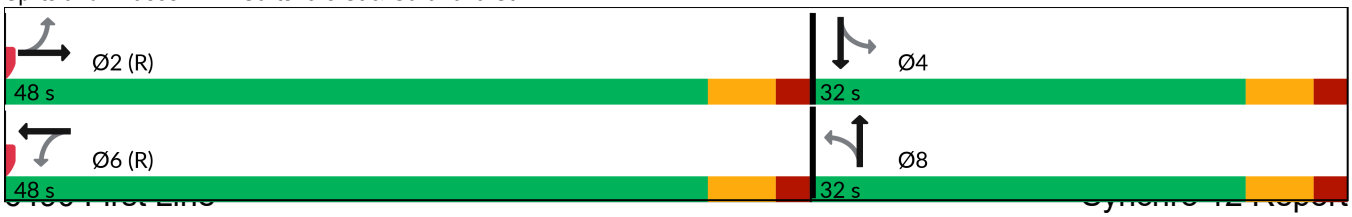
c Critical Lane Group

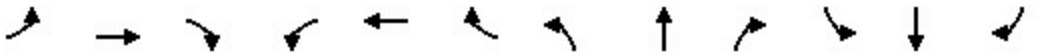
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	120	195	180	350	95	385	65	370
Future Volume (vph)	120	195	180	350	95	385	65	370
Lane Group Flow (vph)	136	387	205	478	108	529	74	460
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	36.1	36.1	27.1	27.1	27.1	27.1
Total Split (s)	48.0	48.0	48.0	48.0	32.0	32.0	32.0	32.0
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio	0.51	0.49	0.60	0.58	0.44	0.81	0.41	0.67
Control Delay (s/veh)	24.1	15.2	25.7	19.4	23.3	31.7	26.1	25.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.1	15.2	25.7	19.4	23.3	31.7	26.1	25.4
Queue Length 50th (m)	14.5	33.9	23.4	53.8	13.7	75.8	7.7	54.3
Queue Length 95th (m)	27.8	49.5	40.4	72.0	m33.2	#128.5	21.5	91.8
Internal Link Dist (m)		114.2		223.2		361.2		201.3
Turn Bay Length (m)	40.0		35.0		30.0		35.0	
Base Capacity (vph)	313	909	400	953	244	654	180	690
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.43	0.51	0.50	0.44	0.81	0.41	0.67

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 11.4 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Gartshore St & Garafraxa St E

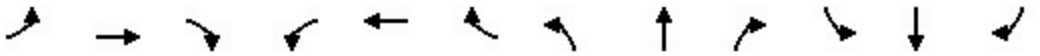




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	195	145	180	350	70	95	385	80	65	370	35
Future Volume (vph)	120	195	145	180	350	70	95	385	80	65	370	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.97		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1672		1635	1804		1729	1621		1641	1724	
Flt Permitted	0.36	1.00		0.44	1.00		0.34	1.00		0.26	1.00	
Satd. Flow (perm)	598	1672		764	1804		611	1621		455	1724	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	136	222	165	205	398	80	108	438	91	74	420	40
RTOR Reduction (vph)	0	39	0	0	10	0	0	8	0	0	4	0
Lane Group Flow (vph)	136	348	0	205	468	0	108	521	0	74	456	0
Confl. Peds. (#/hr)			5	5			5					5
Heavy Vehicles (%)	13%	6%	4%	10%	2%	6%	4%	14%	15%	10%	8%	14%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.9	35.9		35.9	35.9		31.9	31.9		31.9	31.9	
Effective Green, g (s)	35.9	35.9		35.9	35.9		31.9	31.9		31.9	31.9	
Actuated g/C Ratio	0.45	0.45		0.45	0.45		0.40	0.40		0.40	0.40	
Clearance Time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	268	750		342	809		243	646		181	687	
v/s Ratio Prot		0.21			0.26			c0.32			0.26	
v/s Ratio Perm	0.23			c0.27			0.18			0.16		
v/c Ratio	0.51	0.46		0.60	0.58		0.44	0.81		0.41	0.66	
Uniform Delay, d1	15.7	15.4		16.6	16.4		17.6	21.3		17.3	19.7	
Progression Factor	1.00	1.00		1.00	1.00		0.96	1.00		1.00	1.00	
Incremental Delay, d2	6.7	2.1		7.6	3.0		1.1	6.4		1.5	2.4	
Delay (s)	22.5	17.4		24.2	19.4		18.0	27.6		18.8	22.1	
Level of Service	C	B		C	B		B	C		B	C	
Approach Delay (s/veh)		18.7			20.8			26.0			21.6	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	320	10	0	540	5	15	5	5	15	10	45
Future Volume (Veh/h)	10	320	10	0	540	5	15	5	5	15	10	45
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	348	11	0	587	5	16	5	5	16	11	49
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		247										
pX, platoon unblocked												
vC, conflicting volume	592			359			1020	968	354	973	971	590
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	592			359			1020	968	354	973	971	590
tC, single (s)	4.1			4.1			7.2	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			91	98	99	93	96	90
cM capacity (veh/h)	994			1211			179	253	695	227	252	512

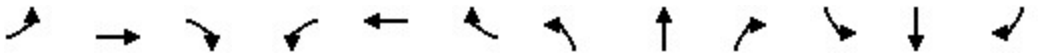
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	370	592	26	76
Volume Left	11	0	16	16
Volume Right	11	5	5	49
cSH	994	1211	223	362
Volume to Capacity	0.01	0.00	0.12	0.21
Queue Length 95th (m)	0.3	0.0	3.1	6.2
Control Delay (s/veh)	0.4	0.0	23.2	17.6
Lane LOS	A		C	C
Approach Delay (s/veh)	0.4	0.0	23.2	17.6
Approach LOS			C	C

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	39.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	300	40	10	535	10	0
Future Volume (Veh/h)	300	40	10	535	10	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	366	49	12	652	12	0
Pedestrians				10		
Lane Width (m)				3.6		
Walking Speed (m/s)				1.2		
Percent Blockage				1		
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			415		1067	401
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			415		1067	401
tC, single (s)			4.4		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.4		3.5	3.3
p0 queue free %			99		95	100
cM capacity (veh/h)			1031		245	648

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	415	664	12
Volume Left	0	12	12
Volume Right	49	0	0
cSH	1700	1031	245
Volume to Capacity	0.24	0.01	0.05
Queue Length 95th (m)	0.0	0.3	1.2
Control Delay (s/veh)	0.0	0.3	20.4
Lane LOS		A	C
Approach Delay (s/veh)	0.0	0.3	20.4
Approach LOS			C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	155	10	30	210	75	15	15	25	35	0	105
Future Volume (Veh/h)	75	155	10	30	210	75	15	15	25	35	0	105
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	78	161	10	31	219	78	16	16	26	36	0	109
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	297			171			707	676	161	632	608	219
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	297			171			707	676	161	632	608	219
tC, single (s)	4.1			4.2			7.3	6.7	6.2	7.2	7.0	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.7	4.2	3.3	3.6	4.4	3.3
p0 queue free %	94			98			94	95	97	89	100	87
cM capacity (veh/h)	1276			1342			263	326	879	333	324	826

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	239	10	250	78	58	145
Volume Left	78	0	31	0	16	36
Volume Right	0	10	0	78	26	109
cSH	1276	1700	1342	1700	416	604
Volume to Capacity	0.06	0.00*	0.02	0.05	0.14	0.24
Queue Length 95th (m)	1.6	0.0	0.6	0.0	3.8	7.5
Control Delay (s/veh)	3.0	0.0	1.1	0.0	15.0	12.8
Lane LOS	A		A		C	B
Approach Delay (s/veh)	2.9		0.9		15.0	12.8
Approach LOS					C	B

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	50	20	145	90	0
Future Volume (Veh/h)	0	50	20	145	90	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	50	20	145	90	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	275	90	90			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275	90	90			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	95	99			
cM capacity (veh/h)	709	973	1518			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	50	165	90
Volume Left	0	20	0
Volume Right	50	0	0
cSH	973	1518	1700
Volume to Capacity	0.05	0.01	0.05
Queue Length 95th (m)	1.3	0.3	0.0
Control Delay (s/veh)	8.9	1.0	0.0
Lane LOS	A	A	
Approach Delay (s/veh)	8.9	1.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	50	15	130	40	0
Future Volume (Veh/h)	15	50	15	130	40	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	50	15	130	40	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	200	40	40			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	200	40	40			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	95	99			
cM capacity (veh/h)	786	1037	1583			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	65	145	40
Volume Left	15	15	0
Volume Right	50	0	0
cSH	966	1583	1700
Volume to Capacity	0.07	0.00*	0.02
Queue Length 95th (m)	1.7	0.2	0.0
Control Delay (s/veh)	9.0	0.8	0.0
Lane LOS	A	A	
Approach Delay (s/veh)	9.0	0.8	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	24.9%	ICU Level of Service	A
Analysis Period (min)	15		

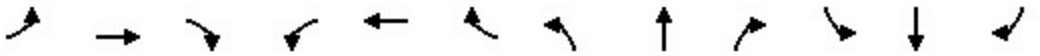
* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	360	185	70	20	15
Future Volume (Veh/h)	25	360	185	70	20	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	396	203	77	22	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	513	30	38			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	513	30	38			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	94	62	87			
cM capacity (veh/h)	441	1033	1510			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	423	280	38
Volume Left	27	203	0
Volume Right	396	0	16
cSH	951	1510	1700
Volume to Capacity	0.44	0.13	0.02
Queue Length 95th (m)	18.6	3.7	0.0
Control Delay (s/veh)	11.8	5.9	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	11.8	5.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	9.0		
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	25	75	15	20	15	60	515	10	15	375	10
Future Volume (Veh/h)	5	25	75	15	20	15	60	515	10	15	375	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	28	83	17	22	17	67	572	11	17	417	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								225				
pX, platoon unblocked	0.77	0.77		0.77	0.77	0.77				0.77		
vC, conflicting volume	1196	1174	423	1265	1174	578	428			583		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1104	1075	423	1194	1075	300	428			307		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	95	82	87	80	86	97	94			98		
cM capacity (veh/h)	119	157	633	87	154	572	1116			946		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	117	56	650	445
Volume Left	6	17	67	17
Volume Right	83	17	11	11
cSH	325	152	1116	946
Volume to Capacity	0.36	0.37	0.06	0.02
Queue Length 95th (m)	12.7	12.4	1.5	0.4
Control Delay (s/veh)	22.2	41.8	1.6	0.5
Lane LOS	C	E	A	A
Approach Delay (s/veh)	22.2	41.8	1.6	0.5
Approach LOS	C	E		

Intersection Summary				
Average Delay	4.9			
Intersection Capacity Utilization	67.9%	ICU Level of Service	C	
Analysis Period (min)	15			

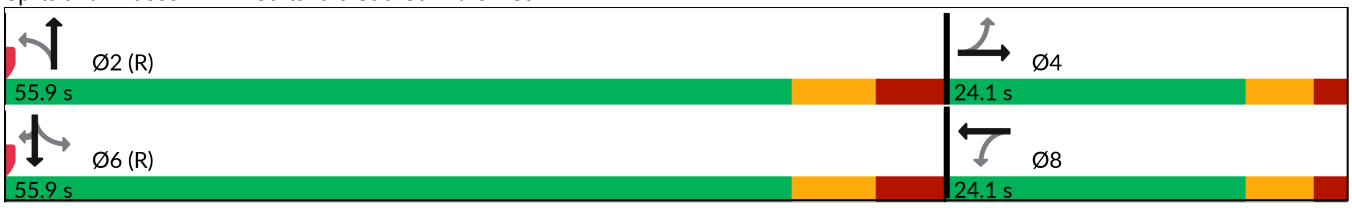
* Value less than 0.01.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	20	50	55	40	110	450	15	570	50
Future Volume (vph)	20	50	55	40	110	450	15	570	50
Lane Group Flow (vph)	26	247	71	71	143	629	19	740	65
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.1	24.1	24.1	24.1	27.0	27.0	27.0	27.0	27.0
Total Split (s)	24.1	24.1	24.1	24.1	55.9	55.9	55.9	55.9	55.9
Total Split (%)	30.1%	30.1%	30.1%	30.1%	69.9%	69.9%	69.9%	69.9%	69.9%
Yellow Time (s)	4.1	4.1	4.1	4.1	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	9.0	9.0	9.0	9.0	9.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.14	0.65	0.76	0.26	0.38	0.55	0.04	0.64	0.07
Control Delay (s/veh)	28.8	19.4	73.7	23.9	11.1	10.5	6.3	10.3	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.8	19.4	73.7	23.9	11.1	10.5	6.3	10.3	2.2
Queue Length 50th (m)	3.6	12.1	10.6	7.4	8.8	44.0	0.6	22.7	0.1
Queue Length 95th (m)	8.1	21.9	18.9	14.2	20.1	67.0	m2.0	64.2	m2.0
Internal Link Dist (m)		95.5		92.4		135.0		361.2	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		50.0
Base Capacity (vph)	277	493	143	410	381	1134	478	1165	981
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.50	0.50	0.17	0.38	0.55	0.04	0.64	0.07

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Gartshore St & St Andrew St E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	50	140	55	40	15	110	450	35	15	570	50
Future Volume (vph)	20	50	140	55	40	15	110	450	35	15	570	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	1.00		1.00	1.00	0.91
Flpb, ped/bikes	0.96	1.00		0.99	1.00		0.98	1.00		1.00	1.00	1.00
Frt	1.00	0.89		1.00	0.96		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1650	1631		1660	1760		1739	1709		1798	1759	1448
Flt Permitted	0.71	1.00		0.36	1.00		0.31	1.00		0.38	1.00	1.00
Satd. Flow (perm)	1234	1631		638	1760		573	1709		723	1759	1448
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	26	65	182	71	52	19	143	584	45	19	740	65
RTOR Reduction (vph)	0	139	0	0	16	0	0	3	0	0	0	22
Lane Group Flow (vph)	26	108	0	71	55	0	143	626	0	19	740	43
Confl. Peds. (#/hr)	20		5	5		20	30		5	5		30
Heavy Vehicles (%)	5%	2%	1%	8%	0%	7%	2%	10%	6%	0%	8%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	11.9	11.9		11.9	11.9		53.0	53.0		53.0	53.0	53.0
Effective Green, g (s)	11.9	11.9		11.9	11.9		53.0	53.0		53.0	53.0	53.0
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.66	0.66		0.66	0.66	0.66
Clearance Time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	183	242		94	261		379	1132		478	1165	959
v/s Ratio Prot		0.07			0.03			0.37			c0.42	
v/s Ratio Perm	0.02			c0.11			0.25			0.03		0.03
v/c Ratio	0.14	0.45		0.76	0.21		0.38	0.55		0.04	0.64	0.04
Uniform Delay, d1	29.6	31.1		32.7	29.9		6.1	7.2		4.7	7.9	4.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.96	0.84	1.05
Incremental Delay, d2	0.4	1.3		28.6	0.4		2.8	2.0		0.1	2.2	0.1
Delay (s)	30.0	32.4		61.3	30.3		8.9	9.1		4.6	8.9	5.0
Level of Service	C	C		E	C		A	A		A	A	A
Approach Delay (s/veh)		32.1			45.8			9.1			8.5	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

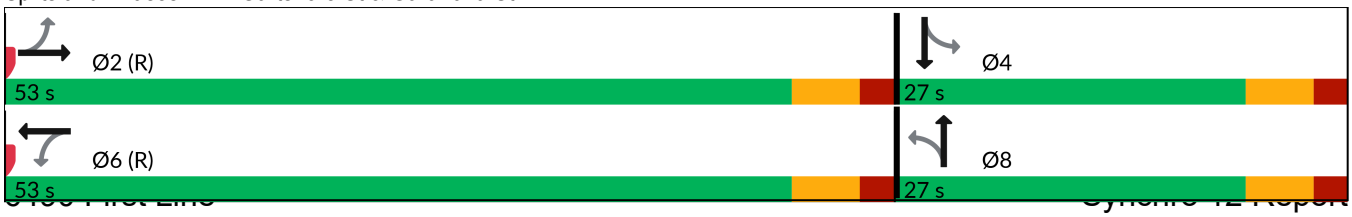
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	50	335	150	255	100	445	95	420
Future Volume (vph)	50	335	150	255	100	445	95	420
Lane Group Flow (vph)	56	511	167	394	111	672	106	595
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	36.1	36.1	27.1	27.1	27.1	27.1
Total Split (s)	53.0	53.0	53.0	53.0	27.0	27.0	27.0	27.0
Total Split (%)	66.3%	66.3%	66.3%	66.3%	33.8%	33.8%	33.8%	33.8%
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio	0.22	0.69	0.81	0.54	0.52	0.85	0.70	0.73
Control Delay (s/veh)	17.5	23.6	52.3	19.0	33.3	34.4	47.8	25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.5	23.6	52.3	19.0	33.3	34.4	47.8	25.5
Queue Length 50th (m)	5.5	63.3	23.8	43.4	11.8	71.4	12.4	68.3
Queue Length 95th (m)	11.2	80.6	#51.4	57.3	m#37.0	#172.8	#45.8	#147.4
Internal Link Dist (m)		114.2		223.2		361.2		201.3
Turn Bay Length (m)	40.0		35.0		30.0		35.0	
Base Capacity (vph)	376	1066	303	1057	212	790	152	817
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.48	0.55	0.37	0.52	0.85	0.70	0.73

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 11.4 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

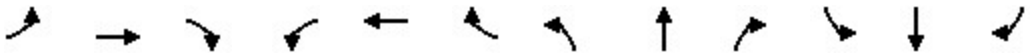
Splits and Phases: 1: Gartshore St & Garafraxa St E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	335	125	150	255	100	100	445	160	95	420	115
Future Volume (vph)	50	335	125	150	255	100	100	445	160	95	420	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.96		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1504	1790		1752	1772		1805	1732		1787	1796	
Flt Permitted	0.41	1.00		0.28	1.00		0.25	1.00		0.18	1.00	
Satd. Flow (perm)	643	1790		518	1772		473	1732		340	1796	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	56	372	139	167	283	111	111	494	178	106	467	128
RTOR Reduction (vph)	0	25	0	0	26	0	0	12	0	0	9	0
Lane Group Flow (vph)	56	486	0	167	368	0	111	660	0	106	586	0
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	20%	1%	4%	3%	0%	7%	0%	4%	9%	1%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	31.8	31.8		31.8	31.8		36.0	36.0		36.0	36.0	
Effective Green, g (s)	31.8	31.8		31.8	31.8		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.45	0.45		0.45	0.45	
Clearance Time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	255	711		205	704		212	779		153	808	
v/s Ratio Prot		0.27			0.21			c0.38			0.33	
v/s Ratio Perm	0.09			c0.32			0.23			0.31		
v/c Ratio	0.22	0.68		0.81	0.52		0.52	0.85		0.69	0.72	
Uniform Delay, d1	15.9	19.9		21.5	18.3		15.8	19.6		17.6	18.0	
Progression Factor	1.00	1.00		1.00	1.00		1.28	1.16		1.00	1.00	
Incremental Delay, d2	2.0	5.3		28.7	2.8		2.1	7.6		12.7	3.2	
Delay (s)	17.9	25.2		50.2	21.1		22.3	30.2		30.3	21.2	
Level of Service	B	C		D	C		C	C		C	C	
Approach Delay (s/veh)		24.5			29.8			29.1			22.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		

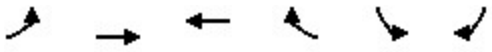
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	555	10	10	470	10	10	5	10	5	10	25
Future Volume (Veh/h)	25	555	10	10	470	10	10	5	10	5	10	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	31	685	12	12	580	12	12	6	12	6	12	31
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		247										
pX, platoon unblocked				0.84			0.84	0.84	0.84	0.84	0.84	
vC, conflicting volume	592			697			1400	1369	691	1378	1369	586
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	592			540			1380	1343	533	1354	1343	586
tC, single (s)	4.1			4.1			7.2	6.5	6.4	7.1	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.5	3.5	4.1	3.3
p0 queue free %	97			99			85	95	97	94	90	94
cM capacity (veh/h)	994			869			82	122	434	97	115	514

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	728	604	30	49
Volume Left	31	12	12	6
Volume Right	12	12	12	31
cSH	994	869	134	216
Volume to Capacity	0.03	0.01	0.22	0.23
Queue Length 95th (m)	0.8	0.3	6.5	6.8
Control Delay (s/veh)	0.8	0.4	39.4	26.4
Lane LOS	A	A	E	D
Approach Delay (s/veh)	0.8	0.4	39.4	26.4
Approach LOS			E	D

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	52.8%	ICU Level of Service	A	
Analysis Period (min)	15			

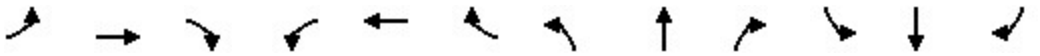


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	210	345	315	15	10	125
Future Volume (Veh/h)	210	345	315	15	10	125
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	210	345	315	15	10	125
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	330				1088	323
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	330				1088	323
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				95	83
cM capacity (veh/h)	1241				200	723

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	555	330	135
Volume Left	210	0	10
Volume Right	0	15	125
cSH	1241	1700	606
Volume to Capacity	0.17	0.19	0.22
Queue Length 95th (m)	4.9	0.0	6.8
Control Delay (s/veh)	4.3	0.0	12.6
Lane LOS	A		B
Approach Delay (s/veh)	4.3	0.0	12.6
Approach LOS			B

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

* Value less than 0.01.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	240	15	20	220	45	5	15	35	85	15	105
Future Volume (Veh/h)	100	240	15	20	220	45	5	15	35	85	15	105
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	106	255	16	21	234	48	5	16	37	90	16	112
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	282			271			863	791	255	788	759	234
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	282			271			863	791	255	788	759	234
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	92			98			98	95	95	65	95	86
cM capacity (veh/h)	1292			1275			212	293	789	255	306	810

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	361	16	255	48	58	218
Volume Left	106	0	21	0	5	90
Volume Right	0	16	0	48	37	112
cSH	1292	1700	1275	1700	464	401
Volume to Capacity	0.08	0.00*	0.02	0.03	0.13	0.54
Queue Length 95th (m)	2.1	0.0	0.4	0.0	3.4	25.1
Control Delay (s/veh)	2.9	0.0	0.8	0.0	13.9	24.1
Lane LOS	A		A		B	C
Approach Delay (s/veh)	2.8		0.7		13.9	24.1
Approach LOS					B	C

Intersection Summary				
Average Delay	7.7			
Intersection Capacity Utilization	59.4%	ICU Level of Service		B
Analysis Period (min)	15			

* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	35	50	110	170	0
Future Volume (Veh/h)	0	35	50	110	170	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	35	50	110	170	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	380	170	170			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	380	170	170			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	96			
cM capacity (veh/h)	604	879	1420			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	35	160	170
Volume Left	0	50	0
Volume Right	35	0	0
cSH	879	1420	1700
Volume to Capacity	0.04	0.04	0.10
Queue Length 95th (m)	1.0	0.9	0.0
Control Delay (s/veh)	9.3	2.6	0.0
Lane LOS	A	A	
Approach Delay (s/veh)	9.3	2.6	0.0
Approach LOS	A		

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		30.8%	ICU Level of Service A
Analysis Period (min)		15	

* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	30	45	65	140	0
Future Volume (Veh/h)	10	30	45	65	140	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	10	30	45	65	140	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	295	140	140			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	295	140	140			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	97	97			
cM capacity (veh/h)	679	913	1456			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	40	110	140
Volume Left	10	45	0
Volume Right	30	0	0
cSH	841	1456	1700
Volume to Capacity	0.05	0.03	0.08
Queue Length 95th (m)	1.2	0.8	0.0
Control Delay (s/veh)	9.5	3.2	0.0
Lane LOS	A	A	
Approach Delay (s/veh)	9.5	3.2	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	26.6%	ICU Level of Service	A
Analysis Period (min)	15		

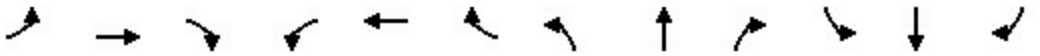
* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	195	310	20	60	30
Future Volume (Veh/h)	15	195	310	20	60	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	15	201	320	21	62	31
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	739	78	93			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	739	78	93			
tC, single (s)	6.4	6.2	4.3			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.4			
p0 queue free %	95	80	77			
cM capacity (veh/h)	300	983	1407			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	216	341	93
Volume Left	15	320	0
Volume Right	201	0	31
cSH	849	1407	1700
Volume to Capacity	0.25	0.23	0.05
Queue Length 95th (m)	8.1	7.0	0.0
Control Delay (s/veh)	10.7	7.9	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	10.7	7.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	7.7		
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	10	50	10	15	15	110	455	30	15	570	5
Future Volume (Veh/h)	5	10	50	10	15	15	110	455	30	15	570	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	5	10	52	10	15	15	113	469	31	15	588	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								225				
pX, platoon unblocked	0.75	0.75		0.75	0.75	0.75				0.75		
vC, conflicting volume	1354	1347	591	1388	1334	485	593			500		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1306	1296	591	1351	1279	152	593			172		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	91	90	86	86	98	89			99		
cM capacity (veh/h)	83	108	511	73	110	678	993			1067		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	67	40	613	608
Volume Left	5	10	113	15
Volume Right	52	15	31	5
cSH	263	136	993	1067
Volume to Capacity	0.26	0.29	0.11	0.01
Queue Length 95th (m)	7.9	9.2	3.1	0.3
Control Delay (s/veh)	23.3	42.3	2.9	0.4
Lane LOS	C	E	A	A
Approach Delay (s/veh)	23.3	42.3	2.9	0.4
Approach LOS	C	E		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

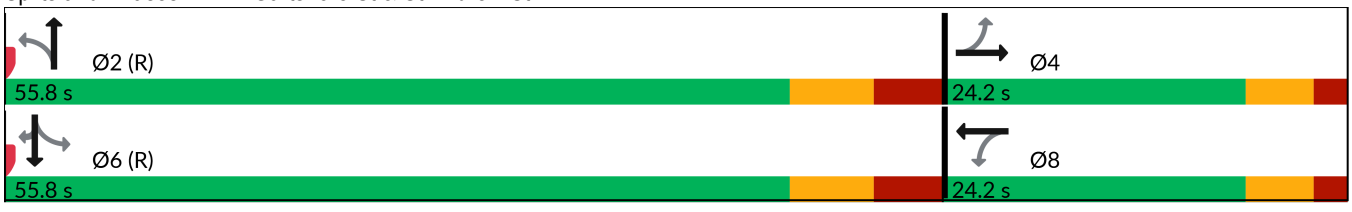
* Value less than 0.01.

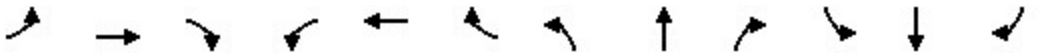
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	30	40	35	25	95	640	5	570	45
Future Volume (vph)	30	40	35	25	95	640	5	570	45
Lane Group Flow (vph)	32	176	37	32	101	724	5	606	48
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.1	24.1	24.1	24.1	27.0	27.0	27.0	27.0	27.0
Total Split (s)	24.2	24.2	24.2	24.2	55.8	55.8	55.8	55.8	55.8
Total Split (%)	30.3%	30.3%	30.3%	30.3%	69.8%	69.8%	69.8%	69.8%	69.8%
Yellow Time (s)	4.1	4.1	4.1	4.1	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	9.0	9.0	9.0	9.0	9.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.21	0.59	0.36	0.16	0.18	0.56	0.01	0.46	0.04
Control Delay (s/veh)	34.3	18.7	41.2	28.9	5.8	8.3	4.6	5.4	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.3	18.7	41.2	28.9	5.8	8.3	4.6	5.4	1.7
Queue Length 50th (m)	4.8	6.4	5.6	4.0	4.4	44.1	0.1	17.7	0.2
Queue Length 95th (m)	12.2	23.2	13.9	11.1	12.7	90.0	m0.4	64.3	m1.0
Internal Link Dist (m)		95.5		92.4		135.0		361.2	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		50.0
Base Capacity (vph)	316	481	219	410	546	1301	455	1309	1092
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.37	0.17	0.08	0.18	0.56	0.01	0.46	0.04

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 56.1 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Gartshore St & St Andrew St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	40	125	35	25	5	95	640	40	5	570	45
Future Volume (vph)	30	40	125	35	25	5	95	640	40	5	570	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.89		1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	1672		1752	1795		1797	1848		1805	1863	1534
Flt Permitted	0.74	1.00		0.53	1.00		0.41	1.00		0.34	1.00	1.00
Satd. Flow (perm)	1399	1672		969	1795		778	1848		649	1863	1534
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	43	133	37	27	5	101	681	43	5	606	48
RTOR Reduction (vph)	0	119	0	0	4	0	0	2	0	0	0	14
Lane Group Flow (vph)	32	57	0	37	28	0	101	722	0	5	606	34
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	3%	0%	3%	4%	0%	0%	2%	0%	0%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	8.7	8.7		8.7	8.7		56.2	56.2		56.2	56.2	56.2
Effective Green, g (s)	8.7	8.7		8.7	8.7		56.2	56.2		56.2	56.2	56.2
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.70	0.70		0.70	0.70	0.70
Clearance Time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	152	181		105	195		546	1298		455	1308	1077
v/s Ratio Prot		0.03			0.02			c0.39			0.33	
v/s Ratio Perm	0.02			c0.04			0.13			0.01		0.02
v/c Ratio	0.21	0.32		0.35	0.14		0.18	0.56		0.01	0.46	0.03
Uniform Delay, d1	32.5	32.9		33.0	32.3		4.1	5.8		3.6	5.2	3.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.98	0.76	1.00
Incremental Delay, d2	0.7	1.0		2.0	0.3		0.7	1.7		0.0	0.9	0.0
Delay (s)	33.2	33.9		35.1	32.6		4.8	7.5		3.5	4.9	3.7
Level of Service	C	C		D	C		A	A		A	A	A
Approach Delay (s/veh)		33.8			33.9			7.2			4.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

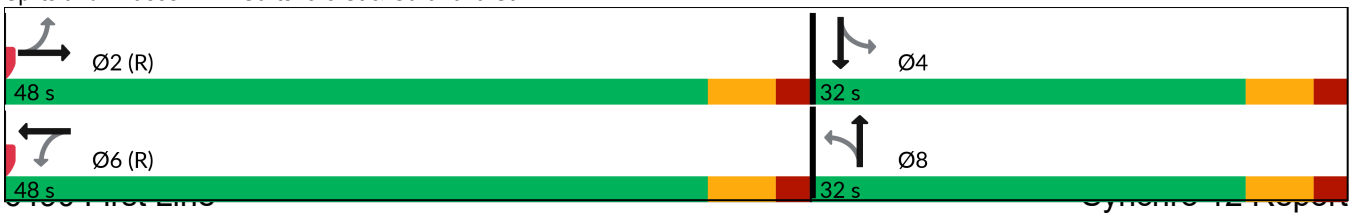
c Critical Lane Group

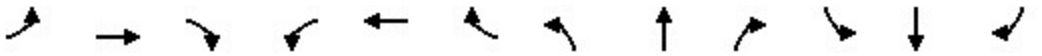
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	120	215	180	370	115	400	65	395
Future Volume (vph)	120	215	180	370	115	400	65	395
Lane Group Flow (vph)	136	432	205	500	131	546	74	489
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	36.1	36.1	27.1	27.1	27.1	27.1
Total Split (s)	48.0	48.0	48.0	48.0	32.0	32.0	32.0	32.0
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio	0.60	0.58	0.73	0.64	0.52	0.79	0.38	0.67
Control Delay (s/veh)	30.2	17.5	35.5	21.6	20.4	23.6	24.7	25.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.2	17.5	35.5	21.6	20.4	23.6	24.7	25.4
Queue Length 50th (m)	16.9	44.8	27.8	64.3	13.9	63.1	6.8	52.3
Queue Length 95th (m)	28.7	54.1	43.0	72.5	m#41.2	#138.0	22.1	#115.7
Internal Link Dist (m)		114.2		223.2		361.2		201.3
Turn Bay Length (m)	40.0		35.0		30.0		35.0	
Base Capacity (vph)	278	909	347	954	250	693	196	732
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.48	0.59	0.52	0.52	0.79	0.38	0.67

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Gartshore St & Garafraxa St E

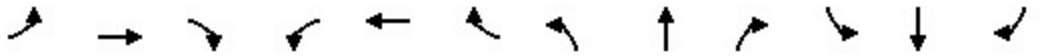




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	215	165	180	370	70	115	400	80	65	395	35
Future Volume (vph)	120	215	165	180	370	70	115	400	80	65	395	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.98		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1670		1636	1807		1729	1623		1641	1726	
Flt Permitted	0.32	1.00		0.38	1.00		0.33	1.00		0.27	1.00	
Satd. Flow (perm)	532	1670		662	1807		592	1623		465	1726	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	136	244	188	205	420	80	131	455	91	74	449	40
RTOR Reduction (vph)	0	42	0	0	10	0	0	8	0	0	3	0
Lane Group Flow (vph)	136	390	0	205	490	0	131	538	0	74	486	0
Confl. Peds. (#/hr)			5	5			5					5
Heavy Vehicles (%)	13%	6%	4%	10%	2%	6%	4%	14%	15%	10%	8%	14%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	34.0	34.0		34.0	34.0		33.8	33.8		33.8	33.8	
Effective Green, g (s)	34.0	34.0		34.0	34.0		33.8	33.8		33.8	33.8	
Actuated g/C Ratio	0.43	0.43		0.43	0.43		0.42	0.42		0.42	0.42	
Clearance Time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	226	709		281	767		250	685		196	729	
v/s Ratio Prot		0.23			0.27			c0.33			0.28	
v/s Ratio Perm	0.26			c0.31			0.22			0.16		
v/c Ratio	0.60	0.55		0.73	0.64		0.52	0.79		0.38	0.67	
Uniform Delay, d1	17.8	17.3		19.2	18.1		17.1	20.0		15.9	18.6	
Progression Factor	1.00	1.00		1.00	1.00		0.61	0.66		1.00	1.00	
Incremental Delay, d2	11.3	3.1		15.3	4.0		1.7	5.0		1.2	2.3	
Delay (s)	29.1	20.3		34.5	22.2		12.0	18.1		17.1	20.9	
Level of Service	C	C		C	C		B	B		B	C	
Approach Delay (s/veh)		22.4			25.8			17.0			20.4	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		

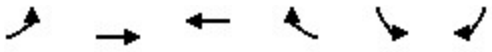
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	340	10	0	560	5	15	5	5	15	10	45
Future Volume (Veh/h)	10	340	10	0	560	5	15	5	5	15	10	45
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	370	11	0	609	5	16	5	5	16	11	49
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		247										
pX, platoon unblocked												
vC, conflicting volume	614			381			1064	1012	376	1017	1015	612
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	614			381			1064	1012	376	1017	1015	612
tC, single (s)	4.1			4.1			7.2	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			90	98	99	92	95	90
cM capacity (veh/h)	975			1189			166	239	675	211	238	497

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	392	614	26	76
Volume Left	11	0	16	16
Volume Right	11	5	5	49
cSH	975	1189	208	344
Volume to Capacity	0.01	0.00	0.12	0.22
Queue Length 95th (m)	0.3	0.0	3.4	6.6
Control Delay (s/veh)	0.4	0.0	24.7	18.4
Lane LOS	A		C	C
Approach Delay (s/veh)	0.4	0.0	24.7	18.4
Approach LOS			C	C

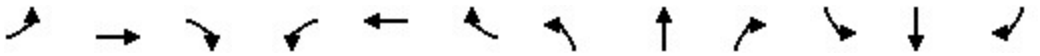
Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	40.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	245	345	5	15	215
Future Volume (Veh/h)	70	245	345	5	15	215
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	70	245	345	5	15	215
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	350				733	348
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	350				733	348
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				96	69
cM capacity (veh/h)	1220				369	700

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	315	350	230
Volume Left	70	0	15
Volume Right	0	5	215
cSH	1220	1700	661
Volume to Capacity	0.06	0.21	0.35
Queue Length 95th (m)	1.5	0.0	12.4
Control Delay (s/veh)	2.2	0.0	13.3
Lane LOS	A		B
Approach Delay (s/veh)	2.2	0.0	13.3
Approach LOS			B

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	175	10	30	230	75	15	15	25	35	5	105
Future Volume (Veh/h)	75	175	10	30	230	75	15	15	25	35	5	105
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	78	182	10	31	240	78	16	16	26	36	5	109
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	318			192			752	718	182	674	650	240
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	318			192			752	718	182	674	650	240
tC, single (s)	4.1			4.2			7.3	6.7	6.2	7.2	7.0	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.7	4.2	3.3	3.6	4.4	3.3
p0 queue free %	94			98			93	95	97	88	98	86
cM capacity (veh/h)	1253			1318			241	308	855	311	305	804

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	260	10	271	78	58	150
Volume Left	78	0	31	0	16	36
Volume Right	0	10	0	78	26	109
cSH	1253	1700	1318	1700	390	560
Volume to Capacity	0.06	0.00*	0.02	0.05	0.15	0.27
Queue Length 95th (m)	1.6	0.0	0.6	0.0	4.1	8.6
Control Delay (s/veh)	2.8	0.0	1.1	0.0	15.8	13.8
Lane LOS	A		A		C	B
Approach Delay (s/veh)	2.7		0.8		15.8	13.8
Approach LOS					C	B

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	48.2%	ICU Level of Service		A
Analysis Period (min)	15			

* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	50	20	145	95	0
Future Volume (Veh/h)	0	50	20	145	95	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	50	20	145	95	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	280	95	95			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	280	95	95			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	95	99			
cM capacity (veh/h)	705	967	1512			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	50	165	95
Volume Left	0	20	0
Volume Right	50	0	0
cSH	967	1512	1700
Volume to Capacity	0.05	0.01	0.06
Queue Length 95th (m)	1.3	0.3	0.0
Control Delay (s/veh)	8.9	1.0	0.0
Lane LOS	A	A	
Approach Delay (s/veh)	8.9	1.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	50	15	130	45	0
Future Volume (Veh/h)	15	50	15	130	45	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	50	15	130	45	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	205	45	45			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	205	45	45			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	95	99			
cM capacity (veh/h)	780	1031	1576			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	65	145	45
Volume Left	15	15	0
Volume Right	50	0	0
cSH	960	1576	1700
Volume to Capacity	0.07	0.00*	0.03
Queue Length 95th (m)	1.7	0.2	0.0
Control Delay (s/veh)	9.0	0.8	0.0
Lane LOS	A	A	
Approach Delay (s/veh)	9.0	0.8	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	24.9%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	385	200	70	20	15
Future Volume (Veh/h)	25	385	200	70	20	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	423	220	77	22	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	547	30	38			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	547	30	38			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	94	59	85			
cM capacity (veh/h)	415	1033	1510			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	450	297	38
Volume Left	27	220	0
Volume Right	423	0	16
cSH	948	1510	1700
Volume to Capacity	0.47	0.15	0.02
Queue Length 95th (m)	20.8	4.1	0.0
Control Delay (s/veh)	12.2	6.1	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	12.2	6.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	9.3		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	25	75	15	20	15	60	530	10	15	400	10
Future Volume (Veh/h)	5	25	75	15	20	15	60	530	10	15	400	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	28	83	17	22	17	67	589	11	17	444	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								225				
pX, platoon unblocked	0.76	0.76		0.76	0.76	0.76				0.76		
vC, conflicting volume	1240	1218	450	1309	1218	595	455			600		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1160	1130	450	1250	1130	315	455			322		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	94	81	86	78	84	97	94			98		
cM capacity (veh/h)	107	145	612	78	142	558	1090			929		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	117	56	667	472
Volume Left	6	17	67	17
Volume Right	83	17	11	11
cSH	304	138	1090	929
Volume to Capacity	0.39	0.40	0.06	0.02
Queue Length 95th (m)	14.0	14.0	1.6	0.4
Control Delay (s/veh)	24.1	47.7	1.6	0.5
Lane LOS	C	E	A	A
Approach Delay (s/veh)	24.1	47.7	1.6	0.5
Approach LOS	C	E		

Intersection Summary				
Average Delay	5.2			
Intersection Capacity Utilization	69.4%	ICU Level of Service	C	
Analysis Period (min)	15			

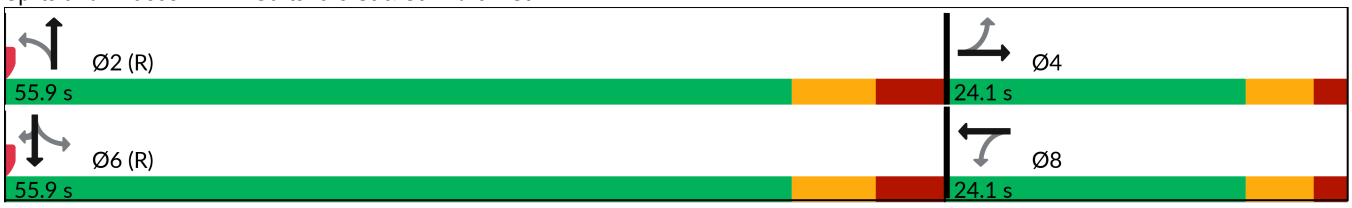
* Value less than 0.01.

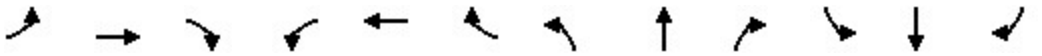
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	20	50	55	40	110	485	15	615	50
Future Volume (vph)	20	50	55	40	110	485	15	615	50
Lane Group Flow (vph)	26	247	71	71	143	675	19	799	65
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.1	24.1	24.1	24.1	27.0	27.0	27.0	27.0	27.0
Total Split (s)	24.1	24.1	24.1	24.1	55.9	55.9	55.9	55.9	55.9
Total Split (%)	30.1%	30.1%	30.1%	30.1%	69.9%	69.9%	69.9%	69.9%	69.9%
Yellow Time (s)	4.1	4.1	4.1	4.1	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	9.0	9.0	9.0	9.0	9.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.14	0.66	0.76	0.26	0.42	0.59	0.04	0.69	0.07
Control Delay (s/veh)	28.8	20.1	73.7	23.9	12.7	11.2	4.7	11.6	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.8	20.1	73.7	23.9	12.7	11.2	4.7	11.6	1.1
Queue Length 50th (m)	3.6	12.7	10.6	7.4	9.3	49.3	0.7	73.3	0.6
Queue Length 95th (m)	8.1	22.6	18.9	14.2	21.6	74.3	m1.1	107.4	m0.5
Internal Link Dist (m)		95.5		92.4		135.0		361.2	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		50.0
Base Capacity (vph)	277	489	143	410	339	1136	443	1165	980
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.51	0.50	0.17	0.42	0.59	0.04	0.69	0.07

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Gartshore St & St Andrew St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	50	140	55	40	15	110	485	35	15	615	50
Future Volume (vph)	20	50	140	55	40	15	110	485	35	15	615	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	1.00		1.00	1.00	0.91
Flpb, ped/bikes	0.96	1.00		0.99	1.00		0.99	1.00		1.00	1.00	1.00
Frt	1.00	0.89		1.00	0.96		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1650	1631		1660	1760		1744	1711		1799	1759	1448
Flt Permitted	0.71	1.00		0.36	1.00		0.28	1.00		0.35	1.00	1.00
Satd. Flow (perm)	1234	1631		638	1760		510	1711		668	1759	1448
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	26	65	182	71	52	19	143	630	45	19	799	65
RTOR Reduction (vph)	0	135	0	0	16	0	0	3	0	0	0	22
Lane Group Flow (vph)	26	112	0	71	55	0	143	672	0	19	799	43
Confl. Peds. (#/hr)	20		5	5		20	30		5	5		30
Heavy Vehicles (%)	5%	2%	1%	8%	0%	7%	2%	10%	6%	0%	8%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	11.9	11.9		11.9	11.9		53.0	53.0		53.0	53.0	53.0
Effective Green, g (s)	11.9	11.9		11.9	11.9		53.0	53.0		53.0	53.0	53.0
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.66	0.66		0.66	0.66	0.66
Clearance Time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	183	242		94	261		337	1133		442	1165	959
v/s Ratio Prot		0.07			0.03			0.39			c0.45	
v/s Ratio Perm	0.02			c0.11			0.28			0.03		0.03
v/c Ratio	0.14	0.46		0.76	0.21		0.42	0.59		0.04	0.69	0.05
Uniform Delay, d1	29.6	31.1		32.7	29.9		6.3	7.5		4.7	8.4	4.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.72	0.86	0.48
Incremental Delay, d2	0.4	1.4		28.6	0.4		3.9	2.3		0.2	2.7	0.1
Delay (s)	30.0	32.5		61.3	30.3		10.2	9.8		3.5	9.9	2.3
Level of Service	C	C		E	C		B	A		A	A	A
Approach Delay (s/veh)		32.3			45.8			9.9			9.2	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

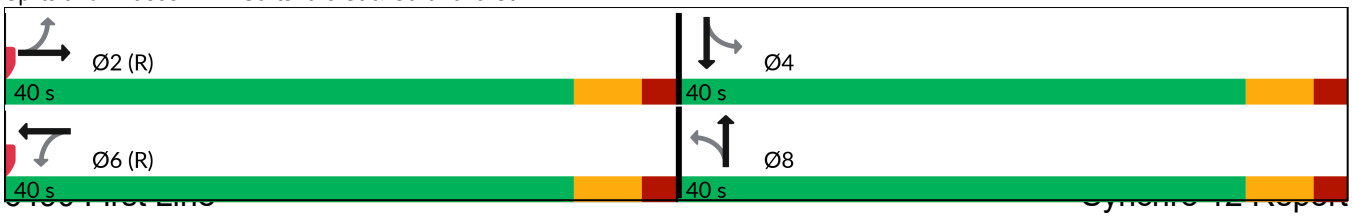
c Critical Lane Group

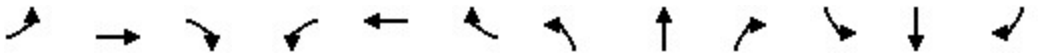
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	50	360	150	280	140	460	95	430
Future Volume (vph)	50	360	150	280	140	460	95	430
Lane Group Flow (vph)	56	578	167	422	156	689	106	606
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	30.0	30.0	30.0	30.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	36.1	36.1	27.1	27.1	27.1	27.1
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio	0.22	0.76	0.92	0.55	0.88	0.91	0.93	0.77
Control Delay (s/veh)	17.4	26.1	76.6	19.6	68.2	40.5	96.1	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.4	26.1	76.6	19.6	68.2	40.5	96.1	27.5
Queue Length 50th (m)	5.0	70.7	23.9	45.6	18.8	78.6	15.6	77.3
Queue Length 95th (m)	12.7	111.4	#62.5	73.3	m#57.5	#161.0	#47.6	#125.6
Internal Link Dist (m)		114.2		223.2		361.2		201.3
Turn Bay Length (m)	40.0		35.0		30.0		35.0	
Base Capacity (vph)	262	773	183	770	177	759	114	782
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.75	0.91	0.55	0.88	0.91	0.93	0.77

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 11.4 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Gartshore St & Garafraxa St E

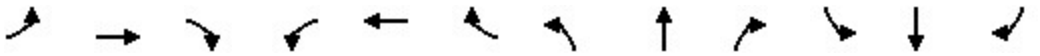




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	360	160	150	280	100	140	460	160	95	430	115
Future Volume (vph)	50	360	160	150	280	100	140	460	160	95	430	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.96		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1504	1778		1752	1781		1805	1735		1787	1797	
Flt Permitted	0.39	1.00		0.23	1.00		0.22	1.00		0.14	1.00	
Satd. Flow (perm)	618	1778		433	1781		415	1735		267	1797	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	56	400	178	167	311	111	156	511	178	106	478	128
RTOR Reduction (vph)	0	20	0	0	16	0	0	15	0	0	12	0
Lane Group Flow (vph)	56	558	0	167	406	0	156	674	0	106	594	0
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	20%	1%	4%	3%	0%	7%	0%	4%	9%	1%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	33.5	33.5		33.5	33.5		34.3	34.3		34.3	34.3	
Effective Green, g (s)	33.5	33.5		33.5	33.5		34.3	34.3		34.3	34.3	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.43	0.43		0.43	0.43	
Clearance Time (s)	6.1	6.1		6.1	6.1		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	258	744		181	745		177	743		114	770	
v/s Ratio Prot		0.31			0.23			0.39			0.33	
v/s Ratio Perm	0.09			c0.39			0.38			c0.40		
v/c Ratio	0.22	0.75		0.92	0.54		0.88	0.91		0.93	0.77	
Uniform Delay, d1	14.9	19.7		22.0	17.5		21.0	21.4		21.7	19.5	
Progression Factor	1.00	1.00		1.00	1.00		1.20	1.16		1.00	1.00	
Incremental Delay, d2	1.9	6.8		49.2	2.8		32.6	13.0		61.7	4.8	
Delay (s)	16.8	26.5		71.2	20.4		57.7	37.7		83.4	24.3	
Level of Service	B	C		E	C		E	D		F	C	
Approach Delay (s/veh)		25.7			34.8			41.4			33.1	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	116.3%	ICU Level of Service	H
Analysis Period (min)	15		

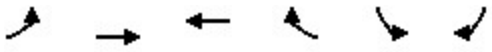
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	580	10	10	495	10	10	5	10	5	10	25
Future Volume (Veh/h)	25	580	10	10	495	10	10	5	10	5	10	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	31	716	12	12	611	12	12	6	12	6	12	31
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		247										
pX, platoon unblocked				0.82			0.82	0.82	0.82	0.82	0.82	
vC, conflicting volume	623			728			1462	1431	722	1440	1431	617
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	623			554			1453	1415	546	1426	1415	617
tC, single (s)	4.1			4.1			7.2	6.5	6.4	7.1	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.5	3.5	4.1	3.3
p0 queue free %	97			99			83	94	97	93	88	94
cM capacity (veh/h)	968			838			70	108	416	84	101	494

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	759	635	30	49
Volume Left	31	12	12	6
Volume Right	12	12	12	31
cSH	968	838	117	194
Volume to Capacity	0.03	0.01	0.26	0.25
Queue Length 95th (m)	0.8	0.3	7.6	7.7
Control Delay (s/veh)	0.8	0.4	46.1	29.8
Lane LOS	A	A	E	D
Approach Delay (s/veh)	0.8	0.4	46.1	29.8
Approach LOS			E	D

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

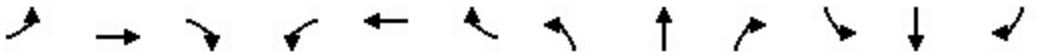


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	210	370	340	15	10	125
Future Volume (Veh/h)	210	370	340	15	10	125
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	210	370	340	15	10	125
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	355				1138	348
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	355				1138	348
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				95	82
cM capacity (veh/h)	1215				186	700

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	580	355	135
Volume Left	210	0	10
Volume Right	0	15	125
cSH	1215	1700	581
Volume to Capacity	0.17	0.21	0.23
Queue Length 95th (m)	5.0	0.0	7.1
Control Delay (s/veh)	4.3	0.0	13.1
Lane LOS	A		B
Approach Delay (s/veh)	4.3	0.0	13.1
Approach LOS			B

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

* Value less than 0.01.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	265	15	20	245	45	5	15	35	85	20	105
Future Volume (Veh/h)	100	265	15	20	245	45	5	15	35	85	20	105
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	106	282	16	21	261	48	5	16	37	90	21	112
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	309			298			920	845	282	842	813	261
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	309			298			920	845	282	842	813	261
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	92			98			97	94	95	61	93	86
cM capacity (veh/h)	1263			1246			190	272	762	233	284	783

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	388	16	282	48	58	223
Volume Left	106	0	21	0	5	90
Volume Right	0	16	0	48	37	112
cSH	1263	1700	1246	1700	433	370
Volume to Capacity	0.08	0.00*	0.02	0.03	0.13	0.60
Queue Length 95th (m)	2.2	0.0	0.4	0.0	3.7	30.3
Control Delay (s/veh)	2.8	0.0	0.7	0.0	14.6	28.5
Lane LOS	A		A		B	D
Approach Delay (s/veh)	2.7		0.6		14.6	28.5
Approach LOS					B	D

Intersection Summary				
Average Delay	8.4			
Intersection Capacity Utilization	62.3%	ICU Level of Service	B	
Analysis Period (min)	15			

* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	35	50	110	175	0
Future Volume (Veh/h)	0	35	50	110	175	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	35	50	110	175	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	385	175	175			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	385	175	175			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	96			
cM capacity (veh/h)	600	874	1414			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	35	160	175
Volume Left	0	50	0
Volume Right	35	0	0
cSH	874	1414	1700
Volume to Capacity	0.04	0.04	0.10
Queue Length 95th (m)	1.0	0.9	0.0
Control Delay (s/veh)	9.3	2.6	0.0
Lane LOS	A	A	
Approach Delay (s/veh)	9.3	2.6	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	30	45	65	145	0
Future Volume (Veh/h)	10	30	45	65	145	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	10	30	45	65	145	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	300	145	145			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	300	145	145			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	97	97			
cM capacity (veh/h)	674	908	1450			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	40	110	145
Volume Left	10	45	0
Volume Right	30	0	0
cSH	835	1450	1700
Volume to Capacity	0.05	0.03	0.09
Queue Length 95th (m)	1.2	0.8	0.0
Control Delay (s/veh)	9.5	3.2	0.0
Lane LOS	A	A	
Approach Delay (s/veh)	9.5	3.2	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	225	350	20	60	30
Future Volume (Veh/h)	15	225	350	20	60	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	15	232	361	21	62	31
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	821	78	93			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	821	78	93			
tC, single (s)	6.4	6.2	4.3			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.4			
p0 queue free %	94	76	74			
cM capacity (veh/h)	258	983	1407			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	247	382	93
Volume Left	15	361	0
Volume Right	232	0	31
cSH	840	1407	1700
Volume to Capacity	0.29	0.26	0.05
Queue Length 95th (m)	9.8	8.2	0.0
Control Delay (s/veh)	11.1	8.1	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	11.1	8.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	10	50	10	15	15	110	470	30	15	580	5
Future Volume (Veh/h)	5	10	50	10	15	15	110	470	30	15	580	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	5	10	52	10	15	15	113	485	31	15	598	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								225				
pX, platoon unblocked	0.72	0.72		0.72	0.72	0.72				0.72		
vC, conflicting volume	1380	1373	601	1414	1360	501	603			516		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1333	1323	601	1381	1305	112	603			133		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	90	90	85	85	98	89			99		
cM capacity (veh/h)	75	99	504	66	102	682	984			1054		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	67	40	629	618
Volume Left	5	10	113	15
Volume Right	52	15	31	5
cSH	247	125	984	1054
Volume to Capacity	0.27	0.32	0.11	0.01
Queue Length 95th (m)	8.5	10.1	3.1	0.3
Control Delay (s/veh)	24.9	47.0	2.9	0.4
Lane LOS	C	E	A	A
Approach Delay (s/veh)	24.9	47.0	2.9	0.4
Approach LOS	C	E		

Intersection Summary				
Average Delay	4.1			
Intersection Capacity Utilization	79.2%	ICU Level of Service	D	
Analysis Period (min)	15			

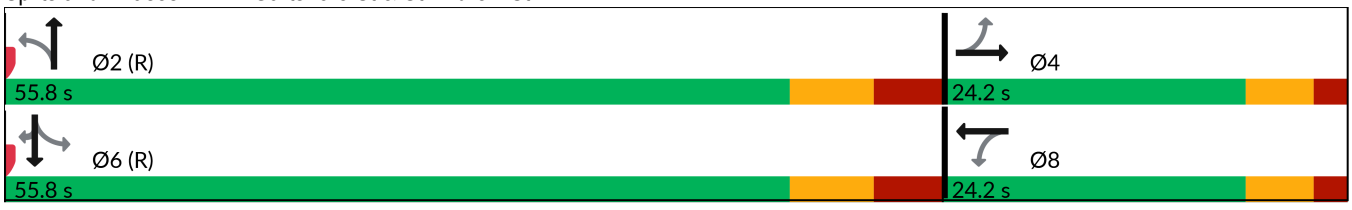
* Value less than 0.01.

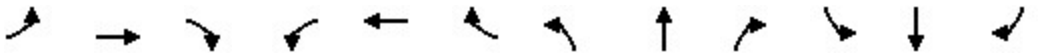
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	30	40	35	25	95	695	5	615	45
Future Volume (vph)	30	40	35	25	95	695	5	615	45
Lane Group Flow (vph)	32	176	37	32	101	782	5	654	48
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.1	24.1	24.1	24.1	27.0	27.0	27.0	27.0	27.0
Total Split (s)	24.2	24.2	24.2	24.2	55.8	55.8	55.8	55.8	55.8
Total Split (%)	30.3%	30.3%	30.3%	30.3%	69.8%	69.8%	69.8%	69.8%	69.8%
Yellow Time (s)	4.1	4.1	4.1	4.1	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	9.0	9.0	9.0	9.0	9.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.21	0.59	0.36	0.16	0.20	0.60	0.01	0.50	0.04
Control Delay (s/veh)	34.3	18.7	41.2	28.9	6.0	9.1	4.2	5.5	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.3	18.7	41.2	28.9	6.0	9.1	4.2	5.5	1.5
Queue Length 50th (m)	4.8	6.4	5.6	4.0	4.4	50.4	0.1	18.2	0.1
Queue Length 95th (m)	12.2	23.2	13.9	11.1	13.0	103.1	m0.3	m64.5	m0.3
Internal Link Dist (m)		95.5		92.4		135.0		361.2	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		50.0
Base Capacity (vph)	316	481	219	410	508	1302	412	1309	1092
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.37	0.17	0.08	0.20	0.60	0.01	0.50	0.04

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 56.1 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Gartshore St & St Andrew St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	40	125	35	25	5	95	695	40	5	615	45
Future Volume (vph)	30	40	125	35	25	5	95	695	40	5	615	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.89		1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	1672		1752	1795		1798	1849		1805	1863	1534
Flt Permitted	0.74	1.00		0.53	1.00		0.38	1.00		0.31	1.00	1.00
Satd. Flow (perm)	1399	1672		969	1795		724	1849		586	1863	1534
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	43	133	37	27	5	101	739	43	5	654	48
RTOR Reduction (vph)	0	119	0	0	4	0	0	2	0	0	0	14
Lane Group Flow (vph)	32	57	0	37	28	0	101	780	0	5	654	34
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	3%	0%	3%	4%	0%	0%	2%	0%	0%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	8.7	8.7		8.7	8.7		56.2	56.2		56.2	56.2	56.2
Effective Green, g (s)	8.7	8.7		8.7	8.7		56.2	56.2		56.2	56.2	56.2
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.70	0.70		0.70	0.70	0.70
Clearance Time (s)	6.1	6.1		6.1	6.1		9.0	9.0		9.0	9.0	9.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	152	181		105	195		508	1298		411	1308	1077
v/s Ratio Prot		0.03			0.02			c0.42			0.35	
v/s Ratio Perm	0.02			c0.04			0.14			0.01		0.02
v/c Ratio	0.21	0.32		0.35	0.14		0.20	0.60		0.01	0.50	0.03
Uniform Delay, d1	32.5	32.9		33.0	32.3		4.1	6.1		3.6	5.5	3.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.90	0.76	0.86
Incremental Delay, d2	0.7	1.0		2.0	0.3		0.9	2.1		0.0	0.8	0.0
Delay (s)	33.2	33.9		35.1	32.6		5.0	8.2		3.2	4.9	3.2
Level of Service	C	C		D	C		A	A		A	A	A
Approach Delay (s/veh)		33.8			33.9			7.8			4.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

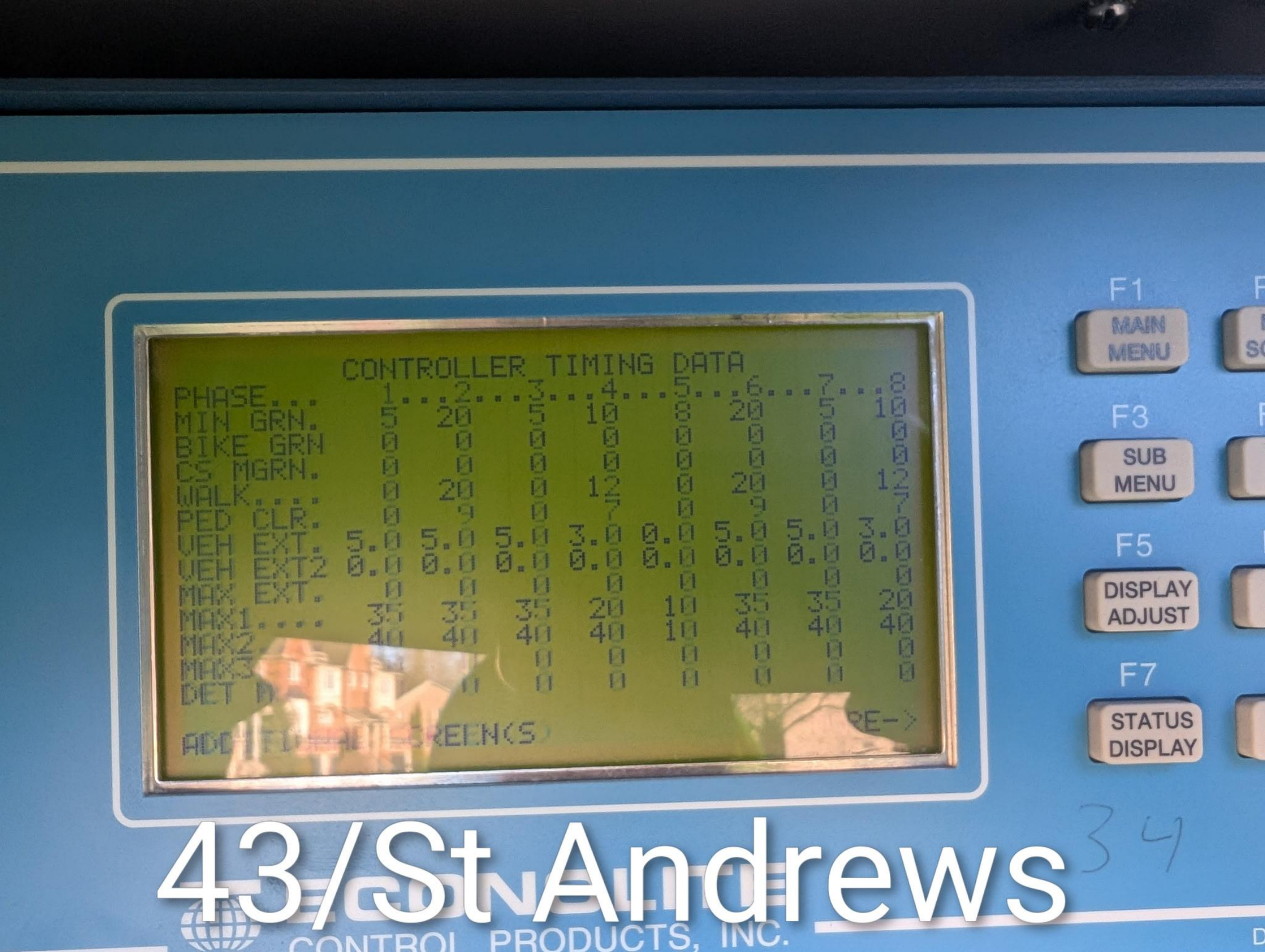
c Critical Lane Group

Appendix D:
Signal Timing Plans

Wellington County 24-36 Garthshore & Garafraxa Fergus 7/4/2013 6:10

By-Phase Timing Data

	Phase											
	1	2	3	4	5	6	7	8	9	10	11	
Direction												
Minimum Green	5	30	5	10	5	30	5	10	5	5	5	5
Bike Min Green	0	0	0	0	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	17	0	12	0	17	0	12	0	10	0	10
Ped Clearance	0	13	0	9	0	13	0	9	0	16	0	16
Veh Extension	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Alt Veh Exten	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Extension	0	0	0	0	0	0	0	0	0	0	0	0
Max 1	35	35	35	25	35	35	35	25	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0	0	0	0	0
Yellow Change	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1	3.0	3.0	3.0	3.0
Red Clearance	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0	1.0	1.0	1.0	1.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act. B4 Init	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Actuation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	30	30	30	30	30	30	30	30	30	30	30	30
Time B4 Reduction	0	0	0	0	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



43/St Andrews

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CONTROL PRODUCTS, INC.


CONTROLLER TIMING DATA
PHASE... 1... 2... 3... 4... 5... 6... 7... 8
DET MAX. 0 0 0 0 0 0 0 0
YELLOW.. 3.0 5.0 3.0 4.1 3.0 5.0 3.0 4.1
RED CLR. 1.0 4.0 1.0 2.0 2.0 4.0 1.0 2.0
RED RVT. 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0
ACT B4.: 0 0 0 0 0 0 0 0
SEC/ACT. 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
MAX INI. 30 30 30 30 30 30 30 30
TIME B4. 0 0 0 0 0 0 0 0
CARS WT. 0 0 0 0 0 0 0 0
TTREDUC. 0 0 0 0 0 0 0 0
MIN GAP. 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
END OF SUBMENU
MORE->
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