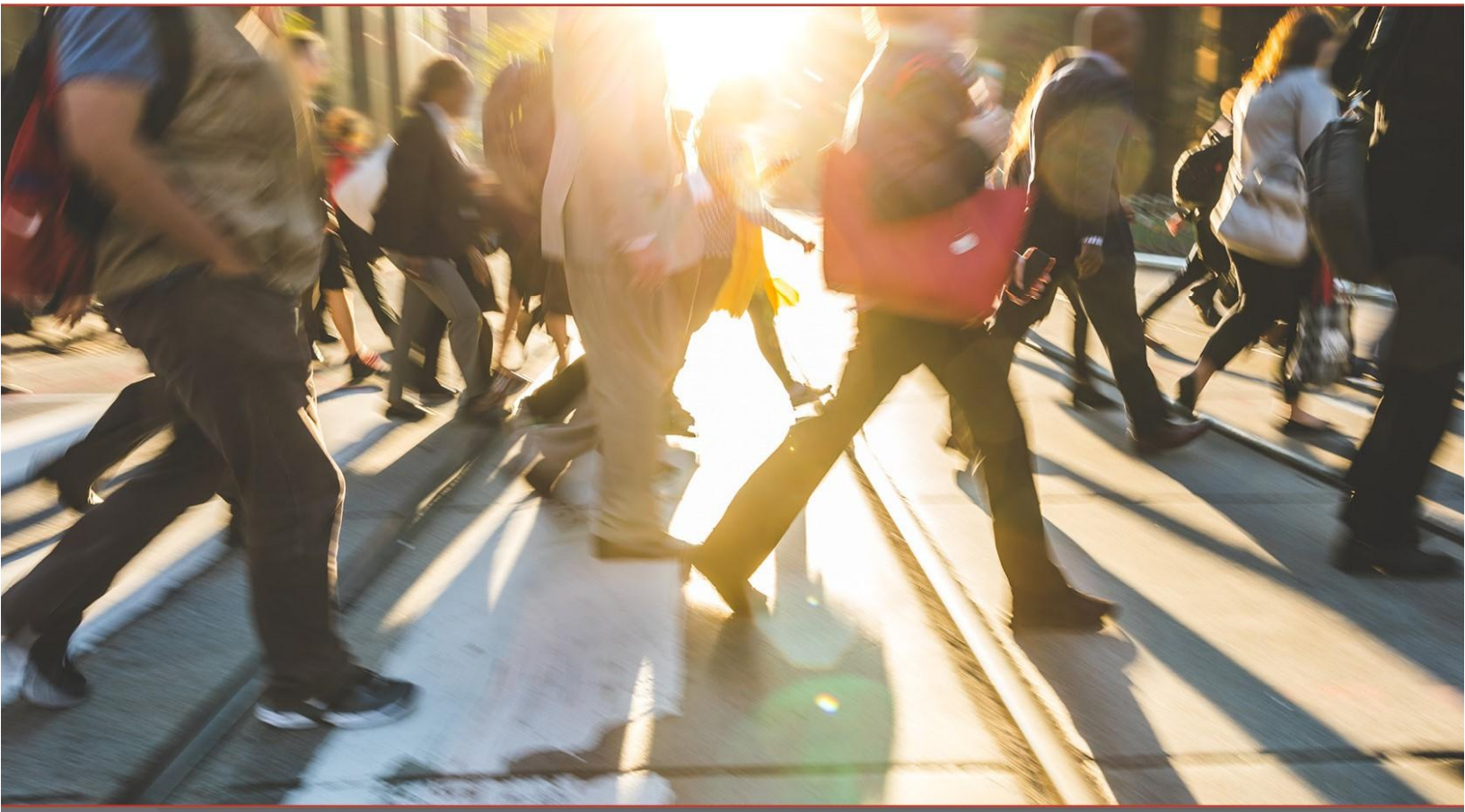
1-21 JOHN ST & 46-50 ONTARIO ST
TOWN OF GRIMSBY

Proposed Mixed Use Development
Transportation Impact Study



Prepared For: 1000104674 Ontario Inc.

April 29, 2026

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1.0 INTRODUCTION

1.1 Overview

BA Group is retained by 1000104674 Ontario Inc. to provide transportation consulting services in relation to the proposed mixed use development located at 1-21 John Street and 46-50 Ontario Street in the Town of Grimsby. Official Plan Amendment ("OPA") and Zoning By-law Amendment ("ZBA") applications are being made to the Town for the proposed development.

The Terms of Reference for this study have been discussed with, and approved by, Town of Grimsby, Niagara Region, and Ontario Ministry of Transportation ("MTO") staff.

1.2 Existing Site

The site is L-shaped, and is located on the northeast corner of the Ontario Street / John Street intersection. The site is currently occupied by a residential dwelling at the northwest corner fronting Ontario Street, a commercial building and associated car parking at the southwest corner fronting both Ontario Street and John Street, and 8 residential dwellings fronting John Street.

There are a total of 10 existing site driveways, including 1 driveway to Ontario Street providing access to the commercial building car parking, and 9 driveways to John Street providing access to driveway parking and garages associated with the commercial building and residential dwellings. The existing on-street parking along the site frontage is estimated to be approximately 9 spaces, including 1 space on Ontario Street and 8 spaces on John Street.

Surrounding land use is primarily a mixture of residential and commercial uses.

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

1.3 Proposed Development

The proposed development contemplates the construction of a mixed-use development within a 16-storey building, comprising 305 residential units, 708 square metres of commercial / retail and 1,178 square metres of office.

The residential units are proposed as purpose built rental, and the proposed office are intended to be geared towards medical tenants.

Site access is proposed via an unsignalized driveway to John Street, located approximately midblock along the site frontage. The existing driveways to Ontario Street and John Street will be reinstated with curb and boulevard. The resulting proposed on-street parking along John Street is estimated to be approximately 12 spaces, including 4 spaces within 2 proposed on-street lay-bys, and 8 curbside spaces. This is an increase of 4 on-street spaces compared with existing conditions.

A total of 426 car parking spaces (including 14 accessible spaces) are proposed within a 6 level parking garage (1 level below grade, 1 level at grade, and 4 levels above grade). The proposed car parking supply comprises

308 resident spaces (including 8 accessible spaces), and 118 non-resident spaces (including 6 accessible spaces). The proposed resident car parking supply equates to an effective rate of 1.01 spaces per unit.

The non-resident spaces will be shared between residential visitors and the non-residential uses on a non-exclusive basis, and will be unsecured, with access available to the public. It's intended that the non-resident parking be available to supplement the downtown Grimsby parking supply on weekends when many of the medical tenants are not expected to be open and the site-related non-resident parking demand is reduced. The residential spaces will be gated from the non-resident parking, with access available only to residents.

A total of 145 bicycle parking spaces are proposed within the parking garage and at grade within the building. The proposed bicycle parking supply comprises 136 residential spaces and 9 non-residential spaces.

An estimated total of 4 on-site pick up / drop off spaces are proposed, located within a pick up / drop off loop (3 spaces) and 1 space within a lay-by. In addition, as mentioned above, an estimated 4 pick up / drop off spaces are proposed within 2 lay-bys on John Street, resulting in a total of 8 pick up / drop off spaces. It's intended that the on-street lay-bys would be available for pick up / drop off by services such as the Niagara Region Specialized Transit (Chair-A-Van), and other transit services where applicable.

A total of 2 loading spaces are proposed at grade and will be available for waste collection, move in / move out, and deliveries. The proposed loading spaces measure 3.5 metres wide by 9 metres long.

The proposed development statistics are summarized in **Table 1** and the site plan is shown in **Figure 2**. A copy of the architectural plans ground floor and parking floors (not to scale) are attached in **Appendix A**.

Table 1 Proposed Development Statistics

Use			Statistics
	Residential	1-bedroom	152 units
		2-bedroom	107 units
		3-bedroom	46 units
		Total	**305 units**
	Non-Residential	Commercial / Retail	708 m^2
		Office (Medical)	1,178 m^2
		Total	**1,886 m^2**
	Car Parking	Resident	308 spaces (including 8 accessible spaces)
		Non-Resident	118 spaces (including 6 accessible spaces)
		Total	**426 spaces (including 14 accessible spaces)**
	Bicycle Parking	Residential	136 spaces
		Non-Residential	9 spaces
		Total	**145 spaces**
	Pick Up / Drop Off	On-Site	4 spaces
		On-Street	4 spaces
		Total	**8 spaces**
	Loading		2 spaces (3.5 m wide x 9 m long)
	Driveways		1 unsignalized driveway to John St

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FIGURE 1 SITE LOCATION

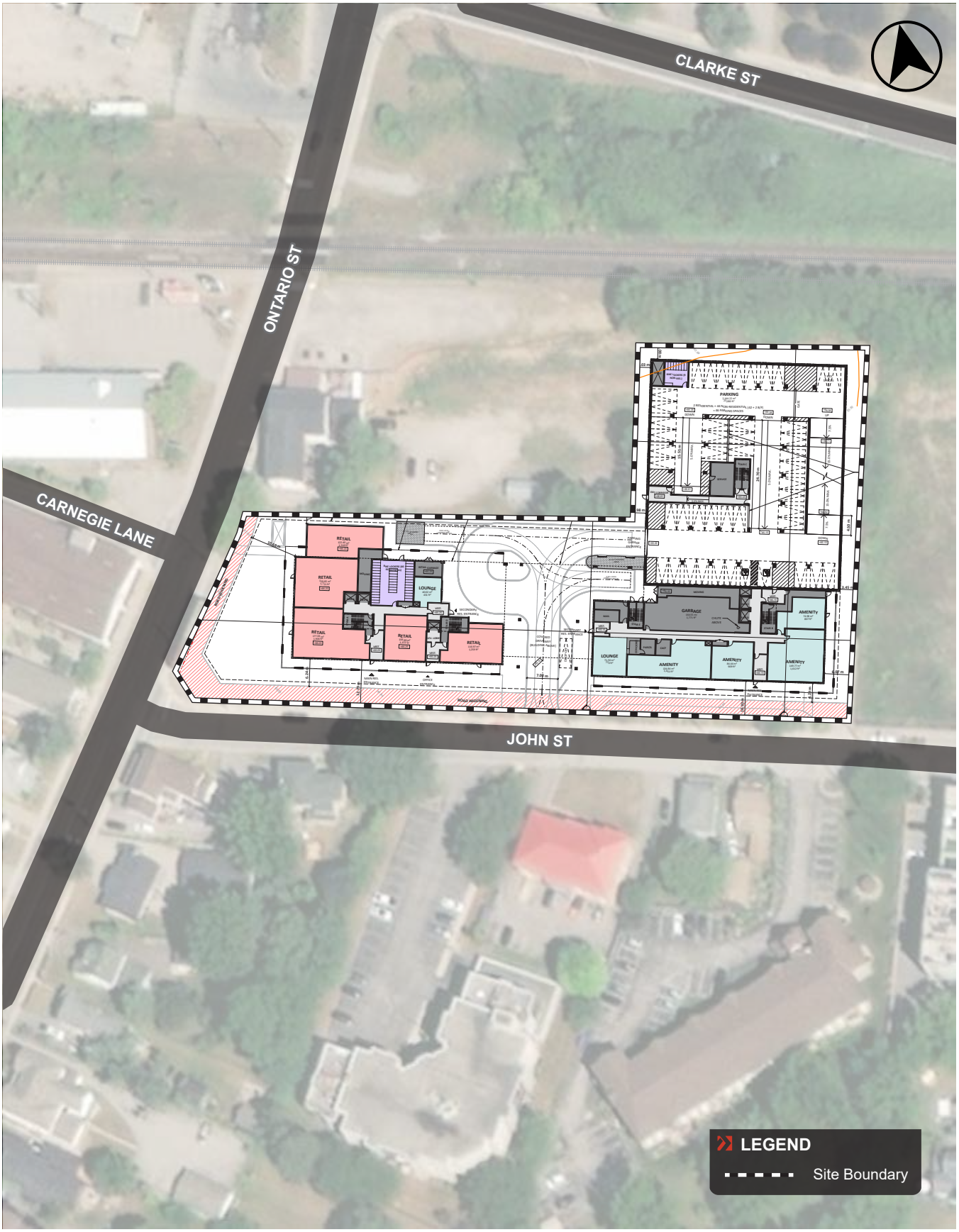

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FIGURE 2 SITE PLAN

2.0 PLANNING CONTEXT

2.1 Town of Grimsby Strategic Parking Management Study (2024)

The Town of Grimsby Strategic Parking Management Study ("Grimsby Parking Study") was undertaken to address existing and anticipated parking issues and leverage opportunities to enhance their parking management system, which includes infrastructure, policies, and programs. The Grimsby Parking Study reviewed 2 study areas, including Downtown Grimsby and Grimsby on the Lake. The site is located within the Downtown Grimsby study area.

A Phase 1 report, which assessed parking needs and issues, was completed in 2023. For the Downtown Grimsby study area, the Phase 1 report identified that there is sufficient municipal parking supply to accommodate the existing demand, and outlined a number of parking needs and opportunities.

A Phase 2 report, which developed a strategy to manage future parking demands, was subsequently completed in 2024. For the Downtown Grimsby study area, the Phase 2 report estimated that there is sufficient municipal parking supply to accommodate the projected future demand by 2030, with mitigation potentially needed to ensure adequate parking supply by 2041.

The Phase 2 report made the following recommendations for the Downtown Grimsby study area:

- Introduce 2 hour parking limits on the Balsam parking lot (on Balsam Lane) and Main parking lot (north of Main Street between Ontario Street and Elizabeth Street).
- Provide additional parking supply using existing resources, including parking sharing agreements with private owners and partnering with new development projects.
- Implement special zones to accommodate deliveries and high turnover parking.
- Consider paid employee parking permits for the Balsam and Main parking lots.
- Activate the alleyways between Main Street and the Balsam and Main parking lots with measures such as lighting, artwork, canopies, plants, furniture, and identity.
- Improvements to accessible parking supply and paths of travel.
- Consider reduction or elimination of the on-street parking supply along Main Street West.
- Review the potential to optimize parking within the existing municipal parking lots.
- Consider additional parking infrastructure post 2030, such as a parking structure, should it be required.
- Consider expanding electric vehicle charging stations in the long-term.
- Develop a wayfinding strategy to direct users to municipal parking lots.

The Phase 2 report also identified the following Town-wide recommendations:

- Consider online mapping of the Town's on-street and off-street parking supply.
- Develop a cash-in-lieu policy that allows relief from Zoning By-law car parking requirements by providing the option of making a cash payment to the Town.
- Consider offering a private enforcement by-law service to private owners.

- Ensure there are sufficient municipal by-law enforcement officers and conduct more random and systematic enforcement.
- Consider a parking standards review and update, with an interim parking reductions framework recommended until the review is complete. For the interim parking reductions framework, the report recommends consideration of proximity to transit, walkability and cycling infrastructure, travel demand management, and affordable housing.
- Implement parking sensor technology for real-time monitoring and parking availability.
- Consider ongoing monitoring and review, including annual or bi-annual parking data collection, and an update to the parking management study by 2030.

2.2 Downtown Grimsby Reimagined (In Process)

The Downtown Grimsby Reimagined process seeks to transform Downtown Grimsby into a vibrant and dynamic space. A Visioning Study has been completed and the detailed design process is currently underway. The project scope includes watermain replacement, sewer repair and installation, and road reconstruction.

The project will comprise a full reconstruction of Main Street from Christie Street to east of Elm Street, with an emphasis on improving and promoting pedestrian movement. This will be accomplished by widening sidewalks, reducing traffic lane widths, and potentially adding a dedicated pedestrian crossing. Flexible parking areas will also be incorporated for temporary parking on Main Street, while providing additional pedestrian area when parking is not required. Design elements such as landscaping, public art, and enhanced lighting will also be implemented.

Construction is currently planned to be completed by 2027.

2.3 Niagara Region Transportation Master Plan (2017)

The Niagara Region Transportation Master Plan (“Niagara TMP”) was completed in 2017, and defines policies, programs, and infrastructure improvements required to address transportation and growth needs from today through to 2041. The Niagara TMP identifies the following transportation improvements in the area:

- Infill cycling links on Elm Street and Main Street and future cycling facility on Mountain Street, south of Main Street West. The infill links are identified in the Niagara TMP to occur between 2017-2031. A timeframe is not specified in the Niagara TMP for the future cycling facility on Mountain Street;
- Conceptual fixed-route inter-municipal transit between Grimsby and other municipalities within Niagara Region. This is identified in the Niagara TMP to occur between 2022-2031.
- GO Transit expansion to Niagara Falls. A timeframe for this improvement is not identified in the Niagara TMP.
- Conceptual express transit on managed lanes on Queen Elizabeth Way (“QEW”). The managed lanes on QEW are discussed further below.
- Advocate for the widening and introduction of managed lanes along the QEW from Fifty Road to Highway 406 (including through Grimsby) as recommended by MTO through the Niagara to GTA Corridor Planning and Environmental Assessment Study Phase 1. This improvement is identified in

the Niagara TMP to occur between 2022-2031, however is not currently listed in the MTO Southern Highways Program and timing is currently unknown.

In October 2025, Niagara Region commenced a process to update the Niagara TMP. The first PIC is currently planned for Spring, 2026.

2.4 Town of Grimsby Transportation Master Plan (In Process)

The Town of Grimsby is currently undertaking a Transportation Master Plan ("Grimsby TMP") that will strategically guide the planning, design and implementation of transportation and mobility infrastructure, maintenance, operations, policies and programming over the next 20+ years.

Public Information Centres ("PIC") were held on June 18, 2024 and February 12, 2026 for the Grimsby TMP. The available PIC materials identify preliminary information with respect to a road safety review and strategy, traffic calming policy, complete streets strategy, public parking strategy, street naming policy and wayfinding strategy, and planned infrastructure and transit improvements.

The planned infrastructure improvements include Priority Cycling Project #1: Downtown-Waterfront, which extends along Ontario Street, as well as a proposed regional cycling facility along Main Street East, east of Ontario Street (to be reviewed and confirmed through the Niagara TMP update discussed in **Section 2.3**).

The planned transit improvements, based on the Niagara Transit 10-year Investment and Growth Strategy, include 2 regional fixed routes (Regional Route Green and Regional Route Yellow) which will connect Grimsby to St. Catharines, Hamilton, West Lincoln, and Pelham, and will operate along Main Street in proximity to the site. The planned transit improvements also include Base and Community Routes operating along Christie Street and Maple Avenue in proximity to the site. The PIC materials note that these transit improvements would be introduced over 3 phases.

3.0 TRANSPORTATION CONTEXT

3.1 Street Network

3.1.1 Overview

The following sections provide an overview of the existing street network in the vicinity of the site, as shown graphically in **Figure 3**.

3.1.2 John Street

John Street is a local road operated by the Town of Grimsby that extends generally in an east-west direction from Robinson Street North to Ontario Street.

John Street allows for a single lane of traffic in each direction. A sidewalk is provided along the north side of John Street, and parallel parking is permitted along the north curb.

The default speed limit of 50 kilometres per hour applies along John Street.

3.1.3 Ontario Street

Ontario Street is a collector road operated by the Town of Grimsby that extends generally in a north-south direction from Lake Street to Main Street.

Ontario Street operates with a single traffic lane in each direction, with localized widening for turn lanes at some intersections. Sidewalks are provided along both sides of Ontario Street. Line marked parallel parking is provided in select locations, including along the east curb on the site frontage. This parking subject to a 30 minute time restriction at all times.

An at-grade rail crossing is located on Ontario Street approximately 50 metres to the north of the site, controlled by boom gates and flashing lights.

The default speed limit of 50 kilometres per hour applies along Ontario Street.

3.1.4 Robinson Street North

Robinson Street is a local road operated by the Town of Grimsby that extends generally in a north-south direction from it's northern terminus approximately 75 metres north of John Street to it's southern terminus approximately 180 metres south of Blossom Lane.

Robinson Street North allows for a single lane of traffic in each direction, with localized widening to provide a separate left turn lane at Main Street East. In the vicinity of the site, sidewalks are provided along both sides of Robinson Street North, with parallel parking permitted along the west curb, and in some locations along the east curb.

The default speed limit of 50 kilometres per hour generally applies along Robinson Street. In the vicinity of the site, a posted speed limit of 40 kilometres per hour applies when lights are flashing.

3.1.5 Main Street

Main Street is an arterial road operated by Niagara Region that extends generally in an east-west direction from the eastern Grimsby Town limits, and the western Grimsby Town limits. East of the eastern Grimsby Town limits, Main Street East continues as King Street and west of the western Grimsby Town limits, Main Street West continues as Highway 8.

In the vicinity of the site, Main Street operates with a single traffic lane in each direction, with localized widening for turn lanes at some intersections. Sidewalks are provided along both sides of Main Street in the vicinity of the site, and line marked parallel parking is provided along both curbs in select locations, including to the west of Ontario Street. This parking is generally limited to a 1 hour time restriction between 8am-6pm Saturday-Wednesday, and 8am-9pm Thursday-Friday.

The default speed limit of 50 kilometres per hour applies along Main Street in the vicinity of the site.

3.1.6 Christie Street

Christie Street is an arterial road operated by Niagara Region that extends generally in a north-south direction from Olive Street to Main Street West. North of Olive Street, Christie Street continues as Lakeview Avenue and south of Main Street West, Christie Street continues as Mountain Street.

In the vicinity of the site, Christie Street operates with 2 traffic lanes in each direction separated by a central median, with localized widening for turn lanes at some intersections. Sidewalks are provided along both sides of Christie Street.

The default speed limit of 50 kilometres per hour applies along Christie Street.

3.1.7 Maple Avenue

Maple Avenue is operated by the Town of Grimsby and extends generally in a north-south direction from its terminus approximately 250 metres north of Lake Street to Main Street East. In the vicinity of the site, Maple Avenue is defined as a collector road.

In the vicinity of the site, Maple Avenue operates with a single traffic lane in each direction, with sidewalks provided along both sides. Between Ivan Avenue and Queen Elizabeth Way, Maple Avenue generally operates with 2 traffic lanes in each direction, separated by a central median, with a sidewalk provided on the east side only. Line marked parallel parking is provided along the west curb between Ivan Avenue and Main Street East.

A posted speed limit of 50 kilometres per hour applies along Maple Avenue in the vicinity of the site.

3.1.8 Elm Street

Elm Street is a collector road operated by the Town of Grimsby that extends generally in an east-west direction from Main Street East to Main Street West.

Elm Street operates with a single traffic lane in each direction, with localized widening for turn lanes at some intersections. Sidewalks are provided along both sides of Elm Street, and parking is permitted in select locations.

The default speed limit of 50 kilometres per hour applies along Elm Street.

3.1.9 Clarke Street

Clarke Street is an arterial road operated by the Town of Grimsby that extends generally in an east-west direction from Nelles Road North to Christie Street. Clarke Street continues as South Service Road both east of Nelles Road North and west of Christie Street.

Clarke Street operates with a single traffic lane in each direction. In the vicinity of the site, a sidewalk is provided along the north side of Clarke Street.

A posted speed limit of 50 kilometres per hour applies along Clarke Street in the vicinity of the site.

3.1.10 Queen Elizabeth Way

QEW is a provincial highway operated by MTO, and extends from the Canadian border in the Town of Fort Erie to Highway 427 in the City of Toronto. East of Highway 427, QEW continues as Gardiner Expressway.

In the vicinity of the site, QEW operates with three traffic lanes in each direction, separated by concrete barriers. Pedestrians and cyclists are not permitted on QEW.

A posted speed limit of 110 kilometres per hour applies along QEW in the vicinity of the site.

As discussed in **Section 2.32.3**, the widening and introduction of managed lanes along the QEW from Fifty Road to Highway 406 (including through Grimsby) was recommended by MTO through the Niagara to GTA Corridor Planning and Environmental Assessment Study Phase 1. The timing for these works are currently unknown.

3.2 Transit Network

3.2.1 Overview

The following sections provide an overview of the existing and future transit network in the vicinity of the site, as shown graphically in **Figure 4**.

3.2.2 Existing Transit Network

3.2.2.1 Niagara Region Transit

Niagara Region Transit operates an on demand transit service which is available Monday-Saturday from 7:00am-11:00pm, and provides trips within Grimsby and to/from other communities in Niagara Region. The on demand trips are serviced through a ride share program, with the pick up location, destination, and desired arrival time advised by the user. Trips can be booked through the Niagara Region Transit Plus App, or by calling Niagara Region Transit customer service.

3.2.2.2 VIA Rail

A railway station is located approximately 50 metres north of the site on Ontario Street, which services VIA Rail trains. VIA Rail currently operates 1 daily morning service towards Toronto and 1 daily evening service towards Niagara Falls.

3.2.2.3 GO Bus

A GO Bus Park & Ride is located approximately 3 kilometres to the west of the site at the Casablanca Boulevard / South Service Road intersection. The Park & Ride services GO Bus Route 11 (Lakeshore West) and Route 12 (Niagara Falls/Toronto), providing daily access towards Toronto and Niagara Falls, generally at intervals in the order of 30-60 minutes. GO Train services are subsequently accessible via connections to Burlington GO Station.

3.2.3 Future Transit Network

3.2.3.1 Niagara Transit 10-Year Investment and Growth Strategy

As discussed in **Section 2.4**, the PIC materials for the Grimsby TMP outlined planned transit improvements, based on the Niagara Transit 10-year Investment and Growth Strategy. These improvements include 2 regional fixed routes (Regional Route Green and Regional Route Yellow) which will connect Grimsby to St. Catharines, Hamilton, West Lincoln, and Pelham, and will operate along Main Street in proximity to the site. The planned transit improvements also include Base and Community Routes operating along Christie Street and Maple Avenue in proximity to the site. The Grimsby TMP PIC materials note that these transit improvements would be introduced over 3 phases.

3.2.3.2 Niagara GO Extension

In 2011, the Niagara Rail Service Expansion Environmental Study Report was completed to extend GO Train service to Niagara Falls. The recommended design concept included new stations in Hamilton, Grimsby, St. Catharines, and Niagara Falls, with the proposed Grimsby station located at the Casablanca Boulevard / South Service Road intersection. An Initial Business Case (“IBC”) for the extension was completed in 2015, and an extension to the Lakeshore West GO line was subsequently announced by the province in 2016.

An updated IBC for the Niagara GO extension was completed in 2019, which concluded that the revenue and ridership of the Niagara GO extension would offset the initial capital and operating costs of the project.

The timing for the proposed Niagara GO extension, including the proposed Grimsby station, is currently unknown.

3.2.3.3 Express Transit on QEW

As discussed in **Section 2.3**, the Niagara TMP identifies conceptual express transit on managed lanes on QEW. The construction of managed lanes along the QEW from Fifty Road to Highway 406 (including through Grimsby) was recommended by MTO through the Niagara to GTA Corridor Planning and Environmental Assessment Study Phase 1, however the timing for these works are currently unknown.

3.3 Cycling Network

Existing cycling infrastructure in the vicinity of the site is limited.

The Town of Grimsby Recreational Trails Master Plan identifies the a planned signed route along John Street and a planned signed route with sharrows along Ontario Street. These connections will provide subsequent connections to the broader planned cycling network within Grimsby, including facilities along Main Street West, Livingston Avenue, and South Service Road, and within the Beamer Conservation Area and Woolverton Conversation Area.

The PIC materials for the Grimsby TMP include Priority Cycling Project #1: Downtown-Waterfront, which extends along Ontario Street, as well as a proposed regional cycling facility along Main Street East, east of Ontario Street (to be reviewed and confirmed through the Niagara TMP update discussed in **Section 2.3**).

The Niagara TMP identifies infill cycling links on Elm Street and Main Street, and a future cycling facility on Mountain Street, south of Main Street West.

The proposed cycling network is shown in **Figure 4**.

3.4 Pedestrian Network and Walkability

Pedestrian movement in the vicinity of the site is accommodated by sidewalks on 1 of both sides of most streets, with crossing opportunities provided at signalized intersections.

The site is located within an approximate 300 metre walk to a variety of commercial, retail and dining uses located within Downtown Grimsby along Main Street. In addition, the Grimsby Square Shopping Centre, which includes a grocery store, is located an approximate 1 kilometre walk to the west of the site on Livingston Avenue.

The existing and proposed pedestrian context is shown in **Figure 6**.

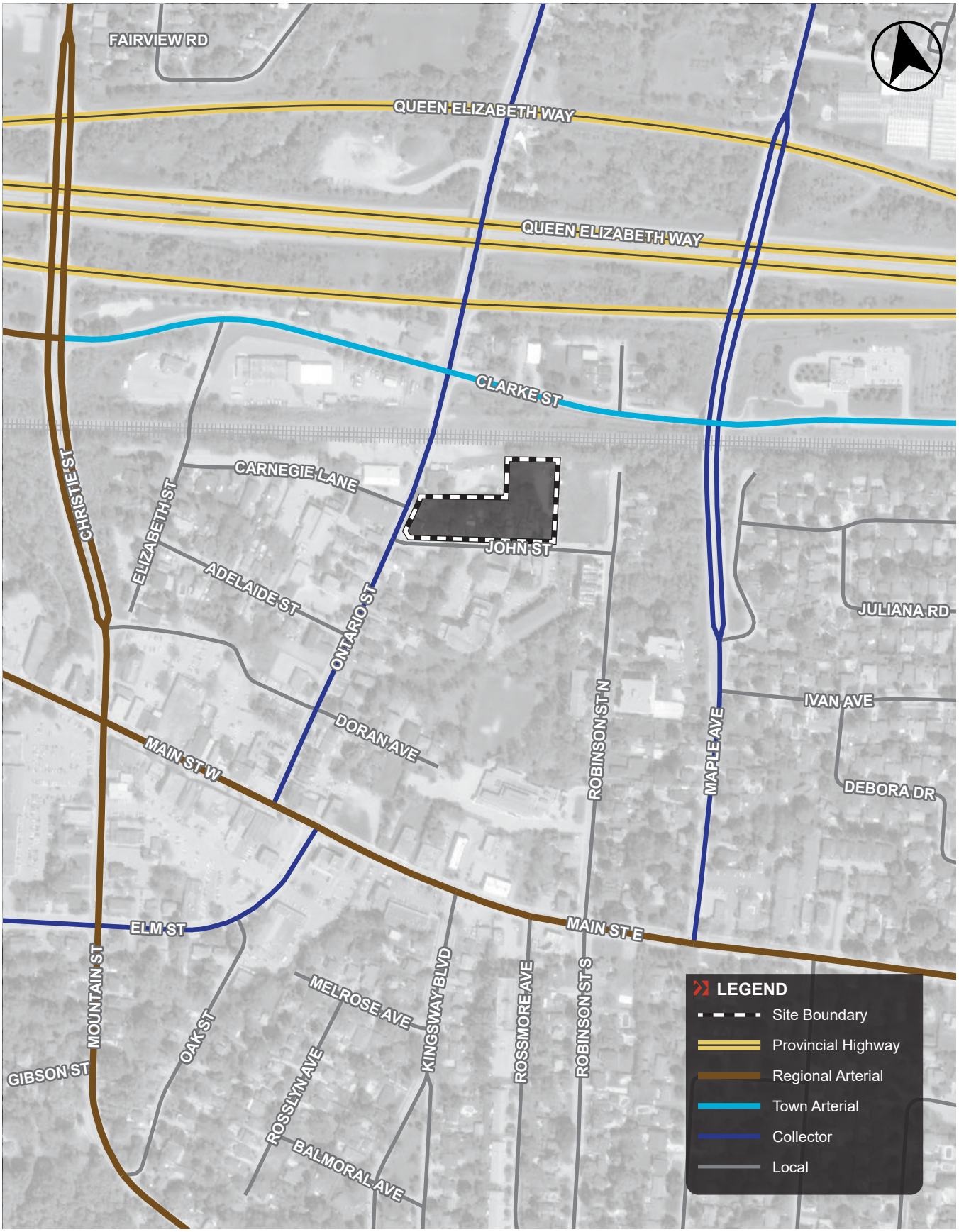

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FIGURE 3 EXISTING STREET NETWORK

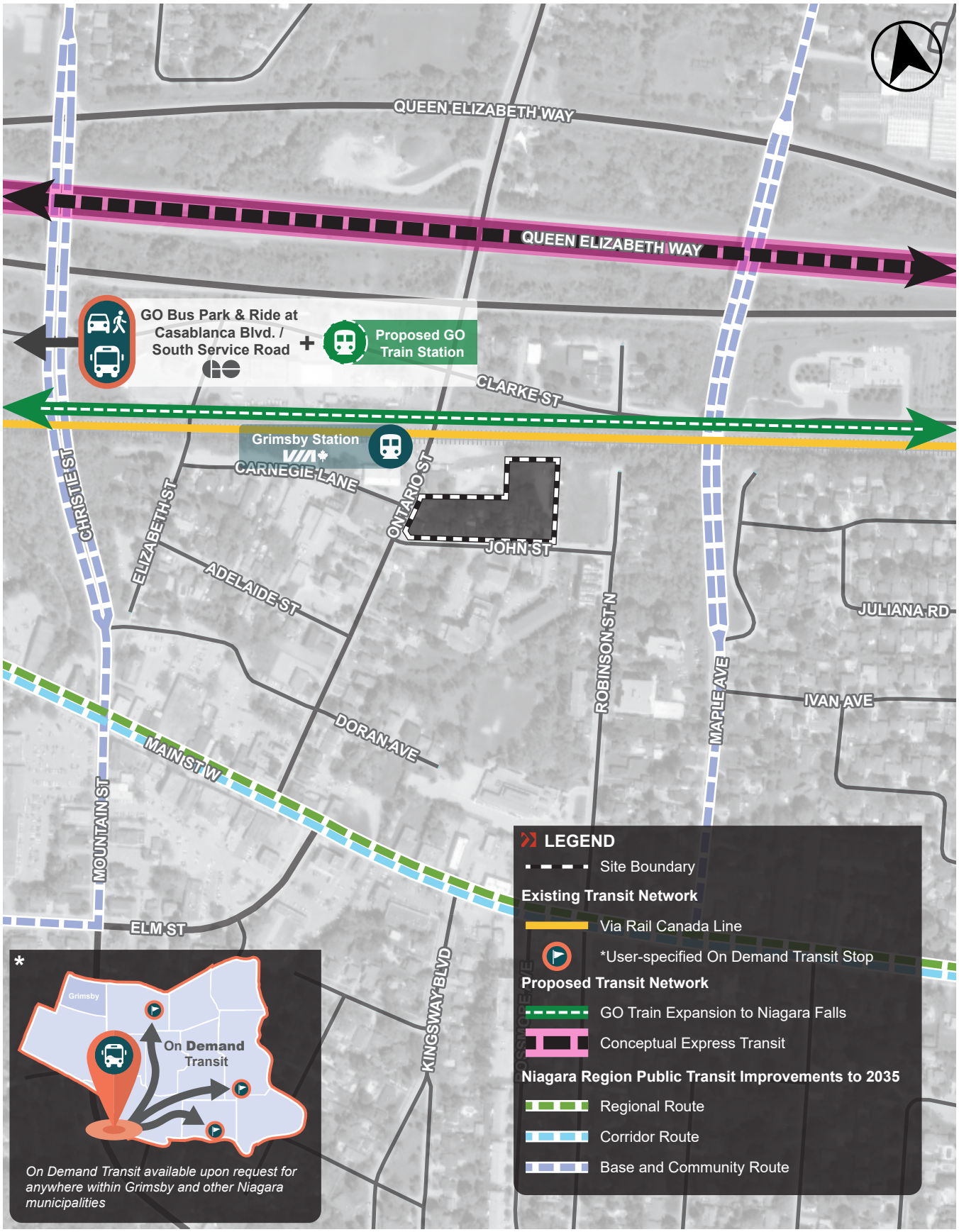


FIGURE 4 EXISTING AND FUTURE TRANSIT NETWORK

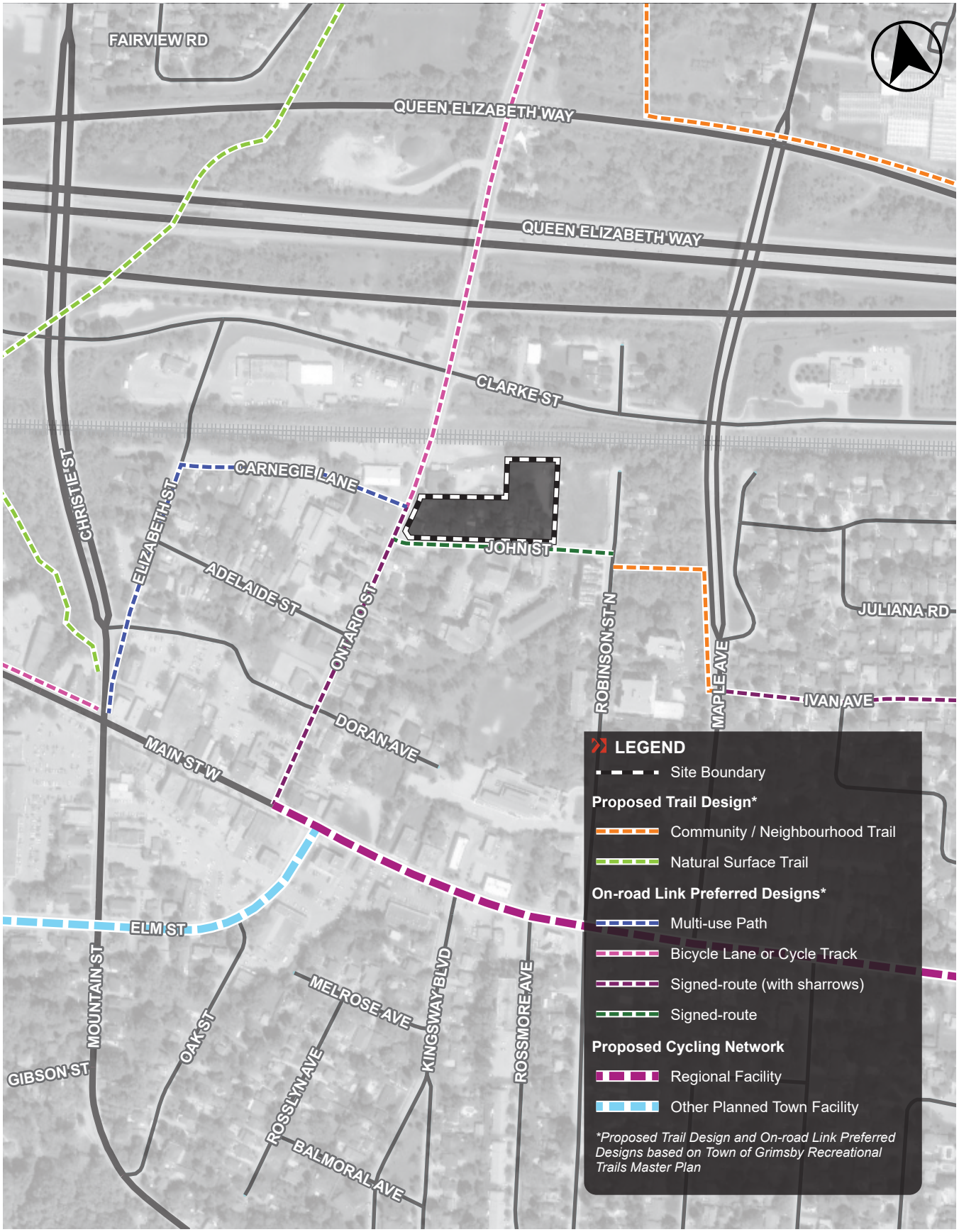
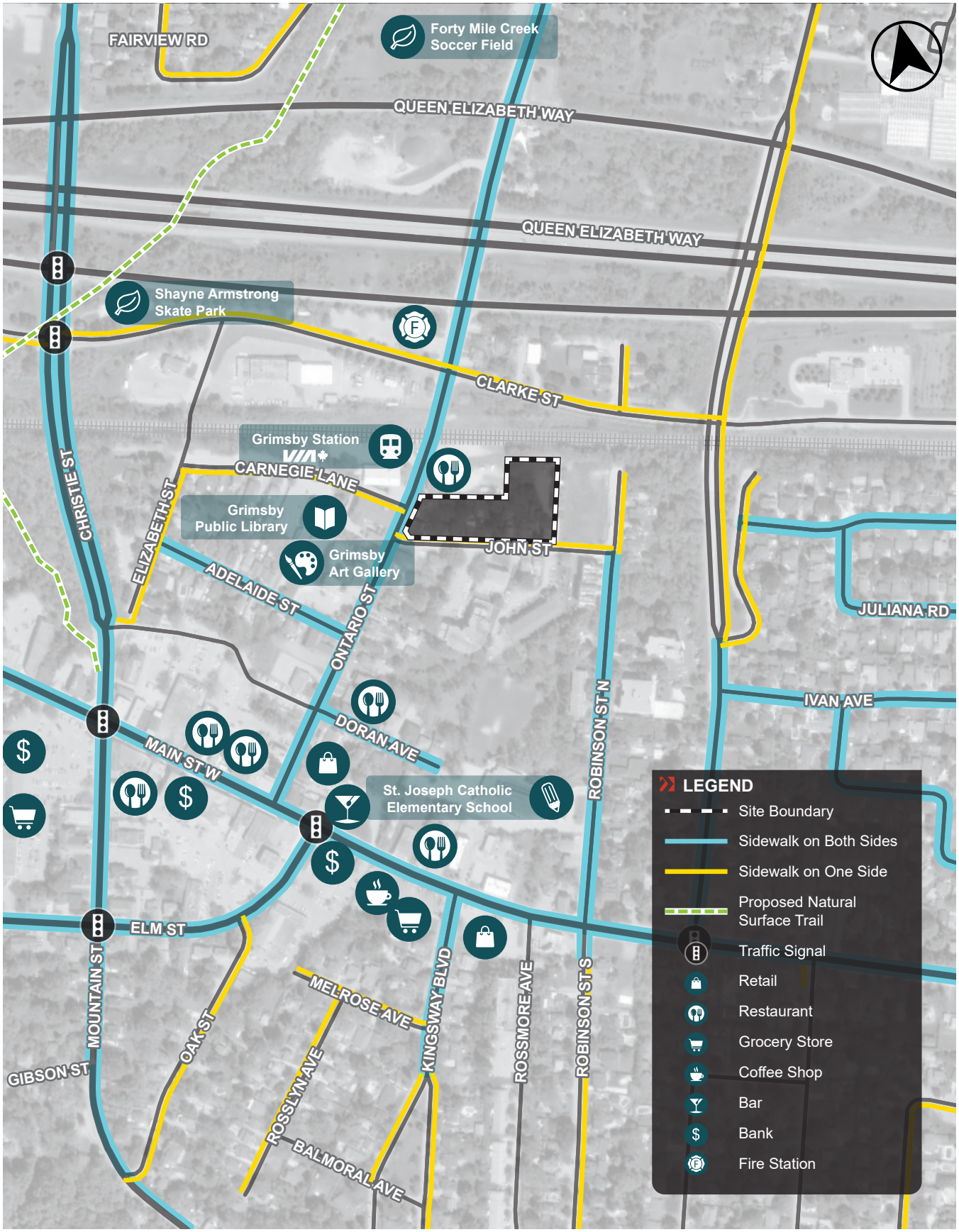


FIGURE 5 PROPOSED CYCLING NETWORK



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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 6 EXISTING AND PROPOSED PEDESTRIAN CONTEXT

4.0 CAR PARKING

4.1 Town of Grimsby Zoning By-law 14-45

4.1.1 Total Car Parking

The site is subject to the car parking requirements of the Town of Grimsby Zoning By-law 14-45, as outlined in **Table 2**. The proposed development has a requirement to provide a total of 564 car parking spaces, including 382 resident spaces and 182 non-resident spaces.

Table 2 Town of Grimsby Zoning By-law 14-45 Car Parking Requirements

Use	Number of Units / GFA	Minimum Rate	Minimum Requirement
Resident			
Resident	305 units	1.25 spaces per dwelling unit	382 spaces
Subtotal			**382 spaces**
Non-Resident			
Visitor	305 units	0.25 spaces per dwelling unit	77 spaces
Retail	708 m^2	1 space per 28 m^2	26 spaces
Clinic	1,178 m^2	1 space per 15 m^2	79 spaces
Subtotal			**182 spaces**
Total Requirement			**564 spaces**

Notes:
1. Rounded up to the nearest whole number in accordance with Section 5.2 of Town of Grimsby Zoning By-law 14-45

4.1.2 Accessible Car Parking

Accessible parking requirements are outlined in Town of Grimsby By-law 24-75, which amends Town of Grimsby Zoning By-law 14-45.

For the proposed car parking supply of 426 spaces, Town of Grimsby By-law 24-75 specifies a required accessible car parking supply of "*2 spaces plus 2% of spaces where 50% shall be Type A and 50% shall be Type B*".

Town of Grimsby By-law 24-75 also states that "*Where the minimum number of required accessible parking spaces results in an odd number of accessible parking spaces required, the additional space may be Type B*".

Town of Grimsby By-law 24-75 defines Type A and Type B accessible spaces as follows:

- **Type A:** A wider parking space which has a minimum width of 3.4 metres and signage that identifies the spaces as "van accessible".
- **Type B:** A standard parking space which has a minimum width of 2.4 metres.

Application of the above rates to the proposed car parking supply of spaces equates to a requirement to provide 11 accessible spaces, including 5 Type A spaces and 6 Type B spaces.

4.2 Proposed Car Parking Supply

A total of 426 car parking spaces (including 14 accessible spaces) are proposed within a 6 level parking garage (1 level below grade, 1 level at grade, and 4 levels above grade). The proposed car parking supply comprises 308 resident spaces (including 8 accessible spaces), and 118 non-resident spaces (including 6 accessible spaces). The proposed resident car parking supply equates to an effective rate of 1.01 spaces per unit.

The non-resident spaces will be shared between residential visitors and the non-residential uses on a non-exclusive basis, and will be unsecured, with access available to the public. It's intended that the non-resident parking be available to supplement the downtown Grimsby parking supply on weekends when many of the medical tenants are not expected to be open and the site-related non-resident parking demand is reduced. The residential spaces will be gated from the non-resident parking, with access available only to residents.

As shown in **Table 3**, the proposed car parking supply represents a shortfall from the Zoning By-law requirements. As such, a parking standards review has been undertaken in **Section 4.3**.

The proposed accessible car parking supply satisfies the requirements of Town of Grimsby By-law 24-75.

Table 3 Town of Grimsby Zoning By-law 14-45 Car Parking Requirements vs. Proposed Supply

Use	Town of Grimsby Zoning By-law 14-45 Requirement	Proposed Supply
Resident		
Resident	382 spaces	308 spaces
Subtotal	**382 spaces**	**308 spaces**
Non-Resident		
Visitor	77 spaces	-[1]
Retail	26 spaces	
Clinic	79 spaces	
Subtotal	**182 spaces**	**118 spaces[1]**
Total	**564 spaces**	**426 spaces**

Notes:

1. Non-resident parking is proposed to be shared between residential visitors and non-residential uses on a non-exclusive basis

4.3 Parking Standards Review

4.3.1 Resident Parking Demand

4.3.1.1 Existing Mode Split

The existing home-based mode split within Grimsby was reviewed based on the 2022 Toronto Transportation Survey ("TTS"), as summarized in **Table 4**. The results indicate an auto driver mode split of 75% within Grimsby. While auto driver mode split does not provide a direct measure of parking demand, there is some correlation between auto driver mode split and vehicle ownership and auto driver mode split can provide an insight to general vehicle utilization in the area.

The auto driver mode split of 75% is lower than the proposed resident parking supply of 1.01 spaces per unit (i.e. 100% of units with a car space).

Table 4 2022 TTS Travel Mode Split – Home-based Trips

Travel Mode	AM and PM Peak Period
Auto Driver	75%
Auto Passenger	8%
Transit	1%
School Bus	11%
Cycling	2%
Walking	3%
Total	**100%**

Notes:
1. Based on two-way home-based trips for 2022 TTS Zones 11001, 11002, 11004, 11005, 11009, and 11011 between 7:00am-9:00am and 4:00pm-6:00pm

4.3.1.2 Car Ownership Data

Car ownership from the TTS has been reviewed for residential apartments within Grimsby. The analysis indicates an average apartment car ownership of 0.98 vehicles per apartment. Furthermore, it's noted that 15% of apartments were identified with a car ownership of 0 vehicles, which indicates an ability and willingness for some residents in Grimsby to live without a vehicle and take advantage of the available alternatives such as active transportation and transit.

The proposed resident parking supply of 1.01 spaces per unit exceeds the abovementioned average apartment car ownership.

4.3.1.3 Car Parking Demand Data

BA Group has sourced resident parking demand data for a number of proxy residential sites in Grimsby. The parking demands observed at the proxy sites are summarized in **Table 5**.

Based on the peak parking demand for each site, the data identifies a demand range of 0.42-1.00 spaces per unit. The proposed resident parking supply of 1.01 spaces per unit falls at the high end of this range.

Table 5 Residential Parking Demand Summary

Address	Location	Units	Study Date	Observed Parking Demand	Parking Demand Ratio
1 Slessor Blvd	Grimsby	109 units	Tues., January 13, 2022	109 spaces	*1.00 spaces / unit*
			Fri., January 14, 2022	104 spaces	*0.95 spaces / unit*
			Weds, Sep 25, 2024	75 spaces	*0.71 spaces / unit*
			Thurs, Oct 17, 2024	92 spaces	*0.87 spaces / unit*
3 Slessor Blvd	Grimsby	62 units	Tues., January 13, 2022	26 spaces	*0.42 spaces / unit*
			Fri., January 14, 2022	30 spaces	*0.48 spaces / unit*
			Weds, Sep 25, 2024	34 spaces	*0.55 spaces / unit*
			Thurs, Oct 17, 2024	33 spaces	*0.53 spaces / unit*
30 Robinson St N	Grimsby	54 units	Tues., January 13, 2022	35 spaces	*0.65 spaces / unit*
			Fri., January 14, 2022	34 spaces	*0.63 spaces / unit*
			Weds, Sep 25, 2024	33 spaces	*0.61 spaces / unit*
			Thurs, Oct 17, 2024	35 spaces	*0.65 spaces / unit*
2 Rossmore Ave	Grimsby	32 units	Tues., January 13, 2022	28 spaces	*0.88 spaces / unit*
			Fri., January 14, 2022	29 spaces	*0.91 spaces / unit*
			Weds, Sep 25, 2024	25 spaces	*0.78 spaces / unit*
			Thurs, Oct 17, 2024	26 spaces	*0.81 spaces / unit*

4.3.1.4 Adopted Resident Parking Rate

For the purpose of this assessment, a resident parking rate of 1 space per unit has been adopted, equating to 305 spaces. This rate is in alignment with the upper end of the range identified by the car parking demand data outlined in **Section 4.3.1.3**, and results in at least 1 car space for every unit.

4.3.2 Non-Resident Parking Demand

4.3.2.1 Residential Visitor Parking Demand

Visitor Parking Demand Data

BA Group has sourced residential visitor parking demand data for a number of proxy residential sites in Grimsby, and similar context areas, located in Whitchurch-Stouffville and Barrie. Local transit is available within each of these towns and cities, while GO Train services are available via local transit. The parking demands observed at the proxy sites are summarized in **Table 6**.

Based on the peak parking demand for each site, the data identifies a demand range of 0.03-0.15 spaces per unit, and an average demand of 0.07 spaces per unit. Assuming the peak demand rate as identified by this proxy data of 0.15 spaces per unit equates to an estimated visitor parking demand of 46 spaces for the proposed development.

Table 6 Proxy Visitor Parking Demands

Address	Location	Units	Study Date	Observed Parking Demand	Visitor Parking Demand Ratio
85 Winlane Dr	Whitchurch-Stouffville	48 units	Fri., Dec 1, 2023	4 spaces	*0.08 spaces / unit*
			Sat., De 2, 2023	4 spaces	*0.08 spaces / unit*
105 Winlane Dr	Whitchurch-Stouffville	48 units	Fri., Dec 1, 2023	3 spaces	*0.06 spaces / unit*
			Sat., Dec 2, 2023	2 spaces	*0.04 spaces / unit*
37 Johnson St	Barrie	188 units	Sat., July 11, 2015	9 spaces	*0.05 spaces / unit*
7 & 15 Vancouver St	Barrie	67 units	Sat., July 11, 2015	3 spaces	*0.03 spaces / unit*
262 Rose St	Barrie	84 units	Sat., July 11, 2015	3 spaces	*0.04 spaces / unit*
1 Slessor Blvd	Grimsby	106 units	Thu, Oct 17, 2024	5 spaces	*0.05 spaces / unit*
			Fri, Feb 6, 2026	1 space	*0.01 spaces / unit*
			Sat, Feb 7, 2026	3 spaces	*0.03 spaces / unit*
			Fri, Feb 13, 2026	2 spaces	*0.02 spaces / unit*
			Sat, Feb 14, 2026	4 spaces	*0.04 spaces / unit*
10 Winward Dr	Grimsby	233 units	Fri, Feb 6, 2026	29 spaces	*0.12 spaces / unit*
			Sat, Feb 7, 2026	34 spaces	*0.15 spaces / unit*
			Fri, Feb 13, 2026	13 spaces	*0.06 spaces / unit*
			Sat, Feb 14, 2026	21 spaces	*0.09 spaces / unit*
10 Concord Pl	Grimsby	124 units	Fri, Feb 13, 2026	13 spaces	*0.10 spaces / unit*
			Sat, Feb 14, 2026	12 spaces	*0.10 spaces / unit*
16 Concord Pl	Grimsby	342 units	Fri, Feb 13, 2026	34 spaces	*0.10 spaces / unit*
			Sat, Feb 14, 2026	47 spaces	*0.14 spaces / unit*
5055 Greenlane	Beamsville	276 units	Fri, Feb 6, 2026	23 spaces	*0.08 spaces / unit*
			Sat, Feb 7, 2026	25 spaces	*0.09 spaces / unit*
			Fri, Feb 13, 2026	23 spaces	*0.08 spaces / unit*
			Sat, Feb 14, 2026	22 spaces	*0.08 spaces / unit*

Adopted Visitor Parking Rate

For the purpose of this assessment, the demand estimated by the proxy data outlined above has been adopted, equating to 46 spaces.

4.3.2.2 Retail Parking Demand

Commercial Parking in the Downtown

Section 5.16(c) of the Town of Grimsby Zoning By-law 14-45 states that only 80% of the commercial parking requirements shall be required in the Main-Street zone. While the site is not located in the Main-Street Zone, the site is located approximately 200 metres north of the Main-Street Zone, and will comprise commercial uses that will contribute to the services available in Downtown Grimsby.

Furthermore, as discussed in **Section 1.3**, the proposed non-resident spaces will be unsecured with access available to the public, and will therefore contribute to the available Downtown Grimsby parking supply. This arrangement is consistent with the recommendations made in the Grimsby Parking Study discussed in **Section 2.1**.

Based on the foregoing, it's considered appropriate for 80% of the commercial parking requirements to be applied to the proposed development, consistent with the allowance outlined above.

Application of this allowance to the retail Zoning By-law requirement of 26 spaces results in 21 spaces.

Adopted Retail Parking Rate

For the purpose of this assessment, the adopted demand for the proposed retail is 80% of the Zoning By-law requirement (assuming application of the abovementioned commercial parking in the Downtown allowance), equating to 21 spaces.

4.3.2.3 Medical Parking Demand

Comparison of Medical Zoning By-law Car Parking Requirements

BA Group has undertaken a review of required medical clinic parking rates within other municipalities. For the purpose of this assessment the review looked at cities and towns generally along the Niagara Peninsula.

The review is provided in **Table 7**. Notably, the Town of Grimsby Zoning By-law 14-45 requirement is higher than all other by-laws considered.

As shown, the average of all the zoning by-laws considered (excluding the Town of Grimsby Zoning By-law 14-45) results in 49 car parking spaces, with a maximum (excluding the Town of Grimsby Zoning By-law 14-45) of 59 spaces.

Table 7 Comparison of Medical Zoning By-law Car Parking Requirements

Municipality	Zoning By-law	Listed Land Use	Rate	Requirement (1,177 m^2)
City of Welland	Zoning By-law 2017-117	Medical Office or Clinic	1 space per 30 m^2	40 spaces
City of St. Catharines	Zoning By-law 2013-283	Office[1]	1 space per 28 m^2	42 spaces
City of Port Colborne	Zoning By-law 6575-30-18	Medical Clinic	1 space per 28 m^2	42 spaces
Township of West Lincoln	Zoning By-law 2017-70	Office, including a Medical Office	1 space per 28 m^2	42 spaces
City of Hamilton	Zoning By-law 05-200 (All Other Zones)	Medical Clinic	4.5 spaces per 100 m^2	53 spaces
Town of Pelham	Zoning By-law	Medical Office	4.5 spaces per 100 m^2	53 spaces
City of Brantford	Zoning By-law 124-2024	Office, Medical	1 space per 20 m^2	59 spaces
City of Thorold	Zoning By-law 60-2019	Clinic	1 space per 20 m^2	59 spaces
Average				**49 spaces**
Town of Grimsby	Zoning By-law 14-45	Clinic	1 space per 15 m^2	79 spaces

Notes:
1. Includes medically related functions and services as outlined in Section 12 Definitions of the City of St. Catharines Zoning By-law

Commercial Parking in the Downtown

As discussed in **Section 4.3.2.2**, it's considered appropriate for 80% of the commercial parking requirements to be applied to the proposed development, consistent with the allowance in Section 5.16(c) of the Town of Grimsby Zoning By-law 14-45.

Application of this allowance to the medical Zoning By-law requirement of 79 spaces results in 63 spaces.

Adopted Medical Parking Rate

Notwithstanding the comparison of medical Zoning By-law requirements outlined above which indicates lower car parking requirements for medical uses within other cities and towns along the Niagara Peninsula compared with the Town of Grimsby, for the purpose of a conservative assessment, the adopted demand for the proposed medical is 80% of the Zoning By-law requirement (assuming application of the abovementioned commercial parking in the Downtown allowance), equating to 63 spaces.

4.3.2.4 Sharing of Non-Resident Parking

Section 5.17 of the Town of Grimsby Zoning By-law 14-45 allows shared parking in the Mixed Use High Density Residential Zone. While the site is not located in the Mixed Use High Density Residential Zone, the concept of shared parking remains appropriate given the mixed-use nature of the proposed development.

Relevant shared parking occupancy rates are summarized and applied to the proposed development in **Table 8**. Based on these sharing allowances, a peak non-resident parking demand of 110 spaces is projected, occurring in the evening.

Table 8 Proposed Shared Parking Allowances

Land Use	Base Parking Demand	Parking Occupancy Rate			Projected Parking Demand		
		AM	PM	Eve	AM	PM	Eve
Apartment building – visitor parking	46 spaces	0%	35%	100%	0 spaces	16 spaces	46 spaces
Retail store	21 spaces	40%	100%	90%	9 spaces	21 spaces	19 spaces
Medical[1]	63 spaces	100%	100%	30%	63 spaces	63 spaces	19 spaces
Total					**72 spaces**	**100 spaces**	**84 spaces**

Notes:
1. Parking occupancy rates for medical use are not listed in Section 5.17 of the Town of Grimsby Zoning By-law 14-45. Therefore reference has been made to Urban Land Institute Shared Parking Manual, 3rd Edition

4.3.3 Area Context

4.3.3.1 Site Context

The site is located within Downtown Grimsby and is located within walking distance of a number of commercial, dining and recreational uses. In addition, the Grimsby Square Shopping Centre, which includes a grocery store, is located an approximate 1 kilometre walk to the west of the site on Livingston Avenue.

On demand local transit is available which provides access within Grimsby and across Niagara Region. GO Bus services are located approximately 3 kilometres to the west of the site, accessible via the on demand local transit, and provide daily access towards Toronto and Niagara Falls, including GO Train transfers at Burlington GO Station.

Overall, there are a variety of options available for residents, employees or visitors of the site to travel by non-auto travel modes.

4.3.4 Planning Context

4.3.4.1 Planning Policy Review

Town of Grimsby Strategic Parking Management Study

As discussed in **Section 2.1**, the Grimsby Parking Study was undertaken to address existing and anticipated parking issues and leverage opportunities to enhance their parking management system, which includes infrastructure, policies, and programs.

The Grimsby Parking Study made a number of recommendations, including the opportunity to provide additional parking supply through partnering with new development projects. As discussed in **Section 1.3**, the proposed non-resident spaces will be unsecured, with access available to the public. It's intended that the non-resident parking be available to supplement the downtown Grimsby parking supply on weekends when many of the medical tenants are not expected to be open and the site-related non-resident parking demand is reduced.

In addition to the above, the Grimsby Parking Study recommended that the Town consider a parking standards review and update, with an interim parking reductions framework utilized until the review is complete. For the

interim parking reductions framework, the report recommends consideration of proximity to transit, walkability and cycling infrastructure, travel demand management, and affordable housing.

As outlined in **Section 4.3.3**, the site is located within Downtown Grimsby and is located within walking distance of a number of commercial, dining and recreational uses. Local transit is also available for trips within Grimsby and across the Niagara Region, while GO Bus services provide daily access towards Toronto and Niagara Falls, including GO Train transfers at Burlington GO Station. Furthermore, a TDM plan has been developed for the site, as discussed in **Section 5.0**.

As such, based on the guidance provided in the Grimsby Parking Study, a parking reduction is considered appropriate for the site.

Town of Grimsby Official Plan

The Town of Grimsby Official Plan (the "Grimsby OP") guides the overall strategic direction of the municipality to 2031. Section 2.2 of the Grimsby OP outlines the municipal structure principles to guide the strategic intent of the Plan, including the following:

> *"16. Promote an urban structure that is less dependent on cars, and encourages alternative modes of transportation such as public transit, cycling, and walking."*

By limiting the number of vehicles associated with a development, a reduced parking supply is a key component of promoting an urban structure that is less dependent on cars, and encourages alternative modes of transportation, consistent with the above principle.

Furthermore, Section 3.5 of the Grimsby OP provides guidance for decision-making leading to the long-term success of Downtown Grimsby. The site is located within the boundary for the Downtown District, which is shown in Schedule A of the Grimsby OP. Section 3.5.6.9 speaks to parking, access and service facilities within Downtown Grimsby, including the following policy:

> "*a) Within the Downtown – Main Street designation all new non-residential development or new uses within an existing building shall be exempt from any parking requirements.*"

While the site is not located in the Downtown – Main Street designation as shown on Schedule B of the Grimsby OP, this policy acknowledges the concept of shared parking for non-residential uses in the Downtown area, and is relevant when considering the proposed non-resident parking supply for the site.

Section 3.5.6.9 of the Grimsby OP also includes the following policy:

> "*e) Subject to the provision of on-street parking and/or other public parking facilities, the Town may consider the reduction of parking requirements for redevelopment proposals in proximity to those facilities.*"

On-street parking is available in the vicinity of the site, including along the site frontage, while the Main parking lot (north of Main Street between Ontario Street and Elizabeth Street) is located approximately 200 metres south of the site. Therefore, this policy is applicable to the site and a reduction is considered appropriate.

Niagara Region Official Plan

The Niagara Region Official Plan (the "Niagara OP") is a long-term, strategic policy planning framework for managing growth in the Region until 2051 and beyond.

Section 2.2 of the Niagara OP establishes a regional structure that directs forecasted growth to settlement areas, and outlines a number of objectives for the section, including the following:

> "*e. promote transit-supportive development to increase transit usage, decrease greenhouse gas emissions, and support the overall health of the community.*

Further to the above, Section 3.5 of the Niagara OP includes actions the Region will take on climate change, and Section 3.5.3.1 provides policy direction that supports the transition to net-zero communities that mitigate climate change. Within Section 3.5.3.1, the Niagara OP states that the Region will endeavour to:

> "*a. support built form and land use patterns that use land efficiently and reduce transportation emissions by:*
>
> *vi. prioritizing transit and supporting active transportation to reduce single-occupancy vehicle trips*
>
> *vii. supporting transportation demand management measures to influence travel behaviour*"

By limiting the number of vehicles associated with a development, a reduced parking supply is an effective Transportation Demand Management ("TDM") measure that contributes to reducing transportation emissions and reducing single-occupancy vehicle trips, consistent with the objectives and policy directions outlined in the Niagara OP.

Niagara Region Transportation Master Plan

As discussed in **Section 2.3**, the Niagara TMP defines policies, programs, and infrastructure improvements required to address transportation and growth needs from today through to 2041.

Section 4.1 of the Niagara TMP identifies an opportunity for "*transportation as a catalyst for change*", and notes that "*planning effectively for transportation can also support progress toward other major goals such as reducing greenhouse gas emissions*".

Section 4.2 of the Niagara TMP identifies an opportunity for "*connecting the Region*", and notes that "*over time, the Region should aim to reduce the very high proportion of daily travel by car across Niagara (currently 90%, with a majority by single-occupant vehicles*".

Section 6.4 of the Niagara TMP identifies TDM as an "*excellent way to reduce Greenhouse Gas Emissions and encourage active lifestyles by promoting sustainable transportation modes*". This section also notes that "*TDM aims to influence travel by providing regulations aimed at limiting single-occupant car trips (e.g., parking regulations, land use policies, congestion pricing)*".

As discussed above, by limiting the number of vehicles associated with a development, a reduced parking supply is an effective TDM measure that contributes to reducing transportation emissions and reducing single-occupancy vehicle trips, consistent with the direction outlined by the Niagara TMP.

4.3.5 Transportation Demand Management

Transportation Demand Management Plan

As outlined in **Section 5.0**, a TDM plan is proposed for the site which aims to reduce car dependence and the need for every day single occupant vehicle travel, while promoting sustainable alternatives. Highlights of the TDM Plan, include:

- Mixed use development
- Provide transit information packages at first occupancy
- Display transit information package in building lobby
- Opportunity to operate a potential shuttle
- Bicycle parking in excess of the Zoning by-law requirement
- Provide bicycle information packages at first occupancy
- Display bicycle information package in building lobby
- On-site pedestrian connections
- Reconstruct sidewalks along the site's John Street frontage
- On-site parking below the Zoning by-law requirement

Reduced Parking as a TDM Initiative

In the context of the TDM strategies discussed above, it should be noted that providing additional parking encourages automobile ownership and utilization. Taking a holistic perspective of the overall transportation network, reducing the amount of available vehicle parking is an extremely effective way to encourage change in travel behaviour. While the consideration and implementation of various TDM initiatives is important, these are always more effective when implemented in tandem with a limited vehicle parking supply, which is a direct incentive to use sustainable transportation.

4.4 Assessment of Proposed Parking Provision

4.4.1 Resident Parking Assessment

As outlined in **Section 4.2**, a resident car parking provision of 308 spaces is proposed, equating to an overall resident parking supply of 1.01 spaces per unit, which exceeds the adopted resident parking rate outlined in **Section 4.3.1**.

As outlined in **Section 4.3.3**, the site is located within Downtown Grimsby and is located within walking distance of a number of commercial, dining and recreational uses. Local transit is also available for trips within Grimsby and across the Niagara Region, while GO Bus services provide daily access towards Toronto and Niagara Falls, including GO Train transfers at Burlington GO Station.

The proposed resident parking provision is consistent with the direction of relevant planning policy and TDM objectives, noting that a limited vehicle parking supply is a direct incentive to use sustainable transportation.

Overall, the proposed resident parking supply is appropriate.

4.4.2 Non-Resident Parking Assessment

As outlined in **Section 4.2**, a non-resident car parking provision of 118 spaces is proposed for shared use by residential visitors and the non-residential uses on a non-exclusive basis. It's intended that the non-resident parking be available to supplement the downtown Grimsby parking supply on weekends when many of the medical tenants are not expected to be open and the site-related non-resident parking demand is reduced.

The non-resident parking demand assessment undertaken in **Section 4.3.2.4** indicates a potential demand for up to 100 spaces assuming the application of the shared parking occupancy rates discussed in **Section 4.3.2.4**. The proposed supply of 118 non-resident spaces exceeds this projected demand.

As outlined in **Section 4.3.3**, local transit is available for trips within Grimsby and across the Niagara Region, while GO Bus services provide daily access towards Toronto and Niagara Falls, including GO Train transfers at Burlington GO Station.

The proposed non-resident parking provision is consistent with the direction of relevant planning policy and TDM objectives, noting that a limited vehicle parking supply is a direct incentive to use sustainable transportation.

Overall, the proposed non-resident parking supply is appropriate.

4.4.3 Parking Summary

Based on the foregoing, the proposed car parking supply is appropriate. A summary of the projected demand against the proposed supply is provided in **Table 9**.

Table 9 Projected Car Parking Demand vs. Proposed Supply

Use	Projected Demand	Proposed Supply
Resident	305 spaces	308 spaces
Non-Resident[1]	100 spaces[1,2]	118 spaces[1]
Total	**405 spaces**	**426 spaces**

Notes:

1. Non-resident parking is proposed to be shared between residential visitors and non-residential uses on a non-exclusive basis
2. Based on shared parking allowances outlined in **Table 8**

5.0 BICYCLE PARKING

5.1 Town of Grimsby Zoning By-law 14-45

The site is subject to the bicycle parking requirements of the Town of Grimsby Zoning By-law 14-45, as outlined in **Table 2**. The proposed development has a requirement to provide a total of 101 bicycle parking spaces, including 92 residential spaces and 9 non-residential spaces.

Table 10 Town of Grimsby Zoning By-law 14-45 Bicycle Parking Requirements

Use	Number of Units / Car Spaces	Minimum Rate	Minimum Requirement
Residential	305 units	0.3 spaces per unit	92 spaces
Non-Residential	118 spaces	7% of car spaces	9 spaces
Total Requirement			**101 spaces**

5.2 Proposed Bicycle Parking Supply

A total of 145 bicycle parking spaces are proposed within the parking garage and at grade within the building. The proposed bicycle parking supply comprises 136 residential spaces and 9 non-residential spaces, which satisfies the requirements of the Town of Grimsby Zoning By-law 14-45.

6.0 LOADING

6.1 Town of Grimsby Zoning By-law 14-45

The site is subject to the loading requirements of the Town of Grimsby Zoning By-law 14-45, as outlined in **Table 2**. The proposed development has a requirement to provide a total of 1 loading space.

The loading space dimensions required by the Town of Grimsby Zoning By-law 14-45 are a minimum width of 3.5 metres, a minimum length of 9 metres, and a minimum height clearance of 4.5 metres.

Table 11 Town of Grimsby Zoning By-law 14-45 Loading Requirements

Use	Number of Units / GFA	Minimum Rate	Minimum Requirement
Residential	305 units	None required	-
Non-Residential	1,886 m^2	1 space for GFA between 251-2,350 m^2	1 space
Total Requirement			**1 space**

6.2 Proposed Loading Supply

A total of 2 loading spaces are proposed, which exceeds the requirements of the Town of Grimsby Zoning By-law 14-45. The loading spaces are dimensioned with a minimum width of 3.5 metres, a minimum length of 9 metres, and a minimum height clearance of 4.5 metres, in accordance with the requirements of the Town of Grimsby Zoning By-law 14-45.

The loading spaces will be available for deliveries associated with the non-residential uses, as well as waste collection and move in/move out activities. It's noted that Niagara Region has previously advised that the development will not be eligible for regional waste collection and will be required to be undertaken via a private contractor.

Vehicle manoeuvring diagrams are attached in **Appendix B**.

7.0 TRAFFIC ASSESSMENT

7.1 Scope

7.1.1 Analysis Scenarios

As agreed through the Terms of Reference, 3 horizon years were assessed within this report, including the assumed opening year (2030 horizon), five years after the assumed opening year (2035 horizon) and 10 years after the assumed opening year (2040 horizon). As such, the following scenarios were assessed within this report:

- Existing Conditions
- Future Background Conditions (2030 Horizon)
- Future Background Conditions (2035 Horizon)
- Future Background Conditions (2040 Horizon)
- Future Total Conditions (2030 Horizon)
- Future Total Conditions (2035 Horizon)
- Future Total Conditions (2040 Horizon)

7.1.2 Analysis Periods

Traffic analyses have been undertaken for the weekday AM and PM peak hours.

We note that in response to the proposed Terms of Reference, MTO requested the inclusion of a Saturday peak hour.

Notwithstanding the above, the development is primarily residential, for which analysis is typically undertaken for AM and PM peak hours only.

Saturday analysis is commonly requested for developments comprising substantial retail floor area. In this case, while there are some commercial uses proposed, these largely comprise medical uses which would typically be closed on weekends. Some small retail tenancies are proposed, which are expected to primarily operate ancillary to the proposed development and the broader Downtown Grimsby area. On this basis, the commercial uses are not intended to be a shopping destination that would attract significant traffic on weekends.

Based on the foregoing, the AM and PM peak hours represent the expected busiest periods for site traffic, and a Saturday analysis has therefore not been undertaken.

7.1.3 Study Area

As agreed through the Terms of Reference, intersections included within the analysis study area are listed below:

- Queen Elizabeth Way Westbound Ramp Terminal / Christie Street
- Queen Elizabeth Way Westbound Ramp Terminal / Ontario Street
- Queen Elizabeth Way Westbound Ramp Terminal / Maple Avenue
- Queen Elizabeth Way Eastbound Ramp Terminal / Christie Street
- Queen Elizabeth Way Eastbound Ramp Terminal / Ontario Street

- Queen Elizabeth Way Eastbound Ramp Terminal / Maple Avenue
- Ontario Street / Clarke Street
- Main Street / Ontario Street
- Main Street East / Elm Street
- Main Street East / Robinson Street
- Ontario Street / John Street
- John Street / Site Driveway

The existing lane configuration and traffic control is shown in **Figure 7**.

7.2 Existing Traffic Volumes

7.2.1 Base Volumes

Existing baseline traffic volumes were established at area intersections for the weekday morning and afternoon peak periods using traffic count information obtained from surveys undertaken by Spectrum Traffic Data Inc. on behalf of BA Group. The locations and dates of these surveys for the study intersections are summarized in **Table 12**. Turning movement counts at each of the intersections are provided in **Appendix C**.

The existing traffic volumes for the morning and afternoon peak hours are shown in **Figure 8**.

Table 12 Traffic Count Information

Intersection	Count Date	Count Times	Source
QEW WB Ramp Terminal / Christie Street	Thursday, December 4, 2025	7:00am-7:00pm	Spectrum Traffic Data Inc.
QEW WB Ramp Terminal / Ontario Street			
QEW WB Ramp Terminal / Maple Avenue			
QEW EB Ramp Terminal / Christie Street			
QEW EB Ramp Terminal / Ontario Street			
QEW EB Ramp Terminal / Maple Avenue			
Ontario St / Clarke St			
Main Street / Ontario Street			
Main Street East / Robinson Street			
Main Street East / Elm Street		7:00am-9:00am 4:00pm-6:00pm	
Ontario Street / John Street			

7.2.2 Seasonal Factor

We note that in response to the proposed Terms of Reference, MTO requested that Summer volumes should be used as they are higher, and if non Summer volumes are used, a seasonal factor should be applied. MTO provided traffic counts from August 2024.

A volume comparison between the utilized December 2025 counts, and MTO's provided August 2024 counts were conducted and demonstrate that along each of the ramps, the December 2025 counts had higher through and turning volumes across both the morning and afternoon peak hours. The comparison is attached in **Appendix D**. As a result, the December 2025 counts conducted by Spectrum Traffic Data Inc. were selected for the analysis within this report, without any seasonal factor applied.

7.3 Future Background Traffic Volumes

7.3.1 Corridor Growth Consideration

Corridor growth rates for the study area were determined through the Terms of Reference and were adopted in line with the requested rates of MTO and Niagara Region. For the QEW ramp terminals and Regional roads, a growth rate of 2% per annum was applied, while a growth rate of 1% per annum was applied to Town of Grimsby arterial roads. Corridor growth traffic volumes are illustrated in **Figure 10**, **Figure 11** and **Figure 12** for the 2030, 2035 and 2040 horizon years, respectively.

7.3.2 Background Development Consideration

Allowances for new traffic from other proposed developments in the vicinity of the site have been made based on the Terms of Reference and development information provided by the Town of Grimsby. A total of 7 development proposals have been considered, which comprise approximately 750 residential units, and approximately 5,200 square metres of non-residential uses. Background developments considered in this study are summarized in **Table 13** and background development traffic volumes are illustrated in **Figure 9**.

Table 13 Site-Specific Background Developments

	Site Location	Development Statistics	Source	Report Date
1	13 Mountain Street & 19-23 Elm Street	177 residential units 729 m^2 non-residential GFA	BA Group	May 2025
2	30 Niagara Street	90 residentials units	--	--
3	89 South Service Road & 254 Murray Street	3,536 m^2 non-residential GFA	--	--
4	133 Main Street East	147 residential units 268 m^2 non-residential GFA	C.F. Crozier & Associates	May 2024
5	141-149 Main Street East	217 residential units	Paradigm	May 2020
6	165 Lake Street	31 residential units 227 m^2 non-residential GFA	Studio C2	August 2020
7	23 Main Street E	87 residential units 414 m^2 non-residential GFA	C.F. Crozier & Associates	April 2021

7.3.3 Future Background Traffic Volumes

Future background traffic volumes were developed by adding the existing traffic volumes, corridor growth traffic volumes, and background development traffic volumes, and are illustrated in **Figure 13**, **Figure 14**, and **Figure 15** for the 2030, 2035 and 2040 horizon year, respectively.

7.4 Site Traffic Volumes

7.4.1 Site Traffic Generation

7.4.1.1 Residential Site Traffic

Residential traffic volumes were established based on a review of the ITE Trip Generation Manual 12th Edition ("ITE 12th Edition") for Land Use Code 222 – Multifamily Housing (High-Rise). A summary of the projected trip generation for residential uses is provided in **Table 14**.

The residential component is projected to generate 65 and 80 two-way vehicle trips during the weekday morning and afternoon peak hours, respectively.

Table 14 Residential Site Traffic Generation

Land Use	Units	AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
ITE 222 – Multifamily Housing (High-Rise)[2,3] *(vehicle trips / unit)*	305 units	0.06	0.14	0.20	0.16	0.10	0.26
Residential Trips		**20**	**45**	**65**	**50**	**30**	**80**

Notes:
1. Trips rounded to the nearest 5 trips.
2. Trips derived using average rate and based on *Peak Hour of Adjacent Traffic* for morning and afternoon peak hours, respectively.
3. General urban/suburban; Not close to rail.

7.4.1.2 Retail Site Traffic

Retail traffic volumes were established based on a review of ITE 12th Edition for Land Use 820 – Shopping Centre. The Shopping Centre land use was selected as the proposed retail component is expected to operate ancillary to the broader Downtown Grimsby area. A summary of the projected trip generation for the retail uses is provided in **Table 15**.

The retail component is projected to generate 10 and 30 two-way vehicle trips during the weekday morning and afternoon peak hours, respectively.

Table 15 Retail Site Traffic Generation

Land Use	GFA	AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
ITE 820 – Shopping Centre [2,3] *(vehicle trips / 1000 ft² GFA)*	7,621 ft² GFA *(708 m² GFA)*	0.52	0.32	0.84	1.63	1.77	3.30
Retail Trips		**5**	**5**	**10**	**15**	**15**	**30**

Notes:
1. Trips rounded to the nearest 5 trips.
2. Trips derived using average rate and based on *Peak Hour of Adjacent Traffic* for morning and afternoon peak hours, respectively.
3. General urban/suburban.

7.4.1.3 Medical Site Traffic

Medical traffic volumes were established based on a review of ITE 12th Edition for Land Use 630 – Walk-In Clinic. A summary of the projected trip generation for the medical uses is provided in **Table 16**.

The medical component is projected to generate 35 and 50 two-way vehicle trips during the weekday morning and afternoon peak hours, respectively.

Table 16 Medical Clinic Site Traffic Generation

Land Use	GFA	AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
ITE 630 – Walk-In Clinic [2,3] *(vehicle trips / 1000 ft² GFA)*	12,680 ft² GFA *(1,178 m² GFA)*	2.23	0.52	2.75	1.06	2.61	3.67
Medical Trips		**30**	**5**	**35**	**15**	**35**	**50**

Notes:
1. Trips rounded to the nearest 5 trips.
2. Trips derived using average rate and based on *Peak Hour of Adjacent Traffic* for morning and afternoon peak hours, respectively.
3. General urban/suburban.

7.4.1.4 Summary of Site Traffic

A summary of the projected site traffic volumes is provided in **Table 17**.

Table 17 Total Vehicular Site Traffic Generation

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential	20	45	65	50	30	80
Retail	5	5	10	15	15	30
Medical Clinic	30	5	35	15	35	50
Total Vehicle Trips	**55**	**55**	**110**	**80**	**80**	**160**

7.4.2 Site Traffic Distribution

7.4.2.1 Residential Traffic Distribution

The site traffic distribution for the residential trips was established based on a review of 2022 TTS survey data. Residential trips were established for home-based vehicle trips to and from the surrounding study area during the weekday morning and afternoon peak periods.

Table 18 Residential Site Traffic Distribution

To/From		Inbound	Outbound
East	QEW	30%	25%
	Clark Street	0%	10%
	Main Street E	5%	5%
West	QEW	40%	25%
	Clark Street	5%	10%
	Main Street E	5%	5%
South	Elm Street	15%	20%

Notes:
1. Based on home-based trips to/from 2022 TTS Zones 11001-11002, 11004-11005, 11009 and 11011

7.4.2.2 Non-Residential Traffic Distribution

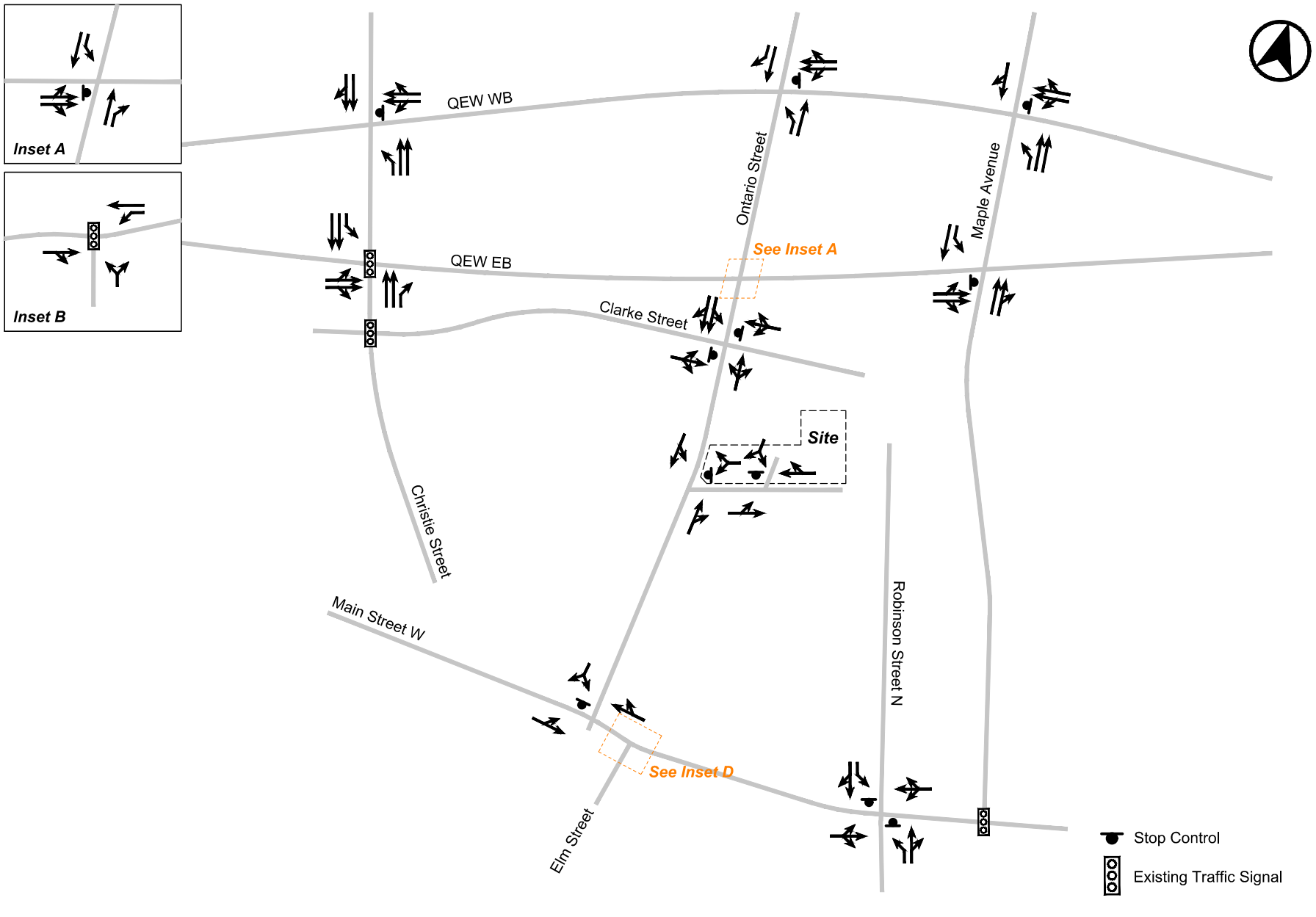
Retail and medical traffic distribution was based on existing travel patterns.

7.4.3 Total Site Traffic Volumes

The projected site traffic volumes are illustrated in **Figure 16**.

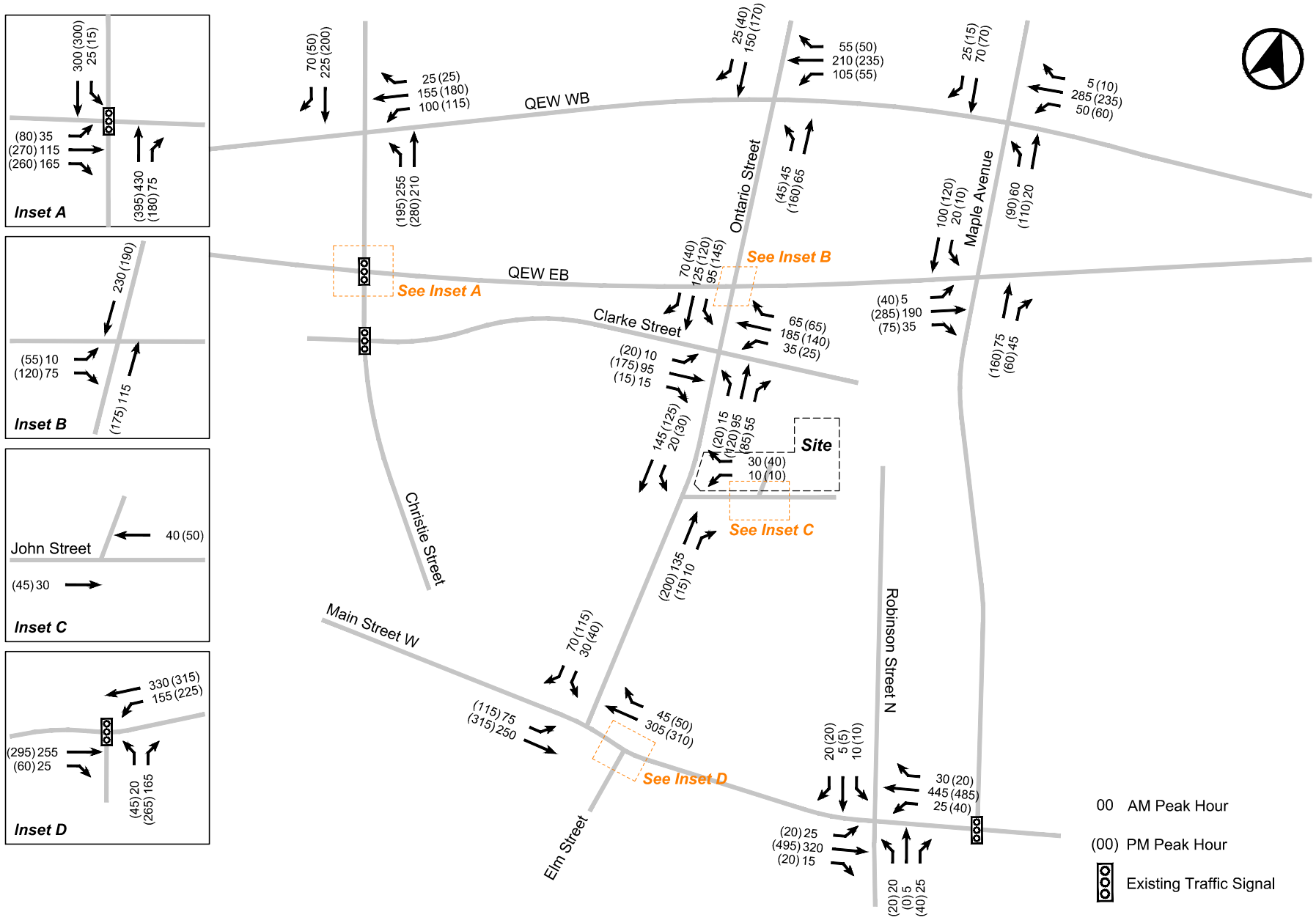
7.5 Future Total Traffic Volumes

Future total traffic volumes were developed by adding future background traffic volumes and site traffic volumes, and are illustrated in **Figure 17**, **Figure 18** and **Figure 19** for the 2030, 2035 and 2040 horizon years respectively.



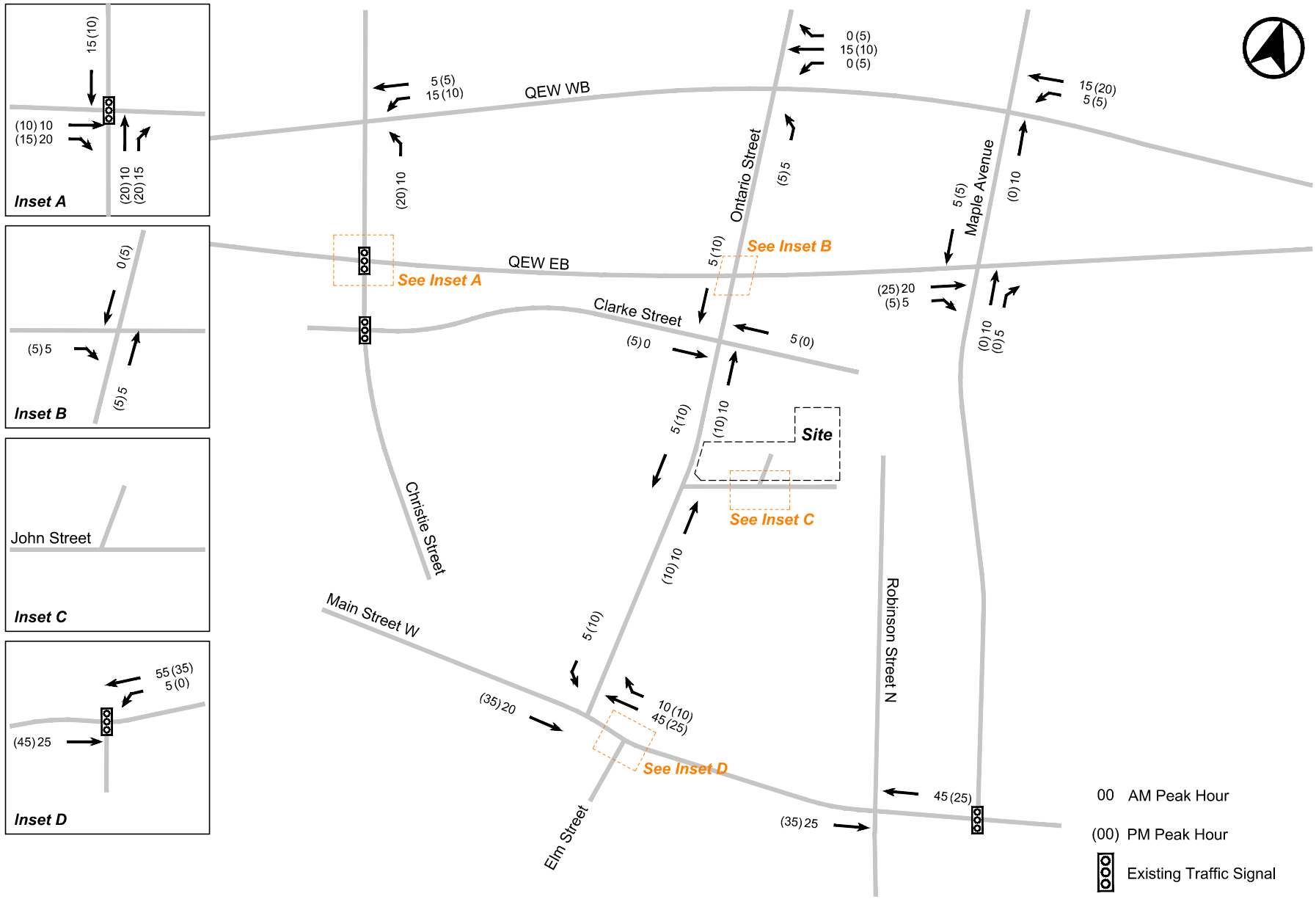
Date Plotted: March 16, 2026 Filename: P:\83\33\01\Graphics\CAD\Fig07-00-ExLC.dwg

FIGURE 7 EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL



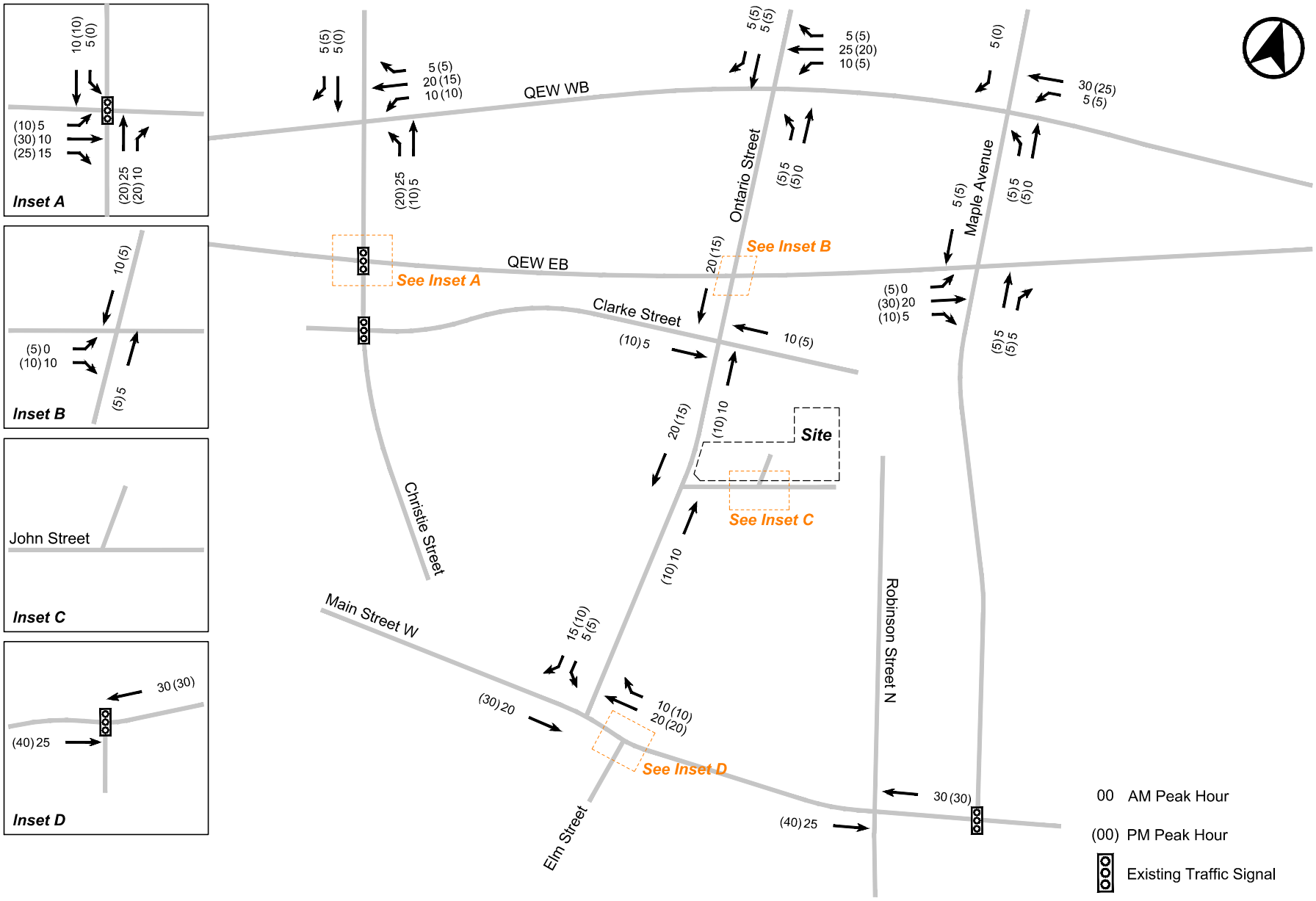
Date Plotted: March 19, 2026 Filename: C:\Users\alyssa.haggstrom\Desktop\8333-01 CAD\Fig08-00-EX.dwg

FIGURE 8 EXISTING TRAFFIC VOLUMES



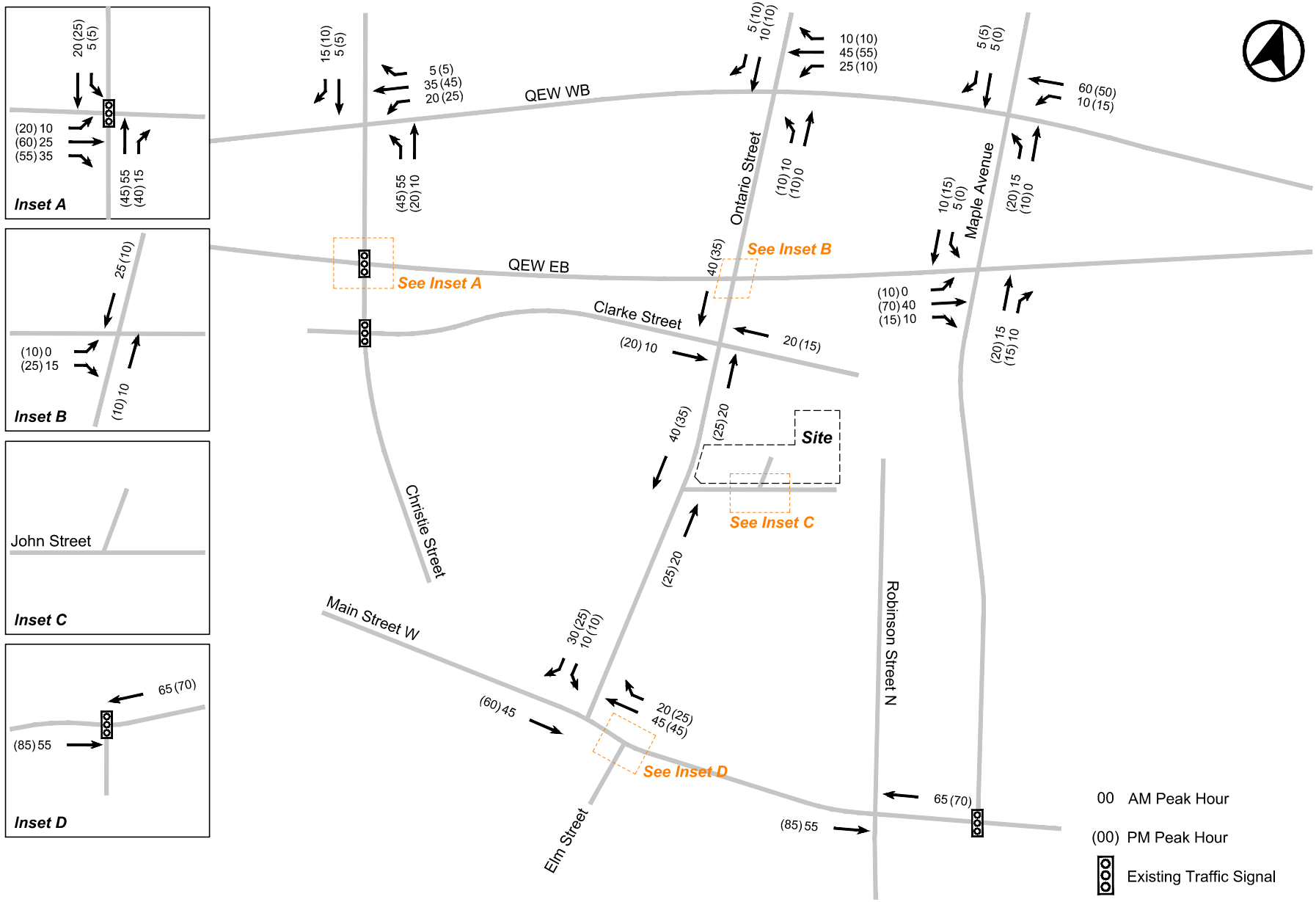
Date Plotted: March 19, 2026 Filename: C:\Users\alyssa.haggstrom\Desktop\8333-01 CAD\Fig09-00-BG.dwg

FIGURE 9 BACKGROUND DEVELOPMENT TRAFFIC VOLUMES



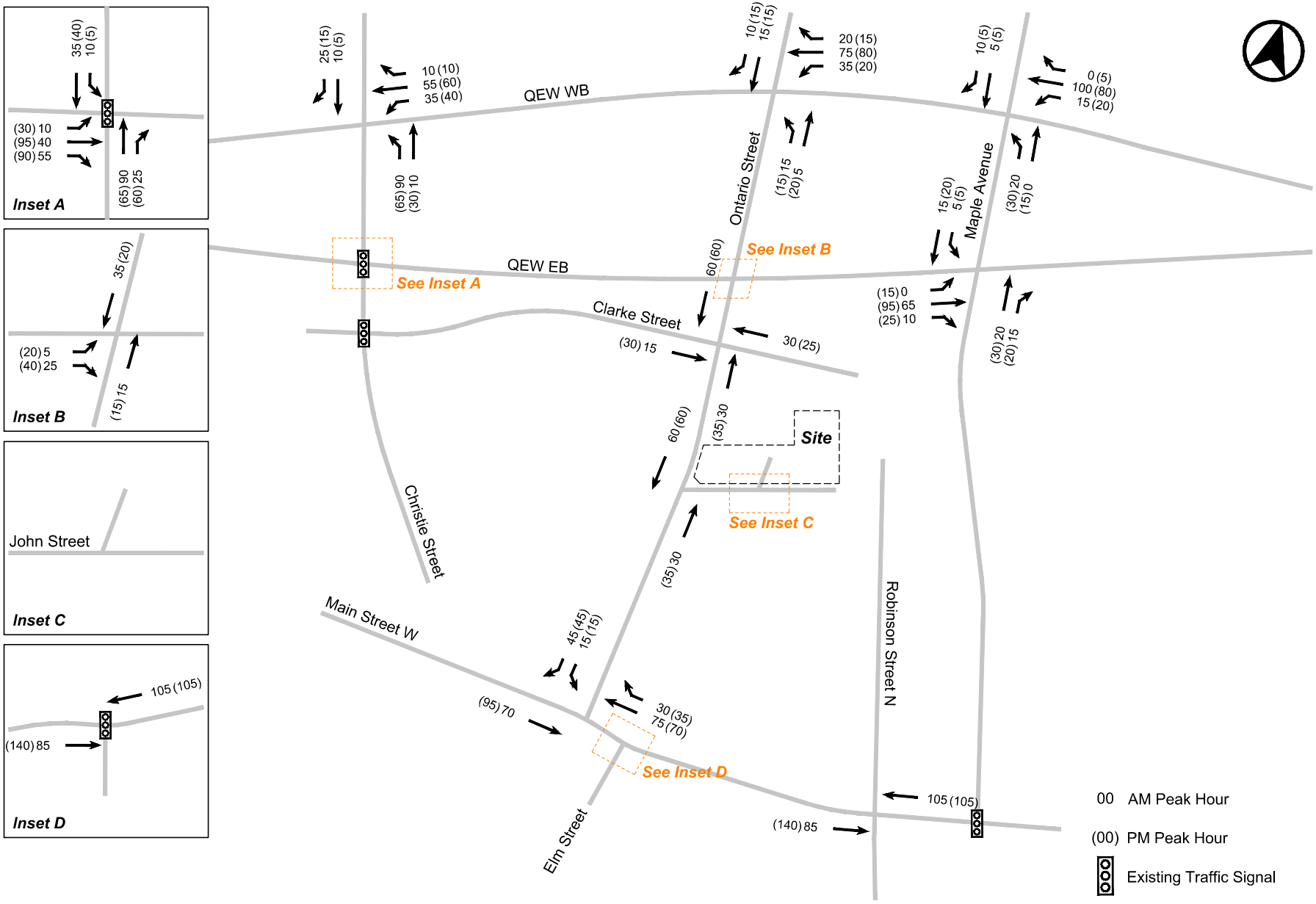
Date Plotted: April 22, 2026 Filename: P:\83\33\01\Graphics\CAD\Fig10-00-CG_2030.dwg

FIGURE 10 CORRIDOR GROWTH TRAFFIC VOLUMES (2030 HORIZON)



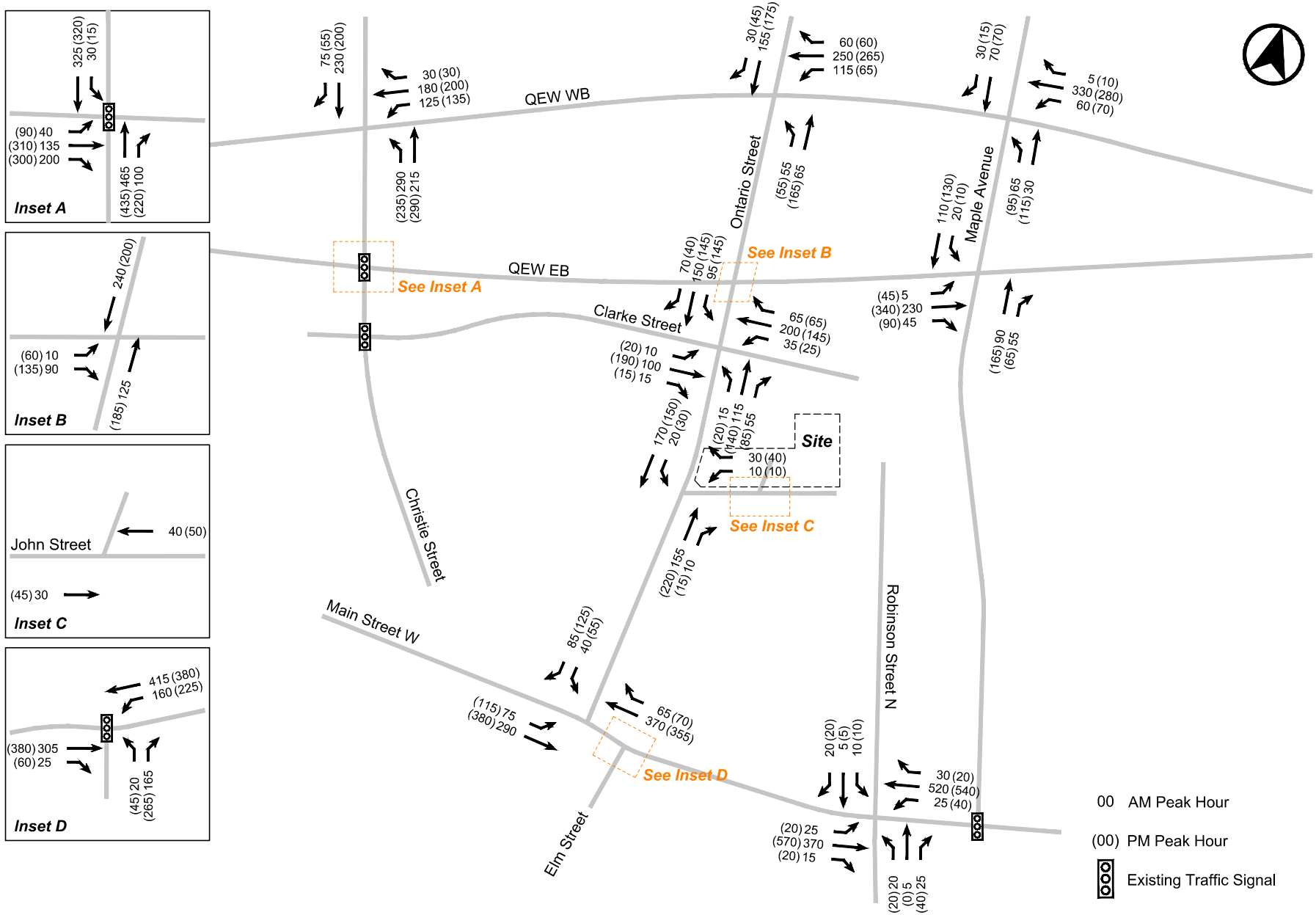
Date Plotted: April 22, 2026 Filename: P:\83\33\01\Graphics\CAD\Fig11-00-CG_2035.dwg

FIGURE 11 CORRIDOR GROWTH TRAFFIC VOLUMES (2035 HORIZON)



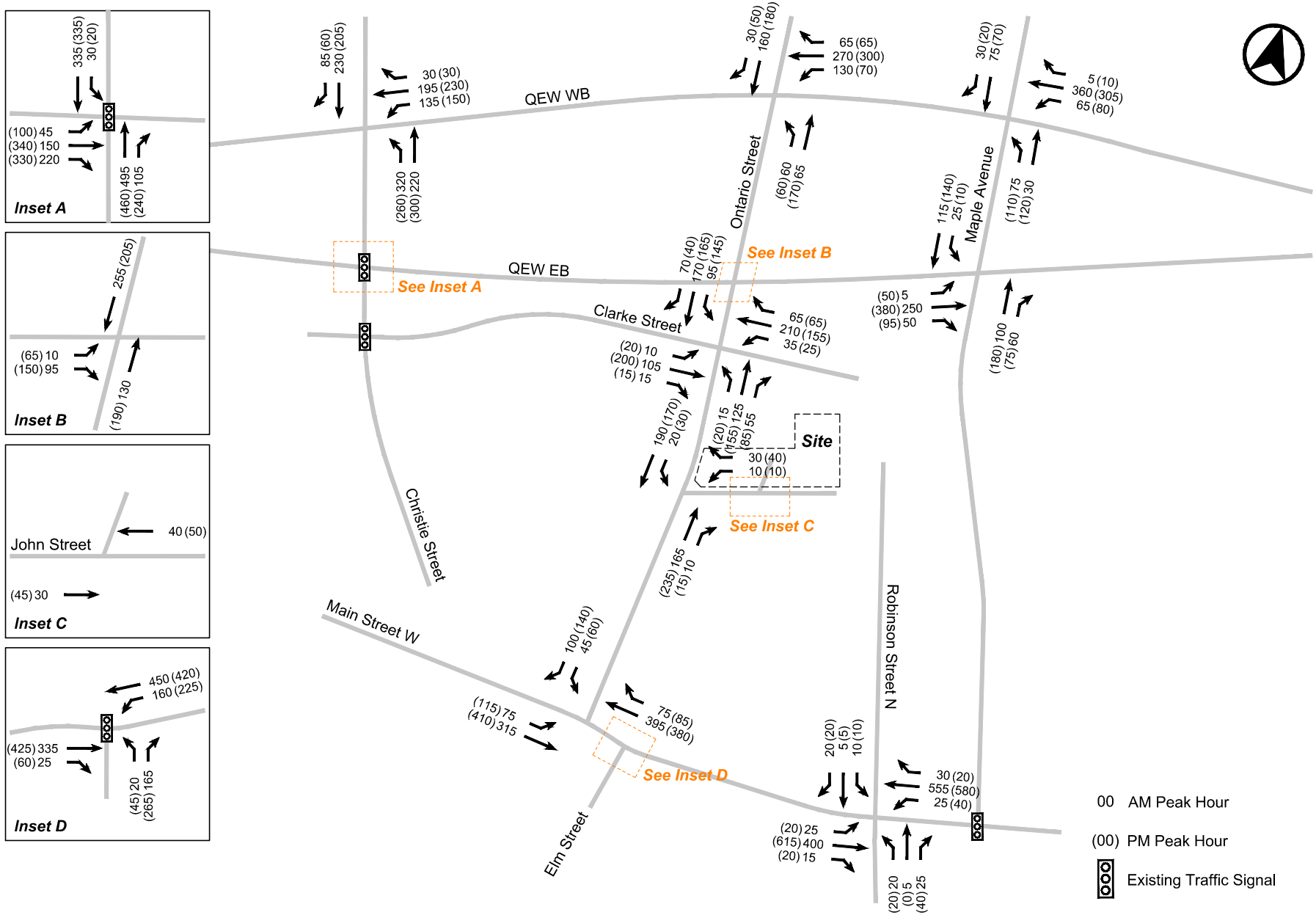
Date Plotted: April 22, 2026 Filename: P:\83\33\01\Graphics\CAD\Fig12-00-CG_2040.dwg

FIGURE 12 CORRIDOR GROWTH TRAFFIC VOLUMES (2040 HORIZON)



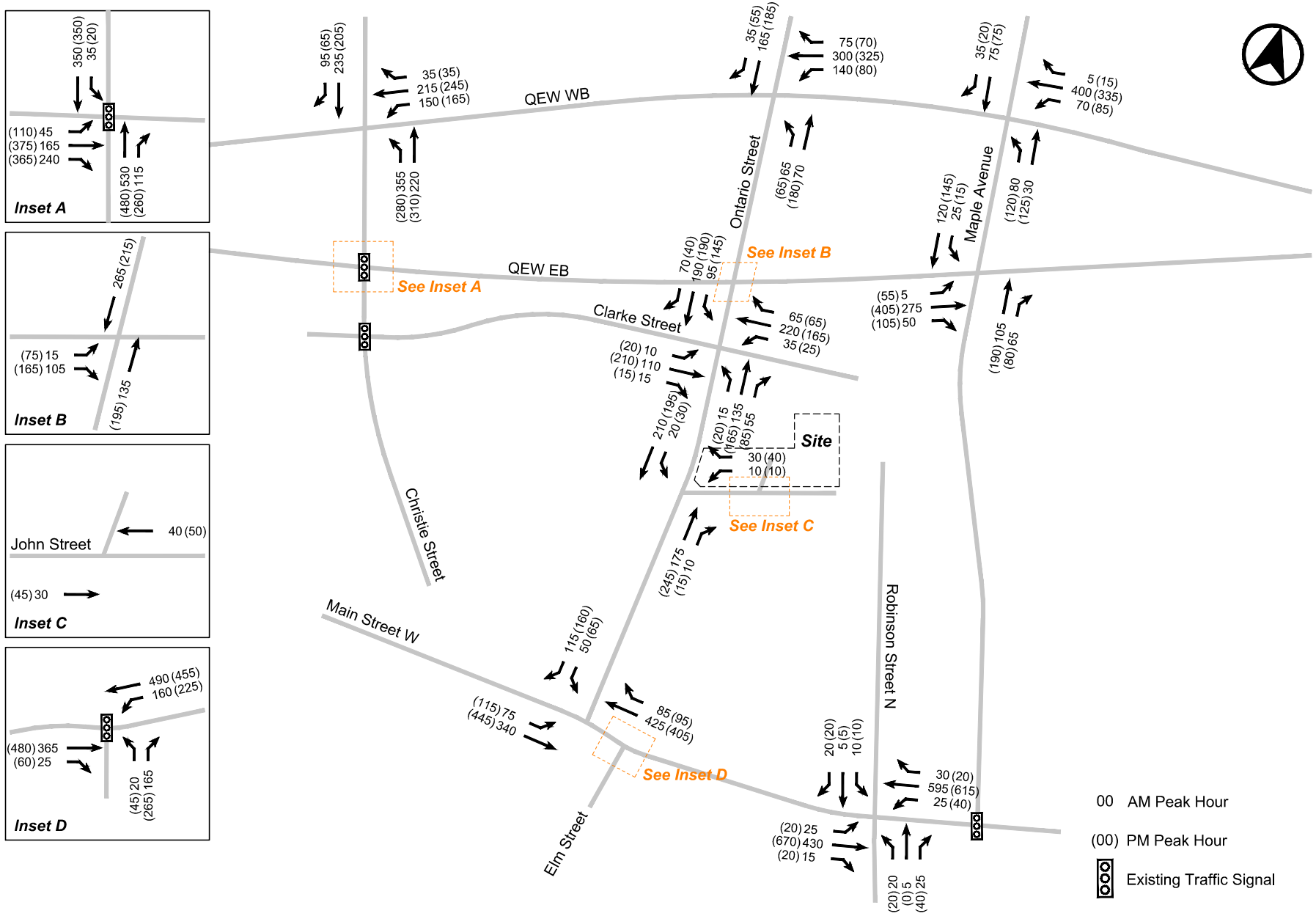
Date Plotted: April 22, 2026 Filename: P:\83\33\01\Graphics\CAD\Fig13-00-FB_2030.dwg

FIGURE 13 FUTURE BACKGROUND TRAFFIC VOLUMES (2030 HORIZON)



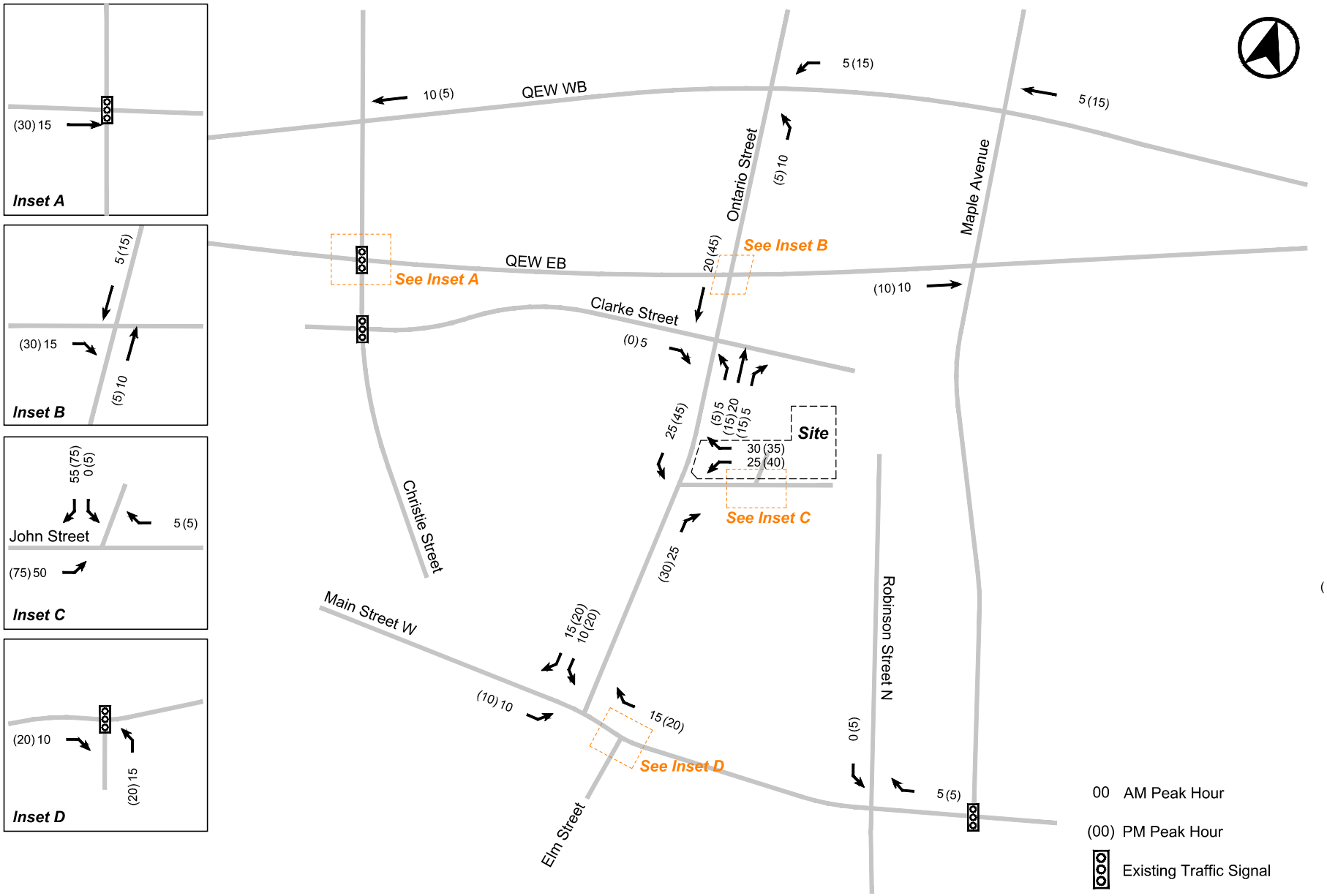
Date Plotted: April 22, 2026 Filename: P:\83\33\01\Graphics\CAD\Fig14-00-FB_2035.dwg

FIGURE 14 FUTURE BACKGROUND TRAFFIC VOLUMES (2035 HORIZON)



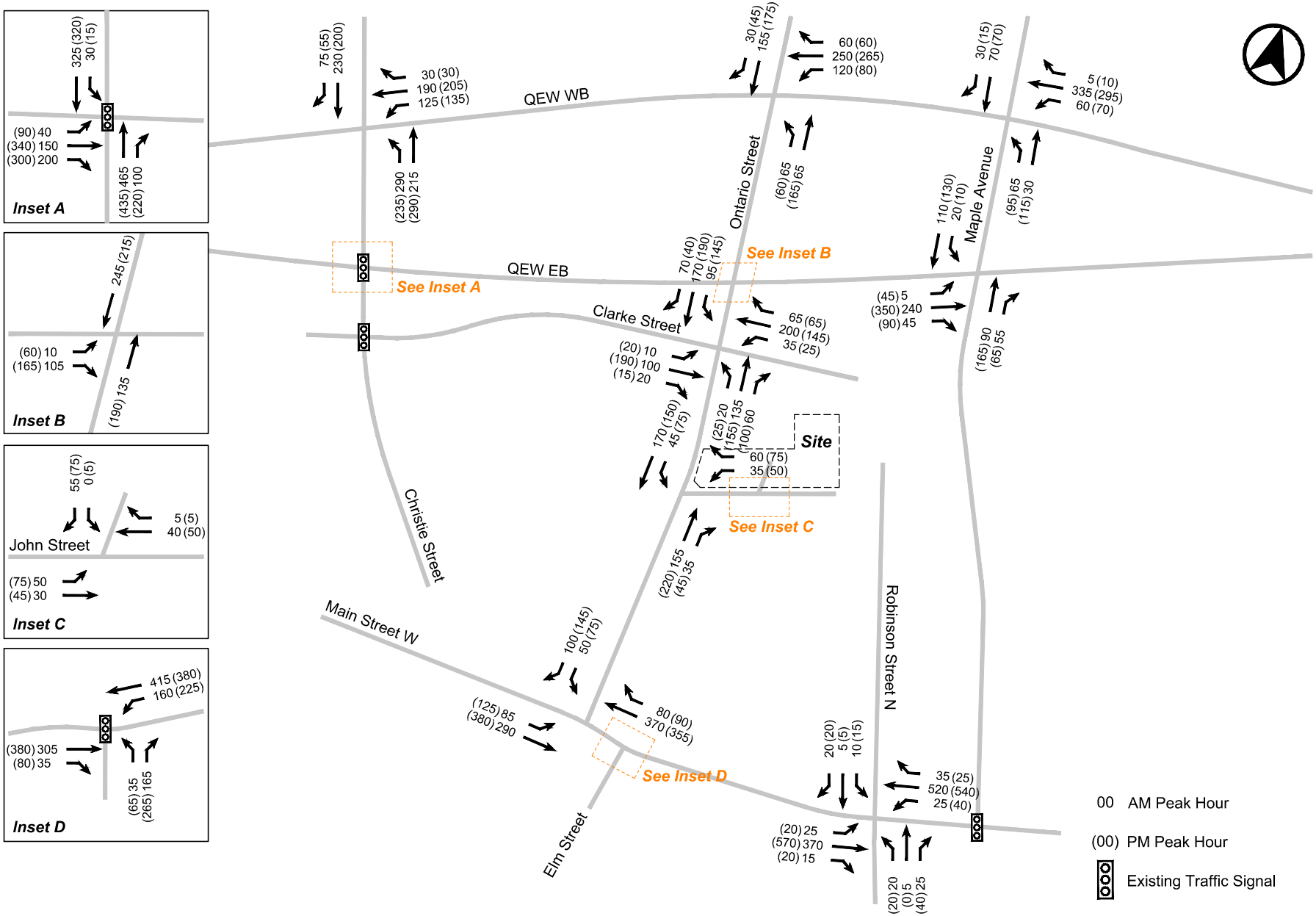
Date Plotted: April 22, 2026 Filename: P:\83\33\01\Graphics\CAD\Fig15-00-FB_2040.dwg

FIGURE 15 FUTURE BACKGROUND TRAFFIC VOLUMES (2040 HORIZON)



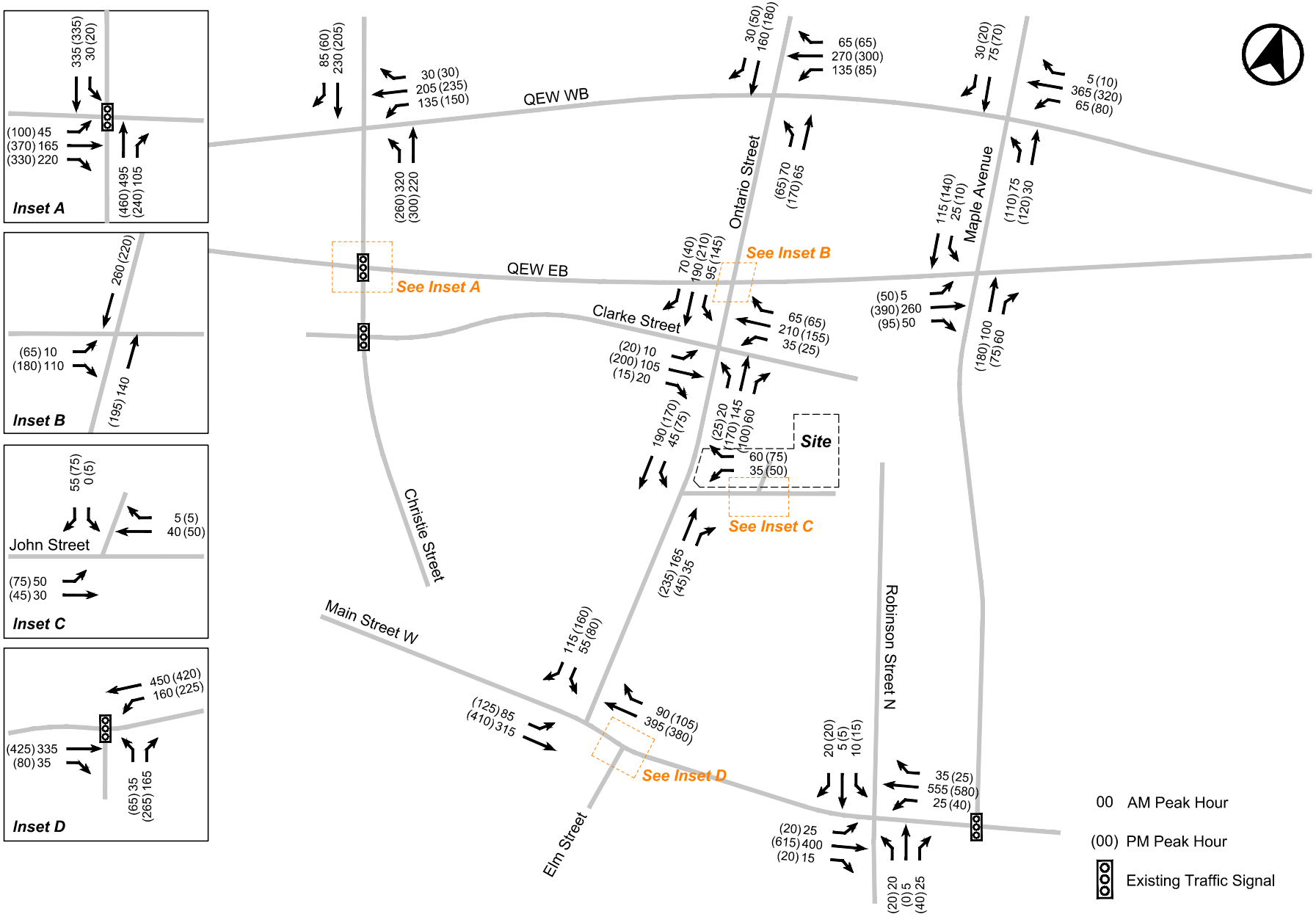
Date Plotted: March 19, 2026 Filename: C:\Users\alyssa.haggstrom\Desktop\8333-01 CAD\Fig16-00-ST.dwg

FIGURE 16 SITE TRAFFIC VOLUMES



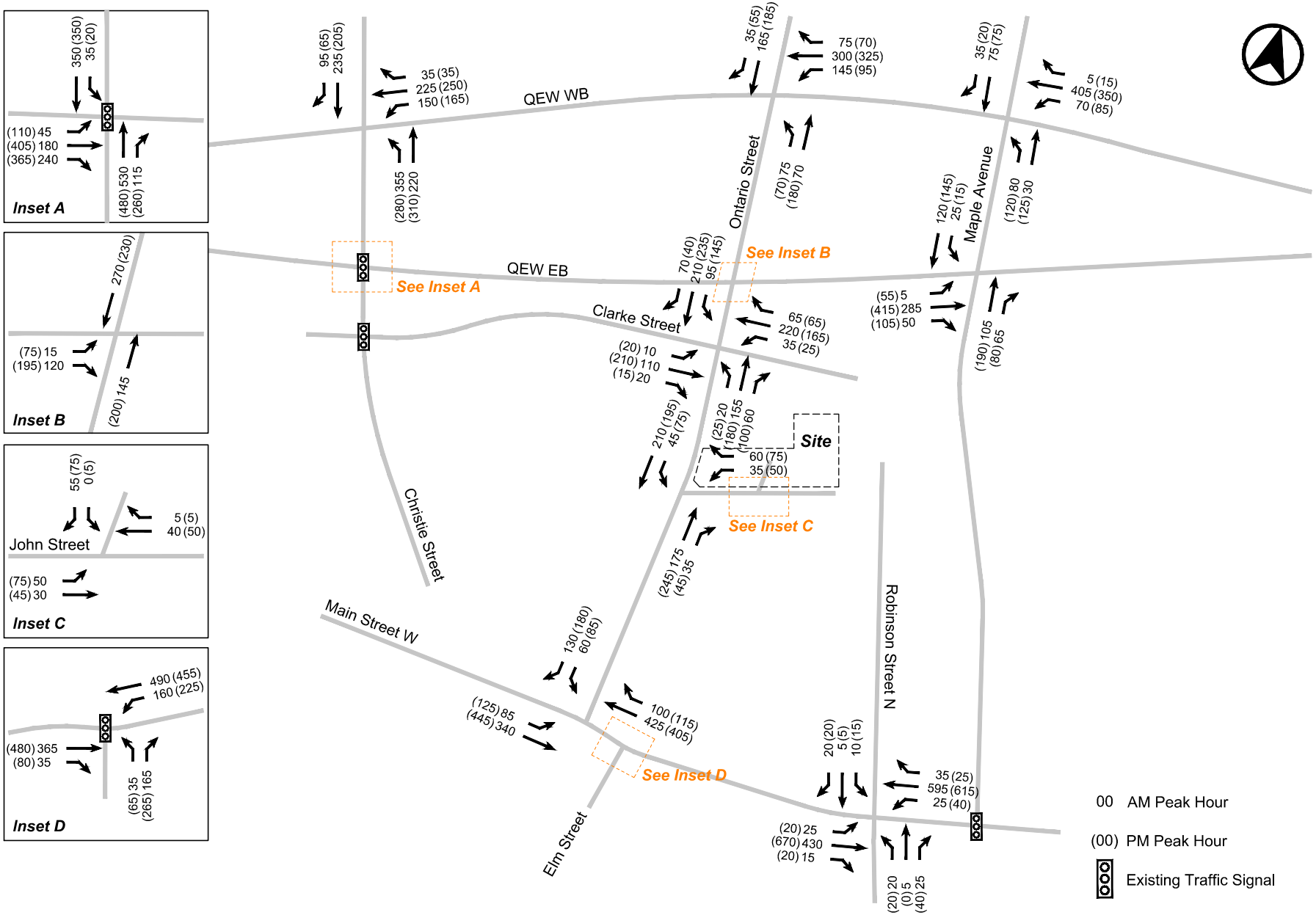
Date Plotted: April 22, 2026 Filename: P:\83\33\01\Graphics\CAD\Fig17-00-FT_2030.dwg

FIGURE 17 FUTURE TOTAL TRAFFIC VOLUMES (2030 HORIZON)



Date Plotted: April 22, 2026 Filename: P:\83\33\01\Graphics\CAD\Fig18-00-FT_2035.dwg

FIGURE 18 FUTURE TOTAL TRAFFIC VOLUMES (2035 HORIZON)



Date Plotted: April 22, 2026 Filename: P:\83\33\01\Graphics\CAD\Fig19-00-FT_2040.dwg

FIGURE 19 FUTURE TOTAL TRAFFIC VOLUMES (2040 HORIZON)

8.0 TRAFFIC OPERATIONS ANALYSIS

8.1 Analysis Methodology

The intersection capacity analysis was completed using Synchro Version 12.0 and the Highway Capacity Manual (HCM) methodology. Detailed Synchro analysis reports are provided in **Appendix G**.

For signalized intersections, the volume-to-capacity (v/c) ratio is an indicator of the capacity utilization for the key movements of the intersection. A v/c of 1.00 indicates that certain governing traffic movements through the key intersections are operating at or near capacity. The primary overall level-of-service (LOS) indicator is delay, both on individual movements and expressed as an average for all vehicles processed. Many busy urban intersections operate at LOS D to E, which reflects average delays in the range of 35 to 80 seconds.

Further to the above, it is noted that the MTO General Guidelines for the Preparation of Traffic Impact Studies, dated March 2023 (the "MTO TIS Guidelines") specify that at signalized intersections, a v/c ratio of greater than 0.85 is deemed to be "critical" in terms of operation and that movements which experience a v/c ratio of 0.85 or greater would-be consideration for geometric improvement. The MTO TIS Guidelines also specify that for ramps, a v/c ratio for terminal ramp approaches with a value greater than 0.75 would be deemed to be "critical" and shall be evaluated for possible operational improvements.

Additionally, the Niagara Region Transportation Impact Assessment Guidelines, dated July 24, 2023 (the "Niagara TIS Guidelines") specify that at signalized intersections, movements with a v/c ratio greater than 0.85 and/or LOS E or worse are deemed to be "critical" in terms of operations and that movements that exceed those thresholds shall be evaluated for possible operational improvements.

The Niagara TIS Guidelines also specifies that any exclusive turning movement in which the 95th percentile queue will exceed the available storage space, or exclusive left or right turn lanes that are inaccessible due to the length of queues in the adjacent through lanes, should be identified as "critical".

For unsignalized intersections, level-of-service (LOS) characterizes operations conditions for key movements in terms of delay within the traffic stream. LOS A represents a good level-of-service with short delays, while LOS F represents a poor level of service with long delays. The volume-to-capacity ratio is an indicator of the capacity utilization for key movements at the intersection and the resultant residential capacity potential.

Furthermore, the Niagara TIS Guidelines specify that at unsignalized intersections, movements expected to operate at LOS D or greater, or where the 95th percentile queue length exceeds the available queueing space should be identified as "critical".

The LOS criteria provided by the HCM methodology is summarized as follows:

1. Signalized Intersection LOS
    a. LOS A: Control Delay ≤ 10s
    b. LOS B: 10s < Control Delay ≤ 20s
    c. LOS C: 20s < Control Delay ≤ 35s
    d. LOS D: 35s < Control Delay ≤ 55s
    e. LOS E: 55s < Control Delay ≤ 80s
    f. LOS F: Control Delay > 80s

2. Unsignalized Intersection LOS
    a. LOS A: Control Delay ≤ 10s
    b. LOS B: 10s < Control Delay ≤ 15s
    c. LOS C: 15s < Control Delay ≤ 25s
    d. LOS D: 25s < Control Delay ≤ 35s
    e. LOS E: 35s < Control Delay ≤ 50s
    f. LOS F: Control Delay > 50s

8.2 Network Wide Parameters

Heavy Vehicle Assumptions

Heavy and medium truck percentages incorporated into the analysis were based upon information provided as part of the intersection turning movement counts.

Lost Time Adjustments

A base lost time adjustment factor of 0 seconds was adopted for the signalized intersections within the study area.

Signal Timings

Existing signal timing, phasing plans, and cycle lengths were obtained from Niagara Region. Existing signal timings plans adopted as the basis for the traffic operations analyses are provided **Appendix E**.

It's noted that at the Main Street East / Elm Street, the westbound approach is currently reduced by a lane to allow for construction at the 23 Main Street East development. As a result of this temporary lane configuration and reduction, the signal currently operates with a split time phasing. However for the purpose of analysis, the intersection was assessed based on the lane configuration when construction is not being undertaken and assumed a typical signal timing plan with a cycle length of 77.9 seconds in both the AM and PM peak hours.

For potential signals discussed at the intersections of the QEW Westbound Ramp Terminal / Christie Street, and Clarke Street / Ontario Street, signal timings were adopted from adjacent intersections and have an adopted cycle length of 64 seconds for both intersections.

Peak Hour Factor

Peak hour factors were calculated based on the existing 15-minute traffic counts utilized in this study for the operations analysis.

Lane Utilization Factors

The default Synchro lane utilizations factors (LUF) were adopted, which take into consideration the distribution of individual lane usage within each movement group.

8.3 Calibrations

Delay studies were undertaken at the unsignalized intersection of QEW WB Ramp Terminal / Christie Street for the weekday and afternoon peak hours on December 4, 2025. The results of these studies were used to calibrate the Synchro analysis for this intersection to better reflect existing conditions. Synchro calibration parameters are summarized in **Table 19**, and the results of the delay studies are included in **Appendix F**.

Table 19 Delay Study Synchro Calibration

Move-ment	Observed Delay[1]	Target Synchro Control Delay[2]	Default Values				Calibrated Values			
			Critical Gap (s)	Follow up time (s)	Control Delay (s)[3]	LOS	Critical Gap (s)	Follow up time (s)	Control Delay (s)[3]	LOS
QEW WB Ramp Terminal / Christie Street										
WBL	28.0 (28.0)	33.0 (33.0)	7.5 (7.5)	3.5 (3.5)	136.7 (95.5)	F (F)	6.0 (5.8)	2.9 (3.2)	33.4 (33.0)	D (D)
WBT	21.0 (21.0)	26.0 (26.0)	6.5 (6.5)	4.0 (4.0)	88.8 (63.5)	F (F)	5.5 (5.7)	2.5 (3.2)	26.5 (26.8)	D (D)
WBR	8.0 (13.0)	13.0 (18.0)	7.0 (7.0)	3.3 (3.3)	40.8 (31.5)	E (D)	7.0 (7.0)	3.3 (3.3)	19.6 (20.6)	C (C)

Notes:

1. Average observed delay in the morning and afternoon peak hours.
2. Control Delay = Observed Stopped Delay + 5 seconds/vehicle. The additional 5 seconds/vehicle is used to reflect delay during deceleration and acceleration from a stop.
3. Synchro control delay (HCM 2000 methodology)
4. XX (XX) – AM Peak Hour (PM Peak Hour)

8.4 Capacity Analysis Results

8.4.1 Overview

Capacity analysis and queuing results for signalized intersections are provided in **Table 20** and **Table 21** respectively, and capacity analysis and queuing results for unsignalized intersections are provided in **Table 22** and **Table 23** respectively.

For some existing unsignalized intersections where high delays are observed under future conditions, potential signalized configurations have been reviewed. The capacity analysis and queuing results for these potential signalized configurations are provided in **Table 24** and **Table 25** respectively. Signal warrants have been undertaken for these intersections and are outlined in **Section 8.5**.

Notwithstanding the above, it's noted that the increases to delays and v/c ratios at unsignalized intersections in the study area are largely a result of corridor growth, with the site specific impact representing a small percentage of the change for these movements. Notwithstanding, based on the proximity of the QEW, it's reasonable to assume that growth associated with long distance trips would primarily be observed on the QEW main line, with localized growth likely to be largely associated with specific development within Grimsby. Given background development assumptions have also been made as part of the analysis, the corridor growth as requested by MTO and Niagara Region through the Terms of Reference may not eventuate to the extent assumed in the base analysis.

Based on the above, and to better understand the site-specific impacts, a sensitivity analysis has been undertaken for the unsignalized intersections in the 2040 horizon, which assumes no corridor growth. The future background and future total volumes under this sensitivity analysis are illustrated in **Figure 20** and **Figure 21** respectively. The capacity analysis and queuing results for the sensitivity analysis are provided in **Table 26** and **Table 27** respectively.

Analysis results for individual intersections are summarized in the following sections and detailed Synchro worksheets are provided in **Appendix G**.

8.4.2 QEW EB Ramp Terminal / Christie Street (Signalized)

The QEW EB Ramp Terminal / Christie Street intersection is signalized and operates with a maximum cycle length of 64 seconds in both the AM and PM peak hours.

Existing Conditions

Under existing conditions, the intersection operates at overall v/c ratios of 0.28 and 0.40 during the AM and PM peak hours, respectively.

All queues are accommodated within the available storage, with all turn lanes accessible without blockage in the through lanes in all scenarios.

2030 Horizon Year

Under future background conditions for the 2030 horizon year, the intersection operates at overall v/c ratios of 0.31 and 0.46 during the AM and PM peak hours, respectively.

Under future total conditions for the 2030 horizon year, the intersection operates at overall v/c ratios of 0.32 and 0.47 during the AM and PM peak hours, respectively.

All queues are projected to be accommodated within the available storage, with all turn lanes accessible without blockage in the through lanes in all scenarios.

2035 Horizon Year

Under future background conditions for the 2035 horizon year, the intersection operates at overall v/c ratios of 0.34 and 0.52 during the AM and PM peak hours, respectively.

Under future total conditions for the 2035 horizon year, the intersection operates at overall v/c ratios of 0.34 and 0.53 during the AM and PM peak hours, respectively.

All queues are projected to be accommodated within the available storage, with all turn lanes accessible without blockage in the through lanes in all scenarios.

2040 Horizon Year

Under future background conditions for the 2040 horizon year, the intersection operates at overall v/c ratios of 0.36 and 0.57 during the AM and PM peak hours, respectively.

Under future total conditions for the 2040 horizon year, the intersection operates at overall v/c ratios of 0.37 and 0.58 during the AM and PM peak hours, respectively.

All queues are projected to be accommodated within the available storage, with all turn lanes accessible without blockage in the through lanes in all scenarios.

Overall Summary

Overall, the intersection is projected to operate within capacity and within the thresholds identified in the MTO TIS Guidelines and Niagara TIS Guidelines in all scenarios. Furthermore, all queues are projected to be accommodated within the available storage, with all turn lanes accessible without blockage in the through lanes in all scenarios. Based on the foregoing, site traffic can be adequately accommodated at this intersection.

8.4.3 Main Street East / Elm Street (Signalized)

The Main Street East / Elm Street intersection is signalized.

As discussed in **Section 8.2**, the westbound approach is currently reduced by a lane to allow for construction at the 23 Main Street East development. As a result of this temporary lane configuration and reduction, the signal currently operates with a split time phasing. For the purpose of this analysis, the intersection was assessed based on the lane configuration when construction is not being undertaken and assumed a typical signal timing plan with a cycle length of 77.9 seconds in both the AM and PM peak hours.

Existing Conditions

Under existing conditions, the intersection operates at overall v/c ratios of 0.32 and 0.33 during the AM and PM peak hours, respectively.

All queues are accommodated within the available storage, with all turn lanes accessible without blockage in the through lanes in all scenarios.

2030 Horizon Year

Under future background conditions for the 2030 horizon year, the intersection operates at overall v/c ratios of 0.39 and 0.40 during the AM and PM peak hours, respectively.

Under future total conditions for the 2030 horizon year, the intersection operates at overall v/c ratios of 0.40 and 0.43 during the AM and PM peak hours, respectively.

All queues are projected to be accommodated within the available storage, with all turn lanes accessible without blockage in the through lanes in all scenarios.

2035 Horizon Year

Under future background conditions for the 2035 horizon year, the intersection operates at overall v/c ratios of 0.43 and 0.44 during the AM and PM peak hours, respectively.

Under future total conditions for the 2035 horizon year, the intersection operates at overall v/c ratios of 0.44 and 0.47 during the AM and PM peak hours, respectively.

All queues are projected to be accommodated within the available storage, with all turn lanes accessible without blockage in the through lanes in all scenarios.

2040 Horizon Year

Under future background conditions for the 2040 horizon year, the intersection operates at overall v/c ratios of 0.46 and 0.48during the AM and PM peak hours, respectively.

Under future total conditions for the 2040 horizon year, the intersection operates at overall v/c ratios of 0.47 and 0.52 during the AM and PM peak hours, respectively.

All queues are projected to be accommodated within the available storage, with all turn lanes accessible without blockage in the through lanes in all scenarios.

Overall Summary

Overall, the intersection is projected to operate within capacity and within the thresholds identified in the MTO TIS Guidelines and Niagara TIS Guidelines in all scenarios. Furthermore, all queues are projected to be accommodated within the available storage, with all turn lanes accessible without blockage in the through lanes in all scenarios. Based on the foregoing, site traffic can be adequately accommodated at this intersection.

8.4.4 QEW Westbound Ramp Terminal / Christie Street (Unsignalized)

The QEW Westbound Ramp Terminal / Christie Street intersection is unsignalized. With the addition of corridor growth and background development growth, the shared westbound through and left movement is projected to operate with an LOS F during both the AM and PM peak hours in the Future Background 2030 horizon year, and subsequently in the Future Total 2030 horizon year. The v/c ratios for each of these scenarios are projected to

exceed the critical thresholds as identified in the MTO TIS Guidelines and Niagara TIS Guidelines but are projected to remain below 1.00.

In the subsequent 2035 and 2040 horizon years, the delays on the shared westbound through and left lane are projected to increase further with the additional corridor growth and v/c ratios are projected to exceed 1.00.

The shared westbound through and right movement is projected to operate with an LOS E during the AM peak hour in the Future Total 2035 horizon year and during both the AM and PM peak hours in the Future Background 2040 horizon year, and subsequently the Future Total 2040 horizon year. Notwithstanding, the intersection is projected to continue operating within capacity with a v/c ratio below the critical thresholds as identified in the MTO TIS Guidelines and Niagara TIS Guidelines.

The projected 95th percentile queues remain within the available storage lengths in all scenarios and there are no through queues projected to block access to turning lanes.

Based on the projected future delays, a potential signalized configuration has been reviewed. The capacity analysis and queuing results for this configuration are provided in **Table 24** and **Table 25** respectively. The analysis assumes a cycle length of 64 seconds, to match the signal timing downstream. Overall, the results indicate that under a potential signalized configuration, the intersection would operate within capacity and within the thresholds identified in the MTO TIS Guidelines and Niagara TIS Guidelines under all future scenarios. The signal warrants undertaken in **Section 8.5** indicate that signals would be warranted at this intersection for both Future Background and Future Total in the 2035 and 2040 horizon years.

As outlined in **Section 8.4.1**, the increases to delays and v/c ratios are largely a result of corridor growth, with the site-specific impact representing a small percentage of the change for these movements. Therefore, a sensitivity analysis has been undertaken which assumes no corridor growth. The capacity analysis and queuing results for the sensitivity analysis are provided in **Table 26** and **Table 27** respectively. The sensitivity analysis indicates that in the event there was no corridor growth, the intersection would operate with LOS E or better under all future scenarios and v/c ratios would remain within the thresholds identified in the MTO TIS Guidelines and Niagara TIS Guidelines. The site-specific impact to the delay is identified to be no more than 3 seconds on any one movement.

Overall, signalization of this intersection may be required in the future. The need for signalization at this intersection is not related to site traffic, rather it is heavily linked to corridor growth which may or may not eventuate to the extent assumed in the base analysis. The timing of potential signalization at this intersection will be heavily dependent on the extent to which corridor growth is observed and as such, it is recommended that the intersection be monitored over time.

8.4.5 QEW Westbound Ramp Terminal / Ontario Street (Unsignalized)

The QEW Westbound Ramp Terminal / Ontario Street intersection is unsignalized. With the addition of corridor growth and background development growth and site traffic, the shared westbound through and left movement is projected to operate with an LOS E during the PM peak hour in the Future Total 2040 horizon year. The v/c ratio during this scenario of 0.76 is projected to slightly exceed the critical threshold identified in the MTO TIS Guidelines for ramp terminals of 0.75, albeit there is substantial capacity remaining.

The projected 95th percentile queues remain within the available storage lengths in all scenarios and there are no through queues projected to block access to turning lanes.

As outlined in **Section 8.4.1**, the increases to delays and v/c ratios are largely a result of corridor growth, with the site-specific impact representing a small percentage of the change for these movements. Therefore, a sensitivity analysis has been undertaken which assumes no corridor growth. The capacity analysis and queuing results for the sensitivity analysis are provided in **Table 26** and **Table 27** respectively. The sensitivity analysis indicates that in the event there was no corridor growth, the intersection would operate with LOS C or better under all future scenarios and v/c ratios would remain within the thresholds identified in the MTO TIS Guidelines and Niagara TIS Guidelines. The site-specific impact to the delay is identified to be no more than 2 seconds on any one movement.

Overall, it's projected that this intersection will continue to operate within capacity under future conditions with the existing configuration, albeit increased delays may be observed in the longer term. Increases to projected delays and v/c ratios is primarily related to corridor growth which may or may not eventuate to the extent assumed in the base analysis. Therefore, it's recommended that the intersection be monitored over time.

8.4.6 QEW Westbound Ramp Terminal / Maple Avenue (Unsignalized)

The QEW Westbound Ramp Terminal / Maple Avenue intersection is unsignalized and is projected to operate at LOS D or better in all analysis scenarios. All v/c ratios are projected to remain within the thresholds identified in the MTO TIS Guidelines and the Niagara TIS Guidelines.

The projected 95th percentile queues remain within the available storage lengths in all scenarios and there are no through queues projected to block access to turning lanes.

Overall, it is projected that site traffic can be accommodated at this intersection.

8.4.7 QEW Eastbound Ramp Terminal / Maple Avenue (Unsignalized)

The QEW Eastbound Ramp Terminal / Maple Avenue is unsignalized and is projected to operate at LOS D or better in all analysis scenarios. All v/c ratios are projected to remain within the thresholds identified in the MTO TIS Guidelines and the Niagara TIS Guidelines.

The projected 95th percentile queues remain within the available storage lengths in all scenarios and there are no through queues projected to block access to turning lanes.

Overall, it is projected that site traffic can be accommodated at this intersection.

8.4.8 QEW Eastbound Ramp Terminal / Ontario Street (Unsignalized)

The QEW Eastbound Ramp Terminal / Ontario Street intersection is unsignalized. With the addition of corridor growth and background development growth and site traffic, the shared eastbound through and left movement is projected to operate with an LOS F during the PM peak hour in the Future Background 2040 horizon year, and subsequently in the Future Total 2040 horizon year. The v/c ratio during this scenario of 0.84 in Future Background and 0.88 in Future Total is projected to exceed the critical threshold identified in the MTO TIS Guidelines for ramp terminals of 0.75, albeit there is substantial capacity remaining.

The shared eastbound through and right movement is projected to operate with an LOS F during the PM peak hour in the Future Total 2040 horizon year. The v/c ratio during this scenario of 0.94 is projected to exceed the critical threshold identified in the MTO TIS Guidelines for ramp terminals of 0.75, albeit there is capacity remaining.

The projected 95th percentile queues remain within the available storage lengths in all scenarios and there are no through queues projected to block access to turning lanes.

As outlined in **Section 8.4.1**, the increases to delays and v/c ratios are largely a result of corridor growth, with the site-specific impact representing a small percentage of the change for these movements. Therefore, a sensitivity analysis has been undertaken which assumes no corridor growth. The capacity analysis and queuing results for the sensitivity analysis are provided in **Table 26** and **Table 27** respectively. The sensitivity analysis indicates that in the event there was no corridor growth, the intersection would operate with LOS D or better under all future scenarios and v/c ratios would remain within the thresholds identified in the MTO TIS Guidelines and Niagara TIS Guidelines. The site-specific impact to the delay is identified to be no more than 3 seconds on any one movement.

Overall, it's projected that this intersection will continue to operate within capacity under future conditions with the existing configuration, albeit increased delays may be observed in the longer term. Increases to projected delays and v/c ratios is primarily related to corridor growth which may or may not eventuate to the extent assumed in the base analysis. Therefore, it's recommended that the intersection be monitored over time.

8.4.9 Clarke Street / Ontario Street (Unsignalized)

The Clarke Street / Ontario Street intersection is unsignalized. Under existing conditions, the shared eastbound left, through and right and shared westbound left, through and right movements operate with an LOS E, indicating existing busy conditions.

With the addition of corridor growth and background development growth, the shared eastbound through, left and right movement is projected to operate with an LOS F during the PM peak hour in the Future Background 2030 horizon year, and subsequently in the Future Total 2030 horizon year. The v/c ratios are projected to exceed 1.00 in the Future Total scenario.

In the subsequent 2035 and 2040 horizon years, the delays and v/c ratios on the shared eastbound through, left and right lane are projected to increase further with the additional corridor growth.

The shared westbound left, through and right movement is projected to operate with an LOS F during the AM peak hour in the Future Background 2030 horizon year, and subsequently in the Future Total 2030 horizon year. During the PM peak hour, the shared westbound left, through and right movement is projected to operate with an LOS F in the Future Total 2030 horizon year. The v/c ratios in the 2030 horizon year are projected to remain below 1.00.

In the subsequent 2035 and 2040 horizon years, the delays on the shared westbound left, through and right lane are projected to increase further in both Future Background and Future Total with the additional corridor growth and v/c ratios are projected to exceed 1.00.

The projected 95th percentile queues remain within the available storage lengths in all scenarios and there are no through queues projected to block access to turning lanes.

Based on the projected future delays, a potential signalized configuration has been reviewed. The capacity analysis and queuing results for this configuration are provided in **Table 24** and **Table 25** respectively. The analysis assumes a cycle length of 64 seconds, to match the signal timing downstream. Overall, the results indicate that under a potential signalized configuration, the intersection would operate within capacity and within the thresholds identified in the MTO TIS Guidelines and Niagara TIS Guidelines under all future scenarios. The signal warrants undertaken in **Section 8.5** indicate that signals would be warranted at this intersection for Future Total in the 2040 horizon year.

As outlined in **Section 8.4.1**, a sensitivity analysis has been undertaken which assumes no corridor growth. The capacity analysis and queuing results for the sensitivity analysis are provided in **Table 26** and **Table 27** respectively. The sensitivity analysis indicates that in the event there was no corridor growth, some movements would operate with LOS F under Future Background and Future Total, albeit the intersection would remain within capacity.

Overall, signalization of this intersection may be required in the future. It's recommended that the intersection be monitored over time.

8.4.10 Main Street East / Robinson Street (Unsignalized)

The Main Street East / Robinson Street intersection is unsignalized. With the addition of corridor growth and background development growth and site traffic, the shared eastbound through, left and right movement is projected to operate with an LOS E during the AM peak hour in the Future Background 2030 horizon year, and subsequently in the Future Total 2030 horizon year. The shared westbound through, left and right movement is also projected to operate with an LOS E during the PM peak hour in the Future Total 2030 horizon year. However, the v/c ratios remain well under capacity.

In the subsequent 2035 and 2040 horizon years, results on this movement remain similar to the 2030 horizon.

The northbound left movement is also projected to operate with LOS E in the PM peak hour during the Future Total 2030 horizon year. However, the v/c ratios remain well under capacity.

In the subsequent 2035 and 2040 horizon years, results on this movement also remain similar to the 2030 horizon.

The site-specific impact to the delay for the above movements is identified to be no more than 2 seconds on any one movement.

The projected 95th percentile queues remain within the available storage lengths in all scenarios and there are no through queues projected to block access to turning lanes.

As outlined in **Section 8.4.1**, a sensitivity analysis has been undertaken which assumes no corridor growth. The capacity analysis and queuing results for the sensitivity analysis are provided in **Table 26** and **Table 27** respectively. The sensitivity analysis indicates that in the event there was no corridor growth, results at this intersection would be similar to those outlined above.

Overall, it's projected that this intersection will continue to operate well within capacity under future conditions with the existing configuration, albeit increased delays may be observed in the longer term. It's recommended that the intersection be monitored over time.

8.4.11 Main Street East / Ontario Street (Unsignalized)

The Main Street East / Ontario Street intersection is unsignalized. With the addition of corridor growth and background development growth and site traffic, the southbound left movement is projected to operate with an LOS E during the AM peak hour and LOS F during the PM peak hour in the Future Total 2040 horizon year. The v/c ratio remains within the critical threshold identified in the Niagara TIS Guidelines.

The projected 95th percentile queues remain within the available storage lengths in all scenarios and there are no through queues projected to block access to turning lanes.

As outlined in **Section 8.4.1**, the increases to delays and v/c ratios are largely a result of corridor growth, with the site-specific impact representing a small percentage of the change for these movements. Therefore, a sensitivity analysis has been undertaken which assumes no corridor growth. The capacity analysis and queuing results for the sensitivity analysis are provided in **Table 26** and **Table 27** respectively. The sensitivity analysis indicates that in the event there was no corridor growth, the intersection would operate with LOS D or better under all future scenarios and v/c ratios would remain within the thresholds identified in the Niagara TIS Guidelines. The site-specific impact to the delay is identified to be no more than 3 seconds on any one movement.

Overall, it's projected that this intersection will continue to operate within capacity under future conditions with the existing configuration, albeit increased delays may be observed in the longer term. Increases to projected delays and v/c ratios is primarily related to corridor growth which may or may not eventuate to the extent assumed in the base analysis. Therefore, it's recommended that the intersection be monitored over time.

8.4.12 Ontario Street / John Street (Unsignalized)

The Ontario / John Street intersection is unsignalized. The intersection is projected to operate at LOS B or better in all analysis scenarios.

The projected 95th percentile queues remain within the available storage lengths in all scenarios and there are no through queues projected to block access to turning lanes.

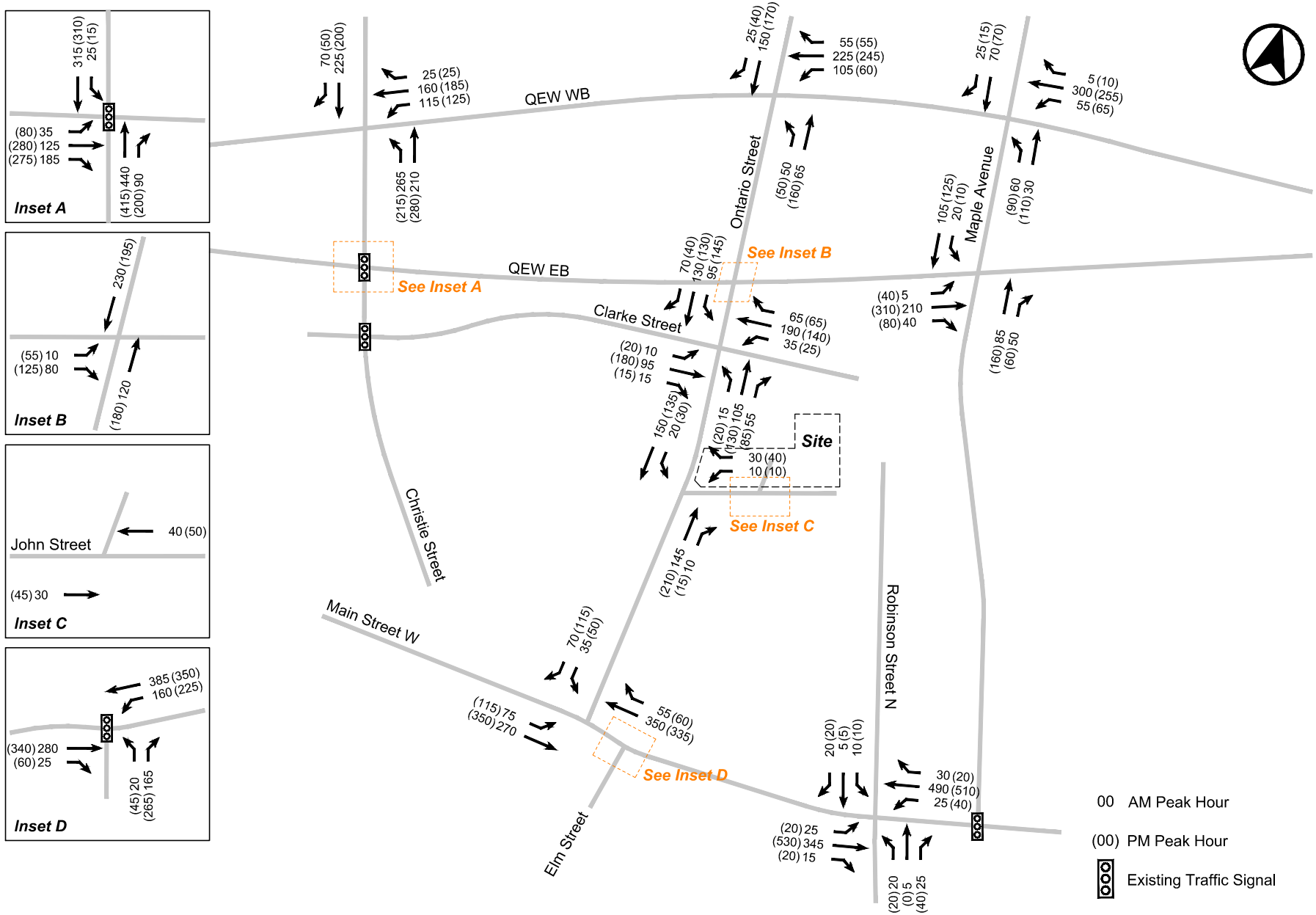
Overall, the intersection is projected to accommodate traffic associated with the proposed development.

8.4.13 John Street / Proposed Site Driveway (Unsignalized)

The proposed site driveway along John Street will be unsignalized. Under future total conditions, the intersection is projected to operate at LOS A or better in all analysis scenarios.

The projected 95th percentile queues remain within the available storage lengths in all scenarios and there are no through queues projected to block access to turning lanes.

Overall, the intersection is projected to accommodate traffic associated with the proposed development.



Date Plotted: April 22, 2026 Filename: P:\83\33\01\Graphics\CAD\Fig20-00-FB_Sens.dwg

FIGURE 20 FUTURE BACKGROUND TRAFFIC VOLUMES (2040 HORIZON) - SENSITIVITY ANALYSIS (NO CORRIDOR GROWTH)

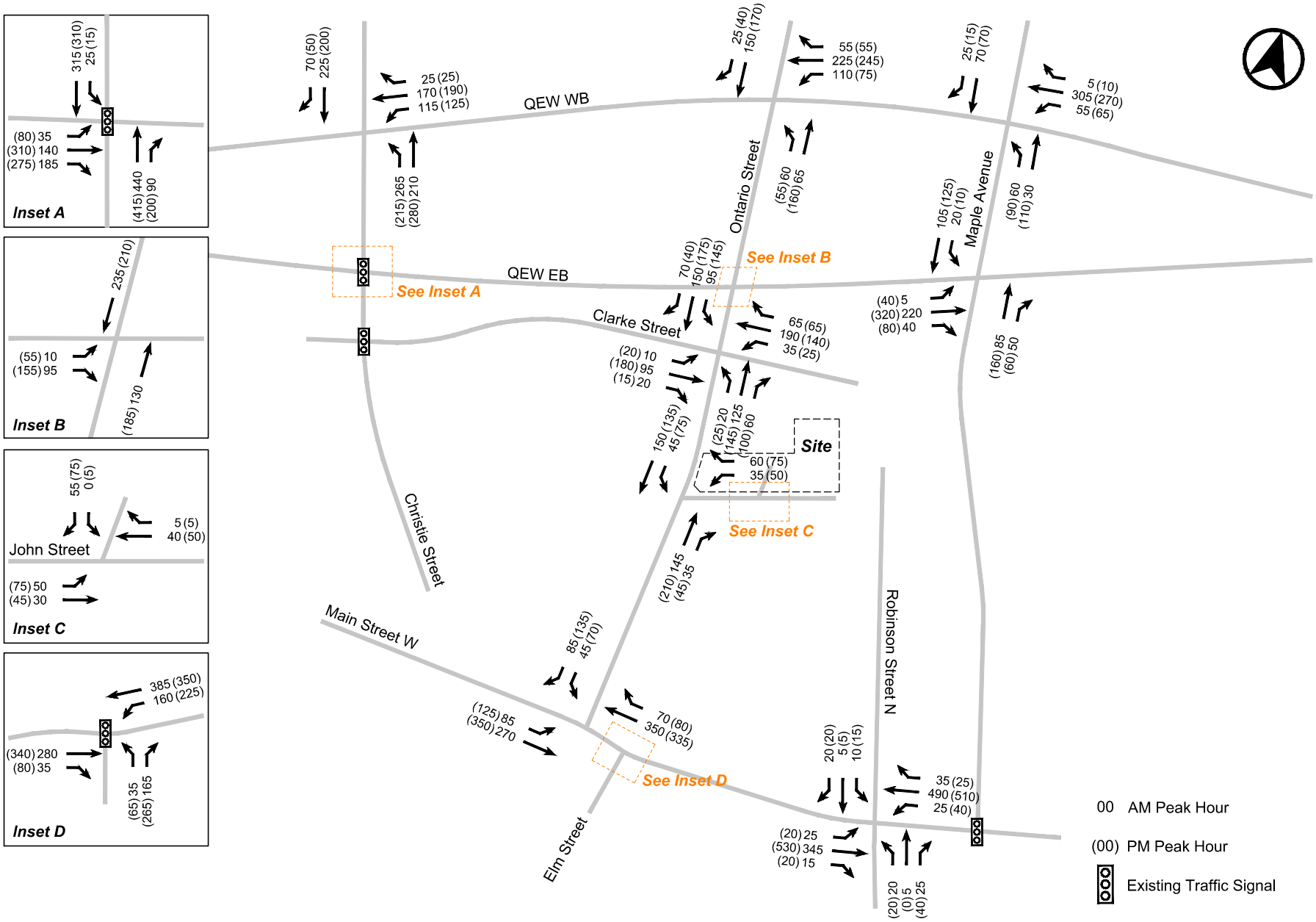


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FIGURE 21 FUTURE TOTAL TRAFFIC VOLUMES (2040 HORIZON) - SENSITIVITY ANALYSIS (NO CORRIDOR GROWTH)

Table 20 Signalized Intersections – Analysis Results

	Existing			2030 Horizon Year						2035 Horizon Year						2040 Horizon Year					
				Future Background			Future Total			Future Background			Future Total			Future Background			Future Total		
	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)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
QEW EB Ramp Terminal / Christie St																					
EBTR	0.42 (0.62)	C (C)	25.8 (24.1)	0.47 (0.66)	C (C)	25.7 (23.4)	0.49 (0.67)	C (C)	25.6 (23.0)	0.50 (0.69)	C (C)	25.6 (22.6)	0.51 (0.70)	C (C)	25.3 (22.5)	0.52 (0.73)	C (C)	25.3 (22.3)	0.53 (0.74)	C (C)	25.3 (22.1)
NBTR	0.24 (0.31)	A (A)	2.9 (3.8)	0.28 (0.37)	A (A)	3.0 (4.0)	0.28 (0.38)	A (A)	3.0 (4.2)	0.30 (0.42)	A (A)	3.2 (4.8)	0.30 (0.43)	A (A)	3.3 (5.0)	0.32 (0.47)	A (A)	3.6 (5.6)	0.33 (0.47)	A (A)	3.6 (5.9)
SBL	0.05 (0.04)	A (A)	4.4 (6.5)	0.07 (0.05)	A (A)	3.1 (6.2)	0.07 (0.05)	A (A)	3.2 (6.7)	0.07 (0.07)	A (A)	3.1 (7.5)	0.07 (0.07)	A (A)	3.3 (7.8)	0.09 (0.08)	A (A)	3.5 (8.7)	0.09 (0.09)	A (A)	3.6 (9.1)
SBT	0.14 (0.17)	A (A)	4.6 (7.0)	0.16 (0.19)	A (A)	3.1 (6.9)	0.16 (0.19)	A (A)	3.2 (7.3)	0.16 (0.21)	A (A)	3.2 (8.0)	0.17 (0.21)	A (A)	3.4 (8.4)	0.17 (0.23)	A (A)	3.4 (9.3)	0.18 (0.24)	A (A)	3.5 (9.7)
Overall	**0.28 (0.40)**	**A (B)**	**9.7 (12.7)**	**0.31 (0.46)**	**A (B)**	**9.6 (12.6)**	**0.32 (0.47)**	**A (B)**	**9.8 (12.8)**	**0.34 (0.52)**	**A (B)**	**9.9 (12.9)**	**0.34 (0.53)**	**B (B)**	**10.1 (13.2)**	**0.36 (0.57)**	**B (B)**	**10.1 (13.5)**	**0.37 (0.58)**	**B (B)**	**10.4 (13.8)**
Main St E / Elm St																					
EBTR	0.35 (0.37)	A (A)	9.1 (9.7)	0.42 (0.46)	A (B)	9.6 (10.5)	0.43 (0.48)	A (B)	9.7 (10.7)	0.46 (0.51)	A (B)	9.9 (10.9)	0.47 (0.53)	B (B)	10.1 (11.4)	0.50 (0.57)	B (B)	10.3 (12.1)	0.51 (0.60)	B (B)	10.4 (12.9)
WBL	0.28 (0.34)	A (A)	4.3 (4.7)	0.32 (0.38)	A (A)	4.6 (5.1)	0.32 (0.39)	A (A)	4.6 (5.3)	0.33 (0.40)	A (A)	4.8 (5.5)	0.34 (0.42)	A (A)	4.9 (5.7)	0.35 (0.44)	A (A)	5.0 (6.2)	0.36 (0.45)	A (A)	5.1 (6.5)
WBT	0.34 (0.26)	A (A)	5.3 (4.9)	0.43 (0.32)	A (A)	6.0 (5.3)	0.43 (0.32)	A (A)	6.0 (5.3)	0.46 (0.35)	A (A)	6.4 (5.5)	0.46 (0.35)	A (A)	6.4 (5.5)	0.51 (0.38)	A (A)	6.8 (5.7)	0.51 (0.38)	A (A)	6.8 (5.7)
NBL	0.12 (0.20)	C (C)	29.9 (30.0)	0.12 (0.20)	C (C)	29.9 (30.0)	0.21 (0.28)	C (C)	30.4 (30.5)	0.12 (0.20)	C (C)	29.9 (30.0)	0.21 (0.28)	C (C)	30.4 (30.5)	0.12 (0.20)	C (C)	29.9 (30.0)	0.21 (0.28)	C (C)	30.4 (30.5)
NBR	0.14 (0.19)	C (C)	30.0 (30.0)	0.14 (0.19)	C (C)	30.0 (30.0)	0.14 (0.19)	C (C)	30.0 (30.0)	0.14 (0.19)	C (C)	30.0 (30.0)	0.14 (0.19)	C (C)	30.0 (30.0)	0.14 (0.19)	C (C)	30.0 (30.0)	0.14 (0.19)	C (C)	30.0 (30.0)
Overall	**0.32 (0.33)**	**B (B)**	**11.1 (12.7)**	**0.39 (0.40)**	**B (B)**	**11.0 (12.6)**	**0.40 (0.43)**	**B (B)**	**11.3 (12.9)**	**0.43 (0.44)**	**B (B)**	**11.0 (12.6)**	**0.44 (0.47)**	**B (B)**	**11.3 (13.0)**	**0.46 (0.48)**	**B (B)**	**11.2 (13.0)**	**0.47 (0.52)**	**B (B)**	**11.5 (13.5)**

Notes:

1. XX (XX) – AM Peak Hour (PM Peak Hour)

Table 21 Signalized Intersections – Queue Results

Movement	Approximate Storage Length (m)	Existing		2030 Horizon Year				2035 Horizon Year				2040 Horizon Year			
				Future Background		Future Total		Future Background		Future Total		Future Background		Future Total	
		50%ile Queue (m)	95%ile Queue (m)	50%ile Queue (m)	95%ile Queue (m)	50%ile Queue (m)	95%ile Queue (m)	50%ile Queue (m)	95%ile Queue (m)	50%ile Queue (m)	95%ile Queue (m)	50%ile Queue (m)	95%ile Queue (m)	50%ile Queue (m)	95%ile Queue (m)
QEW EB Ramp Terminal / Christie St															
EBTLR	650	9.8 (22.6)	19.8 (33.6)	11.5 (27.0)	21.9 (38.0)	12.4 (29.0)	23.0 (40.0)	12.7 (32.7)	23.6 (42.6)	13.7 (34.6)	24.3 (44.6)	13.7 (38.0)	24.4 (50.7)	14.7 (40.0)	25.5 (53.8)
NBTLR	40	5.5 (8.6)	9.7 (13.0)	6.8 (9.4)	10.5 (13.3)	7.0 (9.7)	10.8 (13.5)	8.8 (12.0)	13.7 (16.3)	9.0 (12.2)	14.6 (16.6)	12.5 (13.2)	17.4 (18.2)	12.7 (13.3)	17.7
SBL	50	1.1 (0.9)	4.2 (4.2)	1.3 (0.9)	5.2 (4.5)	1.4 (1.0)	5.3 (4.6)	1.4 (1.3)	5.3 (5.8)	1.4 (1.4)	5.6 (6.0)	1.6 (1.5)	6.4 (6.0)	1.7 (1.5)	6.5 (6.0)
SBT	130	7.0 (9.7)	13.7 (19.3)	8.0 (11.3)	15.6 (21.9)	8.1 (11.5)	15.9 (22.4)	8.4 (12.7)	16.6 (24.6)	8.6 (13.1)	17.5 (25.1)	9.1 (14.8)	18.4 (26.2)	9.2 (15.2)	18.7 (26.2)
Main St E / Elm St															
EBTR	200	27.2 (28.1)	39.8 (57.8)	34.0 (37.9)	48.1 (75.7)	35.3 (40.0)	49.5 (80.1)	38.3 (43.9)	53.4 (86.5)	39.7 (46.7)	55.0 (91.3)	43.0 (52.7)	58.7 (100.9)	44.3 (56.3)	60.7 (106.3)
WBL	50	6.6 (8.0)	10.7 (17.9)	6.8 (8.0)	11.0 (17.9)	6.8 (8.0)	11.0 (17.9)	6.8 (8.0)	11.0 (17.9)	6.8 (8.0)	11.0 (17.9)	6.8 (8.0)	11.0 (17.9)	6.8 (8.0)	11.0 (17.9)
WBT	350	21.7 (15.7)	29.6 (31.5)	29.8 (19.9)	39.0 (39.0)	29.8 (19.9)	39.0 (39.0)	33.4 (22.7)	43.2 (44.0)	33.4 (22.7)	43.2 (44.0)	38.1 (25.3)	48.4 (48.8)	38.1 (25.3)	48.4 (48.8)
NBL	45	3.8 (6.9)	8.8 (15.6)	3.8 (6.9)	8.8 (15.6)	6.7 (10.2)	13.1 (20.8)	3.8 (6.9)	8.8 (15.6)	6.7 (10.2)	13.1 (20.8)	3.8 (6.9)	8.8 (15.6)	6.7 (10.2)	13.1 (20.8)
NBR	240	0.0 (0.0)	9.7 (20.1)	0.0 (0.0)	9.7 (20.1)	0.0 (0.0)	9.7 (20.1)	0.0 (0.0)	9.7 (20.1)	0.0 (0.0)	9.7 (20.1)	0.0 (0.0)	9.7 (20.1)	0.0 (0.0)	9.7 (20.1)

Notes:
1. XX (XX) – AM Peak Hour (PM Peak Hour)

Table 22 Unsignalized Intersections – Analysis Results

Movement	Existing			2030 Horizon Year						2035 Horizon Year						2040 Horizon Year					
				Future Background			Future Total			Future Background			Future Total			Future Background			Future Total		
	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)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
QEW Westbound Ramp Terminal / Christie St																					
WBTR	0.62 (0.64)	D (D)	33.4 (33.0)	0.42 (0.45)	C (D)	24.7 (26.0)	0.44 (0.46)	D (D)	25.5 (26.5)	0.51 (0.57)	D (D)	31.6 (34.9)	0.53 (0.58)	D (E)	32.9 (35.6)	0.66 (0.67)	E (E)	46.4 (44.3)	0.69 (0.68)	E (E)	49.5 (45.5)
WBTL	0.31 (0.34)	C (C)	19.6 (20.6)	0.86 (0.86)	F (F)	65.9 (61.5)	0.88 (0.87)	F (F)	69.5 (63.2)	1.06 (1.08)	F (F)	120.9 (121.5)	1.08 (1.09)	F (F)	127.9 (125.0)	1.37 (1.28)	F (F)	240.8 (194.8)	1.40 (1.29)	F (F)	252.6 (199.5)
NBL	0.23 (0.16)	A (A)	9.0 (8.4)	0.27 (0.19)	A (A)	9.2 (8.5)	0.27 (0.19)	A (A)	9.2 (8.5)	0.30 (0.22)	A (A)	9.4 (8.7)	0.30 (0.22)	A (A)	9.4 (8.7)	0.33 (0.24)	A (A)	9.7 (8.8)	0.33 (0.24)	A (A)	9.7 (8.8)
QEW Westbound Ramp Terminal / Ontario St																					
WBTL	0.40 (0.43)	C (C)	15.5 (18.7)	0.48 (0.52)	C (C)	17.7 (22.2)	0.51 (0.57)	C (C)	18.9 (24.3)	0.55 (0.61)	C (D)	19.9 (26.4)	0.58 (0.66)	C (D)	21.4 (29.6)	0.63 (0.70)	C (D)	23.2 (33.1)	0.66 (0.76)	D (E)	25.5 (38.4)
WBTR	0.27 (0.37)	B (C)	12.7 (15.9)	0.33 (0.44)	B (C)	13.8 (17.8)	0.34 (0.45)	B (C)	14.2 (18.2)	0.37 (0.51)	B (C)	14.5 (20.2)	0.38 (0.52)	B (C)	14.9 (20.7)	0.42 (0.58)	C (C)	15.7 (23.2)	0.44 (0.59)	C (C)	16.3 (23.9)
NBL	0.04 (0.04)	A (A)	7.7 (7.8)	0.04 (0.05)	A (A)	7.7 (7.8)	0.05 (0.05)	A (A)	7.8 (7.9)	0.05 (0.05)	A (A)	7.8 (7.9)	0.06 (0.06)	A (A)	7.8 (7.9)	0.05 (0.06)	A (A)	7.8 (7.9)	0.06 (0.06)	A (A)	7.8 (7.9)
QEW Westbound Ramp Terminal / Maple Ave																					
WBTL	0.34 (0.38)	B (C)	13.7 (16.3)	0.41 (0.45)	C (C)	15.1 (18.2)	0.42 (0.47)	C (C)	15.2 (18.6)	0.47 (0.54)	C (C)	16.7 (21.6)	0.47 (0.56)	C (C)	16.8 (22.2)	0.53 (0.62)	C (D)	18.5 (25.6)	0.54 (0.64)	C (D)	18.6 (26.5)
WBTR	0.26 (0.26)	B (B)	12.8 (14.3)	0.31 (0.32)	B (C)	13.8 (15.3)	0.32 (0.33)	B (C)	13.8 (15.5)	0.36 (0.37)	B (C)	14.7 (16.9)	0.36 (0.38)	B (C)	14.8 (17.2)	0.41 (0.43)	C (C)	15.8 (18.6)	0.41 (0.45)	C (C)	15.9 (19.0)
NBL	0.04 (0.06)	A (A)	7.5 (7.5)	0.05 (0.07)	A (A)	7.6 (7.5)	0.05 (0.07)	A (A)	7.6 (7.5)	0.06 (0.08)	A (A)	7.6 (7.6)	0.06 (0.08)	A (A)	7.6 (7.6)	0.06 (0.09)	A (A)	7.6 (7.6)	0.06 (0.09)	A (A)	7.6 (7.6)
QEW Eastbound Ramp Terminal / Maple Ave																					
EBTL	0.17 (0.34)	B (B)	12.1 (14.5)	0.22 (0.41)	B (C)	12.9 (15.9)	0.23 (0.42)	B (C)	13.0 (16.1)	0.25 (0.48)	B (C)	13.6 (17.9)	0.26 (0.49)	B (C)	13.7 (18.2)	0.28 (0.54)	B (C)	14.1 (20.0)	0.29 (0.55)	B (C)	14.2 (20.4)
EBTR	0.21 (0.37)	B (B)	11.7 (14.0)	0.26 (0.45)	B (C)	12.5 (15.5)	0.27 (0.46)	B (C)	12.7 (15.7)	0.30 (0.52)	B (C)	13.2 (17.5)	0.31 (0.53)	B (C)	13.4 (17.8)	0.33 (0.58)	B (C)	13.8 (19.6)	0.34 (0.59)	B (C)	14.0 (19.9)
QEW Eastbound Ramp Terminal / Ontario St																					
EBTL	0.18 (0.51)	C (C)	15.0 (21.9)	0.23 (0.64)	C (D)	16.4 (28.5)	0.24 (0.66)	C (D)	16.9 (31.1)	0.27 (0.73)	C (E)	17.6 (36.2)	0.28 (0.76)	C (E)	18.2 (40.2)	0.31 (0.84)	C (F)	19.0 (50.1)	0.33 (0.88)	C (F)	19.7 (57.1)

Movement	Existing			2030 Horizon Year						2035 Horizon Year						2040 Horizon Year					
				Future Background			Future Total			Future Background			Future Total			Future Background			Future Total		
	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)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBTR	0.26 (0.54)	B (C)	13.5 (19.2)	0.33 (0.67)	B (D)	14.9 (25.3)	0.36 (0.73)	C (D)	15.4 (29.4)	0.37 (0.76)	C (D)	16.1 (32.5)	0.40 (0.83)	C (E)	16.6 (39.7)	0.42 (0.86)	C (E)	17.4 (44.4)	0.45 (0.94)	C (F)	18.1 (57.1)
SBL	0.04 (0.04)	A (A)	7.7 (7.8)	0.04 (0.05)	A (A)	7.7 (7.9)	0.04 (0.05)	A (A)	7.8 (8.0)	0.05 (0.05)	A (A)	7.8 (8.0)	0.05 (0.05)	A (A)	7.8 (8.0)	0.05 (0.06)	A (A)	7.8 (8.0)	0.05 (0.06)	A (A)	7.9 (8.0)
Ontario St / Clarke St																					
EBTLR	0.37 (0.75)	C (E)	20.9 (46.2)	0.43 (0.87)	C (F)	24.2 (66.3)	0.49 (1.01)	D (F)	28.1 (105.2)	0.48 (0.97)	D (F)	27.6 (92.4)	0.55 (1.14)	D (F)	33.5 (149.9)	0.54 (1.09)	D (F)	32.6 (130.9)	0.64 (1.29)	E (F)	42.9 (210.7)
WBTLR	0.76 (0.69)	E (E)	36.1 (35.9)	0.86 (0.79)	F (E)	50.6 (49.0)	0.94 (0.93)	F (F)	67.7 (79.7)	0.94 (0.90)	F (F)	66.0 (71.1)	1.02 (1.11)	F (F)	90.2 (136.6)	1.02 (1.06)	F (F)	87.5 (114.6)	1.11 (1.48)	F (F)	119.4 (288.7)
NBTLR	0.01 (0.02)	A (A)	0.8 (0.8)	0.01 (0.02)	A (A)	0.8 (0.8)	0.02 (0.02)	A (A)	0.9 (0.9)	0.01 (0.02)	A (A)	0.7 (0.7)	0.02 (0.02)	A (A)	0.9 (0.8)	0.01 (0.02)	A (A)	0.7 (0.7)	0.02 (0.02)	A (A)	0.8 (0.8)
SBTL	0.08 (0.11)	A (A)	5.0 (5.9)	0.08 (0.11)	A (A)	4.7 (5.7)	0.08 (0.12)	A (A)	4.5 (5.3)	0.08 (0.12)	A (A)	4.5 (5.5)	0.08 (0.12)	A (A)	4.4 (5.2)	0.08 (0.12)	A (A)	4.3 (5.3)	0.08 (0.12)	A (A)	4.2 (5.0)
Main St E / Robinson St																					
EBTLR	0.03 (0.02)	A (A)	0.9 (0.6)	0.16 (0.15)	E (D)	35.4 (34.6)	0.16 (0.15)	E (E)	35.9 (35.4)	0.16 (0.15)	E (E)	36.5 (35.2)	0.17 (0.15)	E (E)	38.5 (35.3)	0.17 (0.15)	E (D)	37.4 (34.3)	0.17 (0.14)	E (D)	38.9 (33.7)
WBTLR	0.02 (0.04)	A (A)	0.7 (1.1)	0.08 (0.08)	B (B)	14.4 (12.9)	0.08 (0.08)	B (B)	14.5 (12.9)	0.08 (0.09)	B (B)	14.7 (13.4)	0.09 (0.09)	B (B)	15.0 (13.4)	0.09 (0.09)	C (B)	15.0 (14.1)	0.09 (0.09)	C (B)	15.2 (14.1)
NBL	0.12 (0.15)	D (D)	26.9 (34.6)	0.08 (0.08)	D (D)	33.7 (34.3)	0.08 (0.12)	D (E)	34.2 (36.2)	0.08 (0.08)	D (D)	34.7 (34.9)	0.09 (0.12)	E (E)	36.4 (36.2)	0.08 (0.08)	E (D)	35.4 (34.2)	0.09 (0.11)	E (D)	36.7 (34.8)
SBL	0.06 (0.07)	D (D)	26.1 (34.0)	0.08 (0.07)	C (B)	15.8 (14.8)	0.08 (0.07)	C (B)	15.8 (14.9)	0.08 (0.07)	C (C)	16.3 (15.3)	0.08 (0.07)	C (C)	16.6 (15.3)	0.08 (0.07)	C (C)	16.9 (15.5)	0.09 (0.07)	C (C)	17.1 (15.5)
Main St E / Ontario St																					
EBTL	0.08 (0.11)	A (A)	2.6 (3.1)	0.08 (0.11)	A (A)	2.6 (3.0)	0.10 (0.13)	A (A)	2.9 (3.3)	0.09 (0.12)	A (A)	2.5 (3.1)	0.10 (0.13)	A (A)	2.9 (3.4)	0.09 (0.12)	A (A)	2.6 (3.1)	0.11 (0.14)	A (A)	2.9 (3.4)
SBL	0.12 (0.18)	B (B)	10.9 (11.4)	0.20 (0.29)	C (D)	23.7 (29.7)	0.26 (0.42)	D (E)	26.6 (36.7)	0.24 (0.35)	D (E)	27.1 (35.0)	0.32 (0.50)	D (E)	31.2 (45.3)	0.31 (0.43)	D (E)	32.3 (42.8)	0.40 (0.59)	E (F)	38.3 (58.6)
Ontario St / John St																					
WBLR	0.07 (0.08)	B (B)	10.2 (10.3)	0.08 (0.08)	B (B)	10.5 (10.5)	0.21 (0.25)	B (B)	12.4 (13.3)	0.08 (0.08)	B (B)	10.6 (10.7)	0.22 (0.26)	B (B)	12.7 (13.8)	0.08 (0.09)	B (B)	10.8 (10.9)	0.23 (0.27)	B (B)	13.1 (14.2)

Movement	Existing			2030 Horizon Year						2035 Horizon Year						2040 Horizon Year					
				Future Background			Future Total			Future Background			Future Total			Future Background			Future Total		
	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)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
SBLT	0.02 (0.03)	A (A)	1.1 (1.7)	0.02 (0.03)	A (A)	1.0 (1.5)	0.05 (0.07)	A (A)	2.0 (3.1)	0.02 (0.03)	A (A)	0.9 (1.4)	0.05 (0.07)	A (A)	1.9 (2.9)	0.02 (0.03)	A (A)	0.9 (1.3)	0.05 (0.07)	A (A)	1.8 (2.7)
John St / Site Driveway																					
EBTL	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	0.03 (0.05)	A (A)	4.7 (4.8)	-- (--)	-- (--)	-- (--)	0.03 (0.05)	A (A)	4.7 (4.8)	-- (--)	-- (--)	-- (--)	0.03 (0.05)	A (A)	4.7 (4.8)
SBLR	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	0.08 (0.09)	A (A)	8.9 (9.0)	-- (--)	-- (--)	-- (--)	0.08 (0.09)	A (A)	8.9 (9.0)	-- (--)	-- (--)	-- (--)	0.08 (0.09)	A (A)	8.9 (9.0)

Notes:

1. XX (XX) – AM Peak Hour (PM Peak Hour)

Table 23 Unsignalized Intersections – Queue Results

Movement	Approximate Storage Length (m)	Existing	2030 Horizon Year		2035 Horizon Year		2040 Horizon Year	
			Future Background	Future Total	Future Background	Future Total	Future Background	Future Total
		95%ile Queue (m)	95%ile Queue (m)	95%ile Queue (m)	95%ile Queue (m)	95%ile Queue (m)	95%ile Queue (m)	95%ile Queue (m)
QEW WB Ramp Terminal / Christie St								
WBTR	400	30.6 (33.6)	15.8 (17.7)	16.9 (18.4)	21.5 (26.0)	23.1 (26.9)	33.0 (34.1)	35.7 (35.2)
WBTL	400	10.3 (12.0)	58.2 (59.0)	61.0 (60.4)	85.1 (92.9)	88.8 (94.9)	127.1 (124.3)	132.0 (126.5)
NBL	65	7.2 (4.6)	8.6 (5.8)	8.6 (5.8)	10.0 (6.6)	10.0 (6.6)	11.8 (7.3)	11.8 (7.3)
QEW WB Ramp Terminal / Ontario St								
WBTL	240	15.5 (16.9)	21.0 (23.5)	23.3 (27.7)	26.5 (31.2)	29.4 (36.8)	34.1 (41.7)	38.0 (49.3)
WBTR	240	8.8 (13.3)	11.6 (17.7)	12.1 (18.1)	13.5 (23.0)	14.1 (23.6)	16.9 (28.8)	17.7 (29.7)
NBL	65	0.9 (0.9)	1.1 (1.2)	1.3 (1.3)	1.2 (1.3)	1.4 (1.4)	1.3 (1.4)	1.5 (1.6)
QEW WB Ramp Terminal / Maple Ave								
WBTL	600	12.0 (13.9)	16.1 (18.7)	16.4 (19.9)	19.9 (25.2)	20.2 (26.8)	24.9 (32.6)	25.3 (34.6)
WBTR	600	8.3 (8.3)	10.7 (10.8)	10.9 (11.6)	12.8 (13.3)	13.0 (14.3)	15.6 (16.8)	15.9 (18.0)
NBL	40	1.1 (1.6)	1.2 (1.7)	1.2 (1.7)	1.4 (2.0)	1.4 (2.0)	1.5 (2.3)	1.5 (2.3)
QEW EB Ramp Terminal / Maple Ave								
EBTL	240	5.0 (12.0)	6.6 (16.0)	6.9 (16.6)	7.8 (20.6)	8.2 (21.5)	9.0 (25.3)	9.4 (26.2)
EBTR	240	6.1 (13.5)	8.4 (18.6)	8.8 (19.3)	10.0 (23.6)	10.5 (24.5)	11.5 (29.1)	11.9 (30.1)
SBL	90	0.3 (0.2)	0.4 (0.2)	0.4 (0.2)	0.5 (0.2)	0.5 (0.2)	0.5 (0.3)	0.5 (0.3)
QEW EB Ramp Terminal / Ontario St								
EBTL	370	5.1 (22.5)	7.1 (34.1)	7.5 (37.0)	8.5 (45.4)	8.9 (49.2)	10.6 (61.8)	11.1 (67.1)
EBTR	370	8.1 (25.2)	11.6 (39.1)	13.0 (48.5)	13.8 (53.1)	15.5 (66.2)	16.6 (71.3)	18.7 (88.7)
SBL	90	0.9 (1.0)	1.0 (1.2)	1.1 (1.2)	1.1 (1.3)	1.2 (1.3)	1.3 (1.4)	1.3 (1.4)
Ontario St / Clarke St								
EBTLR	360	13.5 (44.7)	16.6 (59.6)	20.1 (76.3)	19.8 (74.0)	24.6 (93.7)	24.0 (90.6)	31.3 (113.2)

Movement	Approximate Storage Length (m)	Existing	2030 Horizon Year		2035 Horizon Year		2040 Horizon Year	
			Future Background	Future Total	Future Background	Future Total	Future Background	Future Total
		95%ile Queue (m)	95%ile Queue (m)	95%ile Queue (m)	95%ile Queue (m)	95%ile Queue (m)	95%ile Queue (m)	95%ile Queue (m)
WBTLR	> 1 km	50.4 (39.7)	66.4 (51.0)	78.8 (68.2)	79.7 (66.1)	94.2 (92.2)	95.1 (87.5)	111.3 (134.3)
NBTLR	> 1 km	0.3 (0.4)	0.3 (0.4)	0.4 (0.5)	0.3 (0.4)	0.4 (0.5)	0.3 (0.4)	0.4 (0.5)
SBTL	50	2.0 (3.0)	2.0 (3.1)	2.1 (3.2)	2.1 (3.1)	2.1 (3.2)	2.1 (3.2)	2.1 (3.3)
Main St E / Robinson St								
EBTLR	100	0.7 (0.5)	0.8 (0.5)	0.8 (0.5)	0.8 (0.6)	0.8 (0.6)	0.9 (0.6)	0.9 (0.6)
WBTLR	80	0.6 (1.0)	0.6 (1.1)	0.6 (1.1)	0.6 (1.2)	0.6 (1.2)	0.7 (1.2)	0.7 (1.2)
NBL	20	3.1 (4.0)	4.3 (4.0)	4.4 (4.1)	4.5 (4.1)	4.7 (4.1)	4.6 (4.0)	4.8 (3.9)
NBTR	500	1.8 (1.9)	2.1 (2.1)	2.1 (2.1)	2.2 (2.3)	2.2 (2.3)	2.3 (2.5)	2.3 (2.5)
SBL	45	1.5 (1.9)	2.1 (1.9)	2.1 (3.0)	2.1 (2.0)	2.3 (3.0)	2.2 (1.9)	2.3 (2.9)
SBTR	430	1.7 (1.6)	2.0 (1.7)	2.0 (1.7)	2.1 (1.8)	2.1 (1.8)	2.2 (1.8)	2.2 (1.8)
Main St E / Ontario St								
EBTL	160	2.0 (2.9)	2.2 (3.1)	2.6 (3.5)	2.3 (3.2)	2.7 (3.6)	2.4 (3.3)	2.9 (3.8)
SBL	25	3.2 (4.9)	5.7 (9.2)	8.0 (15.2)	7.4 (11.8)	10.5 (19.4)	9.9 (15.3)	14.0 (25.0)
SBR	380	3.2 (5.2)	4.5 (6.2)	5.5 (7.7)	5.7 (7.6)	6.9 (9.2)	7.3 (9.6)	8.6 (11.5)
Ontario St / John St								
WBLR	200	1.9 (2.0)	2.0 (2.1)	6.4 (7.8)	2.1 (2.2)	6.7 (8.2)	2.2 (2.2)	7.0 (8.6)
SBLT	100	0.5 (0.6)	0.5 (0.6)	1.2 (1.8)	0.5 (0.7)	1.2 (1.8)	0.5 (0.7)	1.2 (1.8)
John St / Site Driveway								
EBTL	80	-- (--)	-- (--)	0.9 (1.3)	-- (--)	0.9 (1.3)	-- (--)	0.9 (1.3)
SBLR	40	-- (--)	-- (--)	2.1 (2.3)	-- (--)	2.1 (2.3)	-- (--)	2.1 (2.3)

Notes:
1. XX (XX) – AM Peak Hour (PM Peak Hour)

Table 24 Unsignalized Intersections – Potential Signalized Configuration Analysis Results

	Existing			2030 Horizon Year						2035 Horizon Year						2040 Horizon Year					
				Future Background			Future Total			Future Background			Future Total			Future Background			Future Total		
	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)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
QEW WB Ramp Terminal / Christie St																					
WBTLR	*Stop controlled under existing conditions.*			0.55 (0.57)	C (C)	24.3 (25.5)	0.55 (0.57)	C (C)	24.2 (25.6)	0.57 (0.59)	C (C)	24.4 (25.1)	0.57 (0.60)	C (C)	24.3 (25.3)	0.59 (0.60)	C (C)	24.3 (24.4)	0.60 (0.61)	C (C)	24.2 (24.7)
NBL				0.55 (0.39)	A (A)	7.5 (7.0)	0.55 (0.39)	A (A)	7.7 (7.0)	0.62 (0.45)	A (A)	9.5 (7.1)	0.62 (0.45)	A (A)	9.6 (7.2)	0.71 (0.50)	B (A)	12.7 (8.0)	0.71 (0.50)	B (A)	12.9 (7.9)
NBT				0.11 (0.14)	A (A)	1.7 (5.0)	0.11 (0.14)	A (A)	1.8 (5.0)	0.11 (0.15)	A (A)	2.0 (4.6)	0.12 (0.15)	A (A)	2.0 (4.6)	0.12 (0.16)	A (A)	2.2 (4.8)	0.12 (0.16)	A (A)	2.2 (4.8)
SBTR				0.15 (0.12)	A (A)	5.8 (5.8)	0.15 (0.12)	A (A)	5.9 (5.9)	0.15 (0.13)	A (A)	6.1 (6.3)	0.15 (0.13)	A (A)	6.2 (6.3)	0.16 (0.13)	A (A)	6.5 (6.7)	0.16 (0.13)	A (A)	6.6 (6.7)
Overall				**0.55 (0.43)**	**B (B)**	**10.9 (12.1)**	**0.55 (0.44)**	**B (B)**	**11.0 (12.3)**	**0.60 (0.49)**	**B (B)**	**11.7 (12.3)**	**0.61 (0.49)**	**B (B)**	**11.8 (12.4)**	**0.68 (0.53)**	**B (B)**	**12.9 (12.6)**	**0.68 (0.53)**	**B (B)**	**13.0 (12.7)**
Clarke St / Ontario St																					
EBTLR	*Stop controlled under existing conditions.*			0.13 (0.23)	A (A)	3.8 (8.8)	0.14 (0.24)	A (B)	3.8 (10.0)	0.14 (0.25)	A (A)	3.9 (9.6)	0.15 (0.26)	A (B)	3.9 (10.8)	0.15 (0.26)	A (B)	3.7 (10.3)	0.15 (0.27)	A (B)	3.7 (11.5)
WBTLR				0.32 (0.24)	A (A)	7.6 (7.5)	0.33 (0.24)	A (A)	8.3 (8.3)	0.34 (0.25)	A (A)	8.0 (7.9)	0.35 (0.26)	A (A)	8.7 (8.7)	0.36 (0.27)	A (A)	8.4 (8.3)	0.37 (0.28)	A (A)	9.2 (9.1)
NBTLR				0.56 (0.61)	C (C)	25.4 (25.6)	0.62 (0.65)	C (C)	26.2 (25.7)	0.57 (0.63)	C (C)	25.4 (25.6)	0.63 (0.67)	C (C)	26.1 (25.8)	0.58 (0.64)	C (C)	25.2 (25.5)	0.64 (0.67)	C (C)	25.8 (25.6)
SBTLR				0.57 (0.62)	C (C)	24.9 (25.1)	0.59 (0.66)	C (C)	24.3 (24.8)	0.60 (0.64)	C (C)	24.9 (24.9)	0.61 (0.67)	C (C)	24.4 (24.7)	0.62 (0.66)	C (C)	25.1 (25.2)	0.63 (0.69)	C (C)	24.3 (24.9)
Overall				**0.39 (0.34)**	**B (B)**	**16.6 (17.7)**	**0.41 (0.37)**	**B (B)**	**17.1 (18.5)**	**0.41 (0.36)**	**B (B)**	**16.8 (18.0)**	**0.43 (0.39)**	**B (B)**	**17.3 (18.9)**	**0.43 (0.38)**	**B (B)**	**17.0 (18.3)**	**0.45 (0.41)**	**B (B)**	**17.4 (19.1)**

Notes:
1. XX (XX) – AM Peak Hour (PM Peak Hour)

Table 25 Unsignalized Intersections – Potential Signalized Configuration Queue Results

Movement	Approximate Storage Length (m)	Existing		2030 Horizon Year				2035 Horizon Year				2040 Horizon Year			
				Future Background		Future Total		Future Background		Future Total		Future Background		Future Total	
		50%ile Queue (m)	95%ile Queue (m)	50%ile Queue (m)	95%ile Queue (m)	50%ile Queue (m)	95%ile Queue (m)	50%ile Queue (m)	95%ile Queue (m)	50%ile Queue (m)	95%ile Queue (m)	50%ile Queue (m)	95%ile Queue (m)	50%ile Queue (m)	95%ile Queue (m)
QEW WB Ramp Terminal / Christie St															
WBTLR	400	*Stop controlled under existing conditions.*		20.7 (22.4)	30.4 (31.8)	21.3 (22.8)	31.5 (32.3)	22.6 (25.3)	32.5 (34.7)	23.2 (25.7)	33.7 (35.2)	25.1 (26.9)	35.4 (36.1)	25.7 (27.3)	36.6 (36.7)
NBL	65			14.8 (8.0)	29.3 (23.1)	14.8 (7.9)	29.9 (23.1)	17.0 (9.6)	37.0 (25.4)	17.1 (9.5)	38.1 (25.6)	39.9 (10.9)	86.9 (29.3)	40.1 (10.8)	87.8 (29.1)
NBT	400			1.2 (4.4)	2.5 (12.9)	1.2 (4.4)	2.5 (12.7)	1.3 (4.8)	2.9 (12.6)	1.3 (4.8)	3.1 (12.5)	1.2 (5.2)	3.5 (13.2)	1.3 (5.2)	3.6 (13.1)
SBTR	400			6.1 (5.3)	12.8 (11.2)	6.2 (5.3)	12.9 (11.3)	6.3 (5.6)	13.2 (12.1)	6.3 (5.6)	13.4 (12.1)	6.7 (5.8)	14.1 (12.9)	6.7 (5.8)	14.3 (13.0)
Clarke St / Ontario St															
EBTLR	360	*Stop controlled under existing conditions.*		1.7 (21.2)	10.1 (28.6)	1.6 (22.0)	9.3 (32.6)	1.9 (22.8)	9.6 (33.1)	1.7 (23.7)	8.4 (34.1)	1.8 (24.3)	8.5 (35.3)	1.6 (25.1)	7.1 (35.4)
WBTLR	> 1 km			16.9 (11.4)	37.8 (27.8)	18.0 (12.2)	40.7 (29.9)	18.3 (12.6)	40.4 (30.3)	19.2 (13.5)	43.4 (32.2)	19.7 (13.8)	42.9 (32.3)	20.6 (14.7)	45.8 (34.5)
NBTLR	> 1 km			19.0 (23.6)	34.4 (40.4)	23.1 (27.5)	39.1 (44.5)	20.5 (25.9)	36.2 (42.6)	24.5 (29.7)	40.8 (47.0)	21.8 (27.4)	37.9 (44.3)	26.0 (31.0)	42.4 (48.5)
SBTLR	50			17.0 (19.3)	26.4 (28.1)	18.4 (22.2)	27.5 (31.0)	18.6 (20.5)	28.2 (29.4)	20.2 (23.4)	29.3 (32.3)	20.3 (22.3)	30.1 (31.4)	21.7 (25.2)	31.0 (34.2)

Notes:
1. XX (XX) – AM Peak Hour (PM Peak Hour)

Table 26 Unsignalized Intersections – Sensitivity (No Corridor Growth) Analysis Results

Movement	Existing			2040 Horizon Year					
				Future Background			Future Total		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
QEW WB Ramp Terminal / Christie St									
WBTL	0.62 (0.64)	D (D)	33.4 (33.0)	0.70 (0.73)	E (E)	40.8 (41.9)	0.73 (0.74)	E (E)	43.4 (42.8)
WBTR	0.31 (0.34)	C (C)	19.6 (20.6)	0.33 (0.38)	C (C)	20.6 (22.6)	0.36 (0.39)	C (C)	21.4 (22.9)
NBL	0.23 (0.16)	A (A)	9.0 (8.4)	0.24 (0.18)	A (A)	9.0 (8.4)	0.24 (0.18)	A (A)	9.0 (8.4)
QEW WB Ramp Terminal / Ontario St									
WBTL	0.40 (0.43)	C (C)	15.5 (18.7)	0.43 (0.46)	C (C)	16.1 (19.8)	0.46 (0.51)	C (C)	17.5 (21.3)
WBTR	0.27 (0.37)	B (C)	12.7 (15.9)	0.29 (0.39)	B (C)	13.1 (16.4)	0.31 (0.40)	B (C)	13.6 (16.7)
NBL	0.04 (0.04)	A (A)	7.7 (7.8)	0.04 (0.04)	A (A)	7.7 (7.8)	0.05 (0.05)	A (A)	7.7 (7.8)
QEW WB Ramp Terminal / Maple Ave									
WBTL	0.34 (0.38)	B (C)	13.7 (16.3)	0.37 (0.41)	B (C)	14.2 (16.8)	0.37 (0.42)	B (C)	14.3 (17.2)
WBTR	0.26 (0.26)	B (B)	12.8 (14.3)	0.28 (0.28)	B (B)	13.1 (14.5)	0.28 (0.30)	B (B)	13.2 (14.8)
NBL	0.04 (0.06)	A (A)	7.5 (7.5)	0.04 (0.06)	A (A)	7.5 (7.5)	0.04 (0.06)	A (A)	7.5 (7.5)
QEW EB Ramp Terminal / Maple Ave									
EBTL	0.17 (0.34)	B (B)	12.1 (14.5)	0.20 (0.37)	B (C)	12.5 (15.0)	0.21 (0.38)	B (C)	12.6 (15.2)
EBTR	0.21 (0.37)	B (B)	11.7 (14.0)	0.23 (0.40)	B (B)	12.1 (14.6)	0.25 (0.41)	B (B)	12.3 (14.7)
SBL	0.01 (0.01)	A (A)	7.5 (7.7)	0.01 (0.01)	A (A)	7.5 (7.7)	0.01 (0.01)	A (A)	7.5 (7.7)
QEW EB Ramp Terminal / Ontario St									
EBTL	0.18 (0.51)	C (C)	15.0 (21.9)	0.20 (0.55)	C (C)	15.5 (23.8)	0.21 (0.58)	C (D)	16.2 (25.5)
EBTR	0.26 (0.54)	B (C)	13.5 (19.2)	0.29 (0.59)	B (C)	14.1 (21.2)	0.32 (0.65)	B (C)	14.5 (23.7)
SBL	0.04 (0.04)	A (A)	7.7 (7.8)	0.04 (0.04)	A (A)	7.7 (7.9)	0.04 (0.04)	A (A)	7.8 (7.9)
Ontario Street / Clarke St									
EBTLR	0.37 (0.75)	C (E)	20.9 (46.2)	0.39 (0.79)	C (F)	21.8 (52.6)	0.44 (0.92)	D (F)	25.4 (80.4)
WBTLR	0.76 (0.69)	E (E)	36.1 (35.9)	0.79 (0.72)	E (E)	39.9 (39.7)	0.88 (0.84)	F (F)	54.9 (58.6)

Movement	Existing			2040 Horizon Year					
				Future Background			Future Total		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
NBTLR	0.01 (0.02)	A (A)	0.8 (0.8)	0.01 (0.02)	A (A)	0.8 (0.8)	0.02 (0.02)	A (A)	0.9 (0.9)
SBTL	0.08 (0.11)	A (A)	5.0 (5.9)	0.08 (0.11)	A (A)	4.9 (5.8)	0.08 (0.12)	A (A)	4.7 (5.4)
SBTR	0.09 (0.06)	A (A)	0.0 (0.0)	0.09 (0.07)	A (A)	0.0 (0.0)	0.10 (0.08)	A (A)	0.0 (0.0)
Main St E / Robinson St									
NBL	0.12 (0.15)	D (D)	26.9 (34.6)	0.14 (0.14)	D (D)	30.9 (34.0)	0.14 (0.15)	D (E)	31.3 (35.1)
NBTR	0.07 (0.08)	B (B)	13.1 (12.2)	0.08 (0.08)	B (B)	13.7 (12.5)	0.08 (0.08)	B (B)	13.8 (12.5)
SBL	0.06 (0.07)	D (D)	26.1 (34.0)	0.07 (0.07)	D (D)	29.7 (33.6)	0.11 (0.11)	D (E)	31.3 (35.8)
SBTR	0.07 (0.06)	B (B)	14.0 (14.5)	0.07 (0.06)	B (B)	15.0 (14.6)	0.07 (0.07)	B (B)	15.0 (14.8)
Main St E / Ontario St									
EBTL	0.08 (0.11)	A (A)	2.6 (3.1)	0.08 (0.11)	A (A)	2.6 (3.1)	0.09 (0.12)	A (A)	2.9 (3.3)
SBL	0.12 (0.17)	C (C)	18.7 (22.4)	0.16 (0.24)	C (D)	21.4 (26.0)	0.24 (0.35)	C (D)	24.2 (31.1)
SBR	0.12 (0.18)	B (B)	10.9 (11.4)	0.13 (0.19)	B (B)	11.4 (11.7)	0.15 (0.22)	B (B)	11.7 (12.1)
Ontario St / John St									
WBLR	0.07 (0.08)	B (B)	10.2 (10.3)	0.08 (0.08)	B (B)	10.3 (10.4)	0.24 (0.24)	B (B)	12.4 (13.1)
SBLT	0.02 (0.03)	A (A)	1.1 (1.7)	0.02 (0.03)	A (A)	1.1 (1.6)	0.05 (0.07)	A (A)	2.1 (3.3)

Notes:
1. XX (XX) – AM Peak Hour (PM Peak Hour)

Table 27 Unsignalized Intersections – Sensitivity (No Corridor Growth) Queue Results

Movement	Approximate Storage Length (m)	Existing	2040 Horizon Year	
			Future Background	Future Total
		95%ile Queue (m)	95%ile Queue (m)	95%ile Queue (m)
QEW WB Ramp Terminal / Christie St				
WBTR	400	30.6 (33.6)	39.0 (43.0)	42.3 (44.1)
WBTL	400	10.3 (12.0)	11.2 (13.7)	12.6 (14.2)
NBL	65	7.2 (4.6)	7.5 (5.1)	7.5 (5.1)
QEW WB Ramp Terminal / Ontario St				
WBTL	240	15.5 (16.9)	16.9 (19.1)	19.2 (22.4)
WBTR	240	8.8 (13.3)	9.7 (14.7)	10.3 (15.0)
NBL	65	0.9 (0.9)	1.0 (1.1)	1.3 (1.2)
QEW WB Ramp Terminal / Maple Ave				
WBTL	600	12.0 (13.9)	13.4 (15.6)	13.6 (16.6)
WBTR	600	8.3 (8.3)	9.1 (9.2)	9.2 (9.9)
NBL	40	1.1 (1.6)	1.1 (1.6)	1.1 (1.6)
QEW EB Ramp Terminal / Maple Ave				
EBTL	240	5.0 (12.0)	5.7 (13.4)	6.2 (13.9)
EBTR	240	6.1 (13.5)	7.3 (15.4)	7.8 (15.9)
SBL	90	0.3 (0.2)	0.4 (0.2)	0.4 (0.2)
QEW EB Ramp Terminal / Ontario St				
EBTL	370	5.1 (22.5)	6.1 (26.1)	6.4 (28.1)
EBTR	370	8.1 (25.2)	9.5 (29.9)	11.0 (36.8)
SBL	90	0.9 (1.0)	0.9 (1.0)	1.0 (1.0)
Ontario St / Clarke St				
EBTLR	360	13.5 (44.7)	14.2 (49.8)	17.4 (64.0)
WBTLR	> 1 km	50.4 (39.7)	55.0 (43.0)	67.9 (56.1)

Movement	Approximate Storage Length (m)	Existing	2040 Horizon Year	
			Future Background	Future Total
		95%ile Queue (m)	95%ile Queue (m)	95%ile Queue (m)
NBTLR	> 1 km	0.3 (0.4)	0.3 (0.4)	0.4 (0.5)
SBTL	50	2.0 (3.0)	2.0 (3.1)	2.1 (3.2)
Main St E / Robinson St				
EBTLR	100	0.7 (0.5)	0.8 (0.5)	0.8 (0.5)
WBTLR	80	0.6 (1.0)	0.6 (1.0)	0.6 (1.0)
NBL	20	3.1 (4.0)	3.7 (3.9)	3.8 (4.1)
NBTR	500	1.8 (1.9)	2.0 (2.0)	2.0 (2.0)
SBL	45	1.5 (1.9)	1.8 (1.9)	2.9 (3.0)
SBTR	430	1.7 (1.6)	1.9 (1.7)	1.9 (1.7)
Main St E / Ontario St				
EBTL	160	2.0 (2.9)	2.1 (3.0)	2.5 (3.3)
SBL	25	3.2 (4.9)	4.4 (7.1)	7.2 (11.9)
SBR	380	3.2 (5.2)	3.4 (5.4)	4.4 (6.7)
Ontario St / John St				
WBLR	200	1.9 (2.0)	2.0 (2.1)	7.4 (7.6)
SBLT	100	0.5 (0.6)	0.5 (0.6)	1.2 (1.7)

Notes:
1. XX (XX) – AM Peak Hour (PM Peak Hour)

8.5 Signal Warrants

8.5.1 QEW WB Ramp Terminal / Christie Street

As discussed in **Section 8.4.2**, a potential signalized configuration has been considered for the QEW WB Ramp Terminal / Christie Street intersection. A signal warrant was undertaken based on Justifications 1,2,3 and 4 of the Ontario Traffic Manual ("OTM") signal warrant procedure. A summary of the outcomes of the signal justifications for the future background and future total traffic conditions for the 2030, 2035 and 2040 horizon years are summarized within **Table 28**, and indicate that signals would be warranted at this intersection for both Future Background and Future Total in the 2035 and 2040 horizon years. Detailed analysis sheets are provided in **Appendix H**.

Table 28 QEW WB Ramp Terminal / Christie Street Warrant Analysis

Scenario	Justification 1		Justification 2		Justification 3		Justification 4	Justification
2030 Horizon Year								
Future Background	1A	97%	2A	73%	3A	97%	98%	NOT WARRANTED
	1B	99%	2B	100%	3B	73%		
	Not Warranted		Not Warranted		Not Warranted		Not Warranted	
Future Total	1A	97%	2A	73%	3A	97%	99%	NOT WARRANTED
	1B	99%	2B	100%	3B	73%		
	Not Warranted		Not Warranted		Not Warranted		Not Warranted	
2035 Horizon Year								
Future Background	1A	99%	2A	77%	3A	99%	100%	WARRANTED
	1B	100%	2B	100%	3B	77%		
	Not Warranted		Not Warranted		Not Warranted		Warranted	
Future Total	1A	99%	2A	77%	3A	99%	100%	WARRANTED
	1B	100%	2B	100%	3B	77%		
	Not Warranted		Not Warranted		Not Warranted		Warranted	
2040 Horizon Year								
Future Background	1A	100%	2A	81%	3A	100%	100%	WARRANTED
	1B	100%	2B	100%	3B	81%		
	Warranted		Not Warranted		Warranted		Warranted	
Future Total	1A	100%	2A	81%	3A	100%	100%	WARRANTED
	1B	100%	2B	100%	3B	81%		
	Warranted		Not Warranted		Warranted		Warranted	

8.5.2 Clarke Street / Ontario Street

As discussed in **Section 8.4.2**, a potential signalized configuration has been considered for the Clarke Street / Ontario Street intersection. A signal warrant was undertaken based on Justifications 1,2,3 and 4 of the OTM signal warrant procedure. A summary of the outcomes of the signal justifications for the future background and future total traffic conditions for the 2030, 2035 and 2040 horizon years are summarized within **Table 29**, and indicate that signals would be warranted at this intersection for Future Total in the 2040 horizon year. Detailed analysis sheets are provided in **Appendix H**.

Table 29 Clarke Street / Ontario Street Warrant Analysis

Scenario	Justification 1		Justification 2		Justification 3		Justification 4	Justification
2030 Horizon Year								
Future Background	1A	97%	2A	52%	3A	97%	79%	NOT WARRANTED
	1B	100%	2B	100%	3B	52%		
	Not Warranted		Not Warranted		Not Warranted		Not Warranted	
Future Total	1A	98%	2A	59%	3A	98%	89%	NOT WARRANTED
	1B	100%	2B	100%	3B	59%		
	Not Warranted		Not Warranted		Not Warranted		Not Warranted	
2035 Horizon Year								
Future Background	1A	98%	2A	56%	3A	98%	86%	NOT WARRANTED
	1B	100%	2B	100%	3B	56%		
	Not Warranted		Not Warranted		Not Warranted		Not Warranted	
Future Total	1A	99%	2A	63%	3A	99%	96%	NOT WARRANTED
	1B	100%	2B	100%	3B	63%		
	Not Warranted		Not Warranted		Not Warranted		Not Warranted	
2040 Horizon Year								
Future Background	1A	99%	2A	59%	3A	99%	93%	NOT WARRANTED
	1B	100%	2B	100%	3B	59%		
	Not Warranted		Not Warranted		Not Warranted		Not Warranted	
Future Total	1A	100%	2A	66%	3A	100%	98%	WARRANTED
	1B	100%	2B	100%	3B	66%		
	Warranted		Not Warranted		Not Warranted		Not Warranted	

8.6 MTO Queue Length Assessment

8.6.1 Overview

As requested by MTO, queue storage lengths have been calculated for MTO impacted facilities using the below methodologies. Queue results for signalized intersections and unsignalized are provided in **Table 30** and **Table 31** respectively.

Detailed analysis spreadsheets are attached in **Appendix I**.

- **Left turn and through lanes at signalized intersections**: Arrival rate (Greenshields) method, as outlined in MTO Traffic Signal Operating & Timing Policy, dated October 1, 2013.
- **Left turn lanes at unsignalized intersections**: Appendix 9A of the MTO Design Supplement for TAC Geometric Design Guide for Canadian Roads, dated April 2020
- **Right turn lane at signalized and unsignalized intersection**: TAC Geometric Design Guide for Canadian Roads, dated June 2017 (Chapter 9, Section 9.14.4).

Parameters utilized in the queuing analysis are summarized below:

- **Volumes**: Based on the projected volumes for each respective scenario
- **Heavy vehicle percentages**: As derived from traffic counts
- **Peak Hour Factor**: As derived from traffic counts
- **Heavy vehicle to passenger vehicle conversation (Arrival rate (Greenshields) methodology only):** 1 heavy vehicle = 2 passenger vehicles
- **Cycle Length:**
  - **QEW EB Ramp Terminal / Christie Street**: 64 seconds
- **Volume Distribution for Multilane Approach:**
  - **QEW EB Ramp Terminal / Christie Street:** Assumed through volumes split evenly between lanes.
- **Length of Queued Vehicle:** 7.5 metres, as per MTO Traffic Signal Operating and Timing Policy, dated October 1, 2012 (Section 6.2)
- **Percentile queue in arrival rate method**: 95th percentile

8.6.2 QEW EB Ramp Terminal / Christie Street (signalized)

The queuing results for the QEW EB Ramp Terminal / Christie Street intersection indicate that queues are generally expected to be accommodated within the respective available storage based on these calculations.

The exception to the above is the northbound through and shared northbound through and right lanes which based on these calculations are projected to extend back to the Christie Street / Clarke Street / South Service Road intersection under existing conditions. This is an existing condition and is not related to site traffic.

It should be noted that the TAC and arrival rate methodologies make a number of simplifying assumptions and are typically more conservative by not accounting for factors including right turns on red, variable cycle lengths, signal actuation that responds to the actual vehicle demand on a cycle-by-cycle basis, or potential coordination of signals. In this respect, the queue results in the Synchro analysis do not identify any concerns with queues potentially exceeding storage.

Notwithstanding, in the event that these projected queue lengths did occur, it is expected that vehicles would wait at the stop bar at the Christie Street / Clarke Street / South Service Road intersection until the queue clears. If not already implemented, signal coordination would also assist with minimizing queues at this location. As outlined in **Section 8.4.2**, the intersection operates well within capacity indicating that the queue will clear each cycle. It is also worth noting that this condition would not impact on the operation of the QEW.

8.6.3 QEW WB Ramp Terminal / Christie Street (unsignalized)

For all future horizon years, the northbound left turn queues at the QEW WB Ramp Terminal / Christie Street intersection are projected to be accommodated within the available storage length based on these calculations.

8.6.4 QEW WB Ramp Terminal / Ontario Street (unsignalized)

For the QEW WB Ramp Terminal / Ontario Street intersection, the left turn lane warrants indicate that a left turn lane is not warranted for the northbound left turn lane. Therefore the existing northbound left turn lane exceeds these requirements.

8.6.5 QEW EB Ramp Terminal / Ontario Street (unsignalized)

For the QEW EB Ramp Terminal / Ontario Street intersection, the left turn lane warrants indicate that a left turn lane is not warranted for the southbound left turn lane. Therefore the existing southbound left turn lane exceeds these requirements.

8.6.6 QEW WB Ramp Terminal / Maple Avenue (unsignalized)

For the QEW WB Ramp Terminal / Maple Avenue intersection, the left turn lane warrants indicate that a left turn lane is not warranted for the northbound left turn lane. Therefore the existing northbound left turn lane exceeds these requirements.

8.6.7 QEW EB Ramp Terminal / Maple Avenue (unsignalized)

For the QEW EB Ramp Terminal / Maple Avenue intersection, the left turn lane warrants indicate that a left turn lane is not warranted for the southbound left turn lane. Therefore the existing southbound left turn lane exceeds these requirements.

Table 30 Signalized Intersections – MTO/TAC Protocol Queue Results

Lane Group	Approximate Storage Length (m)	Existing	2030 Horizon		2035 Horizon		2040 Horizon	
		Design Queue (m)	Design Queue (m)		Design Queue (m)		Design Queue (m)	
			Future Background	Future Total	Future Background	Future Total	Future Background	Future Total
QEW EB Ramp Terminal / Christie St								
EBLT	650	30 (60)	38 (68)	38 (68)	38 (68)	38 (76)	38 (76)	38 (82)
EBTR	650	60 (90)	68 (98)	68 (106)	68 (112)	76 (112)	76 (120)	76 (120)
NBT	40	60 (60)	60 (60)	60 (60)	68 (68)	68 (68)	68 (68)	68 (68)
NBTR	40	76 (90)	82 (98)	82 (98)	82 (106)	82 (106)	90 (112)	90 (112)
SBT	130	16 (8)	16 (8)	16 (8)	16 (16)	16 (16)	16 (16)	16 (16)
SBL	50	30 (30)	30 (30)	30 (30)	30 (30)	30 (30)	30 (30)	30 (30)

Notes:
1. XX (XX) – AM Peak Hour (PM Peak Hour)

Table 31 Unsignalized Intersections – MTO/TAC Protocol Queue Results

Lane Group	Approximate Storage Length (m)	Existing	2030 Horizon		2035 Horizon		2040 Horizon	
		Design Queue (m)	Design Queue (m)		Design Queue (m)		Design Queue (m)	
			Future Background	Future Total	Future Background	Future Total	Future Background	Future Total
QEW WB Ramp Terminal / Christie St								
NBL	65	40 (25)	40 (30)	40 (30)	50 (40)	50 (40)	55 (40)	55 (40)
QEW WB Ramp Terminal / Ontario St								
NBL	65	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)
QEW EB Ramp Terminal / Ontario St								
SBL	90	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)
QEW WB Ramp Terminal / Maple Ave								
NBL	40	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)
QEW EB Ramp Terminal / Maple Ave								
SBL	90	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)	n/a (n/a)

Notes:
1. XX (XX) – AM Peak Hour (PM Peak Hour)

9.0 TRANSPORTATION DEMAND MANAGEMENT

9.1 Mobility Choice Travel Plan

The location of the site and its surrounding uses greatly influences 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 development by outlining 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, employees and visitors of the site; and to reduce the overall dependence on the private automobile.

While strong opportunities exist in the area infrastructure to accommodate sustainable transportation practices, the ability to fully leverage these opportunities is granted by the success of the implementation of the Mobility Choice Travel Plan.

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.

A detailed Mobility Choice Travel Plan will be developed and secured through the approvals process.

9.2 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.

Measures from the Mobility Choice Travel Plan will be incorporated into the proposed development to minimize the need to own a personal vehicle or use an automobile when travelling to and from the site. It is important to encourage and facilitate the use of non-automobile travel modes on a daily basis.

The Mobility Choice Travel Plan for the proposed development is outlined in **Table 32**.

Table 32 Mobility Choice Travel Plan Strategies

		Mobility Strategies
LAND USE INTEGRATION		• The proposed mixed use development will allow residents to visit the commercial uses without needing to leave the site.
TRANSIT USE		• At first occupancy, provide 1 transit information package per unit which details available services in the area. • Display transit information package in the residential lobby. • Opportunity to operate a potential shuttle.
BICYCLE FACILITIES		• Provide bicycle parking in excess of the Zoning By-law requirements, as outlined in **Section 5.0**. • At first occupancy, provide 1 cycling information package per unit which details available routes in the area. • Display cycling information package in the residential lobby
PEDESTRIAN CONNECTIVITY		• Provide on-site pedestrian connections between the site and sidewalks on John Street. • Reconstruct sidewalks along the site's John Street frontage.
PARKING MANAGEMENT		• Provide on-site parking at a rate below the Zoning By-law requirement, as outlined in **Section 4.0**.

10.0 SUMMARY AND CONCLUSIONS

BA Group is retained by 1000104674 Ontario Inc. to provide transportation consulting services in relation to the proposed mixed use development located at 1-21 John Street and 46-50 Ontario Street in the Town of Grimsby. Official Plan Amendment ("OPA") and Zoning By-law Amendment ("ZBA") applications are being made to the Town for the proposed development.

Proposal Overview

1. The proposed development contemplates the construction of a mixed-use development within a 16-storey building, comprising 305 residential units, 708 square metres of commercial / retail and 1,178 square metres of office.
2. The residential units are proposed as purpose built rental, and the proposed commercial / retail and office are intended to be geared towards medical tenants.
3. Site access is proposed via an unsignalized driveway to John Street, located approximately midblock along the site frontage.
4. A total of 426 car parking spaces (including 14 accessible spaces) are proposed within a 6 level parking garage (1 level below grade, 1 level at grade, and 4 levels above grade). The proposed car parking supply comprises 308 resident spaces (including 8 accessible spaces), and 118 non-resident spaces (including 6 accessible spaces). The proposed resident car parking supply equates to an effective rate of 1.01 spaces per unit.
5. The non-resident spaces will be shared between residential visitors and the non-residential uses on a non-exclusive basis, and will be unsecured, with access available to the public. It's intended that the non-resident parking be available to supplement the downtown Grimsby parking supply on weekends when many of the medical tenants are not expected to be open and the site-related non-resident parking demand is reduced.
6. A total of 145 bicycle parking spaces are proposed within the parking garage and at grade within the building. The proposed bicycle parking supply comprises 136 residential spaces and 9 non-residential spaces.
7. An estimated total of 4 on-site pick up / drop off spaces are proposed, located within a pick up / drop off loop (3 spaces) and 1 space within a lay-by. In addition, an estimated 4 pick up / drop off spaces are proposed within 2 lay-bys on John Street, resulting in a total of 8 pick up / drop off spaces. It's intended that the on-street lay-bys would be available for pick up / drop off by services such as the Niagara Region Specialized Transit (Chair-A-Van), and other transit services where applicable.
8. A total of 2 loading spaces are proposed at grade and will be available for waste collection, move in / move out, and deliveries. The proposed loading spaces measure 3.5 metres wide by 9 metres long.

Car Parking

9. Under the Town of Grimsby Zoning By-law 14-45, the proposed development has a requirement to provide a total of 564 car parking spaces, including 382 resident spaces and 182 non-resident spaces. The proposed car parking supply represents a shortfall from the Zoning By-law requirements.

10. The proposed car parking supply is appropriate on the basis of the following:
    - The projected resident car parking demand is lower than the proposed resident car parking supply, based on existing auto driver mode split in Grimsby, car ownership data for residential apartments within Grimsby, and resident car parking demand data collected at proxy residential sites in Grimsby.
    - The projected non-resident car parking demand is lower than the proposed non-resident car parking supply, based on proxy data, application of an allowance from the Town of Grimsby Zoning By-law 14-45 that only 80% of the commercial parking requirements shall be required in the Main-Street zone, and the sharing of parking between the non-residential uses.
    - The site's location within Downtown Grimsby and proximity to commercial, dining and recreational uses, as well as the availability of transit within Grimsby.
    - Planning policy and TDM objectives identified by Town of Grimsby and Niagara Region, noting that a limited vehicle parking supply is a direct incentive to use sustainable transportation.
    - The development of a comprehensive TDM plan for the site which will encourage non-auto trips.

Bicycle Parking

11. Under the Town of Grimsby Zoning By-law 14-45, the proposed development has a requirement to provide a total of 101 bicycle parking spaces, including 92 residential spaces and 9 non-residential spaces.
12. The proposed bicycle parking supply satisfies the requirements of the Town of Grimsby Zoning By-law 14-45.

Loading

13. Under the Town of Grimsby Zoning By-law 14-45, the proposed development has a requirement to provide a total of 1 loading space.
14. The proposed loading supply satisfies the requirements of the Town of Grimsby Zoning By-law 14-45.

Traffic Assessment

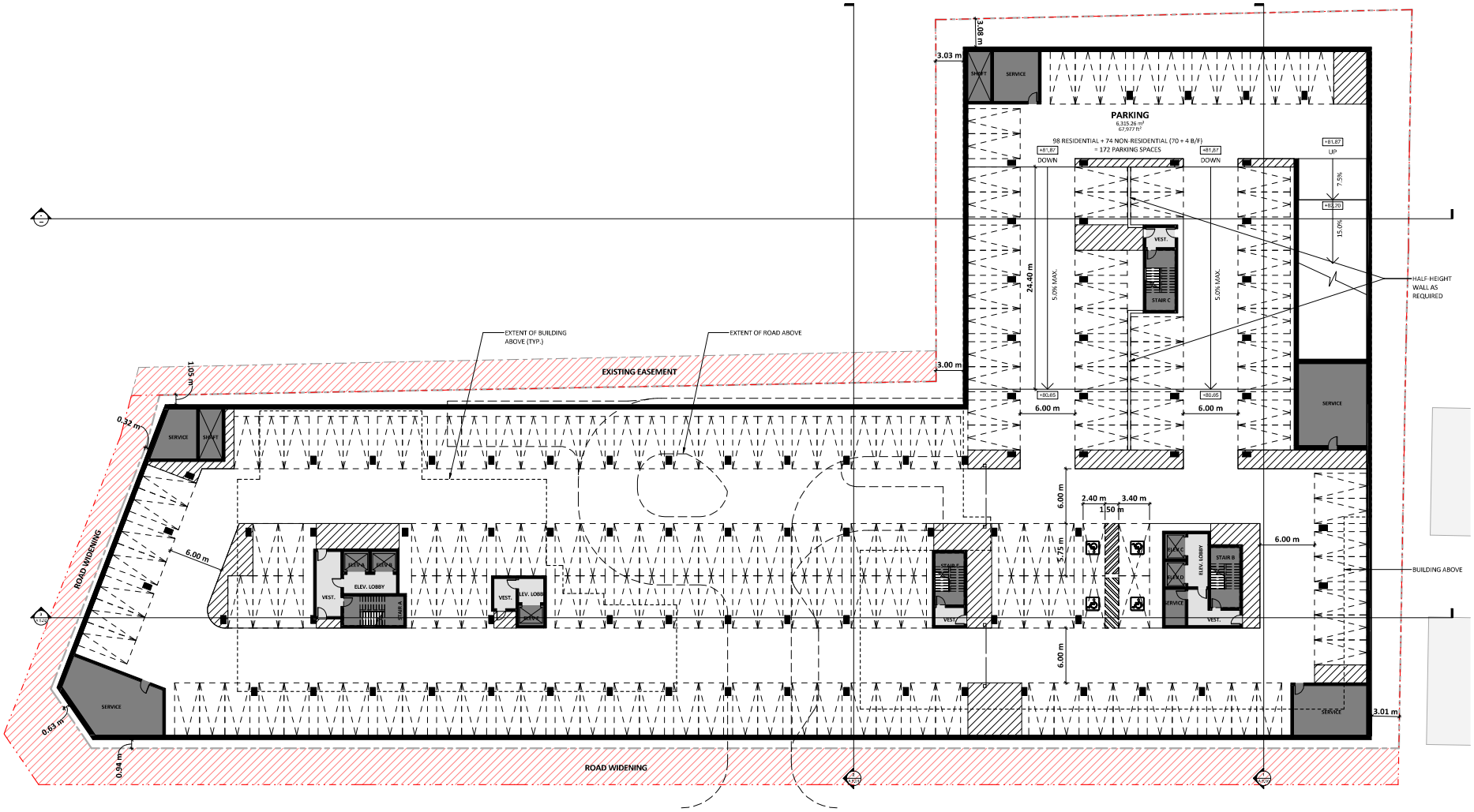
15. Base existing traffic volumes were established for the weekday morning and weekday afternoon peak hours for intersections within the study area based on turning movement counts collected by Spectrum Traffic Data Inc. on behalf of BA Group.
16. Traffic growth in the site vicinity has been considered based corridor growth and specific area development traffic.
17. New vehicular trips for the proposed development were generated using the ITE Trip Generation Manual, 12th Edition for the individual uses of the development proposal. The proposed development is projected to generate in the order of 110 and 160 two-way vehicle trips in the weekday morning and weekday afternoon peak hours, respectively.

18. The signalized intersections within the study area are projected to operate within the thresholds identified in the MTO TIS Guidelines and Niagara TIS Guidelines, with all queues projected to be accommodated within the available storage.
19. Increased delays may be observed at some unsignalized intersections in the study area. The increased delays are primarily as a result of corridor growth, with the site specific impact generally representing a small percentage of the change for these movements.
20. The corridor growth as requested by MTO and Niagara Region through the Terms of Reference may not eventuate to the extent assumed in the base analysis. As such, to better understand the site-specific impacts, a sensitivity analysis has been undertaken for the unsignalized intersections in the 2040 horizon, which assumes no corridor growth. The sensitivity analysis generally identifies improved operations, with the site specific impact to delays generally no more than 3 seconds on any one movement. It's recommended that these intersections be monitored over time.
21. Based on high projected delays and v/c ratios, signalization may be required at the QEW Westbound Ramp Terminal / Christie Street and Clarke Street / Ontario Street intersections in the future. The need and timing for signalization at these intersections will be dependent on the extent to which corridor growth is observed. It's recommended that these intersections be monitored over time.

Transportation Demand Management

22. Proposed Transportation Demand Management measures include:
    - Mixed use development
    - Provide transit information packages at first occupancy
    - Display transit information package in building lobby
    - Opportunity to operate a potential shuttle
    - Bicycle parking in excess of the Zoning by-law requirement
    - Provide bicycle information packages at first occupancy
    - Display bicycle information package in building lobby
    - On-site pedestrian connections
    - Reconstruct sidewalks along the site's John Street frontage
    - On-site parking below the Zoning by-law requirement

Appendix A:
Architectural Plans (Not to Scale)


PARKING
6,315.26 m²
67,977 ft²
98 RESIDENTIAL + 74 NON-RESIDENTIAL (70 + 4 B/F)
= 172 PARKING SPACES
+81.87
DOWN
+81.87
DOWN
+81.87
UP
+83.20
+80.65
+80.65
7.5%
15.0%
5.0% MAX.
5.0% MAX.
24.40 m
3.08 m
3.03 m
3.00 m
6.00 m
6.00 m
6.00 m
6.00 m
6.00 m
5.75 m
2.40 m
3.40 m
1.50 m
3.01 m
1.05 m
0.32 m
0.63 m
0.94 m
EXISTING EASEMENT
EXTENT OF BUILDING ABOVE (TYP.)
EXTENT OF ROAD ABOVE
HALF-HEIGHT WALL AS REQUIRED
BUILDING ABOVE
ROAD WIDENING
ROAD WIDENING
SERVICE
SHAFT
SERVICE
SERVICE
SERVICE
SERVICE
SERVICE
SHAFT
VEST.
STAIR C
VEST.
ELEV. LOBBY
VEST.
ELEV. LOBBY
VEST.
STAIR B
ELEV. LOBBY
VEST.
STAIR B
VEST.
ELEV. LOBBY
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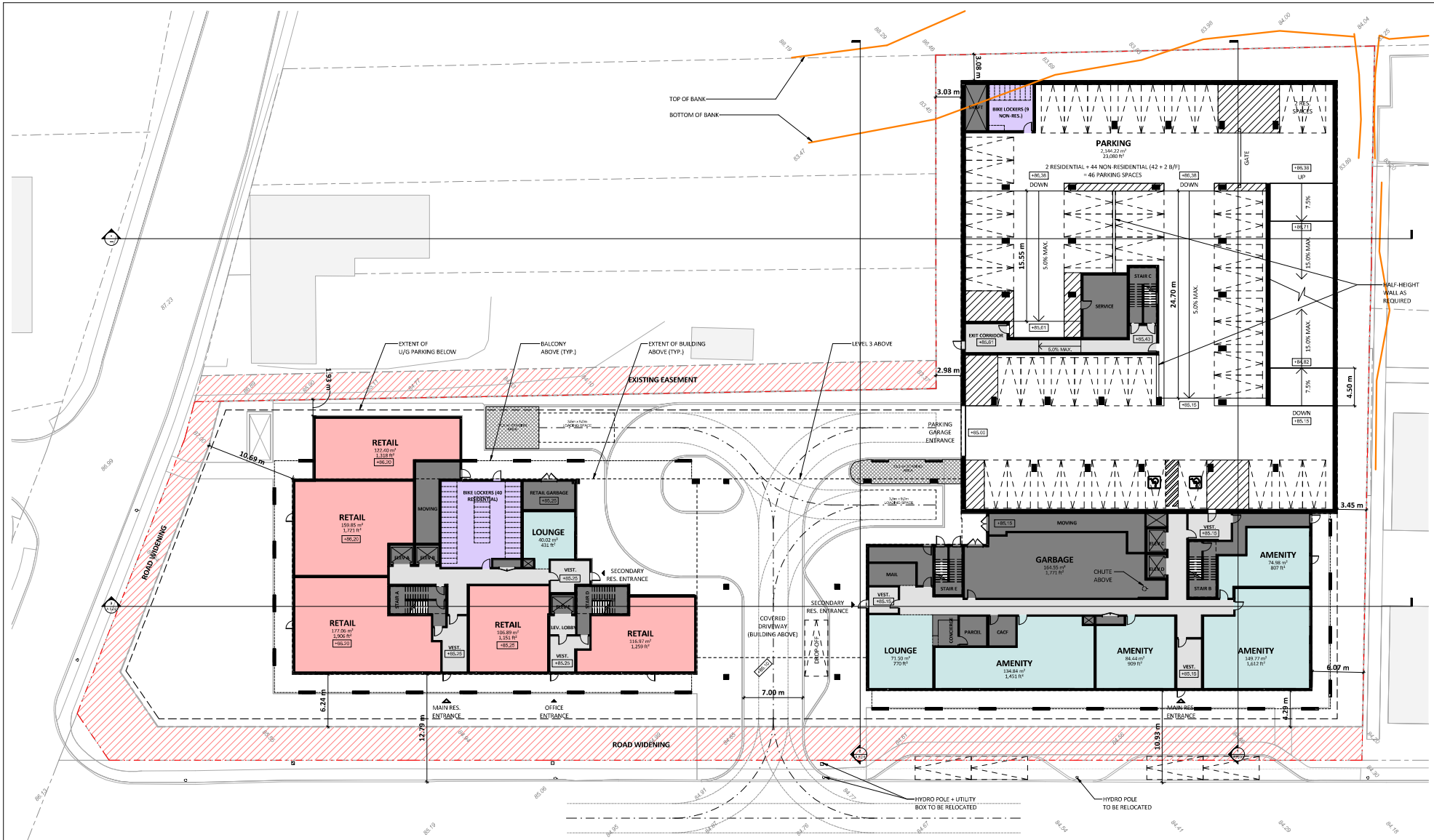

1 LEVEL 1
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PROJECT NAME
THE COOPERHAUS
46, 48 + 50 ONTARIO STREET, AND 1, 3, 5, 7, 11, 13, 15, 17 + 21 JOHN STREET, GRIMSBY, ON.

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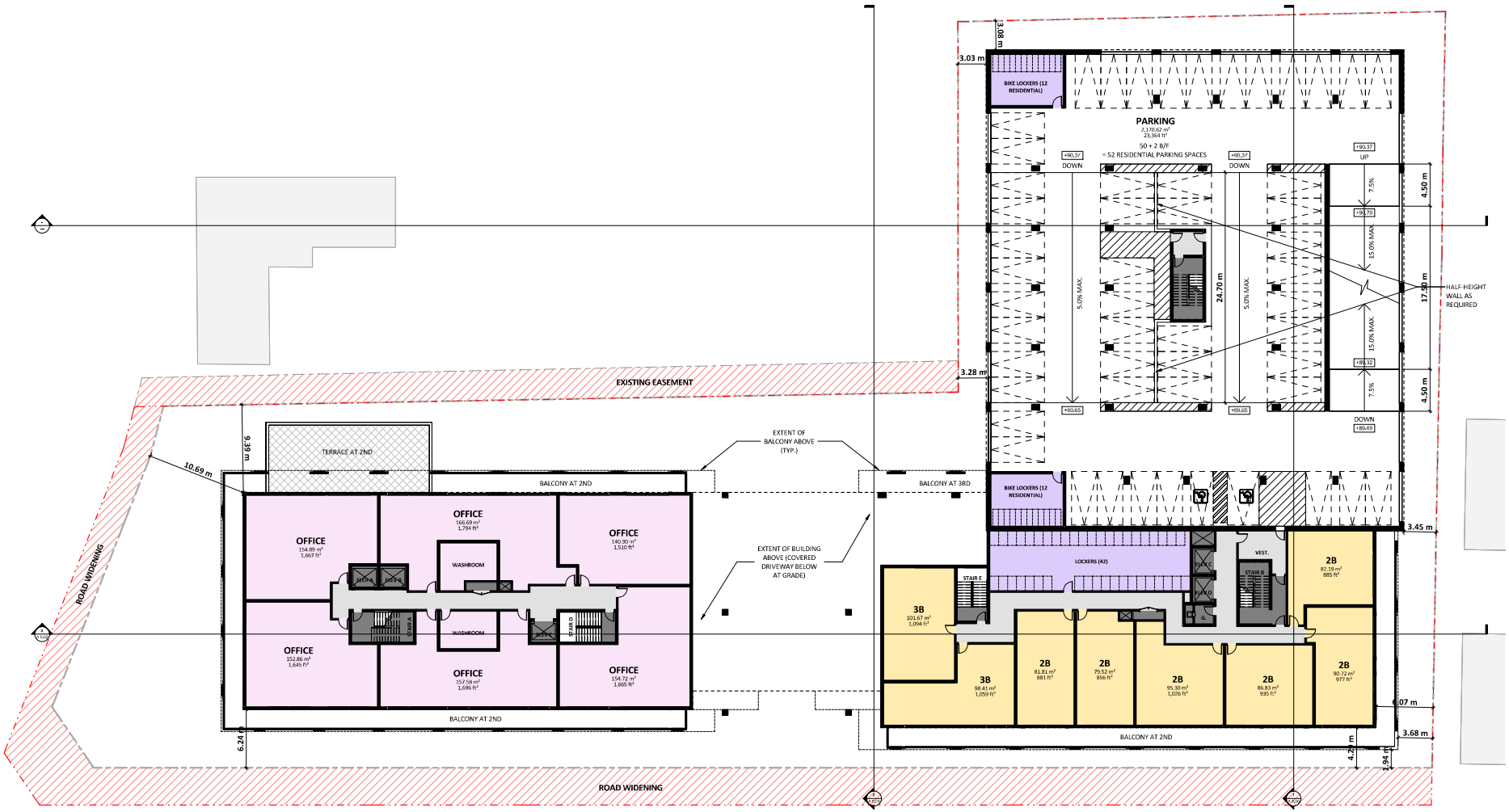

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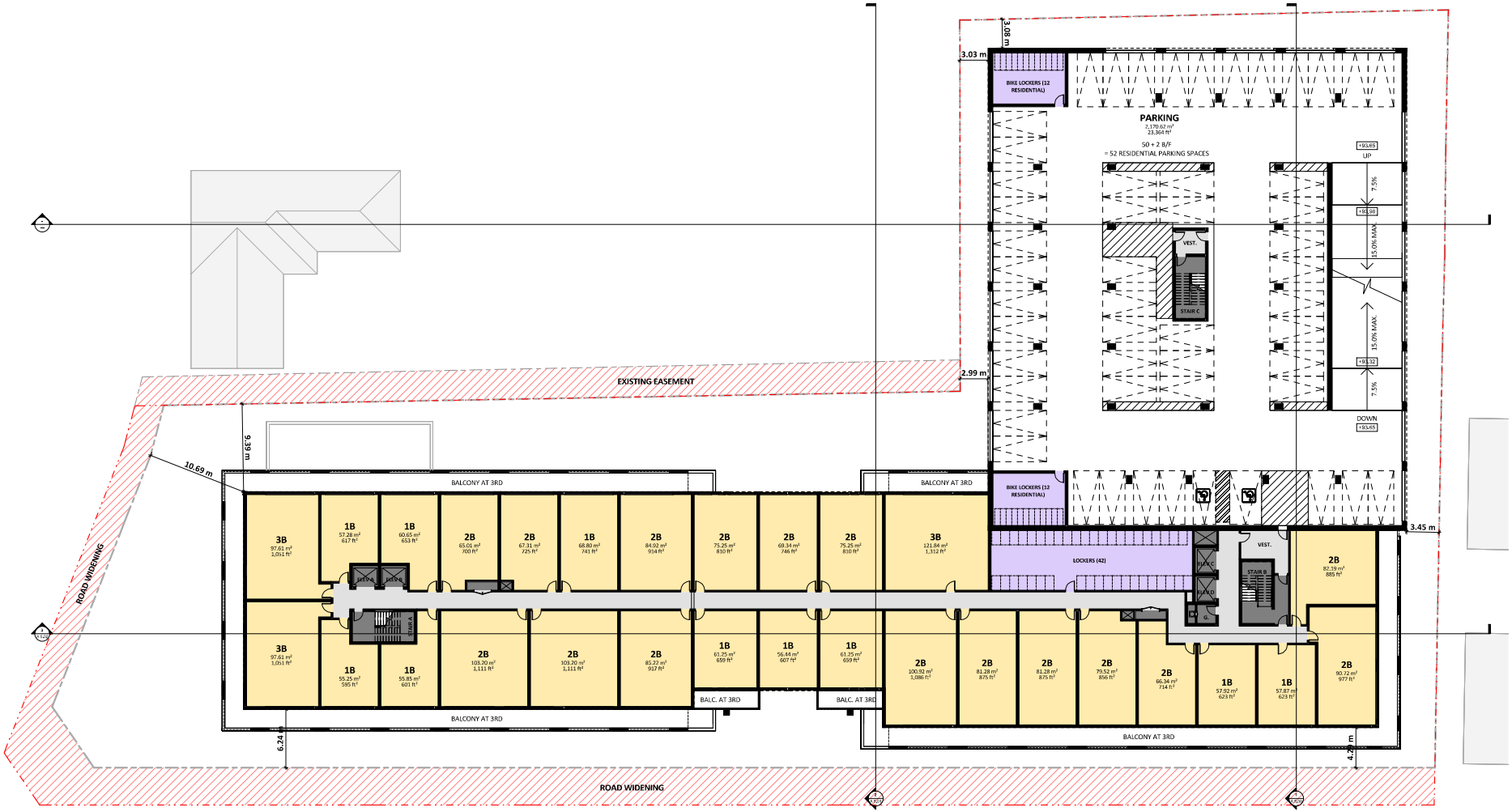

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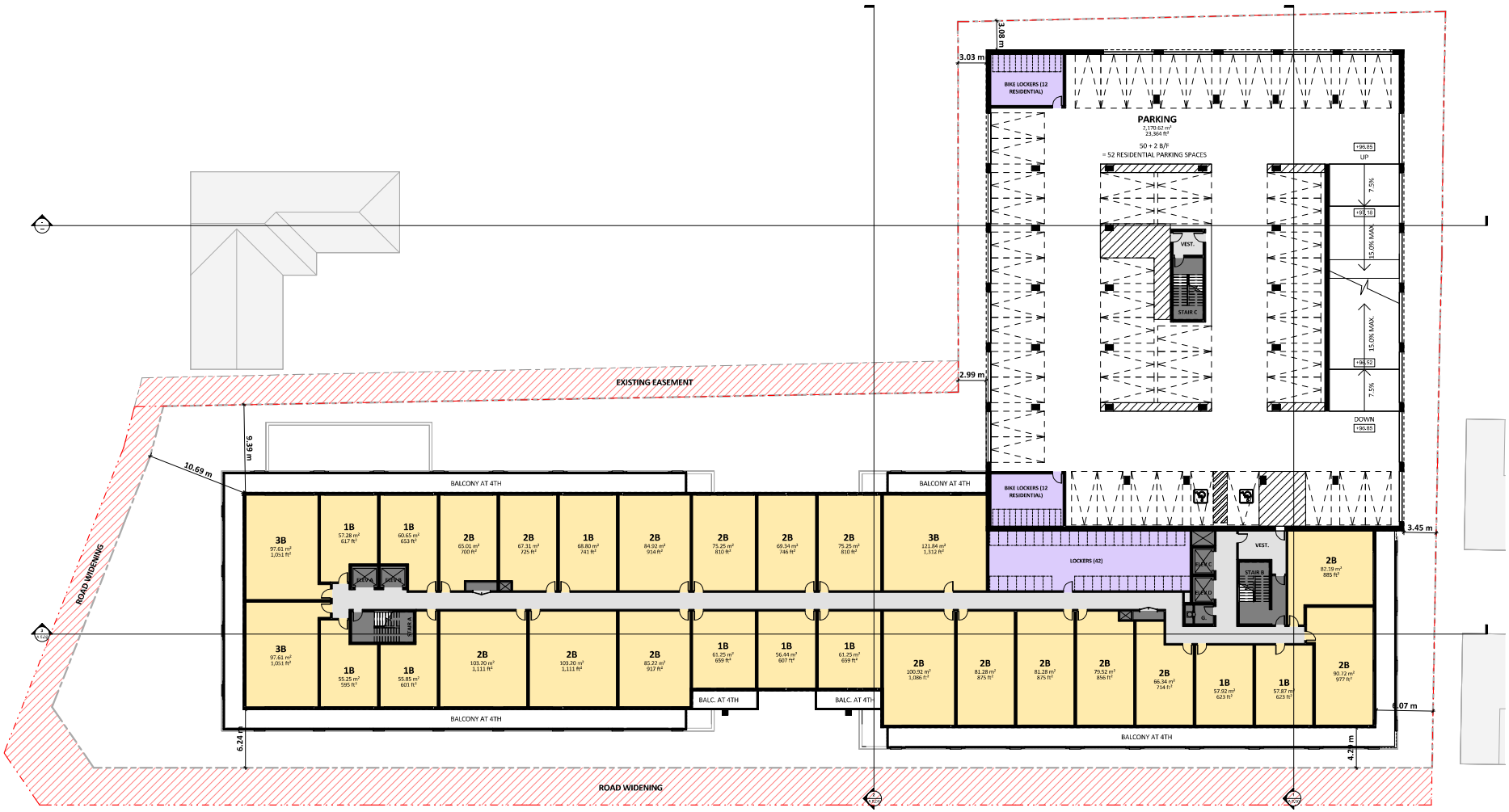

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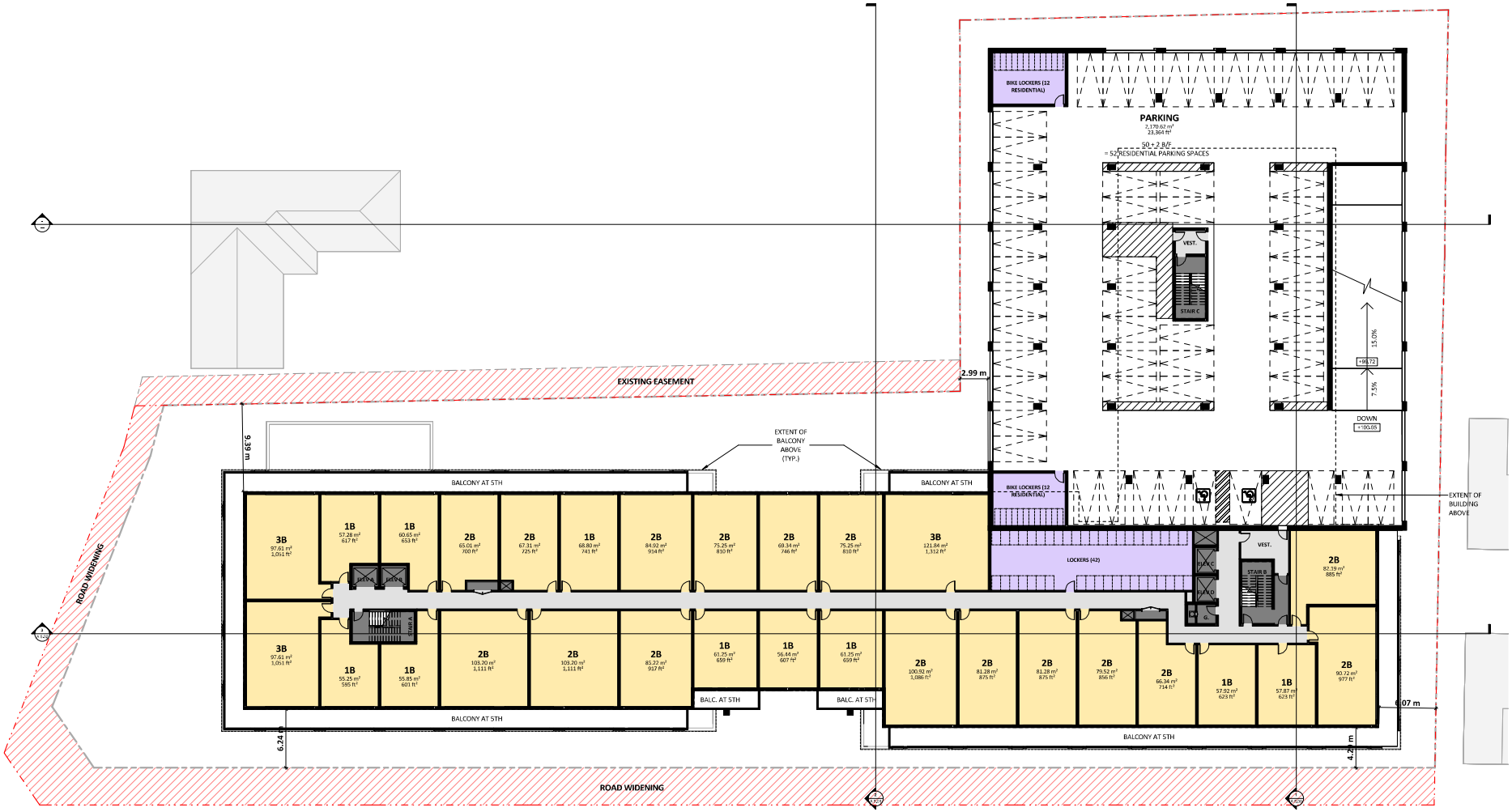

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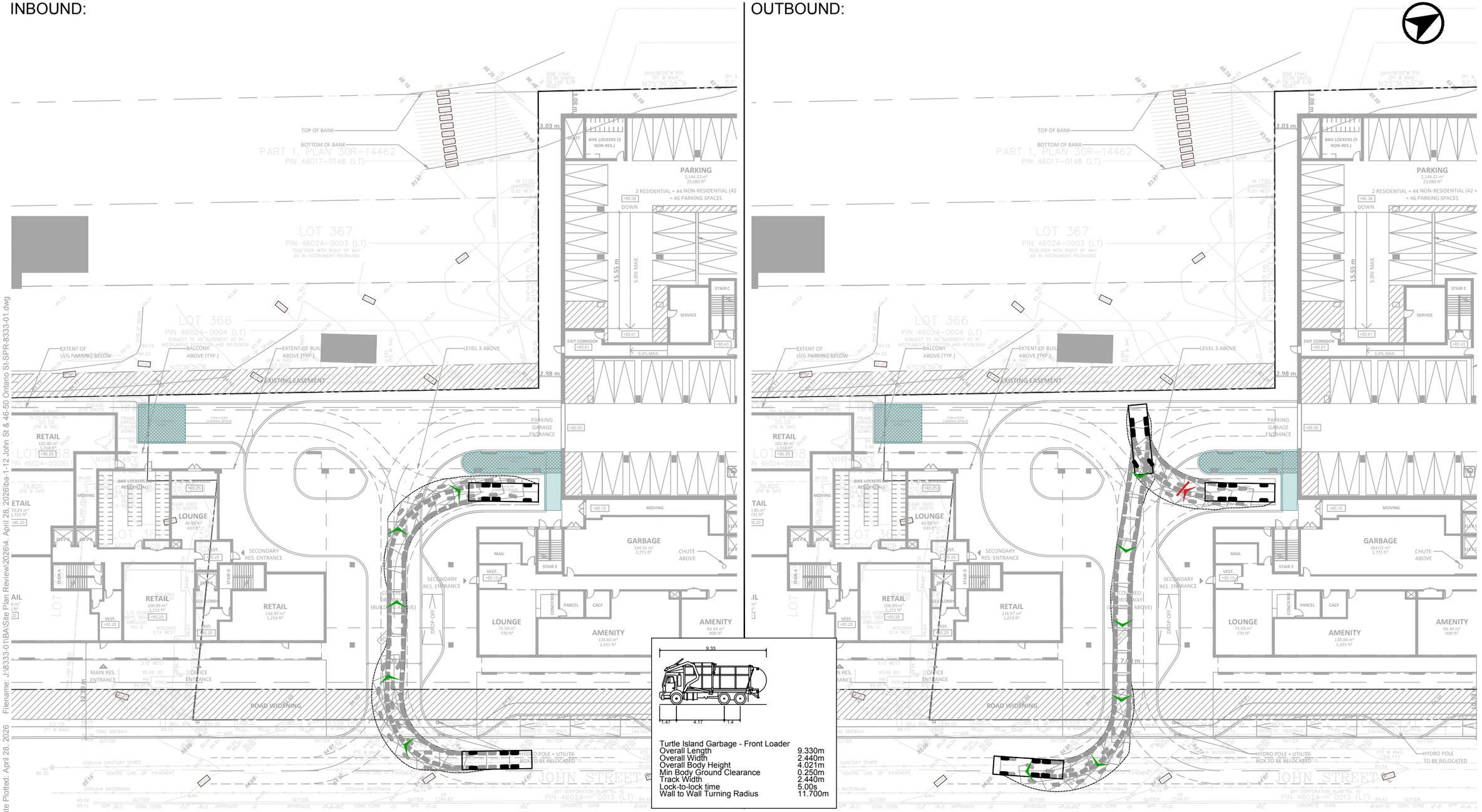
Appendix B:
Vehicle Manoeuvring Diagrams

INBOUND:

OUTBOUND:



Turtle Island Garbage - Front Loader	
Overall Length	9.330m
Overall Width	2.440m
Overall Body Height	4.021m
Min Body Ground Clearance	0.250m
Track Width	2.440m
Lock-to-lock time	5.00s
Wall to Wall Turning Radius	11.700m

Filename: J:\8333-01\BA\Site Plan Review\2026\4. April 28, 2026\ba-1-12 John St & 46-50 Ontario St-SPR-8333-01.dwg

Date Plotted: April 28, 2026

BA Group

1-14 JOHN STREET & 46-50 ONTARIO STREET

VEHICLE MANOEUVRING DIAGRAM

LOADING SPACE

TURTLE ISLAND - FRONT LOADER

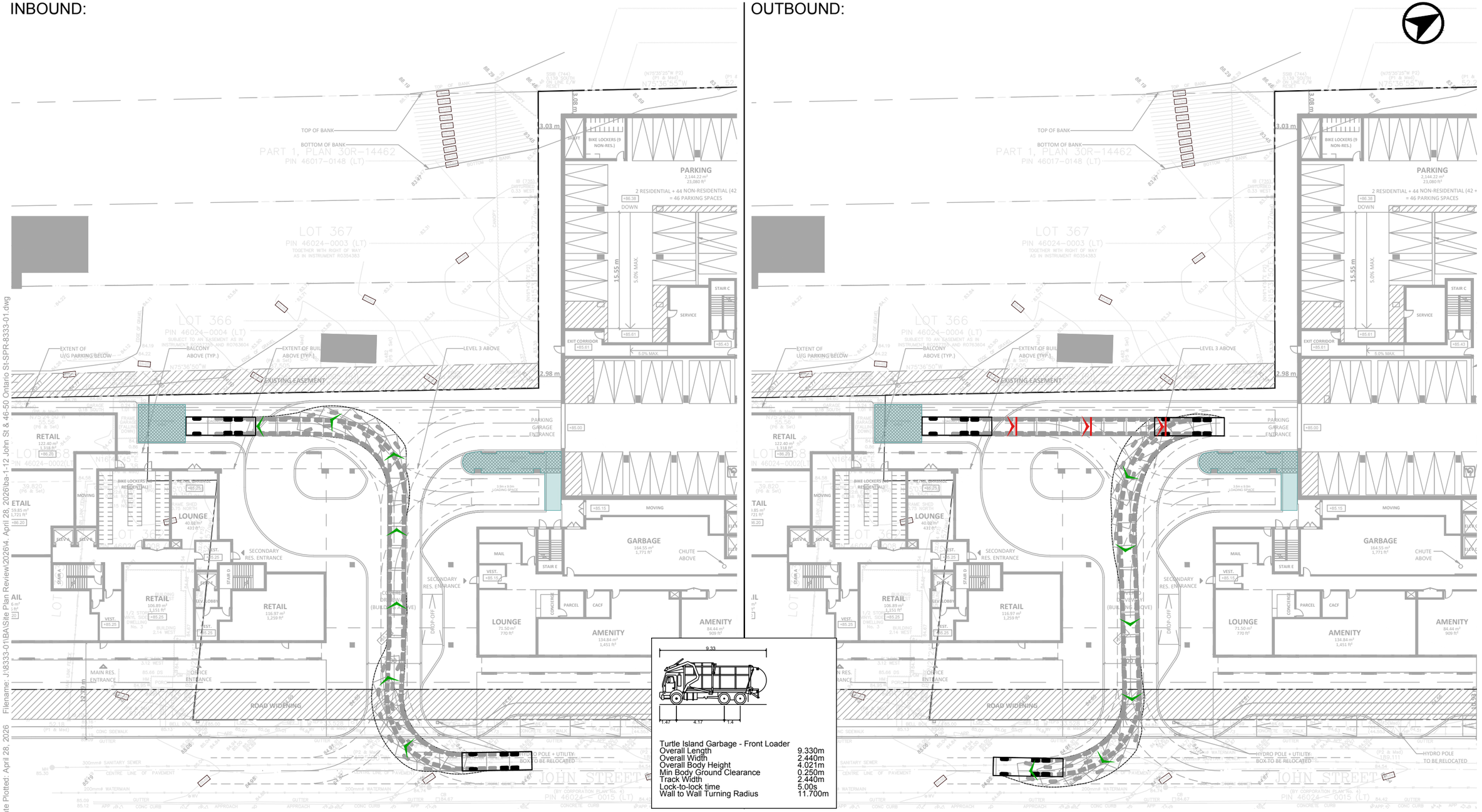
Project:	1-14 John St
Project No.	8333-01
Date:	April 28, 2026
Revised:	--

Scale 1:500 (0, 5, 10, 15, 20m)

Drawing No. VMD-01

INBOUND:

OUTBOUND:



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Date Plotted: April 28, 2026

BA Group

1-14 JOHN STREET & 46-50 ONTARIO STREET

VEHICLE MANOEUVRING DIAGRAM

LOADING SPACE

TURTLE ISLAND - FRONT LOADER

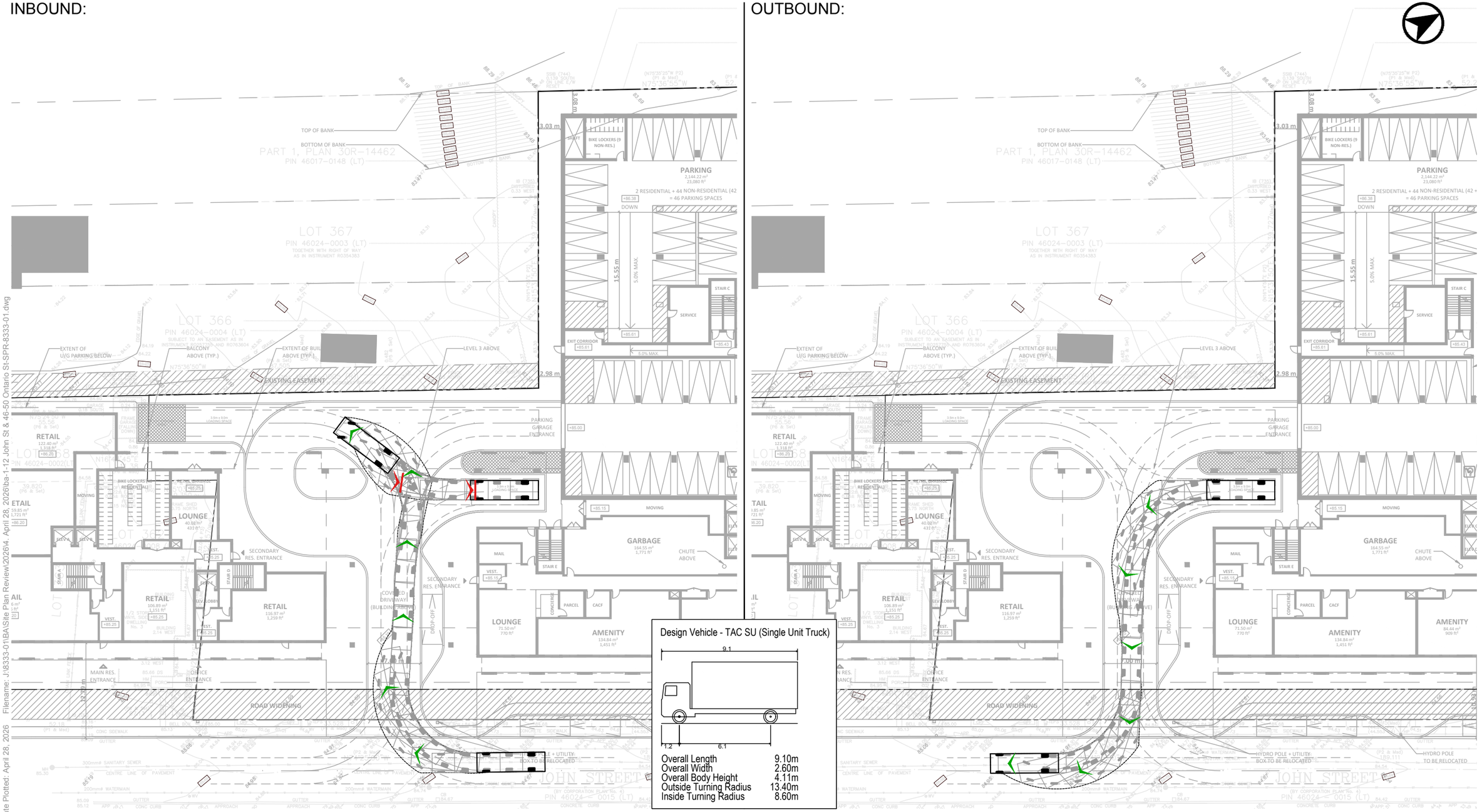
Project:	1-14 John St
Project No.	8333-01
Date:	April 28, 2026
Revised:	--

Scale 1:500 (0, 5, 10, 15, 20m)

Drawing No. VMD-02

INBOUND:

OUTBOUND:



Design Vehicle - TAC SU (Single Unit Truck)

Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

Filename: J:\8333-01\BA\Site Plan Review\20264\ April 28, 2026\ba-1-12 John St & 46-50 Ontario St-SPR-8333-01.dwg

Date Plotted: April 28, 2026

BA Group

1-14 JOHN STREET & 46-50 ONTARIO STREET

VEHICLE MANOEUVRING DIAGRAM
LOADING SPACE
SINGLE UNIT (SU) TRUCK

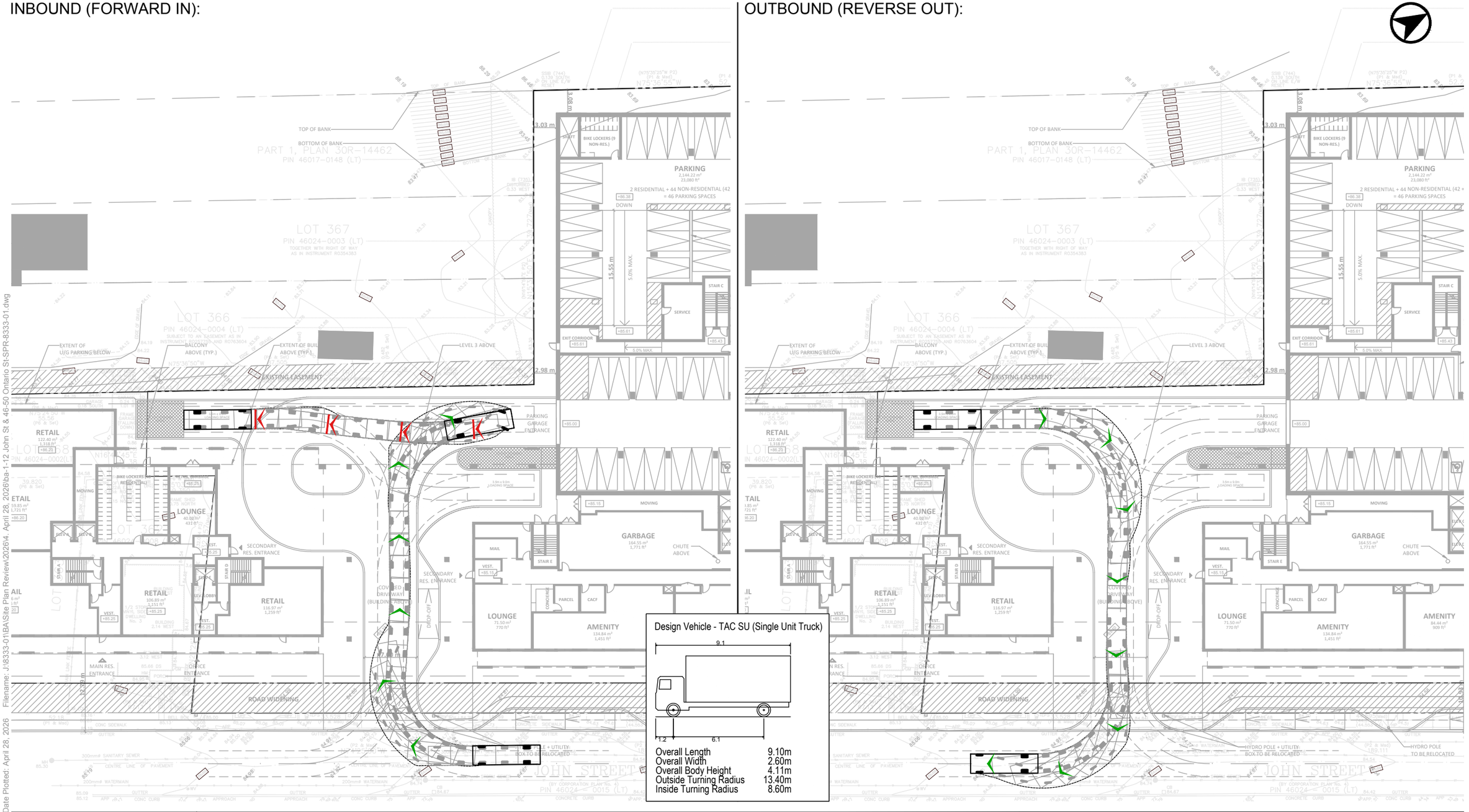
Project:	1-14 John St
Project No.	8333-01
Date:	April 28, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. VMD-03

INBOUND (FORWARD IN):

OUTBOUND (REVERSE OUT):



Design Vehicle - TAC SU (Single Unit Truck)

Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

Filename: J:\8333-01\BA\Site Plan Review\2026\4. April 28, 2026\ba-1-12 John St & 46-50 Ontario St-SPR-8333-01.dwg

Date Plotted: April 28, 2026

BA Group

1-14 JOHN STREET & 46-50 ONTARIO STREET

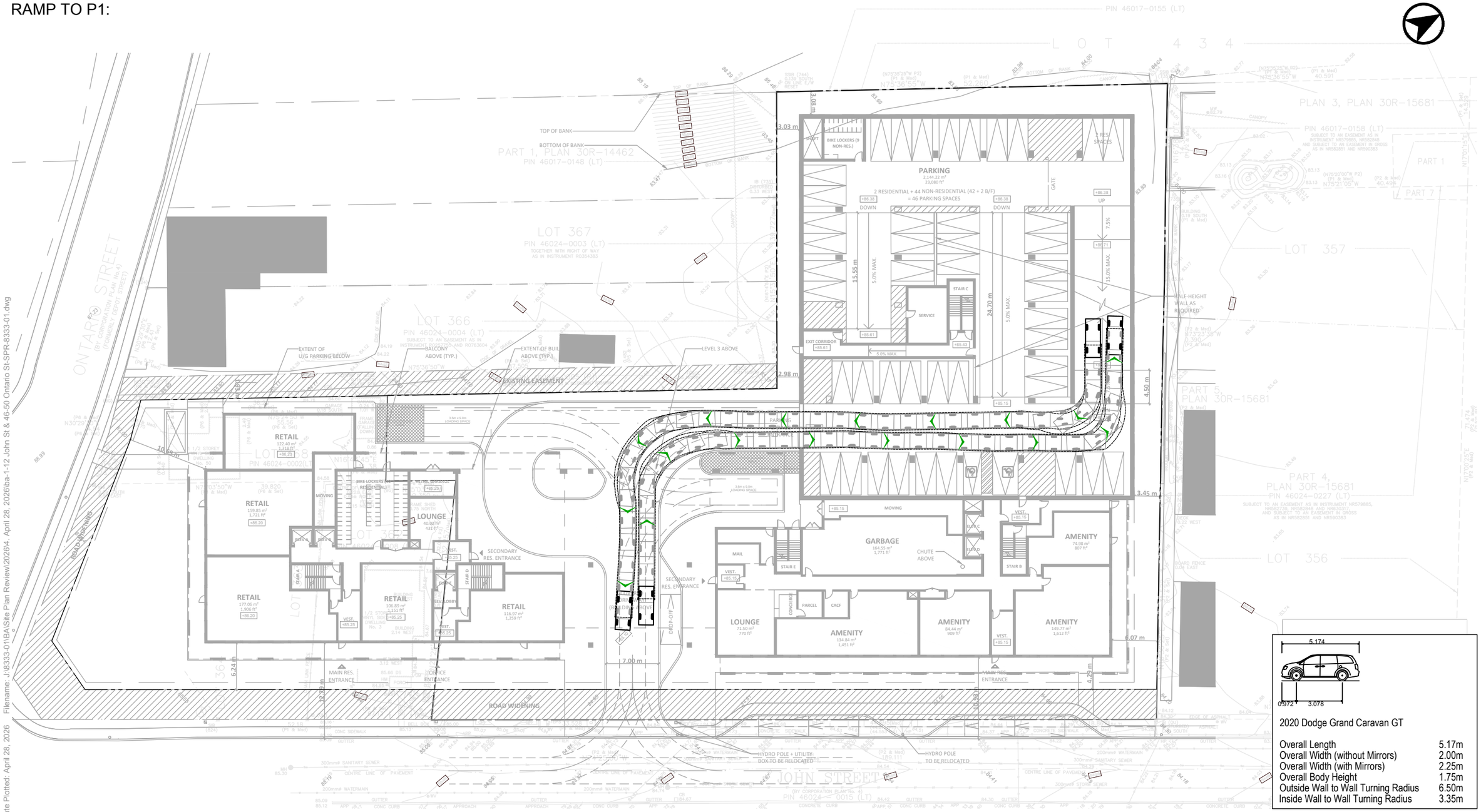
VEHICLE MANOEUVRING DIAGRAM
LOADING SPACE
SINGLE UNIT (SU) TRUCK

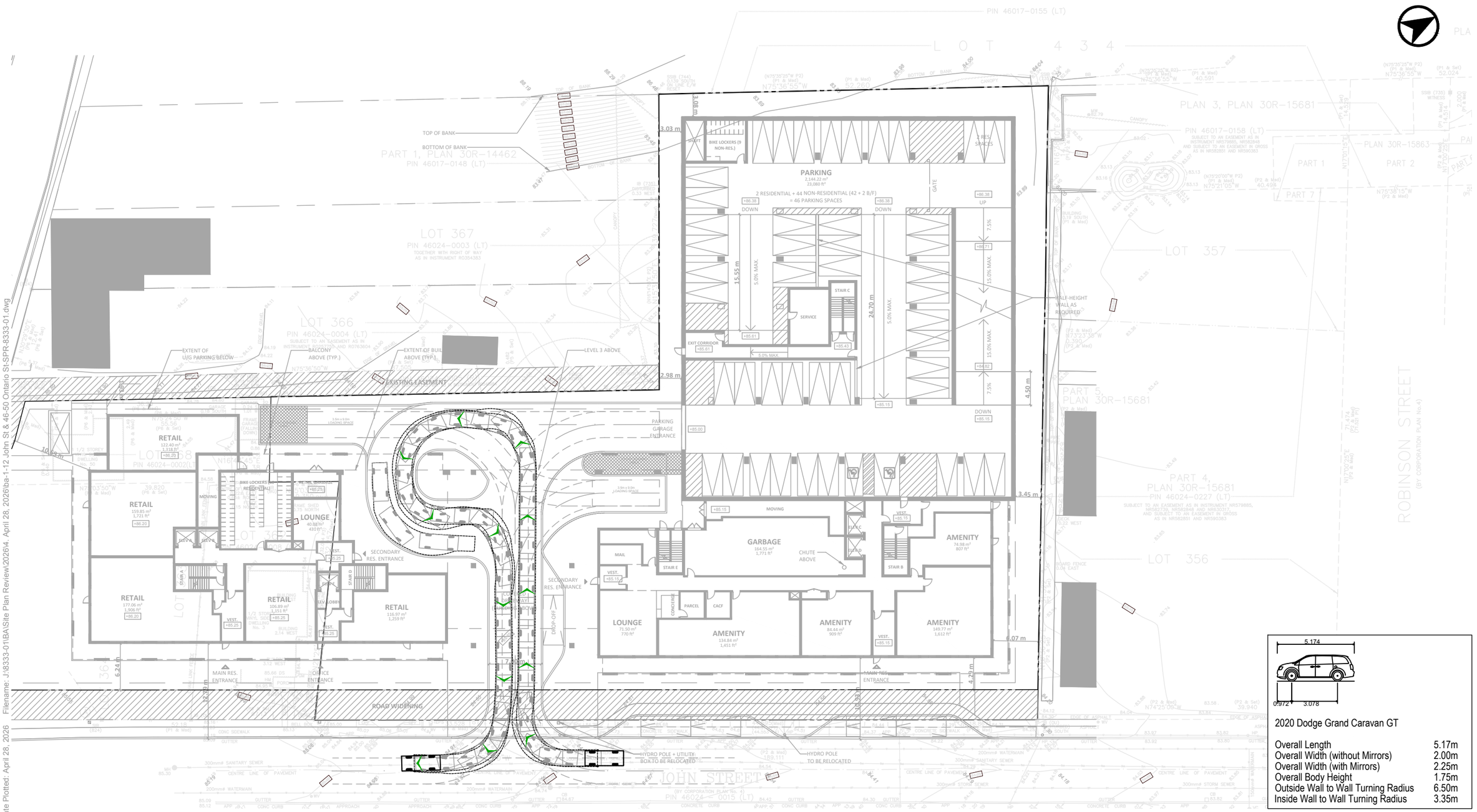
Project:	1-14 John St
Project No.	8333-01
Date:	April 28, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. VMD-04

RAMP TO P1:


PARKING
2,144.22 m²
23,080 ft²
2 RESIDENTIAL + 44 NON-RESIDENTIAL (42 + 2 B/F)
= 46 PARKING SPACES
BIKE LOCKERS (9 NON-RES.)
2 RES. SPACES
GATE
DOWN
DOWN
UP
15.55 m
5.0% MAX.
24.70 m
5.0% MAX.
15.0% MAX.
7.5%
STAIR C
SERVICE
EXIT CORRIDOR
5.0% MAX.
HALF-HEIGHT WALL AS REQUIRED
4.50 m
3.45 m
6.07 m
4.29 m
3.03 m
2.98 m
7.00 m
6.24 m
12.27 m
10.92 m
LOT 367
PIN 46024–0003 (LT)
TOGETHER WITH RIGHT OF WAY AS IN INSTRUMENT RO354383
LOT 366
PIN 46024–0004 (LT)
SUBJECT TO AN EASEMENT AS IN INSTRUMENT RO354383 AND RO763604
LOT 358
PIN 46024–0002(LT)
PART 1, PLAN 30R–14462
PIN 46017–0148 (LT)
PIN 46017–0155 (LT)
LOT 434
PLAN 3, PLAN 30R–15681
PIN 46017–0158 (LT)
SUBJECT TO AN EASEMENT AS IN INSTRUMENT NR579885, NR582750, NR582848 AND NR583237, AND SUBJECT TO AN EASEMENT IN GROSS AS IN NR582851 AND NR580363
PART 1
PART 7
LOT 357
PART 5, PLAN 30R–15681
PART 4, PLAN 30R–15681
PIN 46024–0227 (LT)
SUBJECT TO AN EASEMENT AS IN INSTRUMENT NR579885, NR582750, NR582848 AND NR583237, AND SUBJECT TO AN EASEMENT IN GROSS AS IN NR582851 AND NR580363
LOT 356
ONTARIO STREET
(BY CORPORATION PLAN No.4)
(FORMERLY DEPOT STREET)
JOHN STREET
(BY CORPORATION PLAN No. 8)
PIN 46024–0015 (LT)
ROAD WIDENING
EXISTING EASEMENT?
TOP OF BANK
BOTTOM OF BANK
EXTENT OF U/G PARKING BELOW
BALCONY ABOVE (TYP.)
LEVEL 3 ABOVE
RETAIL
122.40 m²
1,318 ft²
RETAIL
159.85 m²
1,721 ft²
RETAIL
177.06 m²
1,906 ft²
RETAIL
106.89 m²
1,151 ft²
RETAIL
116.97 m²
1,259 ft²
LOUNGE
40.00 m²
431 ft²
FAME SHED
75 NORTH
1 1/2 STOREY DWELLING
No. 50
2 1/2 STOREY SEMI-DETACHED DWELLING
No. 3
BUILDING 3.14 WEST
BUILDING 3.12 WEST
BUILDING 3.13 SOUTH
SECONDARY RES. ENTRANCE
MAIN RES. ENTRANCE
OFFICE ENTRANCE
DROP-OFF
MOVING
GARBAGE
164.55 m²
1,771 ft²
CHUTE ABOVE
MAIL
LOUNGE
71.50 m²
770 ft²
AMENITY
134.84 m²
1,451 ft²
AMENITY
84.44 m²
909 ft²
AMENITY
149.77 m²
1,612 ft²
AMENITY
74.98 m²
807 ft²
STAIR A
STAIR B
STAIR C
STAIR D
STAIR E
ELEV. A
ELEV. B
ELEV. C
ELEV. D
ELEV. LOBBY
VEST.
CONCIERGE
PARCEL
CACF
HYDRO POLE + UTILITY BOX TO BE RELOCATED
HYDRO POLE TO BE RELOCATED
SSMH (744)
SSMH (745)
CB (735)
DISTURBED
0.53 WEST
CANOPY
BOARD FENCE
0.08 EAST
BUILDING 3.16 SOUTH
(P1 & Med)
(P2 & Med)
(P8 & Set)
N75°36'55"W
52.260
40.591
40.498
N75°24'50"W
55.55
39.820
N73°23'35"W
0.396
N75°21'05"W
N73°03'50"W
N16°36'10"E
N16°36'50"E
N75°36'50"W
N75°35'25"W (P2)
N75°36'50"W
N75°20'30"W (P2)
N73°03'50"W
N16°36'10"E
N16°36'50"E
N75°24'50"W
N75°36'55"W
N75°36'50"W
N75°21'05"W
N73°23'35"W
N75°20'30"W (P2)
N75°35'25"W (P2)



2020 Dodge Grand Caravan GT

Overall Length	5.17m
Overall Width (without Mirrors)	2.00m
Overall Width (with Mirrors)	2.25m
Overall Body Height	1.75m
Outside Wall to Wall Turning Radius	6.50m
Inside Wall to Wall Turning Radius	3.35m

Filename: J:\8333-01\BA\Site Plan Review\2026\4. April 28, 2026\ba-1-12 John St & 46-50 Ontario St-SPR-8333-01.dwg

Date Plotted: April 28, 2026

BA Group

1-14 JOHN STREET & 46-50 ONTARIO STREET

VEHICLE MANOEUVRING DIAGRAM
PICK-UP / DROP-OFF
DODGE GRAND CARAVAN

Project:	1-14 John St
Project No.	8333-01
Date:	April 28, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. VMD-06

Appendix C:
Turning Movement Counts

Spectrum

Turning Movement Count
Location Name: CHRISTIE ST & QEW EB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Turning Movement Count (2 . CHRISTIE ST & QEW EB RAMPS)

Start Time	N Approach CHRISTIE ST						E Approach QEW EB RAMPS						S Approach CHRISTIE ST						W Approach QEW EB RAMPS						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		
2025-12-04 07:00:00	0	25	3	0	0	28	0	0	0	0	0	0	11	84	0	0	0	95	33	15	1	0	0	49	172	
2025-12-04 07:15:00	0	25	2	0	0	27	0	0	0	0	1	0	7	98	0	0	0	105	36	15	4	0	0	55	187	
2025-12-04 07:30:00	0	48	6	0	0	54	0	0	0	0	0	0	13	86	0	0	0	99	41	30	8	0	1	79	232	
2025-12-04 07:45:00	0	62	5	0	0	67	0	0	0	0	0	0	24	81	0	0	0	105	57	22	5	0	2	84	256	847
2025-12-04 08:00:00	0	44	7	0	0	51	0	0	0	0	0	0	25	109	0	0	0	134	40	24	4	0	0	68	253	928
2025-12-04 08:15:00	0	74	6	0	0	80	0	0	0	0	0	0	19	99	0	0	0	118	47	21	13	0	0	81	279	1020
2025-12-04 08:30:00	0	67	6	0	0	73	0	0	0	0	0	0	22	103	0	0	0	125	30	34	8	0	0	72	270	1058
2025-12-04 08:45:00	0	80	5	0	0	85	0	0	0	0	0	0	7	118	0	0	0	125	50	27	12	0	1	89	299	1101
2025-12-04 09:00:00	0	72	10	0	0	82	0	0	0	0	1	0	26	95	0	0	0	121	26	18	2	0	0	46	249	1097
2025-12-04 09:15:00	0	32	3	0	0	35	0	0	0	0	0	0	13	71	0	0	0	84	34	15	5	0	0	54	173	991
2025-12-04 09:30:00	0	25	2	0	0	27	0	0	0	0	0	0	24	84	0	0	0	108	39	23	4	0	0	66	201	922
2025-12-04 09:45:00	0	44	2	0	0	46	0	0	0	0	0	0	16	74	0	0	0	90	48	29	8	0	1	85	221	844
2025-12-04 10:00:00	0	39	3	0	0	42	0	0	0	0	0	0	22	64	0	0	0	86	41	19	4	0	0	64	192	787
2025-12-04 10:15:00	0	40	6	0	0	46	0	0	0	0	0	0	25	75	0	0	0	100	44	19	6	0	0	69	215	829
2025-12-04 10:30:00	0	46	3	0	0	49	0	0	0	0	0	0	20	64	0	0	0	84	41	25	5	0	0	71	204	832
2025-12-04 10:45:00	0	48	2	0	0	50	0	0	0	0	1	0	14	83	0	0	0	97	51	29	8	0	0	88	235	846
2025-12-04 11:00:00	0	51	3	0	0	54	0	0	0	0	1	0	22	92	0	0	0	114	36	25	4	0	0	65	233	887
2025-12-04 11:15:00	0	36	2	0	0	38	0	0	0	0	0	0	33	72	0	0	0	105	43	23	8	0	0	74	217	889
2025-12-04 11:30:00	0	47	3	0	0	50	0	0	0	0	0	0	19	84	0	0	0	103	56	29	13	0	1	98	251	936
2025-12-04 11:45:00	0	55	2	0	0	57	0	0	0	0	0	0	26	100	0	0	0	126	48	29	14	0	0	91	274	975
2025-12-04 12:00:00	0	54	4	0	0	58	0	0	0	0	1	0	19	90	0	0	0	109	45	29	6	0	0	80	247	989
2025-12-04 12:15:00	0	60	3	0	0	63	0	0	0	0	0	0	36	85	0	0	0	121	38	27	9	0	0	74	258	1030
2025-12-04 12:30:00	0	55	2	0	0	57	0	0	0	0	0	0	25	73	0	0	0	98	45	27	7	0	0	79	234	1013
2025-12-04 12:45:00	0	42	1	0	0	43	0	0	0	0	0	0	28	80	0	0	0	108	44	32	9	0	0	85	236	975
2025-12-04 13:00:00	0	51	1	0	0	52	0	0	0	0	0	0	26	64	0	0	0	90	55	25	5	0	0	85	227	955
2025-12-04 13:15:00	0	31	2	0	0	33	0	0	0	0	0	0	30	83	0	0	0	113	60	38	8	0	0	106	252	949
2025-12-04 13:30:00	0	45	2	0	0	47	0	0	0	0	0	0	35	63	0	0	0	98	66	32	2	0	0	100	245	960
2025-12-04 13:45:00	0	50	1	1	0	52	0	0	0	0	0	0	35	67	0	0	0	102	53	50	14	0	0	117	271	995
2025-12-04 14:00:00	0	38	6	0	0	44	0	0	0	0	0	0	23	77	0	0	0	100	47	32	2	0	1	81	225	993
2025-12-04 14:15:00	0	39	3	0	0	42	0	0	0	0	0	0	42	90	0	0	0	132	41	31	8	0	1	80	254	995
2025-12-04 14:30:00	0	65	9	0	0	74	0	0	0	0	0	0	30	74	0	0	0	104	48	54	8	0	0	110	288	1038
2025-12-04 14:45:00	0	46	4	0	0	50	0	0	0	0	0	0	23	85	0	0	0	108	54	44	13	0	0	111	269	1036
2025-12-04 15:00:00	0	42	4	0	0	46	0	0	0	0	0	0	44	94	0	0	0	138	67	47	14	0	1	128	312	1123
2025-12-04 15:15:00	0	72	4	0	0	76	0	0	0	0	2	0	29	95	0	0	0	124	80	53	22	0	1	155	355	1224
2025-12-04 15:30:00	0	68	4	0	0	72	0	0	0	0	0	0	47	71	0	0	0	118	77	66	19	0	0	162	352	1288
2025-12-04 15:45:00	0	64	2	0	0	66	0	0	0	0	1	0	39	102	0	0	0	141	80	63	18	0	0	161	368	1387
2025-12-04 16:00:00	0	62	4	0	0	66	0	0	0	0	1	0	48	87	0	0	0	135	54	74	17	0	2	145	346	1421
2025-12-04 16:15:00	0	71	7	0	0	78	0	0	0	0	0	0	42	85	0	0	0	127	58	73	18	0	5	149	354	1420
2025-12-04 16:30:00	0	67	3	0	0	70	0	0	0	0	0	0	43	110	0	0	0	153	58	59	19	0	0	136	359	1427
2025-12-04 16:45:00	0	77	3	0	0	80	0	0	0	0	0	0	47	107	0	0	0	154	88	62	27	0	0	177	411	1470
2025-12-04 17:00:00	0	57	9	0	0	66	0	0	0	0	4	0	33	91	3	0	0	127	70	54	18	0	1	142	335	1459
2025-12-04 17:15:00	0	61	6	0	0	67	0	0	0	0	0	0	56	81	0	0	0	137	70	59	25	0	0	154	358	1463
2025-12-04 17:30:00	0	65	7	0	0	72	0	0	0	0	0	0	28	94	0	0	0	122	72	42	26	0	0	140	334	1438
2025-12-04 17:45:00	0	84	3	0	0	87	0	0	0	0	1	0	23	82	0	0	0	105	54	69	8	0	1	131	323	1350
2025-12-04 18:00:00	1	40	5	0	0	46	0	0	0	0	0	0	32	75	0	0	0	107	55	39	18	0	0	112	265	1280

2025-12-04 18:15:00	0	56	4	0	0	60	0	0	0	0	1	0	24	78	0	0	0	102	66	34	21	0	0	121	283	1205
2025-12-04 18:30:00	0	28	6	0	0	34	0	0	0	0	0	0	26	55	0	0	0	81	54	56	15	0	0	125	240	1111
2025-12-04 18:45:00	0	35	4	0	0	39	0	0	0	0	0	0	14	63	0	0	0	77	66	32	13	0	1	111	227	1015
Grand Total	1	2485	194	1	0	2681	0	0	0	0	15	0	1315	4037	3	0	0	5355	2506	1774	525	0	20	4805	**12841**	-
Approach%	0%	92.7%	7.2%	0%		-	0%	0%	0%	0%		-	24.6%	75.4%	0.1%	0%		-	52.2%	36.9%	10.9%	0%		-	**-**	-
Totals %	0%	19.4%	1.5%	0%		20.9%	0%	0%	0%	0%		0%	10.2%	31.4%	0%	0%		41.7%	19.5%	13.8%	4.1%	0%		37.4%	**-**	-
Heavy	0	41	1	0		-	0	0	0	0		-	46	122	0	0		-	90	13	7	0		-	**-**	-
Heavy %	0%	1.6%	0.5%	0%		-	0%	0%	0%	0%		-	3.5%	3%	0%	0%		-	3.6%	0.7%	1.3%	0%		-	**-**	-
Bicycles	0	0	0	0		-	0	0	0	0		-	1	1	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0.1%	0%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (-2 °C)

Start Time	N Approach CHRISTIE ST						E Approach QEW EB RAMPS						S Approach CHRISTIE ST						W Approach QEW EB RAMPS						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	
2025-12-04 16:00:00	0	62	4	0	0	66	0	0	0	0	1	0	48	87	0	0	0	135	54	74	17	0	2	145	346
2025-12-04 16:15:00	0	71	7	0	0	78	0	0	0	0	0	0	42	85	0	0	0	127	58	73	18	0	5	149	354
2025-12-04 16:30:00	0	67	3	0	0	70	0	0	0	0	0	0	43	110	0	0	0	153	58	59	19	0	0	136	359
2025-12-04 16:45:00	0	77	3	0	0	80	0	0	0	0	0	0	47	107	0	0	0	154	88	62	27	0	0	177	411
Grand Total	0	277	17	0	0	294	0	0	0	0	1	0	180	389	0	0	0	569	258	268	81	0	7	607	**1470**
Approach%	0%	94.2%	5.8%	0%		-	0%	0%	0%	0%		-	31.6%	68.4%	0%	0%		-	42.5%	44.2%	13.3%	0%		-	**-**
Totals %	0%	18.8%	1.2%	0%		20%	0%	0%	0%	0%		0%	12.2%	26.5%	0%	0%		38.7%	17.6%	18.2%	5.5%	0%		41.3%	**-**
PHF	0	0.9	0.61	0		0.92	0	0	0	0		0	0.94	0.88	0	0		0.92	0.73	0.91	0.75	0		0.86	0.89
Heavy	0	1	0	0		1	0	0	0	0		0	3	9	0	0		12	6	1	0	0		7	20
Heavy %	0%	0.4%	0%	0%		0.3%	0%	0%	0%	0%		0%	1.7%	2.3%	0%	0%		2.1%	2.3%	0.4%	0%	0%		1.2%	1.4%
Lights	0	276	17	0		293	0	0	0	0		0	177	380	0	0		557	252	267	81	0		600	1450
Lights %	0%	99.6%	100%	0%		99.7%	0%	0%	0%	0%		0%	98.3%	97.7%	0%	0%		97.9%	97.7%	99.6%	100%	0%		98.8%	98.6%
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	1	4	0	0		5	3	0	0	0		3	8
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0.6%	1%	0%	0%		0.9%	1.2%	0%	0%	0%		0.5%	0.5%
Buses	0	1	0	0		1	0	0	0	0		0	1	1	0	0		2	0	0	0	0		0	3
Buses %	0%	0.4%	0%	0%		0.3%	0%	0%	0%	0%		0%	0.6%	0.3%	0%	0%		0.4%	0%	0%	0%	0%		0%	0.2%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	1	4	0	0		5	3	1	0	0		4	9
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0.6%	1%	0%	0%		0.9%	1.2%	0.4%	0%	0%		0.7%	0.6%
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	6	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	12.5%		-	-	-	-	0%		-	-	-	-	75%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	12.5%		**-**
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%			**-**

Spectrum

Turning Movement Count
Location Name: CHRISTIE ST & QEW EB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Selected Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (-2 °C)**

Start Time	N Approach CHRISTIE ST						E Approach QEW EB RAMPS						S Approach CHRISTIE ST						W Approach QEW EB RAMPS						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	
2025-12-04 08:00:00	0	44	7	0	0	51	0	0	0	0	0	0	25	109	0	0	0	134	40	24	4	0	0	68	253
2025-12-04 08:15:00	0	74	6	0	0	80	0	0	0	0	0	0	19	99	0	0	0	118	47	21	13	0	0	81	279
2025-12-04 08:30:00	0	67	6	0	0	73	0	0	0	0	0	0	22	103	0	0	0	125	30	34	8	0	0	72	270
2025-12-04 08:45:00	0	80	5	0	0	85	0	0	0	0	0	0	7	118	0	0	0	125	50	27	12	0	1	89	299
Grand Total	0	265	24	0	0	289	0	0	0	0	0	0	73	429	0	0	0	502	167	106	37	0	1	310	**1101**
Approach%	0%	91.7%	8.3%	0%		-	0%	0%	0%	0%		-	14.5%	85.5%	0%	0%		-	53.9%	34.2%	11.9%	0%		-	**-**
Totals %	0%	24.1%	2.2%	0%		26.2%	0%	0%	0%	0%		0%	6.6%	39%	0%	0%		45.6%	15.2%	9.6%	3.4%	0%		28.2%	**-**
PHF	0	0.83	0.86	0		0.85	0	0	0	0		0	0.73	0.91	0	0		0.94	0.84	0.78	0.71	0		0.87	0.92
Heavy	0	6	1	0		7	0	0	0	0		0	2	14	0	0		16	6	2	1	0		9	32
Heavy %	0%	2.3%	4.2%	0%		2.4%	0%	0%	0%	0%		0%	2.7%	3.3%	0%	0%		3.2%	3.6%	1.9%	2.7%	0%		2.9%	2.9%
Lights	0	259	23	0		282	0	0	0	0		0	71	415	0	0		486	161	104	36	0		301	1069
Lights %	0%	97.7%	95.8%	0%		97.6%	0%	0%	0%	0%		0%	97.3%	96.7%	0%	0%		96.8%	96.4%	98.1%	97.3%	0%		97.1%	97.1%
Single-Unit Trucks	0	2	0	0		2	0	0	0	0		0	0	1	0	0		1	2	0	1	0		3	6
Single-Unit Trucks %	0%	0.8%	0%	0%		0.7%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	1.2%	0%	2.7%	0%		1%	0.5%
Buses	0	3	1	0		4	0	0	0	0		0	1	5	0	0		6	0	1	0	0		1	11
Buses %	0%	1.1%	4.2%	0%		1.4%	0%	0%	0%	0%		0%	1.4%	1.2%	0%	0%		1.2%	0%	0.9%	0%	0%		0.3%	1%
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	1	8	0	0		9	4	1	0	0		5	15
Articulated Trucks %	0%	0.4%	0%	0%		0.3%	0%	0%	0%	0%		0%	1.4%	1.9%	0%	0%		1.8%	2.4%	0.9%	0%	0%		1.6%	1.4%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	100%		**-**
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%			**-**

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

Peak Hour: 04:00 PM - 05:00 PM **Weather: Overcast Clouds (-2 °C)**

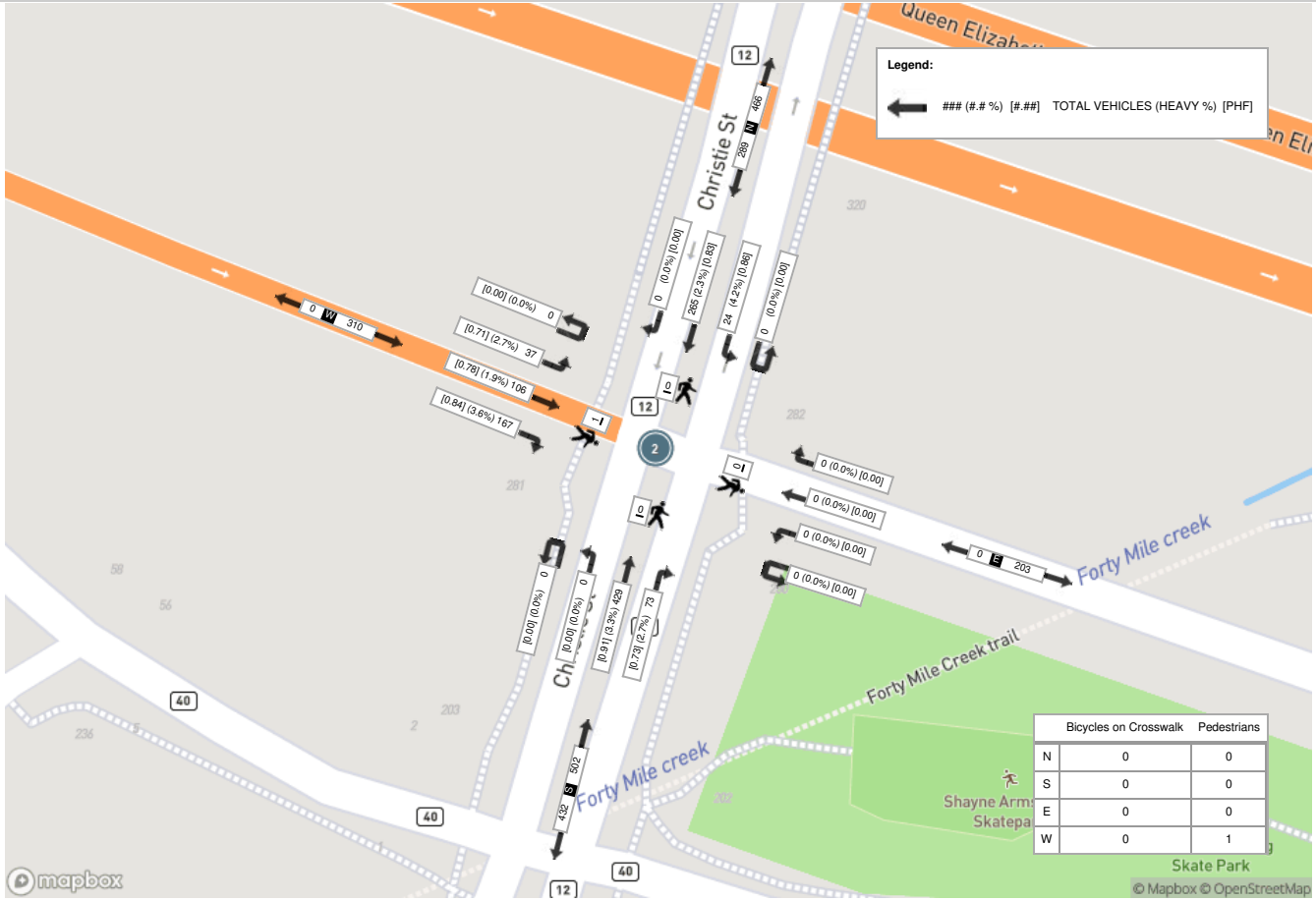
	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	0	1
W	1	6

Spectrum

Turning Movement Count
Location Name: CHRISTIE ST & QEW EB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Selected Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (-2 °C)**



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

Spectrum

Turning Movement Count
Location Name: CHRISTIE ST & QEW WB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Turning Movement Count (1 . CHRISTIE ST & QEW WB RAMPS)

Start Time	N Approach CHRISTIE ST						E Approach QEW WB RAMPS						S Approach CHRISTIE ST						W Approach QEW WB RAMPS						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		
2025-12-04 07:00:00	16	15	0	0	0	31	1	29	10	0	0	40	0	10	71	1	0	82	0	0	0	0	0	0	153	
2025-12-04 07:15:00	29	15	0	0	0	44	3	26	13	0	1	42	0	15	86	0	0	101	0	0	0	0	0	0	187	
2025-12-04 07:30:00	23	35	0	0	0	58	5	36	20	0	1	61	0	22	69	0	0	91	0	0	0	0	1	0	210	
2025-12-04 07:45:00	25	36	0	0	0	61	5	38	32	0	0	75	0	30	57	0	0	87	0	0	0	0	2	0	223	773
2025-12-04 08:00:00	20	34	0	0	0	54	6	30	18	0	0	54	0	48	69	0	0	117	0	0	0	0	0	0	225	845
2025-12-04 08:15:00	20	51	0	0	0	71	8	36	26	0	0	70	0	43	64	0	0	107	0	0	0	0	0	0	248	906
2025-12-04 08:30:00	19	51	0	0	0	70	3	34	20	0	0	57	1	41	69	0	0	111	0	0	0	0	1	0	238	934
2025-12-04 08:45:00	15	58	0	0	0	73	9	36	28	0	0	73	0	67	58	0	0	125	0	0	0	0	0	0	271	982
2025-12-04 09:00:00	18	65	0	0	0	83	6	36	27	0	1	69	0	33	66	0	0	99	0	0	0	0	1	0	251	1008
2025-12-04 09:15:00	13	36	0	0	0	49	2	43	13	0	0	58	0	28	51	0	0	79	0	0	0	0	0	0	186	946
2025-12-04 09:30:00	12	19	0	0	0	31	6	43	10	0	0	59	0	35	51	0	0	86	0	0	0	0	0	0	176	884
2025-12-04 09:45:00	7	30	0	0	0	37	3	35	21	0	0	59	0	32	49	0	0	81	0	0	0	0	1	0	177	790
2025-12-04 10:00:00	3	24	0	0	0	27	2	38	12	0	0	52	0	33	36	0	0	69	0	0	0	0	0	0	148	687
2025-12-04 10:15:00	10	39	0	0	0	49	2	37	7	0	0	46	0	24	54	0	0	78	0	0	0	0	0	0	173	674
2025-12-04 10:30:00	14	39	0	0	0	53	3	23	12	0	0	38	0	30	37	0	0	67	0	0	0	0	0	0	158	656
2025-12-04 10:45:00	11	34	0	0	0	45	0	32	23	0	1	55	0	34	51	0	0	85	0	0	0	0	0	0	185	664
2025-12-04 11:00:00	6	35	0	0	0	41	2	28	20	0	0	50	0	34	55	0	0	89	0	0	0	0	0	0	180	696
2025-12-04 11:15:00	4	27	0	0	0	31	0	25	12	0	2	37	0	35	41	0	0	76	0	0	0	0	0	0	144	667
2025-12-04 11:30:00	13	32	0	0	0	45	7	30	17	0	0	54	0	54	41	0	0	95	0	0	0	0	1	0	194	703
2025-12-04 11:45:00	7	33	0	0	0	40	3	32	20	0	0	55	0	55	55	0	0	110	0	0	0	0	0	0	205	723
2025-12-04 12:00:00	9	36	0	0	0	45	3	37	21	0	1	61	0	35	54	0	0	89	0	0	0	0	0	0	195	738
2025-12-04 12:15:00	7	41	0	0	0	48	8	35	21	0	0	64	0	35	54	0	0	89	0	0	0	0	0	0	201	795
2025-12-04 12:30:00	6	40	0	0	0	46	3	30	17	0	0	50	0	36	46	0	0	82	0	0	0	0	0	0	178	779
2025-12-04 12:45:00	17	38	0	0	0	55	1	33	9	0	0	43	0	41	47	0	0	88	0	0	0	0	0	0	186	760
2025-12-04 13:00:00	11	29	0	0	0	40	3	22	26	0	0	51	0	29	40	0	0	69	0	0	0	0	0	0	160	725
2025-12-04 13:15:00	12	19	0	0	0	31	8	29	10	0	0	47	0	42	49	0	0	91	0	0	0	0	0	0	169	693
2025-12-04 13:30:00	10	29	0	0	0	39	3	32	24	0	0	59	0	21	43	0	0	64	0	0	0	0	0	0	162	677
2025-12-04 13:45:00	6	26	0	0	0	32	1	27	23	0	0	51	0	42	36	0	0	78	0	0	0	0	0	0	161	652
2025-12-04 14:00:00	7	29	0	0	0	36	2	23	16	0	0	41	0	38	42	0	0	80	0	0	0	0	1	0	157	649
2025-12-04 14:15:00	4	24	0	0	0	28	8	32	19	0	0	59	0	52	42	0	0	94	0	0	0	0	1	0	181	661
2025-12-04 14:30:00	5	51	0	0	0	56	2	26	22	0	0	50	0	41	41	0	0	82	0	0	0	0	0	0	188	687
2025-12-04 14:45:00	4	30	0	0	0	34	4	27	17	0	0	48	0	50	47	0	0	97	0	0	0	0	0	0	179	705
2025-12-04 15:00:00	10	29	0	0	0	39	6	34	19	0	0	59	0	67	38	0	0	105	0	0	0	0	1	0	203	751
2025-12-04 15:15:00	15	52	0	0	0	67	4	41	25	0	2	70	0	75	43	0	0	118	0	0	0	0	1	0	255	825
2025-12-04 15:30:00	12	46	0	0	0	58	8	32	23	0	1	63	0	57	33	0	0	90	0	0	0	0	0	0	211	848
2025-12-04 15:45:00	18	36	0	0	0	54	2	36	32	0	1	70	0	66	50	0	0	116	0	0	0	0	0	0	240	909
2025-12-04 16:00:00	15	49	0	0	0	64	10	38	16	0	0	64	0	52	46	0	0	98	0	0	0	0	7	0	226	932
2025-12-04 16:15:00	7	53	0	0	0	60	7	41	22	0	0	70	0	58	48	0	0	106	0	0	0	0	2	0	236	913
2025-12-04 16:30:00	7	48	0	0	0	55	8	43	20	0	0	71	0	72	57	0	0	129	0	0	0	0	0	0	255	957
2025-12-04 16:45:00	13	55	0	0	0	68	6	41	27	0	0	74	0	75	52	0	0	127	0	0	0	0	0	0	269	986
2025-12-04 17:00:00	13	31	0	0	0	44	4	46	34	0	3	84	0	66	46	0	0	112	0	0	0	0	1	0	240	1000
2025-12-04 17:15:00	18	40	0	0	0	58	7	52	32	0	1	91	0	67	38	0	0	105	0	0	0	0	0	0	254	1018
2025-12-04 17:30:00	6	46	0	0	0	52	6	33	25	0	0	64	0	72	47	0	0	119	0	0	0	0	0	0	235	998
2025-12-04 17:45:00	9	53	0	0	0	62	4	31	31	0	1	66	0	48	42	0	0	90	0	0	0	0	1	0	218	947
2025-12-04 18:00:00	11	31	0	0	2	42	3	29	9	0	0	41	0	56	37	0	0	93	0	0	0	0	2	0	176	883

2025-12-04 18:15:00	26	41	0	0	0	67	3	22	20	0	1	45	0	55	40	1	0	96	0	0	0	0	0	0	208	837
2025-12-04 18:30:00	6	19	0	0	0	25	5	32	10	0	0	47	0	38	33	0	0	71	0	0	0	0	0	0	143	745
2025-12-04 18:45:00	8	24	0	0	0	32	1	32	13	0	0	46	0	41	33	0	0	74	0	0	0	0	1	0	152	679
Grand Total	577	1754	0	0	2	2331	206	1603	944	0	17	2753	1	2130	2354	2	0	4487	0	0	0	0	25	0	**9571**	-
Approach%	24.8%	75.2%	0%	0%		-	7.5%	58.2%	34.3%	0%		-	0%	47.5%	52.5%	0%		-	0%	0%	0%	0%		-	**-**	-
Totals %	6%	18.3%	0%	0%		24.4%	2.2%	16.7%	9.9%	0%		28.8%	0%	22.3%	24.6%	0%		46.9%	0%	0%	0%	0%		0%	**-**	-
Heavy	10	26	0	0		-	11	24	41	0		-	0	29	198	0		-	0	0	0	0		-	**-**	-
Heavy %	1.7%	1.5%	0%	0%		-	5.3%	1.5%	4.3%	0%		-	0%	1.4%	8.4%	0%		-	0%	0%	0%	0%		-	**-**	-
Bicycles	0	0	0	0		-	0	0	0	0		-	0	1	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: CHRISTIE ST & QEW WB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Peak Hour: 04:30 PM - 05:30 PM Weather: Overcast Clouds (-2 °C)

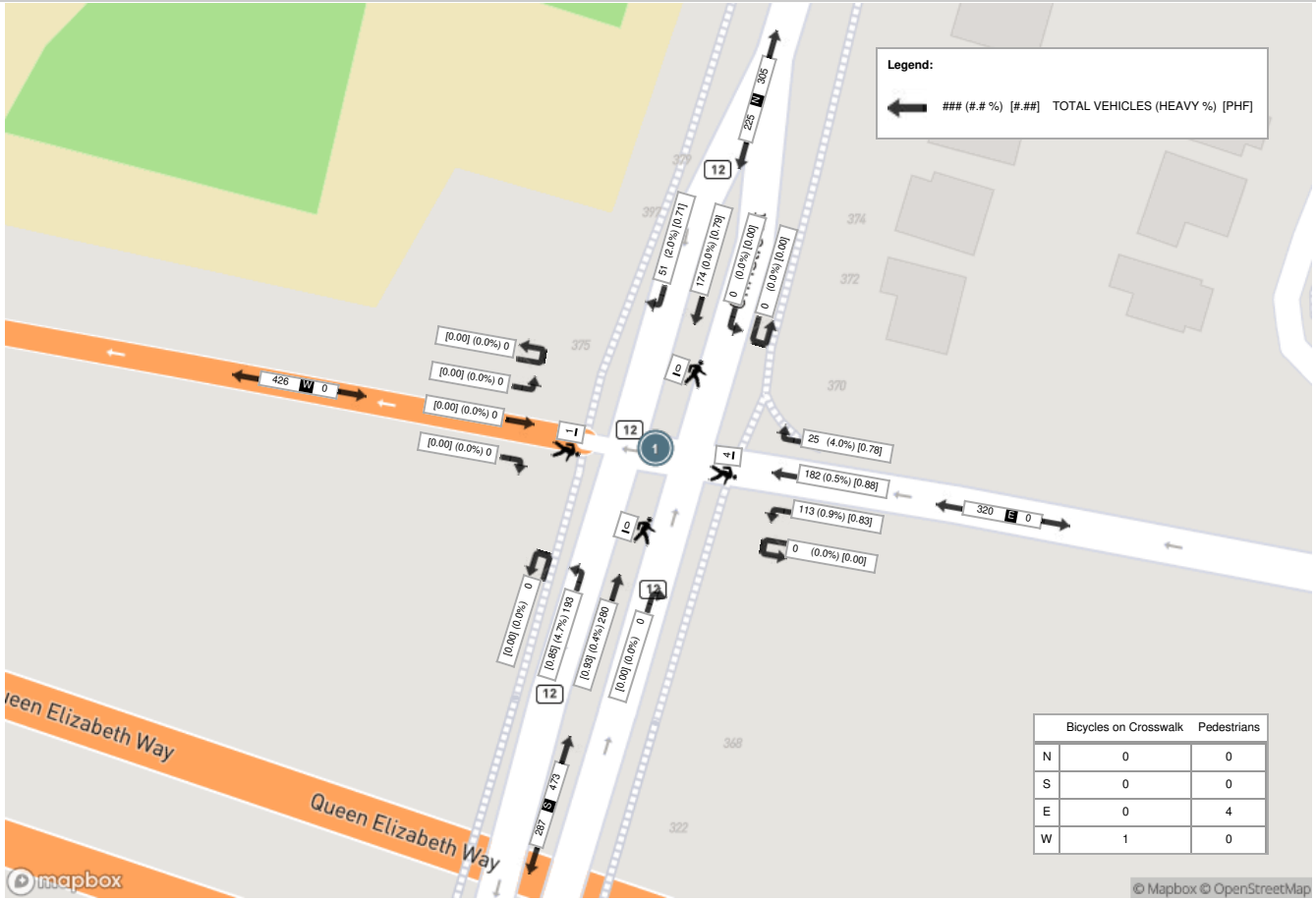
Start Time	N Approach CHRISTIE ST						E Approach QEW WB RAMPS						S Approach CHRISTIE ST						W Approach QEW WB RAMPS						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
2025-12-04 16:30:00	7	48	0	0	0	55	8	43	20	0	0	71	0	72	57	0	0	129	0	0	0	0	0	0	255
2025-12-04 16:45:00	13	55	0	0	0	68	6	41	27	0	0	74	0	75	52	0	0	127	0	0	0	0	0	0	269
2025-12-04 17:00:00	13	31	0	0	0	44	4	46	34	0	3	84	0	66	46	0	0	112	0	0	0	0	1	0	240
2025-12-04 17:15:00	18	40	0	0	0	58	7	52	32	0	1	91	0	67	38	0	0	105	0	0	0	0	0	0	254
Grand Total	51	174	0	0	0	225	25	182	113	0	4	320	0	280	193	0	0	473	0	0	0	0	1	0	**1018**
Approach%	22.7%	77.3%	0%	0%		-	7.8%	56.9%	35.3%	0%		-	0%	59.2%	40.8%	0%		-	0%	0%	0%	0%		-	**-**
Totals %	5%	17.1%	0%	0%		22.1%	2.5%	17.9%	11.1%	0%		31.4%	0%	27.5%	19%	0%		46.5%	0%	0%	0%	0%		0%	**-**
PHF	0.71	0.79	0	0		0.83	0.78	0.88	0.83	0		0.88	0	0.93	0.85	0		0.92	0	0	0	0		0	0.95
Heavy	1	0	0	0		1	1	1	1	0		3	0	1	9	0		10	0	0	0	0		0	14
Heavy %	2%	0%	0%	0%		0.4%	4%	0.5%	0.9%	0%		0.9%	0%	0.4%	4.7%	0%		2.1%	0%	0%	0%	0%		0%	1.4%
Lights	50	174	0	0		224	24	181	112	0		317	0	279	184	0		463	0	0	0	0		0	1004
Lights %	98%	100%	0%	0%		99.6%	96%	99.5%	99.1%	0%		99.1%	0%	99.6%	95.3%	0%		97.9%	0%	0%	0%	0%		0%	98.6%
Single-Unit Trucks	1	0	0	0		1	0	1	0	0		1	0	1	1	0		2	0	0	0	0		0	4
Single-Unit Trucks %	2%	0%	0%	0%		0.4%	0%	0.5%	0%	0%		0.3%	0%	0.4%	0.5%	0%		0.4%	0%	0%	0%	0%		0%	0.4%
Buses	0	0	0	0		0	1	0	0	0		1	0	0	0	0		0	0	0	0	0		0	1
Buses %	0%	0%	0%	0%		0%	4%	0%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0.1%
Articulated Trucks	0	0	0	0		0	0	0	1	0		1	0	0	8	0		8	0	0	0	0		0	9
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0.9%	0%		0.3%	0%	0%	4.1%	0%		1.7%	0%	0%	0%	0%		0%	0.9%
Pedestrians	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	80%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	20%		**-**
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%			**-**

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

Selected Hour: 08:15 AM - 09:15 AM Weather: Overcast Clouds (-2 °C)

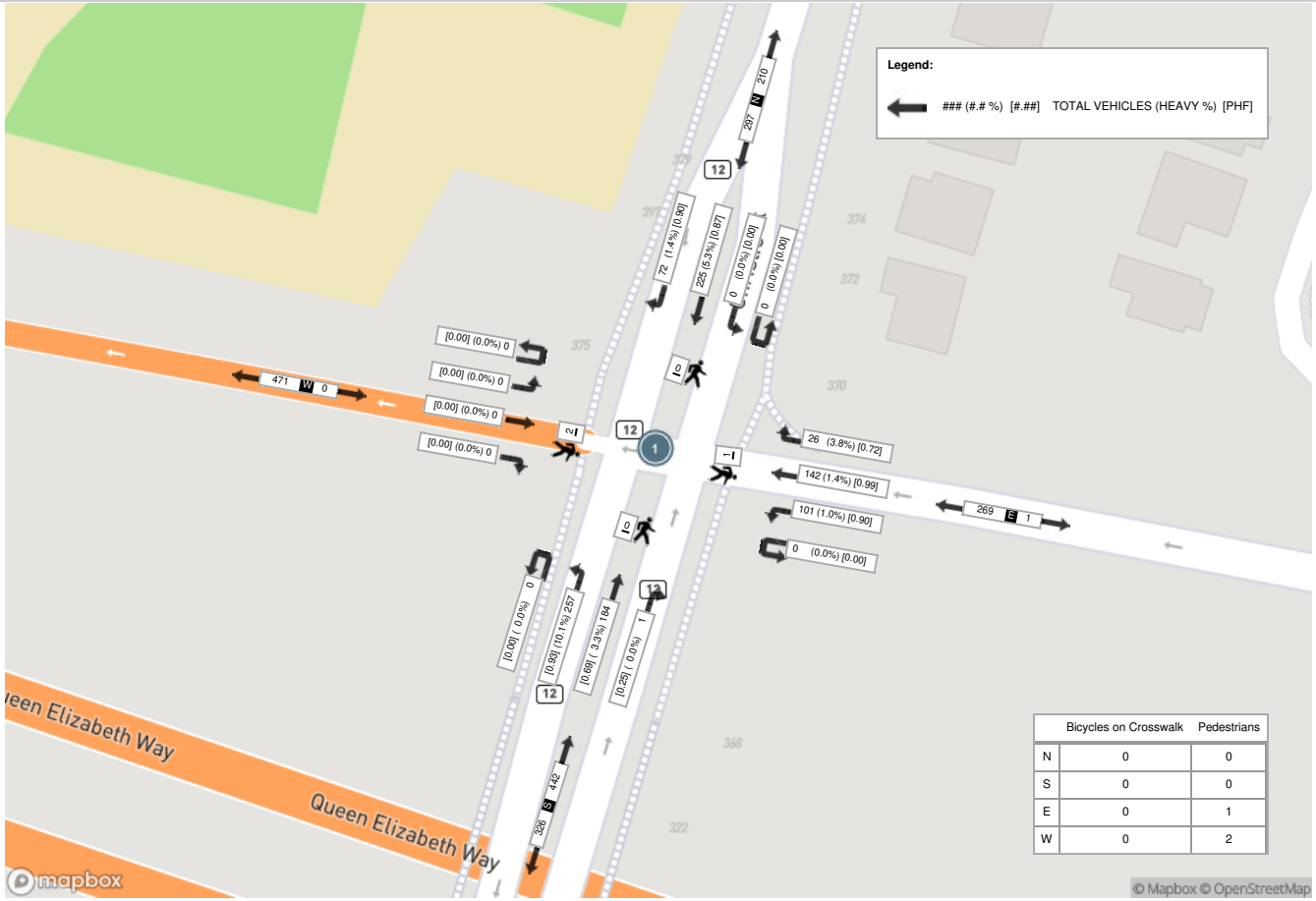
Start Time	N Approach CHRISTIE ST						E Approach QEW WB RAMPS						S Approach CHRISTIE ST						W Approach QEW WB RAMPS						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
2025-12-04 08:15:00	20	51	0	0	0	71	8	36	26	0	0	70	0	43	64	0	0	107	0	0	0	0	0	0	248
2025-12-04 08:30:00	19	51	0	0	0	70	3	34	20	0	0	57	1	41	69	0	0	111	0	0	0	0	1	0	238
2025-12-04 08:45:00	15	58	0	0	0	73	9	36	28	0	0	73	0	67	58	0	0	125	0	0	0	0	0	0	271
2025-12-04 09:00:00	18	65	0	0	0	83	6	36	27	0	1	69	0	33	66	0	0	99	0	0	0	0	1	0	251
Grand Total	72	225	0	0	0	297	26	142	101	0	1	269	1	184	257	0	0	442	0	0	0	0	2	0	**1008**
Approach%	24.2%	75.8%	0%	0%		-	9.7%	52.8%	37.5%	0%		-	0.2%	41.6%	58.1%	0%		-	0%	0%	0%	0%		-	**-**
Totals %	7.1%	22.3%	0%	0%		29.5%	2.6%	14.1%	10%	0%		26.7%	0.1%	18.3%	25.5%	0%		43.8%	0%	0%	0%	0%		0%	**-**
PHF	0.9	0.87	0	0		0.89	0.72	0.99	0.9	0		0.92	0.25	0.69	0.93	0		0.88	0	0	0	0		0	0.93
Heavy	1	12	0	0		13	1	2	1	0		4	0	6	26	0		32	0	0	0	0		0	49
Heavy %	1.4%	5.3%	0%	0%		4.4%	3.8%	1.4%	1%	0%		1.5%	0%	3.3%	10.1%	0%		7.2%	0%	0%	0%	0%		0%	4.9%
Lights	71	213	0	0		284	25	140	100	0		265	1	178	231	0		410	0	0	0	0		0	959
Lights %	98.6%	94.7%	0%	0%		95.6%	96.2%	98.6%	99%	0%		98.5%	100%	96.7%	89.9%	0%		92.8%	0%	0%	0%	0%		0%	95.1%
Single-Unit Trucks	0	2	0	0		2	1	1	0	0		2	0	0	14	0		14	0	0	0	0		0	18
Single-Unit Trucks %	0%	0.9%	0%	0%		0.7%	3.8%	0.7%	0%	0%		0.7%	0%	0%	5.4%	0%		3.2%	0%	0%	0%	0%		0%	1.8%
Buses	1	10	0	0		11	0	1	1	0		2	0	6	0	0		6	0	0	0	0		0	19
Buses %	1.4%	4.4%	0%	0%		3.7%	0%	0.7%	1%	0%		0.7%	0%	3.3%	0%	0%		1.4%	0%	0%	0%	0%		0%	1.9%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	12	0		12	0	0	0	0		0	12
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	4.7%	0%		2.7%	0%	0%	0%	0%		0%	1.2%
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	33.3%		-	-	-	-	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%			**-**

Peak Hour: 04:30 PM - 05:30 PM **Weather: Overcast Clouds (-2 °C)**



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

Selected Hour: 08:15 AM - 09:15 AM **Weather: Overcast Clouds (-2 °C)**



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

Spectrum

Turning Movement Count
Location Name: ONTARIO ST & QEW EB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Turning Movement Count (5 . ONTARIO ST & QEW EB RAMPS)

Start Time	N Approach ONTARIO ST						E Approach QEW EB RAMPS						S Approach ONTARIO ST						W Approach QEW EB RAMPS						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		
2025-12-04 07:00:00	0	21	3	0	0	24	0	0	0	0	0	0	3	8	0	0	0	11	7	24	1	0	0	32	67	
2025-12-04 07:15:00	0	19	6	0	0	25	0	0	0	0	0	0	8	14	0	0	0	22	8	16	1	0	0	25	72	
2025-12-04 07:30:00	0	46	8	0	0	54	0	0	0	0	0	0	5	19	0	0	0	24	13	30	5	0	1	48	126	
2025-12-04 07:45:00	0	68	11	0	0	79	0	0	0	0	0	0	9	27	0	0	0	36	20	33	3	0	2	56	171	436
2025-12-04 08:00:00	0	44	12	0	0	56	0	0	0	0	1	0	14	37	0	0	0	51	16	35	3	0	2	54	161	530
2025-12-04 08:15:00	0	58	16	0	0	74	0	0	0	0	0	0	14	25	0	0	0	39	14	27	2	0	0	43	156	614
2025-12-04 08:30:00	0	58	13	0	0	71	0	0	0	0	0	0	13	26	0	0	0	39	24	37	1	0	0	62	172	660
2025-12-04 08:45:00	0	62	12	0	0	74	0	0	0	0	0	0	16	35	0	0	0	51	16	20	4	0	0	40	165	654
2025-12-04 09:00:00	0	33	4	0	0	37	0	0	0	0	0	0	8	31	0	0	0	39	12	41	6	0	0	59	135	628
2025-12-04 09:15:00	0	40	4	0	0	44	0	0	0	0	0	0	5	30	0	0	0	35	11	21	4	0	1	36	115	587
2025-12-04 09:30:00	0	32	8	0	0	40	0	0	0	0	1	0	5	32	0	0	0	37	15	35	5	0	0	55	132	547
2025-12-04 09:45:00	0	35	5	0	0	40	0	0	0	0	1	0	6	31	0	0	0	37	14	31	4	0	0	49	126	508
2025-12-04 10:00:00	0	28	11	0	0	39	0	0	0	0	0	0	8	24	0	0	0	32	10	26	5	0	1	41	112	485
2025-12-04 10:15:00	0	23	6	0	0	29	0	0	0	0	0	0	11	32	0	0	0	43	19	32	4	0	0	55	127	497
2025-12-04 10:30:00	0	27	8	0	0	35	0	0	0	0	0	0	10	26	0	0	0	36	17	31	5	0	0	53	124	489
2025-12-04 10:45:00	0	34	6	0	0	40	0	0	0	0	1	0	8	24	0	0	0	32	15	26	4	0	0	45	117	480
2025-12-04 11:00:00	0	19	6	0	0	25	0	0	0	0	3	0	10	34	0	0	0	44	22	35	2	0	0	59	128	496
2025-12-04 11:15:00	0	31	7	0	0	38	0	0	0	0	0	0	7	28	0	0	0	35	10	39	6	0	0	55	128	497
2025-12-04 11:30:00	0	34	5	0	0	39	0	0	0	0	0	0	11	42	0	0	0	53	20	28	7	0	0	55	147	520
2025-12-04 11:45:00	0	35	6	0	0	41	0	0	0	0	1	0	7	22	0	0	0	29	18	33	5	0	3	56	126	529
2025-12-04 12:00:00	0	37	4	0	0	41	0	0	0	0	0	0	11	38	0	0	0	49	15	34	4	0	0	53	143	544
2025-12-04 12:15:00	0	27	5	0	0	32	0	0	0	0	0	0	9	28	0	0	0	37	20	45	5	0	1	70	139	555
2025-12-04 12:30:00	0	37	10	0	0	47	0	0	1	0	0	1	12	27	0	0	0	39	14	34	9	0	0	57	144	552
2025-12-04 12:45:00	0	43	5	0	0	48	0	0	0	0	0	0	12	26	0	0	0	38	20	33	12	0	0	65	151	577
2025-12-04 13:00:00	0	34	7	0	0	41	0	0	0	0	0	0	6	29	0	0	0	35	11	32	5	0	0	48	124	558
2025-12-04 13:15:00	0	33	7	0	0	40	0	0	0	0	0	0	9	29	0	0	0	38	18	46	4	0	1	68	146	565
2025-12-04 13:30:00	0	33	4	0	0	37	0	0	0	0	0	0	9	43	0	0	0	52	20	46	6	0	0	72	161	582
2025-12-04 13:45:00	0	31	2	0	0	33	0	0	0	0	0	0	10	35	0	0	0	45	31	48	8	0	0	87	165	596
2025-12-04 14:00:00	0	35	7	0	0	42	0	0	0	0	1	0	11	40	0	0	0	51	20	39	8	0	0	67	160	632
2025-12-04 14:15:00	0	30	6	0	0	36	0	0	0	0	0	0	14	35	0	0	0	49	17	52	6	0	0	75	160	646
2025-12-04 14:30:00	0	32	7	0	0	39	0	0	0	0	0	0	11	39	0	0	0	50	23	54	6	0	0	83	172	657
2025-12-04 14:45:00	0	35	10	0	0	45	0	0	0	0	0	0	13	38	0	0	0	51	31	41	6	0	1	78	174	666
2025-12-04 15:00:00	0	37	5	0	0	42	0	0	0	0	0	0	10	37	0	0	0	47	24	59	11	0	0	94	183	689
2025-12-04 15:15:00	0	39	14	0	0	53	0	0	0	0	0	0	17	37	0	0	0	54	26	56	5	0	0	87	194	723
2025-12-04 15:30:00	0	43	18	0	0	61	0	0	0	0	5	0	19	43	0	0	0	62	42	67	9	0	0	118	241	792
2025-12-04 15:45:00	0	38	7	0	0	45	0	0	0	0	0	0	17	36	0	0	0	53	42	49	12	0	0	103	201	819
2025-12-04 16:00:00	0	54	9	0	0	63	0	0	0	0	0	0	11	46	0	0	0	57	47	74	12	0	1	133	253	889
2025-12-04 16:15:00	0	46	10	0	0	56	0	0	0	0	0	0	13	37	0	0	0	50	39	59	13	0	0	111	217	912
2025-12-04 16:30:00	0	44	13	0	0	57	0	0	0	0	0	0	18	39	0	0	0	57	30	71	12	0	0	113	227	898
2025-12-04 16:45:00	0	50	12	0	0	62	0	0	0	0	0	0	14	29	0	0	0	43	32	66	14	0	1	112	217	914
2025-12-04 17:00:00	0	49	11	0	0	60	0	0	0	0	0	0	17	50	0	0	0	67	29	54	11	0	0	94	221	882
2025-12-04 17:15:00	0	46	14	0	0	60	0	0	0	0	0	0	12	57	0	0	0	69	27	77	16	0	0	120	249	914
2025-12-04 17:30:00	0	43	10	0	0	53	0	0	0	0	0	0	10	39	0	0	0	49	22	45	8	0	0	75	177	864
2025-12-04 17:45:00	0	57	10	0	0	67	0	0	0	0	0	0	10	43	0	0	0	53	40	41	9	0	0	90	210	857
2025-12-04 18:00:00	0	40	9	0	0	49	0	0	0	0	3	0	13	35	0	0	0	48	20	47	7	0	0	74	171	807

2025-12-04 18:15:00	0	38	12	0	0	50	0	0	0	0	0	0	8	24	0	0	0	32	23	31	5	0	0	59	141	699
2025-12-04 18:30:00	0	20	4	0	0	24	0	0	0	0	0	0	12	37	0	0	0	49	31	50	9	0	0	90	163	685
2025-12-04 18:45:00	0	20	2	0	0	22	0	0	0	0	0	0	7	26	0	0	0	33	16	31	6	0	0	53	108	583
Grand Total	0	1818	391	0	0	2209	0	0	1	0	17	1	513	1569	0	0	0	2082	1031	1981	315	0	15	3327	**7619**	-
Approach%	0%	82.3%	17.7%	0%		-	0%	0%	100%	0%		-	24.6%	75.4%	0%	0%		-	31%	59.5%	9.5%	0%		-	**-**	-
Totals %	0%	23.9%	5.1%	0%		29%	0%	0%	0%	0%		0%	6.7%	20.6%	0%	0%		27.3%	13.5%	26%	4.1%	0%		43.7%	**-**	-
Heavy	0	39	11	0		-	0	0	0	0		-	10	22	0	0		-	22	97	6	0		-	**-**	-
Heavy %	0%	2.1%	2.8%	0%		-	0%	0%	0%	0%		-	1.9%	1.4%	0%	0%		-	2.1%	4.9%	1.9%	0%		-	**-**	-
Bicycles	0	3	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	0.2%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: ONTARIO ST & QEW EB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Peak Hour: 04:30 PM - 05:30 PM Weather: Overcast Clouds (-2 °C)

Start Time	N Approach ONTARIO ST						E Approach QEW EB RAMPS						S Approach ONTARIO ST						W Approach QEW EB RAMPS						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	
2025-12-04 16:30:00	0	44	13	0	0	57	0	0	0	0	0	0	18	39	0	0	0	57	30	71	12	0	0	113	227
2025-12-04 16:45:00	0	50	12	0	0	62	0	0	0	0	0	0	14	29	0	0	0	43	32	66	14	0	1	112	217
2025-12-04 17:00:00	0	49	11	0	0	60	0	0	0	0	0	0	17	50	0	0	0	67	29	54	11	0	0	94	221
2025-12-04 17:15:00	0	46	14	0	0	60	0	0	0	0	0	0	12	57	0	0	0	69	27	77	16	0	0	120	249
Grand Total	0	189	50	0	0	239	0	0	0	0	0	0	61	175	0	0	0	236	118	268	53	0	1	439	**914**
Approach%	0%	79.1%	20.9%	0%		-	0%	0%	0%	0%		-	25.8%	74.2%	0%	0%		-	26.9%	61%	12.1%	0%		-	**-**
Totals %	0%	20.7%	5.5%	0%		26.1%	0%	0%	0%	0%		0%	6.7%	19.1%	0%	0%		25.8%	12.9%	29.3%	5.8%	0%		48%	**-**
PHF	0	0.95	0.89	0		0.96	0	0	0	0		0	0.85	0.77	0	0		0.86	0.92	0.87	0.83	0		0.91	0.92
Heavy	0	1	0	0		1	0	0	0	0		0	1	0	0	0		1	1	5	0	0		6	8
Heavy %	0%	0.5%	0%	0%		0.4%	0%	0%	0%	0%		0%	1.6%	0%	0%	0%		0.4%	0.8%	1.9%	0%	0%		1.4%	0.9%
Lights	0	188	50	0		238	0	0	0	0		0	60	175	0	0		235	117	263	53	0		433	906
Lights %	0%	99.5%	100%	0%		99.6%	0%	0%	0%	0%		0%	98.4%	100%	0%	0%		99.6%	99.2%	98.1%	100%	0%		98.6%	99.1%
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	1	0	0	0		1	1	3	0	0		4	5
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	1.6%	0%	0%	0%		0.4%	0.8%	1.1%	0%	0%		0.9%	0.5%
Buses	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	2
Buses %	0%	0.5%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.2%	0.2%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	1
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.2%	0.1%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	100%		**-**
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%			**-**

Spectrum

Turning Movement Count
Location Name: ONTARIO ST & QEW EB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Selected Hour: 07:45 AM - 08:45 AM **Weather: Overcast Clouds (-2 °C)**

Start Time	N Approach ONTARIO ST						E Approach QEW EB RAMPS						S Approach ONTARIO ST						W Approach QEW EB RAMPS						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	
2025-12-04 07:45:00	0	68	11	0	0	79	0	0	0	0	0	0	9	27	0	0	0	36	20	33	3	0	2	56	171
2025-12-04 08:00:00	0	44	12	0	0	56	0	0	0	0	1	0	14	37	0	0	0	51	16	35	3	0	2	54	161
2025-12-04 08:15:00	0	58	16	0	0	74	0	0	0	0	0	0	14	25	0	0	0	39	14	27	2	0	0	43	156
2025-12-04 08:30:00	0	58	13	0	0	71	0	0	0	0	0	0	13	26	0	0	0	39	24	37	1	0	0	62	172
Grand Total	0	228	52	0	0	280	0	0	0	0	1	0	50	115	0	0	0	165	74	132	9	0	4	215	**660**
Approach%	0%	81.4%	18.6%	0%		-	0%	0%	0%	0%		-	30.3%	69.7%	0%	0%		-	34.4%	61.4%	4.2%	0%		-	**-**
Totals %	0%	34.5%	7.9%	0%		42.4%	0%	0%	0%	0%		0%	7.6%	17.4%	0%	0%		25%	11.2%	20%	1.4%	0%		32.6%	**-**
PHF	0	0.84	0.81	0		0.89	0	0	0	0		0	0.89	0.78	0	0		0.81	0.77	0.89	0.75	0		0.87	0.96
Heavy	0	4	2	0		6	0	0	0	0		0	3	2	0	0		5	2	13	0	0		15	26
Heavy %	0%	1.8%	3.8%	0%		2.1%	0%	0%	0%	0%		0%	6%	1.7%	0%	0%		3%	2.7%	9.8%	0%	0%		7%	3.9%
Lights	0	224	50	0		274	0	0	0	0		0	47	113	0	0		160	72	119	9	0		200	634
Lights %	0%	98.2%	96.2%	0%		97.9%	0%	0%	0%	0%		0%	94%	98.3%	0%	0%		97%	97.3%	90.2%	100%	0%		93%	96.1%
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	1	2	0	0		3	1	3	0	0		4	7
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	2%	1.7%	0%	0%		1.8%	1.4%	2.3%	0%	0%		1.9%	1.1%
Buses	0	4	2	0		6	0	0	0	0		0	1	0	0	0		1	1	7	0	0		8	15
Buses %	0%	1.8%	3.8%	0%		2.1%	0%	0%	0%	0%		0%	2%	0%	0%	0%		0.6%	1.4%	5.3%	0%	0%		3.7%	2.3%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	1	0	0	0		1	0	3	0	0		3	4
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	2%	0%	0%	0%		0.6%	0%	2.3%	0%	0%		1.4%	0.6%
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	4	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	20%		-	-	-	-	0%		-	-	-	-	80%		**-**
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 (-2 °C)**

Selected Hour: 07:45 AM - 08:45 AM **Weather: Overcast Clouds (-2 °C)**

Spectrum

Turning Movement Count
Location Name: ONTARIO ST & QEW WB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Turning Movement Count (4 . ONTARIO ST & QEW WB RAMPS)

Start Time	N Approach ONTARIO ST						E Approach QEW WB RAMPS						S Approach ONTARIO ST						W Approach QEW WB RAMPS						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		
2025-12-04 07:00:00	9	11	0	0	0	20	2	25	8	0	0	35	0	2	5	0	0	7	0	0	0	0	0	0	62	
2025-12-04 07:15:00	8	16	0	0	0	24	5	20	6	0	0	31	0	7	5	0	0	12	0	0	0	0	0	0	67	
2025-12-04 07:30:00	5	31	0	0	0	36	10	45	16	0	0	71	0	12	9	0	0	21	0	0	0	0	1	0	128	
2025-12-04 07:45:00	6	37	0	0	0	43	15	53	32	0	0	100	0	16	13	0	0	29	0	0	0	0	2	0	172	429
2025-12-04 08:00:00	10	35	0	0	0	45	14	35	21	0	1	70	0	22	10	0	0	32	0	0	0	0	1	0	147	514
2025-12-04 08:15:00	3	41	0	0	0	44	12	50	26	0	0	88	0	12	12	0	0	24	0	0	0	0	1	0	156	603
2025-12-04 08:30:00	7	39	0	0	0	46	12	42	27	0	0	81	0	16	8	0	0	24	0	0	0	0	0	0	151	626
2025-12-04 08:45:00	5	38	0	0	0	43	3	44	29	0	0	76	0	17	19	0	0	36	0	0	0	0	0	0	155	609
2025-12-04 09:00:00	10	25	0	0	0	35	2	43	12	0	0	57	0	25	11	0	0	36	0	0	0	0	1	0	128	590
2025-12-04 09:15:00	10	24	0	0	0	34	6	35	17	0	3	58	0	18	10	0	0	28	0	0	0	0	1	0	120	554
2025-12-04 09:30:00	9	31	0	0	2	40	4	42	8	0	0	54	0	26	10	0	0	36	0	0	0	0	0	0	130	533
2025-12-04 09:45:00	6	28	0	0	0	34	6	36	9	0	1	51	1	20	16	0	0	37	0	0	0	0	0	0	122	500
2025-12-04 10:00:00	13	30	0	0	0	43	5	26	9	0	0	40	0	17	10	0	0	27	0	0	0	0	1	0	110	482
2025-12-04 10:15:00	8	23	0	0	0	31	4	28	6	0	0	38	0	24	8	0	0	32	0	0	0	0	1	0	101	463
2025-12-04 10:30:00	10	22	0	0	0	32	2	24	8	0	0	34	0	23	5	0	0	28	0	0	0	0	0	0	94	427
2025-12-04 10:45:00	6	27	0	0	0	33	6	29	9	0	0	44	0	16	12	0	0	28	0	0	0	0	0	0	105	410
2025-12-04 11:00:00	7	17	0	0	0	24	2	32	7	0	4	41	0	24	8	0	0	32	0	0	0	0	0	0	97	397
2025-12-04 11:15:00	6	24	0	0	0	30	4	22	12	0	1	38	0	26	3	0	0	29	0	0	0	0	0	0	97	393
2025-12-04 11:30:00	5	23	0	0	0	28	7	36	16	0	0	59	0	36	8	1	0	45	0	0	0	0	0	0	132	431
2025-12-04 11:45:00	9	23	0	0	0	32	7	37	14	0	2	58	0	16	8	0	0	24	0	0	0	0	3	0	114	440
2025-12-04 12:00:00	6	24	0	0	0	30	4	39	14	0	0	57	0	28	10	0	0	38	0	0	0	0	0	0	125	468
2025-12-04 12:15:00	12	20	0	0	0	32	5	42	9	0	0	56	0	20	7	0	0	27	0	0	0	0	1	0	115	486
2025-12-04 12:30:00	9	28	0	0	0	37	4	29	16	0	0	49	0	28	8	0	0	36	0	0	0	0	0	0	122	476
2025-12-04 12:45:00	11	29	0	0	0	40	4	21	14	0	0	39	0	24	10	0	0	34	0	0	0	0	0	0	113	475
2025-12-04 13:00:00	3	21	0	0	0	24	4	37	16	0	0	57	0	20	9	0	0	29	0	0	0	0	0	0	110	460
2025-12-04 13:15:00	9	31	0	0	0	40	6	30	7	0	0	43	0	23	6	0	0	29	0	0	0	0	1	0	112	457
2025-12-04 13:30:00	5	21	0	0	0	26	3	34	7	0	0	44	0	26	10	0	0	36	0	0	0	0	0	0	106	441
2025-12-04 13:45:00	6	17	0	0	0	23	2	33	13	0	0	48	0	31	9	0	0	40	0	0	0	0	0	0	111	439
2025-12-04 14:00:00	5	24	0	0	0	29	9	25	12	0	1	46	0	34	11	0	0	45	0	0	0	0	1	0	120	449
2025-12-04 14:15:00	8	21	0	0	0	29	9	38	10	0	0	57	0	28	11	0	0	39	0	0	0	0	0	0	125	462
2025-12-04 14:30:00	5	29	0	0	0	34	8	38	7	0	0	53	0	33	8	0	0	41	0	0	0	0	0	0	128	484
2025-12-04 14:45:00	3	28	0	0	0	31	6	26	8	0	0	40	0	29	6	0	0	35	0	0	0	0	1	0	106	479
2025-12-04 15:00:00	10	19	0	0	0	29	4	36	20	0	0	60	0	30	13	0	0	43	0	0	0	0	0	0	132	491
2025-12-04 15:15:00	10	29	0	0	0	39	8	55	14	0	0	77	0	27	10	0	0	37	0	0	0	0	0	0	153	519
2025-12-04 15:30:00	9	37	0	0	0	46	5	32	17	0	2	54	0	32	13	0	0	45	0	0	0	0	0	0	145	536
2025-12-04 15:45:00	8	26	0	0	0	34	9	40	17	0	0	66	0	29	12	0	0	41	0	0	0	0	0	0	141	571
2025-12-04 16:00:00	10	30	0	0	0	40	16	39	22	0	0	77	0	30	11	0	0	41	0	0	0	0	1	0	158	597
2025-12-04 16:15:00	6	34	0	0	0	40	11	39	18	0	0	68	0	37	16	0	0	53	0	0	0	0	1	0	161	605
2025-12-04 16:30:00	16	41	0	0	0	57	14	42	14	0	0	70	0	35	11	0	0	46	0	0	0	0	0	0	173	633
2025-12-04 16:45:00	9	42	0	0	0	51	13	61	18	0	1	92	0	30	10	0	0	40	0	0	0	0	1	0	183	675
2025-12-04 17:00:00	9	43	0	0	0	52	15	50	11	0	1	76	1	37	11	0	0	49	0	0	0	0	0	0	177	694
2025-12-04 17:15:00	8	42	0	0	0	50	10	65	13	0	0	88	0	60	13	0	0	73	0	0	0	0	0	0	211	744
2025-12-04 17:30:00	7	33	0	0	0	40	8	45	16	0	0	69	0	28	10	0	0	38	0	0	0	0	0	0	147	718
2025-12-04 17:45:00	6	43	0	0	0	49	12	45	17	0	0	74	0	43	10	0	0	53	0	0	0	0	0	0	176	711
2025-12-04 18:00:00	9	35	0	0	0	44	7	24	13	0	0	44	0	31	7	0	0	38	0	0	0	0	1	0	126	660

2025-12-04 18:15:00	4	36	0	0	0	40	9	33	12	0	0	54	0	24	6	0	0	30	0	0	0	0	0	0	124	573
2025-12-04 18:30:00	8	17	0	0	0	25	6	23	5	0	0	34	0	30	16	0	0	46	0	0	0	0	0	0	105	531
2025-12-04 18:45:00	6	13	0	0	0	19	10	32	7	0	0	49	0	24	8	0	0	32	0	0	0	0	0	0	100	455
Grand Total	369	1358	0	0	2	1727	349	1757	659	0	17	2765	2	1226	472	1	0	1701	0	0	0	0	20	0	**6193**	-
Approach%	21.4%	78.6%	0%	0%		-	12.6%	63.5%	23.8%	0%		-	0.1%	72.1%	27.7%	0.1%		-	0%	0%	0%	0%		-	**-**	-
Totals %	6%	21.9%	0%	0%		27.9%	5.6%	28.4%	10.6%	0%		44.6%	0%	19.8%	7.6%	0%		27.5%	0%	0%	0%	0%		0%	**-**	-
Heavy	2	18	0	0		-	5	42	6	0		-	0	8	4	0		-	0	0	0	0		-	**-**	-
Heavy %	0.5%	1.3%	0%	0%		-	1.4%	2.4%	0.9%	0%		-	0%	0.7%	0.8%	0%		-	0%	0%	0%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Peak Hour: 04:30 PM - 05:30 PM Weather: Overcast Clouds (-2 °C)

Start Time	N Approach ONTARIO ST						E Approach QEW WB RAMPS						S Approach ONTARIO ST						W Approach QEW WB RAMPS						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	
2025-12-04 16:30:00	16	41	0	0	0	57	14	42	14	0	0	70	0	35	11	0	0	46	0	0	0	0	0	0	173
2025-12-04 16:45:00	9	42	0	0	0	51	13	61	18	0	1	92	0	30	10	0	0	40	0	0	0	0	1	0	183
2025-12-04 17:00:00	9	43	0	0	0	52	15	50	11	0	1	76	1	37	11	0	0	49	0	0	0	0	0	0	177
2025-12-04 17:15:00	8	42	0	0	0	50	10	65	13	0	0	88	0	60	13	0	0	73	0	0	0	0	0	0	211
Grand Total	42	168	0	0	0	210	52	218	56	0	2	326	1	162	45	0	0	208	0	0	0	0	1	0	**744**
Approach%	20%	80%	0%	0%		-	16%	66.9%	17.2%	0%		-	0.5%	77.9%	21.6%	0%		-	0%	0%	0%	0%		-	**-**
Totals %	5.6%	22.6%	0%	0%		28.2%	7%	29.3%	7.5%	0%		43.8%	0.1%	21.8%	6%	0%		28%	0%	0%	0%	0%		0%	**-**
PHF	0.66	0.98	0	0		0.92	0.87	0.84	0.78	0		0.89	0.25	0.68	0.87	0		0.71	0	0	0	0		0	0.88
Heavy	0	0	0	0		0	0	1	1	0		2	0	0	0	0		0	0	0	0	0		0	2
Heavy %	0%	0%	0%	0%		0%	0%	0.5%	1.8%	0%		0.6%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0.3%
Lights	42	168	0	0		210	52	217	55	0		324	1	162	45	0		208	0	0	0	0		0	742
Lights %	100%	100%	0%	0%		100%	100%	99.5%	98.2%	0%		99.4%	100%	100%	100%	0%		100%	0%	0%	0%	0%		0%	99.7%
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%
Buses	0	0	0	0		0	0	1	1	0		2	0	0	0	0		0	0	0	0	0		0	2
Buses %	0%	0%	0%	0%		0%	0%	0.5%	1.8%	0%		0.6%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0.3%
Articulated Trucks	0	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%	0%
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	66.7%		-	-	-	-	0%		-	-	-	-	33.3%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

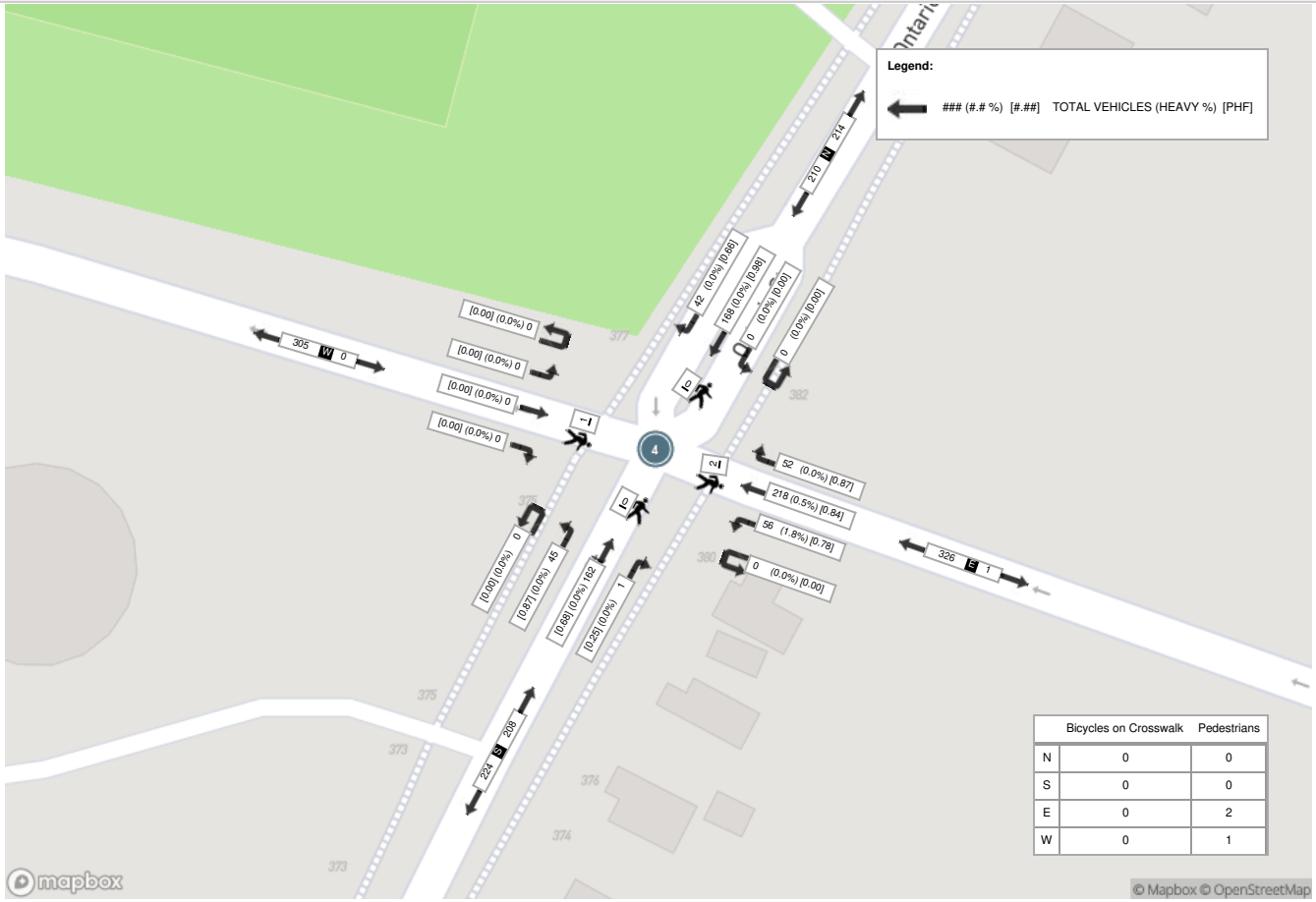
Turning Movement Count
Location Name: ONTARIO ST & QEW WB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

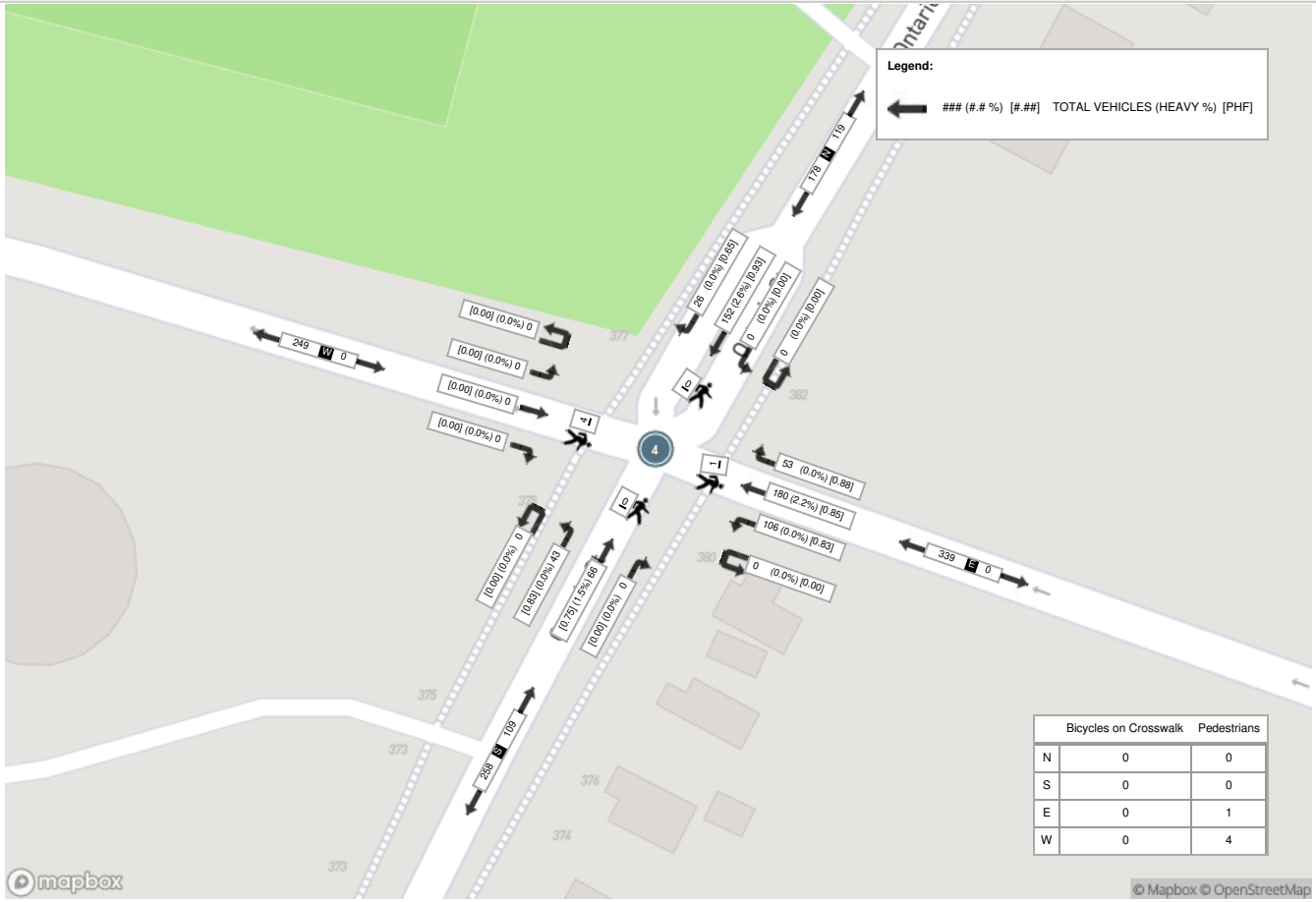
Selected Hour: 07:45 AM - 08:45 AM Weather: Overcast Clouds (-2 °C)

Start Time	N Approach ONTARIO ST						E Approach QEW WB RAMPS						S Approach ONTARIO ST						W Approach QEW WB RAMPS						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	
2025-12-04 07:45:00	6	37	0	0	0	43	15	53	32	0	0	100	0	16	13	0	0	29	0	0	0	0	2	0	172
2025-12-04 08:00:00	10	35	0	0	0	45	14	35	21	0	1	70	0	22	10	0	0	32	0	0	0	0	1	0	147
2025-12-04 08:15:00	3	41	0	0	0	44	12	50	26	0	0	88	0	12	12	0	0	24	0	0	0	0	1	0	156
2025-12-04 08:30:00	7	39	0	0	0	46	12	42	27	0	0	81	0	16	8	0	0	24	0	0	0	0	0	0	151
Grand Total	26	152	0	0	0	178	53	180	106	0	1	339	0	66	43	0	0	109	0	0	0	0	4	0	**626**
Approach%	14.6%	85.4%	0%	0%		-	15.6%	53.1%	31.3%	0%		-	0%	60.6%	39.4%	0%		-	0%	0%	0%	0%		-	**-**
Totals %	4.2%	24.3%	0%	0%		28.4%	8.5%	28.8%	16.9%	0%		54.2%	0%	10.5%	6.9%	0%		17.4%	0%	0%	0%	0%		0%	**-**
PHF	0.65	0.93	0	0		0.97	0.88	0.85	0.83	0		0.85	0	0.75	0.83	0		0.85	0	0	0	0		0	0.91
Heavy	0	4	0	0		4	0	4	0	0		4	0	1	0	0		1	0	0	0	0		0	9
Heavy %	0%	2.6%	0%	0%		2.2%	0%	2.2%	0%	0%		1.2%	0%	1.5%	0%	0%		0.9%	0%	0%	0%	0%		0%	1.4%
Lights	26	148	0	0		174	53	176	106	0		335	0	65	43	0		108	0	0	0	0		0	617
Lights %	100%	97.4%	0%	0%		97.8%	100%	97.8%	100%	0%		98.8%	0%	98.5%	100%	0%		99.1%	0%	0%	0%	0%		0%	98.6%
Single-Unit Trucks	0	0	0	0		0	0	2	0	0		2	0	1	0	0		1	0	0	0	0		0	3
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	1.1%	0%	0%		0.6%	0%	1.5%	0%	0%		0.9%	0%	0%	0%	0%		0%	0.5%
Buses	0	4	0	0		4	0	2	0	0		2	0	0	0	0		0	0	0	0	0		0	6
Buses %	0%	2.6%	0%	0%		2.2%	0%	1.1%	0%	0%		0.6%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	1%
Articulated Trucks	0	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%	0%
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	4	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	20%		-	-	-	-	0%		-	-	-	-	80%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 04:30 PM - 05:30 PM **Weather: Overcast Clouds (-2 °C)**



Selected Hour: 07:45 AM - 08:45 AM **Weather: Overcast Clouds (-2 °C)**



Spectrum

Turning Movement Count
Location Name: MAPLE AVE & QEW EB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Turning Movement Count (13 . MAPLE AVE & QEW EB RAMPS)

Start Time	N Approach MAPLE AVE						E Approach QEW EB RAMPS						S Approach MAPLE AVE						W Approach QEW EB RAMPS						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		
2025-12-04 07:00:00	5	8	0	0	0	13	1	20	5	0	0	26	0	7	14	1	0	22	0	0	0	0	0	0	61	
2025-12-04 07:15:00	1	15	0	0	0	16	2	23	3	0	0	28	0	7	8	0	0	15	0	0	0	0	0	0	59	
2025-12-04 07:30:00	7	15	0	0	0	22	1	60	9	0	2	70	0	4	12	0	0	16	0	0	0	0	0	0	108	
2025-12-04 07:45:00	8	11	0	0	0	19	0	82	10	0	1	92	0	9	16	0	0	25	0	0	0	0	0	0	136	364
2025-12-04 08:00:00	4	12	0	0	0	16	1	64	12	0	0	77	0	5	9	0	0	14	0	0	0	0	0	0	107	410
2025-12-04 08:15:00	8	18	0	0	0	26	2	68	15	0	1	85	0	3	19	0	0	22	0	0	0	0	0	0	133	484
2025-12-04 08:30:00	4	14	0	0	0	18	1	72	14	0	2	87	0	1	15	0	0	16	0	0	0	0	0	0	121	497
2025-12-04 08:45:00	9	18	0	0	0	27	3	59	19	0	0	81	0	8	17	0	0	25	0	0	0	0	0	0	133	494
2025-12-04 09:00:00	1	13	0	0	0	14	4	46	16	0	1	66	0	14	11	0	0	25	0	0	0	0	0	0	105	492
2025-12-04 09:15:00	3	13	0	0	0	16	0	29	12	0	0	41	0	10	24	0	0	34	0	0	0	0	1	0	91	450
2025-12-04 09:30:00	8	12	0	0	0	20	3	30	13	0	2	46	0	9	15	0	0	24	0	0	0	0	0	0	90	419
2025-12-04 09:45:00	8	18	0	0	0	26	1	30	13	0	0	44	0	12	15	0	0	27	0	0	0	0	0	0	97	383
2025-12-04 10:00:00	0	9	0	0	0	9	1	16	11	0	0	28	0	14	25	0	0	39	0	0	0	0	0	0	76	354
2025-12-04 10:15:00	4	12	0	0	0	16	3	17	11	0	1	31	0	15	17	0	0	32	0	0	0	0	0	0	79	342
2025-12-04 10:30:00	3	3	0	0	0	6	0	15	4	0	0	19	0	17	13	0	0	30	0	0	0	0	0	0	55	307
2025-12-04 10:45:00	4	10	0	0	0	14	2	33	13	0	2	48	0	18	10	0	0	28	0	0	0	0	0	0	90	300
2025-12-04 11:00:00	3	8	0	0	0	11	3	28	7	0	1	38	0	14	11	0	0	25	0	0	0	0	0	0	74	298
2025-12-04 11:15:00	2	17	0	0	0	19	5	31	10	0	0	46	0	10	10	0	0	20	0	0	0	0	0	0	85	304
2025-12-04 11:30:00	2	20	0	0	0	22	3	45	10	0	0	58	0	14	16	0	0	30	0	0	0	0	0	0	110	359
2025-12-04 11:45:00	3	8	0	0	0	11	2	41	11	0	0	54	0	19	17	0	0	36	0	0	0	0	0	0	101	370
2025-12-04 12:00:00	3	15	0	0	0	18	4	37	12	0	2	53	0	18	23	0	0	41	0	0	0	0	0	0	112	408
2025-12-04 12:15:00	3	17	0	0	0	20	2	40	5	0	0	47	0	10	13	0	0	23	0	0	0	0	1	0	90	413
2025-12-04 12:30:00	3	11	0	0	0	14	4	48	5	0	0	57	0	11	10	0	0	21	0	0	0	0	0	0	92	395
2025-12-04 12:45:00	3	9	0	0	0	12	4	23	15	0	0	42	0	27	12	0	0	39	0	0	0	0	0	0	93	387
2025-12-04 13:00:00	4	12	0	0	0	16	0	40	9	0	0	49	0	15	13	0	0	28	0	0	0	0	0	0	93	368
2025-12-04 13:15:00	2	9	0	0	0	11	0	31	9	0	0	40	0	18	13	0	0	31	0	0	0	0	0	0	82	360
2025-12-04 13:30:00	1	11	0	0	0	12	3	31	8	0	1	42	1	14	15	0	0	30	0	0	0	0	0	0	84	352
2025-12-04 13:45:00	2	8	0	0	0	10	2	35	6	0	0	43	0	14	12	0	0	26	0	0	0	0	0	0	79	338
2025-12-04 14:00:00	1	9	0	0	0	10	2	37	10	0	0	49	0	12	7	0	0	19	0	0	0	0	0	0	78	323
2025-12-04 14:15:00	2	13	0	0	0	15	3	45	12	0	0	60	0	17	14	0	0	31	0	0	0	0	0	0	106	347
2025-12-04 14:30:00	6	9	0	0	0	15	6	33	14	0	0	53	0	24	13	0	0	37	0	0	0	0	0	0	105	368
2025-12-04 14:45:00	1	12	0	0	0	13	8	37	10	0	0	55	0	23	9	0	0	32	0	0	0	0	0	0	100	389
2025-12-04 15:00:00	1	19	2	0	0	22	1	42	13	0	3	56	0	20	18	0	0	38	0	0	0	0	0	0	116	427
2025-12-04 15:15:00	3	11	0	0	0	14	2	49	12	0	5	63	0	22	28	0	0	50	0	0	0	0	0	0	127	448
2025-12-04 15:30:00	2	15	0	0	0	17	2	42	16	0	0	60	0	26	14	0	0	40	0	0	0	0	0	0	117	460
2025-12-04 15:45:00	5	7	0	0	0	12	6	57	15	0	0	78	0	25	16	0	0	41	0	0	0	0	0	0	131	491
2025-12-04 16:00:00	7	6	0	0	0	13	9	63	17	0	1	89	0	31	19	0	0	50	0	0	0	0	0	0	152	527
2025-12-04 16:15:00	6	16	0	0	0	22	6	56	11	0	0	73	0	19	21	0	0	40	0	0	0	0	0	0	135	535
2025-12-04 16:30:00	5	15	0	0	0	20	6	46	16	0	1	68	0	21	20	0	0	41	0	0	0	0	0	0	129	547
2025-12-04 16:45:00	5	25	0	0	0	30	4	60	11	0	0	75	0	24	25	0	0	49	0	0	0	0	0	0	154	570
2025-12-04 17:00:00	1	15	0	0	0	16	2	57	18	0	0	77	0	29	24	1	0	54	0	0	0	0	0	0	147	565
2025-12-04 17:15:00	6	11	0	0	0	17	4	65	14	0	0	83	0	34	25	0	0	59	0	0	0	0	0	0	159	589
2025-12-04 17:30:00	2	17	0	0	0	19	2	56	16	0	0	74	0	24	17	0	0	41	0	0	0	0	0	0	134	594
2025-12-04 17:45:00	3	9	0	0	0	12	3	67	18	0	0	88	0	19	13	0	0	32	0	0	0	0	0	0	132	572
2025-12-04 18:00:00	5	12	0	0	0	17	5	28	10	0	0	43	0	18	11	0	0	29	0	0	0	0	0	0	89	514

2025-12-04 18:15:00	3	9	0	0	0	12	5	43	2	0	1	50	0	19	8	0	0	27	0	0	0	0	0	0	89	444
2025-12-04 18:30:00	1	16	0	0	0	17	3	28	1	0	1	32	0	14	8	0	0	22	0	0	0	0	0	0	71	381
2025-12-04 18:45:00	1	10	0	0	0	11	0	27	6	0	2	33	0	15	17	0	0	32	0	0	0	0	0	0	76	325
Grand Total	174	602	2	0	0	778	136	2032	529	0	30	2697	1	773	732	2	0	1508	0	0	0	0	2	0	**4983**	-
Approach%	22.4%	77.4%	0.3%	0%		-	5%	75.3%	19.6%	0%		-	0.1%	51.3%	48.5%	0.1%		-	0%	0%	0%	0%		-	**-**	-
Totals %	3.5%	12.1%	0%	0%		15.6%	2.7%	40.8%	10.6%	0%		54.1%	0%	15.5%	14.7%	0%		30.3%	0%	0%	0%	0%		0%	**-**	-
Heavy	3	0	0	0		-	1	54	5	0		-	0	9	10	0		-	0	0	0	0		-	**-**	-
Heavy %	1.7%	0%	0%	0%		-	0.7%	2.7%	0.9%	0%		-	0%	1.2%	1.4%	0%		-	0%	0%	0%	0%		-	**-**	-
Bicycles	0	2	0	0		-	0	0	0	0		-	0	1	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	0.3%	0%	0%		-	0%	0%	0%	0%		-	0%	0.1%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: MAPLE AVE & QEW EB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (-2 °C)

Start Time	N Approach MAPLE AVE						E Approach QEW EB RAMPS						S Approach MAPLE AVE						W Approach QEW EB RAMPS						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	
2025-12-04 16:45:00	5	25	0	0	0	30	4	60	11	0	0	75	0	24	25	0	0	49	0	0	0	0	0	0	154
2025-12-04 17:00:00	1	15	0	0	0	16	2	57	18	0	0	77	0	29	24	1	0	54	0	0	0	0	0	0	147
2025-12-04 17:15:00	6	11	0	0	0	17	4	65	14	0	0	83	0	34	25	0	0	59	0	0	0	0	0	0	159
2025-12-04 17:30:00	2	17	0	0	0	19	2	56	16	0	0	74	0	24	17	0	0	41	0	0	0	0	0	0	134
Grand Total	14	68	0	0	0	82	12	238	59	0	0	309	0	111	91	1	0	203	0	0	0	0	0	0	**594**
Approach%	17.1%	82.9%	0%	0%		-	3.9%	77%	19.1%	0%		-	0%	54.7%	44.8%	0.5%		-	0%	0%	0%	0%		-	**-**
Totals %	2.4%	11.4%	0%	0%		13.8%	2%	40.1%	9.9%	0%		52%	0%	18.7%	15.3%	0.2%		34.2%	0%	0%	0%	0%		0%	**-**
PHF	0.58	0.68	0	0		0.68	0.75	0.92	0.82	0		0.93	0	0.82	0.91	0.25		0.86	0	0	0	0		0	0.93
Heavy	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Heavy %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%
Lights	14	68	0	0		82	12	238	59	0		309	0	111	91	1		203	0	0	0	0		0	594
Lights %	100%	100%	0%	0%		100%	100%	100%	100%	0%		100%	0%	100%	100%	100%		100%	0%	0%	0%	0%		0%	100%
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%
Buses	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Buses %	0%	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	0
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	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: 07:45 AM - 08:45 AM Weather: Overcast Clouds (-2 °C)

Start Time	N Approach MAPLE AVE						E Approach QEW EB RAMPS						S Approach MAPLE AVE						W Approach QEW EB RAMPS						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	
2025-12-04 07:45:00	8	11	0	0	0	19	0	82	10	0	1	92	0	9	16	0	0	25	0	0	0	0	0	0	136
2025-12-04 08:00:00	4	12	0	0	0	16	1	64	12	0	0	77	0	5	9	0	0	14	0	0	0	0	0	0	107
2025-12-04 08:15:00	8	18	0	0	0	26	2	68	15	0	1	85	0	3	19	0	0	22	0	0	0	0	0	0	133
2025-12-04 08:30:00	4	14	0	0	0	18	1	72	14	0	2	87	0	1	15	0	0	16	0	0	0	0	0	0	121
Grand Total	24	55	0	0	0	79	4	286	51	0	4	341	0	18	59	0	0	77	0	0	0	0	0	0	**497**
Approach%	30.4%	69.6%	0%	0%		-	1.2%	83.9%	15%	0%		-	0%	23.4%	76.6%	0%		-	0%	0%	0%	0%		-	**-**
Totals %	4.8%	11.1%	0%	0%		15.9%	0.8%	57.5%	10.3%	0%		68.6%	0%	3.6%	11.9%	0%		15.5%	0%	0%	0%	0%		0%	**-**
PHF	0.75	0.76	0	0		0.76	0.5	0.87	0.85	0		0.93	0	0.5	0.78	0		0.77	0	0	0	0		0	0.91
Heavy	1	0	0	0		1	0	2	0	0		2	0	2	1	0		3	0	0	0	0		0	6
Heavy %	4.2%	0%	0%	0%		1.3%	0%	0.7%	0%	0%		0.6%	0%	11.1%	1.7%	0%		3.9%	0%	0%	0%	0%		0%	1.2%
Lights	23	55	0	0		78	4	284	51	0		339	0	16	58	0		74	0	0	0	0		0	491
Lights %	95.8%	100%	0%	0%		98.7%	100%	99.3%	100%	0%		99.4%	0%	88.9%	98.3%	0%		96.1%	0%	0%	0%	0%		0%	98.8%
Single-Unit Trucks	0	0	0	0		0	0	1	0	0		1	0	0	1	0		1	0	0	0	0		0	2
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	0%	0%	1.7%	0%		1.3%	0%	0%	0%	0%		0%	0.4%
Buses	1	0	0	0		1	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	3
Buses %	4.2%	0%	0%	0%		1.3%	0%	0%	0%	0%		0%	0%	11.1%	0%	0%		2.6%	0%	0%	0%	0%		0%	0.6%
Articulated Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	1
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0.2%
Pedestrians	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	100%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	1	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	100%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

Peak Hour: 04:45 PM - 05:45 PM **Weather: Overcast Clouds (-2 °C)**

Selected Hour: 07:45 AM - 08:45 AM **Weather: Overcast Clouds (-2 °C)**

Spectrum

Turning Movement Count
Location Name: MAPLE AVE & QEW WB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Turning Movement Count (12 . MAPLE AVE & QEW WB RAMPS)

Start Time	N Approach MAPLE AVE						E Approach QEW WB RAMPS						S Approach MAPLE AVE						W Approach QEW WB RAMPS						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		
2025-12-04 07:00:00	0	9	4	0	0	13	0	0	0	0	0	0	8	16	0	0	0	24	5	18	5	0	0	28	65	
2025-12-04 07:15:00	0	14	5	0	0	19	0	0	0	0	0	0	10	13	0	0	0	23	6	23	2	0	0	31	73	
2025-12-04 07:30:00	0	19	7	0	0	26	0	0	0	0	2	0	18	18	0	0	0	36	8	32	2	0	0	42	104	
2025-12-04 07:45:00	0	16	5	0	0	21	0	0	0	0	1	0	12	24	0	0	0	36	7	40	2	0	0	49	106	348
2025-12-04 08:00:00	0	18	5	0	0	23	0	0	0	0	0	0	13	12	0	0	0	25	5	54	2	0	0	61	109	392
2025-12-04 08:15:00	0	29	5	0	0	34	0	0	0	0	1	0	10	20	0	0	0	30	7	52	1	0	0	60	124	443
2025-12-04 08:30:00	0	24	5	0	0	29	0	0	0	0	2	0	13	20	0	0	0	33	13	47	0	0	0	60	122	461
2025-12-04 08:45:00	0	31	7	0	0	38	0	0	0	0	0	0	9	21	0	0	0	30	12	31	2	0	0	45	113	468
2025-12-04 09:00:00	0	17	6	0	0	23	0	0	0	0	1	0	12	21	0	0	0	33	8	40	3	0	0	51	107	466
2025-12-04 09:15:00	0	21	5	0	0	26	0	0	0	0	0	0	10	34	0	0	0	44	8	22	1	0	0	31	101	443
2025-12-04 09:30:00	0	20	2	0	0	22	0	0	0	0	2	0	16	21	0	0	0	37	9	38	3	0	0	50	109	430
2025-12-04 09:45:00	0	28	2	0	0	30	0	0	0	0	0	0	11	22	0	0	0	33	10	25	4	0	0	39	102	419
2025-12-04 10:00:00	0	17	1	0	0	18	0	0	0	0	0	0	8	34	0	0	0	42	7	36	2	1	0	46	106	418
2025-12-04 10:15:00	0	22	1	0	0	23	0	0	0	0	1	0	6	27	0	0	0	33	5	42	3	0	0	50	106	423
2025-12-04 10:30:00	0	5	2	0	0	7	0	0	0	0	0	0	6	26	0	0	0	32	9	33	4	0	0	46	85	399
2025-12-04 10:45:00	0	22	1	0	0	23	0	0	0	0	3	0	6	24	0	0	0	30	9	28	4	0	0	41	94	391
2025-12-04 11:00:00	0	15	1	0	0	16	0	0	0	0	0	0	12	24	0	0	0	36	11	29	7	0	0	47	99	384
2025-12-04 11:15:00	0	22	8	0	0	30	0	0	0	0	0	0	11	22	0	0	0	33	10	40	2	0	0	52	115	393
2025-12-04 11:30:00	0	18	9	0	0	27	0	0	0	0	0	0	8	21	0	0	0	29	9	32	6	0	0	47	103	411
2025-12-04 11:45:00	0	17	4	0	0	21	0	0	0	0	0	0	5	30	0	0	0	35	11	29	7	0	0	47	103	420
2025-12-04 12:00:00	0	19	7	0	0	26	0	0	0	0	1	0	11	36	0	0	0	47	8	37	7	0	1	52	125	446
2025-12-04 12:15:00	0	17	3	0	0	20	0	0	0	0	0	0	9	21	0	0	0	30	12	40	4	0	1	56	106	437
2025-12-04 12:30:00	0	13	2	0	0	15	0	0	0	0	0	0	7	15	0	0	0	22	10	40	4	0	0	54	91	425
2025-12-04 12:45:00	0	19	0	0	0	19	0	0	0	0	0	0	8	29	0	0	0	37	13	32	7	0	0	52	108	430
2025-12-04 13:00:00	0	17	4	0	0	21	0	0	0	0	0	0	9	24	0	0	0	33	10	29	6	0	0	45	99	404
2025-12-04 13:15:00	0	17	4	0	0	21	0	0	0	0	0	0	11	23	0	0	0	34	12	40	10	0	0	62	117	415
2025-12-04 13:30:00	0	14	5	0	0	19	0	0	0	0	0	0	16	21	0	0	0	37	11	46	5	0	0	62	118	442
2025-12-04 13:45:00	0	14	2	0	0	16	0	0	0	0	1	0	4	21	0	0	0	25	18	37	5	0	0	60	101	435
2025-12-04 14:00:00	0	15	3	0	0	18	0	0	0	0	0	0	9	16	0	0	0	25	10	45	4	0	0	59	102	438
2025-12-04 14:15:00	0	20	4	0	0	24	0	0	0	0	0	0	10	25	0	0	0	35	11	53	8	0	0	72	131	452
2025-12-04 14:30:00	0	18	2	0	0	20	0	0	0	0	0	0	14	31	0	0	0	45	15	49	5	0	0	69	134	468
2025-12-04 14:45:00	0	17	4	0	0	21	0	0	0	0	0	0	8	22	0	0	0	30	13	43	10	0	0	66	117	484
2025-12-04 15:00:00	1	20	5	0	0	26	0	0	0	0	2	0	7	33	0	0	0	40	10	55	4	0	0	69	135	517
2025-12-04 15:15:00	0	23	3	0	0	26	0	0	0	0	4	0	8	44	0	0	0	52	23	52	7	0	0	82	160	546
2025-12-04 15:30:00	0	29	1	0	0	30	0	0	0	0	0	0	16	29	1	0	0	46	19	76	14	0	0	109	185	597
2025-12-04 15:45:00	0	16	3	0	0	19	0	0	0	0	0	0	13	33	0	0	0	46	16	52	5	0	0	73	138	618
2025-12-04 16:00:00	0	21	1	0	0	22	0	0	0	0	1	0	19	39	0	0	0	58	26	61	11	0	0	98	178	661
2025-12-04 16:15:00	0	20	2	0	0	22	0	0	0	0	0	0	13	35	0	0	0	48	26	47	8	0	0	81	151	652
2025-12-04 16:30:00	0	23	4	0	0	27	0	0	0	0	1	0	7	25	1	0	0	33	16	77	11	0	0	104	164	631
2025-12-04 16:45:00	0	25	2	0	0	27	0	0	0	0	0	0	12	47	0	0	0	59	22	65	9	0	0	96	182	675
2025-12-04 17:00:00	0	31	4	0	0	35	0	0	0	0	0	0	24	41	0	0	0	65	15	58	10	0	0	83	183	680
2025-12-04 17:15:00	0	22	2	1	0	25	0	0	0	0	0	0	15	47	0	0	0	62	21	73	11	0	0	105	192	721
2025-12-04 17:30:00	0	24	9	0	0	33	0	0	0	0	0	0	16	30	0	0	0	46	10	49	9	0	0	68	147	704
2025-12-04 17:45:00	0	23	3	0	0	26	0	0	0	0	0	0	9	29	0	0	0	38	20	37	2	0	0	59	123	645
2025-12-04 18:00:00	0	15	6	0	0	21	0	0	0	0	0	0	10	19	0	0	0	29	13	45	14	0	0	72	122	584

2025-12-04 18:15:00	0	9	2	0	0	11	0	0	0	0	0	0	7	20	0	0	0	27	4	41	7	0	0	52	90	482
2025-12-04 18:30:00	0	10	6	0	0	16	0	0	0	0	0	0	12	20	0	0	0	32	20	41	5	0	0	66	114	449
2025-12-04 18:45:00	0	14	1	0	0	15	0	0	0	0	2	0	6	29	0	0	0	35	10	24	5	0	0	39	89	415
Grand Total	1	909	179	1	0	1090	0	0	0	0	25	0	514	1254	2	0	0	1770	583	2035	269	1	2	2888	**5748**	-
Approach%	0.1%	83.4%	16.4%	0.1%		-	0%	0%	0%	0%		-	29%	70.8%	0.1%	0%		-	20.2%	70.5%	9.3%	0%		-	**-**	-
Totals %	0%	15.8%	3.1%	0%		19%	0%	0%	0%	0%		0%	8.9%	21.8%	0%	0%		30.8%	10.1%	35.4%	4.7%	0%		50.2%	**-**	-
Heavy	0	5	3	0		-	0	0	0	0		-	16	10	0	0		-	11	62	6	0		-	**-**	-
Heavy %	0%	0.6%	1.7%	0%		-	0%	0%	0%	0%		-	3.1%	0.8%	0%	0%		-	1.9%	3%	2.2%	0%		-	**-**	-
Bicycles	0	2	0	0		-	0	0	0	0		-	0	1	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	0.2%	0%	0%		-	0%	0%	0%	0%		-	0%	0.1%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: MAPLE AVE & QEW WB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Peak Hour: 04:30 PM - 05:30 PM Weather: Overcast Clouds (-2 °C)

Start Time	N Approach MAPLE AVE						E Approach QEW WB RAMPS						S Approach MAPLE AVE						W Approach QEW WB RAMPS						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	
2025-12-04 16:30:00	0	23	4	0	0	27	0	0	0	0	1	0	7	25	1	0	0	33	16	77	11	0	0	104	164
2025-12-04 16:45:00	0	25	2	0	0	27	0	0	0	0	0	0	12	47	0	0	0	59	22	65	9	0	0	96	182
2025-12-04 17:00:00	0	31	4	0	0	35	0	0	0	0	0	0	24	41	0	0	0	65	15	58	10	0	0	83	183
2025-12-04 17:15:00	0	22	2	1	0	25	0	0	0	0	0	0	15	47	0	0	0	62	21	73	11	0	0	105	192
Grand Total	0	101	12	1	0	114	0	0	0	0	1	0	58	160	1	0	0	219	74	273	41	0	0	388	**721**
Approach%	0%	88.6%	10.5%	0.9%		-	0%	0%	0%	0%		-	26.5%	73.1%	0.5%	0%		-	19.1%	70.4%	10.6%	0%		-	**-**
Totals %	0%	14%	1.7%	0.1%		15.8%	0%	0%	0%	0%		0%	8%	22.2%	0.1%	0%		30.4%	10.3%	37.9%	5.7%	0%		53.8%	**-**
PHF	0	0.81	0.75	0.25		0.81	0	0	0	0		0	0.6	0.85	0.25	0		0.84	0.84	0.89	0.93	0		0.92	0.94
Heavy	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	5	0	0		5	5
Heavy %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	1.8%	0%	0%		1.3%	0.7%
Lights	0	101	12	1		114	0	0	0	0		0	58	160	1	0		219	74	268	41	0		383	716
Lights %	0%	100%	100%	100%		100%	0%	0%	0%	0%		0%	100%	100%	100%	0%		100%	100%	98.2%	100%	0%		98.7%	99.3%
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	3	0	0		3	3
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	1.1%	0%	0%		0.8%	0.4%
Buses	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	1
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	0.1%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	1
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	0.1%
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	100%		-	-	-	-	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%			**-**

Spectrum

Turning Movement Count
Location Name: MAPLE AVE & QEW WB RAMPS
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Selected Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (-2 °C)**

Start Time	N Approach MAPLE AVE						E Approach QEW WB RAMPS						S Approach MAPLE AVE						W Approach QEW WB RAMPS						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	
2025-12-04 08:00:00	0	18	5	0	0	23	0	0	0	0	0	0	13	12	0	0	0	25	5	54	2	0	0	61	109
2025-12-04 08:15:00	0	29	5	0	0	34	0	0	0	0	1	0	10	20	0	0	0	30	7	52	1	0	0	60	124
2025-12-04 08:30:00	0	24	5	0	0	29	0	0	0	0	2	0	13	20	0	0	0	33	13	47	0	0	0	60	122
2025-12-04 08:45:00	0	31	7	0	0	38	0	0	0	0	0	0	9	21	0	0	0	30	12	31	2	0	0	45	113
Grand Total	0	102	22	0	0	124	0	0	0	0	3	0	45	73	0	0	0	118	37	184	5	0	0	226	**468**
Approach%	0%	82.3%	17.7%	0%		-	0%	0%	0%	0%		-	38.1%	61.9%	0%	0%		-	16.4%	81.4%	2.2%	0%		-	**-**
Totals %	0%	21.8%	4.7%	0%		26.5%	0%	0%	0%	0%		0%	9.6%	15.6%	0%	0%		25.2%	7.9%	39.3%	1.1%	0%		48.3%	**-**
PHF	0	0.82	0.79	0		0.82	0	0	0	0		0	0.87	0.87	0	0		0.89	0.71	0.85	0.63	0		0.93	0.94
Heavy	0	1	0	0		1	0	0	0	0		0	3	1	0	0		4	1	10	1	0		12	17
Heavy %	0%	1%	0%	0%		0.8%	0%	0%	0%	0%		0%	6.7%	1.4%	0%	0%		3.4%	2.7%	5.4%	20%	0%		5.3%	3.6%
Lights	0	101	22	0		123	0	0	0	0		0	42	72	0	0		114	36	174	4	0		214	451
Lights %	0%	99%	100%	0%		99.2%	0%	0%	0%	0%		0%	93.3%	98.6%	0%	0%		96.6%	97.3%	94.6%	80%	0%		94.7%	96.4%
Single-Unit Trucks	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	0	2	0	0		2	4
Single-Unit Trucks %	0%	1%	0%	0%		0.8%	0%	0%	0%	0%		0%	0%	1.4%	0%	0%		0.8%	0%	1.1%	0%	0%		0.9%	0.9%
Buses	0	0	0	0		0	0	0	0	0		0	2	0	0	0		2	1	5	1	0		7	9
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	4.4%	0%	0%	0%		1.7%	2.7%	2.7%	20%	0%		3.1%	1.9%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	1	0	0	0		1	0	3	0	0		3	4
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	2.2%	0%	0%	0%		0.8%	0%	1.6%	0%	0%		1.3%	0.9%
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	100%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	1	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	100%	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 (-2 °C)**

Selected Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (-2 °C)**

Turning Movement Count (9 . MAIN ST E & ELM ST)

Start Time	E Approach MAIN ST E					S Approach ELM ST					W Approach MAIN ST E					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
2025-12-04 07:00:00	33	19	0	0	52	16	0	0	2	16	3	21	0	0	24	92	
2025-12-04 07:15:00	40	26	0	1	66	21	3	0	2	24	3	20	0	0	23	113	
2025-12-04 07:30:00	57	38	0	0	95	28	0	0	1	28	5	35	1	0	41	164	
2025-12-04 07:45:00	63	27	0	1	90	37	6	0	3	43	1	53	0	1	54	187	556
2025-12-04 08:00:00	63	32	0	0	95	31	5	0	6	36	3	47	0	0	50	181	645
2025-12-04 08:15:00	51	46	0	0	97	36	5	0	0	41	4	37	0	0	41	179	711
2025-12-04 08:30:00	68	31	0	1	99	37	5	0	2	42	6	41	0	0	47	188	735
2025-12-04 08:45:00	87	46	0	0	133	63	7	0	7	70	11	58	0	0	69	272	820
BREAK																	
2025-12-04 16:00:00	79	60	0	2	139	74	10	0	3	84	21	83	0	2	104	327	
2025-12-04 16:15:00	77	58	0	5	135	70	13	0	7	83	10	65	0	5	75	293	
2025-12-04 16:30:00	72	47	0	6	119	61	15	0	4	76	15	73	0	5	88	283	
2025-12-04 16:45:00	82	62	0	8	144	61	9	0	1	70	16	75	0	0	91	305	1208
2025-12-04 17:00:00	67	51	0	5	118	74	21	0	2	95	12	71	0	5	83	296	1177
2025-12-04 17:15:00	83	60	0	9	143	59	17	0	5	76	12	69	0	5	81	300	1184
2025-12-04 17:30:00	83	49	0	15	132	72	10	0	7	82	7	78	0	0	85	299	1200
2025-12-04 17:45:00	96	36	0	13	132	47	11	0	11	58	18	76	0	4	94	284	1179
Grand Total	1101	688	0	66	1789	787	137	0	63	924	147	902	1	27	1050	**3763**	-
Approach%	61.5%	38.5%	0%		-	85.2%	14.8%	0%		-	14%	85.9%	0.1%		-	**-**	-
Totals %	29.3%	18.3%	0%		47.5%	20.9%	3.6%	0%		24.6%	3.9%	24%	0%		27.9%	**-**	-
Heavy	21	6	0		-	8	1	0		-	0	18	0		-	**-**	-
Heavy %	1.9%	0.9%	0%		-	1%	0.7%	0%		-	0%	2%	0%		-	**-**	-
Bicycles	2	0	0		-	0	0	0		-	0	1	0		-	**-**	-
Bicycle %	0.2%	0%	0%		-	0%	0%	0%		-	0%	0.1%	0%		-	**-**	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (-2 °C)

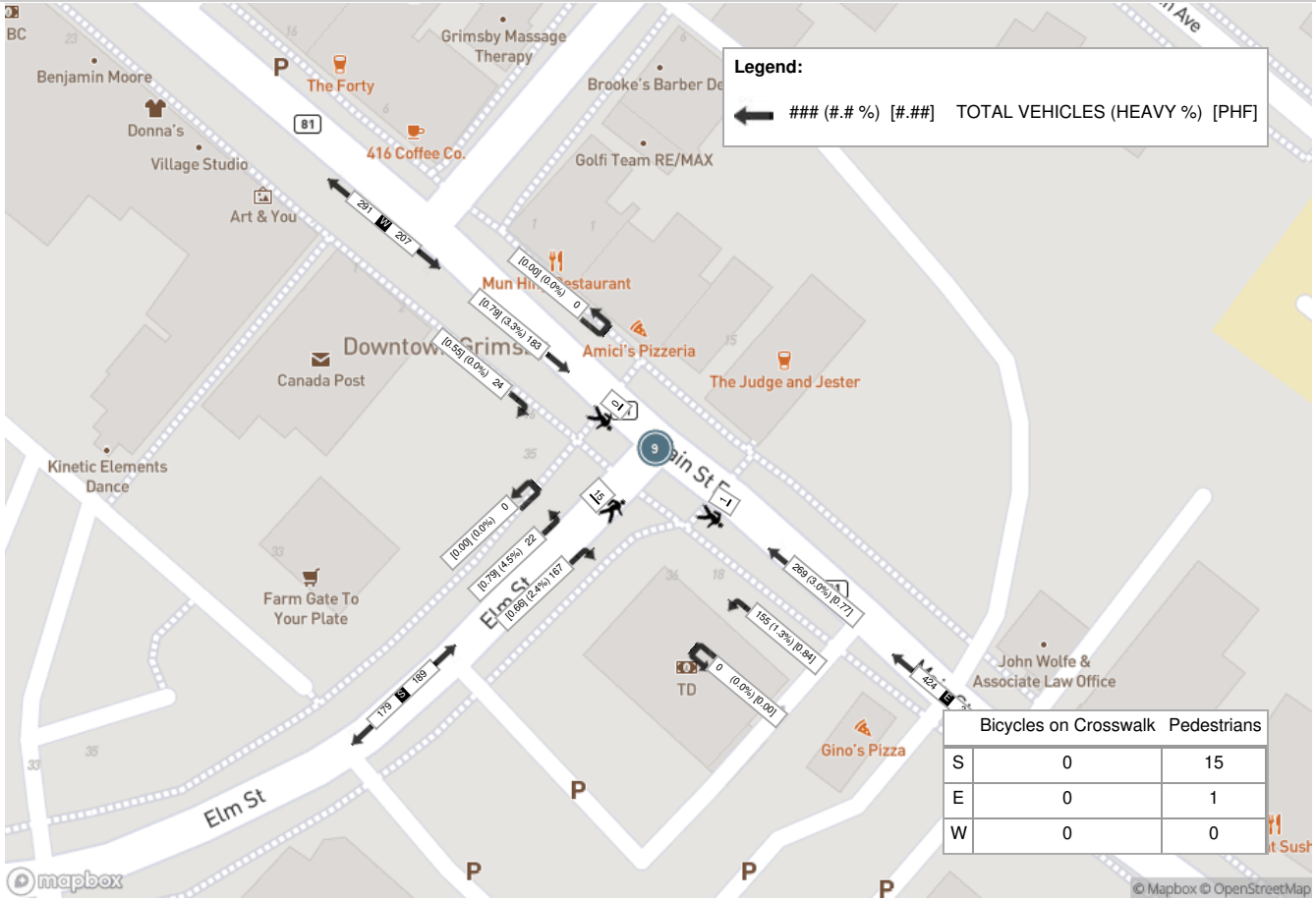
Start Time	E Approach MAIN ST E					S Approach ELM ST					W Approach MAIN ST E					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
2025-12-04 08:00:00	63	32	0	0	95	31	5	0	6	36	3	47	0	0	50	181
2025-12-04 08:15:00	51	46	0	0	97	36	5	0	0	41	4	37	0	0	41	179
2025-12-04 08:30:00	68	31	0	1	99	37	5	0	2	42	6	41	0	0	47	188
2025-12-04 08:45:00	87	46	0	0	133	63	7	0	7	70	11	58	0	0	69	272
Grand Total	269	155	0	1	424	167	22	0	15	189	24	183	0	0	207	**820**
Approach%	63.4%	36.6%	0%		-	88.4%	11.6%	0%		-	11.6%	88.4%	0%		-	**-**
Totals %	32.8%	18.9%	0%		51.7%	20.4%	2.7%	0%		23%	2.9%	22.3%	0%		25.2%	**-**
PHF	0.77	0.84	0		0.8	0.66	0.79	0		0.68	0.55	0.79	0		0.75	0.75
Heavy	8	2	0		10	4	1	0		5	0	6	0		6	21
Heavy %	3%	1.3%	0%		2.4%	2.4%	4.5%	0%		2.6%	0%	3.3%	0%		2.9%	2.6%
Lights	261	153	0		414	163	21	0		184	24	177	0		201	799
Lights %	97%	98.7%	0%		97.6%	97.6%	95.5%	0%		97.4%	100%	96.7%	0%		97.1%	97.4%
Single-Unit Trucks	5	1	0		6	1	1	0		2	0	2	0		2	10
Single-Unit Trucks %	1.9%	0.6%	0%		1.4%	0.6%	4.5%	0%		1.1%	0%	1.1%	0%		1%	1.2%
Buses	3	1	0		4	3	0	0		3	0	3	0		3	10
Buses %	1.1%	0.6%	0%		0.9%	1.8%	0%	0%		1.6%	0%	1.6%	0%		1.4%	1.2%
Articulated Trucks	0	0	0		0	0	0	0		0	0	1	0		1	1
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0.5%	0%		0.5%	0.1%
Pedestrians	-	-	-	1	-	-	-	-	15	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	6.3%		-	-	-	93.8%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Road	1	0	0		-	0	0	0		-	0	1	0		-	**-**
Bicycles on Road%	100%	0%	0%			0%	0%	0%			0%	100%	0%			**-**

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

Peak Hour: 04:00 PM - 05:00 PM Weather: Scattered Clouds (-5 °C)

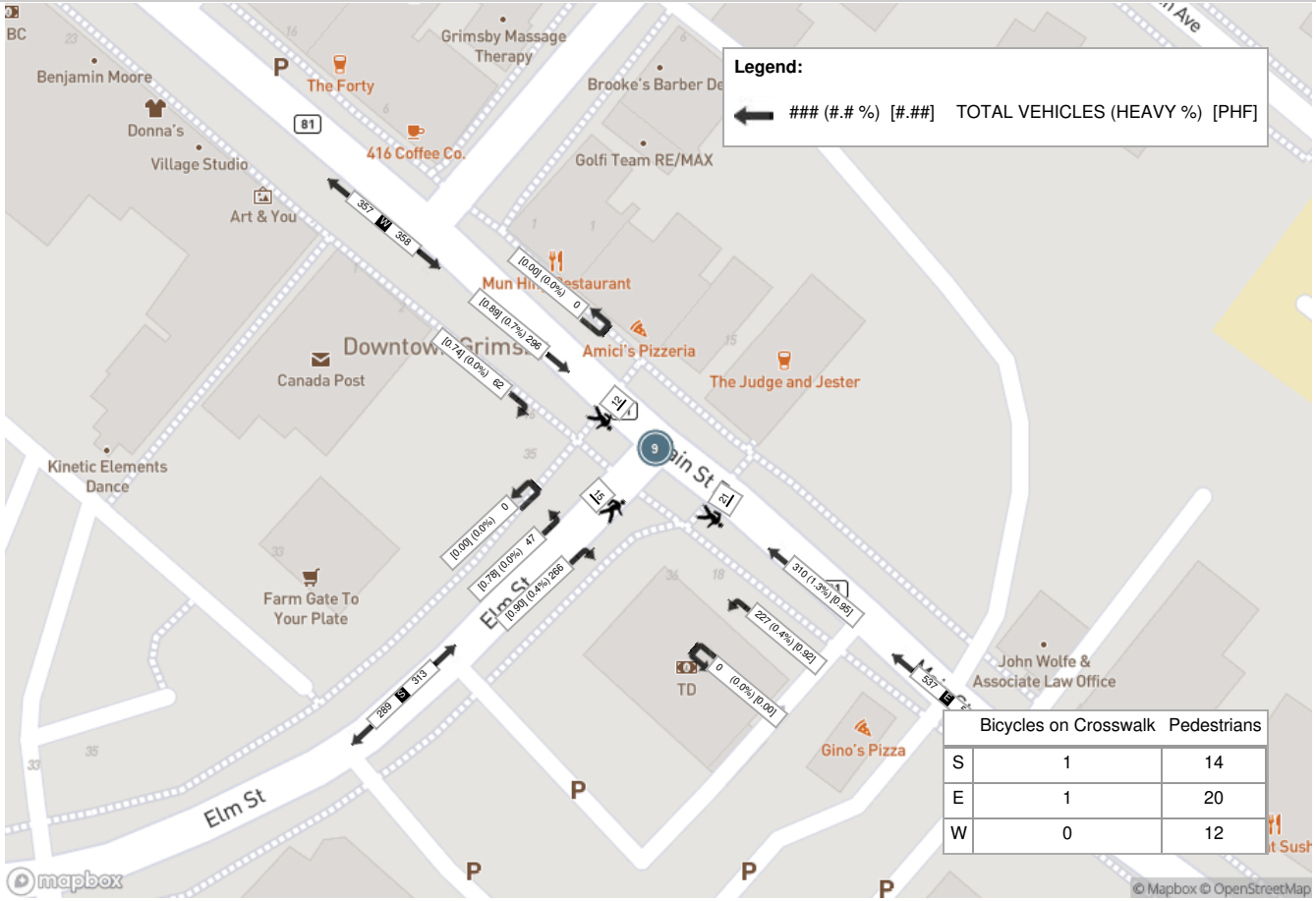
Start Time	E Approach MAIN ST E					S Approach ELM ST					W Approach MAIN ST E					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
2025-12-04 16:00:00	79	60	0	2	139	74	10	0	3	84	21	83	0	2	104	327
2025-12-04 16:15:00	77	58	0	5	135	70	13	0	7	83	10	65	0	5	75	293
2025-12-04 16:30:00	72	47	0	6	119	61	15	0	4	76	15	73	0	5	88	283
2025-12-04 16:45:00	82	62	0	8	144	61	9	0	1	70	16	75	0	0	91	305
Grand Total	310	227	0	21	537	266	47	0	15	313	62	296	0	12	358	**1208**
Approach%	57.7%	42.3%	0%		-	85%	15%	0%		-	17.3%	82.7%	0%		-	**-**
Totals %	25.7%	18.8%	0%		44.5%	22%	3.9%	0%		25.9%	5.1%	24.5%	0%		29.6%	**-**
PHF	0.95	0.92	0		0.93	0.9	0.78	0		0.93	0.74	0.89	0		0.86	0.92
Heavy	4	1	0		5	1	0	0		1	0	2	0		2	8
Heavy %	1.3%	0.4%	0%		0.9%	0.4%	0%	0%		0.3%	0%	0.7%	0%		0.6%	0.7%
Lights	306	226	0		532	265	47	0		312	62	294	0		356	1200
Lights %	98.7%	99.6%	0%		99.1%	99.6%	100%	0%		99.7%	100%	99.3%	0%		99.4%	99.3%
Single-Unit Trucks	3	0	0		3	0	0	0		0	0	0	0		0	3
Single-Unit Trucks %	1%	0%	0%		0.6%	0%	0%	0%		0%	0%	0%	0%		0%	0.2%
Buses	1	1	0		2	1	0	0		1	0	1	0		1	4
Buses %	0.3%	0.4%	0%		0.4%	0.4%	0%	0%		0.3%	0%	0.3%	0%		0.3%	0.3%
Articulated Trucks	0	0	0		0	0	0	0		0	0	1	0		1	1
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0.3%	0%		0.3%	0.1%
Pedestrians	-	-	-	20	-	-	-	-	14	-	-	-	-	12	-	**-**
Pedestrians%	-	-	-	41.7%		-	-	-	29.2%		-	-	-	25%		**-**
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	1	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	2.1%		-	-	-	2.1%		-	-	-	0%		**-**
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: 08:00 AM - 09:00 AM Weather: Overcast Clouds (-2 °C)



	Bicycles on Crosswalk	Pedestrians
S	0	15
E	0	1
W	0	0

Peak Hour: 04:00 PM - 05:00 PM Weather: Scattered Clouds (-5 °C)



	Bicycles on Crosswalk	Pedestrians
S	1	14
E	1	20
W	0	12

Spectrum

Turning Movement Count
Location Name: MAIN ST E & ROBINSON ST
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Turning Movement Count (10 . MAIN ST E & ROBINSON ST)

Start Time	N Approach ROBINSON ST N						E Approach MAIN ST E						S Approach ROBINSON ST S						W Approach MAIN ST W						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		
2025-12-04 07:00:00	0	0	0	0	3	0	4	49	4	0	0	57	2	0	3	0	2	5	0	36	0	0	0	36	98	
2025-12-04 07:15:00	0	0	2	0	1	2	1	65	6	0	0	72	3	0	1	0	2	4	1	37	2	0	2	40	118	
2025-12-04 07:30:00	1	1	1	0	0	3	2	84	5	0	2	91	1	2	2	0	2	5	0	55	2	0	0	57	156	
2025-12-04 07:45:00	1	0	2	0	0	3	0	95	2	0	0	97	3	2	8	0	3	13	1	72	3	0	0	76	189	561
2025-12-04 08:00:00	5	2	2	0	1	9	7	102	4	0	2	113	6	0	3	0	2	9	1	71	9	0	0	81	212	675
2025-12-04 08:15:00	4	0	0	0	1	4	10	83	5	0	1	98	5	0	4	0	2	9	2	59	6	0	0	67	178	735
2025-12-04 08:30:00	4	0	0	0	5	4	7	95	7	0	0	109	8	0	4	0	5	12	2	64	6	0	0	72	197	776
2025-12-04 08:45:00	8	0	5	0	3	13	15	116	3	0	6	134	4	0	5	0	4	9	4	77	22	0	0	103	259	846
2025-12-04 09:00:00	5	0	7	0	1	12	8	109	7	0	1	124	7	2	3	0	4	12	3	74	2	0	0	79	227	861
2025-12-04 09:15:00	3	0	0	0	2	3	2	111	8	0	2	121	2	1	2	0	2	5	5	73	0	0	0	78	207	890
2025-12-04 09:30:00	2	3	0	0	0	5	3	107	7	0	0	117	11	1	8	0	2	20	2	94	2	0	0	98	240	933
2025-12-04 09:45:00	5	1	3	0	2	9	5	120	6	0	0	131	4	1	5	0	4	10	3	90	1	0	0	94	244	918
2025-12-04 10:00:00	3	0	0	0	1	3	2	106	7	0	1	115	7	0	4	0	3	11	3	102	3	0	0	108	237	928
2025-12-04 10:15:00	10	0	0	0	0	10	5	116	4	0	0	125	5	2	1	0	1	8	0	106	2	0	0	108	251	972
2025-12-04 10:30:00	3	0	4	0	1	7	6	104	1	0	1	111	7	0	6	0	1	13	3	87	2	0	0	92	223	955
2025-12-04 10:45:00	2	0	3	0	1	5	5	106	3	0	0	114	9	0	4	0	3	13	2	100	1	0	0	103	235	946
2025-12-04 11:00:00	2	1	3	0	1	6	4	93	4	0	0	101	5	0	3	0	0	8	4	81	4	0	0	89	204	913
2025-12-04 11:15:00	3	0	1	0	0	4	5	111	3	0	0	119	9	0	6	0	1	15	5	89	3	0	0	97	235	897
2025-12-04 11:30:00	4	0	1	0	0	5	5	118	8	0	0	131	5	0	6	0	1	11	5	116	1	0	0	122	269	943
2025-12-04 11:45:00	4	1	1	0	0	6	4	126	8	0	0	138	7	0	2	0	2	9	2	101	8	0	0	111	264	972
2025-12-04 12:00:00	4	0	3	0	0	7	11	126	6	0	1	143	11	0	2	0	1	13	4	123	2	0	0	129	292	1060
2025-12-04 12:15:00	2	0	4	0	0	6	4	113	2	0	0	119	6	0	4	0	2	10	2	114	4	0	1	120	255	1080
2025-12-04 12:30:00	2	0	0	0	1	2	2	127	2	0	1	131	5	0	2	0	1	7	6	102	2	0	0	110	250	1061
2025-12-04 12:45:00	6	1	1	0	1	8	1	109	2	0	0	112	8	0	7	0	2	15	3	113	3	0	0	119	254	1051
2025-12-04 13:00:00	3	0	3	0	0	6	1	140	4	0	0	145	7	0	7	0	2	14	6	121	4	0	0	131	296	1055
2025-12-04 13:15:00	4	0	2	0	0	6	8	111	6	0	0	125	5	1	8	0	0	14	5	122	2	0	1	129	274	1074
2025-12-04 13:30:00	5	0	2	0	0	7	1	110	11	0	0	122	4	0	1	0	2	5	1	98	3	0	0	102	236	1060
2025-12-04 13:45:00	0	1	7	0	3	8	4	118	5	0	0	127	7	0	2	0	2	9	3	107	5	0	0	115	259	1065
2025-12-04 14:00:00	4	0	1	0	1	5	5	129	4	0	0	138	7	0	3	0	0	10	3	122	1	0	0	126	279	1048
2025-12-04 14:15:00	2	0	3	0	2	5	6	116	7	0	4	129	8	1	2	0	6	11	6	132	7	0	0	145	290	1064
2025-12-04 14:30:00	9	0	2	0	0	11	6	127	6	0	0	139	13	1	7	0	3	21	5	138	3	0	1	146	317	1145
2025-12-04 14:45:00	1	1	5	0	3	7	7	125	7	0	0	139	4	0	5	0	0	9	6	123	5	0	0	134	289	1175
2025-12-04 15:00:00	3	1	4	0	0	8	17	128	10	0	0	155	7	4	4	0	3	15	2	107	13	0	0	122	300	1196
2025-12-04 15:15:00	6	0	5	0	9	11	10	128	6	0	4	144	13	0	2	0	2	15	4	102	12	0	1	118	288	1194
2025-12-04 15:30:00	9	0	4	0	2	13	8	115	2	0	1	125	10	2	4	0	3	16	9	111	4	0	0	124	278	1155
2025-12-04 15:45:00	5	0	0	0	0	5	9	101	9	0	2	119	7	1	2	0	1	10	10	136	4	0	1	150	284	1150
2025-12-04 16:00:00	3	0	2	0	1	5	2	135	13	0	0	150	11	2	2	0	1	15	7	129	3	0	0	139	309	1159
2025-12-04 16:15:00	2	0	1	0	1	3	4	116	12	0	0	132	11	1	6	0	2	18	4	109	3	0	0	116	269	1140
2025-12-04 16:30:00	8	0	0	0	0	8	4	110	5	0	0	119	8	0	4	0	1	12	2	117	7	0	0	126	265	1127
2025-12-04 16:45:00	4	0	3	0	0	7	7	118	10	0	0	135	13	0	3	0	1	16	6	110	9	0	0	125	283	1126
2025-12-04 17:00:00	6	0	2	0	0	8	5	124	10	0	0	139	8	0	4	0	5	12	7	138	0	0	0	145	304	1121
2025-12-04 17:15:00	7	1	2	0	1	10	9	120	9	0	1	138	12	0	5	0	5	17	5	127	9	0	0	141	306	1158
2025-12-04 17:30:00	2	1	3	0	1	6	1	114	9	0	0	124	14	0	6	0	4	20	6	126	4	0	0	136	286	1179
2025-12-04 17:45:00	6	1	5	0	1	12	5	128	12	0	0	145	7	1	7	0	2	15	2	104	8	0	0	114	286	1182
2025-12-04 18:00:00	3	0	4	0	0	7	2	81	11	0	0	94	4	1	4	0	2	9	4	89	3	0	0	96	206	1084

2025-12-04 18:15:00	0	0	2	0	2	2	0	96	8	0	0	104	7	0	2	0	0	9	2	95	0	0	0	97	212	990
2025-12-04 18:30:00	3	0	0	0	0	3	3	74	8	0	0	85	4	0	5	0	0	9	3	86	2	0	0	91	188	892
2025-12-04 18:45:00	3	0	1	0	0	4	0	77	5	0	0	82	5	0	3	0	0	8	8	81	1	0	0	90	184	790
Grand Total	181	16	106	0	52	303	242	5232	303	0	30	5777	336	26	193	0	99	555	179	4766	202	0	7	5147	**11782**	-
Approach%	59.7%	5.3%	35%	0%		-	4.2%	90.6%	5.2%	0%		-	60.5%	4.7%	34.8%	0%		-	3.5%	92.6%	3.9%	0%		-	**-**	-
Totals %	1.5%	0.1%	0.9%	0%		2.6%	2.1%	44.4%	2.6%	0%		49%	2.9%	0.2%	1.6%	0%		4.7%	1.5%	40.5%	1.7%	0%		43.7%	**-**	-
Heavy	4	0	3	0		-	8	64	0	0		-	3	0	0	0		-	3	64	10	0		-	**-**	-
Heavy %	2.2%	0%	2.8%	0%		-	3.3%	1.2%	0%	0%		-	0.9%	0%	0%	0%		-	1.7%	1.3%	5%	0%		-	**-**	-
Bicycles	0	0	0	0		-	1	1	0	0		-	0	0	0	0		-	0	1	0	0		-	**-**	-
Bicycle %	0%	0%	0%	0%		-	0.4%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Selected Hour: 08:45 AM - 09:45 AM Weather: Overcast Clouds (-2 °C)

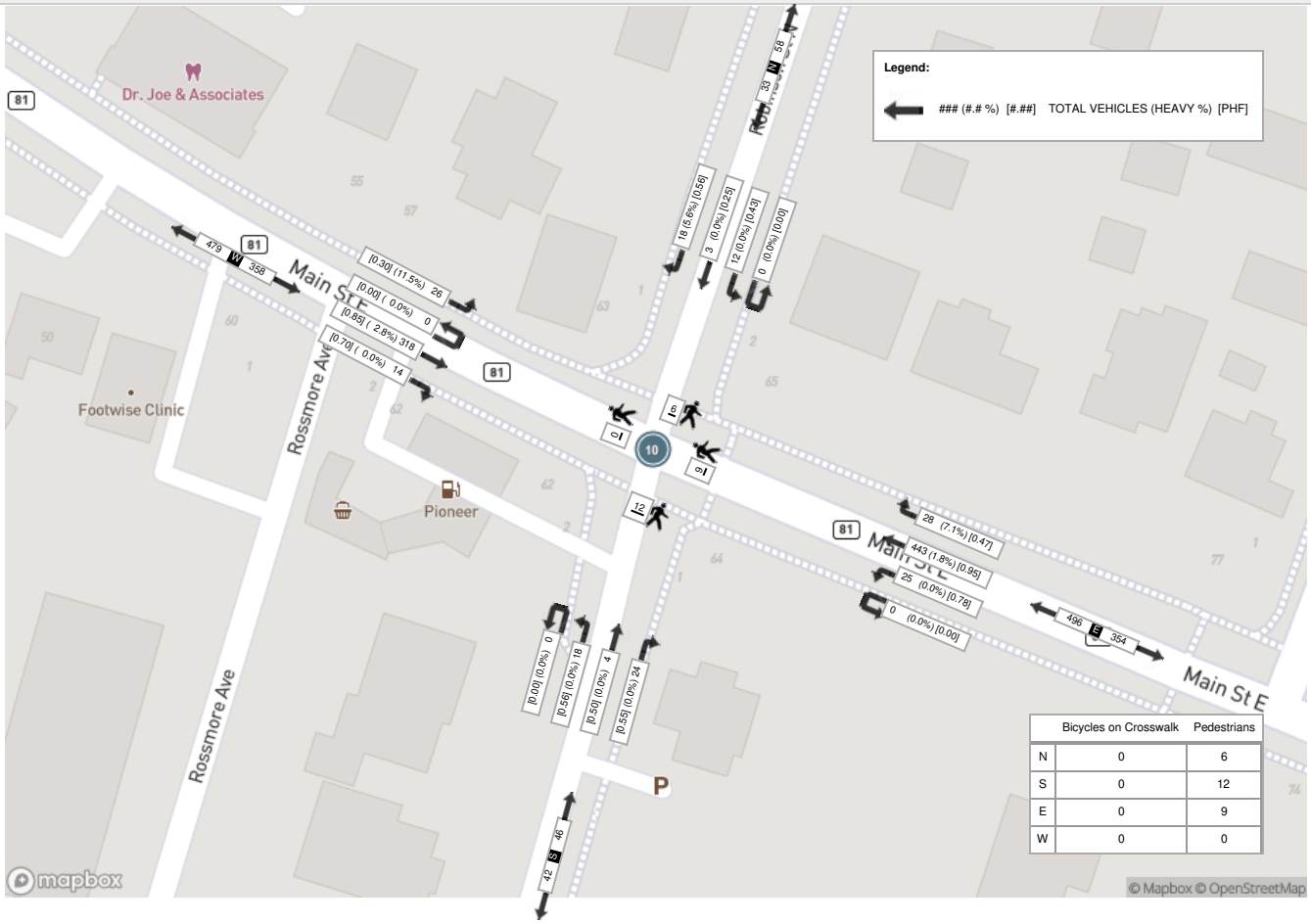
Start Time	N Approach ROBINSON ST N						E Approach MAIN ST E						S Approach ROBINSON ST S						W Approach MAIN ST W						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
2025-12-04 08:45:00	8	0	5	0	3	13	15	116	3	0	6	134	4	0	5	0	4	9	4	77	22	0	0	103	259
2025-12-04 09:00:00	5	0	7	0	1	12	8	109	7	0	1	124	7	2	3	0	4	12	3	74	2	0	0	79	227
2025-12-04 09:15:00	3	0	0	0	2	3	2	111	8	0	2	121	2	1	2	0	2	5	5	73	0	0	0	78	207
2025-12-04 09:30:00	2	3	0	0	0	5	3	107	7	0	0	117	11	1	8	0	2	20	2	94	2	0	0	98	240
Grand Total	18	3	12	0	6	33	28	443	25	0	9	496	24	4	18	0	12	46	14	318	26	0	0	358	**933**
Approach%	54.5%	9.1%	36.4%	0%		-	5.6%	89.3%	5%	0%		-	52.2%	8.7%	39.1%	0%		-	3.9%	88.8%	7.3%	0%		-	**-**
Totals %	1.9%	0.3%	1.3%	0%		3.5%	3%	47.5%	2.7%	0%		53.2%	2.6%	0.4%	1.9%	0%		4.9%	1.5%	34.1%	2.8%	0%		38.4%	**-**
PHF	0.56	0.25	0.43	0		0.63	0.47	0.95	0.78	0		0.93	0.55	0.5	0.56	0		0.58	0.7	0.85	0.3	0		0.87	0.9
Heavy	1	0	0	0		1	2	8	0	0		10	0	0	0	0		0	0	9	3	0		12	23
Heavy %	5.6%	0%	0%	0%		3%	7.1%	1.8%	0%	0%		2%	0%	0%	0%	0%		0%	0%	2.8%	11.5%	0%		3.4%	2.5%
Lights	17	3	12	0		32	26	435	25	0		486	24	4	18	0		46	14	309	23	0		346	910
Lights %	94.4%	100%	100%	0%		97%	92.9%	98.2%	100%	0%		98%	100%	100%	100%	0%		100%	100%	97.2%	88.5%	0%		96.6%	97.5%
Single-Unit Trucks	1	0	0	0		1	0	4	0	0		4	0	0	0	0		0	0	5	0	0		5	10
Single-Unit Trucks %	5.6%	0%	0%	0%		3%	0%	0.9%	0%	0%		0.8%	0%	0%	0%	0%		0%	0%	1.6%	0%	0%		1.4%	1.1%
Buses	0	0	0	0		0	2	3	0	0		5	0	0	0	0		0	0	4	3	0		7	12
Buses %	0%	0%	0%	0%		0%	7.1%	0.7%	0%	0%		1%	0%	0%	0%	0%		0%	0%	1.3%	11.5%	0%		2%	1.3%
Articulated Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	1
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0.1%
Pedestrians	-	-	-	-	6	-	-	-	-	-	9	-	-	-	-	-	12	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	22.2%		-	-	-	-	33.3%		-	-	-	-	44.4%		-	-	-	-	0%		**-**
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	1	0	0		-	**-**
Bicycles on Road%	0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	100%	0%	0%			**-**

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

Selected Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-2 °C)

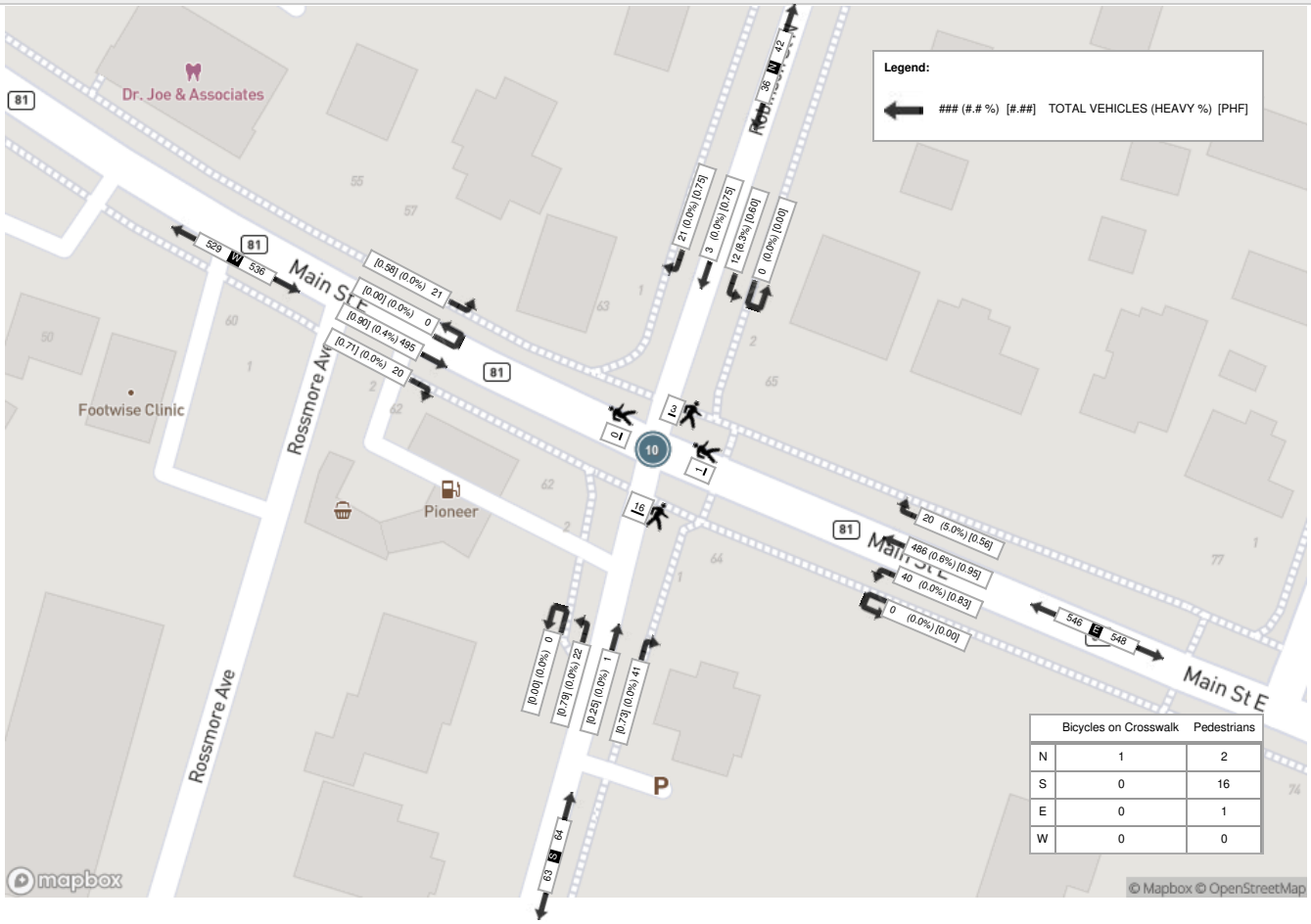
Start Time	N Approach ROBINSON ST N						E Approach MAIN ST E						S Approach ROBINSON ST S						W Approach MAIN ST W						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
2025-12-04 17:00:00	6	0	2	0	0	8	5	124	10	0	0	139	8	0	4	0	5	12	7	138	0	0	0	145	304
2025-12-04 17:15:00	7	1	2	0	1	10	9	120	9	0	1	138	12	0	5	0	5	17	5	127	9	0	0	141	306
2025-12-04 17:30:00	2	1	3	0	1	6	1	114	9	0	0	124	14	0	6	0	4	20	6	126	4	0	0	136	286
2025-12-04 17:45:00	6	1	5	0	1	12	5	128	12	0	0	145	7	1	7	0	2	15	2	104	8	0	0	114	286
Grand Total	21	3	12	0	3	36	20	486	40	0	1	546	41	1	22	0	16	64	20	495	21	0	0	536	**1182**
Approach%	58.3%	8.3%	33.3%	0%		-	3.7%	89%	7.3%	0%		-	64.1%	1.6%	34.4%	0%		-	3.7%	92.4%	3.9%	0%		-	**-**
Totals %	1.8%	0.3%	1%	0%		3%	1.7%	41.1%	3.4%	0%		46.2%	3.5%	0.1%	1.9%	0%		5.4%	1.7%	41.9%	1.8%	0%		45.3%	**-**
PHF	0.75	0.75	0.6	0		0.75	0.56	0.95	0.83	0		0.94	0.73	0.25	0.79	0		0.8	0.71	0.9	0.58	0		0.92	0.97
Heavy	0	0	1	0		1	1	3	0	0		4	0	0	0	0		0	0	2	0	0		2	7
Heavy %	0%	0%	8.3%	0%		2.8%	5%	0.6%	0%	0%		0.7%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.4%	0.6%
Lights	21	3	11	0		35	19	483	40	0		542	41	1	22	0		64	20	493	21	0		534	1175
Lights %	100%	100%	91.7%	0%		97.2%	95%	99.4%	100%	0%		99.3%	100%	100%	100%	0%		100%	100%	99.6%	100%	0%		99.6%	99.4%
Single-Unit Trucks	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	1	0	0		1	3
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0.3%
Buses	0	0	1	0		1	1	1	0	0		2	0	0	0	0		0	0	1	0	0		1	4
Buses %	0%	0%	8.3%	0%		2.8%	5%	0.2%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0.3%
Articulated Trucks	0	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%	0%
Pedestrians	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	16	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	10%		-	-	-	-	5%		-	-	-	-	80%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	5%		-	-	-	-	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: 08:45 AM - 09:45 AM **Weather: Overcast Clouds (-2 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	6
S	0	12
E	0	9
W	0	0

Selected Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-2 °C)



Spectrum

Turning Movement Count
Location Name: ONTARIO ST & CLARKE ST
Date: Thu, Dec 04, 2025 Deployment Lead: Rey Fernandez

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

Turning Movement Count (6 . ONTARIO ST & CLARKE ST)

Start Time	N Approach ONTARIO ST						E Approach CLARKE ST						S Approach ONTARIO ST						W Approach CLARKE ST						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		
2025-12-04 07:00:00	9	12	7	0	0	28	5	24	3	0	0	32	4	4	1	0	0	9	0	7	1	0	0	8	77	
2025-12-04 07:15:00	5	9	12	0	0	26	5	34	2	0	0	41	2	9	2	0	0	13	1	17	6	0	0	24	104	
2025-12-04 07:30:00	22	19	21	0	0	62	12	47	5	0	0	64	2	8	5	0	0	15	5	19	4	0	1	28	169	
2025-12-04 07:45:00	26	39	21	0	0	86	11	57	8	0	0	76	6	19	7	0	0	32	2	29	5	0	1	36	230	580
2025-12-04 08:00:00	14	22	25	0	0	61	24	50	4	0	1	78	8	18	2	0	0	28	4	25	7	0	1	36	203	706
2025-12-04 08:15:00	14	31	24	0	0	69	13	38	8	0	0	59	11	23	7	0	0	41	4	21	2	0	0	27	196	798
2025-12-04 08:30:00	20	38	24	0	0	82	17	52	13	0	0	82	14	17	2	0	0	33	5	24	2	0	0	31	228	857
2025-12-04 08:45:00	22	36	20	0	0	78	13	44	10	0	0	67	22	39	4	0	0	65	4	27	1	0	0	32	242	869
2025-12-04 09:00:00	11	24	9	0	0	44	15	42	6	0	0	63	9	22	5	0	0	36	2	36	3	0	0	41	184	850
2025-12-04 09:15:00	9	29	12	0	0	50	11	42	8	0	0	61	6	18	3	0	0	27	0	33	4	0	1	37	175	829
2025-12-04 09:30:00	6	22	18	0	0	46	15	36	3	0	1	54	6	17	1	0	0	24	2	35	4	0	0	41	165	766
2025-12-04 09:45:00	15	17	18	0	0	50	13	37	7	0	1	57	14	20	3	0	0	37	4	38	3	0	0	45	189	713
2025-12-04 10:00:00	5	16	18	0	0	39	10	32	7	0	0	49	12	19	4	0	0	35	0	36	3	0	1	39	162	691
2025-12-04 10:15:00	10	12	16	0	0	38	11	28	11	0	0	50	12	31	1	0	0	44	5	24	5	0	0	34	166	682
2025-12-04 10:30:00	12	12	21	0	0	45	9	34	6	0	0	49	13	18	6	0	0	37	6	35	3	0	0	44	175	692
2025-12-04 10:45:00	8	20	21	0	0	49	14	34	3	0	1	51	8	16	5	0	0	29	4	38	2	0	0	44	173	676
2025-12-04 11:00:00	5	19	17	0	0	41	10	41	7	0	2	58	13	26	4	0	0	43	1	25	7	0	0	33	175	689
2025-12-04 11:15:00	6	18	17	0	0	41	9	32	3	0	1	44	15	22	2	0	0	39	2	42	4	0	0	48	172	695
2025-12-04 11:30:00	8	25	18	0	0	51	20	38	8	0	0	66	8	29	9	0	0	46	5	44	4	0	0	53	216	736
2025-12-04 11:45:00	4	25	22	0	0	51	9	41	9	0	1	59	14	20	4	0	0	38	6	32	2	0	2	40	188	751
2025-12-04 12:00:00	8	29	14	0	0	51	10	42	11	0	0	63	17	29	6	0	0	52	4	44	8	0	0	56	222	798
2025-12-04 12:15:00	9	13	24	0	0	46	12	38	12	0	0	62	23	19	7	0	0	49	2	35	4	0	1	41	198	824
2025-12-04 12:30:00	13	21	14	0	0	48	11	38	9	0	1	58	18	19	6	0	0	43	3	44	7	0	0	54	203	811
2025-12-04 12:45:00	9	23	30	0	0	62	8	34	5	0	1	47	18	26	4	0	0	48	9	41	3	0	0	53	210	833
2025-12-04 13:00:00	8	22	16	0	0	46	11	31	7	0	0	49	18	19	5	0	0	42	4	41	6	0	1	51	188	799
2025-12-04 13:15:00	3	26	20	0	0	49	9	27	5	0	0	41	13	24	7	0	0	44	2	42	4	0	1	48	182	783
2025-12-04 13:30:00	6	23	24	0	0	53	9	31	7	0	0	47	12	29	6	0	0	47	7	36	7	0	0	50	197	777
2025-12-04 13:45:00	9	25	26	0	0	60	14	48	5	0	0	67	21	24	4	0	0	49	5	41	6	0	0	52	228	795
2025-12-04 14:00:00	14	23	15	0	0	52	20	47	5	0	1	72	18	27	5	0	0	50	4	45	5	0	0	54	228	835
2025-12-04 14:15:00	5	20	22	0	0	47	16	42	5	0	0	63	13	26	5	0	0	44	1	67	5	0	0	73	227	880
2025-12-04 14:30:00	4	19	28	0	0	51	18	43	7	0	0	68	17	31	4	0	0	52	3	52	3	0	0	58	229	912
2025-12-04 14:45:00	11	15	29	0	0	55	16	50	6	0	0	72	16	23	6	0	0	45	2	35	3	0	1	40	212	896
2025-12-04 15:00:00	8	32	18	0	0	58	12	40	10	0	0	62	19	32	6	0	0	57	5	43	3	0	0	51	228	896
2025-12-04 15:15:00	7	25	25	0	0	57	5	44	5	0	0	54	25	38	7	0	0	70	4	41	2	0	0	47	228	897
2025-12-04 15:30:00	9	31	31	0	0	71	15	41	8	0	2	64	34	34	6	0	0	74	0	37	6	0	0	43	252	920
2025-12-04 15:45:00	8	25	45	0	0	78	14	33	5	0	0	52	25	34	8	0	0	67	2	46	5	0	0	53	250	958
2025-12-04 16:00:00	13	32	43	0	0	88	11	31	7	0	0	49	19	35	5	0	0	59	3	47	2	0	1	52	248	978
2025-12-04 16:15:00	16	31	33	0	0	80	11	32	6	0	0	49	23	39	2	0	0	64	4	36	3	0	1	43	236	986
2025-12-04 16:30:00	7	32	35	0	0	74	17	31	6	0	0	54	18	34	2	0	0	54	1	60	5	0	0	66	248	982
2025-12-04 16:45:00	8	24	43	0	0	75	18	36	7	0	0	61	24	14	8	0	0	46	6	37	4	0	1	47	229	961
2025-12-04 17:00:00	9	33	34	0	0	76	20	41	6	0	0	67	22	33	7	0	0	62	2	40	9	0	0	51	256	969
2025-12-04 17:15:00	12	29	27	0	0	68	17	30	4	0	0	51	19	34	5	0	0	58	3	48	6	0	0	57	234	967
2025-12-04 17:30:00	11	27	24	0	0	62	19	30	5	0	1	54	18	20	3	0	0	41	4	33	4	0	0	41	198	917
2025-12-04 17:45:00	14	47	34	0	0	95	16	38	3	0	0	57	15	32	3	0	0	50	5	41	1	0	0	47	249	937
2025-12-04 18:00:00	12	17	28	0	0	57	11	36	7	0	0	54	9	30	0	0	0	39	4	38	6	0	1	48	198	879

2025-12-04 18:15:00	14	22	28	0	0	64	7	25	6	0	4	38	10	24	1	0	0	35	1	26	1	0	0	28	165	810
2025-12-04 18:30:00	6	14	31	0	0	51	17	17	9	0	0	43	9	26	1	0	0	36	2	40	4	0	0	46	176	788
2025-12-04 18:45:00	2	17	15	0	0	34	12	22	3	0	0	37	9	18	1	0	0	28	2	25	4	0	0	31	130	669
Grand Total	486	1142	1117	0	0	2745	622	1781	312	0	18	2715	701	1168	207	0	0	2076	156	1748	198	0	15	2102	**9638**	-
Approach%	17.7%	41.6%	40.7%	0%		-	22.9%	65.6%	11.5%	0%		-	33.8%	56.3%	10%	0%		-	7.4%	83.2%	9.4%	0%		-	**-**	-
Totals %	5%	11.8%	11.6%	0%		28.5%	6.5%	18.5%	3.2%	0%		28.2%	7.3%	12.1%	2.1%	0%		21.5%	1.6%	18.1%	2.1%	0%		21.8%	**-**	-
Heavy	23	7	28	0		-	8	59	3	0		-	13	13	16	0		-	10	44	8	0		-	**-**	-
Heavy %	4.7%	0.6%	2.5%	0%		-	1.3%	3.3%	1%	0%		-	1.9%	1.1%	7.7%	0%		-	6.4%	2.5%	4%	0%		-	**-**	-
Bicycles	0	3	0	0		-	0	0	0	0		-	1	0	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	0.3%	0%	0%		-	0%	0%	0%	0%		-	0.1%	0%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Selected Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (-2 °C)**

Start Time	N Approach ONTARIO ST						E Approach CLARKE ST						S Approach ONTARIO ST						W Approach CLARKE ST						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	
2025-12-04 08:00:00	14	22	25	0	0	61	24	50	4	0	1	78	8	18	2	0	0	28	4	25	7	0	1	36	203
2025-12-04 08:15:00	14	31	24	0	0	69	13	38	8	0	0	59	11	23	7	0	0	41	4	21	2	0	0	27	196
2025-12-04 08:30:00	20	38	24	0	0	82	17	52	13	0	0	82	14	17	2	0	0	33	5	24	2	0	0	31	228
2025-12-04 08:45:00	22	36	20	0	0	78	13	44	10	0	0	67	22	39	4	0	0	65	4	27	1	0	0	32	242
Grand Total	70	127	93	0	0	290	67	184	35	0	1	286	55	97	15	0	0	167	17	97	12	0	1	126	**869**
Approach%	24.1%	43.8%	32.1%	0%		-	23.4%	64.3%	12.2%	0%		-	32.9%	58.1%	9%	0%		-	13.5%	77%	9.5%	0%		-	**-**
Totals %	8.1%	14.6%	10.7%	0%		33.4%	7.7%	21.2%	4%	0%		32.9%	6.3%	11.2%	1.7%	0%		19.2%	2%	11.2%	1.4%	0%		14.5%	**-**
PHF	0.8	0.84	0.93	0		0.88	0.7	0.88	0.67	0		0.87	0.63	0.62	0.54	0		0.64	0.85	0.9	0.43	0		0.88	0.9
Heavy	3	1	6	0		10	2	9	0	0		11	3	4	1	0		8	2	2	1	0		5	34
Heavy %	4.3%	0.8%	6.5%	0%		3.4%	3%	4.9%	0%	0%		3.8%	5.5%	4.1%	6.7%	0%		4.8%	11.8%	2.1%	8.3%	0%		4%	3.9%
Lights	67	126	87	0		280	65	175	35	0		275	52	93	14	0		159	15	95	11	0		121	835
Lights %	95.7%	99.2%	93.5%	0%		96.6%	97%	95.1%	100%	0%		96.2%	94.5%	95.9%	93.3%	0%		95.2%	88.2%	97.9%	91.7%	0%		96%	96.1%
Single-Unit Trucks	1	1	1	0		3	2	3	0	0		5	0	2	0	0		2	1	1	0	0		2	12
Single-Unit Trucks %	1.4%	0.8%	1.1%	0%		1%	3%	1.6%	0%	0%		1.7%	0%	2.1%	0%	0%		1.2%	5.9%	1%	0%	0%		1.6%	1.4%
Buses	2	0	5	0		7	0	6	0	0		6	1	2	1	0		4	1	1	1	0		3	20
Buses %	2.9%	0%	5.4%	0%		2.4%	0%	3.3%	0%	0%		2.1%	1.8%	2.1%	6.7%	0%		2.4%	5.9%	1%	8.3%	0%		2.4%	2.3%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	2	0	0	0		2	0	0	0	0		0	2
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	3.6%	0%	0%	0%		1.2%	0%	0%	0%	0%		0%	0.2%
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	50%		-	-	-	-	0%		-	-	-	-	50%		**-**
Unaccompanied Juniors	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Unaccompanied Juniors%	-	-	-	-	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: 04:15 PM - 05:15 PM Weather: Overcast Clouds (-2 °C)

Start Time	N Approach ONTARIO ST						E Approach CLARKE ST						S Approach ONTARIO ST						W Approach CLARKE ST						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	
2025-12-04 16:15:00	16	31	33	0	0	80	11	32	6	0	0	49	23	39	2	0	0	64	4	36	3	0	1	43	236
2025-12-04 16:30:00	7	32	35	0	0	74	17	31	6	0	0	54	18	34	2	0	0	54	1	60	5	0	0	66	248
2025-12-04 16:45:00	8	24	43	0	0	75	18	36	7	0	0	61	24	14	8	0	0	46	6	37	4	0	1	47	229
2025-12-04 17:00:00	9	33	34	0	0	76	20	41	6	0	0	67	22	33	7	0	0	62	2	40	9	0	0	51	256
Grand Total	40	120	145	0	0	305	66	140	25	0	0	231	87	120	19	0	0	226	13	173	21	0	2	207	**969**
Approach%	13.1%	39.3%	47.5%	0%		-	28.6%	60.6%	10.8%	0%		-	38.5%	53.1%	8.4%	0%		-	6.3%	83.6%	10.1%	0%		-	**-**
Totals %	4.1%	12.4%	15%	0%		31.5%	6.8%	14.4%	2.6%	0%		23.8%	9%	12.4%	2%	0%		23.3%	1.3%	17.9%	2.2%	0%		21.4%	**-**
PHF	0.63	0.91	0.84	0		0.95	0.83	0.85	0.89	0		0.86	0.91	0.77	0.59	0		0.88	0.54	0.72	0.58	0		0.78	0.95
Heavy	2	0	1	0		3	0	2	0	0		2	0	0	1	0		1	1	0	2	0		3	9
Heavy %	5%	0%	0.7%	0%		1%	0%	1.4%	0%	0%		0.9%	0%	0%	5.3%	0%		0.4%	7.7%	0%	9.5%	0%		1.4%	0.9%
Lights	38	120	144	0		302	66	138	25	0		229	87	120	18	0		225	12	173	19	0		204	960
Lights %	95%	100%	99.3%	0%		99%	100%	98.6%	100%	0%		99.1%	100%	100%	94.7%	0%		99.6%	92.3%	100%	90.5%	0%		98.6%	99.1%
Single-Unit Trucks	1	0	1	0		2	0	2	0	0		2	0	0	1	0		1	1	0	2	0		3	8
Single-Unit Trucks %	2.5%	0%	0.7%	0%		0.7%	0%	1.4%	0%	0%		0.9%	0%	0%	5.3%	0%		0.4%	7.7%	0%	9.5%	0%		1.4%	0.8%
Buses	1	0	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	1
Buses %	2.5%	0%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0.1%
Articulated Trucks	0	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%	0%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	100%		**-**
Unaccompanied Juniors	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Unaccompanied Juniors%	-	-	-	-	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 (-2 °C)**

	Pedestrians	Unaccompanied Juniors
N	0	0
S	0	0
E	1	0
W	1	0

Selected Hour: 04:15 PM - 05:15 PM Weather: Overcast Clouds (-2 °C)

Turning Movement Count (8 . ONTARIO ST & MAIN ST)

Start Time	N Approach ONTARIO ST					E Approach MAIN ST E					W Approach MAIN ST E					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	UTurn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
2025-12-04 07:00:00	10	2	0	1	12	3	30	1	0	34	20	5	0	0	25	71	
2025-12-04 07:15:00	8	5	0	0	13	4	39	0	1	43	21	13	0	0	34	90	
2025-12-04 07:30:00	10	9	0	0	19	2	54	0	0	56	29	12	0	0	41	116	
2025-12-04 07:45:00	22	3	0	0	25	9	58	0	0	67	54	22	0	0	76	168	445
2025-12-04 08:00:00	20	5	0	1	25	8	57	0	0	65	43	18	0	0	61	151	525
2025-12-04 08:15:00	13	4	0	0	17	6	54	0	0	60	38	18	0	0	56	133	568
2025-12-04 08:30:00	21	11	0	3	32	8	64	0	0	72	39	8	0	2	47	151	603
2025-12-04 08:45:00	29	7	0	0	36	10	89	0	0	99	62	29	0	0	91	226	661
2025-12-04 09:00:00	13	12	0	5	25	9	75	0	0	84	72	17	0	1	89	198	708
2025-12-04 09:15:00	14	4	0	1	18	13	75	0	0	88	58	17	0	0	75	181	756
2025-12-04 09:30:00	12	9	0	0	21	12	66	0	1	78	56	13	1	0	70	169	774
2025-12-04 09:45:00	13	10	0	2	23	19	72	0	0	91	66	18	0	0	84	198	746
2025-12-04 10:00:00	11	6	0	6	17	16	77	0	0	93	65	18	0	1	83	193	741
2025-12-04 10:15:00	21	9	0	5	30	17	68	0	0	85	70	11	0	0	81	196	756
2025-12-04 10:30:00	9	5	0	2	14	14	78	0	0	92	59	18	2	0	79	185	772
2025-12-04 10:45:00	19	10	0	1	29	9	68	0	0	77	75	15	0	0	90	196	770
2025-12-04 11:00:00	13	5	0	4	18	17	62	0	0	79	75	20	0	0	95	192	769
2025-12-04 11:15:00	16	6	0	0	22	14	73	0	1	87	69	21	1	0	91	200	773
2025-12-04 11:30:00	20	7	0	2	27	21	71	0	0	92	77	13	0	0	90	209	797
2025-12-04 11:45:00	28	10	0	7	38	17	72	0	0	89	80	24	1	0	105	232	833
2025-12-04 12:00:00	16	12	0	1	28	10	76	0	0	86	81	25	0	0	106	220	861
2025-12-04 12:15:00	21	10	0	4	31	21	81	0	0	102	66	25	0	1	91	224	885
2025-12-04 12:30:00	20	13	0	8	33	19	69	0	1	88	76	17	0	0	93	214	890
2025-12-04 12:45:00	25	9	0	2	34	22	86	0	0	108	70	16	1	2	87	229	887
2025-12-04 13:00:00	27	5	0	1	32	20	70	0	0	90	90	20	2	0	112	234	901
2025-12-04 13:15:00	23	8	0	6	31	14	82	0	0	96	81	28	0	0	109	236	913
2025-12-04 13:30:00	22	7	0	5	29	19	75	0	0	94	71	32	0	0	103	226	925
2025-12-04 13:45:00	14	14	0	8	28	22	67	0	0	89	78	18	0	1	96	213	909
2025-12-04 14:00:00	17	9	0	4	26	12	79	0	0	91	72	23	0	1	95	212	887
2025-12-04 14:15:00	13	5	0	1	18	13	72	0	1	85	94	24	0	1	118	221	872
2025-12-04 14:30:00	22	13	0	2	35	13	77	0	0	90	91	25	0	0	116	241	887
2025-12-04 14:45:00	13	9	0	2	22	15	80	0	0	95	66	25	0	1	91	208	882
2025-12-04 15:00:00	18	14	0	4	32	16	66	0	0	82	71	21	0	0	92	206	876

2025-12-04 15:15:00	40	10	0	5	50	10	70	0	0	80	74	28	0	0	102	232	887
2025-12-04 15:30:00	21	12	0	6	33	13	60	0	0	73	85	30	0	2	115	221	867
2025-12-04 15:45:00	13	12	0	3	25	13	67	0	0	80	85	16	0	0	101	206	865
2025-12-04 16:00:00	24	10	0	1	34	20	64	0	0	84	96	33	0	0	129	247	906
2025-12-04 16:15:00	18	9	0	6	27	15	73	0	0	88	65	19	0	0	84	199	873
2025-12-04 16:30:00	24	11	0	2	35	12	71	0	1	83	86	27	0	0	113	231	883
2025-12-04 16:45:00	24	3	0	8	27	19	72	0	0	91	86	26	0	2	112	230	907
2025-12-04 17:00:00	32	7	0	8	39	19	63	0	0	82	82	23	0	0	105	226	886
2025-12-04 17:15:00	33	14	0	5	47	16	76	0	0	92	67	32	0	0	99	238	925
2025-12-04 17:30:00	23	9	0	4	32	5	82	0	0	87	76	35	0	1	111	230	924
2025-12-04 17:45:00	26	10	0	4	36	12	91	0	0	103	87	26	1	0	114	253	947
2025-12-04 18:00:00	20	9	0	6	29	17	75	0	0	92	59	19	0	0	78	199	920
2025-12-04 18:15:00	18	10	0	1	28	7	70	0	0	77	65	31	0	0	96	201	883
2025-12-04 18:30:00	13	17	0	2	30	16	57	0	0	73	51	20	0	0	71	174	827
2025-12-04 18:45:00	16	9	0	1	25	5	55	0	0	60	57	18	0	0	75	160	734
Grand Total	918	419	0	150	1337	643	3328	1	6	3972	3256	1012	9	16	4277	**9586**	-
Approach%	68.7%	31.3%	0%		-	16.2%	83.8%	0%		-	76.1%	23.7%	0.2%		-	**-**	-
Totals %	9.6%	4.4%	0%		13.9%	6.7%	34.7%	0%		41.4%	34%	10.6%	0.1%		44.6%	**-**	-
Heavy	5	12	0		-	18	40	1		-	43	12	0		-	**-**	-
Heavy %	0.5%	2.9%	0%		-	2.8%	1.2%	100%		-	1.3%	1.2%	0%		-	**-**	-
Bicycles	2	0	0		-	0	3	0		-	2	0	0		-	**-**	-
Bicycle %	0.2%	0%	0%		-	0%	0.1%	0%		-	0.1%	0%	0%		-	**-**	-

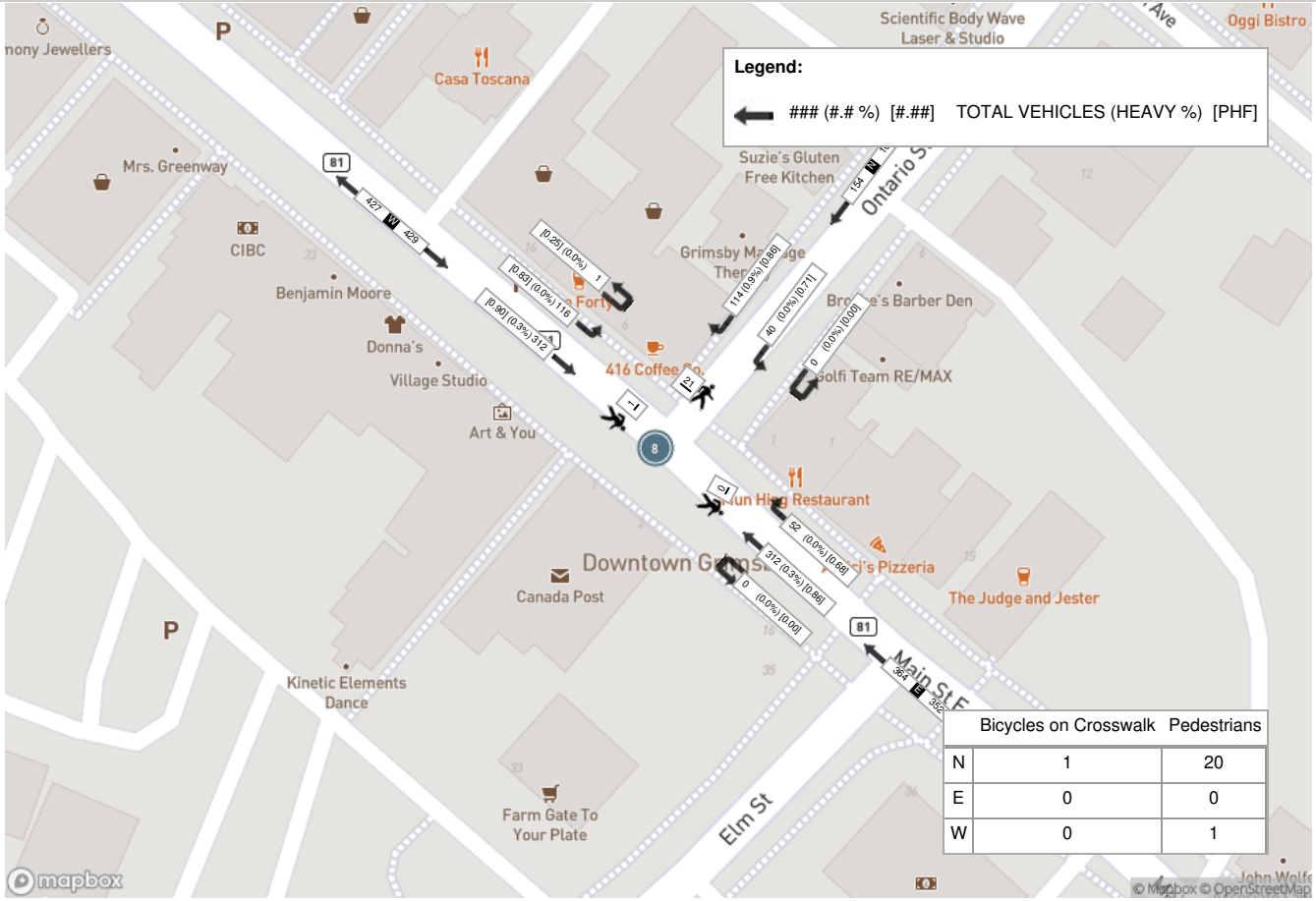
Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-2 °C)

Start Time	N Approach ONTARIO ST					E Approach MAIN ST E					W Approach MAIN ST E					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
2025-12-04 17:00:00	32	7	0	8	39	19	63	0	0	82	82	23	0	0	105	226
2025-12-04 17:15:00	33	14	0	5	47	16	76	0	0	92	67	32	0	0	99	238
2025-12-04 17:30:00	23	9	0	4	32	5	82	0	0	87	76	35	0	1	111	230
2025-12-04 17:45:00	26	10	0	4	36	12	91	0	0	103	87	26	1	0	114	253
Grand Total	114	40	0	21	154	52	312	0	0	364	312	116	1	1	429	**947**
Approach%	74%	26%	0%		-	14.3%	85.7%	0%		-	72.7%	27%	0.2%		-	**-**
Totals %	12%	4.2%	0%		16.3%	5.5%	32.9%	0%		38.4%	32.9%	12.2%	0.1%		45.3%	**-**
PHF	0.86	0.71	0		0.82	0.68	0.86	0		0.88	0.9	0.83	0.25		0.94	0.94
Heavy	1	0	0		1	0	1	0		1	1	0	0		1	3
Heavy %	0.9%	0%	0%		0.6%	0%	0.3%	0%		0.3%	0.3%	0%	0%		0.2%	0.3%
Lights	113	40	0		153	52	311	0		363	311	116	1		428	944
Lights %	99.1%	100%	0%		99.4%	100%	99.7%	0%		99.7%	99.7%	100%	100%		99.8%	99.7%
Single-Unit Trucks	1	0	0		1	0	1	0		1	0	0	0		0	2
Single-Unit Trucks %	0.9%	0%	0%		0.6%	0%	0.3%	0%		0.3%	0%	0%	0%		0%	0.2%
Buses	0	0	0		0	0	0	0		0	1	0	0		1	1
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0.3%	0%	0%		0.2%	0.1%
Articulated Trucks	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%
Pedestrians	-	-	-	20	-	-	-	-	0	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	90.9%		-	-	-	0%		-	-	-	4.5%		**-**
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	4.5%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Road	0	0	0		-	0	1	0		-	0	0	0		-	**-**
Bicycles on Road%	0%	0%	0%			0%	100%	0%			0%	0%	0%			**-**

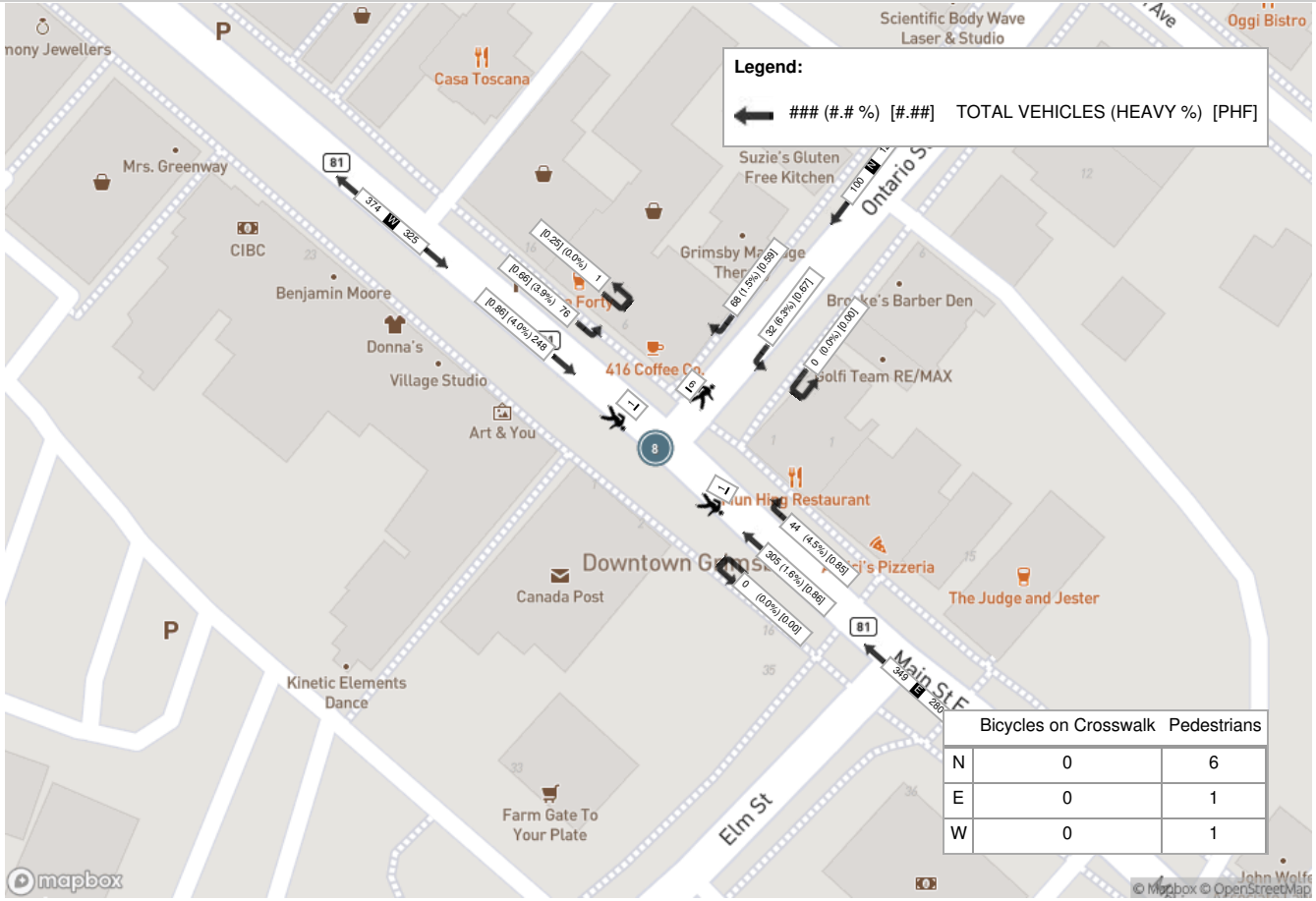
Selected Hour: 08:45 AM - 09:45 AM Weather: Overcast Clouds (-2 °C)

Start Time	N Approach ONTARIO ST					E Approach MAIN ST E					W Approach MAIN ST E					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
2025-12-04 08:45:00	29	7	0	0	36	10	89	0	0	99	62	29	0	0	91	226
2025-12-04 09:00:00	13	12	0	5	25	9	75	0	0	84	72	17	0	1	89	198
2025-12-04 09:15:00	14	4	0	1	18	13	75	0	0	88	58	17	0	0	75	181
2025-12-04 09:30:00	12	9	0	0	21	12	66	0	1	78	56	13	1	0	70	169
Grand Total	68	32	0	6	100	44	305	0	1	349	248	76	1	1	325	**774**
Approach%	68%	32%	0%		-	12.6%	87.4%	0%		-	76.3%	23.4%	0.3%		-	**-**
Totals %	8.8%	4.1%	0%		12.9%	5.7%	39.4%	0%		45.1%	32%	9.8%	0.1%		42%	**-**
PHF	0.59	0.67	0		0.69	0.85	0.86	0		0.88	0.86	0.66	0.25		0.89	0.86
Heavy	1	2	0		3	2	5	0		7	10	3	0		13	23
Heavy %	1.5%	6.3%	0%		3%	4.5%	1.6%	0%		2%	4%	3.9%	0%		4%	3%
Lights	67	30	0		97	42	300	0		342	238	73	1		312	751
Lights %	98.5%	93.8%	0%		97%	95.5%	98.4%	0%		98%	96%	96.1%	100%		96%	97%
Single-Unit Trucks	0	2	0		2	2	1	0		3	6	1	0		7	12
Single-Unit Trucks %	0%	6.3%	0%		2%	4.5%	0.3%	0%		0.9%	2.4%	1.3%	0%		2.2%	1.6%
Buses	1	0	0		1	0	2	0		2	4	2	0		6	9
Buses %	1.5%	0%	0%		1%	0%	0.7%	0%		0.6%	1.6%	2.6%	0%		1.8%	1.2%
Articulated Trucks	0	0	0		0	0	2	0		2	0	0	0		0	2
Articulated Trucks %	0%	0%	0%		0%	0%	0.7%	0%		0.6%	0%	0%	0%		0%	0.3%
Pedestrians	-	-	-	6	-	-	-	-	1	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	75%		-	-	-	12.5%		-	-	-	12.5%		**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Road	1	0	0		-	0	0	0		-	1	0	0		-	**-**
Bicycles on Road%	100%	0%	0%			0%	0%	0%			100%	0%	0%			**-**

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-2 °C)



Selected Hour: 08:45 AM - 09:45 AM Weather: Overcast Clouds (-2 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	6
E	0	1
W	0	1

Turning Movement Count (7 . ONTARIO ST & JOHN ST)

Start Time	N Approach ONTARIO ST					E Approach JOHN ST					S Approach ONTARIO ST					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	UTurn S:S	Peds S:	Approach Total		
2025-12-04 07:00:00	14	1	0	0	15	3	0	0	0	3	0	7	0	1	7	25	
2025-12-04 07:15:00	11	1	0	0	12	4	0	0	0	4	0	11	0	0	11	27	
2025-12-04 07:30:00	23	2	0	0	25	6	1	0	0	7	0	8	0	0	8	40	
2025-12-04 07:45:00	38	3	0	0	41	7	1	0	1	8	1	28	0	2	29	78	170
2025-12-04 08:00:00	32	2	0	0	34	8	2	0	0	10	3	22	0	2	25	69	214
2025-12-04 08:15:00	36	3	0	0	39	8	2	0	0	10	2	35	0	0	37	86	273
2025-12-04 08:30:00	40	3	1	1	44	2	5	0	0	7	2	22	0	0	24	75	308
2025-12-04 08:45:00	37	11	0	0	48	12	1	0	0	13	4	57	0	0	61	122	352
BREAK																	
2025-12-04 16:00:00	38	8	0	0	46	9	3	0	0	12	3	50	0	0	53	111	
2025-12-04 16:15:00	35	3	0	0	38	7	2	0	2	9	1	47	0	0	48	95	
2025-12-04 16:30:00	29	9	0	0	38	7	4	0	1	11	1	50	0	0	51	100	
2025-12-04 16:45:00	30	4	0	0	34	13	2	0	1	15	2	41	0	1	43	92	398
2025-12-04 17:00:00	35	9	0	0	44	7	3	0	1	10	8	58	0	0	66	120	407
2025-12-04 17:15:00	31	6	0	0	37	11	3	0	0	14	4	49	0	0	53	104	416
2025-12-04 17:30:00	29	3	0	0	32	5	1	0	2	6	2	41	0	0	43	81	397
2025-12-04 17:45:00	44	10	0	1	54	7	4	0	2	11	2	38	0	0	40	105	410
Grand Total	502	78	1	2	581	116	34	0	10	150	35	564	0	6	599	**1330**	-
Approach%	86.4%	13.4%	0.2%		-	77.3%	22.7%	0%		-	5.8%	94.2%	0%		-	**-**	-
Totals %	37.7%	5.9%	0.1%		43.7%	8.7%	2.6%	0%		11.3%	2.6%	42.4%	0%		45%	**-**	-
Heavy	6	1	0		-	1	1	0		-	0	11	0		-	**-**	-
Heavy %	1.2%	1.3%	0%		-	0.9%	2.9%	0%		-	0%	2%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (-2 °C)

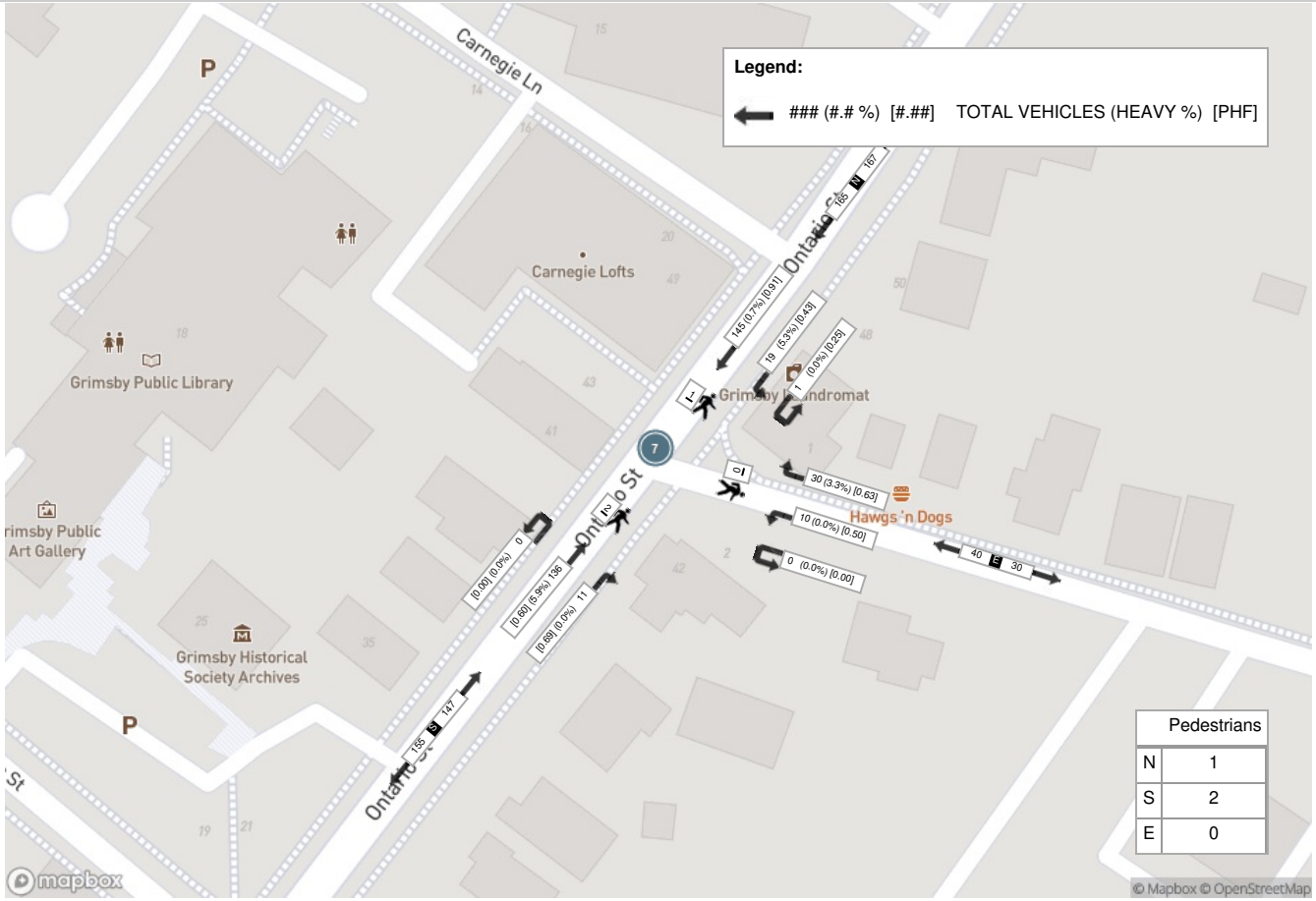
Start Time	N Approach ONTARIO ST					E Approach JOHN ST					S Approach ONTARIO ST					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
2025-12-04 08:00:00	32	2	0	0	34	8	2	0	0	10	3	22	0	2	25	69
2025-12-04 08:15:00	36	3	0	0	39	8	2	0	0	10	2	35	0	0	37	86
2025-12-04 08:30:00	40	3	1	1	44	2	5	0	0	7	2	22	0	0	24	75
2025-12-04 08:45:00	37	11	0	0	48	12	1	0	0	13	4	57	0	0	61	122
Grand Total	145	19	1	1	165	30	10	0	0	40	11	136	0	2	147	**352**
Approach%	87.9%	11.5%	0.6%		-	75%	25%	0%		-	7.5%	92.5%	0%		-	**-**
Totals %	41.2%	5.4%	0.3%		46.9%	8.5%	2.8%	0%		11.4%	3.1%	38.6%	0%		41.8%	**-**
PHF	0.91	0.43	0.25		0.86	0.63	0.5	0		0.77	0.69	0.6	0		0.6	0.72
Heavy	1	1	0		2	1	0	0		1	0	8	0		8	11
Heavy %	0.7%	5.3%	0%		1.2%	3.3%	0%	0%		2.5%	0%	5.9%	0%		5.4%	3.1%
Lights	144	18	1		163	29	10	0		39	11	128	0		139	341
Lights %	99.3%	94.7%	100%		98.8%	96.7%	100%	0%		97.5%	100%	94.1%	0%		94.6%	96.9%
Single-Unit Trucks	1	0	0		1	1	0	0		1	0	4	0		4	6
Single-Unit Trucks %	0.7%	0%	0%		0.6%	3.3%	0%	0%		2.5%	0%	2.9%	0%		2.7%	1.7%
Buses	0	1	0		1	0	0	0		0	0	4	0		4	5
Buses %	0%	5.3%	0%		0.6%	0%	0%	0%		0%	0%	2.9%	0%		2.7%	1.4%
Articulated Trucks	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%
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	33.3%		-	-	-	0%		-	-	-	66.7%		**-**

Peak Hour: 04:30 PM - 05:30 PM Weather: Scattered Clouds (-5 °C)

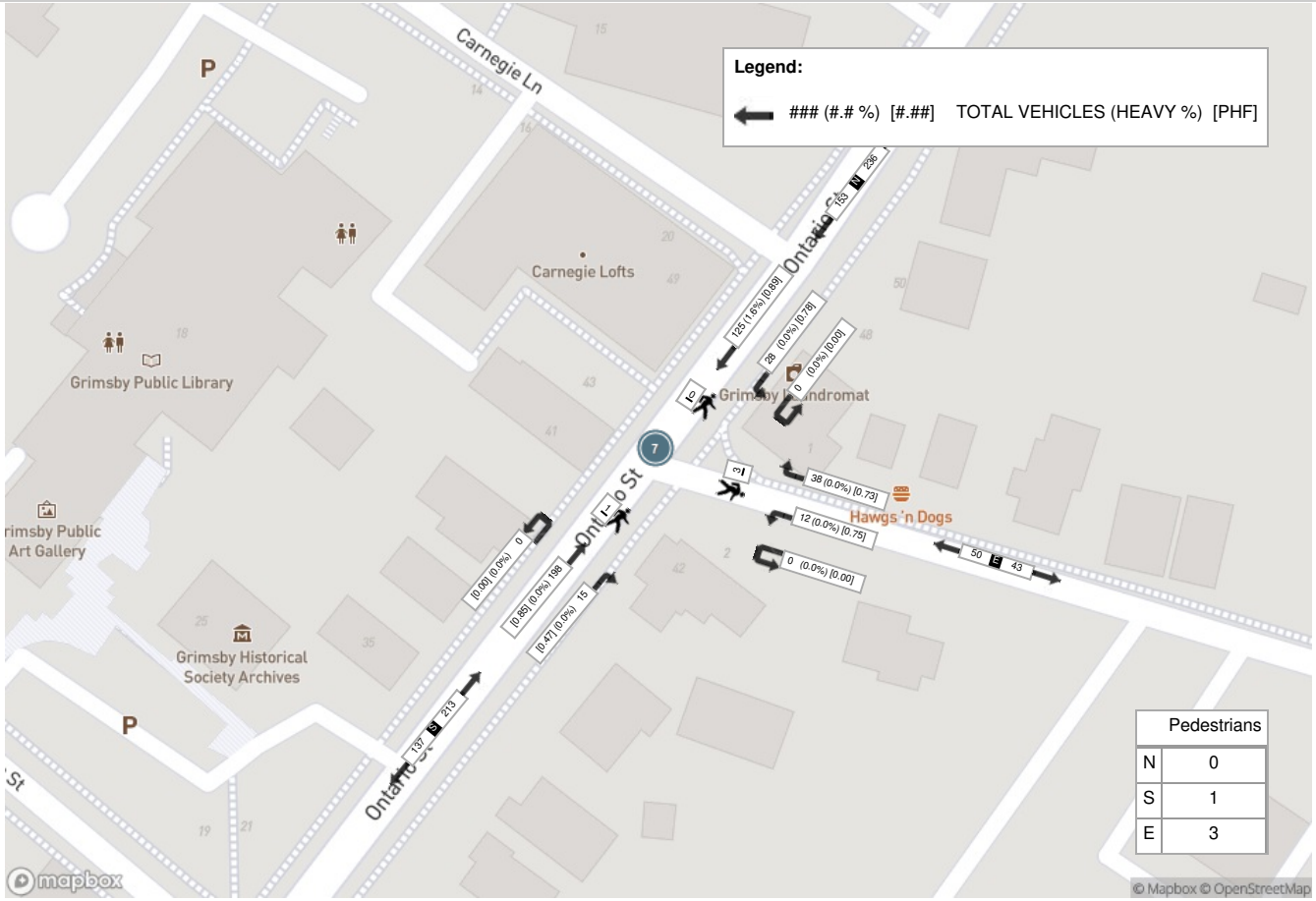
Start Time	N Approach ONTARIO ST					E Approach JOHN ST					S Approach ONTARIO ST					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
2025-12-04 16:30:00	29	9	0	0	38	7	4	0	1	11	1	50	0	0	51	100
2025-12-04 16:45:00	30	4	0	0	34	13	2	0	1	15	2	41	0	1	43	92
2025-12-04 17:00:00	35	9	0	0	44	7	3	0	1	10	8	58	0	0	66	120
2025-12-04 17:15:00	31	6	0	0	37	11	3	0	0	14	4	49	0	0	53	104
Grand Total	125	28	0	0	153	38	12	0	3	50	15	198	0	1	213	**416**
Approach%	81.7%	18.3%	0%		-	76%	24%	0%		-	7%	93%	0%		-	**-**
Totals %	30%	6.7%	0%		36.8%	9.1%	2.9%	0%		12%	3.6%	47.6%	0%		51.2%	**-**
PHF	0.89	0.78	0		0.87	0.73	0.75	0		0.83	0.47	0.85	0		0.81	0.87
Heavy	2	0	0		2	0	0	0		0	0	0	0		0	2
Heavy %	1.6%	0%	0%		1.3%	0%	0%	0%		0%	0%	0%	0%		0%	0.5%
Lights	123	28	0		151	38	12	0		50	15	198	0		213	414
Lights %	98.4%	100%	0%		98.7%	100%	100%	0%		100%	100%	100%	0%		100%	99.5%
Single-Unit Trucks	2	0	0		2	0	0	0		0	0	0	0		0	2
Single-Unit Trucks %	1.6%	0%	0%		1.3%	0%	0%	0%		0%	0%	0%	0%		0%	0.5%
Buses	0	0	0		0	0	0	0		0	0	0	0		0	0
Buses %	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
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	0%
Pedestrians	-	-	-	0	-	-	-	-	3	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	75%		-	-	-	25%		**-**

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

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (-2 °C)



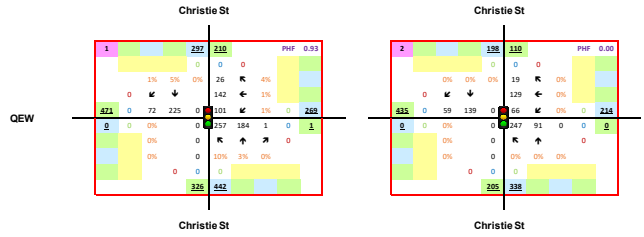
Peak Hour: 04:30 PM - 05:30 PM Weather: Scattered Clouds (-5 °C)



Appendix D:
Volume Comparison

FIGURE: Base Existing Volumes
TIME PERIOD: Weekday AM
PROJECT No: 8333-01

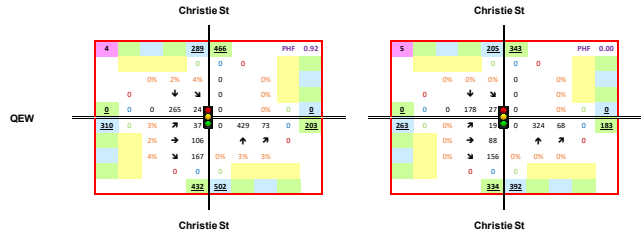
Thursday, Dec 4, 2025 | Tuesday, July 30, 2024



<-- WESTBOUND

Spectrum | 0

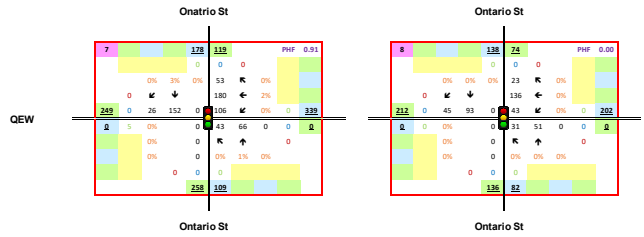
Thursday, Dec 4, 2025 | Tuesday, July 30, 2024



--> EASTBOUND

Spectrum | 0

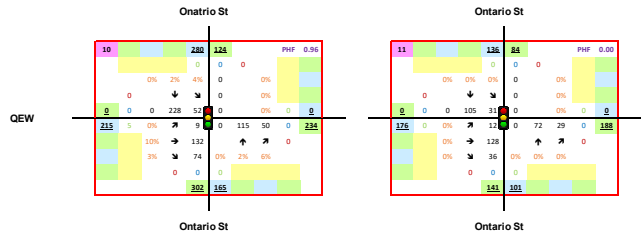
Thursday, Dec 4, 2025 | Tuesday, July 30, 2024



<-- WESTBOUND

Spectrum | 0

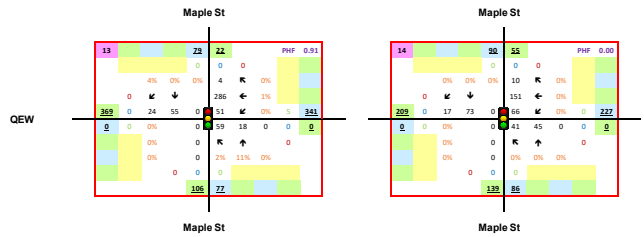
Thursday, Dec 4, 2025 | Tuesday, July 30, 2024



--> EASTBOUND

Spectrum | 0

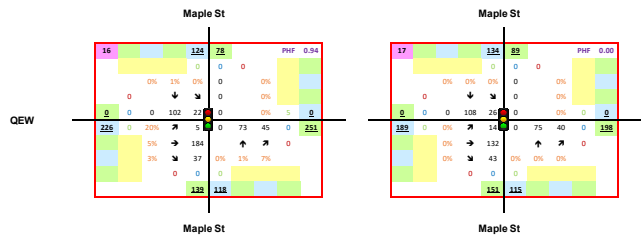
Thursday, Dec 4, 2025 | Tuesday, July 30, 2024



<-- WESTBOUND

Spectrum | 0

Thursday, Dec 4, 2025 | Tuesday, July 30, 2024

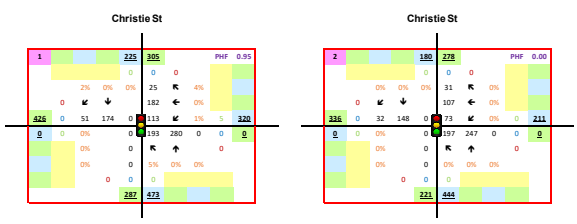


--> EASTBOUND

FIGURE: Base Existing Volumes
TIME PERIOD: Weekday PM
PROJECT No: 8333-01

Thursday, Dec 4, 2025 | Tuesday, July 30, 2024

Christie St



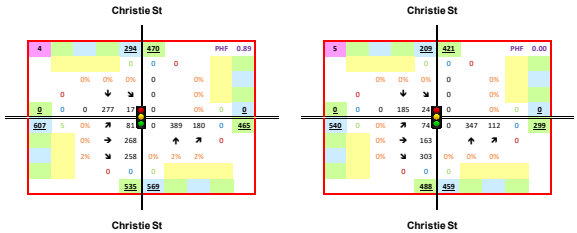
Christie St

QEW | QEW | <-- WESTBOUND

Spectrum | 0

Thursday, Dec 4, 2025 | Tuesday, July 30, 2024

Christie St



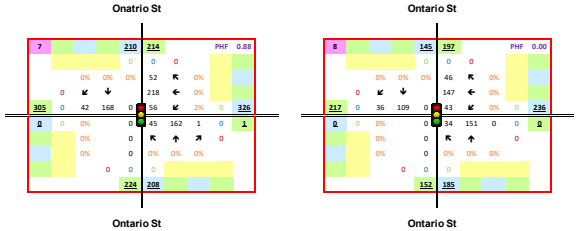
Christie St

QEW | QEW | --> EASTBOUND

Spectrum | 0

Thursday, Dec 4, 2025 | Tuesday, July 30, 2024

Onatrio St



Ontario St

QEW | QEW | <-- WESTBOUND

Spectrum | 0

Thursday, Dec 4, 2025 | Tuesday, July 30, 2024

Onatrio St

Ontario St

QEW | QEW | --> EASTBOUND

Spectrum | 0

Thursday, Dec 4, 2025 | Tuesday, July 30, 2024

Maple St

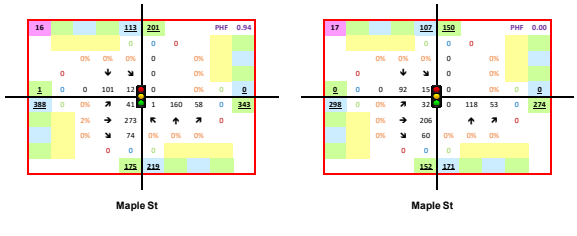
Maple St

QEW | QEW | <-- WESTBOUND

Spectrum | 0

Thursday, Dec 4, 2025 | Tuesday, July 30, 2024

Maple St



Maple St

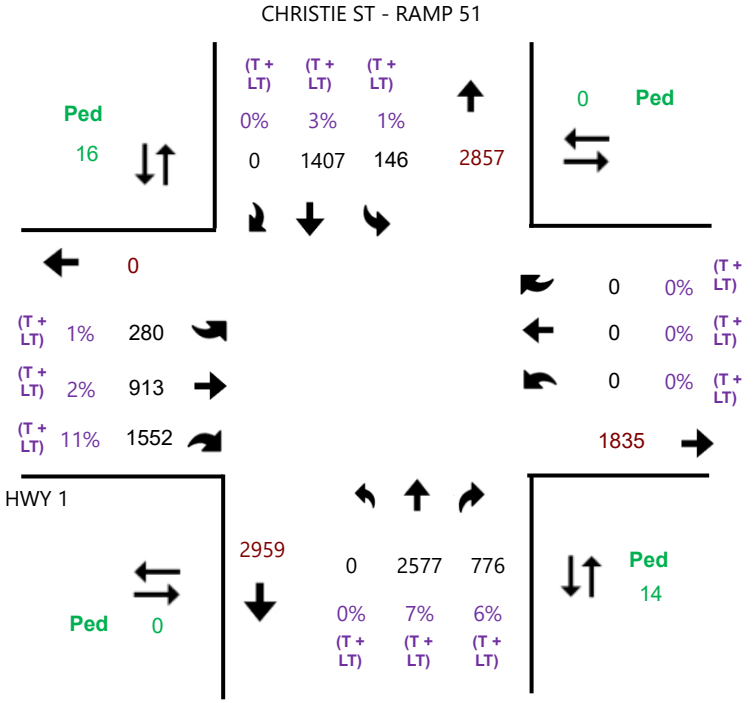
QEW | QEW | --> EASTBOUND

Ontario

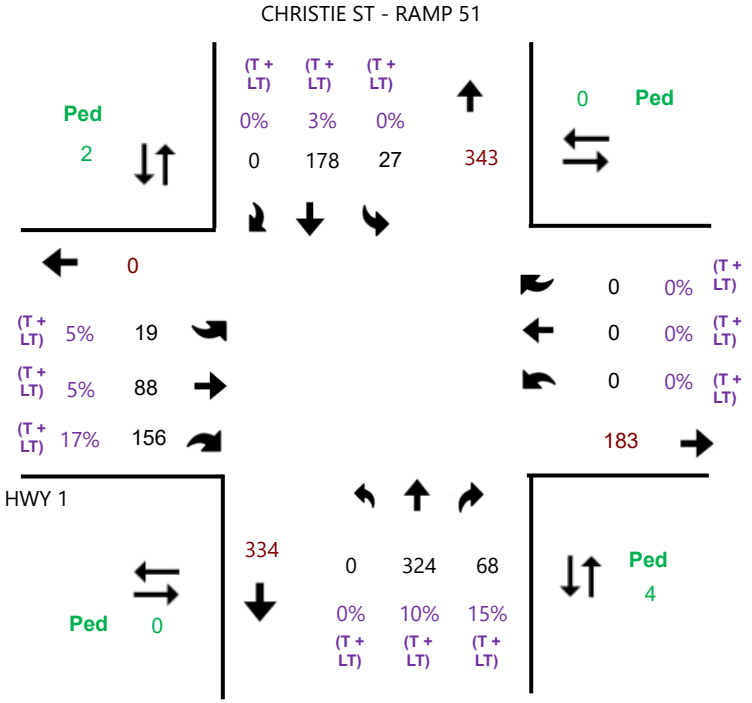
TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: CHRISTIE ST - RAMP 51 @ HWY 1
Region CENTRAL
Hwy #: HWY 1
LHRS_Offset: 10083_0000_51T
Int. Type: Cross
Count Date: Tuesday, 30 July, 2024

Full Study Tue, 30 Jul, 2024 07:00 AM - 06:00 PM



AM Period Tue, 30 Jul, 2024 08:00 AM - 09:00 AM

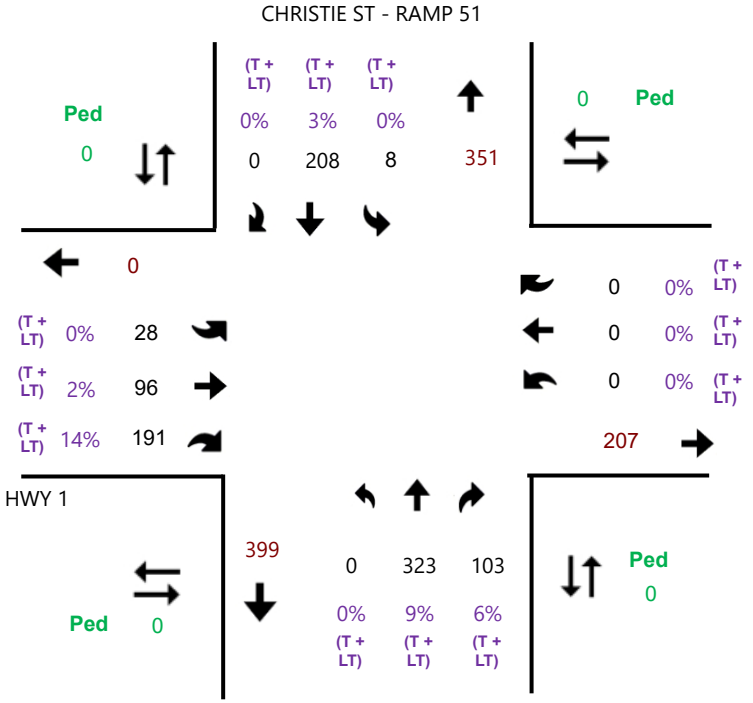


Ontario

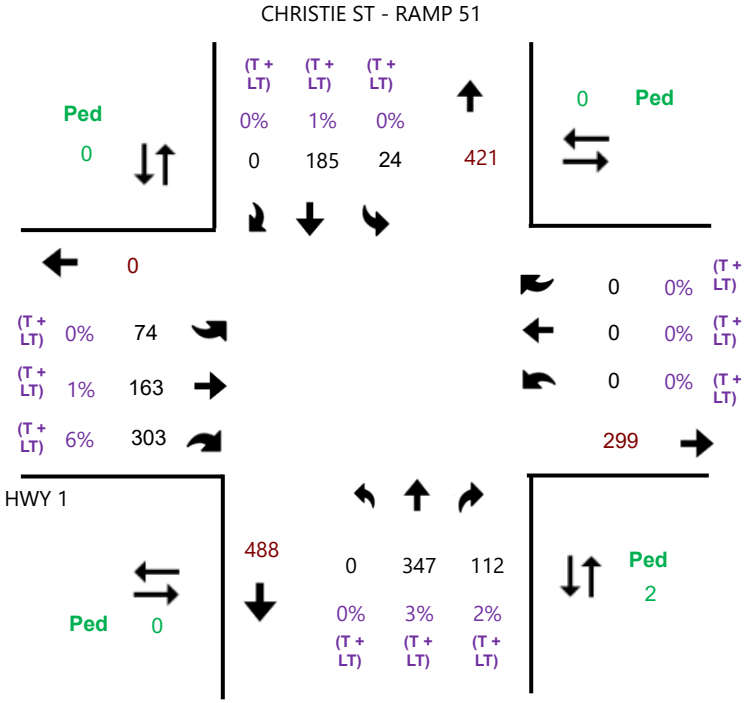
TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: CHRISTIE ST - RAMP 51 @ HWY 1
Region CENTRAL
Hwy #: HWY 1
LHRS_Offset: 10083_0000_51T
Int. Type: Cross
Count Date: Tuesday, 30 July, 2024

MD Period Tue, 30 Jul, 2024 11:45 AM - 12:45 PM



PM Period Tue, 30 Jul, 2024 05:00 PM - 06:00 PM

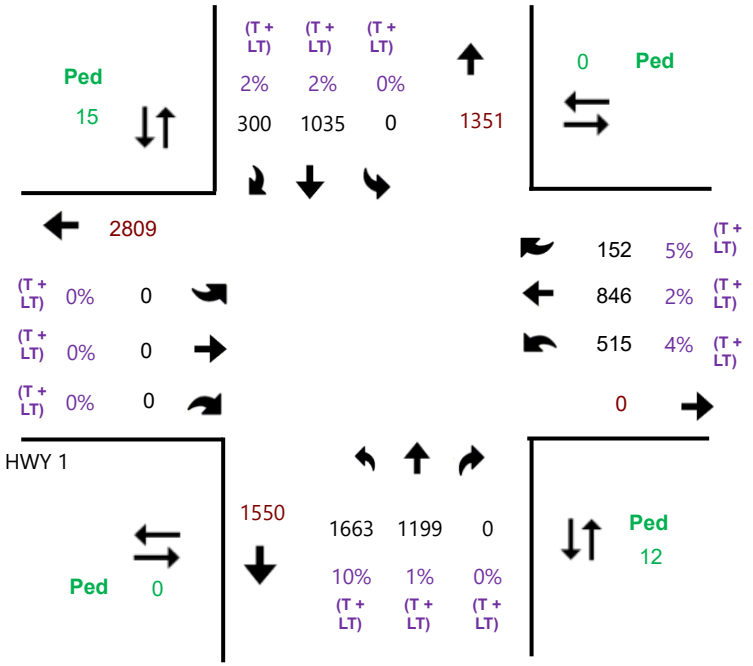


Ontario

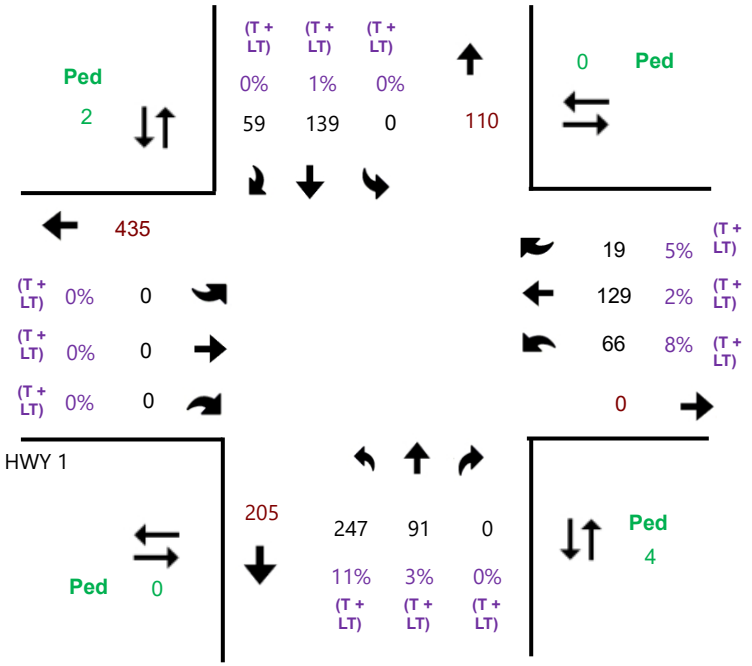
TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: HWY 1 @ CHRISTIE ST - RAMP 78
Region CENTRAL
Hwy #: HWY 1
LHRS_Offset: 10083_0070_78T
Int. Type: Cross
Count Date: Tuesday, 30 July, 2024

Full Study Tue, 30 Jul, 2024 07:00 AM - 06:00 PM



AM Period Tue, 30 Jul, 2024 08:00 AM - 09:00 AM

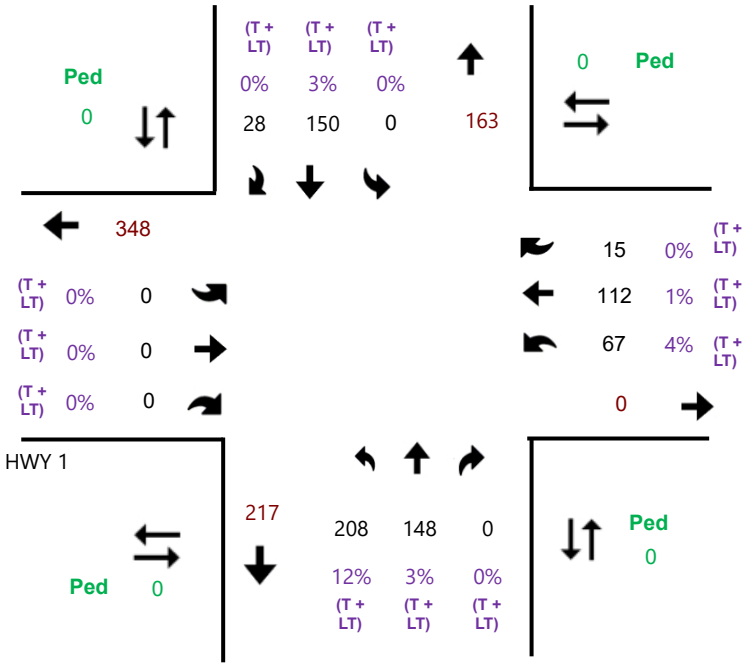


Ontario

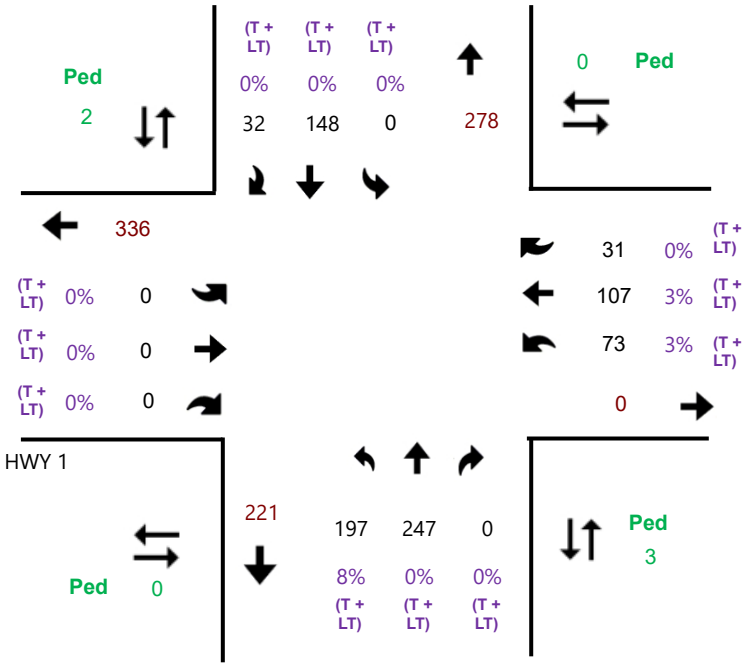
TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: HWY 1 @ CHRISTIE ST - RAMP 78
Region CENTRAL
Hwy #: HWY 1
LHRS_Offset: 10083_0070_78T
Int. Type: Cross
Count Date: Tuesday, 30 July, 2024

MD Period Tue, 30 Jul, 2024 11:45 AM - 12:45 PM



PM Period Tue, 30 Jul, 2024 04:30 PM - 05:30 PM

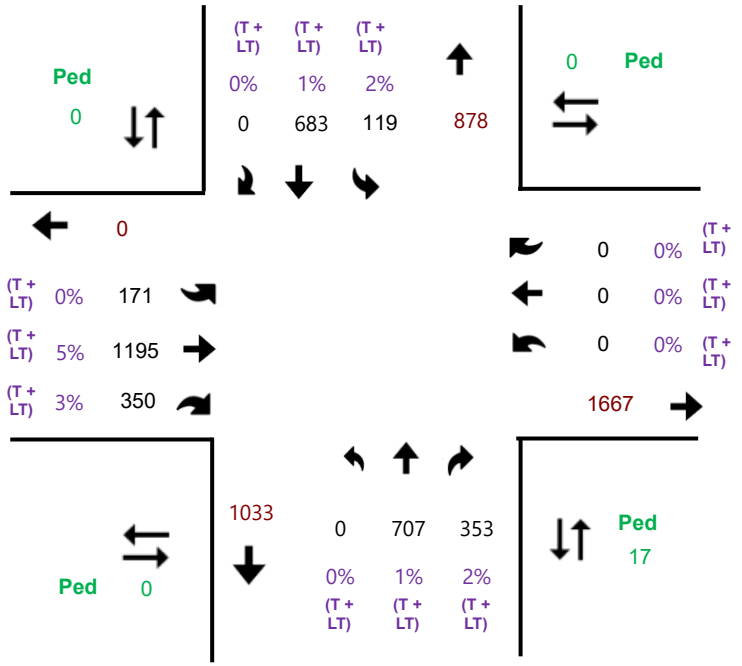


Ontario

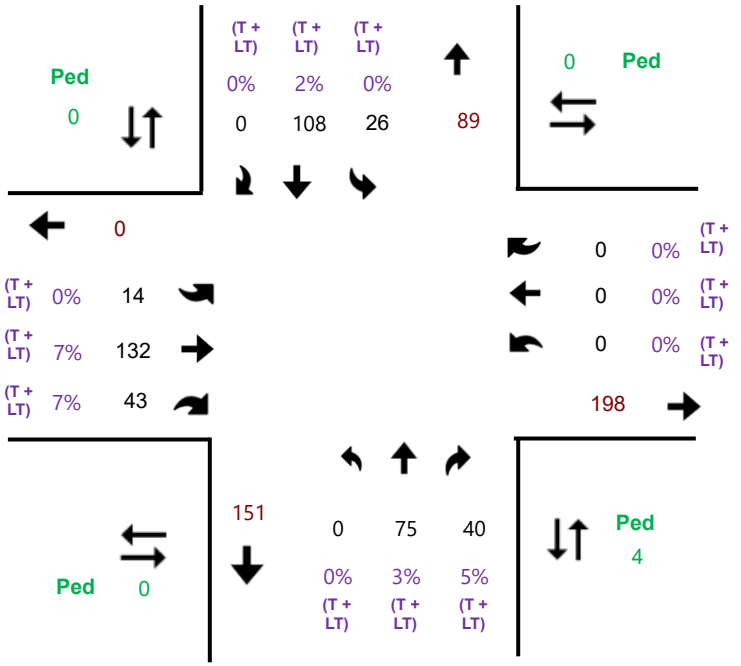
TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: HWY 1 @ MAPLE AVE - RAMP 88
Region CENTRAL **Hwy #:** HWY 1
LHRS_Offset: 10083_0070_88T **Int. Type:**
Count Date: Tuesday, 30 July, 2024

Full Study Tue, 30 Jul, 2024 07:00 AM - 06:00 PM



AM Period Tue, 30 Jul, 2024 08:00 AM - 09:00 AM

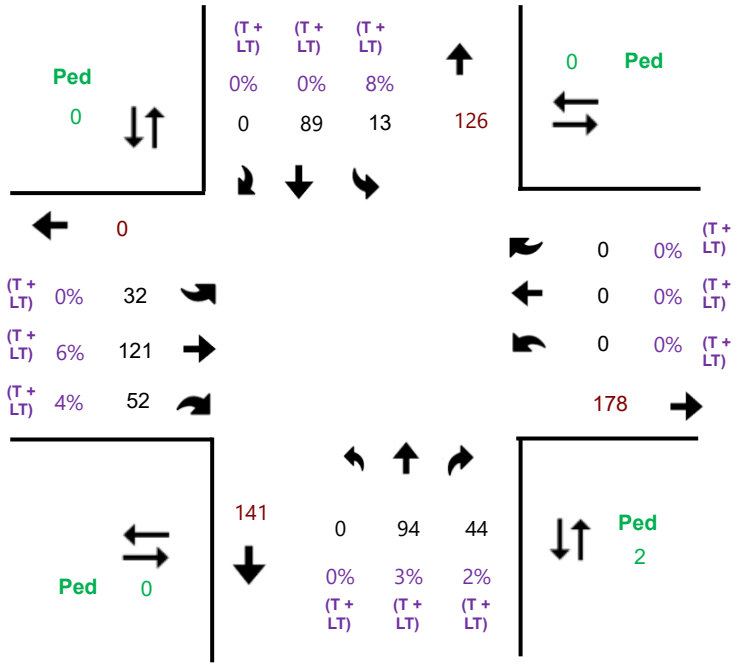


Ontario

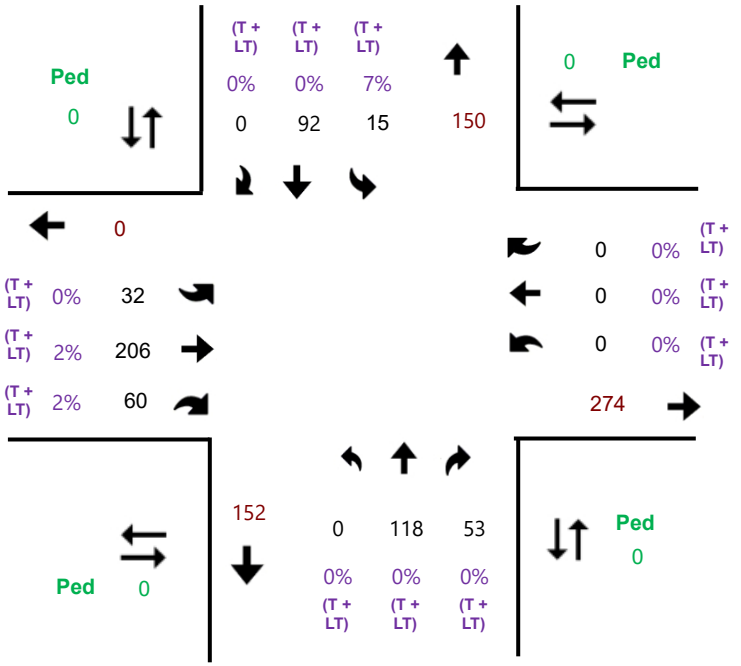
TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: HWY 1 @ MAPLE AVE - RAMP 88
Region CENTRAL **Hwy #:** HWY 1
LHRS_Offset: 10083_0070_88T **Int. Type:**
Count Date: Tuesday, 30 July, 2024

MD Period Tue, 30 Jul, 2024 01:00 PM - 02:00 PM



PM Period Tue, 30 Jul, 2024 03:45 PM - 04:45 PM

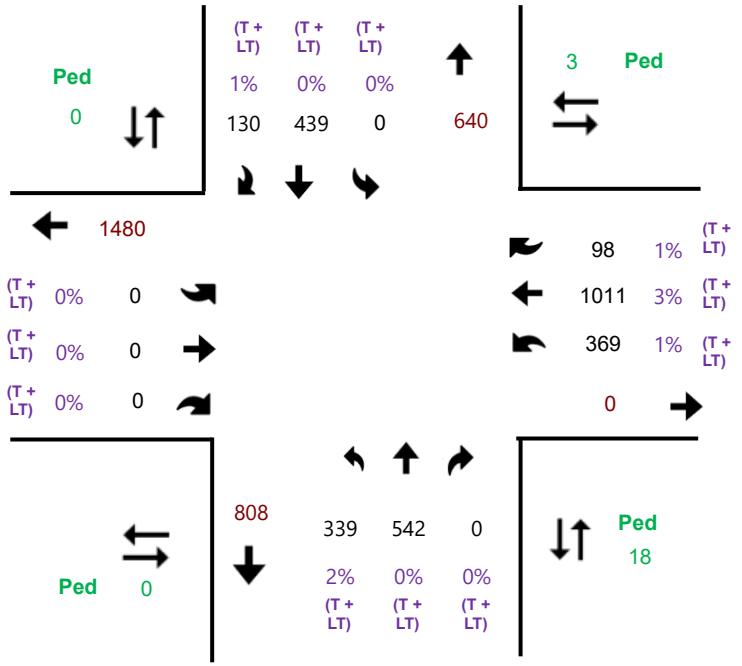


Ontario

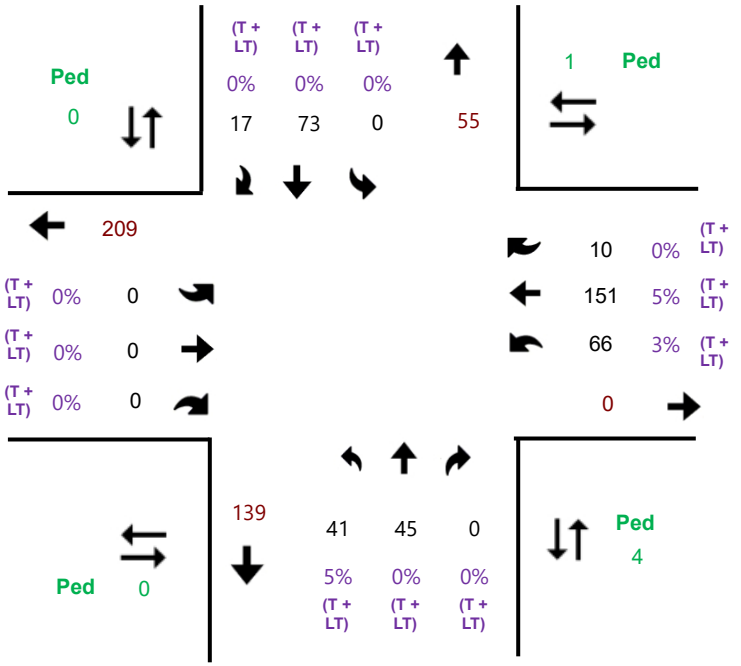
TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: HWY 1 @ MAPLE AVE - RAMP 61
Region CENTRAL
Hwy #: HWY 1
LHRS_Offset: 10083_0000_61T
Int. Type: Cross
Count Date: Tuesday, 30 July, 2024

Full Study Tue, 30 Jul, 2024 07:00 AM - 06:00 PM



AM Period Tue, 30 Jul, 2024 08:00 AM - 09:00 AM

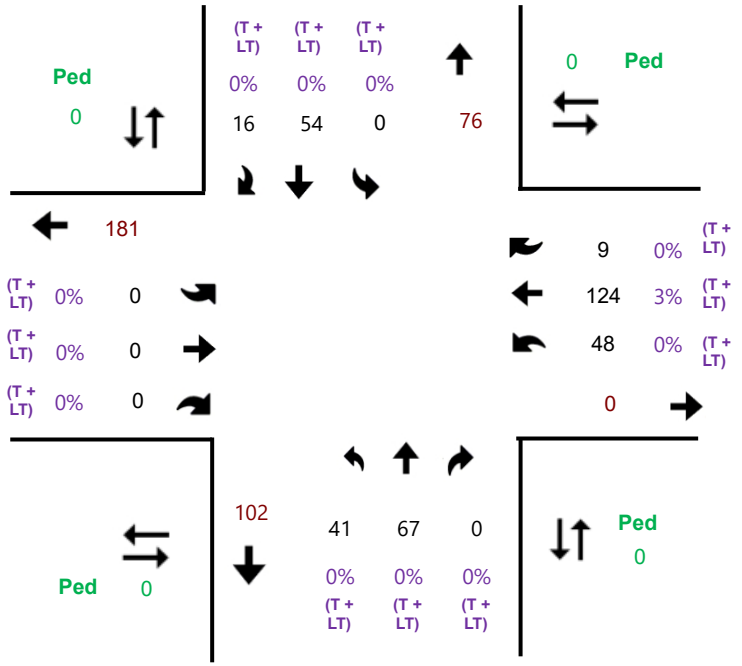


Ontario

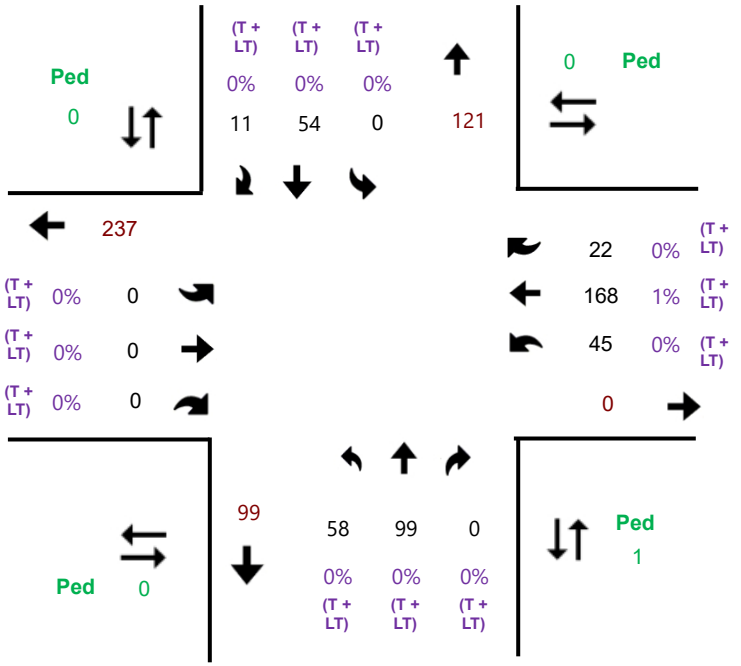
TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: HWY 1 @ MAPLE AVE - RAMP 61
Region CENTRAL
Hwy #: HWY 1
LHRS_Offset: 10083_0000_61T
Int. Type: Cross
Count Date: Tuesday, 30 July, 2024

MD Period Tue, 30 Jul, 2024 12:15 PM - 01:15 PM



PM Period Tue, 30 Jul, 2024 04:00 PM - 05:00 PM



Ontario

TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: HWY 1 @ ONTARIO ST (GRIMSBY) - RAMP 87

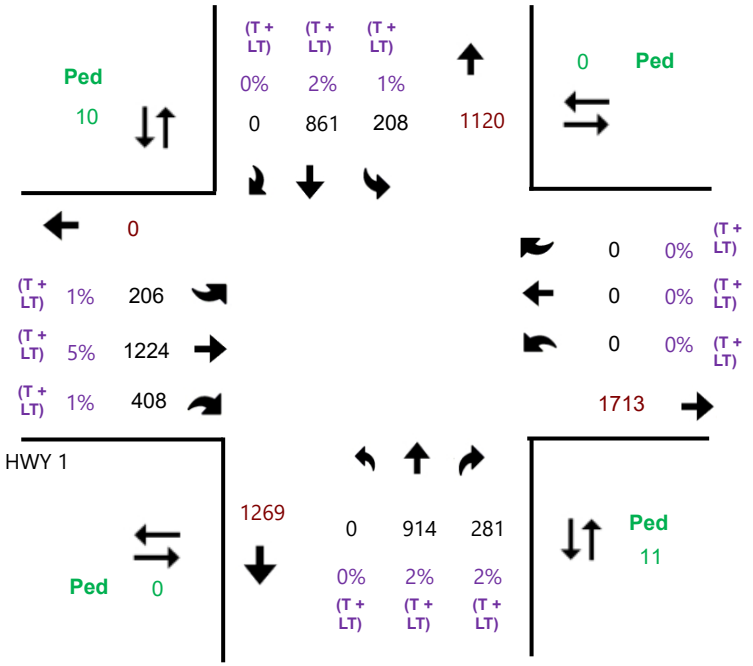
Region CENTRAL **Hwy #:** HWY 1

LHRS_Offset: 10083_0027_87T **Int. Type:** Cross

Count Date: Tuesday, 30 July, 2024

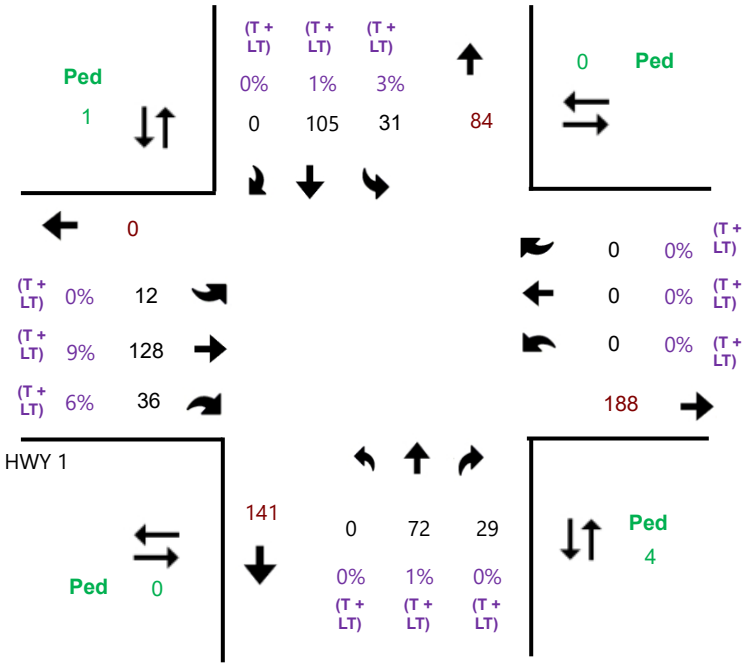
Full Study Tue, 30 Jul, 2024 07:00 AM - 06:00 PM

ONTARIO ST (GRIMSBY) - RAMP 87



AM Period Tue, 30 Jul, 2024 08:00 AM - 09:00 AM

ONTARIO ST (GRIMSBY) - RAMP 87



Ontario

TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: HWY 1 @ ONTARIO ST (GRIMSBY) - RAMP 87

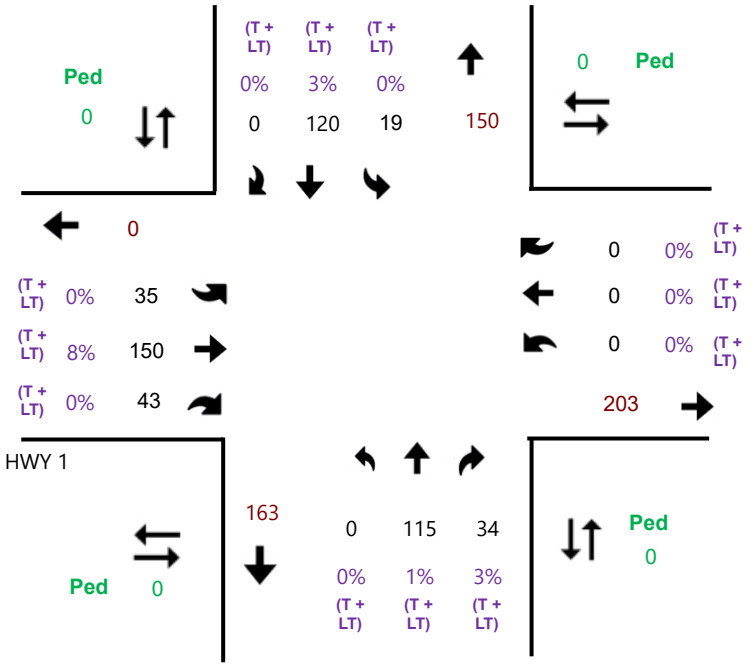
Region CENTRAL **Hwy #:** HWY 1

LHRS_Offset: 10083_0027_87T **Int. Type:** Cross

Count Date: Tuesday, 30 July, 2024

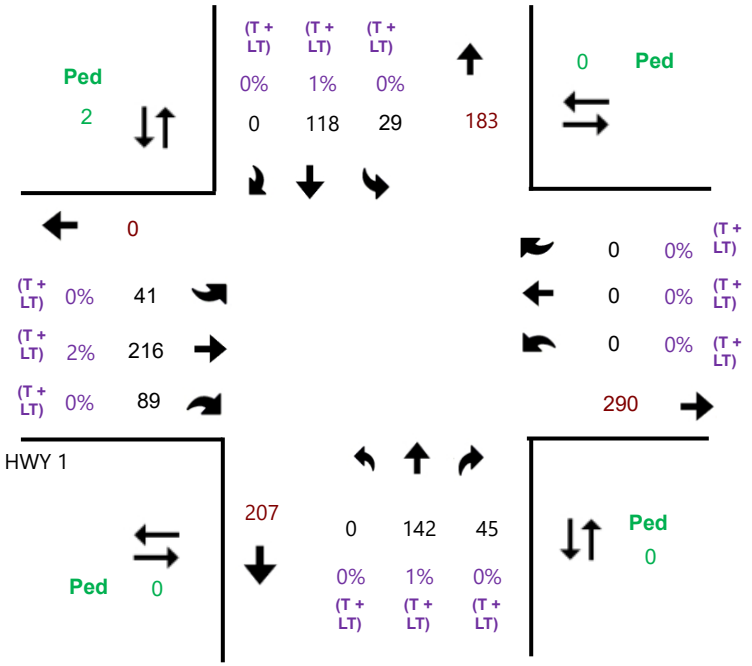
MD Period Tue, 30 Jul, 2024 12:30 PM - 01:30 PM

ONTARIO ST (GRIMSBY) - RAMP 87



PM Period Tue, 30 Jul, 2024 04:15 PM - 05:15 PM

ONTARIO ST (GRIMSBY) - RAMP 87



Ontario

TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

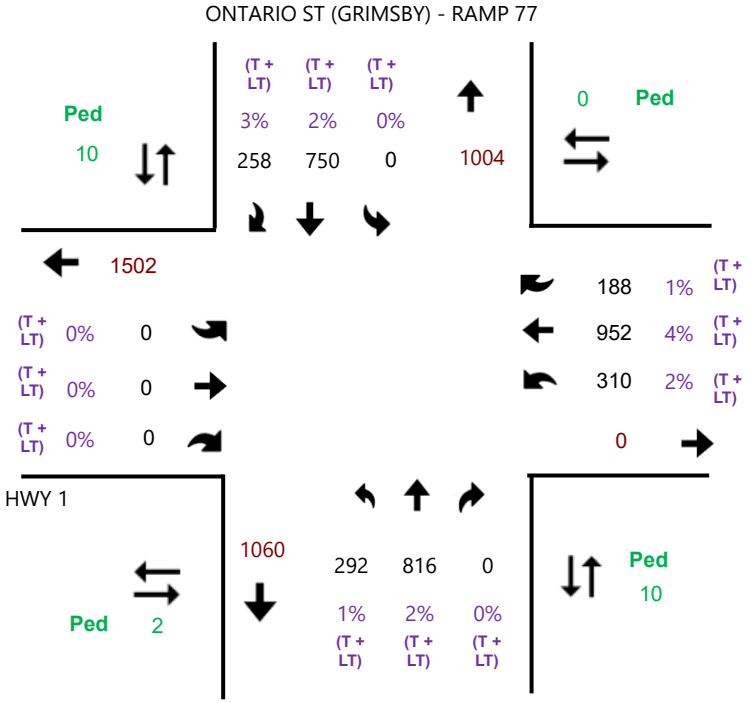
Description: HWY 1 @ ONTARIO ST (GRIMSBY) - RAMP 77

Region CENTRAL **Hwy #:** HWY 1

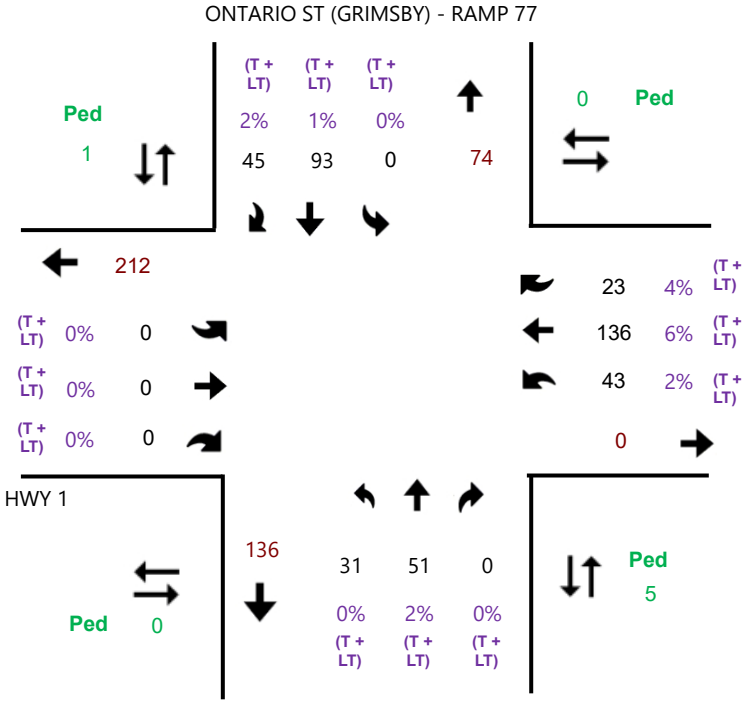
LHRS_Offset: 10083_0027_77T **Int. Type:** Cross

Count Date: Tuesday, 30 July, 2024

Full Study Tue, 30 Jul, 2024 07:00 AM - 06:00 PM



AM Period Tue, 30 Jul, 2024 08:00 AM - 09:00 AM

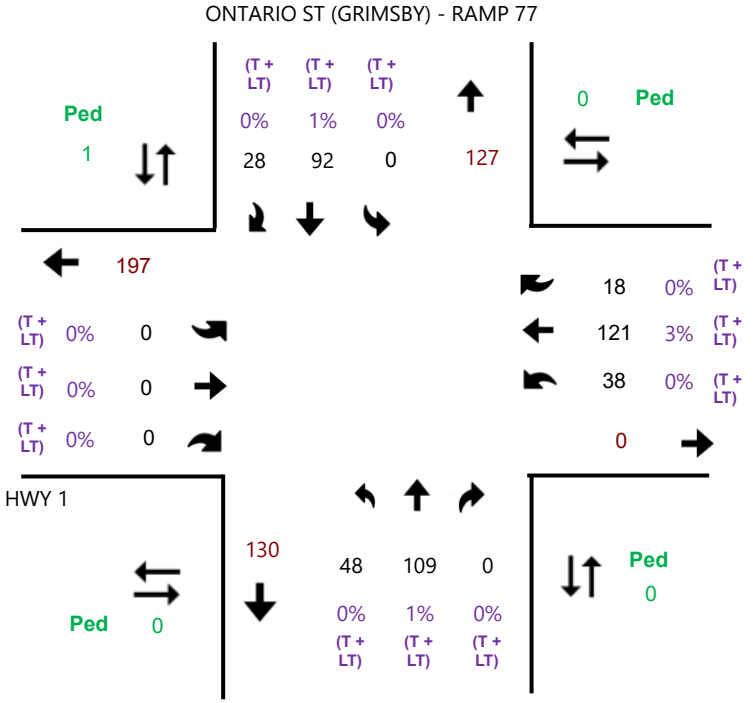


Ontario

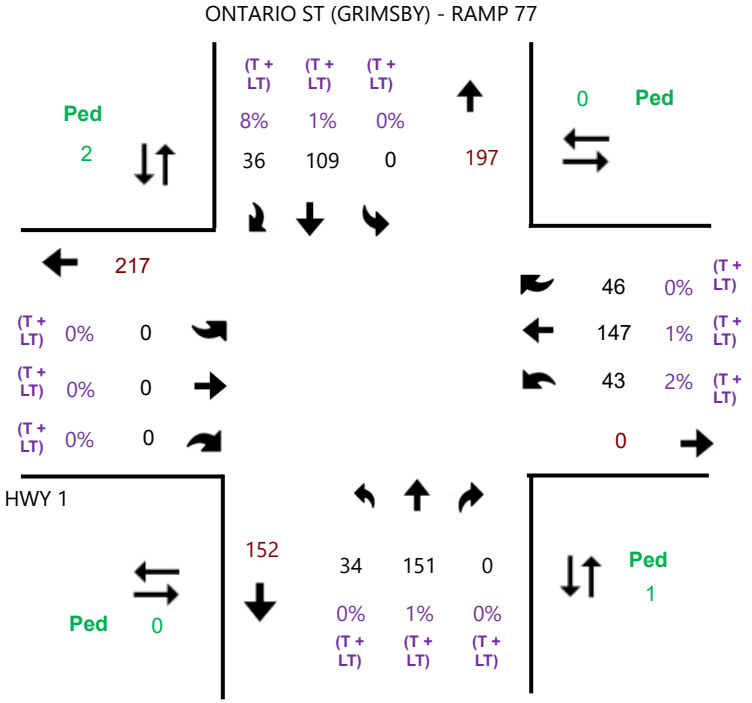
TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: HWY 1 @ ONTARIO ST (GRIMSBY) - RAMP 77
Region CENTRAL
Hwy #: HWY 1
LHRS_Offset: 10083_0027_77T
Int. Type: Cross
Count Date: Tuesday, 30 July, 2024

MD Period Tue, 30 Jul, 2024 11:45 AM - 12:45 PM



PM Period Tue, 30 Jul, 2024 04:30 PM - 05:30 PM



Appendix E:
Signal Timing Plans

Signal Code: 012QES

Intersection: RR12 (CHRISTIE ST.) & QEW EBD OFF-RAMP

Municipality: grimsby

Owner: MTO

Last Modified: 2020-05-13 2:14:55 PM

Timing Parameters	NBD & SBD CHRISTIE	EBD QEW OFF-RAMP	n/a	n/a	n/a	n/a
Min Green	8	8	0	0	0	0
Walk	7	0	0	0	0	0
Ped Clearance	7	7	0	0	0	0
Vehicle Ext.	2.1	2.3	0	0	0	0
Max Green	25	25	0	0	0	0
Yellow	4	4	0	0	0	0
All Red	3.2	2.8	0	0	0	0

		Offset
Minimum Cycle	30	0
Pedestrian Cycle	35	
Maximum Cycle	64	0
Operation	FA	

Installed On:	2020-05-13
Count Date:	--/--/----

FA = Fully Actuated SA = Semi Actuated FT = Fixed Time

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Signal Code: 081ELM

Intersection: RR81 (MAIN ST.) & ELM ST.

Municipality: grimsby

Owner: Region

Last Modified: 2024-11-25 10:23:11 AM

Timing Parameters	WBD TH (SPLIT)	EBD TH (SPLIT)	NBD ELM (SPLIT)	n/a	n/a	n/a
Min Green	10	10	8	0	0	0
Walk	10	10	10	0	0	0
Ped Clearance	14	14	12	0	0	0
Vehicle Ext.	2.5	2.5	2.5	0	0	0
Max Green	40	35	25	0	0	0
Yellow	4.1	4.1	4.1	0	0	0
All Red	2.2	2.2	2.5	0	0	0

		Offset
Minimum Cycle	47.2	0
Pedestrian Cycle	89.2	
Maximum Cycle	119.2	0
Operation	SA	

Installed On:	2011-04-29
Count Date:	--/--/----

FA = Fully Actuated SA = Semi Actuated FT = Fixed Time

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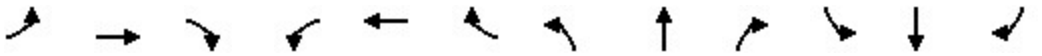
Appendix F:
Delay Studies

Project No: 8333-01
Project: 1-21 John & 46-50 Ontario
Study Location: Christie St & QEW WB Ramps - East Approach
Municipality: Grimsby
Study Date: Thursday December 4, 2026
Study Time: 8:15 - 9:15 & 16:30 - 17:30

Delay Study

	Overall Delay (sec)	Left Turn Delay (sec)	Through Delay (sec)	Right Turn Delay (sec)	Courtesy Gap (sec)			2-Stage Gap (sec)		
					Left Turn	Through	Right Turn	Left Turn	Through	Right Turn
AM Peak Hour										
Minimum Delay	0	4	0	1	-	-	-	-	-	-
Average Delay	23	28	21	8	-	-	-	-	-	-
85th Percentile	39	48	37	14	-	-	-	-	-	-
95th Percentile	57	71	52	16	-	-	-	-	-	-
Maximum Delay	99	99	70	23	-	-	-	-	-	-
Total Vehicles Measured	273	103	145	25	0	0	0	0	0	0
Total from Traffic Count	269	101	142	26	n/a	n/a	n/a	n/a	n/a	n/a
Sample	101%	102%	102%	96%	n/a	n/a	n/a	n/a	n/a	n/a
PM Peak Hour										
Minimum Delay	0	3	2	0	-	-	-	-	-	-
Average Delay	23	28	21	13	-	-	-	-	-	-
85th Percentile	48	52	41	23	-	-	-	-	-	-
95th Percentile	60	64	59	33	-	-	-	-	-	-
Maximum Delay	85	79	85	72	-	-	-	-	-	-
Total Vehicles Measured	320	108	187	25	0	0	0	0	0	0
Total from Traffic Count	320	113	182	25	n/a	n/a	n/a	n/a	n/a	n/a
Sample	100%	96%	103%	100%	n/a	n/a	n/a	n/a	n/a	n/a

Appendix G:
Synchro Reports

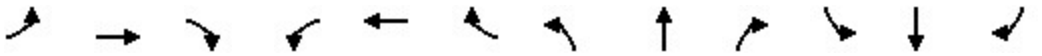


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	100	155	25	255	210	0	0	225	70
Future Volume (Veh/h)	0	0	0	100	155	25	255	210	0	0	225	70
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	108	167	27	274	226	0	0	242	75
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1051	1054	159	895	1091	113	317			226		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1051	1054	159	895	1091	113	317			226		
tC, single (s)	7.5	6.5	6.9	*6.0	*5.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.9	*2.5	3.3	2.3			2.2		
p0 queue free %	100	100	100	66	44	97	77			100		
cM capacity (veh/h)	83	175	865	322	298	912	1184			1354		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	192	111	274	113	113	161	156
Volume Left	108	0	274	0	0	0	0
Volume Right	0	27	0	0	0	0	75
cSH	311	357	1184	1700	1700	1700	1700
Volume to Capacity	0.62	0.31	0.23	0.07	0.07	0.09	0.09
Queue Length 95th (m)	30.6	10.3	7.2	0.0	0.0	0.0	0.0
Control Delay (s/veh)	33.4	19.6	9.0	0.0	0.0	0.0	0.0
Lane LOS	D	C	A				
Approach Delay (s/veh)	28.4		4.9			0.0	
Approach LOS	D						

Intersection Summary				
Average Delay	9.8			
Intersection Capacity Utilization	45.6%	ICU Level of Service		A
Analysis Period (min)	15			

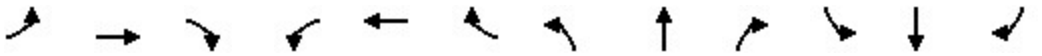
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	105	210	55	45	65	0	0	150	25
Future Volume (Veh/h)	0	0	0	105	210	55	45	65	0	0	150	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	115	231	60	49	71	0	0	165	27
Pedestrians		5										
Lane Width (m)		0.0										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	515	339	170	334	366	71	197			71		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	515	339	170	334	366	71	197			71		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	81	57	94	96			100		
cM capacity (veh/h)	290	565	879	607	543	997	1388			1542		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	231	176	49	71	165	27
Volume Left	115	0	49	0	0	0
Volume Right	0	60	0	0	0	27
cSH	573	643	1388	1700	1700	1700
Volume to Capacity	0.40	0.27	0.04	0.04	0.10	0.02
Queue Length 95th (m)	15.5	8.8	0.9	0.0	0.0	0.0
Control Delay (s/veh)	15.5	12.7	7.7	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	14.3		3.1		0.0	
Approach LOS	B					

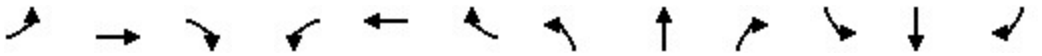
Intersection Summary				
Average Delay	8.6			
Intersection Capacity Utilization	32.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	50	285	5	60	20	0	0	70	25
Future Volume (Veh/h)	0	0	0	50	285	5	60	20	0	0	70	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	55	313	5	66	22	0	0	77	27
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	395	250	91	250	263	16	104			27		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	395	250	91	250	263	16	104			27		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	92	49	100	96			100		
cM capacity (veh/h)	312	625	956	661	612	1061	1485			1593		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	212	162	66	11	11	104
Volume Left	55	0	66	0	0	0
Volume Right	0	5	0	0	0	27
cSH	624	620	1485	1700	1700	1700
Volume to Capacity	0.34	0.26	0.04	0.01	0.01	0.06
Queue Length 95th (m)	12.0	8.3	1.1	0.0	0.0	0.0
Control Delay (s/veh)	13.7	12.8	7.5	0.0	0.0	0.0
Lane LOS	B	B	A			
Approach Delay (s/veh)	13.3		5.7			0.0
Approach LOS	B					

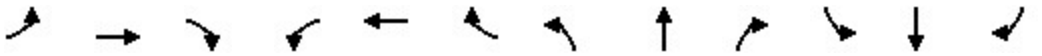
Intersection Summary				
Average Delay	9.7			
Intersection Capacity Utilization	28.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	190	35	0	0	0	0	75	45	20	100	0
Future Volume (Veh/h)	5	190	35	0	0	0	0	75	45	20	100	0
Sign Control		Stop			Stop			Free			Free	
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)	5	202	37	0	0	0	0	80	48	21	106	0
Pedestrians					5							
Lane Width (m)					0.0							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	188	281	106	395	257	69	106			133		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	188	281	106	395	257	69	106			133		
tC, single (s)	7.9	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	67	96	100	100	100	100			99		
cM capacity (veh/h)	701	610	925	384	641	986	1498			1464		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	106	138	53	75	21	106
Volume Left	5	0	0	0	21	0
Volume Right	0	37	0	48	0	0
cSH	614	672	1700	1700	1464	1700
Volume to Capacity	0.17	0.21	0.03	0.04	0.01	0.06
Queue Length 95th (m)	5.0	6.1	0.0	0.0	0.3	0.0
Control Delay (s/veh)	12.1	11.7	0.0	0.0	7.5	0.0
Lane LOS	B	B			A	
Approach Delay (s/veh)	11.9		0.0		1.2	
Approach LOS	B					

Intersection Summary				
Average Delay	6.1			
Intersection Capacity Utilization	28.0%	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)	10	130	75	0	0	0	0	115	50	50	230	0
Future Volume (Veh/h)	10	130	75	0	0	0	0	115	50	50	230	0
Sign Control		Stop			Stop			Free			Free	
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)	10	135	78	0	0	0	0	120	52	52	240	0
Pedestrians		5										
Lane Width (m)		3.6										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	469	521	245	610	469	120	245			172		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	469	521	245	610	469	120	245			172		
tC, single (s)	7.1	6.6	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	69	90	100	100	100	100			96		
cM capacity (veh/h)	490	430	788	271	475	937	1327			1393		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	78	146	120	52	52	240
Volume Left	10	0	0	0	52	0
Volume Right	0	78	0	52	0	0
cSH	437	569	1700	1700	1393	1700
Volume to Capacity	0.18	0.26	0.07	0.03	0.04	0.14
Queue Length 95th (m)	5.1	8.1	0.0	0.0	0.9	0.0
Control Delay (s/veh)	15.0	13.5	0.0	0.0	7.7	0.0
Lane LOS	C	B			A	
Approach Delay (s/veh)	14.0		0.0		1.4	
Approach LOS	B					

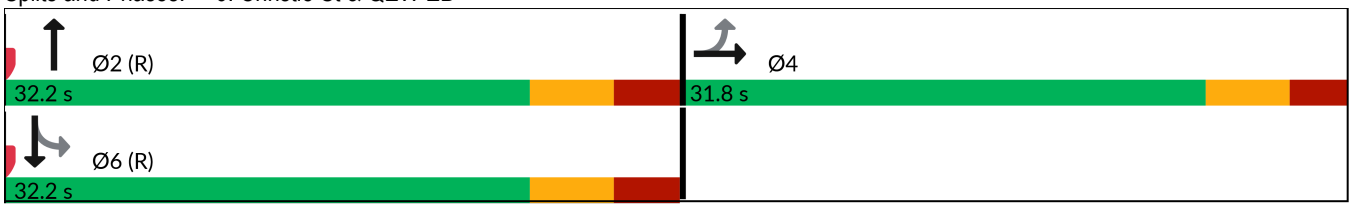
Intersection Summary				
Average Delay	5.1			
Intersection Capacity Utilization	32.7%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	115	430	25	300
Future Volume (vph)	115	430	25	300
Lane Group Flow (vph)	342	549	27	326
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.57	0.25	0.05	0.14
Control Delay (s/veh)	15.7	5.2	5.4	5.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.7	5.2	5.4	5.1
Queue Length 50th (m)	9.8	11.8	1.1	7.0
Queue Length 95th (m)	19.8	21.7	4.2	13.7
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1360	2215	524	2273
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.25	0.05	0.14

Intersection Summary

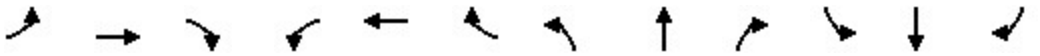
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 6: Christie St & QEW EB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	115	165	0	0	0	0	430	75	25	300	0
Future Volume (vph)	35	115	165	0	0	0	0	430	75	25	300	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frt		0.92						0.98		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3207						3426		1736	3539	
Flt Permitted		0.99						1.00		0.45	1.00	
Satd. Flow (perm)		3207						3426		816	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	125	179	0	0	0	0	467	82	27	326	0
RTOR Reduction (vph)	0	154	0	0	0	0	0	13	0	0	0	0
Lane Group Flow (vph)	0	188	0	0	0	0	0	536	0	27	326	0
Heavy Vehicles (%)	3%	2%	4%	0%	0%	0%	0%	3%	3%	4%	2%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		8.9						41.1		41.1	41.1	
Effective Green, g (s)		8.9						41.1		41.1	41.1	
Actuated g/C Ratio		0.14						0.64		0.64	0.64	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		445						2200		524	2272	
v/s Ratio Prot								c0.16			0.09	
v/s Ratio Perm		0.06								0.03		
v/c Ratio		0.42						0.24		0.05	0.14	
Uniform Delay, d1		25.2						4.9		4.2	4.5	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.6						0.3		0.2	0.1	
Delay (s)		25.8						5.1		4.4	4.6	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		25.8			0.0			5.1			4.6	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	95	15	35	185	65	15	95	55	95	125	70
Future Volume (Veh/h)	10	95	15	35	185	65	15	95	55	95	125	70
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)	11	106	17	39	206	72	17	106	61	106	139	78
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	736	591	109	522	600	137	217			167		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	736	591	109	522	600	137	217			167		
tC, single (s)	7.7	6.5	7.1	7.5	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3			2.3		
p0 queue free %	92	72	98	88	44	92	99			92		
cM capacity (veh/h)	143	381	893	318	371	884	1314			1380		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	134	317	184	176	148
Volume Left	11	39	17	106	0
Volume Right	17	72	61	0	78
cSH	358	418	1314	1380	1700
Volume to Capacity	0.37	0.76	0.01	0.08	0.09
Queue Length 95th (m)	13.5	50.4	0.3	2.0	0.0
Control Delay (s/veh)	20.9	36.1	0.8	5.0	0.0
Lane LOS	C	E	A	A	
Approach Delay (s/veh)	20.9	36.1	0.8	2.7	
Approach LOS	C	E			

Intersection Summary				
Average Delay	16.0			
Intersection Capacity Utilization	49.9%	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)	25	320	15	25	445	30	20	5	25	10	5	20
Future Volume (Veh/h)	25	320	15	25	445	30	20	5	25	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	28	356	17	28	494	33	22	6	28	11	6	22
Pedestrians					10			10			5	
Lane Width (m)					3.6			3.6			3.6	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					1			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked												
vC, conflicting volume	532			383			1022	1019	385	1033	1011	516
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	532			383			1022	1019	385	1033	1011	516
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			98			89	97	96	94	97	96
cM capacity (veh/h)	983			1177			192	224	656	187	226	549

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	401	555	22	34	11	28
Volume Left	28	28	22	0	11	0
Volume Right	17	33	0	28	0	22
cSH	983	1177	192	490	187	421
Volume to Capacity	0.03	0.02	0.11	0.07	0.06	0.07
Queue Length 95th (m)	0.7	0.6	3.1	1.8	1.5	1.7
Control Delay (s/veh)	0.9	0.7	26.2	12.9	25.4	14.2
Lane LOS	A	A	D	B	D	B
Approach Delay (s/veh)	0.9	0.7	18.1		17.3	
Approach LOS			C		C	

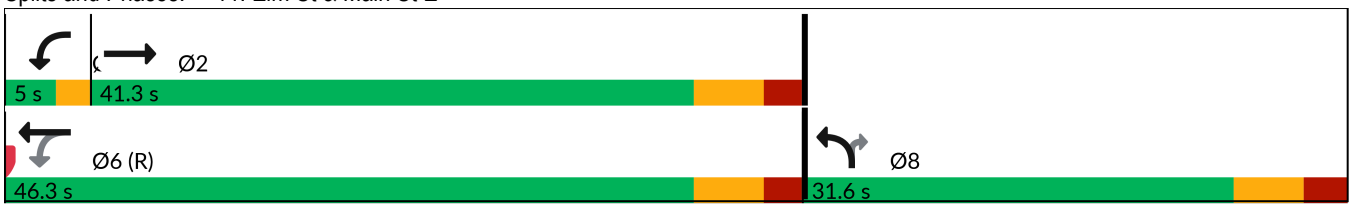
Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	48.2%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	255	155	330	20	165
Future Volume (vph)	255	155	330	20	165
Lane Group Flow (vph)	373	207	440	27	220
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	2.0	8.0	10.0	10.0
Minimum Split (s)	30.3	4.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.36	0.27	0.34	0.12	0.55
Control Delay (s/veh)	10.5	3.6	5.6	30.6	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	10.5	3.6	5.6	30.6	10.4
Queue Length 50th (m)	27.2	6.6	21.7	3.8	0.0
Queue Length 95th (m)	39.8	10.7	29.6	8.8	9.7
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1043	776	1292	551	657
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.27	0.34	0.05	0.33

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

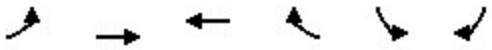
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	255	25	155	330	20	165
Future Volume (vph)	255	25	155	330	20	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		0.99	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1820		1776	1845	1719	1583
Flt Permitted	1.00		0.49	1.00	0.95	1.00
Satd. Flow (perm)	1820		914	1845	1719	1583
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	340	33	207	440	27	220
RTOR Reduction (vph)	3	0	0	0	0	191
Lane Group Flow (vph)	370	0	207	440	27	29
Confl. Peds. (#/hr)		15	15			
Heavy Vehicles (%)	3%	0%	1%	3%	5%	2%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	44.6		54.6	54.6	10.4	10.4
Effective Green, g (s)	44.6		54.6	54.6	10.4	10.4
Actuated g/C Ratio	0.57		0.70	0.70	0.13	0.13
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1042		729	1293	229	211
v/s Ratio Prot	0.20		0.03	c0.24	0.02	
v/s Ratio Perm			0.17			c0.02
v/c Ratio	0.35		0.28	0.34	0.12	0.14
Uniform Delay, d1	8.9		4.1	4.6	29.7	29.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.2	0.7	0.2	0.2
Delay (s)	9.1		4.3	5.3	29.9	30.0
Level of Service	A		A	A	C	C
Approach Delay (s/veh)	9.1			5.0	30.0	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	75	250	305	45	30	70
Future Volume (Veh/h)	75	250	305	45	30	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	87	291	355	52	35	81
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	412				851	386
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	306				788	277
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	92				88	88
cM capacity (veh/h)	1128				297	693

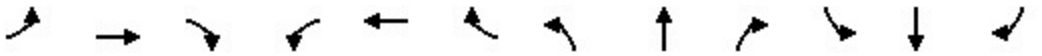
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	378	407	35	81
Volume Left	87	0	35	0
Volume Right	0	52	0	81
cSH	1128	1700	297	693
Volume to Capacity	0.08	0.24	0.12	0.12
Queue Length 95th (m)	2.0	0.0	3.2	3.2
Control Delay (s/veh)	2.6	0.0	18.7	10.9
Lane LOS	A		C	B
Approach Delay (s/veh)	2.6	0.0	13.3	
Approach LOS			B	

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	30	135	10	20	145
Future Volume (Veh/h)	10	30	135	10	20	145
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	14	42	188	14	28	201
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	452	195			202	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	452	195			202	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	95			98	
cM capacity (veh/h)	557	844			1352	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	56	202	229
Volume Left	14	0	28
Volume Right	42	14	0
cSH	748	1700	1352
Volume to Capacity	0.07	0.12	0.02
Queue Length 95th (m)	1.9	0.0	0.5
Control Delay (s/veh)	10.2	0.0	1.1
Lane LOS	B		A
Approach Delay (s/veh)	10.2	0.0	1.1
Approach LOS	B		

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		

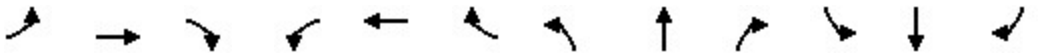


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	115	180	25	195	280	0	0	200	50
Future Volume (Veh/h)	0	0	0	115	180	25	195	280	0	0	200	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	121	189	26	205	295	0	0	211	53
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	916	948	132	816	974	153	264			300		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	916	948	132	816	974	153	264			300		
tC, single (s)	7.5	6.5	6.9	*5.8	*5.7	7.0	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*3.2	*3.2	3.3	2.2			2.2		
p0 queue free %	100	100	100	67	37	97	84			100		
cM capacity (veh/h)	99	220	899	370	301	856	1276			1267		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	216	121	205	148	148	141	123
Volume Left	121	0	205	0	0	0	0
Volume Right	0	26	0	0	0	0	53
cSH	336	350	1276	1700	1700	1700	1700
Volume to Capacity	0.64	0.34	0.16	0.09	0.09	0.08	0.07
Queue Length 95th (m)	33.6	12.0	4.6	0.0	0.0	0.0	0.0
Control Delay (s/veh)	33.0	20.6	8.4	0.0	0.0	0.0	0.0
Lane LOS	D	C	A				
Approach Delay (s/veh)	28.6		3.4			0.0	
Approach LOS	D						

Intersection Summary				
Average Delay	10.3			
Intersection Capacity Utilization	56.6%	ICU Level of Service	B	
Analysis Period (min)	15			

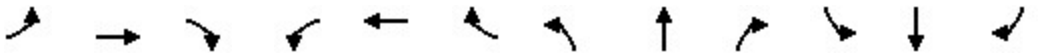
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	55	235	50	45	160	0	0	170	40
Future Volume (Veh/h)	0	0	0	55	235	50	45	160	0	0	170	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	62	267	57	51	182	0	0	193	45
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	668	477	193	477	522	182	238			182		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	668	477	193	477	522	182	238			182		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	87	40	93	96			100		
cM capacity (veh/h)	178	471	854	484	445	866	1341			1405		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	196	191	51	182	193	45
Volume Left	62	0	51	0	0	0
Volume Right	0	57	0	0	0	45
cSH	456	520	1341	1700	1700	1700
Volume to Capacity	0.43	0.37	0.04	0.11	0.11	0.03
Queue Length 95th (m)	16.9	13.3	0.9	0.0	0.0	0.0
Control Delay (s/veh)	18.7	15.9	7.8	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s/veh)	17.3		1.7		0.0	
Approach LOS	C					

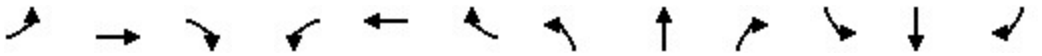
Intersection Summary				
Average Delay	8.2			
Intersection Capacity Utilization	36.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	60	235	10	90	110	0	0	70	15
Future Volume (Veh/h)	0	0	0	60	235	10	90	110	0	0	70	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	65	253	11	97	118	0	0	75	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	474	395	83	395	403	59	91			118		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	474	395	83	395	403	59	91			118		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	87	50	99	94			100		
cM capacity (veh/h)	274	510	966	517	505	1001	1517			1483		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	192	138	97	59	59	91
Volume Left	65	0	97	0	0	0
Volume Right	0	11	0	0	0	16
cSH	509	526	1517	1700	1700	1700
Volume to Capacity	0.38	0.26	0.06	0.03	0.03	0.05
Queue Length 95th (m)	13.9	8.3	1.6	0.0	0.0	0.0
Control Delay (s/veh)	16.3	14.3	7.5	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	15.4		3.4			0.0
Approach LOS	C					

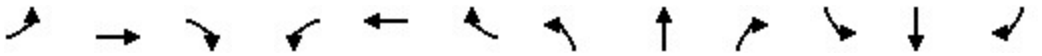
Intersection Summary				
Average Delay	9.1			
Intersection Capacity Utilization	31.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	285	75	0	0	0	0	160	60	10	120	0
Future Volume (Veh/h)	40	285	75	0	0	0	0	160	60	10	120	0
Sign Control		Stop			Stop			Free			Free	
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)	43	303	80	0	0	0	0	170	64	11	128	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	235	384	128	584	352	117	128			234		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	235	384	128	584	352	117	128			234		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	44	91	100	100	100	100			99		
cM capacity (veh/h)	701	544	905	202	571	919	1470			1345		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	195	232	113	121	11	128
Volume Left	43	0	0	0	11	0
Volume Right	0	80	0	64	0	0
cSH	572	631	1700	1700	1345	1700
Volume to Capacity	0.34	0.37	0.07	0.07	0.01	0.08
Queue Length 95th (m)	12.0	13.5	0.0	0.0	0.2	0.0
Control Delay (s/veh)	14.5	14.0	0.0	0.0	7.7	0.0
Lane LOS	B	B			A	
Approach Delay (s/veh)	14.2		0.0		0.6	
Approach LOS	B					

Intersection Summary				
Average Delay	7.7			
Intersection Capacity Utilization	31.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	290	120	0	0	0	0	175	60	50	190	0
Future Volume (Veh/h)	55	290	120	0	0	0	0	175	60	50	190	0
Sign Control		Stop			Stop			Free			Free	
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)	60	315	130	0	0	0	0	190	65	54	207	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	505	570	207	793	505	190	207			255		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	505	570	207	793	505	190	207			255		
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 %	87	24	84	100	100	100	100			96		
cM capacity (veh/h)	466	414	836	95	453	857	1376			1322		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	218	288	190	65	54	207
Volume Left	60	0	0	0	54	0
Volume Right	0	130	0	65	0	0
cSH	427	536	1700	1700	1322	1700
Volume to Capacity	0.51	0.54	0.11	0.04	0.04	0.12
Queue Length 95th (m)	22.5	25.2	0.0	0.0	1.0	0.0
Control Delay (s/veh)	21.9	19.2	0.0	0.0	7.8	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	20.4		0.0		1.6	
Approach LOS	C					

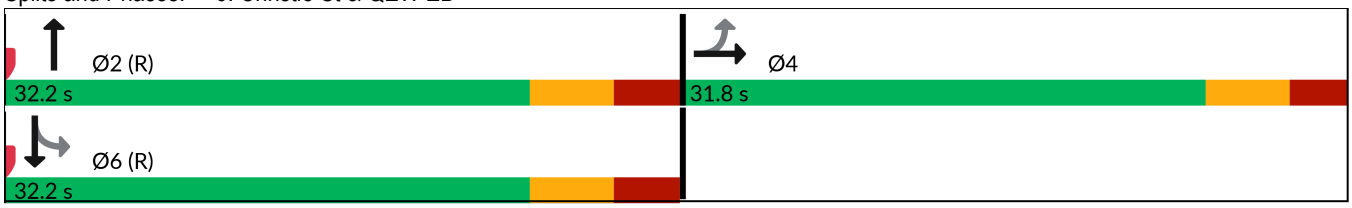
Intersection Summary				
Average Delay	10.5			
Intersection Capacity Utilization	36.0%	ICU Level of Service		A
Analysis Period (min)	15			

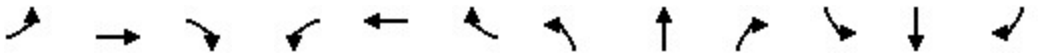
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	270	395	15	300
Future Volume (vph)	270	395	15	300
Lane Group Flow (vph)	685	646	17	337
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.71	0.33	0.04	0.17
Control Delay (s/veh)	16.6	7.3	8.8	8.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.6	7.3	8.8	8.1
Queue Length 50th (m)	22.6	15.8	0.9	9.7
Queue Length 95th (m)	33.6	30.7	4.2	19.3
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1477	1944	430	2017
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.46	0.33	0.04	0.17

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 6: Christie St & QEW EB

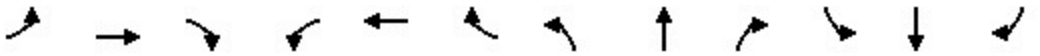




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	270	260	0	0	0	0	395	180	15	300	0
Future Volume (vph)	80	270	260	0	0	0	0	395	180	15	300	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frpb, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		1.00	1.00	
Frt		0.94						0.95		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3329						3373		1805	3610	
Flt Permitted		0.99						1.00		0.41	1.00	
Satd. Flow (perm)		3329						3373		772	3610	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	90	303	292	0	0	0	0	444	202	17	337	0
RTOR Reduction (vph)	0	227	0	0	0	0	0	59	0	0	0	0
Lane Group Flow (vph)	0	458	0	0	0	0	0	587	0	17	337	0
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	2%	2%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		14.2						35.8		35.8	35.8	
Effective Green, g (s)		14.2						35.8		35.8	35.8	
Actuated g/C Ratio		0.22						0.56		0.56	0.56	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		738						1886		431	2019	
v/s Ratio Prot								c0.17			0.09	
v/s Ratio Perm		0.14								0.02		
v/c Ratio		0.62						0.31		0.04	0.17	
Uniform Delay, d1		22.5						7.5		6.4	6.9	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		1.6						0.4		0.2	0.2	
Delay (s)		24.1						8.0		6.5	7.0	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		24.1			0.0			8.0			7.0	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	175	15	25	140	65	20	120	85	145	120	40
Future Volume (Veh/h)	20	175	15	25	140	65	20	120	85	145	120	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	184	16	26	147	68	21	126	89	153	126	42
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	807	710	84	690	687	171	168			215		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	807	710	84	690	687	171	168			215		
tC, single (s)	7.7	6.5	7.1	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	42	98	84	55	92	98			89		
cM capacity (veh/h)	141	316	939	162	324	850	1385			1360		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	221	241	236	216	105
Volume Left	21	26	21	153	0
Volume Right	16	68	89	0	42
cSH	295	347	1385	1360	1700
Volume to Capacity	0.75	0.69	0.02	0.11	0.06
Queue Length 95th (m)	44.7	39.7	0.4	3.0	0.0
Control Delay (s/veh)	46.2	35.9	0.8	5.9	0.0
Lane LOS	E	E	A	A	
Approach Delay (s/veh)	46.2	35.9	0.8	4.0	
Approach LOS	E	E			

Intersection Summary				
Average Delay	19.9			
Intersection Capacity Utilization	48.8%	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	495	20	40	485	20	20	0	40	10	5	20
Future Volume (Veh/h)	20	495	20	40	485	20	20	0	40	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	21	510	21	41	500	21	21	0	41	10	5	21
Pedestrians								15			5	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	526			546			1194	1186	536	1201	1186	516
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	526			530			1188	1180	520	1196	1180	516
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			96			85	100	92	93	97	96
cM capacity (veh/h)	1047			1017			144	174	544	135	174	561

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	552	562	21	41	10	26
Volume Left	21	41	21	0	10	0
Volume Right	21	21	0	41	0	21
cSH	1047	1017	144	544	135	393
Volume to Capacity	0.02	0.04	0.15	0.08	0.07	0.07
Queue Length 95th (m)	0.5	1.0	4.0	1.9	1.9	1.7
Control Delay (s/veh)	0.6	1.1	34.3	12.2	33.7	14.8
Lane LOS	A	A	D	B	D	B
Approach Delay (s/veh)	0.6	1.1	19.7		20.1	
Approach LOS			C		C	

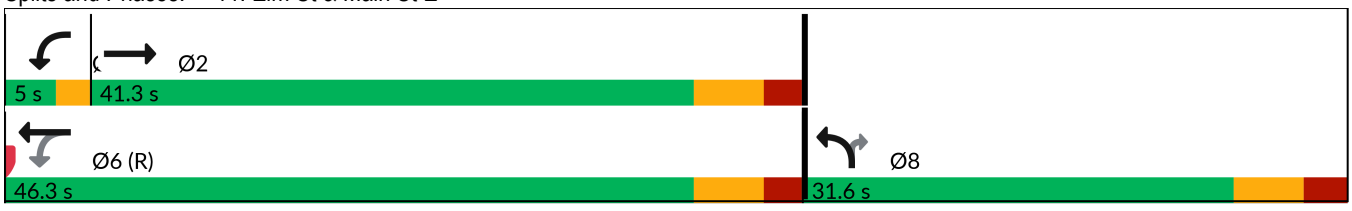
Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	57.5%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	295	225	315	45	265
Future Volume (vph)	295	225	315	45	265
Lane Group Flow (vph)	386	245	342	49	288
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	2.0	8.0	10.0	10.0
Minimum Split (s)	30.3	4.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.38	0.32	0.26	0.20	0.63
Control Delay (s/veh)	11.2	4.2	5.2	31.1	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	11.2	4.2	5.2	31.1	10.7
Queue Length 50th (m)	28.1	8.0	15.7	6.9	0.0
Queue Length 95th (m)	57.8	17.9	31.5	15.6	20.1
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1027	769	1308	579	685
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.32	0.26	0.08	0.42

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

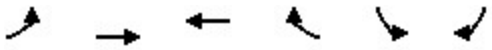
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	295	60	225	315	45	265
Future Volume (vph)	295	60	225	315	45	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		0.99	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1828		1795	1881	1805	1527
Flt Permitted	1.00		0.47	1.00	0.95	1.00
Satd. Flow (perm)	1828		895	1881	1805	1527
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	321	65	245	342	49	288
RTOR Reduction (vph)	8	0	0	0	0	248
Lane Group Flow (vph)	378	0	245	342	49	40
Confl. Peds. (#/hr)		15	15		10	20
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	43.5		54.2	54.2	10.8	10.8
Effective Green, g (s)	43.5		54.2	54.2	10.8	10.8
Actuated g/C Ratio	0.56		0.70	0.70	0.14	0.14
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1020		723	1308	250	211
v/s Ratio Prot	c0.21		c0.04	0.18	c0.03	
v/s Ratio Perm			0.20			0.03
v/c Ratio	0.37		0.34	0.26	0.20	0.19
Uniform Delay, d1	9.6		4.4	4.4	29.7	29.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.3	0.5	0.3	0.3
Delay (s)	9.7		4.7	4.9	30.0	30.0
Level of Service	A		A	A	C	C
Approach Delay (s/veh)	9.7			4.8	30.0	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	115	315	310	50	40	115
Future Volume (Veh/h)	115	315	310	50	40	115
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	122	335	330	53	43	122
Pedestrians					20	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.93				0.93	0.93
vC, conflicting volume	403				956	377
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	323				916	295
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				83	82
cM capacity (veh/h)	1144				250	685

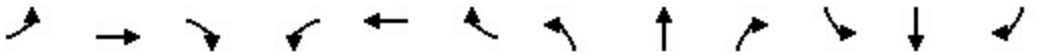
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	457	383	43	122
Volume Left	122	0	43	0
Volume Right	0	53	0	122
cSH	1144	1700	250	685
Volume to Capacity	0.11	0.23	0.17	0.18
Queue Length 95th (m)	2.9	0.0	4.9	5.2
Control Delay (s/veh)	3.1	0.0	22.4	11.4
Lane LOS	A		C	B
Approach Delay (s/veh)	3.1	0.0	14.3	
Approach LOS			B	

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	40	200	15	30	125
Future Volume (Veh/h)	10	40	200	15	30	125
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	46	230	17	34	144
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	456	244			252	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	456	244			252	
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	94			97	
cM capacity (veh/h)	550	797			1320	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	57	247	178
Volume Left	11	0	34
Volume Right	46	17	0
cSH	733	1700	1320
Volume to Capacity	0.08	0.15	0.03
Queue Length 95th (m)	2.0	0.0	0.6
Control Delay (s/veh)	10.3	0.0	1.7
Lane LOS	B		A
Approach Delay (s/veh)	10.3	0.0	1.7
Approach LOS	B		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

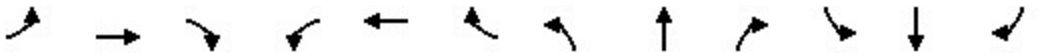


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	125	180	30	290	215	0	0	230	75
Future Volume (Veh/h)	0	0	0	125	180	30	290	215	0	0	230	75
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	134	194	32	312	231	0	0	247	81
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1156	1143	164	979	1183	116	328			231		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1156	1143	164	979	1183	116	328			231		
tC, single (s)	7.5	6.5	6.9	*6.0	*5.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.9	*2.5	3.3	2.3			2.2		
p0 queue free %	100	100	100	52	24	96	73			100		
cM capacity (veh/h)	46	148	858	279	254	909	1173			1349		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	231	129	312	116	116	165	163
Volume Left	134	0	312	0	0	0	0
Volume Right	0	32	0	0	0	0	81
cSH	268	310	1173	1700	1700	1700	1700
Volume to Capacity	0.86	0.42	0.27	0.07	0.07	0.10	0.10
Queue Length 95th (m)	58.2	15.8	8.6	0.0	0.0	0.0	0.0
Control Delay (s/veh)	65.9	24.7	9.2	0.0	0.0	0.0	0.0
Lane LOS	F	C	A				
Approach Delay (s/veh)	51.1		5.3			0.0	
Approach LOS	F						

Intersection Summary				
Average Delay	17.3			
Intersection Capacity Utilization	49.2%	ICU Level of Service	A	
Analysis Period (min)	15			

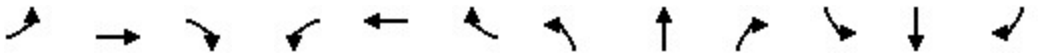
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	115	250	60	55	65	0	0	155	30
Future Volume (Veh/h)	0	0	0	115	250	60	55	65	0	0	155	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	126	275	66	60	71	0	0	170	33
Pedestrians		5										
Lane Width (m)		0.0										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	570	366	175	361	399	71	208			71		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	570	366	175	361	399	71	208			71		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	78	47	93	96			100		
cM capacity (veh/h)	228	541	874	578	515	997	1375			1542		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	264	204	60	71	170	33
Volume Left	126	0	60	0	0	0
Volume Right	0	66	0	0	0	33
cSH	544	611	1375	1700	1700	1700
Volume to Capacity	0.48	0.33	0.04	0.04	0.10	0.02
Queue Length 95th (m)	21.0	11.6	1.1	0.0	0.0	0.0
Control Delay (s/veh)	17.7	13.8	7.7	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	16.0		3.5		0.0	
Approach LOS	C					

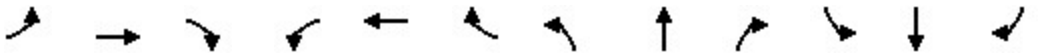
Intersection Summary				
Average Delay	9.9			
Intersection Capacity Utilization	34.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	60	330	5	65	30	0	0	70	30
Future Volume (Veh/h)	0	0	0	60	330	5	65	30	0	0	70	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	66	363	5	71	33	0	0	77	33
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	439	274	94	274	290	22	110			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	439	274	94	274	290	22	110			38		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	90	38	100	95			100		
cM capacity (veh/h)	247	604	952	634	589	1053	1478			1579		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	248	187	71	17	17	110
Volume Left	66	0	71	0	0	0
Volume Right	0	5	0	0	0	33
cSH	600	596	1478	1700	1700	1700
Volume to Capacity	0.41	0.31	0.05	0.01	0.01	0.06
Queue Length 95th (m)	16.1	10.7	1.2	0.0	0.0	0.0
Control Delay (s/veh)	15.1	13.8	7.6	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	14.5		5.2			0.0
Approach LOS	B					

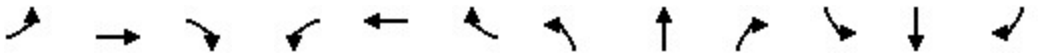
Intersection Summary				
Average Delay	10.6			
Intersection Capacity Utilization	30.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	230	45	0	0	0	0	90	55	20	110	0
Future Volume (Veh/h)	5	230	45	0	0	0	0	90	55	20	110	0
Sign Control		Stop			Stop			Free			Free	
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)	5	245	48	0	0	0	0	96	59	21	117	0
Pedestrians					5							
Lane Width (m)					0.0							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	207	319	117	460	290	83	117			160		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	207	319	117	460	290	83	117			160		
tC, single (s)	7.9	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	58	95	100	100	100	100			99		
cM capacity (veh/h)	678	581	910	308	615	967	1484			1432		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	128	171	64	91	21	117
Volume Left	5	0	0	0	21	0
Volume Right	0	48	0	59	0	0
cSH	584	647	1700	1700	1432	1700
Volume to Capacity	0.22	0.26	0.04	0.05	0.01	0.07
Queue Length 95th (m)	6.6	8.4	0.0	0.0	0.4	0.0
Control Delay (s/veh)	12.9	12.5	0.0	0.0	7.6	0.0
Lane LOS	B	B			A	
Approach Delay (s/veh)	12.7		0.0		1.1	
Approach LOS	B					

Intersection Summary				
Average Delay	6.7			
Intersection Capacity Utilization	30.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	165	90	0	0	0	0	125	60	55	240	0
Future Volume (Veh/h)	10	165	90	0	0	0	0	125	60	55	240	0
Sign Control		Stop			Stop			Free			Free	
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)	10	172	94	0	0	0	0	130	62	57	250	0
Pedestrians		5										
Lane Width (m)		3.6										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	499	561	255	674	499	130	255			192		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	499	561	255	674	499	130	255			192		
tC, single (s)	7.1	6.6	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	58	88	100	100	100	100			96		
cM capacity (veh/h)	466	406	778	211	454	925	1316			1370		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	96	180	130	62	57	250
Volume Left	10	0	0	0	57	0
Volume Right	0	94	0	62	0	0
cSH	412	541	1700	1700	1370	1700
Volume to Capacity	0.23	0.33	0.08	0.04	0.04	0.15
Queue Length 95th (m)	7.1	11.6	0.0	0.0	1.0	0.0
Control Delay (s/veh)	16.4	14.9	0.0	0.0	7.7	0.0
Lane LOS	C	B			A	
Approach Delay (s/veh)	15.4		0.0		1.4	
Approach LOS	C					

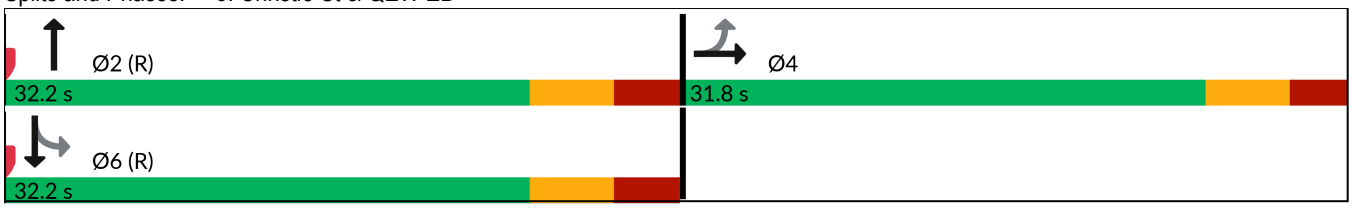
Intersection Summary				
Average Delay	6.1			
Intersection Capacity Utilization	34.5%	ICU Level of Service		A
Analysis Period (min)	15			

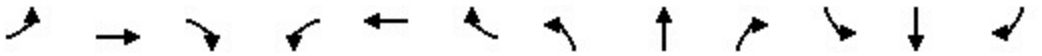
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	135	465	30	325
Future Volume (vph)	135	465	30	325
Lane Group Flow (vph)	407	614	33	353
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.62	0.28	0.07	0.16
Control Delay (s/veh)	15.5	5.7	6.0	5.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.5	5.7	6.0	5.5
Queue Length 50th (m)	11.5	13.8	1.3	8.0
Queue Length 95th (m)	21.9	25.6	5.2	15.6
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1383	2177	484	2241
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.28	0.07	0.16

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

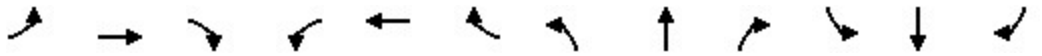
Splits and Phases: 6: Christie St & QEW EB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	135	200	0	0	0	0	465	100	30	325	0
Future Volume (vph)	40	135	200	0	0	0	0	465	100	30	325	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frt		0.92						0.97		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3202						3412		1736	3539	
Flt Permitted		0.99						1.00		0.42	1.00	
Satd. Flow (perm)		3202						3412		766	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	147	217	0	0	0	0	505	109	33	353	0
RTOR Reduction (vph)	0	185	0	0	0	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	222	0	0	0	0	0	597	0	33	353	0
Heavy Vehicles (%)	3%	2%	4%	0%	0%	0%	0%	3%	3%	4%	2%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		9.5						40.5		40.5	40.5	
Effective Green, g (s)		9.5						40.5		40.5	40.5	
Actuated g/C Ratio		0.15						0.63		0.63	0.63	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		475						2159		484	2239	
v/s Ratio Prot								c0.17			0.10	
v/s Ratio Perm		0.07								0.04		
v/c Ratio		0.47						0.28		0.07	0.16	
Uniform Delay, d1		24.9						5.2		4.5	4.8	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.7						0.3		0.3	0.2	
Delay (s)		25.7						5.5		4.8	4.9	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		25.7			0.0			5.5			4.9	
Approach LOS		C			A			A			A	

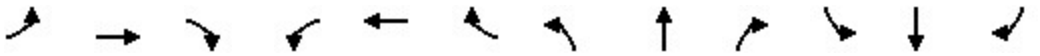
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	100	15	35	200	65	15	115	55	95	150	70
Future Volume (Veh/h)	10	100	15	35	200	65	15	115	55	95	150	70
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)	11	111	17	39	222	72	17	128	61	106	167	78
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	794	641	123	561	650	159	245			189		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	794	641	123	561	650	159	245			189		
tC, single (s)	7.7	6.5	7.1	7.5	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3			2.3		
p0 queue free %	90	69	98	86	36	92	99			92		
cM capacity (veh/h)	112	356	875	288	346	856	1283			1354		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	139	333	206	190	162
Volume Left	11	39	17	106	0
Volume Right	17	72	61	0	78
cSH	324	387	1283	1354	1700
Volume to Capacity	0.43	0.86	0.01	0.08	0.10
Queue Length 95th (m)	16.6	66.4	0.3	2.0	0.0
Control Delay (s/veh)	24.2	50.6	0.8	4.7	0.0
Lane LOS	C	F	A	A	
Approach Delay (s/veh)	24.2	50.6	0.8	2.5	
Approach LOS	C	F			

Intersection Summary				
Average Delay	20.7			
Intersection Capacity Utilization	52.5%	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)	25	370	15	25	520	30	20	5	25	10	5	20
Future Volume (Veh/h)	25	370	15	25	520	30	20	5	25	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	28	411	17	28	578	33	22	6	28	11	6	22
Pedestrians					10			10			5	
Lane Width (m)					3.6			3.6			3.6	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					1			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked												
vC, conflicting volume	616			438			1161	1158	440	1172	1150	600
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	616			438			1161	1158	440	1172	1150	600
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			98			86	97	95	93	97	96
cM capacity (veh/h)	913			1123			152	185	611	149	187	492

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	456	639	22	34	11	28
Volume Left	28	28	22	0	11	0
Volume Right	17	33	0	28	0	22
cSH	913	1123	152	434	149	364
Volume to Capacity	0.03	0.02	0.14	0.08	0.07	0.08
Queue Length 95th (m)	0.8	0.6	3.9	2.0	1.9	2.0
Control Delay (s/veh)	0.9	0.7	32.5	14.0	31.1	15.7
Lane LOS	A	A	D	B	D	C
Approach Delay (s/veh)	0.9	0.7	21.3		20.0	
Approach LOS			C		C	

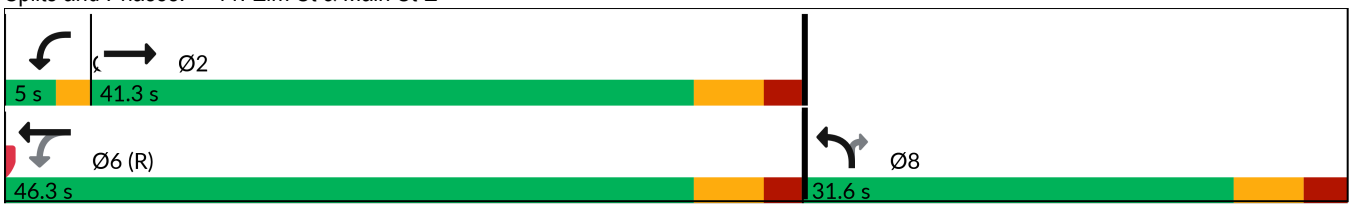
Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	52.7%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	305	160	415	20	165
Future Volume (vph)	305	160	415	20	165
Lane Group Flow (vph)	440	213	553	27	220
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	3.0	8.0	10.0	10.0
Minimum Split (s)	30.3	5.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.42	0.30	0.43	0.12	0.55
Control Delay (s/veh)	11.3	3.9	6.4	30.6	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	11.3	3.9	6.4	30.6	10.4
Queue Length 50th (m)	34.0	6.8	29.8	3.8	0.0
Queue Length 95th (m)	48.1	11.0	39.0	8.8	9.7
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1042	715	1292	551	657
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.30	0.43	0.05	0.33

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

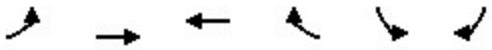
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	305	25	160	415	20	165
Future Volume (vph)	305	25	160	415	20	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1824		1779	1845	1719	1583
Flt Permitted	1.00		0.44	1.00	0.95	1.00
Satd. Flow (perm)	1824		817	1845	1719	1583
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	407	33	213	553	27	220
RTOR Reduction (vph)	3	0	0	0	0	191
Lane Group Flow (vph)	437	0	213	553	27	29
Confl. Peds. (#/hr)		15	15			
Heavy Vehicles (%)	3%	0%	1%	3%	5%	2%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	44.5		54.6	54.6	10.4	10.4
Effective Green, g (s)	44.5		54.6	54.6	10.4	10.4
Actuated g/C Ratio	0.57		0.70	0.70	0.13	0.13
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1041		672	1293	229	211
v/s Ratio Prot	0.24		0.03	c0.30	0.02	
v/s Ratio Perm			0.19			c0.02
v/c Ratio	0.42		0.32	0.43	0.12	0.14
Uniform Delay, d1	9.4		4.3	5.0	29.7	29.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.3	1.0	0.2	0.2
Delay (s)	9.6		4.6	6.0	29.9	30.0
Level of Service	A		A	A	C	C
Approach Delay (s/veh)	9.6			5.6	30.0	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	75	290	370	65	40	85
Future Volume (Veh/h)	75	290	370	65	40	85
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	87	337	430	76	47	99
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	511				984	473
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	370				910	327
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	92				80	84
cM capacity (veh/h)	1026				239	625

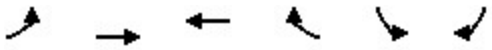
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	424	506	47	99
Volume Left	87	0	47	0
Volume Right	0	76	0	99
cSH	1026	1700	239	625
Volume to Capacity	0.08	0.30	0.20	0.16
Queue Length 95th (m)	2.2	0.0	5.7	4.5
Control Delay (s/veh)	2.6	0.0	23.7	11.8
Lane LOS	A		C	B
Approach Delay (s/veh)	2.6	0.0	15.7	
Approach LOS			C	

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	30	155	10	20	170
Future Volume (Veh/h)	10	30	155	10	20	170
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	14	42	215	14	28	236
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	514	222			229	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	514	222			229	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	95			98	
cM capacity (veh/h)	513	815			1322	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	56	229	264
Volume Left	14	0	28
Volume Right	42	14	0
cSH	710	1700	1322
Volume to Capacity	0.08	0.13	0.02
Queue Length 95th (m)	2.0	0.0	0.5
Control Delay (s/veh)	10.5	0.0	1.0
Lane LOS	B		A
Approach Delay (s/veh)	10.5	0.0	1.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	30	40	0	0	0
Future Volume (Veh/h)	0	30	40	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	33	43	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	43				76	43
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	43				76	43
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1566				927	1027

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	33	43	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1566	1700	1700
Volume to Capacity	0.00	0.03	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s/veh)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s/veh)	0.0	0.0	0.0
Approach LOS			A

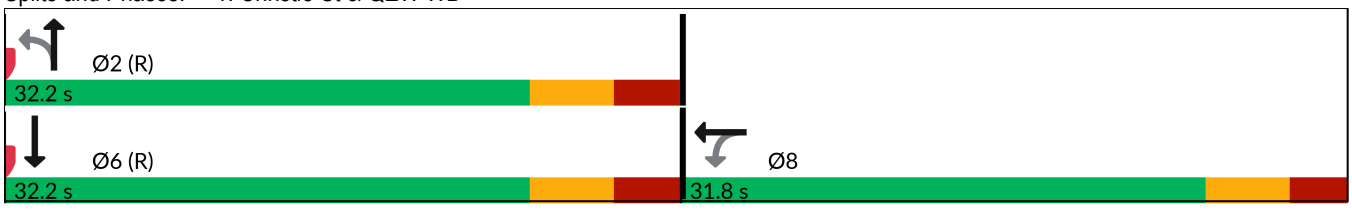
Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		6.7%	ICU Level of Service
Analysis Period (min)		15	

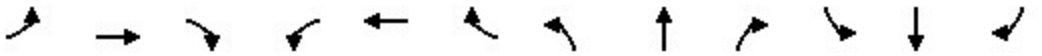
Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	180	290	215	230
Future Volume (vph)	180	290	215	230
Lane Group Flow (vph)	360	312	231	328
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Detector Phase	8	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.56	0.55	0.11	0.16
Control Delay (s/veh)	25.1	8.9	2.1	4.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.1	8.9	2.1	4.9
Queue Length 50th (m)	20.7	22.2	1.2	6.1
Queue Length 95th (m)	30.4	50.7	2.6	12.8
Internal Link Dist (m)	407.1		125.8	172.2
Turn Bay Length (m)		50.0		
Base Capacity (vph)	1361	572	2097	2032
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.55	0.11	0.16

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 1: Christie St & QEW WB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	125	180	30	290	215	0	0	230	75
Future Volume (vph)	0	0	0	125	180	30	290	215	0	0	230	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.8		7.2	7.2			7.2	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frt					0.99		1.00	1.00			0.96	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3453		1641	3505			3342	
Flt Permitted					0.98		0.55	1.00			1.00	
Satd. Flow (perm)					3453		956	3505			3342	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	134	194	32	312	231	0	0	247	81
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	0	0	33	0
Lane Group Flow (vph)	0	0	0	0	344	0	312	231	0	0	295	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	4%	10%	3%	0%	0%	5%	1%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					11.7		38.3	38.3			38.3	
Effective Green, g (s)					11.7		38.3	38.3			38.3	
Actuated g/C Ratio					0.18		0.60	0.60			0.60	
Clearance Time (s)					6.8		7.2	7.2			7.2	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					631		572	2097			1999	
v/s Ratio Prot								0.07			0.09	
v/s Ratio Perm					0.10		c0.33					
v/c Ratio					0.55		0.55	0.11			0.15	
Uniform Delay, d1					23.7		7.7	5.5			5.7	
Progression Factor					0.98		0.57	0.32			1.00	
Incremental Delay, d2					1.0		3.6	0.1			0.2	
Delay (s)					24.3		8.0	1.9			5.8	
Level of Service					C		A	A			A	
Approach Delay (s/veh)		0.0			24.3			5.4			5.8	
Approach LOS		A			C			A			A	

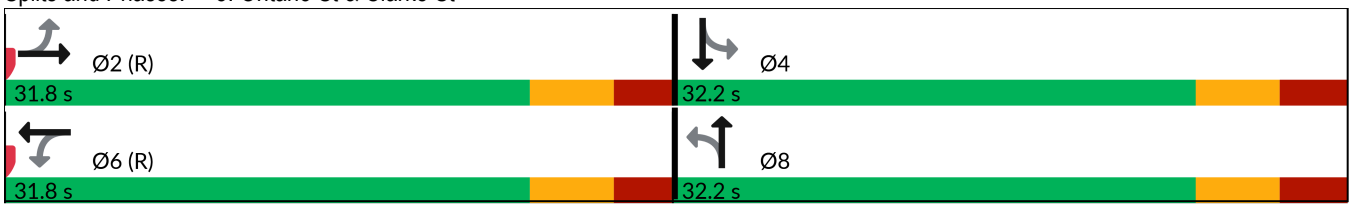
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	100	35	200	15	115	95	150
Future Volume (vph)	10	100	35	200	15	115	95	150
Lane Group Flow (vph)	0	139	0	333	0	206	0	351
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	24.8	25.2	25.2	25.2	25.2
Total Split (s)	31.8	31.8	31.8	31.8	32.2	32.2	32.2	32.2
Total Split (%)	49.7%	49.7%	49.7%	49.7%	50.3%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.8		6.8		7.2		7.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio		0.14		0.33		0.60		0.61
Control Delay (s/veh)		6.7		8.2		25.6		23.1
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		6.7		8.2		25.6		23.1
Queue Length 50th (m)		6.1		16.9		19.0		17.0
Queue Length 95th (m)		16.0		37.8		34.4		26.4
Internal Link Dist (m)		167.5		112.0		146.5		53.2
Turn Bay Length (m)								
Base Capacity (vph)		1029		1006		656		1088
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.14		0.33		0.31		0.32

Intersection Summary

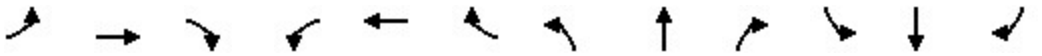
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 8: Ontario St & Clarke St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	100	15	35	200	65	15	115	55	95	150	70
Future Volume (vph)	10	100	15	35	200	65	15	115	55	95	150	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8			6.8			7.2			7.2	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.98			0.97			0.96			0.97	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1795			1764			1738			3332	
Flt Permitted		0.97			0.96			0.93			0.79	
Satd. Flow (perm)		1746			1696			1621			2682	
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)	11	111	17	39	222	72	17	128	61	106	167	78
RTOR Reduction (vph)	0	5	0	0	10	0	0	31	0	0	54	0
Lane Group Flow (vph)	0	134	0	0	323	0	0	175	0	0	297	0
Heavy Vehicles (%)	8%	2%	12%	0%	5%	3%	7%	4%	5%	6%	1%	4%
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)		37.6			37.6			12.4			12.4	
Effective Green, g (s)		37.6			37.6			12.4			12.4	
Actuated g/C Ratio		0.59			0.59			0.19			0.19	
Clearance Time (s)		6.8			6.8			7.2			7.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1025			996			314			519	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.19			0.11			c0.11	
v/c Ratio		0.13			0.32			0.56			0.57	
Uniform Delay, d1		5.9			6.7			23.3			23.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.9			2.1			1.5	
Delay (s)		6.2			7.6			25.4			24.9	
Level of Service		A			A			C			C	
Approach Delay (s/veh)		6.2			7.6			25.4			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

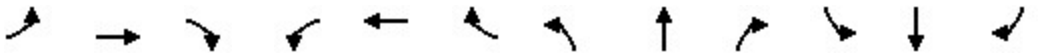


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	135	200	30	235	290	0	0	200	55
Future Volume (Veh/h)	0	0	0	135	200	30	235	290	0	0	200	55
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	142	211	32	247	305	0	0	211	58
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1024	1044	135	910	1073	158	269			310		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1024	1044	135	910	1073	158	269			310		
tC, single (s)	7.5	6.5	6.9	*5.8	*5.7	7.0	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*3.2	*3.2	3.3	2.2			2.2		
p0 queue free %	100	100	100	56	18	96	81			100		
cM capacity (veh/h)	50	185	896	320	256	850	1270			1257		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	248	138	247	153	153	141	128
Volume Left	142	0	247	0	0	0	0
Volume Right	0	32	0	0	0	0	58
cSH	289	306	1270	1700	1700	1700	1700
Volume to Capacity	0.86	0.45	0.19	0.09	0.09	0.08	0.08
Queue Length 95th (m)	59.0	17.7	5.8	0.0	0.0	0.0	0.0
Control Delay (s/veh)	61.5	26.0	8.5	0.0	0.0	0.0	0.0
Lane LOS	F	D	A				
Approach Delay (s/veh)	48.8		3.8			0.0	
Approach LOS	E						

Intersection Summary				
Average Delay	17.3			
Intersection Capacity Utilization	61.7%	ICU Level of Service	B	
Analysis Period (min)	15			

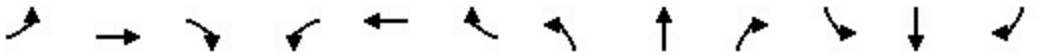
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	65	265	60	55	165	0	0	175	45
Future Volume (Veh/h)	0	0	0	65	265	60	55	165	0	0	175	45
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	74	301	68	62	188	0	0	199	51
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	730	511	199	511	562	188	250			188		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	730	511	199	511	562	188	250			188		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	84	28	92	95			100		
cM capacity (veh/h)	126	447	847	456	418	859	1327			1398		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	225	219	62	188	199	51
Volume Left	74	0	62	0	0	0
Volume Right	0	68	0	0	0	51
cSH	430	498	1327	1700	1700	1700
Volume to Capacity	0.52	0.44	0.05	0.11	0.12	0.03
Queue Length 95th (m)	23.5	17.7	1.2	0.0	0.0	0.0
Control Delay (s/veh)	22.2	17.8	7.8	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s/veh)	20.0		1.9		0.0	
Approach LOS	C					

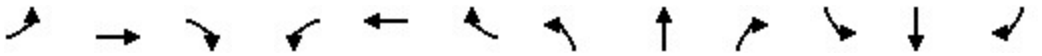
Intersection Summary				
Average Delay	9.9			
Intersection Capacity Utilization	38.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	70	280	10	95	115	0	0	70	15
Future Volume (Veh/h)	0	0	0	70	280	10	95	115	0	0	70	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	75	301	11	102	124	0	0	75	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	511	411	83	411	419	62	91			124		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	511	411	83	411	419	62	91			124		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	85	39	99	93			100		
cM capacity (veh/h)	218	498	966	503	493	996	1517			1475		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	226	162	102	62	62	91
Volume Left	75	0	102	0	0	0
Volume Right	0	11	0	0	0	16
cSH	496	510	1517	1700	1700	1700
Volume to Capacity	0.45	0.32	0.07	0.04	0.04	0.05
Queue Length 95th (m)	18.7	10.8	1.7	0.0	0.0	0.0
Control Delay (s/veh)	18.2	15.3	7.5	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s/veh)	17.0		3.4			0.0
Approach LOS	C					

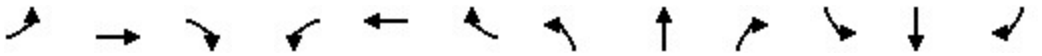
Intersection Summary				
Average Delay	10.4			
Intersection Capacity Utilization	33.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	340	90	0	0	0	0	165	65	10	130	0
Future Volume (Veh/h)	45	340	90	0	0	0	0	165	65	10	130	0
Sign Control		Stop			Stop			Free			Free	
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)	48	362	96	0	0	0	0	176	69	11	138	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	248	405	138	648	371	123	138			245		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	248	405	138	648	371	123	138			245		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	32	89	100	100	100	100			99		
cM capacity (veh/h)	686	529	891	143	558	912	1458			1333		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	229	277	117	128	11	138
Volume Left	48	0	0	0	11	0
Volume Right	0	96	0	69	0	0
cSH	556	616	1700	1700	1333	1700
Volume to Capacity	0.41	0.45	0.07	0.08	0.01	0.08
Queue Length 95th (m)	16.0	18.6	0.0	0.0	0.2	0.0
Control Delay (s/veh)	15.9	15.5	0.0	0.0	7.7	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	15.7		0.0		0.6	
Approach LOS	C					

Intersection Summary				
Average Delay	8.9			
Intersection Capacity Utilization	33.6%	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)	60	350	135	0	0	0	0	185	70	55	200	0
Future Volume (Veh/h)	60	350	135	0	0	0	0	185	70	55	200	0
Sign Control		Stop			Stop			Free			Free	
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)	65	380	147	0	0	0	0	201	76	60	217	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	538	614	217	875	538	201	217			277		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	538	614	217	875	538	201	217			277		
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 %	85	2	82	100	100	100	100			95		
cM capacity (veh/h)	441	388	825	21	432	845	1365			1298		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	255	337	201	76	60	217
Volume Left	65	0	0	0	60	0
Volume Right	0	147	0	76	0	0
cSH	400	505	1700	1700	1298	1700
Volume to Capacity	0.64	0.67	0.12	0.04	0.05	0.13
Queue Length 95th (m)	34.1	39.1	0.0	0.0	1.2	0.0
Control Delay (s/veh)	28.5	25.3	0.0	0.0	7.9	0.0
Lane LOS	D	D			A	
Approach Delay (s/veh)	26.7		0.0		1.7	
Approach LOS	D					

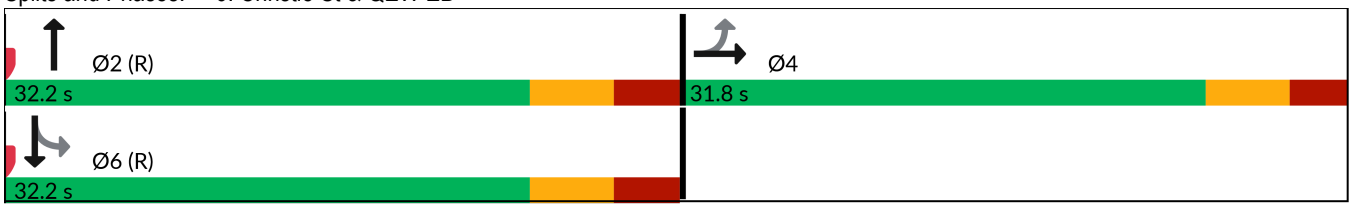
Intersection Summary				
Average Delay	14.2			
Intersection Capacity Utilization	38.8%	ICU Level of Service		A
Analysis Period (min)	15			

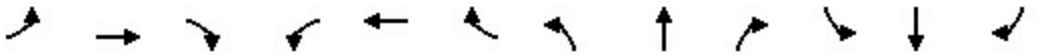
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	310	435	15	320
Future Volume (vph)	310	435	15	320
Lane Group Flow (vph)	786	736	17	360
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.73	0.40	0.05	0.19
Control Delay (s/veh)	16.6	8.3	9.9	9.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.6	8.3	9.9	9.1
Queue Length 50th (m)	27.0	19.4	0.9	11.3
Queue Length 95th (m)	38.0	37.4	4.5	21.9
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1495	1862	364	1917
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.53	0.40	0.05	0.19

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 6: Christie St & QEW EB

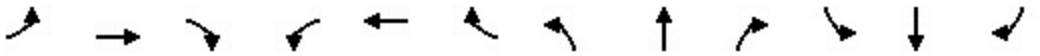




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	310	300	0	0	0	0	435	220	15	320	0
Future Volume (vph)	90	310	300	0	0	0	0	435	220	15	320	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frpb, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		1.00	1.00	
Frt		0.94						0.95		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3328						3361		1805	3610	
Flt Permitted		0.99						1.00		0.36	1.00	
Satd. Flow (perm)		3328						3361		686	3610	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	101	348	337	0	0	0	0	489	247	17	360	0
RTOR Reduction (vph)	0	239	0	0	0	0	0	76	0	0	0	0
Lane Group Flow (vph)	0	547	0	0	0	0	0	660	0	17	360	0
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	2%	2%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		16.0						34.0		34.0	34.0	
Effective Green, g (s)		16.0						34.0		34.0	34.0	
Actuated g/C Ratio		0.25						0.53		0.53	0.53	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		832						1785		364	1917	
v/s Ratio Prot								c0.20			0.10	
v/s Ratio Perm		0.16								0.02		
v/c Ratio		0.66						0.37		0.05	0.19	
Uniform Delay, d1		21.5						8.7		7.2	7.8	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		1.9						0.6		0.2	0.2	
Delay (s)		23.4						9.3		7.5	8.0	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		23.4			0.0			9.3			8.0	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

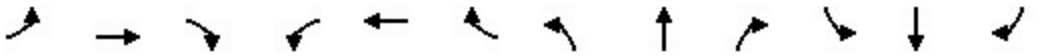
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	190	15	25	145	65	20	140	85	145	145	40
Future Volume (Veh/h)	20	190	15	25	145	65	20	140	85	145	145	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	200	16	26	153	68	21	147	89	153	153	42
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	858	758	98	732	735	192	195			236		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	858	758	98	732	735	192	195			236		
tC, single (s)	7.7	6.5	7.1	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	83	32	98	80	50	92	98			89		
cM capacity (veh/h)	120	295	921	128	303	824	1354			1336		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	237	247	257	230	119
Volume Left	21	26	21	153	0
Volume Right	16	68	89	0	42
cSH	273	312	1354	1336	1700
Volume to Capacity	0.87	0.79	0.02	0.11	0.07
Queue Length 95th (m)	59.6	51.0	0.4	3.1	0.0
Control Delay (s/veh)	66.3	49.0	0.8	5.7	0.0
Lane LOS	F	E	A	A	
Approach Delay (s/veh)	66.3	49.0	0.8	3.7	
Approach LOS	F	E			

Intersection Summary				
Average Delay	26.9			
Intersection Capacity Utilization	51.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	570	20	40	540	20	20	0	40	10	5	20
Future Volume (Veh/h)	20	570	20	40	540	20	20	0	40	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	21	588	21	41	557	21	21	0	41	10	5	21
Pedestrians								15			5	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.92			0.92	0.92	0.92	0.92	0.92	
vC, conflicting volume	583			624			1329	1321	614	1336	1321	573
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	583			549			1314	1305	538	1322	1305	573
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			96			81	100	92	90	96	96
cM capacity (veh/h)	997			938			109	137	498	102	137	521

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	630	619	21	41	10	26
Volume Left	21	41	21	0	10	0
Volume Right	21	21	0	41	0	21
cSH	997	938	109	498	102	338
Volume to Capacity	0.02	0.04	0.19	0.08	0.10	0.08
Queue Length 95th (m)	0.5	1.1	5.4	2.1	2.5	2.0
Control Delay (s/veh)	0.6	1.2	45.8	12.9	43.9	16.5
Lane LOS	A	A	E	B	E	C
Approach Delay (s/veh)	0.6	1.2	24.0		24.1	
Approach LOS			C		C	

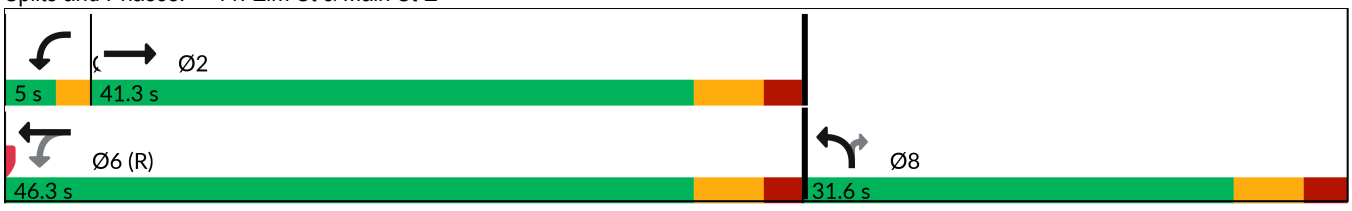
Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	61.3%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	380	225	380	45	265
Future Volume (vph)	380	225	380	45	265
Lane Group Flow (vph)	478	245	413	49	288
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	3.0	8.0	10.0	10.0
Minimum Split (s)	30.3	5.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.46	0.36	0.32	0.20	0.63
Control Delay (s/veh)	12.6	4.5	5.6	31.1	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.6	4.5	5.6	31.1	10.7
Queue Length 50th (m)	37.9	8.0	19.9	6.9	0.0
Queue Length 95th (m)	75.7	17.9	39.0	15.6	20.1
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1032	684	1308	579	685
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.36	0.32	0.08	0.42

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

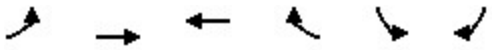
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	380	60	225	380	45	265
Future Volume (vph)	380	60	225	380	45	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1838		1798	1881	1805	1527
Flt Permitted	1.00		0.40	1.00	0.95	1.00
Satd. Flow (perm)	1838		762	1881	1805	1527
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	413	65	245	413	49	288
RTOR Reduction (vph)	6	0	0	0	0	248
Lane Group Flow (vph)	472	0	245	413	49	40
Confl. Peds. (#/hr)		15	15		10	20
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	43.5		54.2	54.2	10.8	10.8
Effective Green, g (s)	43.5		54.2	54.2	10.8	10.8
Actuated g/C Ratio	0.56		0.70	0.70	0.14	0.14
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1026		645	1308	250	211
v/s Ratio Prot	c0.26		c0.04	0.22	c0.03	
v/s Ratio Perm			0.22			0.03
v/c Ratio	0.46		0.38	0.32	0.20	0.19
Uniform Delay, d1	10.2		4.8	4.6	29.7	29.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.4	0.6	0.3	0.3
Delay (s)	10.5		5.1	5.3	30.0	30.0
Level of Service	B		A	A	C	C
Approach Delay (s/veh)	10.5			5.2	30.0	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	115	380	355	70	55	125
Future Volume (Veh/h)	115	380	355	70	55	125
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	122	404	378	74	59	133
Pedestrians					20	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	472				1083	435
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	374				1043	333
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				71	79
cM capacity (veh/h)	1073				204	638

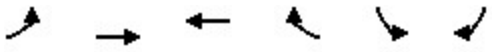
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	526	452	59	133
Volume Left	122	0	59	0
Volume Right	0	74	0	133
cSH	1073	1700	204	638
Volume to Capacity	0.11	0.27	0.29	0.21
Queue Length 95th (m)	3.1	0.0	9.2	6.2
Control Delay (s/veh)	3.0	0.0	29.7	12.1
Lane LOS	A		D	B
Approach Delay (s/veh)	3.0	0.0	17.5	
Approach LOS			C	

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	40	220	15	30	150
Future Volume (Veh/h)	10	40	220	15	30	150
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	46	253	17	34	172
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	507	267			275	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	507	267			275	
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	94			97	
cM capacity (veh/h)	513	774			1294	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	57	270	206
Volume Left	11	0	34
Volume Right	46	17	0
cSH	705	1700	1294
Volume to Capacity	0.08	0.16	0.03
Queue Length 95th (m)	2.1	0.0	0.6
Control Delay (s/veh)	10.6	0.0	1.5
Lane LOS	B		A
Approach Delay (s/veh)	10.6	0.0	1.5
Approach LOS	B		

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	45	50	0	0	0
Future Volume (Veh/h)	0	45	50	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	49	54	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	54				103	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	54				103	54
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1551				895	1013

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	49	54	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1551	1700	1700
Volume to Capacity	0.00	0.03	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s/veh)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s/veh)	0.0	0.0	0.0
Approach LOS			A

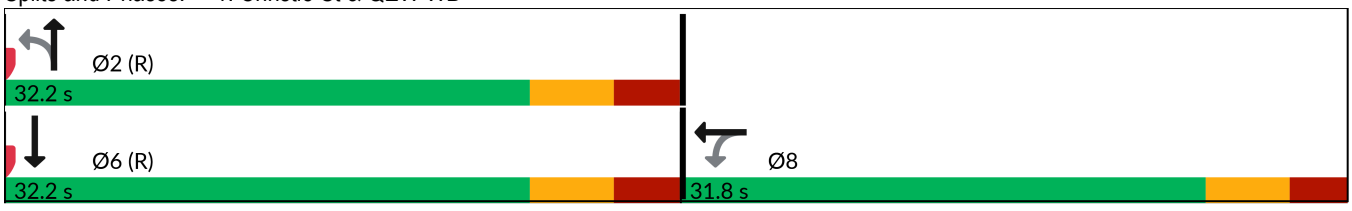
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

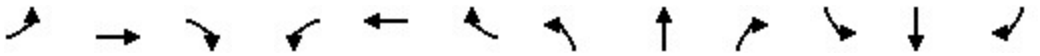
Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	205	235	290	200
Future Volume (vph)	205	235	290	200
Lane Group Flow (vph)	390	247	305	269
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Detector Phase	8	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.58	0.39	0.14	0.13
Control Delay (s/veh)	26.5	6.5	4.3	5.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.5	6.5	4.3	5.2
Queue Length 50th (m)	22.8	9.3	5.2	5.3
Queue Length 95th (m)	32.3	15.5	8.2	11.3
Internal Link Dist (m)	407.1		125.8	172.2
Turn Bay Length (m)		50.0		
Base Capacity (vph)	1368	626	2131	2077
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.39	0.14	0.13

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated

Splits and Phases: 1: Christie St & QEW WB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	135	205	30	235	290	0	0	200	55
Future Volume (vph)	0	0	0	135	205	30	235	290	0	0	200	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.8		7.2	7.2			7.2	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3478		1719	3610			3478	
Flt Permitted					0.98		0.59	1.00			1.00	
Satd. Flow (perm)					3478		1060	3610			3478	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	142	216	32	247	305	0	0	211	58
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	24	0
Lane Group Flow (vph)	0	0	0	0	376	0	247	305	0	0	245	0
Confl. Peds. (#/hr)									5	5		
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	5%	0%	0%	0%	0%	2%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					12.2		37.8	37.8			37.8	
Effective Green, g (s)					12.2		37.8	37.8			37.8	
Actuated g/C Ratio					0.19		0.59	0.59			0.59	
Clearance Time (s)					6.8		7.2	7.2			7.2	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					662		626	2132			2054	
v/s Ratio Prot								0.08			0.07	
v/s Ratio Perm					0.11		c0.23					
v/c Ratio					0.57		0.39	0.14			0.12	
Uniform Delay, d1					23.5		7.0	5.9			5.8	
Progression Factor					1.04		0.58	0.65			1.00	
Incremental Delay, d2					1.1		1.7	0.1			0.1	
Delay (s)					25.6		5.8	3.9			5.9	
Level of Service					C		A	A			A	
Approach Delay (s/veh)		0.0			25.6			4.8			5.9	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

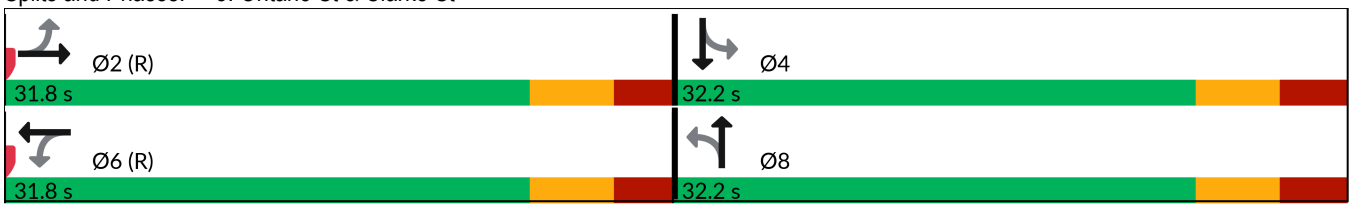
c Critical Lane Group

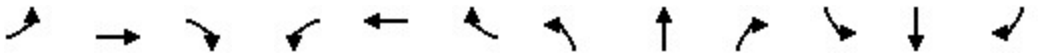
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	190	25	145	25	155	145	190
Future Volume (vph)	20	190	25	145	25	155	145	190
Lane Group Flow (vph)	0	237	0	247	0	294	0	395
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	24.8	25.2	25.2	25.2	25.2
Total Split (s)	31.8	31.8	31.8	31.8	32.2	32.2	32.2	32.2
Total Split (%)	49.7%	49.7%	49.7%	49.7%	50.3%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.8		6.8		7.2		7.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio		0.24		0.26		0.68		0.67
Control Delay (s/veh)		9.4		8.5		25.8		25.9
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		9.4		8.5		25.8		25.9
Queue Length 50th (m)		13.4		12.2		27.5		22.2
Queue Length 95th (m)		31.1		29.9		44.5		31.0
Internal Link Dist (m)		167.5		112.0		146.5		53.2
Turn Bay Length (m)								
Base Capacity (vph)		975		959		679		960
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.24		0.26		0.43		0.41

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 32.2 (50%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

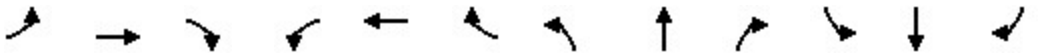
Splits and Phases: 8: Ontario St & Clarke St





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	190	15	25	145	65	25	155	100	145	190	40
Future Volume (vph)	20	190	15	25	145	65	25	155	100	145	190	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8			6.8			7.2			7.2	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.99			0.96			0.95			0.98	
Flt Protected		1.00			0.99			1.00			0.98	
Satd. Flow (prot)		1850			1809			1793			3453	
Flt Permitted		0.96			0.95			0.92			0.69	
Satd. Flow (perm)		1790			1736			1658			2421	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	200	16	26	153	68	26	163	105	153	200	42
RTOR Reduction (vph)	0	3	0	0	16	0	0	39	0	0	18	0
Lane Group Flow (vph)	0	234	0	0	231	0	0	255	0	0	377	0
Heavy Vehicles (%)	9%	0%	8%	0%	1%	0%	5%	0%	0%	1%	0%	5%
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)		34.8			34.8			15.2			15.2	
Effective Green, g (s)		34.8			34.8			15.2			15.2	
Actuated g/C Ratio		0.54			0.54			0.24			0.24	
Clearance Time (s)		6.8			6.8			7.2			7.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		973			943			393			574	
v/s Ratio Prot												
v/s Ratio Perm		0.13			c0.13			0.15			c0.16	
v/c Ratio		0.24			0.24			0.65			0.66	
Uniform Delay, d1		7.7			7.7			22.0			22.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.6			3.7			2.7	
Delay (s)		8.2			8.3			25.7			24.8	
Level of Service		A			A			C			C	
Approach Delay (s/veh)		8.2			8.3			25.7			24.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

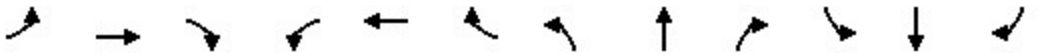


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	125	190	30	290	215	0	0	230	75
Future Volume (Veh/h)	0	0	0	125	190	30	290	215	0	0	230	75
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	134	204	32	312	231	0	0	247	81
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1161	1143	164	979	1183	116	328			231		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1161	1143	164	979	1183	116	328			231		
tC, single (s)	7.5	6.5	6.9	*6.0	*5.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.9	*2.5	3.3	2.3			2.2		
p0 queue free %	100	100	100	52	20	96	73			100		
cM capacity (veh/h)	41	148	858	279	254	909	1173			1349		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	236	134	312	116	116	165	163
Volume Left	134	0	312	0	0	0	0
Volume Right	0	32	0	0	0	0	81
cSH	268	307	1173	1700	1700	1700	1700
Volume to Capacity	0.88	0.44	0.27	0.07	0.07	0.10	0.10
Queue Length 95th (m)	61.0	16.9	8.6	0.0	0.0	0.0	0.0
Control Delay (s/veh)	69.5	25.5	9.2	0.0	0.0	0.0	0.0
Lane LOS	F	D	A				
Approach Delay (s/veh)	53.5		5.3			0.0	
Approach LOS	F						

Intersection Summary				
Average Delay	18.3			
Intersection Capacity Utilization	49.6%	ICU Level of Service	A	
Analysis Period (min)	15			

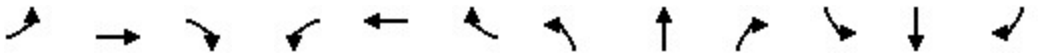
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	120	250	60	65	65	0	0	155	30
Future Volume (Veh/h)	0	0	0	120	250	60	65	65	0	0	155	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	132	275	66	71	71	0	0	170	33
Pedestrians		5										
Lane Width (m)		0.0										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	592	388	175	383	421	71	208			71		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	592	388	175	383	421	71	208			71		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	76	45	93	95			100		
cM capacity (veh/h)	213	521	874	556	497	997	1375			1542		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	270	204	71	71	170	33
Volume Left	132	0	71	0	0	0
Volume Right	0	66	0	0	0	33
cSH	524	593	1375	1700	1700	1700
Volume to Capacity	0.51	0.34	0.05	0.04	0.10	0.02
Queue Length 95th (m)	23.3	12.1	1.3	0.0	0.0	0.0
Control Delay (s/veh)	18.9	14.2	7.8	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	16.9		3.9		0.0	
Approach LOS	C					

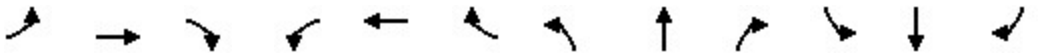
Intersection Summary				
Average Delay	10.4			
Intersection Capacity Utilization	34.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	60	335	5	65	30	0	0	70	30
Future Volume (Veh/h)	0	0	0	60	335	5	65	30	0	0	70	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	66	368	5	71	33	0	0	77	33
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	441	274	94	274	290	22	110			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	441	274	94	274	290	22	110			38		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	90	38	100	95			100		
cM capacity (veh/h)	243	604	952	634	589	1053	1478			1579		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	250	189	71	17	17	110
Volume Left	66	0	71	0	0	0
Volume Right	0	5	0	0	0	33
cSH	600	596	1478	1700	1700	1700
Volume to Capacity	0.42	0.32	0.05	0.01	0.01	0.06
Queue Length 95th (m)	16.4	10.9	1.2	0.0	0.0	0.0
Control Delay (s/veh)	15.2	13.8	7.6	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	14.6		5.2			0.0
Approach LOS	B					

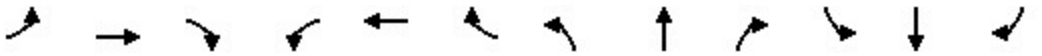
Intersection Summary				
Average Delay	10.6			
Intersection Capacity Utilization	30.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	240	45	0	0	0	0	90	55	20	110	0
Future Volume (Veh/h)	5	240	45	0	0	0	0	90	55	20	110	0
Sign Control		Stop			Stop			Free			Free	
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)	5	255	48	0	0	0	0	96	59	21	117	0
Pedestrians					5							
Lane Width (m)					0.0							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	207	319	117	465	290	83	117			160		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	207	319	117	465	290	83	117			160		
tC, single (s)	7.9	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	56	95	100	100	100	100			99		
cM capacity (veh/h)	678	581	910	299	615	967	1484			1432		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	133	176	64	91	21	117
Volume Left	5	0	0	0	21	0
Volume Right	0	48	0	59	0	0
cSH	584	645	1700	1700	1432	1700
Volume to Capacity	0.23	0.27	0.04	0.05	0.01	0.07
Queue Length 95th (m)	6.9	8.8	0.0	0.0	0.4	0.0
Control Delay (s/veh)	13.0	12.7	0.0	0.0	7.6	0.0
Lane LOS	B	B			A	
Approach Delay (s/veh)	12.8		0.0		1.1	
Approach LOS	B					

Intersection Summary				
Average Delay	6.8			
Intersection Capacity Utilization	30.3%	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)	10	165	105	0	0	0	0	135	70	55	245	0
Future Volume (Veh/h)	10	165	105	0	0	0	0	135	70	55	245	0
Sign Control		Stop			Stop			Free			Free	
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)	10	172	109	0	0	0	0	141	73	57	255	0
Pedestrians		5										
Lane Width (m)		3.6										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	515	588	260	705	515	141	260			214		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	515	588	260	705	515	141	260			214		
tC, single (s)	7.1	6.6	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	56	86	100	100	100	100			96		
cM capacity (veh/h)	455	392	773	193	445	912	1311			1344		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	96	195	141	73	57	255
Volume Left	10	0	0	0	57	0
Volume Right	0	109	0	73	0	0
cSH	397	541	1700	1700	1344	1700
Volume to Capacity	0.24	0.36	0.08	0.04	0.04	0.15
Queue Length 95th (m)	7.5	13.0	0.0	0.0	1.1	0.0
Control Delay (s/veh)	16.9	15.4	0.0	0.0	7.8	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	15.9		0.0		1.4	
Approach LOS	C					

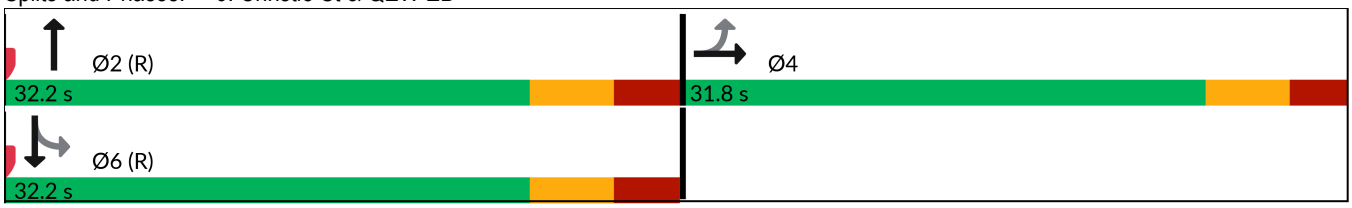
Intersection Summary				
Average Delay	6.2			
Intersection Capacity Utilization	34.9%	ICU Level of Service		A
Analysis Period (min)	15			

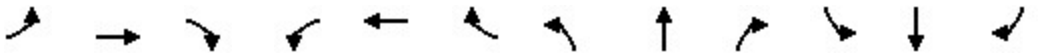
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	150	465	30	325
Future Volume (vph)	150	465	30	325
Lane Group Flow (vph)	423	614	33	353
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.63	0.28	0.07	0.16
Control Delay (s/veh)	15.9	5.8	6.2	5.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.9	5.8	6.2	5.6
Queue Length 50th (m)	12.4	14.1	1.4	8.1
Queue Length 95th (m)	23.0	26.1	5.3	15.9
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1388	2161	481	2225
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.28	0.07	0.16

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

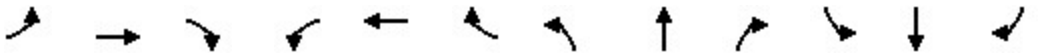
Splits and Phases: 6: Christie St & QEW EB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	150	200	0	0	0	0	465	100	30	325	0
Future Volume (vph)	40	150	200	0	0	0	0	465	100	30	325	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frt		0.92						0.97		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3215						3412		1736	3539	
Flt Permitted		0.99						1.00		0.42	1.00	
Satd. Flow (perm)		3215						3412		766	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	163	217	0	0	0	0	505	109	33	353	0
RTOR Reduction (vph)	0	184	0	0	0	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	239	0	0	0	0	0	597	0	33	353	0
Heavy Vehicles (%)	3%	2%	4%	0%	0%	0%	0%	3%	3%	4%	2%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		9.8						40.2		40.2	40.2	
Effective Green, g (s)		9.8						40.2		40.2	40.2	
Actuated g/C Ratio		0.15						0.63		0.63	0.63	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		492						2143		481	2222	
v/s Ratio Prot								c0.17			0.10	
v/s Ratio Perm		0.07								0.04		
v/c Ratio		0.49						0.28		0.07	0.16	
Uniform Delay, d1		24.8						5.4		4.6	4.9	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.8						0.3		0.3	0.2	
Delay (s)		25.6						5.7		4.9	5.1	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		25.6			0.0			5.7			5.1	
Approach LOS		C			A			A			A	

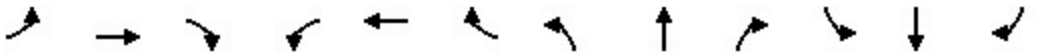
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	100	20	35	200	65	20	135	60	95	170	70
Future Volume (Veh/h)	10	100	20	35	200	65	20	135	60	95	170	70
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)	11	111	22	39	222	72	22	150	67	106	189	78
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	851	701	134	612	707	184	267			217		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	851	701	134	612	707	184	267			217		
tC, single (s)	7.7	6.5	7.1	7.5	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3			2.3		
p0 queue free %	88	66	97	85	30	91	98			92		
cM capacity (veh/h)	91	327	860	255	319	824	1258			1321		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	144	333	239	201	173
Volume Left	11	39	22	106	0
Volume Right	22	72	67	0	78
cSH	296	356	1258	1321	1700
Volume to Capacity	0.49	0.94	0.02	0.08	0.10
Queue Length 95th (m)	20.1	78.8	0.4	2.1	0.0
Control Delay (s/veh)	28.1	67.7	0.9	4.5	0.0
Lane LOS	D	F	A	A	
Approach Delay (s/veh)	28.1	67.7	0.9	2.4	
Approach LOS	D	F			

Intersection Summary				
Average Delay	25.5			
Intersection Capacity Utilization	54.6%	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)	25	370	15	25	520	35	20	5	25	10	5	20
Future Volume (Veh/h)	25	370	15	25	520	35	20	5	25	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	28	411	17	28	578	39	22	6	28	11	6	22
Pedestrians					10			10			5	
Lane Width (m)					3.6			3.6			3.6	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					1			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked												
vC, conflicting volume	622			438			1164	1164	440	1175	1153	603
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	622			438			1164	1164	440	1175	1153	603
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			98			85	97	95	93	97	96
cM capacity (veh/h)	908			1123			152	183	611	148	186	490

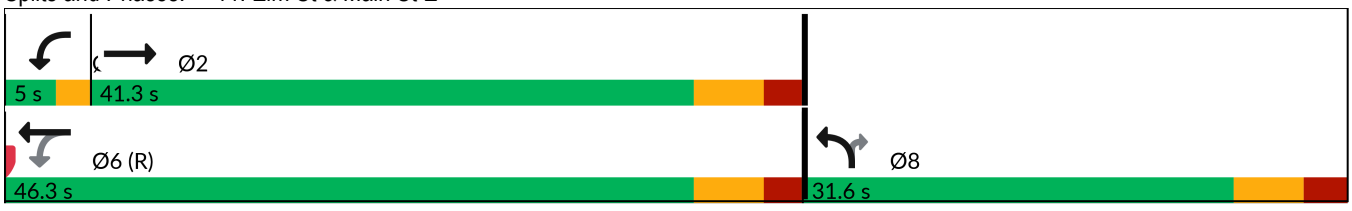
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	456	645	22	34	11	28
Volume Left	28	28	22	0	11	0
Volume Right	17	39	0	28	0	22
cSH	908	1123	152	433	148	363
Volume to Capacity	0.03	0.02	0.15	0.08	0.07	0.08
Queue Length 95th (m)	0.8	0.6	4.0	2.0	1.9	2.0
Control Delay (s/veh)	0.9	0.7	32.7	14.0	31.2	15.8
Lane LOS	A	A	D	B	D	C
Approach Delay (s/veh)	0.9	0.7	21.4		20.1	
Approach LOS			C		C	

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	53.0%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	305	160	415	35	165
Future Volume (vph)	305	160	415	35	165
Lane Group Flow (vph)	454	213	553	47	220
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	3.0	8.0	10.0	10.0
Minimum Split (s)	30.3	5.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.44	0.30	0.43	0.20	0.55
Control Delay (s/veh)	11.5	3.9	6.4	32.1	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	11.5	3.9	6.4	32.1	10.4
Queue Length 50th (m)	35.3	6.8	29.8	6.7	0.0
Queue Length 95th (m)	49.5	11.0	39.0	13.1	9.7
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1039	702	1292	551	657
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.30	0.43	0.09	0.33

Intersection Summary
Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

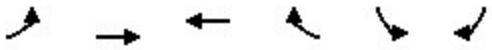
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	305	35	160	415	35	165
Future Volume (vph)	305	35	160	415	35	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1816		1779	1845	1719	1583
Flt Permitted	1.00		0.43	1.00	0.95	1.00
Satd. Flow (perm)	1816		798	1845	1719	1583
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	407	47	213	553	47	220
RTOR Reduction (vph)	4	0	0	0	0	191
Lane Group Flow (vph)	450	0	213	553	47	29
Confl. Peds. (#/hr)		15	15			
Heavy Vehicles (%)	3%	0%	1%	3%	5%	2%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	44.5		54.6	54.6	10.4	10.4
Effective Green, g (s)	44.5		54.6	54.6	10.4	10.4
Actuated g/C Ratio	0.57		0.70	0.70	0.13	0.13
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1037		661	1293	229	211
v/s Ratio Prot	0.25		0.03	c0.30	c0.03	
v/s Ratio Perm			0.19			0.02
v/c Ratio	0.43		0.32	0.43	0.21	0.14
Uniform Delay, d1	9.5		4.4	5.0	30.1	29.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.3	1.0	0.3	0.2
Delay (s)	9.7		4.6	6.0	30.4	30.0
Level of Service	A		A	A	C	C
Approach Delay (s/veh)	9.7			5.6	30.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	290	370	80	50	100
Future Volume (Veh/h)	85	290	370	80	50	100
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	99	337	430	93	58	116
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	528				1017	482
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	389				948	336
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	90				74	81
cM capacity (veh/h)	1010				224	617

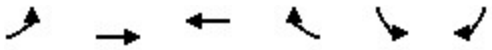
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	436	523	58	116
Volume Left	99	0	58	0
Volume Right	0	93	0	116
cSH	1010	1700	224	617
Volume to Capacity	0.10	0.31	0.26	0.19
Queue Length 95th (m)	2.6	0.0	8.0	5.5
Control Delay (s/veh)	2.9	0.0	26.6	12.2
Lane LOS	A		D	B
Approach Delay (s/veh)	2.9	0.0	17.0	
Approach LOS			C	

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	60	155	35	45	170
Future Volume (Veh/h)	35	60	155	35	45	170
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	49	83	215	49	62	236
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	600	240			264	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	600	240			264	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	90			95	
cM capacity (veh/h)	445	797			1283	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	132	264	298
Volume Left	49	0	62
Volume Right	83	49	0
cSH	616	1700	1283
Volume to Capacity	0.21	0.16	0.05
Queue Length 95th (m)	6.5	0.0	1.2
Control Delay (s/veh)	12.4	0.0	2.0
Lane LOS	B		A
Approach Delay (s/veh)	12.4	0.0	2.0
Approach LOS	B		

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	30	40	5	0	55
Future Volume (Veh/h)	50	30	40	5	0	55
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	33	43	5	0	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	48				187	46
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	48				187	46
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	94
cM capacity (veh/h)	1559				775	1024

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	87	48	60
Volume Left	54	0	0
Volume Right	0	5	60
cSH	1559	1700	1024
Volume to Capacity	0.03	0.03	0.06
Queue Length 95th (m)	0.9	0.0	1.5
Control Delay (s/veh)	4.7	0.0	8.7
Lane LOS	A		A
Approach Delay (s/veh)	4.7	0.0	8.7
Approach LOS			A

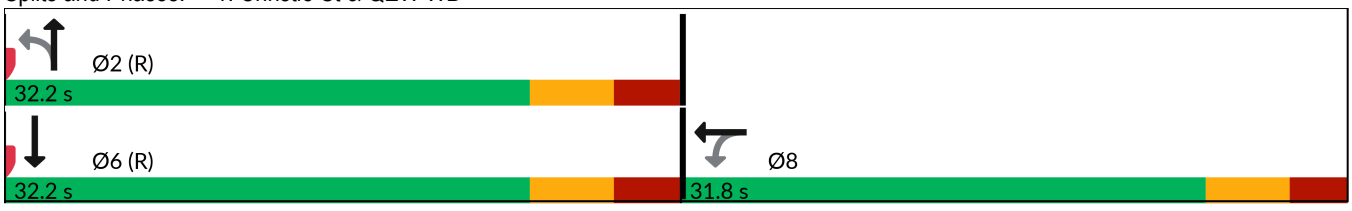
Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

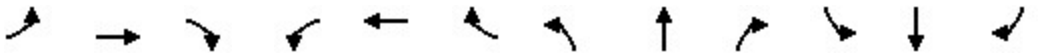
Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	190	290	215	230
Future Volume (vph)	190	290	215	230
Lane Group Flow (vph)	370	312	231	328
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Detector Phase	8	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.56	0.55	0.11	0.16
Control Delay (s/veh)	25.1	9.0	2.1	5.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.1	9.0	2.1	5.0
Queue Length 50th (m)	21.3	22.8	1.2	6.2
Queue Length 95th (m)	31.5	51.1	2.7	12.9
Internal Link Dist (m)	407.1		125.8	172.2
Turn Bay Length (m)		50.0		
Base Capacity (vph)	1360	569	2086	2022
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.27	0.55	0.11	0.16

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 1: Christie St & QEW WB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	125	190	30	290	215	0	0	230	75
Future Volume (vph)	0	0	0	125	190	30	290	215	0	0	230	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.8		7.2	7.2			7.2	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frt					0.99		1.00	1.00			0.96	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3456		1641	3505			3342	
Flt Permitted					0.98		0.55	1.00			1.00	
Satd. Flow (perm)					3456		956	3505			3342	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	134	204	32	312	231	0	0	247	81
RTOR Reduction (vph)	0	0	0	0	15	0	0	0	0	0	33	0
Lane Group Flow (vph)	0	0	0	0	355	0	312	231	0	0	295	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	4%	10%	3%	0%	0%	5%	1%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					11.9		38.1	38.1			38.1	
Effective Green, g (s)					11.9		38.1	38.1			38.1	
Actuated g/C Ratio					0.19		0.60	0.60			0.60	
Clearance Time (s)					6.8		7.2	7.2			7.2	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					642		569	2086			1989	
v/s Ratio Prot								0.07			0.09	
v/s Ratio Perm					0.10		c0.33					
v/c Ratio					0.55		0.55	0.11			0.15	
Uniform Delay, d1					23.6		7.8	5.6			5.7	
Progression Factor					0.98		0.56	0.32			1.00	
Incremental Delay, d2					1.0		3.7	0.1			0.2	
Delay (s)					24.2		8.1	1.9			5.9	
Level of Service					C		A	A			A	
Approach Delay (s/veh)		0.0			24.2			5.4			5.9	
Approach LOS		A			C			A			A	

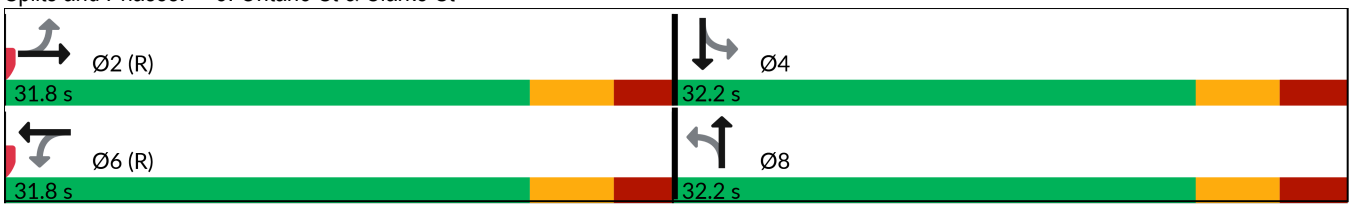
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

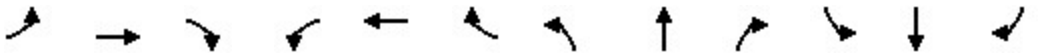
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	100	35	200	20	135	95	170
Future Volume (vph)	10	100	35	200	20	135	95	170
Lane Group Flow (vph)	0	144	0	333	0	239	0	373
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	24.8	25.2	25.2	25.2	25.2
Total Split (s)	31.8	31.8	31.8	31.8	32.2	32.2	32.2	32.2
Total Split (%)	49.7%	49.7%	49.7%	49.7%	50.3%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.8		6.8		7.2		7.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio		0.14		0.34		0.65		0.62
Control Delay (s/veh)		7.3		9.0		27.2		23.0
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		7.3		9.0		27.2		23.0
Queue Length 50th (m)		6.5		18.0		23.1		18.4
Queue Length 95th (m)		17.4		40.7		39.1		27.5
Internal Link Dist (m)		167.5		112.0		146.5		53.2
Turn Bay Length (m)								
Base Capacity (vph)		994		974		649		1056
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.14		0.34		0.37		0.35

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

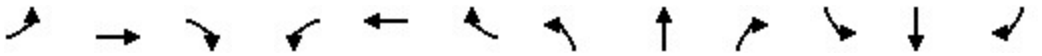
Splits and Phases: 8: Ontario St & Clarke St





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	100	20	35	200	65	20	135	60	95	170	70
Future Volume (vph)	10	100	20	35	200	65	20	135	60	95	170	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8			6.8			7.2			7.2	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.98			0.97			0.96			0.97	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1783			1764			1740			3346	
Flt Permitted		0.97			0.96			0.92			0.77	
Satd. Flow (perm)		1735			1694			1606			2611	
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)	11	111	22	39	222	72	22	150	67	106	189	78
RTOR Reduction (vph)	0	7	0	0	11	0	0	28	0	0	48	0
Lane Group Flow (vph)	0	137	0	0	322	0	0	211	0	0	325	0
Heavy Vehicles (%)	8%	2%	12%	0%	5%	3%	7%	4%	5%	6%	1%	4%
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)		36.4			36.4			13.6			13.6	
Effective Green, g (s)		36.4			36.4			13.6			13.6	
Actuated g/C Ratio		0.57			0.57			0.21			0.21	
Clearance Time (s)		6.8			6.8			7.2			7.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		986			963			341			554	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.19			c0.13			0.12	
v/c Ratio		0.14			0.33			0.62			0.59	
Uniform Delay, d1		6.5			7.3			22.8			22.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.9			3.3			1.6	
Delay (s)		6.8			8.3			26.2			24.3	
Level of Service		A			A			C			C	
Approach Delay (s/veh)		6.8			8.3			26.2			24.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

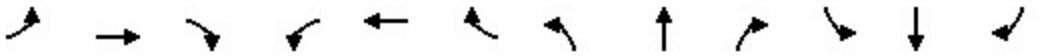


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	135	205	30	235	290	0	0	200	55
Future Volume (Veh/h)	0	0	0	135	205	30	235	290	0	0	200	55
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	142	216	32	247	305	0	0	211	58
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1027	1044	135	910	1073	158	269			310		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1027	1044	135	910	1073	158	269			310		
tC, single (s)	7.5	6.5	6.9	*5.8	*5.7	7.0	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*3.2	*3.2	3.3	2.2			2.2		
p0 queue free %	100	100	100	56	16	96	81			100		
cM capacity (veh/h)	47	185	896	320	256	850	1270			1257		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	250	140	247	153	153	141	128
Volume Left	142	0	247	0	0	0	0
Volume Right	0	32	0	0	0	0	58
cSH	289	305	1270	1700	1700	1700	1700
Volume to Capacity	0.87	0.46	0.19	0.09	0.09	0.08	0.08
Queue Length 95th (m)	60.4	18.4	5.8	0.0	0.0	0.0	0.0
Control Delay (s/veh)	63.2	26.5	8.5	0.0	0.0	0.0	0.0
Lane LOS	F	D	A				
Approach Delay (s/veh)	50.0		3.8			0.0	
Approach LOS	F						

Intersection Summary				
Average Delay	17.8			
Intersection Capacity Utilization	62.5%	ICU Level of Service	B	
Analysis Period (min)	15			

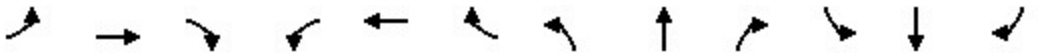
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	80	265	60	60	165	0	0	175	45
Future Volume (Veh/h)	0	0	0	80	265	60	60	165	0	0	175	45
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	91	301	68	68	188	0	0	199	51
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	742	523	199	523	574	188	250			188		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	742	523	199	523	574	188	250			188		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	80	27	92	95			100		
cM capacity (veh/h)	119	438	847	446	410	859	1327			1398		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	242	219	68	188	199	51
Volume Left	91	0	68	0	0	0
Volume Right	0	68	0	0	0	51
cSH	423	489	1327	1700	1700	1700
Volume to Capacity	0.57	0.45	0.05	0.11	0.12	0.03
Queue Length 95th (m)	27.7	18.1	1.3	0.0	0.0	0.0
Control Delay (s/veh)	24.3	18.2	7.9	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s/veh)	21.4		2.1		0.0	
Approach LOS	C					

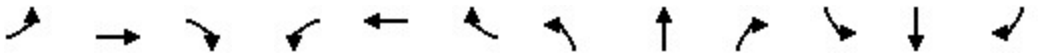
Intersection Summary				
Average Delay	10.7			
Intersection Capacity Utilization	40.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	70	295	10	95	115	0	0	70	15
Future Volume (Veh/h)	0	0	0	70	295	10	95	115	0	0	70	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	75	317	11	102	124	0	0	75	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	519	411	83	411	419	62	91			124		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	519	411	83	411	419	62	91			124		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	85	36	99	93			100		
cM capacity (veh/h)	203	498	966	503	493	996	1517			1475		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	234	170	102	62	62	91
Volume Left	75	0	102	0	0	0
Volume Right	0	11	0	0	0	16
cSH	496	509	1517	1700	1700	1700
Volume to Capacity	0.47	0.33	0.07	0.04	0.04	0.05
Queue Length 95th (m)	19.9	11.6	1.7	0.0	0.0	0.0
Control Delay (s/veh)	18.6	15.5	7.5	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s/veh)	17.3		3.4			0.0
Approach LOS	C					

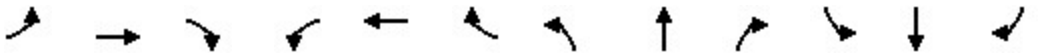
Intersection Summary				
Average Delay	10.7			
Intersection Capacity Utilization	33.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	350	90	0	0	0	0	165	65	10	130	0
Future Volume (Veh/h)	45	350	90	0	0	0	0	165	65	10	130	0
Sign Control		Stop			Stop			Free			Free	
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)	48	372	96	0	0	0	0	176	69	11	138	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	248	405	138	653	371	123	138			245		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	248	405	138	653	371	123	138			245		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	30	89	100	100	100	100			99		
cM capacity (veh/h)	686	529	891	136	558	912	1458			1333		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	234	282	117	128	11	138
Volume Left	48	0	0	0	11	0
Volume Right	0	96	0	69	0	0
cSH	555	614	1700	1700	1333	1700
Volume to Capacity	0.42	0.46	0.07	0.08	0.01	0.08
Queue Length 95th (m)	16.6	19.3	0.0	0.0	0.2	0.0
Control Delay (s/veh)	16.1	15.7	0.0	0.0	7.7	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	15.9		0.0		0.6	
Approach LOS	C					

Intersection Summary				
Average Delay	9.1			
Intersection Capacity Utilization	33.8%	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)	60	350	165	0	0	0	0	190	80	55	215	0
Future Volume (Veh/h)	60	350	165	0	0	0	0	190	80	55	215	0
Sign Control		Stop			Stop			Free			Free	
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)	65	380	179	0	0	0	0	207	87	60	234	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	561	648	234	930	561	207	234			294		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	561	648	234	930	561	207	234			294		
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 %	85	0	78	0	100	100	100			95		
cM capacity (veh/h)	426	371	808	0	419	839	1345			1279		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	255	369	207	87	60	234
Volume Left	65	0	0	0	60	0
Volume Right	0	179	0	87	0	0
cSH	384	503	1700	1700	1279	1700
Volume to Capacity	0.66	0.73	0.12	0.05	0.05	0.14
Queue Length 95th (m)	37.0	48.5	0.0	0.0	1.2	0.0
Control Delay (s/veh)	31.1	29.4	0.0	0.0	8.0	0.0
Lane LOS	D	D			A	
Approach Delay (s/veh)	30.1		0.0		1.6	
Approach LOS	D					

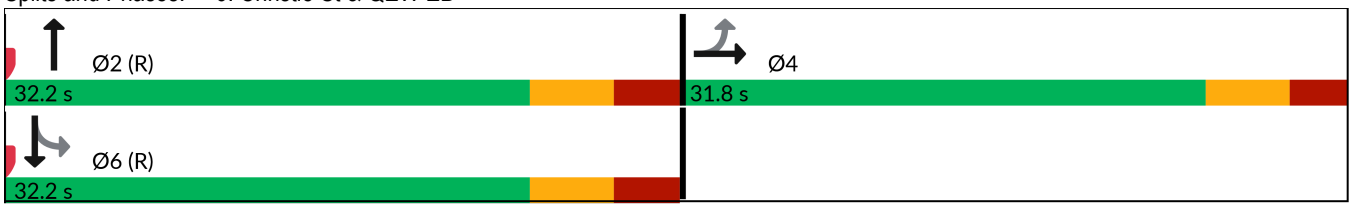
Intersection Summary				
Average Delay	15.9			
Intersection Capacity Utilization	40.0%	ICU Level of Service		A
Analysis Period (min)	15			

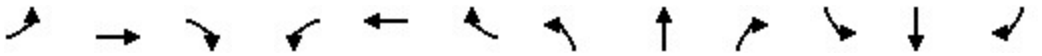
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	340	435	15	320
Future Volume (vph)	340	435	15	320
Lane Group Flow (vph)	820	736	17	360
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.74	0.40	0.05	0.19
Control Delay (s/veh)	16.6	8.8	10.5	9.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.6	8.8	10.5	9.6
Queue Length 50th (m)	29.0	20.1	1.0	11.5
Queue Length 95th (m)	40.0	38.3	4.6	22.4
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1498	1822	352	1872
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.40	0.05	0.19

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 6: Christie St & QEW EB

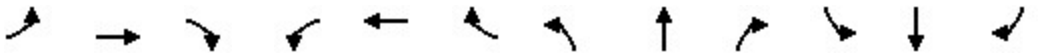




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	340	300	0	0	0	0	435	220	15	320	0
Future Volume (vph)	90	340	300	0	0	0	0	435	220	15	320	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frpb, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		1.00	1.00	
Frt		0.94						0.95		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3339						3361		1805	3610	
Flt Permitted		0.99						1.00		0.36	1.00	
Satd. Flow (perm)		3339						3361		680	3610	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	101	382	337	0	0	0	0	489	247	17	360	0
RTOR Reduction (vph)	0	235	0	0	0	0	0	78	0	0	0	0
Lane Group Flow (vph)	0	585	0	0	0	0	0	658	0	17	360	0
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	2%	2%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		16.8						33.2		33.2	33.2	
Effective Green, g (s)		16.8						33.2		33.2	33.2	
Actuated g/C Ratio		0.26						0.52		0.52	0.52	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		876						1743		352	1872	
v/s Ratio Prot								c0.20			0.10	
v/s Ratio Perm		0.18								0.02		
v/c Ratio		0.67						0.38		0.05	0.19	
Uniform Delay, d1		21.1						9.2		7.6	8.2	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		1.9						0.6		0.3	0.2	
Delay (s)		23.0						9.8		7.9	8.5	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		23.0			0.0			9.8			8.4	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

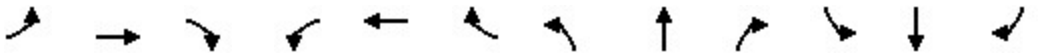
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	190	15	25	145	65	25	155	100	145	190	40
Future Volume (Veh/h)	20	190	15	25	145	65	25	155	100	145	190	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	200	16	26	153	68	26	163	105	153	200	42
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	939	847	121	790	816	216	242			268		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	939	847	121	790	816	216	242			268		
tC, single (s)	7.7	6.5	7.1	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	78	23	98	72	43	91	98			88		
cM capacity (veh/h)	95	260	889	94	270	795	1300			1300		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	237	247	294	253	142
Volume Left	21	26	26	153	0
Volume Right	16	68	105	0	42
cSH	235	266	1300	1300	1700
Volume to Capacity	1.01	0.93	0.02	0.12	0.08
Queue Length 95th (m)	76.3	68.2	0.5	3.2	0.0
Control Delay (s/veh)	105.2	79.7	0.9	5.3	0.0
Lane LOS	F	F	A	A	
Approach Delay (s/veh)	105.2	79.7	0.9	3.4	
Approach LOS	F	F			

Intersection Summary				
Average Delay	39.4			
Intersection Capacity Utilization	54.4%	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	570	20	40	540	25	20	0	40	15	5	20
Future Volume (Veh/h)	20	570	20	40	540	25	20	0	40	15	5	20
Sign Control		Free			Free			Stop			Stop	
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)	21	588	21	41	557	26	21	0	41	15	5	21
Pedestrians								15			5	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.92			0.92	0.92	0.92	0.92	0.92	
vC, conflicting volume	588			624			1331	1326	614	1339	1323	575
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	588			552			1317	1311	541	1325	1308	575
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			96			81	100	92	85	96	96
cM capacity (veh/h)	993			938			109	136	498	102	137	519

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	630	624	21	41	15	26
Volume Left	21	41	21	0	15	0
Volume Right	21	26	0	41	0	21
cSH	993	938	109	498	102	338
Volume to Capacity	0.02	0.04	0.19	0.08	0.15	0.08
Queue Length 95th (m)	0.5	1.1	5.4	2.1	3.9	2.0
Control Delay (s/veh)	0.6	1.2	45.9	12.9	46.2	16.5
Lane LOS	A	A	E	B	E	C
Approach Delay (s/veh)	0.6	1.2	24.1		27.4	
Approach LOS			C		D	

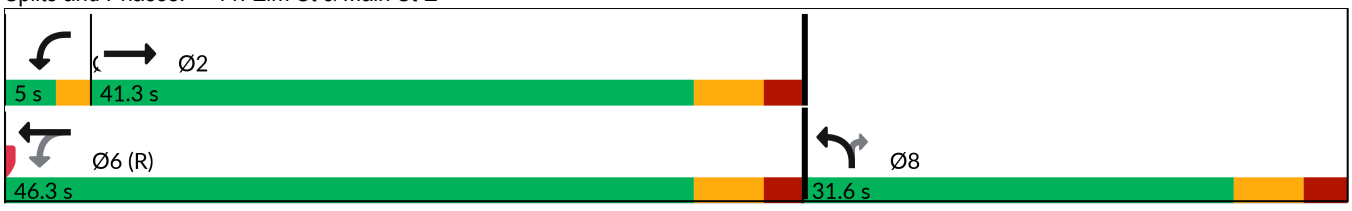
Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	61.6%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	380	225	380	65	265
Future Volume (vph)	380	225	380	65	265
Lane Group Flow (vph)	500	245	413	71	288
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	3.0	8.0	10.0	10.0
Minimum Split (s)	30.3	5.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.49	0.37	0.32	0.28	0.63
Control Delay (s/veh)	12.8	4.6	5.6	32.7	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.8	4.6	5.6	32.7	10.7
Queue Length 50th (m)	40.0	8.0	19.9	10.2	0.0
Queue Length 95th (m)	80.1	17.9	39.0	20.8	20.1
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1027	665	1308	579	685
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.49	0.37	0.32	0.12	0.42

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

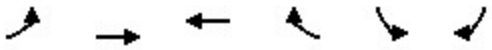
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	380	80	225	380	65	265
Future Volume (vph)	380	80	225	380	65	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1826		1799	1881	1805	1527
Flt Permitted	1.00		0.39	1.00	0.95	1.00
Satd. Flow (perm)	1826		731	1881	1805	1527
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	413	87	245	413	71	288
RTOR Reduction (vph)	8	0	0	0	0	248
Lane Group Flow (vph)	492	0	245	413	71	40
Confl. Peds. (#/hr)		15	15		10	20
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	43.5		54.2	54.2	10.8	10.8
Effective Green, g (s)	43.5		54.2	54.2	10.8	10.8
Actuated g/C Ratio	0.56		0.70	0.70	0.14	0.14
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1019		627	1308	250	211
v/s Ratio Prot	c0.27		c0.04	0.22	c0.04	
v/s Ratio Perm			0.23			0.03
v/c Ratio	0.48		0.39	0.32	0.28	0.19
Uniform Delay, d1	10.4		4.9	4.6	30.1	29.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		0.4	0.6	0.5	0.3
Delay (s)	10.7		5.3	5.3	30.5	30.0
Level of Service	B		A	A	C	C
Approach Delay (s/veh)	10.7			5.3	30.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	125	380	355	90	75	145
Future Volume (Veh/h)	125	380	355	90	75	145
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	133	404	378	96	80	154
Pedestrians					20	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	494				1116	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	398				1079	345
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				58	75
cM capacity (veh/h)	1052				191	628

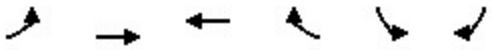
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	537	474	80	154
Volume Left	133	0	80	0
Volume Right	0	96	0	154
cSH	1052	1700	191	628
Volume to Capacity	0.13	0.28	0.42	0.25
Queue Length 95th (m)	3.5	0.0	15.2	7.7
Control Delay (s/veh)	3.3	0.0	36.7	12.6
Lane LOS	A		E	B
Approach Delay (s/veh)	3.3	0.0	20.8	
Approach LOS			C	

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	75	220	45	75	150
Future Volume (Veh/h)	50	75	220	45	75	150
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	57	86	253	52	86	172
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	628	284			310	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	628	284			310	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	89			93	
cM capacity (veh/h)	417	757			1257	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	143	305	258
Volume Left	57	0	86
Volume Right	86	52	0
cSH	572	1700	1257
Volume to Capacity	0.25	0.18	0.07
Queue Length 95th (m)	7.9	0.0	1.8
Control Delay (s/veh)	13.4	0.0	3.1
Lane LOS	B		A
Approach Delay (s/veh)	13.4	0.0	3.1
Approach LOS	B		

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	75	45	50	5	5	75
Future Volume (Veh/h)	75	45	50	5	5	75
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	49	54	5	5	82
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	59				270	57
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	59				270	57
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				99	92
cM capacity (veh/h)	1545				682	1010

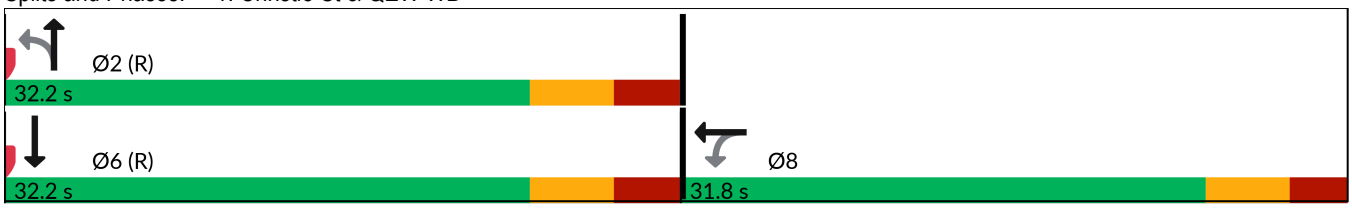
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	131	59	87
Volume Left	82	0	5
Volume Right	0	5	82
cSH	1545	1700	983
Volume to Capacity	0.05	0.03	0.09
Queue Length 95th (m)	1.3	0.0	2.3
Control Delay (s/veh)	4.8	0.0	9.0
Lane LOS	A		A
Approach Delay (s/veh)	4.8	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	205	235	290	200
Future Volume (vph)	205	235	290	200
Lane Group Flow (vph)	390	247	305	269
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Detector Phase	8	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.58	0.39	0.14	0.13
Control Delay (s/veh)	26.5	8.0	5.5	5.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.5	8.0	5.5	5.2
Queue Length 50th (m)	22.8	7.9	4.4	5.3
Queue Length 95th (m)	32.3	23.1	12.7	11.3
Internal Link Dist (m)	407.1		125.8	172.2
Turn Bay Length (m)		50.0		
Base Capacity (vph)	1368	626	2131	2077
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.39	0.14	0.13

Intersection Summary
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated

Splits and Phases: 1: Christie St & QEW WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	135	205	30	235	290	0	0	200	55
Future Volume (vph)	0	0	0	135	205	30	235	290	0	0	200	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.8		7.2	7.2			7.2	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3478		1719	3610			3478	
Flt Permitted					0.98		0.59	1.00			1.00	
Satd. Flow (perm)					3478		1060	3610			3478	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	142	216	32	247	305	0	0	211	58
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	24	0
Lane Group Flow (vph)	0	0	0	0	376	0	247	305	0	0	245	0
Confl. Peds. (#/hr)									5	5		
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	5%	0%	0%	0%	0%	2%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					12.2		37.8	37.8			37.8	
Effective Green, g (s)					12.2		37.8	37.8			37.8	
Actuated g/C Ratio					0.19		0.59	0.59			0.59	
Clearance Time (s)					6.8		7.2	7.2			7.2	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					662		626	2132			2054	
v/s Ratio Prot								0.08			0.07	
v/s Ratio Perm					0.11		c0.23					
v/c Ratio					0.57		0.39	0.14			0.12	
Uniform Delay, d1					23.5		7.0	5.9			5.8	
Progression Factor					1.04		0.76	0.84			1.00	
Incremental Delay, d2					1.1		1.7	0.1			0.1	
Delay (s)					25.6		7.0	5.0			5.9	
Level of Service					C		A	A			A	
Approach Delay (s/veh)		0.0			25.6			5.9			5.9	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

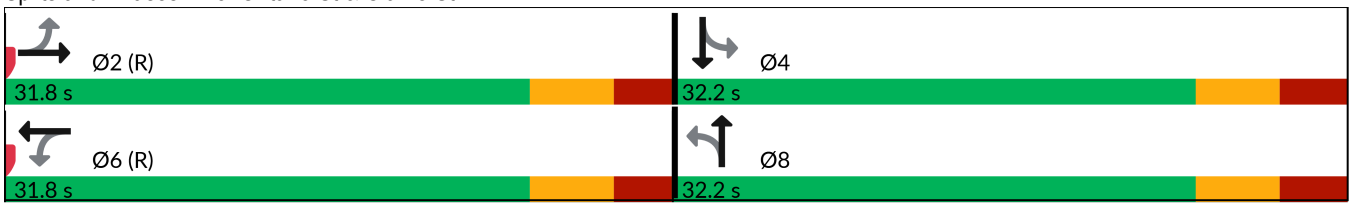
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	190	25	145	25	155	145	190
Future Volume (vph)	20	190	25	145	25	155	145	190
Lane Group Flow (vph)	0	237	0	247	0	294	0	395
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	24.8	25.2	25.2	25.2	25.2
Total Split (s)	31.8	31.8	31.8	31.8	32.2	32.2	32.2	32.2
Total Split (%)	49.7%	49.7%	49.7%	49.7%	50.3%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.8		6.8		7.2		7.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio		0.24		0.26		0.68		0.67
Control Delay (s/veh)		11.5		8.5		25.8		25.9
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		11.5		8.5		25.8		25.9
Queue Length 50th (m)		22.0		12.2		27.5		22.2
Queue Length 95th (m)		m32.6		29.9		44.5		31.0
Internal Link Dist (m)		362.5		112.0		146.5		53.2
Turn Bay Length (m)								
Base Capacity (vph)		975		959		679		960
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.24		0.26		0.43		0.41

Intersection Summary

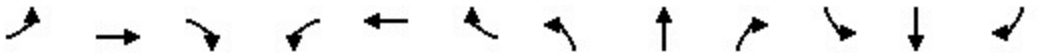
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 32.2 (50%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Ontario St & Clarke St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	190	15	25	145	65	25	155	100	145	190	40
Future Volume (vph)	20	190	15	25	145	65	25	155	100	145	190	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8			6.8			7.2			7.2	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.99			0.96			0.95			0.98	
Flt Protected		1.00			0.99			1.00			0.98	
Satd. Flow (prot)		1850			1809			1793			3453	
Flt Permitted		0.96			0.95			0.92			0.69	
Satd. Flow (perm)		1790			1736			1658			2421	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	200	16	26	153	68	26	163	105	153	200	42
RTOR Reduction (vph)	0	3	0	0	16	0	0	39	0	0	18	0
Lane Group Flow (vph)	0	234	0	0	231	0	0	255	0	0	377	0
Heavy Vehicles (%)	9%	0%	8%	0%	1%	0%	5%	0%	0%	1%	0%	5%
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)		34.8			34.8			15.2			15.2	
Effective Green, g (s)		34.8			34.8			15.2			15.2	
Actuated g/C Ratio		0.54			0.54			0.24			0.24	
Clearance Time (s)		6.8			6.8			7.2			7.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		973			943			393			574	
v/s Ratio Prot												
v/s Ratio Perm		0.13			c0.13			0.15			c0.16	
v/c Ratio		0.24			0.24			0.65			0.66	
Uniform Delay, d1		7.7			7.7			22.0			22.0	
Progression Factor		1.25			1.00			1.00			1.00	
Incremental Delay, d2		0.4			0.6			3.7			2.7	
Delay (s)		10.0			8.3			25.7			24.8	
Level of Service		B			A			C			C	
Approach Delay (s/veh)		10.0			8.3			25.7			24.8	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

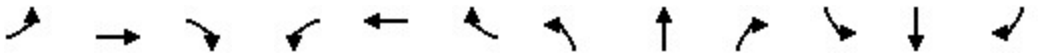


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	135	195	30	320	220	0	0	230	85
Future Volume (Veh/h)	0	0	0	135	195	30	320	220	0	0	230	85
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	145	210	32	344	237	0	0	247	91
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1236	1218	169	1049	1263	119	338			237		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1236	1218	169	1049	1263	119	338			237		
tC, single (s)	7.5	6.5	6.9	*6.0	*5.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.9	*2.5	3.3	2.3			2.2		
p0 queue free %	100	100	100	41	5	96	70			100		
cM capacity (veh/h)	16	128	852	247	221	905	1162			1342		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	250	137	344	119	119	165	173
Volume Left	145	0	344	0	0	0	0
Volume Right	0	32	0	0	0	0	91
cSH	235	268	1162	1700	1700	1700	1700
Volume to Capacity	1.06	0.51	0.30	0.07	0.07	0.10	0.10
Queue Length 95th (m)	85.1	21.5	10.0	0.0	0.0	0.0	0.0
Control Delay (s/veh)	120.9	31.6	9.4	0.0	0.0	0.0	0.0
Lane LOS	F	D	A				
Approach Delay (s/veh)	89.3		5.6			0.0	
Approach LOS	F						

Intersection Summary				
Average Delay	28.9			
Intersection Capacity Utilization	51.4%	ICU Level of Service	A	
Analysis Period (min)	15			

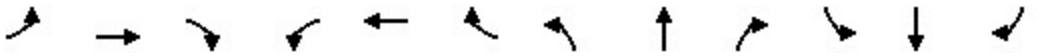
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	130	270	65	60	65	0	0	160	30
Future Volume (Veh/h)	0	0	0	130	270	65	60	65	0	0	160	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	143	297	71	66	71	0	0	176	33
Pedestrians		5										
Lane Width (m)		0.0										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	604	384	181	379	417	71	214			71		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	604	384	181	379	417	71	214			71		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	75	41	93	95			100		
cM capacity (veh/h)	196	526	867	561	501	997	1368			1542		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	292	220	66	71	176	33
Volume Left	143	0	66	0	0	0
Volume Right	0	71	0	0	0	33
cSH	529	597	1368	1700	1700	1700
Volume to Capacity	0.55	0.37	0.05	0.04	0.10	0.02
Queue Length 95th (m)	26.5	13.5	1.2	0.0	0.0	0.0
Control Delay (s/veh)	19.9	14.5	7.8	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	17.5		3.7		0.0	
Approach LOS	C					

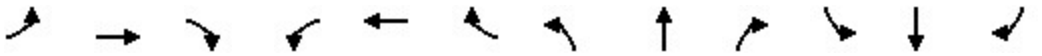
Intersection Summary				
Average Delay	11.1			
Intersection Capacity Utilization	35.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	65	360	5	75	30	0	0	75	30
Future Volume (Veh/h)	0	0	0	65	360	5	75	30	0	0	75	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	71	396	5	82	33	0	0	82	33
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	482	301	99	301	317	22	115			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	482	301	99	301	317	22	115			38		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	88	30	100	94			100		
cM capacity (veh/h)	195	579	945	603	564	1053	1472			1579		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	269	203	82	17	17	115
Volume Left	71	0	82	0	0	0
Volume Right	0	5	0	0	0	33
cSH	574	571	1472	1700	1700	1700
Volume to Capacity	0.47	0.36	0.06	0.01	0.01	0.07
Queue Length 95th (m)	19.9	12.8	1.4	0.0	0.0	0.0
Control Delay (s/veh)	16.7	14.7	7.6	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	15.8		5.4			0.0
Approach LOS	C					

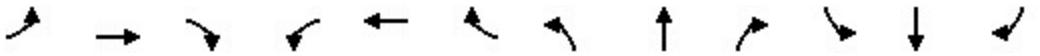
Intersection Summary				
Average Delay	11.5			
Intersection Capacity Utilization	31.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	250	50	0	0	0	0	100	60	25	115	0
Future Volume (Veh/h)	5	250	50	0	0	0	0	100	60	25	115	0
Sign Control		Stop			Stop			Free			Free	
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)	5	266	53	0	0	0	0	106	64	27	122	0
Pedestrians					5							
Lane Width (m)					0.0							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	229	351	122	505	319	90	122			175		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	229	351	122	505	319	90	122			175		
tC, single (s)	7.9	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	52	94	100	100	100	100			98		
cM capacity (veh/h)	651	555	903	263	589	956	1478			1414		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	138	186	71	99	27	122
Volume Left	5	0	0	0	27	0
Volume Right	0	53	0	64	0	0
cSH	558	623	1700	1700	1414	1700
Volume to Capacity	0.25	0.30	0.04	0.06	0.02	0.07
Queue Length 95th (m)	7.8	10.0	0.0	0.0	0.5	0.0
Control Delay (s/veh)	13.6	13.2	0.0	0.0	7.6	0.0
Lane LOS	B	B			A	
Approach Delay (s/veh)	13.4		0.0		1.4	
Approach LOS	B					

Intersection Summary				
Average Delay	7.1			
Intersection Capacity Utilization	31.9%	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)	10	180	95	0	0	0	0	130	65	60	255	0
Future Volume (Veh/h)	10	180	95	0	0	0	0	130	65	60	255	0
Sign Control		Stop			Stop			Free			Free	
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)	10	188	99	0	0	0	0	135	68	62	266	0
Pedestrians		5										
Lane Width (m)		3.6										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	530	598	271	718	530	135	271			203		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	530	598	271	718	530	135	271			203		
tC, single (s)	7.1	6.6	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	51	87	100	100	100	100			95		
cM capacity (veh/h)	443	385	762	180	435	919	1299			1357		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	104	193	135	68	62	266
Volume Left	10	0	0	0	62	0
Volume Right	0	99	0	68	0	0
cSH	390	516	1700	1700	1357	1700
Volume to Capacity	0.27	0.37	0.08	0.04	0.05	0.16
Queue Length 95th (m)	8.5	13.8	0.0	0.0	1.1	0.0
Control Delay (s/veh)	17.6	16.1	0.0	0.0	7.8	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	16.6		0.0		1.5	
Approach LOS	C					

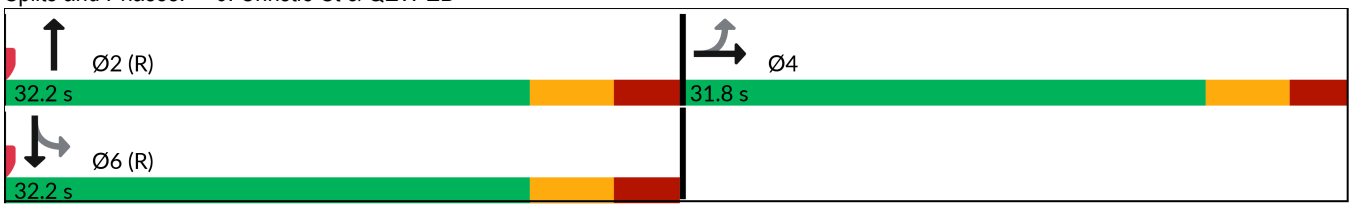
Intersection Summary				
Average Delay	6.5			
Intersection Capacity Utilization	35.8%	ICU Level of Service		A
Analysis Period (min)	15			

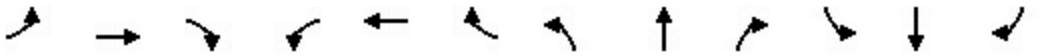
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	150	495	30	335
Future Volume (vph)	150	495	30	335
Lane Group Flow (vph)	451	652	33	364
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.65	0.30	0.07	0.16
Control Delay (s/veh)	15.7	6.0	6.3	5.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.7	6.0	6.3	5.8
Queue Length 50th (m)	12.7	15.4	1.4	8.4
Queue Length 95th (m)	23.6	28.4	5.3	16.6
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1398	2155	462	2216
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.32	0.30	0.07	0.16

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

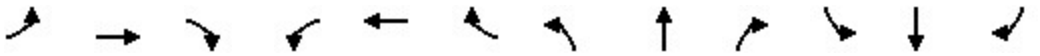
Splits and Phases: 6: Christie St & QEW EB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	150	220	0	0	0	0	495	105	30	335	0
Future Volume (vph)	45	150	220	0	0	0	0	495	105	30	335	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frt		0.92						0.97		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3204						3413		1736	3539	
Flt Permitted		0.99						1.00		0.40	1.00	
Satd. Flow (perm)		3204						3413		738	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	163	239	0	0	0	0	538	114	33	364	0
RTOR Reduction (vph)	0	202	0	0	0	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	249	0	0	0	0	0	635	0	33	364	0
Heavy Vehicles (%)	3%	2%	4%	0%	0%	0%	0%	3%	3%	4%	2%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		9.9						40.1		40.1	40.1	
Effective Green, g (s)		9.9						40.1		40.1	40.1	
Actuated g/C Ratio		0.15						0.63		0.63	0.63	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		495						2138		462	2217	
v/s Ratio Prot								c0.19			0.10	
v/s Ratio Perm		0.08								0.04		
v/c Ratio		0.50						0.30		0.07	0.16	
Uniform Delay, d1		24.8						5.5		4.7	5.0	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.8						0.4		0.3	0.2	
Delay (s)		25.6						5.8		5.0	5.1	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		25.6			0.0			5.8			5.1	
Approach LOS		C			A			A			A	

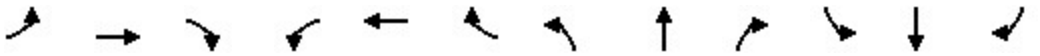
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	105	15	35	210	65	15	125	55	95	170	70
Future Volume (Veh/h)	10	105	15	35	210	65	15	125	55	95	170	70
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)	11	117	17	39	233	72	17	139	61	106	189	78
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	832	674	134	586	683	170	267			200		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	832	674	134	586	683	170	267			200		
tC, single (s)	7.7	6.5	7.1	7.5	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3			2.3		
p0 queue free %	88	66	98	85	30	91	99			92		
cM capacity (veh/h)	93	340	860	267	331	842	1258			1341		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	145	344	217	201	173
Volume Left	11	39	17	106	0
Volume Right	17	72	61	0	78
cSH	301	368	1258	1341	1700
Volume to Capacity	0.48	0.94	0.01	0.08	0.10
Queue Length 95th (m)	19.8	79.7	0.3	2.1	0.0
Control Delay (s/veh)	27.6	66.0	0.7	4.5	0.0
Lane LOS	D	F	A	A	
Approach Delay (s/veh)	27.6	66.0	0.7	2.4	
Approach LOS	D	F			

Intersection Summary				
Average Delay	25.7			
Intersection Capacity Utilization	54.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	400	15	25	555	30	20	5	25	10	5	20
Future Volume (Veh/h)	25	400	15	25	555	30	20	5	25	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	28	444	17	28	617	33	22	6	28	11	6	22
Pedestrians					10			10			5	
Lane Width (m)					3.6			3.6			3.6	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					1			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	655			471			1233	1230	473	1244	1222	639
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	655			445			1226	1223	447	1238	1215	639
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			97			83	96	95	92	96	95
cM capacity (veh/h)	883			1089			133	164	591	130	166	467

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	489	678	22	34	11	28
Volume Left	28	28	22	0	11	0
Volume Right	17	33	0	28	0	22
cSH	883	1089	133	405	130	337
Volume to Capacity	0.03	0.03	0.17	0.08	0.08	0.08
Queue Length 95th (m)	0.8	0.6	4.6	2.2	2.2	2.2
Control Delay (s/veh)	0.9	0.7	37.3	14.7	35.2	16.7
Lane LOS	A	A	E	B	E	C
Approach Delay (s/veh)	0.9	0.7	23.6		21.9	
Approach LOS			C		C	

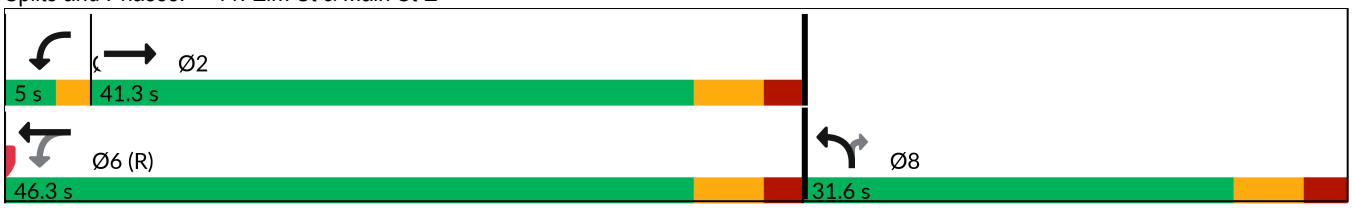
Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	54.9%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	335	160	450	20	165
Future Volume (vph)	335	160	450	20	165
Lane Group Flow (vph)	480	213	600	27	220
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	3.0	8.0	10.0	10.0
Minimum Split (s)	30.3	5.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.46	0.31	0.46	0.12	0.55
Control Delay (s/veh)	11.9	4.0	6.7	30.6	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	11.9	4.0	6.7	30.6	10.4
Queue Length 50th (m)	38.3	6.8	33.4	3.8	0.0
Queue Length 95th (m)	53.4	11.0	43.2	8.8	9.7
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1043	680	1292	551	657
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.31	0.46	0.05	0.33

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

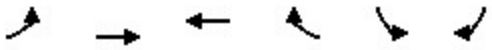
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	335	25	160	450	20	165
Future Volume (vph)	335	25	160	450	20	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1826		1780	1845	1719	1583
Flt Permitted	1.00		0.41	1.00	0.95	1.00
Satd. Flow (perm)	1826		762	1845	1719	1583
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	447	33	213	600	27	220
RTOR Reduction (vph)	3	0	0	0	0	191
Lane Group Flow (vph)	477	0	213	600	27	29
Confl. Peds. (#/hr)		15	15			
Heavy Vehicles (%)	3%	0%	1%	3%	5%	2%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	44.5		54.6	54.6	10.4	10.4
Effective Green, g (s)	44.5		54.6	54.6	10.4	10.4
Actuated g/C Ratio	0.57		0.70	0.70	0.13	0.13
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1043		639	1293	229	211
v/s Ratio Prot	0.26		0.03	c0.33	0.02	
v/s Ratio Perm			0.20			c0.02
v/c Ratio	0.46		0.33	0.46	0.12	0.14
Uniform Delay, d1	9.7		4.5	5.2	29.7	29.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.3	1.2	0.2	0.2
Delay (s)	9.9		4.8	6.4	29.9	30.0
Level of Service	A		A	A	C	C
Approach Delay (s/veh)	9.9			5.9	30.0	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	75	315	395	75	45	100
Future Volume (Veh/h)	75	315	395	75	45	100
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	87	366	459	87	52	116
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.86				0.86	0.86
vC, conflicting volume	551				1048	508
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	394				973	344
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	91				76	81
cM capacity (veh/h)	986				214	599

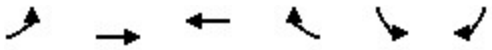
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	453	546	52	116
Volume Left	87	0	52	0
Volume Right	0	87	0	116
cSH	986	1700	214	599
Volume to Capacity	0.09	0.32	0.24	0.19
Queue Length 95th (m)	2.3	0.0	7.4	5.7
Control Delay (s/veh)	2.5	0.0	27.1	12.4
Lane LOS	A		D	B
Approach Delay (s/veh)	2.5	0.0	17.0	
Approach LOS			C	

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	30	165	10	20	190
Future Volume (Veh/h)	10	30	165	10	20	190
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	14	42	229	14	28	264
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	556	236			243	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	556	236			243	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	95			98	
cM capacity (veh/h)	485	801			1306	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	56	243	292
Volume Left	14	0	28
Volume Right	42	14	0
cSH	688	1700	1306
Volume to Capacity	0.08	0.14	0.02
Queue Length 95th (m)	2.1	0.0	0.5
Control Delay (s/veh)	10.7	0.0	0.9
Lane LOS	B		A
Approach Delay (s/veh)	10.7	0.0	0.9
Approach LOS	B		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	33.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	30	40	0	0	0
Future Volume (Veh/h)	0	30	40	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	33	43	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	43				76	43
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	43				76	43
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1566				927	1027

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	33	43	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1566	1700	1700
Volume to Capacity	0.00	0.03	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s/veh)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s/veh)	0.0	0.0	0.0
Approach LOS			A

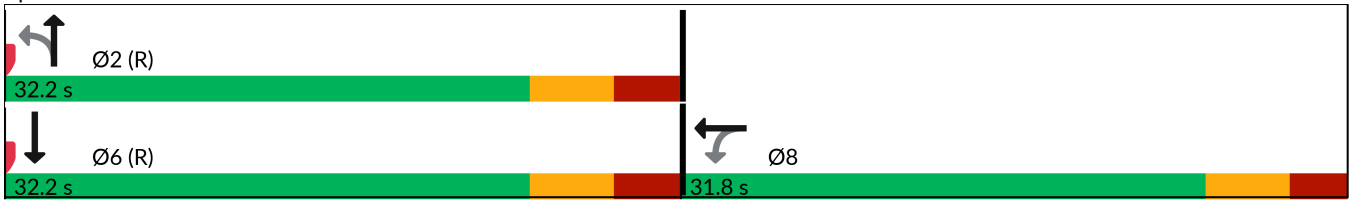
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

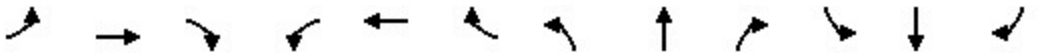
Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	195	320	220	230
Future Volume (vph)	195	320	220	230
Lane Group Flow (vph)	387	344	237	338
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Detector Phase	8	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.58	0.62	0.11	0.17
Control Delay (s/veh)	25.4	11.8	2.5	5.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.4	11.8	2.5	5.0
Queue Length 50th (m)	22.6	28.9	1.3	6.3
Queue Length 95th (m)	32.5	#64.0	3.1	13.2
Internal Link Dist (m)	407.1		125.8	172.2
Turn Bay Length (m)		50.0		
Base Capacity (vph)	1361	559	2070	2006
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.62	0.11	0.17

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Christie St & QEW WB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	135	195	30	320	220	0	0	230	85
Future Volume (vph)	0	0	0	135	195	30	320	220	0	0	230	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.8		7.2	7.2			7.2	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frt					0.99		1.00	1.00			0.96	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3457		1641	3505			3333	
Flt Permitted					0.98		0.55	1.00			1.00	
Satd. Flow (perm)					3457		947	3505			3333	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	145	210	32	344	237	0	0	247	91
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	37	0
Lane Group Flow (vph)	0	0	0	0	373	0	344	237	0	0	301	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	4%	10%	3%	0%	0%	5%	1%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					12.2		37.8	37.8			37.8	
Effective Green, g (s)					12.2		37.8	37.8			37.8	
Actuated g/C Ratio					0.19		0.59	0.59			0.59	
Clearance Time (s)					6.8		7.2	7.2			7.2	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					658		559	2070			1968	
v/s Ratio Prot								0.07			0.09	
v/s Ratio Perm					0.11		c0.36					
v/c Ratio					0.57		0.62	0.11			0.15	
Uniform Delay, d1					23.5		8.4	5.8			5.9	
Progression Factor					0.99		0.63	0.37			1.00	
Incremental Delay, d2					1.1		4.9	0.1			0.2	
Delay (s)					24.4		10.2	2.2			6.1	
Level of Service					C		B	A			A	
Approach Delay (s/veh)		0.0			24.4			6.9			6.1	
Approach LOS		A			C			A			A	

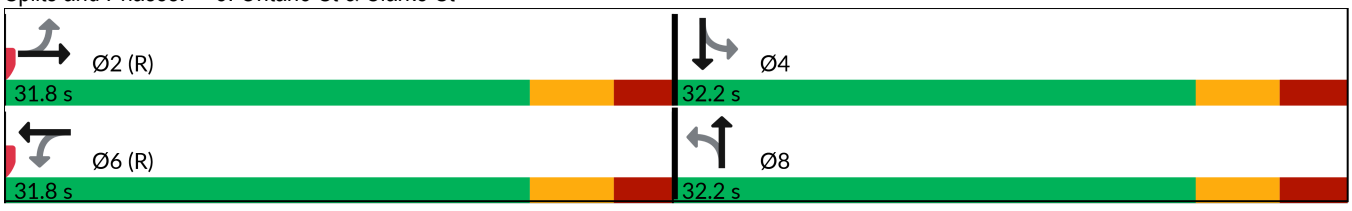
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	105	35	210	15	125	95	170
Future Volume (vph)	10	105	35	210	15	125	95	170
Lane Group Flow (vph)	0	145	0	344	0	217	0	373
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	24.8	25.2	25.2	25.2	25.2
Total Split (s)	31.8	31.8	31.8	31.8	32.2	32.2	32.2	32.2
Total Split (%)	49.7%	49.7%	49.7%	49.7%	50.3%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.8		6.8		7.2		7.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio		0.14		0.35		0.60		0.63
Control Delay (s/veh)		7.1		8.6		25.9		23.7
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		7.1		8.6		25.9		23.7
Queue Length 50th (m)		6.7		18.3		20.5		18.6
Queue Length 95th (m)		17.1		40.4		36.2		28.2
Internal Link Dist (m)		167.5		112.0		146.5		53.2
Turn Bay Length (m)								
Base Capacity (vph)		1016		992		658		1084
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.14		0.35		0.33		0.34

Intersection Summary

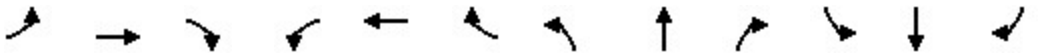
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 8: Ontario St & Clarke St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	105	15	35	210	65	15	125	55	95	170	70
Future Volume (vph)	10	105	15	35	210	65	15	125	55	95	170	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8			6.8			7.2			7.2	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.98			0.97			0.96			0.97	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1798			1765			1742			3346	
Flt Permitted		0.97			0.96			0.93			0.79	
Satd. Flow (perm)		1749			1698			1629			2679	
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)	11	117	17	39	233	72	17	139	61	106	189	78
RTOR Reduction (vph)	0	5	0	0	10	0	0	29	0	0	49	0
Lane Group Flow (vph)	0	140	0	0	334	0	0	188	0	0	324	0
Heavy Vehicles (%)	8%	2%	12%	0%	5%	3%	7%	4%	5%	6%	1%	4%
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)		37.0			37.0			13.0			13.0	
Effective Green, g (s)		37.0			37.0			13.0			13.0	
Actuated g/C Ratio		0.58			0.58			0.20			0.20	
Clearance Time (s)		6.8			6.8			7.2			7.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1011			981			330			544	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.20			0.12			c0.12	
v/c Ratio		0.14			0.34			0.57			0.60	
Uniform Delay, d1		6.2			7.1			23.0			23.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.9			2.4			1.8	
Delay (s)		6.5			8.0			25.4			24.9	
Level of Service		A			A			C			C	
Approach Delay (s/veh)		6.5			8.0			25.4			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

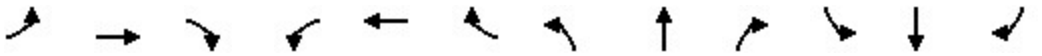


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	150	230	30	260	300	0	0	205	60
Future Volume (Veh/h)	0	0	0	150	230	30	260	300	0	0	205	60
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	158	242	32	274	316	0	0	216	63
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1107	1117	140	977	1148	163	279			321		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1107	1117	140	977	1148	163	279			321		
tC, single (s)	7.5	6.5	6.9	*5.8	*5.7	7.0	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*3.2	*3.2	3.3	2.2			2.2		
p0 queue free %	0	100	100	45	0	96	78			100		
cM capacity (veh/h)	0	163	889	288	227	843	1259			1245		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	279	153	274	158	158	144	135
Volume Left	158	0	274	0	0	0	0
Volume Right	0	32	0	0	0	0	63
cSH	258	268	1259	1700	1700	1700	1700
Volume to Capacity	1.08	0.57	0.22	0.09	0.09	0.08	0.08
Queue Length 95th (m)	92.9	26.0	6.6	0.0	0.0	0.0	0.0
Control Delay (s/veh)	121.5	34.9	8.7	0.0	0.0	0.0	0.0
Lane LOS	F	D	A				
Approach Delay (s/veh)	90.8		4.0			0.0	
Approach LOS	F						

Intersection Summary				
Average Delay	32.0			
Intersection Capacity Utilization	65.1%	ICU Level of Service	C	
Analysis Period (min)	15			

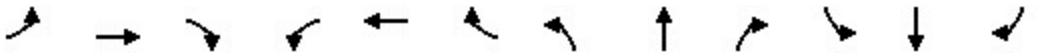
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	70	300	65	60	170	0	0	180	50
Future Volume (Veh/h)	0	0	0	70	300	65	60	170	0	0	180	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	80	341	74	68	193	0	0	205	57
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	779	534	205	534	591	193	262			193		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	779	534	205	534	591	193	262			193		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	82	15	91	95			100		
cM capacity (veh/h)	78	431	841	439	400	854	1314			1392		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	251	245	68	193	205	57
Volume Left	80	0	68	0	0	0
Volume Right	0	74	0	0	0	57
cSH	412	477	1314	1700	1700	1700
Volume to Capacity	0.61	0.51	0.05	0.11	0.12	0.03
Queue Length 95th (m)	31.2	23.0	1.3	0.0	0.0	0.0
Control Delay (s/veh)	26.4	20.2	7.9	0.0	0.0	0.0
Lane LOS	D	C	A			
Approach Delay (s/veh)	23.3		2.1		0.0	
Approach LOS	C					

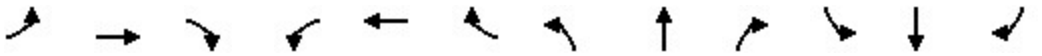
Intersection Summary				
Average Delay	11.9			
Intersection Capacity Utilization	40.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	80	305	10	110	120	0	0	70	20
Future Volume (Veh/h)	0	0	0	80	305	10	110	120	0	0	70	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	86	328	11	118	129	0	0	75	22
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	562	451	86	451	462	65	97			129		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	562	451	86	451	462	65	97			129		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	82	29	99	92			100		
cM capacity (veh/h)	164	467	962	467	461	993	1509			1469		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	250	175	118	65	65	97
Volume Left	86	0	118	0	0	0
Volume Right	0	11	0	0	0	22
cSH	463	477	1509	1700	1700	1700
Volume to Capacity	0.54	0.37	0.08	0.04	0.04	0.06
Queue Length 95th (m)	25.2	13.3	2.0	0.0	0.0	0.0
Control Delay (s/veh)	21.6	16.9	7.6	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s/veh)	19.6		3.6			0.0
Approach LOS	C					

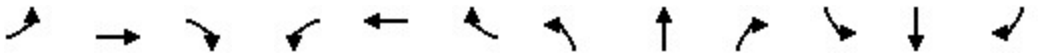
Intersection Summary				
Average Delay	12.0			
Intersection Capacity Utilization	35.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	380	95	0	0	0	0	180	75	10	140	0
Future Volume (Veh/h)	50	380	95	0	0	0	0	180	75	10	140	0
Sign Control		Stop			Stop			Free			Free	
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)	53	404	101	0	0	0	0	191	80	11	149	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	267	442	149	705	402	136	149			271		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	267	442	149	705	402	136	149			271		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	20	88	100	100	100	100			99		
cM capacity (veh/h)	666	504	877	96	535	895	1445			1304		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	255	303	127	144	11	149
Volume Left	53	0	0	0	11	0
Volume Right	0	101	0	80	0	0
cSH	531	587	1700	1700	1304	1700
Volume to Capacity	0.48	0.52	0.07	0.08	0.01	0.09
Queue Length 95th (m)	20.6	23.6	0.0	0.0	0.2	0.0
Control Delay (s/veh)	17.9	17.5	0.0	0.0	7.8	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	17.7		0.0		0.5	
Approach LOS	C					

Intersection Summary				
Average Delay	10.1			
Intersection Capacity Utilization	35.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	385	150	0	0	0	0	190	80	60	205	0
Future Volume (Veh/h)	65	385	150	0	0	0	0	190	80	60	205	0
Sign Control		Stop			Stop			Free			Free	
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)	71	418	163	0	0	0	0	207	87	65	223	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	560	647	223	932	560	207	223			294		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	560	647	223	932	560	207	223			294		
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 %	83	0	80	0	100	100	100			95		
cM capacity (veh/h)	425	370	819	0	417	839	1358			1279		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	280	372	207	87	65	223
Volume Left	71	0	0	0	65	0
Volume Right	0	163	0	87	0	0
cSH	382	487	1700	1700	1279	1700
Volume to Capacity	0.73	0.76	0.12	0.05	0.05	0.13
Queue Length 95th (m)	45.4	53.1	0.0	0.0	1.3	0.0
Control Delay (s/veh)	36.2	32.5	0.0	0.0	8.0	0.0
Lane LOS	E	D			A	
Approach Delay (s/veh)	34.1		0.0		1.8	
Approach LOS	D					

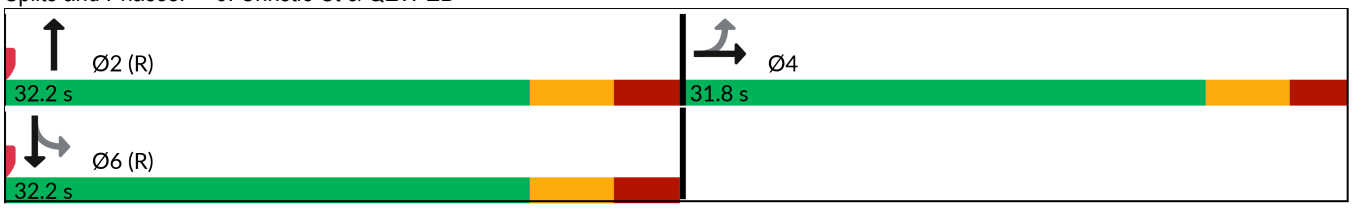
Intersection Summary				
Average Delay	18.4			
Intersection Capacity Utilization	40.7%	ICU Level of Service		A
Analysis Period (min)	15			

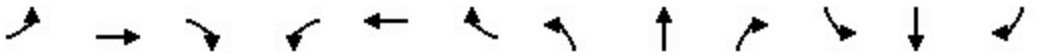
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	340	460	20	335
Future Volume (vph)	340	460	20	335
Lane Group Flow (vph)	865	787	22	376
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.75	0.45	0.07	0.21
Control Delay (s/veh)	17.0	9.8	11.7	10.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.0	9.8	11.7	10.5
Queue Length 50th (m)	32.7	22.8	1.3	12.7
Queue Length 95th (m)	42.6	43.8	5.8	24.6
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1484	1760	309	1798
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.58	0.45	0.07	0.21

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 6: Christie St & QEW EB

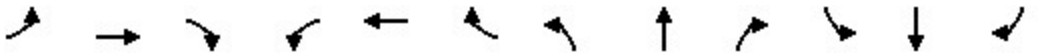




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	340	330	0	0	0	0	460	240	20	335	0
Future Volume (vph)	100	340	330	0	0	0	0	460	240	20	335	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frpb, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		1.00	1.00	
Frt		0.94						0.95		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3327						3357		1805	3610	
Flt Permitted		0.99						1.00		0.33	1.00	
Satd. Flow (perm)		3327						3357		622	3610	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	112	382	371	0	0	0	0	517	270	22	376	0
RTOR Reduction (vph)	0	217	0	0	0	0	0	87	0	0	0	0
Lane Group Flow (vph)	0	648	0	0	0	0	0	700	0	22	376	0
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	2%	2%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		18.1						31.9		31.9	31.9	
Effective Green, g (s)		18.1						31.9		31.9	31.9	
Actuated g/C Ratio		0.28						0.50		0.50	0.50	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		940						1673		310	1799	
v/s Ratio Prot								c0.21			0.10	
v/s Ratio Perm		0.19								0.04		
v/c Ratio		0.69						0.42		0.07	0.21	
Uniform Delay, d1		20.4						10.2		8.3	9.0	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		2.1						0.8		0.4	0.3	
Delay (s)		22.6						10.9		8.8	9.3	
Level of Service		C						B		A	A	
Approach Delay (s/veh)		22.6			0.0			10.9			9.2	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

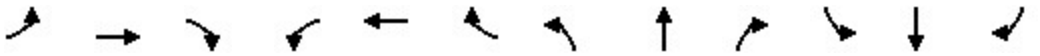
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	200	15	25	155	65	20	155	85	145	165	40
Future Volume (Veh/h)	20	200	15	25	155	65	20	155	85	145	165	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	211	16	26	163	68	21	163	89	153	174	42
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	900	795	108	764	772	208	216			252		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	900	795	108	764	772	208	216			252		
tC, single (s)	7.7	6.5	7.1	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	79	25	98	75	43	92	98			88		
cM capacity (veh/h)	102	281	906	103	288	805	1329			1318		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	248	257	273	240	129
Volume Left	21	26	21	153	0
Volume Right	16	68	89	0	42
cSH	254	284	1329	1318	1700
Volume to Capacity	0.97	0.90	0.02	0.12	0.08
Queue Length 95th (m)	74.0	66.1	0.4	3.1	0.0
Control Delay (s/veh)	92.4	71.1	0.7	5.5	0.0
Lane LOS	F	F	A	A	
Approach Delay (s/veh)	92.4	71.1	0.7	3.6	
Approach LOS	F	F			

Intersection Summary				
Average Delay	37.2			
Intersection Capacity Utilization	53.2%	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	615	20	40	580	20	20	0	40	10	5	20
Future Volume (Veh/h)	20	615	20	40	580	20	20	0	40	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	21	634	21	41	598	21	21	0	41	10	5	21
Pedestrians								15			5	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.89			0.89	0.89	0.89	0.89	0.89	
vC, conflicting volume	624			670			1416	1408	660	1423	1408	614
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	624			563			1405	1396	551	1413	1396	614
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			95			77	100	91	88	96	96
cM capacity (veh/h)	963			891			90	116	470	84	116	494

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	676	660	21	41	10	26
Volume Left	21	41	21	0	10	0
Volume Right	21	21	0	41	0	21
cSH	963	891	90	470	84	303
Volume to Capacity	0.02	0.05	0.23	0.09	0.12	0.09
Queue Length 95th (m)	0.5	1.2	6.7	2.3	3.1	2.2
Control Delay (s/veh)	0.6	1.2	57.0	13.4	53.3	18.0
Lane LOS	A	A	F	B	F	C
Approach Delay (s/veh)	0.6	1.2	28.1		27.8	
Approach LOS			D		D	

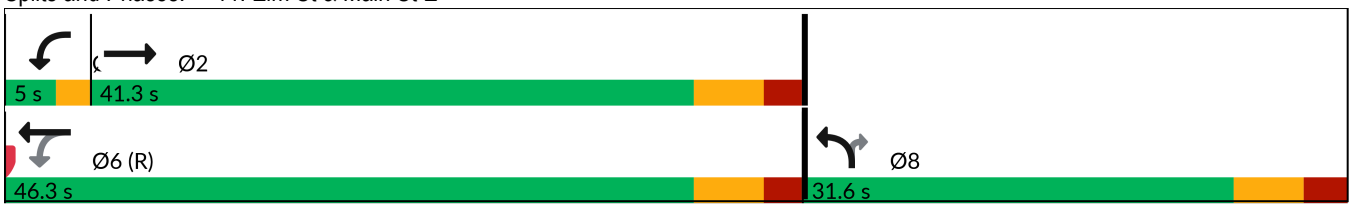
Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	63.9%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	425	225	420	45	265
Future Volume (vph)	425	225	420	45	265
Lane Group Flow (vph)	527	245	457	49	288
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	3.0	8.0	10.0	10.0
Minimum Split (s)	30.3	5.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.51	0.38	0.35	0.20	0.63
Control Delay (s/veh)	13.5	4.8	5.9	31.1	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.5	4.8	5.9	31.1	10.7
Queue Length 50th (m)	43.9	8.0	22.7	6.9	0.0
Queue Length 95th (m)	86.5	17.9	44.0	15.6	20.1
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1029	643	1308	579	685
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.51	0.38	0.35	0.08	0.42

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

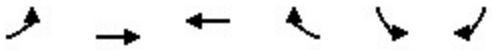
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	425	60	225	420	45	265
Future Volume (vph)	425	60	225	420	45	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1842		1799	1881	1805	1527
Flt Permitted	1.00		0.37	1.00	0.95	1.00
Satd. Flow (perm)	1842		692	1881	1805	1527
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	462	65	245	457	49	288
RTOR Reduction (vph)	5	0	0	0	0	248
Lane Group Flow (vph)	522	0	245	457	49	40
Confl. Peds. (#/hr)		15	15		10	20
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	43.4		54.2	54.2	10.8	10.8
Effective Green, g (s)	43.4		54.2	54.2	10.8	10.8
Actuated g/C Ratio	0.56		0.70	0.70	0.14	0.14
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1026		606	1308	250	211
v/s Ratio Prot	c0.28		c0.05	0.24	c0.03	
v/s Ratio Perm			0.24			0.03
v/c Ratio	0.51		0.40	0.35	0.20	0.19
Uniform Delay, d1	10.7		5.1	4.8	29.7	29.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		0.4	0.7	0.3	0.3
Delay (s)	10.9		5.5	5.5	30.0	30.0
Level of Service	B		A	A	C	C
Approach Delay (s/veh)	10.9			5.5	30.0	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	115	410	380	85	60	140
Future Volume (Veh/h)	115	410	380	85	60	140
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	122	436	404	90	64	149
Pedestrians					20	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.90				0.90	0.90
vC, conflicting volume	514				1149	469
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	405				1110	355
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				65	76
cM capacity (veh/h)	1031				182	612

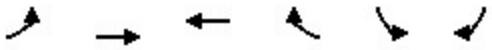
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	558	494	64	149
Volume Left	122	0	64	0
Volume Right	0	90	0	149
cSH	1031	1700	182	612
Volume to Capacity	0.12	0.29	0.35	0.24
Queue Length 95th (m)	3.2	0.0	11.8	7.6
Control Delay (s/veh)	3.1	0.0	35.0	12.8
Lane LOS	A		E	B
Approach Delay (s/veh)	3.1	0.0	19.5	
Approach LOS			C	

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	40	235	15	30	170
Future Volume (Veh/h)	10	40	235	15	30	170
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	46	270	17	34	195
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	547	284			292	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	547	284			292	
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	94			97	
cM capacity (veh/h)	486	757			1276	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	57	287	229
Volume Left	11	0	34
Volume Right	46	17	0
cSH	684	1700	1276
Volume to Capacity	0.08	0.17	0.03
Queue Length 95th (m)	2.2	0.0	0.7
Control Delay (s/veh)	10.7	0.0	1.4
Lane LOS	B		A
Approach Delay (s/veh)	10.7	0.0	1.4
Approach LOS	B		

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	45	50	0	0	0
Future Volume (Veh/h)	0	45	50	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	49	54	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	54				103	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	54				103	54
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1551				895	1013

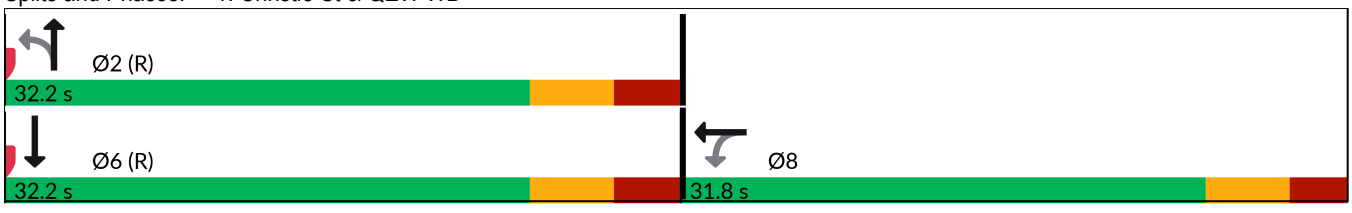
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	49	54	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1551	1700	1700
Volume to Capacity	0.00	0.03	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s/veh)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s/veh)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	230	260	300	205
Future Volume (vph)	230	260	300	205
Lane Group Flow (vph)	432	274	316	279
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Detector Phase	8	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.60	0.45	0.15	0.14
Control Delay (s/veh)	26.2	7.6	4.6	5.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.2	7.6	4.6	5.5
Queue Length 50th (m)	25.3	11.0	5.5	5.6
Queue Length 95th (m)	34.7	19.6	9.0	12.1
Internal Link Dist (m)	407.1		125.8	172.2
Turn Bay Length (m)		50.0		
Base Capacity (vph)	1369	607	2087	2033
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.32	0.45	0.15	0.14

Intersection Summary
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 1: Christie St & QEW WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	150	230	30	260	300	0	0	205	60
Future Volume (vph)	0	0	0	150	230	30	260	300	0	0	205	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.8		7.2	7.2			7.2	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3483		1719	3610			3472	
Flt Permitted					0.98		0.58	1.00			1.00	
Satd. Flow (perm)					3483		1050	3610			3472	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	158	242	32	274	316	0	0	216	63
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	0	0	27	0
Lane Group Flow (vph)	0	0	0	0	420	0	274	316	0	0	252	0
Confl. Peds. (#/hr)									5	5		
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	5%	0%	0%	0%	0%	2%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					13.0		37.0	37.0			37.0	
Effective Green, g (s)					13.0		37.0	37.0			37.0	
Actuated g/C Ratio					0.20		0.58	0.58			0.58	
Clearance Time (s)					6.8		7.2	7.2			7.2	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					707		607	2087			2007	
v/s Ratio Prot								0.09			0.07	
v/s Ratio Perm					0.12		c0.26					
v/c Ratio					0.59		0.45	0.15			0.13	
Uniform Delay, d1					23.1		7.7	6.2			6.1	
Progression Factor					1.03		0.60	0.64			1.00	
Incremental Delay, d2					1.3		2.2	0.1			0.1	
Delay (s)					25.1		6.8	4.2			6.3	
Level of Service					C		A	A			A	
Approach Delay (s/veh)		0.0			25.1			5.4			6.3	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

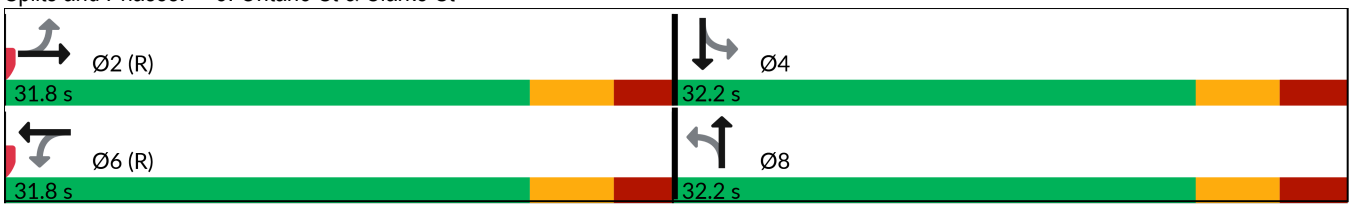
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	200	25	155	20	155	145	165
Future Volume (vph)	20	200	25	155	20	155	145	165
Lane Group Flow (vph)	0	248	0	257	0	273	0	369
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	24.8	25.2	25.2	25.2	25.2
Total Split (s)	31.8	31.8	31.8	31.8	32.2	32.2	32.2	32.2
Total Split (%)	49.7%	49.7%	49.7%	49.7%	50.3%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.8		6.8		7.2		7.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio		0.25		0.26		0.66		0.65
Control Delay (s/veh)		9.0		8.2		25.9		25.9
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		9.0		8.2		25.9		25.9
Queue Length 50th (m)		13.7		12.6		25.9		20.5
Queue Length 95th (m)		31.4		30.3		42.6		29.4
Internal Link Dist (m)		167.5		112.0		146.5		53.2
Turn Bay Length (m)								
Base Capacity (vph)		999		983		688		967
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.25		0.26		0.40		0.38

Intersection Summary

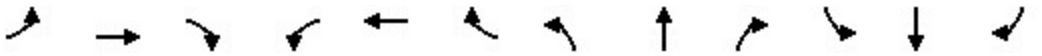
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 32.2 (50%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 8: Ontario St & Clarke St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	200	15	25	155	65	20	155	85	145	165	40
Future Volume (vph)	20	200	15	25	155	65	20	155	85	145	165	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8			6.8			7.2			7.2	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.99			0.96			0.96			0.98	
Flt Protected		1.00			0.99			1.00			0.98	
Satd. Flow (prot)		1852			1811			1802			3442	
Flt Permitted		0.96			0.96			0.93			0.69	
Satd. Flow (perm)		1793			1740			1691			2434	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	211	16	26	163	68	21	163	89	153	174	42
RTOR Reduction (vph)	0	3	0	0	15	0	0	35	0	0	20	0
Lane Group Flow (vph)	0	245	0	0	242	0	0	238	0	0	349	0
Heavy Vehicles (%)	9%	0%	8%	0%	1%	0%	5%	0%	0%	1%	0%	5%
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)		35.6			35.6			14.4			14.4	
Effective Green, g (s)		35.6			35.6			14.4			14.4	
Actuated g/C Ratio		0.56			0.56			0.23			0.23	
Clearance Time (s)		6.8			6.8			7.2			7.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		997			967			380			547	
v/s Ratio Prot												
v/s Ratio Perm		0.14			c0.14			0.14			c0.14	
v/c Ratio		0.25			0.25			0.63			0.64	
Uniform Delay, d1		7.3			7.3			22.4			22.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.6			3.2			2.4	
Delay (s)		7.9			7.9			25.6			24.9	
Level of Service		A			A			C			C	
Approach Delay (s/veh)		7.9			7.9			25.6			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

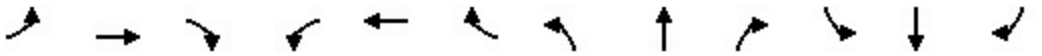


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	135	205	30	320	220	0	0	230	85
Future Volume (Veh/h)	0	0	0	135	205	30	320	220	0	0	230	85
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	145	220	32	344	237	0	0	247	91
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1241	1218	169	1049	1263	119	338			237		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1241	1218	169	1049	1263	119	338			237		
tC, single (s)	7.5	6.5	6.9	*6.0	*5.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.9	*2.5	3.3	2.3			2.2		
p0 queue free %	100	100	100	41	0	96	70			100		
cM capacity (veh/h)	5	128	852	247	221	905	1162			1342		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	255	142	344	119	119	165	173
Volume Left	145	0	344	0	0	0	0
Volume Right	0	32	0	0	0	0	91
cSH	235	266	1162	1700	1700	1700	1700
Volume to Capacity	1.08	0.53	0.30	0.07	0.07	0.10	0.10
Queue Length 95th (m)	88.8	23.1	10.0	0.0	0.0	0.0	0.0
Control Delay (s/veh)	127.9	32.9	9.4	0.0	0.0	0.0	0.0
Lane LOS	F	D	A				
Approach Delay (s/veh)	93.9		5.6			0.0	
Approach LOS	F						

Intersection Summary				
Average Delay	30.8			
Intersection Capacity Utilization	51.8%	ICU Level of Service	A	
Analysis Period (min)	15			

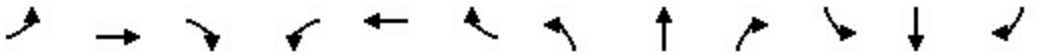
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	135	270	65	70	65	0	0	160	30
Future Volume (Veh/h)	0	0	0	135	270	65	70	65	0	0	160	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	148	297	71	77	71	0	0	176	33
Pedestrians		5										
Lane Width (m)		0.0										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	626	406	181	401	439	71	214			71		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	626	406	181	401	439	71	214			71		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	73	39	93	94			100		
cM capacity (veh/h)	182	507	867	539	483	997	1368			1542		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	297	220	77	71	176	33
Volume Left	148	0	77	0	0	0
Volume Right	0	71	0	0	0	33
cSH	509	580	1368	1700	1700	1700
Volume to Capacity	0.58	0.38	0.06	0.04	0.10	0.02
Queue Length 95th (m)	29.4	14.1	1.4	0.0	0.0	0.0
Control Delay (s/veh)	21.4	14.9	7.8	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	18.7		4.1		0.0	
Approach LOS	C					

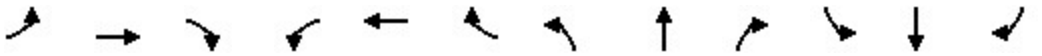
Intersection Summary				
Average Delay	11.7			
Intersection Capacity Utilization	36.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	65	365	5	75	30	0	0	75	30
Future Volume (Veh/h)	0	0	0	65	365	5	75	30	0	0	75	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	71	401	5	82	33	0	0	82	33
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	485	301	99	301	317	22	115			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	485	301	99	301	317	22	115			38		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	88	29	100	94			100		
cM capacity (veh/h)	190	579	945	603	564	1053	1472			1579		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	272	206	82	17	17	115
Volume Left	71	0	82	0	0	0
Volume Right	0	5	0	0	0	33
cSH	574	571	1472	1700	1700	1700
Volume to Capacity	0.47	0.36	0.06	0.01	0.01	0.07
Queue Length 95th (m)	20.2	13.0	1.4	0.0	0.0	0.0
Control Delay (s/veh)	16.8	14.8	7.6	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	15.9		5.4			0.0
Approach LOS	C					

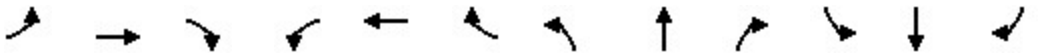
Intersection Summary				
Average Delay	11.6			
Intersection Capacity Utilization	32.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	260	50	0	0	0	0	100	60	25	115	0
Future Volume (Veh/h)	5	260	50	0	0	0	0	100	60	25	115	0
Sign Control		Stop			Stop			Free			Free	
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)	5	277	53	0	0	0	0	106	64	27	122	0
Pedestrians					5							
Lane Width (m)					0.0							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	229	351	122	511	319	90	122			175		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	229	351	122	511	319	90	122			175		
tC, single (s)	7.9	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	50	94	100	100	100	100			98		
cM capacity (veh/h)	651	555	903	254	589	956	1478			1414		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	144	192	71	99	27	122
Volume Left	5	0	0	0	27	0
Volume Right	0	53	0	64	0	0
cSH	557	621	1700	1700	1414	1700
Volume to Capacity	0.26	0.31	0.04	0.06	0.02	0.07
Queue Length 95th (m)	8.2	10.5	0.0	0.0	0.5	0.0
Control Delay (s/veh)	13.7	13.4	0.0	0.0	7.6	0.0
Lane LOS	B	B			A	
Approach Delay (s/veh)	13.5		0.0		1.4	
Approach LOS	B					

Intersection Summary				
Average Delay	7.2			
Intersection Capacity Utilization	32.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	180	110	0	0	0	0	140	75	60	260	0
Future Volume (Veh/h)	10	180	110	0	0	0	0	140	75	60	260	0
Sign Control		Stop			Stop			Free			Free	
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)	10	188	115	0	0	0	0	146	78	62	271	0
Pedestrians		5										
Lane Width (m)		3.6										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	546	624	276	750	546	146	276			224		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	546	624	276	750	546	146	276			224		
tC, single (s)	7.1	6.6	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	49	85	100	100	100	100			95		
cM capacity (veh/h)	432	372	757	163	425	906	1293			1333		

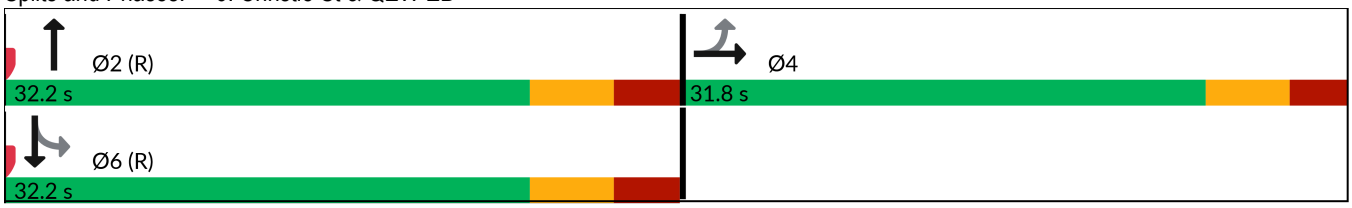
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	104	209	146	78	62	271
Volume Left	10	0	0	0	62	0
Volume Right	0	115	0	78	0	0
cSH	377	516	1700	1700	1333	1700
Volume to Capacity	0.28	0.40	0.09	0.05	0.05	0.16
Queue Length 95th (m)	8.9	15.5	0.0	0.0	1.2	0.0
Control Delay (s/veh)	18.2	16.6	0.0	0.0	7.8	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	17.1		0.0		1.5	
Approach LOS	C					

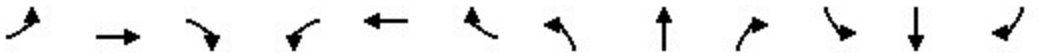
Intersection Summary				
Average Delay	6.7			
Intersection Capacity Utilization	36.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	165	495	30	335
Future Volume (vph)	165	495	30	335
Lane Group Flow (vph)	467	652	33	364
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.65	0.31	0.07	0.17
Control Delay (s/veh)	15.8	6.3	6.7	6.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.8	6.3	6.7	6.1
Queue Length 50th (m)	13.7	15.6	1.4	8.6
Queue Length 95th (m)	24.3	30.0	5.6	17.5
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1401	2128	456	2188
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.33	0.31	0.07	0.17

Intersection Summary
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 6: Christie St & QEW EB





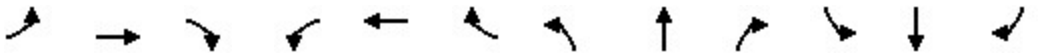
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	165	220	0	0	0	0	495	105	30	335	0
Future Volume (vph)	45	165	220	0	0	0	0	495	105	30	335	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frt		0.92						0.97		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3215						3413		1736	3539	
Flt Permitted		0.99						1.00		0.40	1.00	
Satd. Flow (perm)		3215						3413		738	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	179	239	0	0	0	0	538	114	33	364	0
RTOR Reduction (vph)	0	200	0	0	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	267	0	0	0	0	0	634	0	33	364	0
Heavy Vehicles (%)	3%	2%	4%	0%	0%	0%	0%	3%	3%	4%	2%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		10.4						39.6		39.6	39.6	
Effective Green, g (s)		10.4						39.6		39.6	39.6	
Actuated g/C Ratio		0.16						0.62		0.62	0.62	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		522						2111		456	2189	
v/s Ratio Prot								c0.19			0.10	
v/s Ratio Perm		0.08								0.04		
v/c Ratio		0.51						0.30		0.07	0.17	
Uniform Delay, d1		24.5						5.7		4.9	5.2	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.8						0.4		0.3	0.2	
Delay (s)		25.3						6.1		5.2	5.3	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		25.3			0.0			6.1			5.3	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	105	20	35	210	65	20	145	60	95	190	70
Future Volume (Veh/h)	10	105	20	35	210	65	20	145	60	95	190	70
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)	11	117	22	39	233	72	22	161	67	106	211	78
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	889	734	145	637	740	195	289			228		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	889	734	145	637	740	195	289			228		
tC, single (s)	7.7	6.5	7.1	7.5	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3			2.3		
p0 queue free %	85	63	97	83	24	91	98			92		
cM capacity (veh/h)	73	312	846	235	305	811	1234			1309		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	150	344	250	212	184
Volume Left	11	39	22	106	0
Volume Right	22	72	67	0	78
cSH	271	337	1234	1309	1700
Volume to Capacity	0.55	1.02	0.02	0.08	0.11
Queue Length 95th (m)	24.6	94.2	0.4	2.1	0.0
Control Delay (s/veh)	33.5	90.2	0.9	4.4	0.0
Lane LOS	D	F	A	A	
Approach Delay (s/veh)	33.5	90.2	0.9	2.3	
Approach LOS	D	F			

Intersection Summary				
Average Delay	32.6			
Intersection Capacity Utilization	57.8%	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)	25	400	15	25	555	35	20	5	25	10	5	20
Future Volume (Veh/h)	25	400	15	25	555	35	20	5	25	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	28	444	17	28	617	39	22	6	28	11	6	22
Pedestrians					10			10			5	
Lane Width (m)					3.6			3.6			3.6	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					1			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	661			471			1236	1236	473	1247	1225	642
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	661			453			1231	1231	454	1243	1220	642
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			97			83	96	95	92	96	95
cM capacity (veh/h)	878			1090			133	164	589	130	166	465

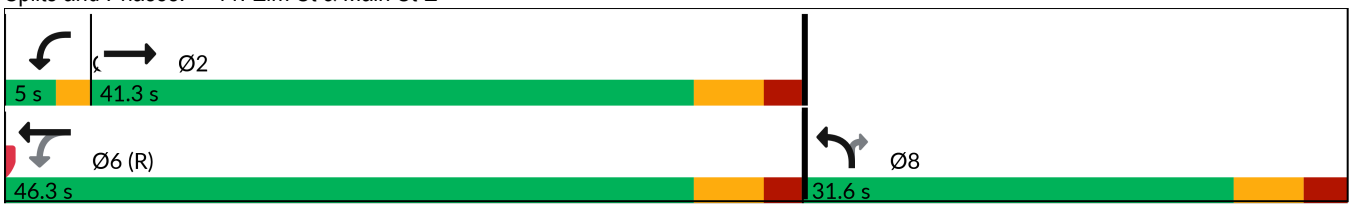
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	489	684	22	34	11	28
Volume Left	28	28	22	0	11	0
Volume Right	17	39	0	28	0	22
cSH	878	1090	133	404	130	336
Volume to Capacity	0.03	0.03	0.17	0.08	0.08	0.08
Queue Length 95th (m)	0.8	0.6	4.6	2.2	2.2	2.2
Control Delay (s/veh)	0.9	0.7	37.3	14.7	35.2	16.7
Lane LOS	A	A	E	B	E	C
Approach Delay (s/veh)	0.9	0.7	23.6		21.9	
Approach LOS			C		C	

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	55.2%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	335	160	450	35	165
Future Volume (vph)	335	160	450	35	165
Lane Group Flow (vph)	494	213	600	47	220
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	3.0	8.0	10.0	10.0
Minimum Split (s)	30.3	5.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.48	0.32	0.46	0.20	0.55
Control Delay (s/veh)	12.1	4.1	6.7	32.1	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.1	4.1	6.7	32.1	10.4
Queue Length 50th (m)	39.7	6.8	33.4	6.7	0.0
Queue Length 95th (m)	55.0	11.0	43.2	13.1	9.7
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1040	667	1292	551	657
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.32	0.46	0.09	0.33

Intersection Summary
Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

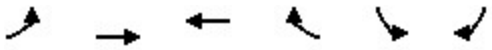
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	335	35	160	450	35	165
Future Volume (vph)	335	35	160	450	35	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1818		1781	1845	1719	1583
Flt Permitted	1.00		0.40	1.00	0.95	1.00
Satd. Flow (perm)	1818		743	1845	1719	1583
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	447	47	213	600	47	220
RTOR Reduction (vph)	4	0	0	0	0	191
Lane Group Flow (vph)	490	0	213	600	47	29
Confl. Peds. (#/hr)		15	15			
Heavy Vehicles (%)	3%	0%	1%	3%	5%	2%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	44.5		54.6	54.6	10.4	10.4
Effective Green, g (s)	44.5		54.6	54.6	10.4	10.4
Actuated g/C Ratio	0.57		0.70	0.70	0.13	0.13
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1038		628	1293	229	211
v/s Ratio Prot	0.27		0.04	c0.33	c0.03	
v/s Ratio Perm			0.20			0.02
v/c Ratio	0.47		0.34	0.46	0.21	0.14
Uniform Delay, d1	9.8		4.5	5.2	30.1	29.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.3	1.2	0.3	0.2
Delay (s)	10.1		4.9	6.4	30.4	30.0
Level of Service	B		A	A	C	C
Approach Delay (s/veh)	10.1			6.0	30.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	315	395	90	55	115
Future Volume (Veh/h)	85	315	395	90	55	115
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	99	366	459	105	64	134
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.86				0.86	0.86
vC, conflicting volume	569				1081	517
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	415				1011	354
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	90				68	77
cM capacity (veh/h)	968				200	591

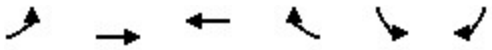
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	465	564	64	134
Volume Left	99	0	64	0
Volume Right	0	105	0	134
cSH	968	1700	200	591
Volume to Capacity	0.10	0.33	0.32	0.23
Queue Length 95th (m)	2.7	0.0	10.5	6.9
Control Delay (s/veh)	2.9	0.0	31.2	12.9
Lane LOS	A		D	B
Approach Delay (s/veh)	2.9	0.0	18.8	
Approach LOS			C	

Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	60	165	35	45	190
Future Volume (Veh/h)	35	60	165	35	45	190
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	49	83	229	49	62	264
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	642	254			278	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	642	254			278	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	89			95	
cM capacity (veh/h)	420	783			1268	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	132	278	326
Volume Left	49	0	62
Volume Right	83	49	0
cSH	593	1700	1268
Volume to Capacity	0.22	0.16	0.05
Queue Length 95th (m)	6.8	0.0	1.2
Control Delay (s/veh)	12.8	0.0	1.9
Lane LOS	B		A
Approach Delay (s/veh)	12.8	0.0	1.9
Approach LOS	B		

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	38.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	30	40	5	0	55
Future Volume (Veh/h)	50	30	40	5	0	55
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	33	43	5	0	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	48				187	46
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	48				187	46
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	94
cM capacity (veh/h)	1559				775	1024

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	87	48	60
Volume Left	54	0	0
Volume Right	0	5	60
cSH	1559	1700	1024
Volume to Capacity	0.03	0.03	0.06
Queue Length 95th (m)	0.9	0.0	1.5
Control Delay (s/veh)	4.7	0.0	8.7
Lane LOS	A		A
Approach Delay (s/veh)	4.7	0.0	8.7
Approach LOS			A

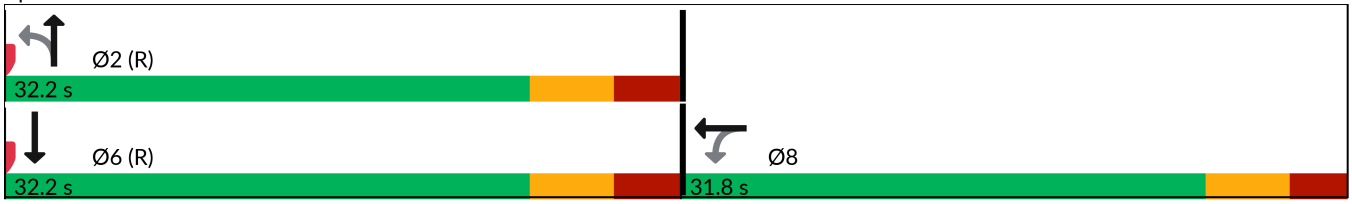
Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

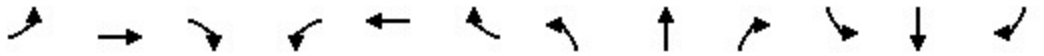
Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	205	320	220	230
Future Volume (vph)	205	320	220	230
Lane Group Flow (vph)	397	344	237	338
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Detector Phase	8	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.58	0.62	0.12	0.17
Control Delay (s/veh)	25.3	11.9	2.5	5.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.3	11.9	2.5	5.0
Queue Length 50th (m)	23.2	29.3	1.3	6.3
Queue Length 95th (m)	33.7	#65.7	3.3	13.4
Internal Link Dist (m)	407.1		125.8	172.2
Turn Bay Length (m)		50.0		
Base Capacity (vph)	1361	556	2060	1997
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.62	0.12	0.17

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Christie St & QEW WB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	135	205	30	320	220	0	0	230	85
Future Volume (vph)	0	0	0	135	205	30	320	220	0	0	230	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.8		7.2	7.2			7.2	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frt					0.99		1.00	1.00			0.96	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3459		1641	3505			3333	
Flt Permitted					0.98		0.55	1.00			1.00	
Satd. Flow (perm)					3459		947	3505			3333	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	145	220	32	344	237	0	0	247	91
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	38	0
Lane Group Flow (vph)	0	0	0	0	383	0	344	237	0	0	300	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	4%	10%	3%	0%	0%	5%	1%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					12.4		37.6	37.6			37.6	
Effective Green, g (s)					12.4		37.6	37.6			37.6	
Actuated g/C Ratio					0.19		0.59	0.59			0.59	
Clearance Time (s)					6.8		7.2	7.2			7.2	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					670		556	2059			1958	
v/s Ratio Prot								0.07			0.09	
v/s Ratio Perm					0.11		c0.36					
v/c Ratio					0.57		0.62	0.12			0.15	
Uniform Delay, d1					23.4		8.6	5.8			6.0	
Progression Factor					0.99		0.61	0.37			1.00	
Incremental Delay, d2					1.2		4.9	0.1			0.2	
Delay (s)					24.3		10.2	2.3			6.2	
Level of Service					C		B	A			A	
Approach Delay (s/veh)		0.0			24.3			6.9			6.2	
Approach LOS		A			C			A			A	

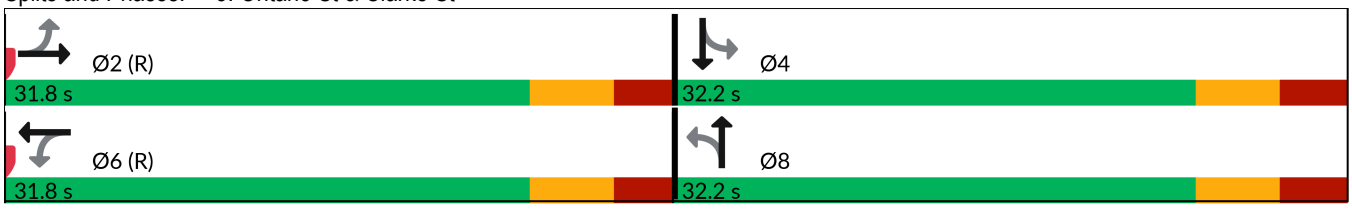
Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

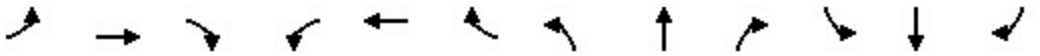
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	105	35	210	20	145	95	190
Future Volume (vph)	10	105	35	210	20	145	95	190
Lane Group Flow (vph)	0	150	0	344	0	250	0	395
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	24.8	25.2	25.2	25.2	25.2
Total Split (s)	31.8	31.8	31.8	31.8	32.2	32.2	32.2	32.2
Total Split (%)	49.7%	49.7%	49.7%	49.7%	50.3%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.8		6.8		7.2		7.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio		0.15		0.36		0.65		0.64
Control Delay (s/veh)		7.7		9.5		27.1		23.6
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		7.7		9.5		27.1		23.6
Queue Length 50th (m)		7.1		19.2		24.5		20.2
Queue Length 95th (m)		18.5		43.4		40.8		29.3
Internal Link Dist (m)		167.5		112.0		146.5		53.2
Turn Bay Length (m)								
Base Capacity (vph)		980		961		651		1052
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.15		0.36		0.38		0.38

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

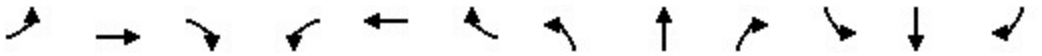
Splits and Phases: 8: Ontario St & Clarke St





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	105	20	35	210	65	20	145	60	95	190	70
Future Volume (vph)	10	105	20	35	210	65	20	145	60	95	190	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8			6.8			7.2			7.2	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.98			0.97			0.96			0.97	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1786			1765			1744			3358	
Flt Permitted		0.97			0.96			0.92			0.77	
Satd. Flow (perm)		1738			1696			1613			2611	
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)	11	117	22	39	233	72	22	161	67	106	211	78
RTOR Reduction (vph)	0	7	0	0	11	0	0	27	0	0	43	0
Lane Group Flow (vph)	0	143	0	0	333	0	0	223	0	0	352	0
Heavy Vehicles (%)	8%	2%	12%	0%	5%	3%	7%	4%	5%	6%	1%	4%
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			14.1			14.1	
Effective Green, g (s)		35.9			35.9			14.1			14.1	
Actuated g/C Ratio		0.56			0.56			0.22			0.22	
Clearance Time (s)		6.8			6.8			7.2			7.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		974			951			355			575	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.20			c0.14			0.13	
v/c Ratio		0.15			0.35			0.63			0.61	
Uniform Delay, d1		6.7			7.7			22.6			22.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			1.0			3.5			1.9	
Delay (s)		7.0			8.7			26.1			24.4	
Level of Service		A			A			C			C	
Approach Delay (s/veh)		7.0			8.7			26.1			24.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

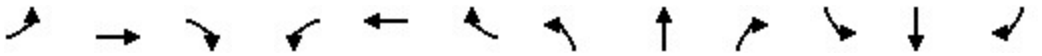


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	150	235	30	260	300	0	0	205	60
Future Volume (Veh/h)	0	0	0	150	235	30	260	300	0	0	205	60
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	158	247	32	274	316	0	0	216	63
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1109	1117	140	977	1148	163	279			321		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1109	1117	140	977	1148	163	279			321		
tC, single (s)	7.5	6.5	6.9	*5.8	*5.7	7.0	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*3.2	*3.2	3.3	2.2			2.2		
p0 queue free %	0	100	100	45	0	96	78			100		
cM capacity (veh/h)	0	163	889	288	227	843	1259			1245		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	282	156	274	158	158	144	135
Volume Left	158	0	274	0	0	0	0
Volume Right	0	32	0	0	0	0	63
cSH	258	267	1259	1700	1700	1700	1700
Volume to Capacity	1.09	0.58	0.22	0.09	0.09	0.08	0.08
Queue Length 95th (m)	94.9	26.9	6.6	0.0	0.0	0.0	0.0
Control Delay (s/veh)	125.0	35.6	8.7	0.0	0.0	0.0	0.0
Lane LOS	F	E	A				
Approach Delay (s/veh)	93.2		4.0			0.0	
Approach LOS	F						

Intersection Summary				
Average Delay	33.0			
Intersection Capacity Utilization	66.0%	ICU Level of Service	C	
Analysis Period (min)	15			

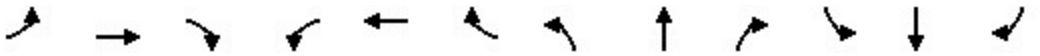
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	85	300	65	65	170	0	0	180	50
Future Volume (Veh/h)	0	0	0	85	300	65	65	170	0	0	180	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	97	341	74	74	193	0	0	205	57
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	791	546	205	546	603	193	262			193		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	791	546	205	546	603	193	262			193		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	77	13	91	94			100		
cM capacity (veh/h)	71	423	841	429	392	854	1314			1392		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	268	245	74	193	205	57
Volume Left	97	0	74	0	0	0
Volume Right	0	74	0	0	0	57
cSH	405	469	1314	1700	1700	1700
Volume to Capacity	0.66	0.52	0.06	0.11	0.12	0.03
Queue Length 95th (m)	36.8	23.6	1.4	0.0	0.0	0.0
Control Delay (s/veh)	29.6	20.7	7.9	0.0	0.0	0.0
Lane LOS	D	C	A			
Approach Delay (s/veh)	25.4		2.2		0.0	
Approach LOS	D					

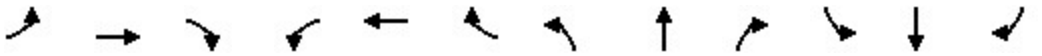
Intersection Summary				
Average Delay	13.0			
Intersection Capacity Utilization	41.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	80	320	10	110	120	0	0	70	20
Future Volume (Veh/h)	0	0	0	80	320	10	110	120	0	0	70	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	86	344	11	118	129	0	0	75	22
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	570	451	86	451	462	65	97			129		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	570	451	86	451	462	65	97			129		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	82	25	99	92			100		
cM capacity (veh/h)	149	467	962	467	461	993	1509			1469		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	258	183	118	65	65	97
Volume Left	86	0	118	0	0	0
Volume Right	0	11	0	0	0	22
cSH	463	476	1509	1700	1700	1700
Volume to Capacity	0.56	0.38	0.08	0.04	0.04	0.06
Queue Length 95th (m)	26.8	14.3	2.0	0.0	0.0	0.0
Control Delay (s/veh)	22.2	17.2	7.6	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s/veh)	20.1		3.6			0.0
Approach LOS	C					

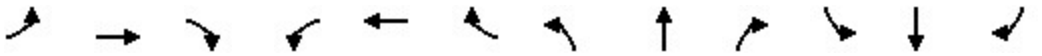
Intersection Summary				
Average Delay	12.4			
Intersection Capacity Utilization	36.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	390	95	0	0	0	0	180	75	10	140	0
Future Volume (Veh/h)	50	390	95	0	0	0	0	180	75	10	140	0
Sign Control		Stop			Stop			Free			Free	
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)	53	415	101	0	0	0	0	191	80	11	149	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	267	442	149	711	402	136	149			271		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	267	442	149	711	402	136	149			271		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	18	88	100	100	100	100			99		
cM capacity (veh/h)	666	504	877	89	535	895	1445			1304		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	261	309	127	144	11	149
Volume Left	53	0	0	0	11	0
Volume Right	0	101	0	80	0	0
cSH	530	586	1700	1700	1304	1700
Volume to Capacity	0.49	0.53	0.07	0.08	0.01	0.09
Queue Length 95th (m)	21.5	24.5	0.0	0.0	0.2	0.0
Control Delay (s/veh)	18.2	17.8	0.0	0.0	7.8	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	18.0		0.0		0.5	
Approach LOS	C					

Intersection Summary				
Average Delay	10.3			
Intersection Capacity Utilization	36.0%	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)	65	385	180	0	0	0	0	195	90	60	220	0
Future Volume (Veh/h)	65	385	180	0	0	0	0	195	90	60	220	0
Sign Control		Stop			Stop			Free			Free	
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)	71	418	196	0	0	0	0	212	98	65	239	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	581	679	239	986	581	212	239			310		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	581	679	239	986	581	212	239			310		
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 %	83	0	76	0	100	100	100			95		
cM capacity (veh/h)	411	354	802	0	406	833	1340			1262		

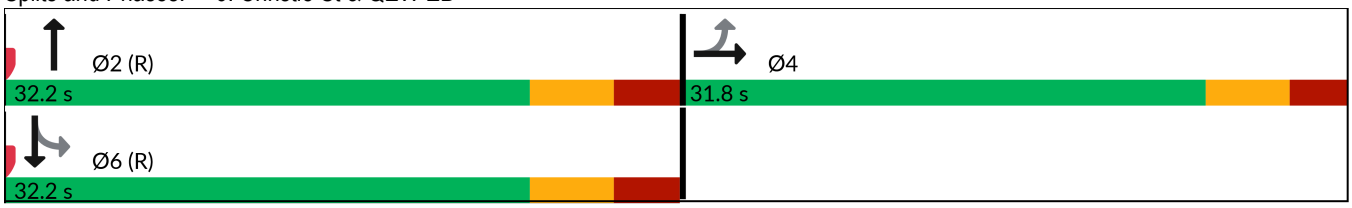
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	280	405	212	98	65	239
Volume Left	71	0	0	0	65	0
Volume Right	0	196	0	98	0	0
cSH	367	486	1700	1700	1262	1700
Volume to Capacity	0.76	0.83	0.12	0.06	0.05	0.14
Queue Length 95th (m)	49.2	66.2	0.0	0.0	1.3	0.0
Control Delay (s/veh)	40.2	39.7	0.0	0.0	8.0	0.0
Lane LOS	E	E			A	
Approach Delay (s/veh)	39.9		0.0		1.7	
Approach LOS	E					

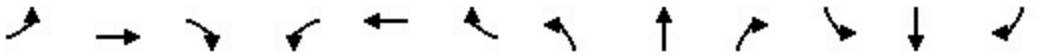
Intersection Summary				
Average Delay	21.4			
Intersection Capacity Utilization	41.9%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	370	460	20	335
Future Volume (vph)	370	460	20	335
Lane Group Flow (vph)	899	787	22	376
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.75	0.46	0.07	0.21
Control Delay (s/veh)	17.2	10.2	12.1	10.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.2	10.2	12.1	10.9
Queue Length 50th (m)	34.6	23.5	1.4	13.1
Queue Length 95th (m)	44.6	44.6	6.0	25.1
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1490	1732	302	1766
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.60	0.45	0.07	0.21

Intersection Summary
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 6: Christie St & QEW EB

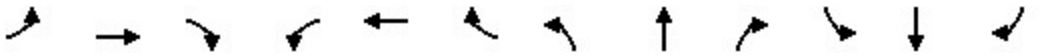




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	370	330	0	0	0	0	460	240	20	335	0
Future Volume (vph)	100	370	330	0	0	0	0	460	240	20	335	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frpb, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		1.00	1.00	
Frt		0.94						0.95		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3338						3357		1805	3610	
Flt Permitted		0.99						1.00		0.32	1.00	
Satd. Flow (perm)		3338						3357		617	3610	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	112	416	371	0	0	0	0	517	270	22	376	0
RTOR Reduction (vph)	0	214	0	0	0	0	0	88	0	0	0	0
Lane Group Flow (vph)	0	685	0	0	0	0	0	699	0	22	376	0
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	2%	2%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		18.7						31.3		31.3	31.3	
Effective Green, g (s)		18.7						31.3		31.3	31.3	
Actuated g/C Ratio		0.29						0.49		0.49	0.49	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		975						1641		301	1765	
v/s Ratio Prot								c0.21			0.10	
v/s Ratio Perm		0.21								0.04		
v/c Ratio		0.70						0.43		0.07	0.21	
Uniform Delay, d1		20.2						10.6		8.7	9.3	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		2.3						0.8		0.5	0.3	
Delay (s)		22.5						11.4		9.1	9.6	
Level of Service		C						B		A	A	
Approach Delay (s/veh)		22.5			0.0			11.4			9.6	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

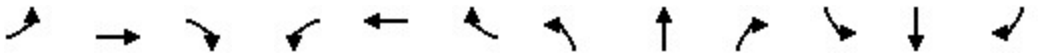
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	200	15	25	155	65	25	170	100	145	210	40
Future Volume (Veh/h)	20	200	15	25	155	65	25	170	100	145	210	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	211	16	26	163	68	26	179	105	153	221	42
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	981	884	132	822	853	232	263			284		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	981	884	132	822	853	232	263			284		
tC, single (s)	7.7	6.5	7.1	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	73	15	98	61	36	91	98			88		
cM capacity (veh/h)	79	247	875	67	256	777	1277			1283		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	248	257	310	264	153
Volume Left	21	26	26	153	0
Volume Right	16	68	105	0	42
cSH	218	232	1277	1283	1700
Volume to Capacity	1.14	1.11	0.02	0.12	0.09
Queue Length 95th (m)	93.7	92.2	0.5	3.2	0.0
Control Delay (s/veh)	149.9	136.6	0.8	5.2	0.0
Lane LOS	F	F	A	A	
Approach Delay (s/veh)	149.9	136.6	0.8	3.3	
Approach LOS	F	F			

Intersection Summary				
Average Delay	60.0			
Intersection Capacity Utilization	56.4%	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)	20	615	20	40	580	25	20	0	40	15	5	20
Future Volume (Veh/h)	20	615	20	40	580	25	20	0	40	15	5	20
Sign Control		Free			Free			Stop			Stop	
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)	21	634	21	41	598	26	21	0	41	15	5	21
Pedestrians								15			5	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.89			0.89	0.89	0.89	0.89	0.89	
vC, conflicting volume	629			670			1418	1413	660	1426	1410	616
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	629			562			1407	1401	551	1416	1398	616
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			95			76	100	91	82	96	96
cM capacity (veh/h)	959			891			89	115	471	84	115	492

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	676	665	21	41	15	26
Volume Left	21	41	21	0	15	0
Volume Right	21	26	0	41	0	21
cSH	959	891	89	471	84	302
Volume to Capacity	0.02	0.05	0.24	0.09	0.18	0.09
Queue Length 95th (m)	0.5	1.2	6.7	2.3	4.9	2.2
Control Delay (s/veh)	0.6	1.2	57.3	13.4	56.9	18.0
Lane LOS	A	A	F	B	F	C
Approach Delay (s/veh)	0.6	1.2	28.3		32.3	
Approach LOS			D		D	

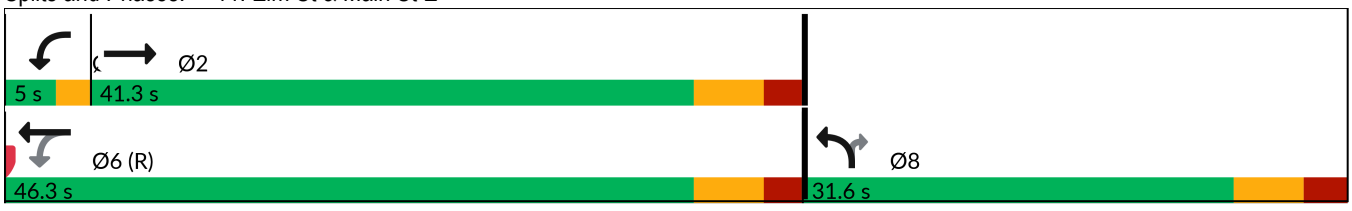
Intersection Summary				
Average Delay	3.0			
Intersection Capacity Utilization	64.3%	ICU Level of Service	C	
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	425	225	420	65	265
Future Volume (vph)	425	225	420	65	265
Lane Group Flow (vph)	549	245	457	71	288
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	3.0	8.0	10.0	10.0
Minimum Split (s)	30.3	5.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.54	0.39	0.35	0.28	0.63
Control Delay (s/veh)	13.9	4.9	5.9	32.7	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.9	4.9	5.9	32.7	10.7
Queue Length 50th (m)	46.7	8.0	22.7	10.2	0.0
Queue Length 95th (m)	91.3	17.9	44.0	20.8	20.1
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1022	625	1308	579	685
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.39	0.35	0.12	0.42

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

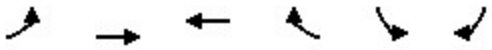
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	425	80	225	420	65	265
Future Volume (vph)	425	80	225	420	65	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1831		1800	1881	1805	1527
Flt Permitted	1.00		0.35	1.00	0.95	1.00
Satd. Flow (perm)	1831		659	1881	1805	1527
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	462	87	245	457	71	288
RTOR Reduction (vph)	7	0	0	0	0	248
Lane Group Flow (vph)	542	0	245	457	71	40
Confl. Peds. (#/hr)		15	15		10	20
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	43.2		54.2	54.2	10.8	10.8
Effective Green, g (s)	43.2		54.2	54.2	10.8	10.8
Actuated g/C Ratio	0.55		0.70	0.70	0.14	0.14
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1015		590	1308	250	211
v/s Ratio Prot	c0.30		c0.05	0.24	c0.04	
v/s Ratio Perm			0.24			0.03
v/c Ratio	0.53		0.42	0.35	0.28	0.19
Uniform Delay, d1	11.0		5.2	4.8	30.1	29.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4		0.5	0.7	0.5	0.3
Delay (s)	11.4		5.7	5.5	30.5	30.0
Level of Service	B		A	A	C	C
Approach Delay (s/veh)	11.4			5.6	30.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	125	410	380	105	80	160
Future Volume (Veh/h)	125	410	380	105	80	160
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	133	436	404	112	85	170
Pedestrians					20	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.90				0.90	0.90
vC, conflicting volume	536				1182	480
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	429				1147	367
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				50	72
cM capacity (veh/h)	1010				171	602

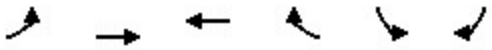
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	569	516	85	170
Volume Left	133	0	85	0
Volume Right	0	112	0	170
cSH	1010	1700	171	602
Volume to Capacity	0.13	0.30	0.50	0.28
Queue Length 95th (m)	3.6	0.0	19.4	9.2
Control Delay (s/veh)	3.4	0.0	45.3	13.3
Lane LOS	A		E	B
Approach Delay (s/veh)	3.4	0.0	24.0	
Approach LOS			C	

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	75	235	45	75	170
Future Volume (Veh/h)	50	75	235	45	75	170
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	57	86	270	52	86	195
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	668	301			327	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	668	301			327	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	88			93	
cM capacity (veh/h)	395	740			1239	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	143	322	281
Volume Left	57	0	86
Volume Right	86	52	0
cSH	549	1700	1239
Volume to Capacity	0.26	0.19	0.07
Queue Length 95th (m)	8.3	0.0	1.8
Control Delay (s/veh)	13.8	0.0	2.9
Lane LOS	B		A
Approach Delay (s/veh)	13.8	0.0	2.9
Approach LOS	B		

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	75	45	50	5	5	75
Future Volume (Veh/h)	75	45	50	5	5	75
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	49	54	5	5	82
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	59				270	57
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	59				270	57
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				99	92
cM capacity (veh/h)	1545				682	1010

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	131	59	87
Volume Left	82	0	5
Volume Right	0	5	82
cSH	1545	1700	983
Volume to Capacity	0.05	0.03	0.09
Queue Length 95th (m)	1.3	0.0	2.3
Control Delay (s/veh)	4.8	0.0	9.0
Lane LOS	A		A
Approach Delay (s/veh)	4.8	0.0	9.0
Approach LOS			A

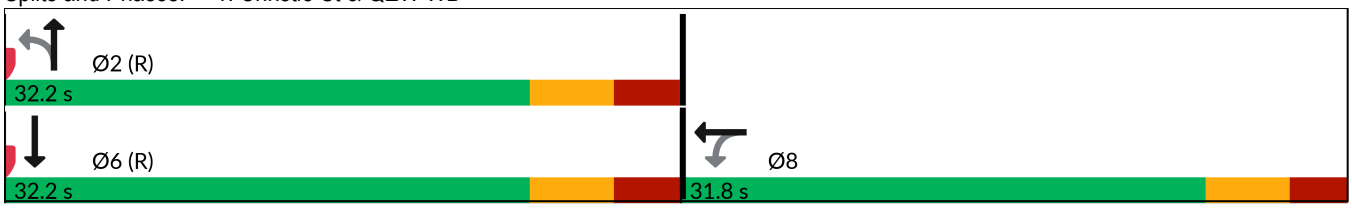
Intersection Summary			
Average Delay		5.1	
Intersection Capacity Utilization		24.8%	ICU Level of Service
Analysis Period (min)		15	

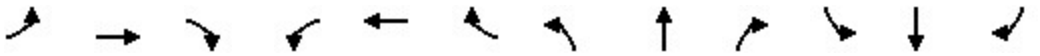
Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	235	260	300	205
Future Volume (vph)	235	260	300	205
Lane Group Flow (vph)	437	274	316	279
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Detector Phase	8	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.60	0.45	0.15	0.14
Control Delay (s/veh)	26.4	8.1	4.6	5.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.4	8.1	4.6	5.5
Queue Length 50th (m)	25.7	10.8	5.5	5.6
Queue Length 95th (m)	35.2	22.1	9.0	12.1
Internal Link Dist (m)	407.1		125.8	172.2
Turn Bay Length (m)		50.0		
Base Capacity (vph)	1369	605	2081	2028
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.32	0.45	0.15	0.14

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 1: Christie St & QEW WB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	150	235	30	260	300	0	0	205	60
Future Volume (vph)	0	0	0	150	235	30	260	300	0	0	205	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.8		7.2	7.2			7.2	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3484		1719	3610			3472	
Flt Permitted					0.98		0.58	1.00			1.00	
Satd. Flow (perm)					3484		1050	3610			3472	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	158	247	32	274	316	0	0	216	63
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	0	0	27	0
Lane Group Flow (vph)	0	0	0	0	425	0	274	316	0	0	252	0
Confl. Peds. (#/hr)									5	5		
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	5%	0%	0%	0%	0%	2%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					13.1		36.9	36.9			36.9	
Effective Green, g (s)					13.1		36.9	36.9			36.9	
Actuated g/C Ratio					0.20		0.58	0.58			0.58	
Clearance Time (s)					6.8		7.2	7.2			7.2	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					713		605	2081			2001	
v/s Ratio Prot								0.09			0.07	
v/s Ratio Perm					0.12		c0.26					
v/c Ratio					0.60		0.45	0.15			0.13	
Uniform Delay, d1					23.1		7.8	6.3			6.2	
Progression Factor					1.04		0.64	0.64			1.00	
Incremental Delay, d2					1.3		2.2	0.1			0.1	
Delay (s)					25.3		7.1	4.2			6.3	
Level of Service					C		A	A			A	
Approach Delay (s/veh)		0.0			25.3			5.5			6.3	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

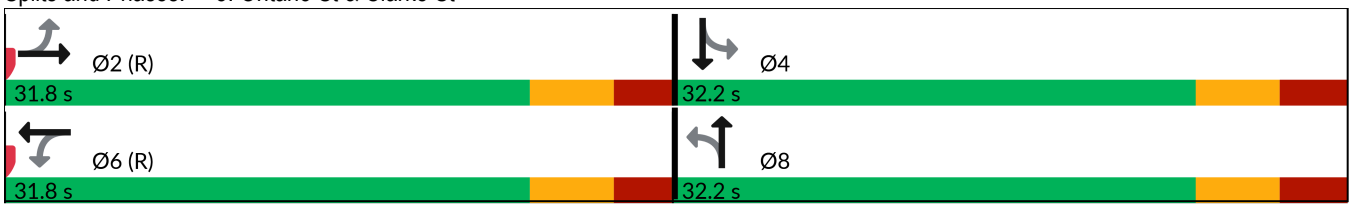
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	200	25	155	25	170	145	210
Future Volume (vph)	20	200	25	155	25	170	145	210
Lane Group Flow (vph)	0	248	0	257	0	310	0	416
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	24.8	25.2	25.2	25.2	25.2
Total Split (s)	31.8	31.8	31.8	31.8	32.2	32.2	32.2	32.2
Total Split (%)	49.7%	49.7%	49.7%	49.7%	50.3%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.8		6.8		7.2		7.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio		0.26		0.27		0.69		0.68
Control Delay (s/veh)		10.0		9.1		26.3		25.8
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		10.0		9.1		26.3		25.8
Queue Length 50th (m)		14.7		13.5		29.7		23.4
Queue Length 95th (m)		33.4		32.2		47.0		32.3
Internal Link Dist (m)		167.5		112.0		146.5		53.2
Turn Bay Length (m)								
Base Capacity (vph)		959		943		679		955
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.26		0.27		0.46		0.44

Intersection Summary

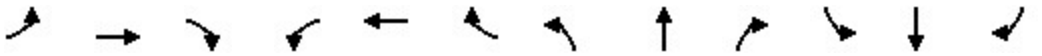
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 32.2 (50%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 8: Ontario St & Clarke St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	200	15	25	155	65	25	170	100	145	210	40
Future Volume (vph)	20	200	15	25	155	65	25	170	100	145	210	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8			6.8			7.2			7.2	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.99			0.96			0.95			0.98	
Flt Protected		1.00			0.99			1.00			0.98	
Satd. Flow (prot)		1852			1811			1798			3461	
Flt Permitted		0.96			0.96			0.92			0.68	
Satd. Flow (perm)		1792			1739			1667			2411	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	211	16	26	163	68	26	179	105	153	221	42
RTOR Reduction (vph)	0	3	0	0	15	0	0	35	0	0	17	0
Lane Group Flow (vph)	0	245	0	0	242	0	0	275	0	0	399	0
Heavy Vehicles (%)	9%	0%	8%	0%	1%	0%	5%	0%	0%	1%	0%	5%
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)		34.2			34.2			15.8			15.8	
Effective Green, g (s)		34.2			34.2			15.8			15.8	
Actuated g/C Ratio		0.53			0.53			0.25			0.25	
Clearance Time (s)		6.8			6.8			7.2			7.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		957			929			411			595	
v/s Ratio Prot												
v/s Ratio Perm		0.14			c0.14			0.16			c0.17	
v/c Ratio		0.26			0.26			0.67			0.67	
Uniform Delay, d1		8.0			8.1			21.7			21.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.7			4.1			3.0	
Delay (s)		8.7			8.7			25.8			24.7	
Level of Service		A			A			C			C	
Approach Delay (s/veh)		8.7			8.7			25.8			24.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

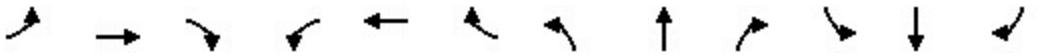


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	150	215	35	355	220	0	0	235	95
Future Volume (Veh/h)	0	0	0	150	215	35	355	220	0	0	235	95
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	161	231	38	382	237	0	0	253	102
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1340	1305	178	1128	1356	119	355			237		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1340	1305	178	1128	1356	119	355			237		
tC, single (s)	7.5	6.5	6.9	*6.0	*5.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.9	*2.5	3.3	2.3			2.2		
p0 queue free %	0	100	100	25	0	96	67			100		
cM capacity (veh/h)	0	108	841	214	187	905	1145			1342		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	277	154	382	119	119	169	186
Volume Left	161	0	382	0	0	0	0
Volume Right	0	38	0	0	0	0	102
cSH	202	232	1145	1700	1700	1700	1700
Volume to Capacity	1.37	0.66	0.33	0.07	0.07	0.10	0.11
Queue Length 95th (m)	127.1	33.0	11.8	0.0	0.0	0.0	0.0
Control Delay (s/veh)	240.8	46.4	9.7	0.0	0.0	0.0	0.0
Lane LOS	F	E	A				
Approach Delay (s/veh)	171.4		6.0			0.0	
Approach LOS	F						

Intersection Summary				
Average Delay	55.1			
Intersection Capacity Utilization	53.7%	ICU Level of Service	A	
Analysis Period (min)	15			

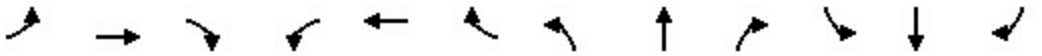
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	140	300	75	65	70	0	0	165	35
Future Volume (Veh/h)	0	0	0	140	300	75	65	70	0	0	165	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	154	330	82	71	77	0	0	181	38
Pedestrians		5										
Lane Width (m)		0.0										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	652	405	186	400	443	77	224			77		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	652	405	186	400	443	77	224			77		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	72	32	92	95			100		
cM capacity (veh/h)	152	510	861	542	482	990	1357			1535		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	319	247	71	77	181	38
Volume Left	154	0	71	0	0	0
Volume Right	0	82	0	0	0	38
cSH	509	581	1357	1700	1700	1700
Volume to Capacity	0.63	0.42	0.05	0.05	0.11	0.02
Queue Length 95th (m)	34.1	16.9	1.3	0.0	0.0	0.0
Control Delay (s/veh)	23.2	15.7	7.8	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s/veh)	19.9		3.7		0.0	
Approach LOS	C					

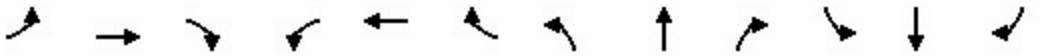
Intersection Summary				
Average Delay	12.7			
Intersection Capacity Utilization	37.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	70	400	5	80	30	0	0	75	35
Future Volume (Veh/h)	0	0	0	70	400	5	80	30	0	0	75	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	77	440	5	88	33	0	0	82	38
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	519	315	101	315	334	22	120			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	519	315	101	315	334	22	120			38		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	87	20	100	94			100		
cM capacity (veh/h)	142	565	941	587	550	1053	1466			1579		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	297	225	88	17	17	120
Volume Left	77	0	88	0	0	0
Volume Right	0	5	0	0	0	38
cSH	559	555	1466	1700	1700	1700
Volume to Capacity	0.53	0.41	0.06	0.01	0.01	0.07
Queue Length 95th (m)	24.9	15.6	1.5	0.0	0.0	0.0
Control Delay (s/veh)	18.5	15.8	7.6	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s/veh)	17.4		5.5			0.0
Approach LOS	C					

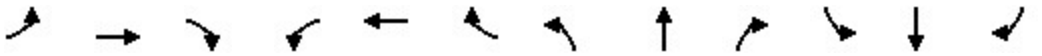
Intersection Summary				
Average Delay	12.8			
Intersection Capacity Utilization	33.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	275	50	0	0	0	0	105	65	25	120	0
Future Volume (Veh/h)	5	275	50	0	0	0	0	105	65	25	120	0
Sign Control		Stop			Stop			Free			Free	
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)	5	293	53	0	0	0	0	112	69	27	128	0
Pedestrians					5							
Lane Width (m)					0.0							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	238	368	128	533	334	96	128			186		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	238	368	128	533	334	96	128			186		
tC, single (s)	7.9	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	46	94	100	100	100	100			98		
cM capacity (veh/h)	641	542	895	231	578	949	1470			1401		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	152	200	75	106	27	128
Volume Left	5	0	0	0	27	0
Volume Right	0	53	0	69	0	0
cSH	545	606	1700	1700	1401	1700
Volume to Capacity	0.28	0.33	0.04	0.06	0.02	0.08
Queue Length 95th (m)	9.0	11.5	0.0	0.0	0.5	0.0
Control Delay (s/veh)	14.1	13.8	0.0	0.0	7.6	0.0
Lane LOS	B	B			A	
Approach Delay (s/veh)	14.0		0.0		1.3	
Approach LOS	B					

Intersection Summary				
Average Delay	7.4			
Intersection Capacity Utilization	33.8%	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)	15	195	105	0	0	0	0	135	70	65	265	0
Future Volume (Veh/h)	15	195	105	0	0	0	0	135	70	65	265	0
Sign Control		Stop			Stop			Free			Free	
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)	16	203	109	0	0	0	0	141	73	68	276	0
Pedestrians		5										
Lane Width (m)		3.6										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	558	631	281	764	558	141	281			214		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	558	631	281	764	558	141	281			214		
tC, single (s)	7.1	6.6	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	45	86	100	100	100	100			95		
cM capacity (veh/h)	423	367	752	149	417	912	1288			1344		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	118	211	141	73	68	276
Volume Left	16	0	0	0	68	0
Volume Right	0	109	0	73	0	0
cSH	373	499	1700	1700	1344	1700
Volume to Capacity	0.31	0.42	0.08	0.04	0.05	0.16
Queue Length 95th (m)	10.6	16.6	0.0	0.0	1.3	0.0
Control Delay (s/veh)	19.0	17.4	0.0	0.0	7.8	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	18.0		0.0		1.5	
Approach LOS	C					

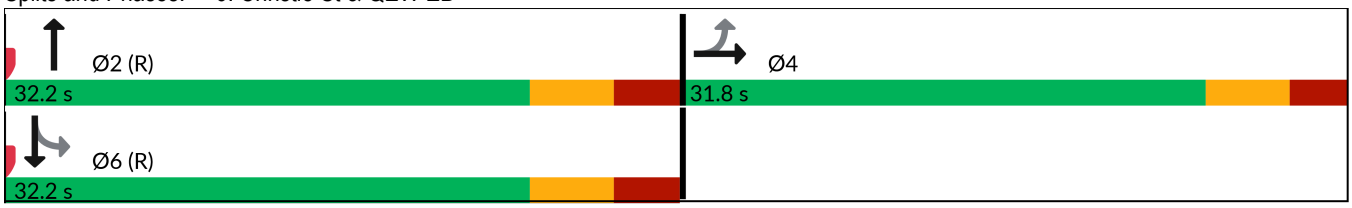
Intersection Summary				
Average Delay	7.2			
Intersection Capacity Utilization	37.8%	ICU Level of Service		A
Analysis Period (min)	15			

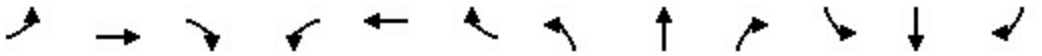
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	165	530	35	350
Future Volume (vph)	165	530	35	350
Lane Group Flow (vph)	489	701	38	380
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.66	0.33	0.09	0.17
Control Delay (s/veh)	15.3	6.6	6.9	6.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.3	6.6	6.9	6.1
Queue Length 50th (m)	13.7	17.3	1.6	9.1
Queue Length 95th (m)	24.4	32.9	6.4	18.4
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1410	2123	434	2185
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.33	0.09	0.17

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

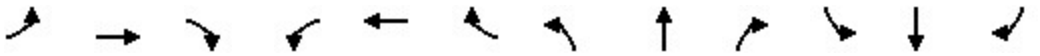
Splits and Phases: 6: Christie St & QEW EB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	165	240	0	0	0	0	530	115	35	350	0
Future Volume (vph)	45	165	240	0	0	0	0	530	115	35	350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frt		0.92						0.97		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3203						3411		1736	3539	
Flt Permitted		1.00						1.00		0.39	1.00	
Satd. Flow (perm)		3203						3411		704	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	179	261	0	0	0	0	576	125	38	380	0
RTOR Reduction (vph)	0	218	0	0	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	271	0	0	0	0	0	683	0	38	380	0
Heavy Vehicles (%)	3%	2%	4%	0%	0%	0%	0%	3%	3%	4%	2%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		10.5						39.5		39.5	39.5	
Effective Green, g (s)		10.5						39.5		39.5	39.5	
Actuated g/C Ratio		0.16						0.62		0.62	0.62	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		525						2105		434	2184	
v/s Ratio Prot								c0.20			0.11	
v/s Ratio Perm		0.08								0.05		
v/c Ratio		0.52						0.32		0.09	0.17	
Uniform Delay, d1		24.4						5.9		5.0	5.3	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.9						0.4		0.4	0.2	
Delay (s)		25.3						6.3		5.4	5.4	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		25.3			0.0			6.3			5.4	
Approach LOS		C			A			A			A	

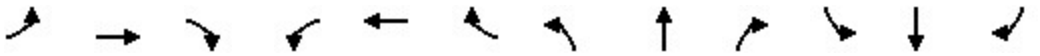
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	110	15	35	220	65	15	135	55	95	190	70
Future Volume (Veh/h)	10	110	15	35	220	65	15	135	55	95	190	70
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)	11	122	17	39	244	72	17	150	61	106	211	78
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	871	707	145	610	716	181	289			211		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	871	707	145	610	716	181	289			211		
tC, single (s)	7.7	6.5	7.1	7.5	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3			2.3		
p0 queue free %	85	63	98	84	23	91	99			92		
cM capacity (veh/h)	74	325	846	248	316	828	1234			1328		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	150	355	228	212	184
Volume Left	11	39	17	106	0
Volume Right	17	72	61	0	78
cSH	276	350	1234	1328	1700
Volume to Capacity	0.54	1.02	0.01	0.08	0.11
Queue Length 95th (m)	24.0	95.1	0.3	2.1	0.0
Control Delay (s/veh)	32.6	87.5	0.7	4.3	0.0
Lane LOS	D	F	A	A	
Approach Delay (s/veh)	32.6	87.5	0.7	2.3	
Approach LOS	D	F			

Intersection Summary				
Average Delay	32.8			
Intersection Capacity Utilization	57.1%	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)	25	430	15	25	595	30	20	5	25	10	5	20
Future Volume (Veh/h)	25	430	15	25	595	30	20	5	25	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	28	478	17	28	661	33	22	6	28	11	6	22
Pedestrians					10			10			5	
Lane Width (m)					3.6			3.6			3.6	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					1			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.95			0.95	0.95	0.95	0.95	0.95	
vC, conflicting volume	699			505			1311	1308	507	1322	1300	683
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	699			449			1300	1297	450	1312	1288	683
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			97			81	96	95	90	96	95
cM capacity (veh/h)	849			1053			114	144	571	112	146	441

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	523	722	22	34	11	28
Volume Left	28	28	22	0	11	0
Volume Right	17	33	0	28	0	22
cSH	849	1053	114	375	112	307
Volume to Capacity	0.03	0.03	0.19	0.09	0.10	0.09
Queue Length 95th (m)	0.8	0.7	5.4	2.4	2.6	2.4
Control Delay (s/veh)	0.9	0.7	44.0	15.6	40.8	17.9
Lane LOS	A	A	E	C	E	C
Approach Delay (s/veh)	0.9	0.7	26.7		24.3	
Approach LOS			D		C	

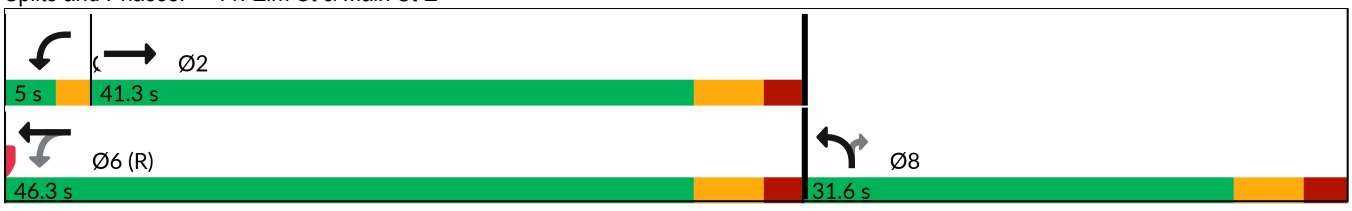
Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	57.2%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	365	160	490	20	165
Future Volume (vph)	365	160	490	20	165
Lane Group Flow (vph)	520	213	653	27	220
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	3.0	8.0	10.0	10.0
Minimum Split (s)	30.3	5.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.50	0.33	0.51	0.12	0.55
Control Delay (s/veh)	12.5	4.2	7.2	30.6	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.5	4.2	7.2	30.6	10.4
Queue Length 50th (m)	43.0	6.8	38.1	3.8	0.0
Queue Length 95th (m)	58.7	11.0	48.4	8.8	9.7
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1043	644	1292	551	657
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	0.33	0.51	0.05	0.33

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

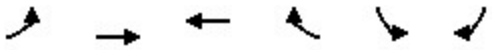
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	365	25	160	490	20	165
Future Volume (vph)	365	25	160	490	20	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1827		1781	1845	1719	1583
Flt Permitted	1.00		0.38	1.00	0.95	1.00
Satd. Flow (perm)	1827		708	1845	1719	1583
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	487	33	213	653	27	220
RTOR Reduction (vph)	3	0	0	0	0	191
Lane Group Flow (vph)	517	0	213	653	27	29
Confl. Peds. (#/hr)		15	15			
Heavy Vehicles (%)	3%	0%	1%	3%	5%	2%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	44.5		54.6	54.6	10.4	10.4
Effective Green, g (s)	44.5		54.6	54.6	10.4	10.4
Actuated g/C Ratio	0.57		0.70	0.70	0.13	0.13
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1043		607	1293	229	211
v/s Ratio Prot	0.28		0.04	c0.35	0.02	
v/s Ratio Perm			0.21			c0.02
v/c Ratio	0.50		0.35	0.51	0.12	0.14
Uniform Delay, d1	10.0		4.7	5.4	29.7	29.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		0.4	1.4	0.2	0.2
Delay (s)	10.3		5.0	6.8	29.9	30.0
Level of Service	B		A	A	C	C
Approach Delay (s/veh)	10.3			6.4	30.0	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	75	340	425	85	50	115
Future Volume (Veh/h)	75	340	425	85	50	115
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	87	395	494	99	58	134
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.84				0.84	0.84
vC, conflicting volume	598				1118	549
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	423				1043	364
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	91				69	76
cM capacity (veh/h)	939				189	570

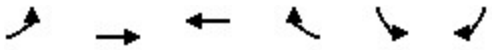
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	482	593	58	134
Volume Left	87	0	58	0
Volume Right	0	99	0	134
cSH	939	1700	189	570
Volume to Capacity	0.09	0.35	0.31	0.24
Queue Length 95th (m)	2.4	0.0	9.9	7.3
Control Delay (s/veh)	2.6	0.0	32.3	13.2
Lane LOS	A		D	B
Approach Delay (s/veh)	2.6	0.0	19.0	
Approach LOS			C	

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	30	175	10	20	210
Future Volume (Veh/h)	10	30	175	10	20	210
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	14	42	243	14	28	292
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	598	250			257	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	598	250			257	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	95			98	
cM capacity (veh/h)	458	786			1290	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	56	257	320
Volume Left	14	0	28
Volume Right	42	14	0
cSH	667	1700	1290
Volume to Capacity	0.08	0.15	0.02
Queue Length 95th (m)	2.2	0.0	0.5
Control Delay (s/veh)	10.9	0.0	0.9
Lane LOS	B		A
Approach Delay (s/veh)	10.9	0.0	0.9
Approach LOS	B		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	30	40	0	0	0
Future Volume (Veh/h)	0	30	40	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	33	43	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	43				76	43
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	43				76	43
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1566				927	1027

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	33	43	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1566	1700	1700
Volume to Capacity	0.00	0.03	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s/veh)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s/veh)	0.0	0.0	0.0
Approach LOS			A

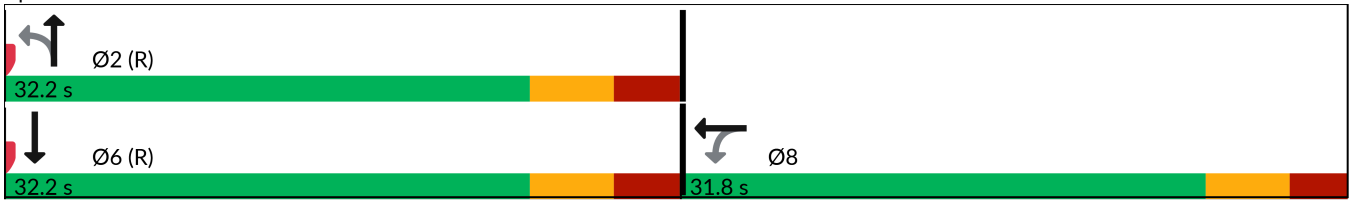
Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		6.7%	ICU Level of Service A
Analysis Period (min)		15	

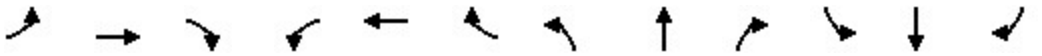
Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	215	355	220	235
Future Volume (vph)	215	355	220	235
Lane Group Flow (vph)	430	382	237	355
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Detector Phase	8	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.60	0.71	0.12	0.18
Control Delay (s/veh)	25.2	16.7	2.8	5.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.2	16.7	2.8	5.2
Queue Length 50th (m)	25.1	33.6	1.2	6.7
Queue Length 95th (m)	35.4	#86.1	4.0	14.1
Internal Link Dist (m)	407.1		125.8	172.2
Turn Bay Length (m)		50.0		
Base Capacity (vph)	1361	538	2026	1966
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.32	0.71	0.12	0.18

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, 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: 1: Christie St & QEW WB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	150	215	35	355	220	0	0	235	95
Future Volume (vph)	0	0	0	150	215	35	355	220	0	0	235	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.8		7.2	7.2			7.2	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frt					0.99		1.00	1.00			0.96	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3453		1641	3505			3326	
Flt Permitted					0.98		0.54	1.00			1.00	
Satd. Flow (perm)					3453		932	3505			3326	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	161	231	38	382	237	0	0	253	102
RTOR Reduction (vph)	0	0	0	0	15	0	0	0	0	0	43	0
Lane Group Flow (vph)	0	0	0	0	415	0	382	237	0	0	312	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	4%	10%	3%	0%	0%	5%	1%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					13.0		37.0	37.0			37.0	
Effective Green, g (s)					13.0		37.0	37.0			37.0	
Actuated g/C Ratio					0.20		0.58	0.58			0.58	
Clearance Time (s)					6.8		7.2	7.2			7.2	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					701		538	2026			1922	
v/s Ratio Prot								0.07			0.09	
v/s Ratio Perm					0.12		c0.41					
v/c Ratio					0.59		0.71	0.12			0.16	
Uniform Delay, d1					23.1		9.7	6.1			6.3	
Progression Factor					0.99		0.62	0.39			1.00	
Incremental Delay, d2					1.3		7.4	0.1			0.2	
Delay (s)					24.3		13.5	2.5			6.5	
Level of Service					C		B	A			A	
Approach Delay (s/veh)		0.0			24.3			9.3			6.5	
Approach LOS		A			C			A			A	

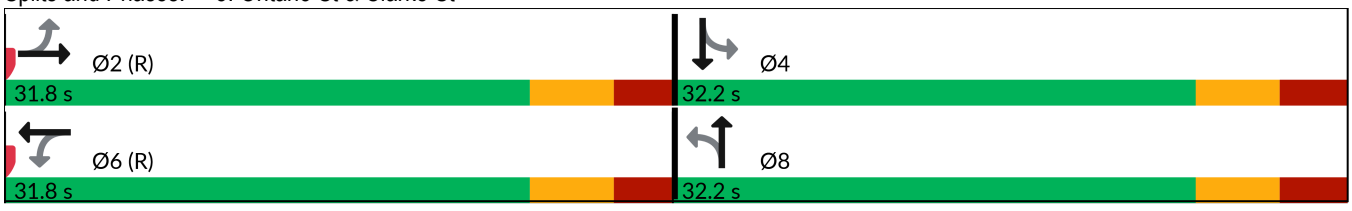
Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

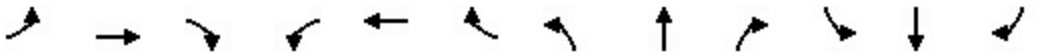
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	110	35	220	15	135	95	190
Future Volume (vph)	10	110	35	220	15	135	95	190
Lane Group Flow (vph)	0	150	0	355	0	228	0	395
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	24.8	25.2	25.2	25.2	25.2
Total Split (s)	31.8	31.8	31.8	31.8	32.2	32.2	32.2	32.2
Total Split (%)	49.7%	49.7%	49.7%	49.7%	50.3%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.8		6.8		7.2		7.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio		0.15		0.36		0.61		0.65
Control Delay (s/veh)		7.4		9.1		26.0		24.4
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		7.4		9.1		26.0		24.4
Queue Length 50th (m)		7.1		19.7		21.8		20.3
Queue Length 95th (m)		18.0		42.9		37.9		30.1
Internal Link Dist (m)		167.5		112.0		146.5		53.2
Turn Bay Length (m)								
Base Capacity (vph)		1002		978		660		1078
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.15		0.36		0.35		0.37

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

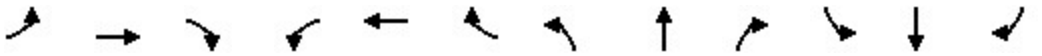
Splits and Phases: 8: Ontario St & Clarke St





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	110	15	35	220	65	15	135	55	95	190	70
Future Volume (vph)	10	110	15	35	220	65	15	135	55	95	190	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8			6.8			7.2			7.2	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.98			0.97			0.96			0.97	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1800			1766			1746			3358	
Flt Permitted		0.97			0.96			0.93			0.79	
Satd. Flow (perm)		1751			1700			1636			2676	
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)	11	122	17	39	244	72	17	150	61	106	211	78
RTOR Reduction (vph)	0	5	0	0	10	0	0	27	0	0	43	0
Lane Group Flow (vph)	0	145	0	0	345	0	0	201	0	0	352	0
Heavy Vehicles (%)	8%	2%	12%	0%	5%	3%	7%	4%	5%	6%	1%	4%
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)		36.5			36.5			13.5			13.5	
Effective Green, g (s)		36.5			36.5			13.5			13.5	
Actuated g/C Ratio		0.57			0.57			0.21			0.21	
Clearance Time (s)		6.8			6.8			7.2			7.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		998			969			345			564	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.20			0.12			c0.13	
v/c Ratio		0.15			0.36			0.58			0.62	
Uniform Delay, d1		6.4			7.4			22.7			22.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			1.0			2.5			2.1	
Delay (s)		6.7			8.4			25.2			25.1	
Level of Service		A			A			C			C	
Approach Delay (s/veh)		6.7			8.4			25.2			25.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

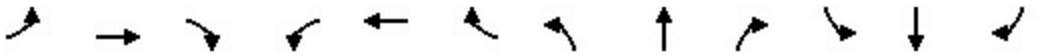


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	165	245	35	280	310	0	0	205	65
Future Volume (Veh/h)	0	0	0	165	245	35	280	310	0	0	205	65
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	174	258	37	295	326	0	0	216	68
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1169	1171	142	1029	1205	168	284			331		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1169	1171	142	1029	1205	168	284			331		
tC, single (s)	7.5	6.5	6.9	*5.8	*5.7	7.0	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*3.2	*3.2	3.3	2.2			2.2		
p0 queue free %	0	100	100	35	0	96	76			100		
cM capacity (veh/h)	0	148	886	266	207	837	1254			1235		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	303	166	295	163	163	144	140
Volume Left	174	0	295	0	0	0	0
Volume Right	0	37	0	0	0	0	68
cSH	237	249	1254	1700	1700	1700	1700
Volume to Capacity	1.28	0.67	0.24	0.10	0.10	0.08	0.08
Queue Length 95th (m)	124.3	34.1	7.3	0.0	0.0	0.0	0.0
Control Delay (s/veh)	194.8	44.3	8.8	0.0	0.0	0.0	0.0
Lane LOS	F	E	A				
Approach Delay (s/veh)	141.6		4.2			0.0	
Approach LOS	F						

Intersection Summary				
Average Delay	50.2			
Intersection Capacity Utilization	68.7%	ICU Level of Service	C	
Analysis Period (min)	15			

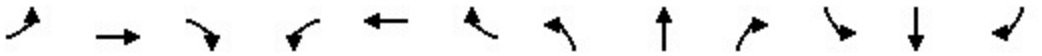
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	80	325	70	65	180	0	0	185	55
Future Volume (Veh/h)	0	0	0	80	325	70	65	180	0	0	185	55
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	91	369	80	74	205	0	0	210	62
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	828	563	210	563	625	205	272			205		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	828	563	210	563	625	205	272			205		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	78	3	90	94			100		
cM capacity (veh/h)	30	413	835	418	381	841	1303			1378		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	276	265	74	205	210	62
Volume Left	91	0	74	0	0	0
Volume Right	0	80	0	0	0	62
cSH	392	456	1303	1700	1700	1700
Volume to Capacity	0.70	0.58	0.06	0.12	0.12	0.04
Queue Length 95th (m)	41.7	28.8	1.4	0.0	0.0	0.0
Control Delay (s/veh)	33.1	23.2	7.9	0.0	0.0	0.0
Lane LOS	D	C	A			
Approach Delay (s/veh)	28.3		2.1		0.0	
Approach LOS	D					

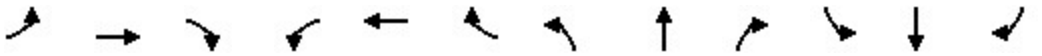
Intersection Summary				
Average Delay	14.5			
Intersection Capacity Utilization	42.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	85	335	15	120	125	0	0	75	20
Future Volume (Veh/h)	0	0	0	85	335	15	120	125	0	0	75	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	91	360	16	129	134	0	0	81	22
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	613	484	92	484	495	67	103			134		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	613	484	92	484	495	67	103			134		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	79	18	98	91			100		
cM capacity (veh/h)	111	444	954	440	438	989	1502			1463		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	271	196	129	67	67	103
Volume Left	91	0	129	0	0	0
Volume Right	0	16	0	0	0	22
cSH	438	458	1502	1700	1700	1700
Volume to Capacity	0.62	0.43	0.09	0.04	0.04	0.06
Queue Length 95th (m)	32.6	16.8	2.3	0.0	0.0	0.0
Control Delay (s/veh)	25.6	18.6	7.6	0.0	0.0	0.0
Lane LOS	D	C	A			
Approach Delay (s/veh)	22.7		3.7			0.0
Approach LOS	C					

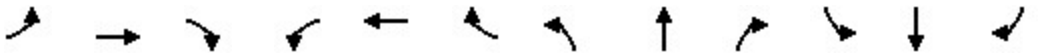
Intersection Summary				
Average Delay	13.9			
Intersection Capacity Utilization	37.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	405	105	0	0	0	0	190	80	15	145	0
Future Volume (Veh/h)	55	405	105	0	0	0	0	190	80	15	145	0
Sign Control		Stop			Stop			Free			Free	
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)	59	431	112	0	0	0	0	202	85	16	154	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	287	473	154	758	431	144	154			287		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	287	473	154	758	431	144	154			287		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	11	87	100	100	100	100			99		
cM capacity (veh/h)	642	482	871	60	514	884	1439			1287		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	275	328	135	152	16	154
Volume Left	59	0	0	0	16	0
Volume Right	0	112	0	85	0	0
cSH	509	569	1700	1700	1287	1700
Volume to Capacity	0.54	0.58	0.08	0.09	0.01	0.09
Queue Length 95th (m)	25.3	29.1	0.0	0.0	0.3	0.0
Control Delay (s/veh)	20.0	19.6	0.0	0.0	7.8	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	19.8		0.0		0.7	
Approach LOS	C					

Intersection Summary				
Average Delay	11.4			
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)	75	415	165	0	0	0	0	195	85	65	215	0
Future Volume (Veh/h)	75	415	165	0	0	0	0	195	85	65	215	0
Sign Control		Stop			Stop			Free			Free	
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)	82	451	179	0	0	0	0	212	92	71	234	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	588	680	234	993	588	212	234			304		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	588	680	234	993	588	212	234			304		
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 %	80	0	78	0	100	100	100			94		
cM capacity (veh/h)	405	352	808	0	400	833	1345			1268		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	308	405	212	92	71	234
Volume Left	82	0	0	0	71	0
Volume Right	0	179	0	92	0	0
cSH	365	469	1700	1700	1268	1700
Volume to Capacity	0.84	0.86	0.12	0.05	0.06	0.14
Queue Length 95th (m)	61.8	71.3	0.0	0.0	1.4	0.0
Control Delay (s/veh)	50.1	44.4	0.0	0.0	8.0	0.0
Lane LOS	F	E			A	
Approach Delay (s/veh)	46.8		0.0		1.9	
Approach LOS	E					

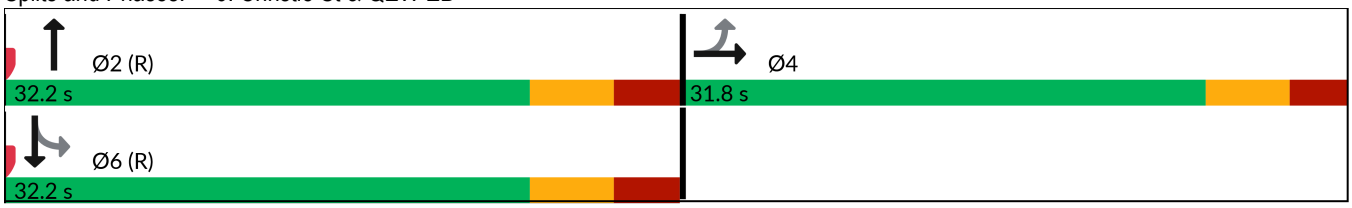
Intersection Summary				
Average Delay	25.7			
Intersection Capacity Utilization	42.8%	ICU Level of Service		A
Analysis Period (min)	15			

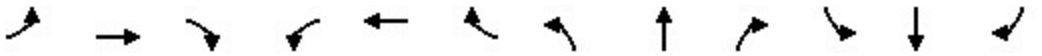
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	375	480	20	350
Future Volume (vph)	375	480	20	350
Lane Group Flow (vph)	955	831	22	393
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.77	0.50	0.08	0.23
Control Delay (s/veh)	17.9	11.0	12.9	11.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.9	11.0	12.9	11.7
Queue Length 50th (m)	38.0	27.1	1.5	14.8
Queue Length 95th (m)	50.7	47.5	6.0	26.2
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1477	1672	265	1695
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.65	0.50	0.08	0.23

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 6: Christie St & QEW EB

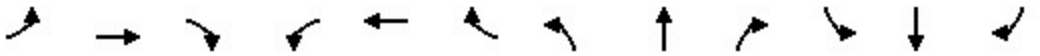




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	375	365	0	0	0	0	480	260	20	350	0
Future Volume (vph)	110	375	365	0	0	0	0	480	260	20	350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frpb, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		1.00	1.00	
Frt		0.94						0.95		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3327						3353		1805	3610	
Flt Permitted		0.99						1.00		0.30	1.00	
Satd. Flow (perm)		3327						3353		564	3610	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	124	421	410	0	0	0	0	539	292	22	393	0
RTOR Reduction (vph)	0	196	0	0	0	0	0	99	0	0	0	0
Lane Group Flow (vph)	0	759	0	0	0	0	0	732	0	22	393	0
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	2%	2%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		20.0						30.0		30.0	30.0	
Effective Green, g (s)		20.0						30.0		30.0	30.0	
Actuated g/C Ratio		0.31						0.47		0.47	0.47	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		1039						1571		264	1692	
v/s Ratio Prot								c0.22			0.11	
v/s Ratio Perm		0.23								0.04		
v/c Ratio		0.73						0.47		0.08	0.23	
Uniform Delay, d1		19.6						11.6		9.4	10.1	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		2.7						1.0		0.6	0.3	
Delay (s)		22.3						12.6		10.0	10.5	
Level of Service		C						B		B	B	
Approach Delay (s/veh)		22.3			0.0			12.6			10.4	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

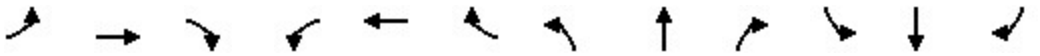
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	210	15	25	165	65	20	165	85	145	190	40
Future Volume (Veh/h)	20	210	15	25	165	65	20	165	85	145	190	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	221	16	26	174	68	21	174	89	153	200	42
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	943	832	121	793	809	219	242			263		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	943	832	121	793	809	219	242			263		
tC, single (s)	7.7	6.5	7.1	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	75	17	98	67	36	91	98			88		
cM capacity (veh/h)	85	267	889	78	274	792	1300			1306		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	258	268	284	253	142
Volume Left	21	26	21	153	0
Volume Right	16	68	89	0	42
cSH	236	254	1300	1306	1700
Volume to Capacity	1.09	1.06	0.02	0.12	0.08
Queue Length 95th (m)	90.6	87.5	0.4	3.2	0.0
Control Delay (s/veh)	130.9	114.6	0.7	5.3	0.0
Lane LOS	F	F	A	A	
Approach Delay (s/veh)	130.9	114.6	0.7	3.4	
Approach LOS	F	F			

Intersection Summary				
Average Delay	54.8			
Intersection Capacity Utilization	55.1%	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)	20	670	20	40	615	20	20	0	40	10	5	20
Future Volume (Veh/h)	20	670	20	40	615	20	20	0	40	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	21	691	21	41	634	21	21	0	41	10	5	21
Pedestrians								15			5	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.84			0.84	0.84	0.84	0.84	0.84	
vC, conflicting volume	660			727			1509	1501	717	1516	1501	650
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	660			579			1510	1501	567	1519	1501	650
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			95			70	100	91	85	95	96
cM capacity (veh/h)	934			833			71	94	437	67	94	471

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	733	696	21	41	10	26
Volume Left	21	41	21	0	10	0
Volume Right	21	21	0	41	0	21
cSH	934	833	71	437	67	267
Volume to Capacity	0.02	0.05	0.30	0.09	0.15	0.10
Queue Length 95th (m)	0.6	1.2	8.6	2.5	4.0	2.6
Control Delay (s/veh)	0.6	1.3	75.8	14.1	68.2	20.0
Lane LOS	A	A	F	B	F	C
Approach Delay (s/veh)	0.6	1.3	35.0		33.4	
Approach LOS			E		D	

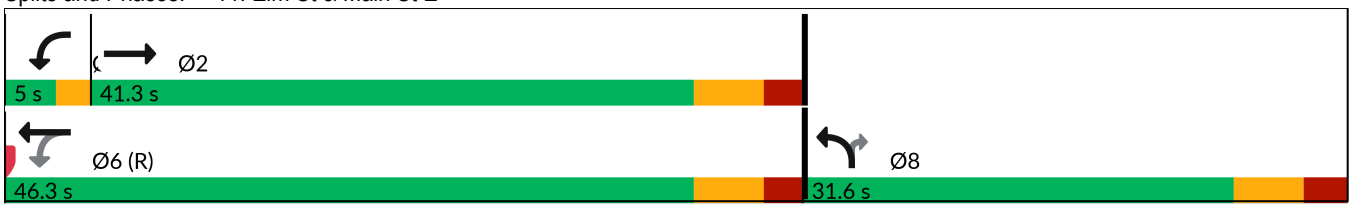
Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	66.4%	ICU Level of Service	C	
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	480	225	455	45	265
Future Volume (vph)	480	225	455	45	265
Lane Group Flow (vph)	587	245	495	49	288
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	3.0	8.0	10.0	10.0
Minimum Split (s)	30.3	5.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.58	0.41	0.38	0.20	0.63
Control Delay (s/veh)	15.0	5.2	6.1	31.1	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.0	5.2	6.1	31.1	10.7
Queue Length 50th (m)	52.7	8.0	25.3	6.9	0.0
Queue Length 95th (m)	100.9	17.9	48.8	15.6	20.1
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1019	594	1308	579	685
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.41	0.38	0.08	0.42

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

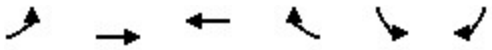
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	480	60	225	455	45	265
Future Volume (vph)	480	60	225	455	45	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1846		1801	1881	1805	1527
Flt Permitted	1.00		0.32	1.00	0.95	1.00
Satd. Flow (perm)	1846		604	1881	1805	1527
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	522	65	245	495	49	288
RTOR Reduction (vph)	4	0	0	0	0	248
Lane Group Flow (vph)	583	0	245	495	49	40
Confl. Peds. (#/hr)		15	15		10	20
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	42.9		54.2	54.2	10.8	10.8
Effective Green, g (s)	42.9		54.2	54.2	10.8	10.8
Actuated g/C Ratio	0.55		0.70	0.70	0.14	0.14
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1016		563	1308	250	211
v/s Ratio Prot	c0.32		c0.05	0.26	c0.03	
v/s Ratio Perm			0.25			0.03
v/c Ratio	0.57		0.44	0.38	0.20	0.19
Uniform Delay, d1	11.5		5.6	4.9	29.7	29.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6		0.5	0.8	0.3	0.3
Delay (s)	12.1		6.2	5.7	30.0	30.0
Level of Service	B		A	A	C	C
Approach Delay (s/veh)	12.1			5.9	30.0	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	115	445	405	95	65	160
Future Volume (Veh/h)	115	445	405	95	65	160
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	122	473	431	101	69	170
Pedestrians					20	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.89				0.89	0.89
vC, conflicting volume	552				1219	502
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	433				1183	376
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				57	71
cM capacity (veh/h)	994				162	588

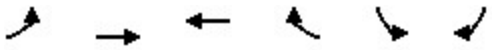
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	595	532	69	170
Volume Left	122	0	69	0
Volume Right	0	101	0	170
cSH	994	1700	162	588
Volume to Capacity	0.12	0.31	0.43	0.29
Queue Length 95th (m)	3.3	0.0	15.3	9.6
Control Delay (s/veh)	3.1	0.0	42.8	13.6
Lane LOS	A		E	B
Approach Delay (s/veh)	3.1	0.0	22.0	
Approach LOS			C	

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	40	245	15	30	195
Future Volume (Veh/h)	10	40	245	15	30	195
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	46	282	17	34	224
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	588	296			304	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	588	296			304	
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	94			97	
cM capacity (veh/h)	460	746			1263	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	57	299	258
Volume Left	11	0	34
Volume Right	46	17	0
cSH	666	1700	1263
Volume to Capacity	0.09	0.18	0.03
Queue Length 95th (m)	2.2	0.0	0.7
Control Delay (s/veh)	10.9	0.0	1.3
Lane LOS	B		A
Approach Delay (s/veh)	10.9	0.0	1.3
Approach LOS	B		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	45	50	0	0	0
Future Volume (Veh/h)	0	45	50	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	49	54	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	54				103	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	54				103	54
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1551				895	1013

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	49	54	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1551	1700	1700
Volume to Capacity	0.00	0.03	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s/veh)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s/veh)	0.0	0.0	0.0
Approach LOS			A

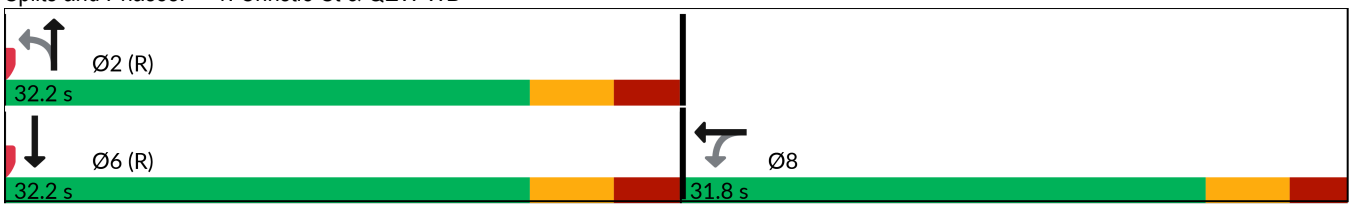
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	245	280	310	205
Future Volume (vph)	245	280	310	205
Lane Group Flow (vph)	469	295	326	284
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Detector Phase	8	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.61	0.50	0.16	0.14
Control Delay (s/veh)	25.4	9.6	5.4	5.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.4	9.6	5.4	5.8
Queue Length 50th (m)	26.9	12.2	5.8	5.8
Queue Length 95th (m)	36.1	29.2	11.9	12.9
Internal Link Dist (m)	407.1		125.8	172.2
Turn Bay Length (m)		50.0		
Base Capacity (vph)	1368	590	2038	1985
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.50	0.16	0.14

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 1: Christie St & QEW WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	165	245	35	280	310	0	0	205	65
Future Volume (vph)	0	0	0	165	245	35	280	310	0	0	205	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.8		7.2	7.2			7.2	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.96	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3478		1719	3610			3464	
Flt Permitted					0.98		0.58	1.00			1.00	
Satd. Flow (perm)					3478		1045	3610			3464	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	174	258	37	295	326	0	0	216	68
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	0	0	30	0
Lane Group Flow (vph)	0	0	0	0	456	0	295	326	0	0	254	0
Confl. Peds. (#/hr)									5	5		
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	5%	0%	0%	0%	0%	2%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					13.9		36.1	36.1			36.1	
Effective Green, g (s)					13.9		36.1	36.1			36.1	
Actuated g/C Ratio					0.22		0.56	0.56			0.56	
Clearance Time (s)					6.8		7.2	7.2			7.2	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					755		589	2036			1953	
v/s Ratio Prot								0.09			0.07	
v/s Ratio Perm					0.13		c0.28					
v/c Ratio					0.60		0.50	0.16			0.13	
Uniform Delay, d1					22.6		8.5	6.7			6.6	
Progression Factor					1.02		0.69	0.71			1.00	
Incremental Delay, d2					1.4		2.6	0.1			0.1	
Delay (s)					24.4		8.4	4.9			6.7	
Level of Service					C		A	A			A	
Approach Delay (s/veh)		0.0			24.4			6.6			6.7	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

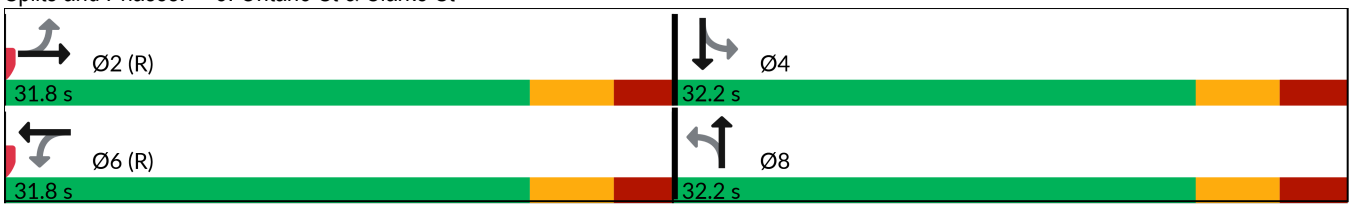
c Critical Lane Group

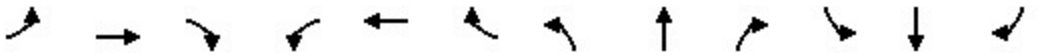
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	210	25	165	20	165	145	190
Future Volume (vph)	20	210	25	165	20	165	145	190
Lane Group Flow (vph)	0	258	0	268	0	284	0	395
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	24.8	25.2	25.2	25.2	25.2
Total Split (s)	31.8	31.8	31.8	31.8	32.2	32.2	32.2	32.2
Total Split (%)	49.7%	49.7%	49.7%	49.7%	50.3%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.8		6.8		7.2		7.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio		0.26		0.28		0.67		0.67
Control Delay (s/veh)		9.4		8.7		26.1		26.4
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		9.4		8.7		26.1		26.4
Queue Length 50th (m)		14.7		13.8		27.4		22.3
Queue Length 95th (m)		33.2		32.3		44.3		31.4
Internal Link Dist (m)		167.5		112.0		146.5		53.2
Turn Bay Length (m)								
Base Capacity (vph)		987		969		688		968
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.26		0.28		0.41		0.41

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 32.2 (50%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

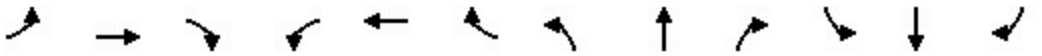
Splits and Phases: 8: Ontario St & Clarke St





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	210	15	25	165	65	20	165	85	145	190	40
Future Volume (vph)	20	210	15	25	165	65	20	165	85	145	190	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8			6.8			7.2			7.2	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.99			0.97			0.96			0.98	
Flt Protected		1.00			1.00			1.00			0.98	
Satd. Flow (prot)		1854			1814			1806			3453	
Flt Permitted		0.96			0.96			0.94			0.69	
Satd. Flow (perm)		1795			1743			1695			2442	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	221	16	26	174	68	21	174	89	153	200	42
RTOR Reduction (vph)	0	3	0	0	14	0	0	32	0	0	18	0
Lane Group Flow (vph)	0	255	0	0	254	0	0	252	0	0	377	0
Heavy Vehicles (%)	9%	0%	8%	0%	1%	0%	5%	0%	0%	1%	0%	5%
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)		35.1			35.1			14.9			14.9	
Effective Green, g (s)		35.1			35.1			14.9			14.9	
Actuated g/C Ratio		0.55			0.55			0.23			0.23	
Clearance Time (s)		6.8			6.8			7.2			7.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		984			955			394			568	
v/s Ratio Prot												
v/s Ratio Perm		0.14			c0.15			0.15			c0.15	
v/c Ratio		0.26			0.27			0.64			0.66	
Uniform Delay, d1		7.6			7.6			22.1			22.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.7			3.4			2.9	
Delay (s)		8.2			8.3			25.5			25.2	
Level of Service		A			A			C			C	
Approach Delay (s/veh)		8.2			8.3			25.5			25.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

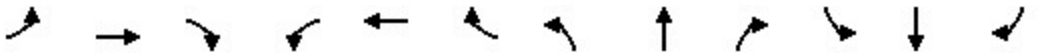


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	150	225	35	355	220	0	0	235	95
Future Volume (Veh/h)	0	0	0	150	225	35	355	220	0	0	235	95
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	161	242	38	382	237	0	0	253	102
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1346	1305	178	1128	1356	119	355			237		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1346	1305	178	1128	1356	119	355			237		
tC, single (s)	7.5	6.5	6.9	*6.0	*5.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.9	*2.5	3.3	2.3			2.2		
p0 queue free %	0	100	100	25	0	96	67			100		
cM capacity (veh/h)	0	108	841	214	187	905	1145			1342		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	282	159	382	119	119	169	186
Volume Left	161	0	382	0	0	0	0
Volume Right	0	38	0	0	0	0	102
cSH	201	230	1145	1700	1700	1700	1700
Volume to Capacity	1.40	0.69	0.33	0.07	0.07	0.10	0.11
Queue Length 95th (m)	132.0	35.7	11.8	0.0	0.0	0.0	0.0
Control Delay (s/veh)	252.6	49.5	9.7	0.0	0.0	0.0	0.0
Lane LOS	F	E	A				
Approach Delay (s/veh)	179.4		6.0			0.0	
Approach LOS	F						

Intersection Summary				
Average Delay	58.5			
Intersection Capacity Utilization	54.2%	ICU Level of Service	A	
Analysis Period (min)	15			

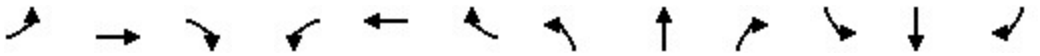
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	145	300	75	75	70	0	0	165	35
Future Volume (Veh/h)	0	0	0	145	300	75	75	70	0	0	165	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	159	330	82	82	77	0	0	181	38
Pedestrians		5										
Lane Width (m)		0.0										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	674	427	186	422	465	77	224			77		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	674	427	186	422	465	77	224			77		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	69	29	92	94			100		
cM capacity (veh/h)	139	491	861	520	465	990	1357			1535		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	324	247	82	77	181	38
Volume Left	159	0	82	0	0	0
Volume Right	0	82	0	0	0	38
cSH	491	564	1357	1700	1700	1700
Volume to Capacity	0.66	0.44	0.06	0.05	0.11	0.02
Queue Length 95th (m)	38.0	17.7	1.5	0.0	0.0	0.0
Control Delay (s/veh)	25.5	16.3	7.8	0.0	0.0	0.0
Lane LOS	D	C	A			
Approach Delay (s/veh)	21.5		4.0		0.0	
Approach LOS	C					

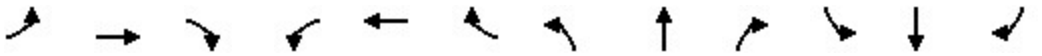
Intersection Summary			
Average Delay	13.6		
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	70	405	5	80	30	0	0	75	35
Future Volume (Veh/h)	0	0	0	70	405	5	80	30	0	0	75	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	77	445	5	88	33	0	0	82	38
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	521	315	101	315	334	22	120			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	521	315	101	315	334	22	120			38		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	87	19	100	94			100		
cM capacity (veh/h)	138	565	941	587	550	1053	1466			1579		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	300	228	88	17	17	120
Volume Left	77	0	88	0	0	0
Volume Right	0	5	0	0	0	38
cSH	559	555	1466	1700	1700	1700
Volume to Capacity	0.54	0.41	0.06	0.01	0.01	0.07
Queue Length 95th (m)	25.3	15.9	1.5	0.0	0.0	0.0
Control Delay (s/veh)	18.6	15.9	7.6	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s/veh)	17.5		5.5			0.0
Approach LOS	C					

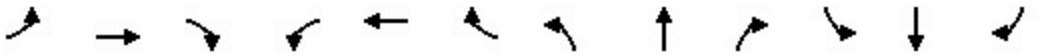
Intersection Summary				
Average Delay	12.9			
Intersection Capacity Utilization	33.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	285	50	0	0	0	0	105	65	25	120	0
Future Volume (Veh/h)	5	285	50	0	0	0	0	105	65	25	120	0
Sign Control		Stop			Stop			Free			Free	
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)	5	303	53	0	0	0	0	112	69	27	128	0
Pedestrians					5							
Lane Width (m)					0.0							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	238	368	128	538	334	96	128			186		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	238	368	128	538	334	96	128			186		
tC, single (s)	7.9	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	44	94	100	100	100	100			98		
cM capacity (veh/h)	641	542	895	223	578	949	1470			1401		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	157	205	75	106	27	128
Volume Left	5	0	0	0	27	0
Volume Right	0	53	0	69	0	0
cSH	545	604	1700	1700	1401	1700
Volume to Capacity	0.29	0.34	0.04	0.06	0.02	0.08
Queue Length 95th (m)	9.4	11.9	0.0	0.0	0.5	0.0
Control Delay (s/veh)	14.2	14.0	0.0	0.0	7.6	0.0
Lane LOS	B	B			A	
Approach Delay (s/veh)	14.1		0.0		1.3	
Approach LOS	B					

Intersection Summary				
Average Delay	7.6			
Intersection Capacity Utilization	33.9%	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)	15	195	120	0	0	0	0	145	80	65	270	0
Future Volume (Veh/h)	15	195	120	0	0	0	0	145	80	65	270	0
Sign Control		Stop			Stop			Free			Free	
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)	16	203	125	0	0	0	0	151	83	68	281	0
Pedestrians		5										
Lane Width (m)		3.6										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	573	656	286	795	573	151	286			234		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	573	656	286	795	573	151	286			234		
tC, single (s)	7.1	6.6	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	43	83	100	100	100	100			95		
cM capacity (veh/h)	413	354	748	135	408	901	1282			1322		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	118	227	151	83	68	281
Volume Left	16	0	0	0	68	0
Volume Right	0	125	0	83	0	0
cSH	361	499	1700	1700	1322	1700
Volume to Capacity	0.33	0.45	0.09	0.05	0.05	0.17
Queue Length 95th (m)	11.1	18.7	0.0	0.0	1.3	0.0
Control Delay (s/veh)	19.7	18.1	0.0	0.0	7.9	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	18.6		0.0		1.5	
Approach LOS	C					

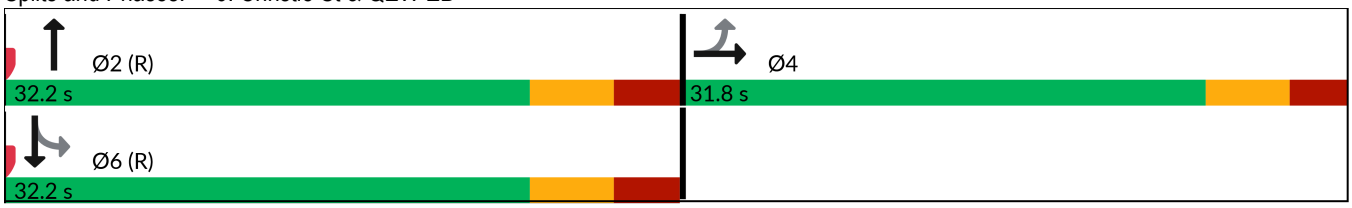
Intersection Summary				
Average Delay	7.5			
Intersection Capacity Utilization	38.5%	ICU Level of Service		A
Analysis Period (min)	15			

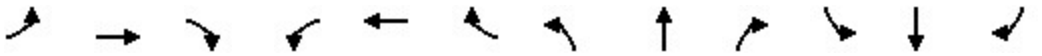
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	180	530	35	350
Future Volume (vph)	180	530	35	350
Lane Group Flow (vph)	506	701	38	380
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.67	0.33	0.09	0.18
Control Delay (s/veh)	15.7	6.7	7.1	6.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.7	6.7	7.1	6.3
Queue Length 50th (m)	14.7	17.6	1.7	9.2
Queue Length 95th (m)	25.5	33.5	6.5	18.7
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1414	2105	430	2166
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.33	0.09	0.18

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

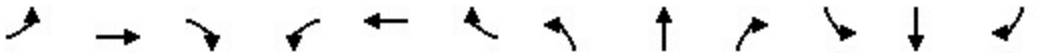
Splits and Phases: 6: Christie St & QEW EB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	180	240	0	0	0	0	530	115	35	350	0
Future Volume (vph)	45	180	240	0	0	0	0	530	115	35	350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frt		0.92						0.97		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3214						3411		1736	3539	
Flt Permitted		1.00						1.00		0.39	1.00	
Satd. Flow (perm)		3214						3411		704	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	196	261	0	0	0	0	576	125	38	380	0
RTOR Reduction (vph)	0	217	0	0	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	289	0	0	0	0	0	683	0	38	380	0
Heavy Vehicles (%)	3%	2%	4%	0%	0%	0%	0%	3%	3%	4%	2%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		10.8						39.2		39.2	39.2	
Effective Green, g (s)		10.8						39.2		39.2	39.2	
Actuated g/C Ratio		0.17						0.61		0.61	0.61	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		542						2089		431	2167	
v/s Ratio Prot								c0.20			0.11	
v/s Ratio Perm		0.09								0.05		
v/c Ratio		0.53						0.33		0.09	0.18	
Uniform Delay, d1		24.3						6.0		5.1	5.4	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		1.0						0.4		0.4	0.2	
Delay (s)		25.3						6.4		5.5	5.6	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		25.3			0.0			6.4			5.6	
Approach LOS		C			A			A			A	

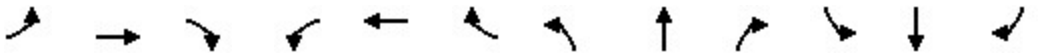
Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	110	20	35	220	65	20	155	60	95	210	70
Future Volume (Veh/h)	10	110	20	35	220	65	20	155	60	95	210	70
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)	11	122	22	39	244	72	22	172	67	106	233	78
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	928	767	156	661	773	206	311			239		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	928	767	156	661	773	206	311			239		
tC, single (s)	7.7	6.5	7.1	7.5	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3			2.3		
p0 queue free %	80	59	97	82	16	91	98			92		
cM capacity (veh/h)	54	298	832	217	291	798	1211			1296		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	155	355	261	223	195
Volume Left	11	39	22	106	0
Volume Right	22	72	67	0	78
cSH	243	320	1211	1296	1700
Volume to Capacity	0.64	1.11	0.02	0.08	0.11
Queue Length 95th (m)	31.3	111.3	0.4	2.1	0.0
Control Delay (s/veh)	42.9	119.4	0.8	4.2	0.0
Lane LOS	E	F	A	A	
Approach Delay (s/veh)	42.9	119.4	0.8	2.2	
Approach LOS	E	F			

Intersection Summary				
Average Delay	42.2			
Intersection Capacity Utilization	59.6%	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)	25	430	15	25	595	35	20	5	25	10	5	20
Future Volume (Veh/h)	25	430	15	25	595	35	20	5	25	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	28	478	17	28	661	39	22	6	28	11	6	22
Pedestrians					10			10			5	
Lane Width (m)					3.6			3.6			3.6	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					1			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.95			0.95	0.95	0.95	0.95	0.95	
vC, conflicting volume	705			505			1314	1314	507	1325	1303	686
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	705			454			1304	1304	456	1316	1292	686
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			97			81	96	95	90	96	95
cM capacity (veh/h)	845			1054			114	143	570	111	145	439

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	523	728	22	34	11	28
Volume Left	28	28	22	0	11	0
Volume Right	17	39	0	28	0	22
cSH	845	1054	114	373	111	306
Volume to Capacity	0.03	0.03	0.19	0.09	0.10	0.09
Queue Length 95th (m)	0.8	0.7	5.4	2.4	2.6	2.4
Control Delay (s/veh)	0.9	0.7	44.1	15.6	40.9	17.9
Lane LOS	A	A	E	C	E	C
Approach Delay (s/veh)	0.9	0.7	26.8		24.4	
Approach LOS			D		C	

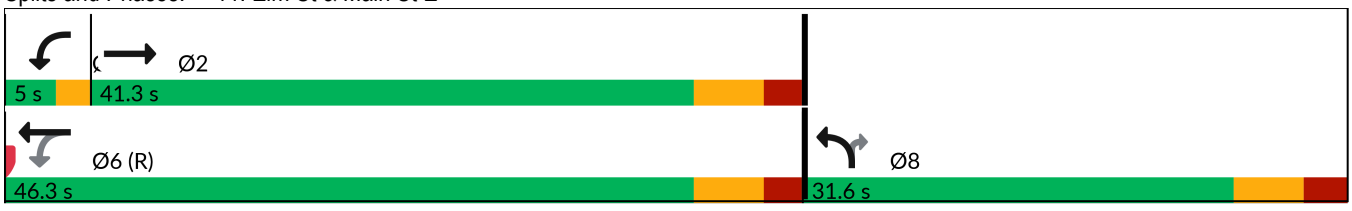
Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	57.6%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	365	160	490	35	165
Future Volume (vph)	365	160	490	35	165
Lane Group Flow (vph)	534	213	653	47	220
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	3.0	8.0	10.0	10.0
Minimum Split (s)	30.3	5.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.51	0.34	0.51	0.20	0.55
Control Delay (s/veh)	12.7	4.2	7.2	32.1	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.7	4.2	7.2	32.1	10.4
Queue Length 50th (m)	44.3	6.8	38.1	6.7	0.0
Queue Length 95th (m)	60.7	11.0	48.4	13.1	9.7
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1041	632	1292	551	657
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.51	0.34	0.51	0.09	0.33

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

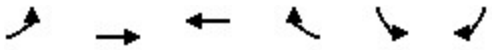
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	365	35	160	490	35	165
Future Volume (vph)	365	35	160	490	35	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1820		1782	1845	1719	1583
Flt Permitted	1.00		0.37	1.00	0.95	1.00
Satd. Flow (perm)	1820		689	1845	1719	1583
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	487	47	213	653	47	220
RTOR Reduction (vph)	3	0	0	0	0	191
Lane Group Flow (vph)	531	0	213	653	47	29
Confl. Peds. (#/hr)		15	15			
Heavy Vehicles (%)	3%	0%	1%	3%	5%	2%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	44.5		54.6	54.6	10.4	10.4
Effective Green, g (s)	44.5		54.6	54.6	10.4	10.4
Actuated g/C Ratio	0.57		0.70	0.70	0.13	0.13
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1039		596	1293	229	211
v/s Ratio Prot	0.29		0.04	c0.35	c0.03	
v/s Ratio Perm			0.21			0.02
v/c Ratio	0.51		0.36	0.51	0.21	0.14
Uniform Delay, d1	10.1		4.8	5.4	30.1	29.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		0.4	1.4	0.3	0.2
Delay (s)	10.4		5.1	6.8	30.4	30.0
Level of Service	B		A	A	C	C
Approach Delay (s/veh)	10.4			6.4	30.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	340	425	100	60	130
Future Volume (Veh/h)	85	340	425	100	60	130
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	99	395	494	116	70	151
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.84				0.84	0.84
vC, conflicting volume	615				1150	557
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	444				1082	374
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	89				60	73
cM capacity (veh/h)	923				176	562

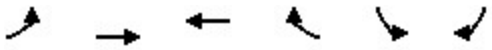
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	494	610	70	151
Volume Left	99	0	70	0
Volume Right	0	116	0	151
cSH	923	1700	176	562
Volume to Capacity	0.11	0.36	0.40	0.27
Queue Length 95th (m)	2.9	0.0	14.0	8.6
Control Delay (s/veh)	2.9	0.0	38.3	13.7
Lane LOS	A		E	B
Approach Delay (s/veh)	2.9	0.0	21.5	
Approach LOS			C	

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	60	175	35	45	210
Future Volume (Veh/h)	35	60	175	35	45	210
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	49	83	243	49	62	292
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	684	268			292	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	684	268			292	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	89			95	
cM capacity (veh/h)	397	769			1253	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	132	292	354
Volume Left	49	0	62
Volume Right	83	49	0
cSH	570	1700	1253
Volume to Capacity	0.23	0.17	0.05
Queue Length 95th (m)	7.1	0.0	1.2
Control Delay (s/veh)	13.2	0.0	1.8
Lane LOS	B		A
Approach Delay (s/veh)	13.2	0.0	1.8
Approach LOS	B		

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	30	40	5	0	55
Future Volume (Veh/h)	50	30	40	5	0	55
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	33	43	5	0	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	48				187	46
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	48				187	46
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	94
cM capacity (veh/h)	1559				775	1024

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	87	48	60
Volume Left	54	0	0
Volume Right	0	5	60
cSH	1559	1700	1024
Volume to Capacity	0.03	0.03	0.06
Queue Length 95th (m)	0.9	0.0	1.5
Control Delay (s/veh)	4.7	0.0	8.7
Lane LOS	A		A
Approach Delay (s/veh)	4.7	0.0	8.7
Approach LOS			A

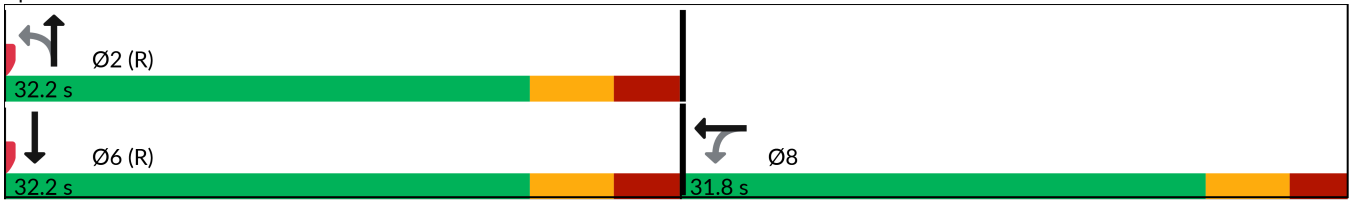
Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

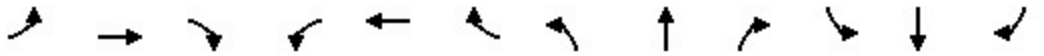
Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	225	355	220	235
Future Volume (vph)	225	355	220	235
Lane Group Flow (vph)	441	382	237	355
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Detector Phase	8	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.61	0.71	0.12	0.18
Control Delay (s/veh)	25.2	17.0	2.8	5.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.2	17.0	2.8	5.3
Queue Length 50th (m)	25.7	33.8	1.3	6.7
Queue Length 95th (m)	36.6	#86.6	4.0	14.3
Internal Link Dist (m)	407.1		125.8	172.2
Turn Bay Length (m)		50.0		
Base Capacity (vph)	1360	535	2014	1955
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.32	0.71	0.12	0.18

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, 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: 1: Christie St & QEW WB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	150	225	35	355	220	0	0	235	95
Future Volume (vph)	0	0	0	150	225	35	355	220	0	0	235	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.8		7.2	7.2			7.2	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frt					0.99		1.00	1.00			0.96	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3456		1641	3505			3326	
Flt Permitted					0.98		0.54	1.00			1.00	
Satd. Flow (perm)					3456		932	3505			3326	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	161	242	38	382	237	0	0	253	102
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	43	0
Lane Group Flow (vph)	0	0	0	0	427	0	382	237	0	0	312	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	4%	10%	3%	0%	0%	5%	1%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					13.2		36.8	36.8			36.8	
Effective Green, g (s)					13.2		36.8	36.8			36.8	
Actuated g/C Ratio					0.21		0.57	0.57			0.57	
Clearance Time (s)					6.8		7.2	7.2			7.2	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					712		535	2015			1912	
v/s Ratio Prot								0.07			0.09	
v/s Ratio Perm					0.12		c0.41					
v/c Ratio					0.60		0.71	0.12			0.16	
Uniform Delay, d1					23.0		9.8	6.2			6.4	
Progression Factor					0.99		0.62	0.39			1.00	
Incremental Delay, d2					1.4		7.6	0.1			0.2	
Delay (s)					24.2		13.6	2.5			6.6	
Level of Service					C		B	A			A	
Approach Delay (s/veh)		0.0			24.2			9.4			6.6	
Approach LOS		A			C			A			A	

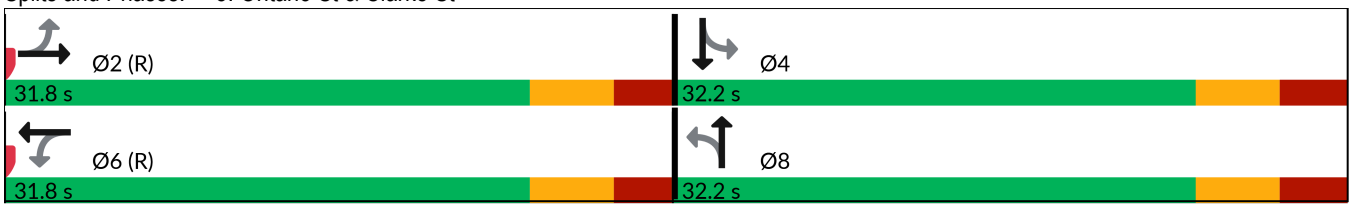
Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	10	110	35	220	20	155	95	210
Future Volume (vph)	10	110	35	220	20	155	95	210
Lane Group Flow (vph)	0	155	0	355	0	261	0	417
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	24.8	25.2	25.2	25.2	25.2
Total Split (s)	31.8	31.8	31.8	31.8	32.2	32.2	32.2	32.2
Total Split (%)	49.7%	49.7%	49.7%	49.7%	50.3%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.8		6.8		7.2		7.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio		0.16		0.37		0.66		0.65
Control Delay (s/veh)		8.1		10.0		27.3		24.0
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		8.1		10.0		27.3		24.0
Queue Length 50th (m)		7.6		20.6		26.0		21.7
Queue Length 95th (m)		19.6		45.8		42.4		31.0
Internal Link Dist (m)		167.5		112.0		146.5		53.2
Turn Bay Length (m)								
Base Capacity (vph)		968		948		651		1052
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.16		0.37		0.40		0.40

Intersection Summary

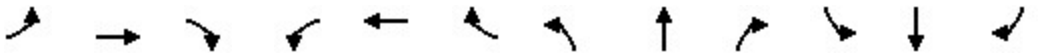
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 8: Ontario St & Clarke St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	110	20	35	220	65	20	155	60	95	210	70
Future Volume (vph)	10	110	20	35	220	65	20	155	60	95	210	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8			6.8			7.2			7.2	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.98			0.97			0.97			0.97	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1788			1766			1748			3369	
Flt Permitted		0.97			0.96			0.92			0.77	
Satd. Flow (perm)		1741			1698			1619			2614	
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)	11	122	22	39	244	72	22	172	67	106	233	78
RTOR Reduction (vph)	0	7	0	0	10	0	0	25	0	0	39	0
Lane Group Flow (vph)	0	148	0	0	345	0	0	236	0	0	378	0
Heavy Vehicles (%)	8%	2%	12%	0%	5%	3%	7%	4%	5%	6%	1%	4%
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)		35.3			35.3			14.7			14.7	
Effective Green, g (s)		35.3			35.3			14.7			14.7	
Actuated g/C Ratio		0.55			0.55			0.23			0.23	
Clearance Time (s)		6.8			6.8			7.2			7.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		960			936			371			600	
v/s Ratio Prot												
v/s Ratio Perm		0.09			c0.20			c0.15			0.14	
v/c Ratio		0.15			0.37			0.64			0.63	
Uniform Delay, d1		7.0			8.1			22.2			22.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			1.1			3.6			2.1	
Delay (s)		7.4			9.2			25.8			24.3	
Level of Service		A			A			C			C	
Approach Delay (s/veh)		7.4			9.2			25.8			24.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

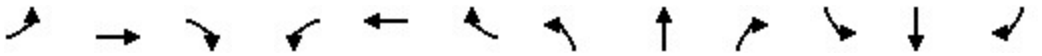


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	165	250	35	280	310	0	0	205	65
Future Volume (Veh/h)	0	0	0	165	250	35	280	310	0	0	205	65
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	174	263	37	295	326	0	0	216	68
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1172	1171	142	1029	1205	168	284			331		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1172	1171	142	1029	1205	168	284			331		
tC, single (s)	7.5	6.5	6.9	*5.8	*5.7	7.0	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*3.2	*3.2	3.3	2.2			2.2		
p0 queue free %	0	100	100	35	0	96	76			100		
cM capacity (veh/h)	0	148	886	266	207	837	1254			1235		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	306	169	295	163	163	144	140
Volume Left	174	0	295	0	0	0	0
Volume Right	0	37	0	0	0	0	68
cSH	237	248	1254	1700	1700	1700	1700
Volume to Capacity	1.29	0.68	0.24	0.10	0.10	0.08	0.08
Queue Length 95th (m)	126.5	35.2	7.3	0.0	0.0	0.0	0.0
Control Delay (s/veh)	199.5	45.5	8.8	0.0	0.0	0.0	0.0
Lane LOS	F	E	A				
Approach Delay (s/veh)	144.8		4.2			0.0	
Approach LOS	F						

Intersection Summary				
Average Delay	51.6			
Intersection Capacity Utilization	69.5%	ICU Level of Service	C	
Analysis Period (min)	15			

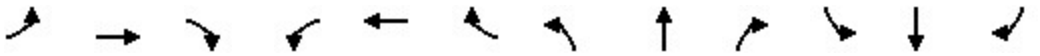
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	95	325	70	70	180	0	0	185	55
Future Volume (Veh/h)	0	0	0	95	325	70	70	180	0	0	185	55
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	108	369	80	80	205	0	0	210	62
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	840	575	210	575	637	205	272			205		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	840	575	210	575	637	205	272			205		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	74	1	90	94			100		
cM capacity (veh/h)	17	405	835	409	373	841	1303			1378		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	293	265	80	205	210	62
Volume Left	108	0	80	0	0	0
Volume Right	0	80	0	0	0	62
cSH	386	449	1303	1700	1700	1700
Volume to Capacity	0.76	0.59	0.06	0.12	0.12	0.04
Queue Length 95th (m)	49.3	29.7	1.6	0.0	0.0	0.0
Control Delay (s/veh)	38.4	23.9	7.9	0.0	0.0	0.0
Lane LOS	E	C	A			
Approach Delay (s/veh)	31.5		2.2		0.0	
Approach LOS	D					

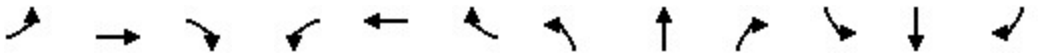
Intersection Summary				
Average Delay	16.3			
Intersection Capacity Utilization	44.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	85	350	15	120	125	0	0	75	20
Future Volume (Veh/h)	0	0	0	85	350	15	120	125	0	0	75	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	91	376	16	129	134	0	0	81	22
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	621	484	92	484	495	67	103			134		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	621	484	92	484	495	67	103			134		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	79	14	98	91			100		
cM capacity (veh/h)	95	444	954	440	438	989	1502			1463		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	279	204	129	67	67	103
Volume Left	91	0	129	0	0	0
Volume Right	0	16	0	0	0	22
cSH	438	458	1502	1700	1700	1700
Volume to Capacity	0.64	0.45	0.09	0.04	0.04	0.06
Queue Length 95th (m)	34.6	18.0	2.3	0.0	0.0	0.0
Control Delay (s/veh)	26.5	19.0	7.6	0.0	0.0	0.0
Lane LOS	D	C	A			
Approach Delay (s/veh)	23.4		3.7			0.0
Approach LOS	C					

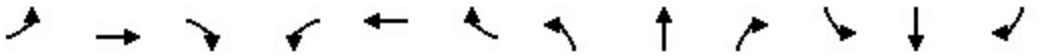
Intersection Summary				
Average Delay	14.5			
Intersection Capacity Utilization	37.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	415	105	0	0	0	0	190	80	15	145	0
Future Volume (Veh/h)	55	415	105	0	0	0	0	190	80	15	145	0
Sign Control		Stop			Stop			Free			Free	
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)	59	441	112	0	0	0	0	202	85	16	154	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	287	473	154	763	431	144	154			287		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	287	473	154	763	431	144	154			287		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	9	87	100	100	100	100			99		
cM capacity (veh/h)	642	482	871	52	514	884	1439			1287		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	280	333	135	152	16	154
Volume Left	59	0	0	0	16	0
Volume Right	0	112	0	85	0	0
cSH	509	567	1700	1700	1287	1700
Volume to Capacity	0.55	0.59	0.08	0.09	0.01	0.09
Queue Length 95th (m)	26.2	30.1	0.0	0.0	0.3	0.0
Control Delay (s/veh)	20.4	19.9	0.0	0.0	7.8	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	20.1		0.0		0.7	
Approach LOS	C					

Intersection Summary				
Average Delay	11.6			
Intersection Capacity Utilization	37.6%	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	415	195	0	0	0	0	200	95	65	230	0
Future Volume (Veh/h)	75	415	195	0	0	0	0	200	95	65	230	0
Sign Control		Stop			Stop			Free			Free	
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)	82	451	212	0	0	0	0	217	103	71	250	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	609	712	250	1047	609	217	250			320		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	609	712	250	1047	609	217	250			320		
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 %	79	0	73	0	100	100	100			94		
cM capacity (veh/h)	392	337	791	0	389	828	1327			1251		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	308	438	217	103	71	250
Volume Left	82	0	0	0	71	0
Volume Right	0	212	0	103	0	0
cSH	350	467	1700	1700	1251	1700
Volume to Capacity	0.88	0.94	0.13	0.06	0.06	0.15
Queue Length 95th (m)	67.1	88.7	0.0	0.0	1.4	0.0
Control Delay (s/veh)	57.1	57.1	0.0	0.0	8.0	0.0
Lane LOS	F	F			A	
Approach Delay (s/veh)	57.1		0.0		1.8	
Approach LOS	F					

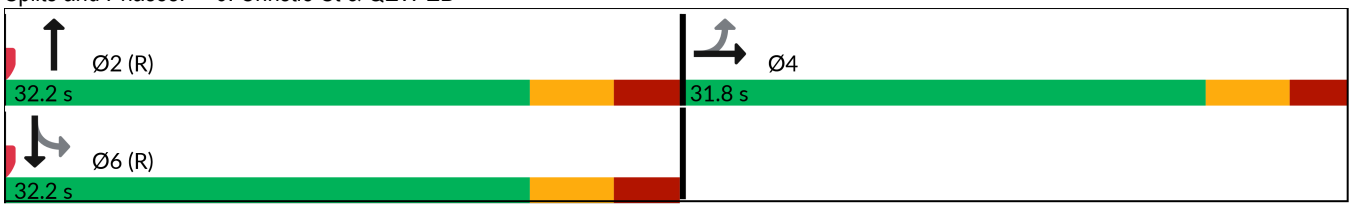
Intersection Summary				
Average Delay	31.1			
Intersection Capacity Utilization	44.0%	ICU Level of Service		A
Analysis Period (min)	15			

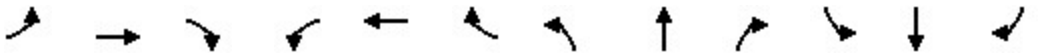
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	405	480	20	350
Future Volume (vph)	405	480	20	350
Lane Group Flow (vph)	989	831	22	393
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.78	0.51	0.09	0.24
Control Delay (s/veh)	18.0	11.4	13.1	12.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.0	11.4	13.1	12.0
Queue Length 50th (m)	40.0	27.7	1.5	15.2
Queue Length 95th (m)	53.8	47.5	6.0	26.2
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1480	1641	256	1659
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.67	0.51	0.09	0.24

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 6: Christie St & QEW EB

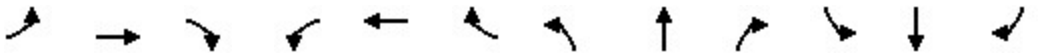




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	405	365	0	0	0	0	480	260	20	350	0
Future Volume (vph)	110	405	365	0	0	0	0	480	260	20	350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frpb, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		1.00	1.00	
Frt		0.94						0.95		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3337						3353		1805	3610	
Flt Permitted		0.99						1.00		0.29	1.00	
Satd. Flow (perm)		3337						3353		558	3610	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	124	455	410	0	0	0	0	539	292	22	393	0
RTOR Reduction (vph)	0	193	0	0	0	0	0	101	0	0	0	0
Lane Group Flow (vph)	0	796	0	0	0	0	0	730	0	22	393	0
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	2%	2%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		20.6						29.4		29.4	29.4	
Effective Green, g (s)		20.6						29.4		29.4	29.4	
Actuated g/C Ratio		0.32						0.46		0.46	0.46	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		1074						1540		256	1658	
v/s Ratio Prot								c0.22			0.11	
v/s Ratio Perm		0.24								0.04		
v/c Ratio		0.74						0.47		0.09	0.24	
Uniform Delay, d1		19.3						12.0		9.7	10.5	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		2.8						1.0		0.7	0.3	
Delay (s)		22.1						13.0		10.4	10.8	
Level of Service		C						B		B	B	
Approach Delay (s/veh)		22.1			0.0			13.0			10.8	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

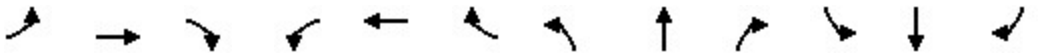
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	210	15	25	165	65	25	180	100	145	235	40
Future Volume (Veh/h)	20	210	15	25	165	65	25	180	100	145	235	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	221	16	26	174	68	26	189	105	153	247	42
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	1023	920	145	850	889	242	289			294		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1023	920	145	850	889	242	289			294		
tC, single (s)	7.7	6.5	7.1	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	67	6	98	33	29	91	98			88		
cM capacity (veh/h)	63	235	858	39	244	766	1248			1272		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	258	268	320	277	166
Volume Left	21	26	26	153	0
Volume Right	16	68	105	0	42
cSH	200	182	1248	1272	1700
Volume to Capacity	1.29	1.48	0.02	0.12	0.10
Queue Length 95th (m)	113.2	134.3	0.5	3.3	0.0
Control Delay (s/veh)	210.7	288.7	0.8	5.0	0.0
Lane LOS	F	F	A	A	
Approach Delay (s/veh)	210.7	288.7	0.8	3.1	
Approach LOS	F	F			

Intersection Summary				
Average Delay	103.6			
Intersection Capacity Utilization	58.3%	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)	20	670	20	40	615	25	20	0	40	15	5	20
Future Volume (Veh/h)	20	670	20	40	615	25	20	0	40	15	5	20
Sign Control		Free			Free			Stop			Stop	
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)	21	691	21	41	634	26	21	0	41	15	5	21
Pedestrians								15			5	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.83			0.83	0.83	0.83	0.83	0.83	
vC, conflicting volume	665			727			1511	1506	717	1519	1503	652
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	665			573			1513	1507	560	1522	1504	652
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			95			70	100	91	77	95	96
cM capacity (veh/h)	930			832			70	93	438	66	93	470

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	733	701	21	41	15	26
Volume Left	21	41	21	0	15	0
Volume Right	21	26	0	41	0	21
cSH	930	832	70	438	66	265
Volume to Capacity	0.02	0.05	0.30	0.09	0.23	0.10
Queue Length 95th (m)	0.6	1.2	8.7	2.5	6.3	2.6
Control Delay (s/veh)	0.6	1.3	77.0	14.1	75.0	20.1
Lane LOS	A	A	F	B	F	C
Approach Delay (s/veh)	0.6	1.3	35.4		40.2	
Approach LOS			E		E	

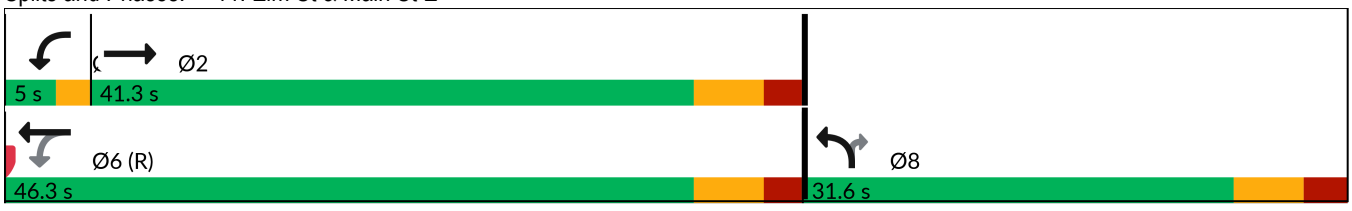
Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	66.7%	ICU Level of Service		C
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	480	225	455	65	265
Future Volume (vph)	480	225	455	65	265
Lane Group Flow (vph)	609	245	495	71	288
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	3.0	8.0	10.0	10.0
Minimum Split (s)	30.3	5.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.61	0.42	0.38	0.28	0.63
Control Delay (s/veh)	15.7	5.3	6.1	32.7	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.7	5.3	6.1	32.7	10.7
Queue Length 50th (m)	56.8	8.0	25.3	10.2	0.0
Queue Length 95th (m)	106.3	17.9	48.8	20.8	20.1
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1005	579	1308	579	685
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.42	0.38	0.12	0.42

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

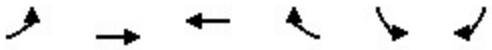
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	480	80	225	455	65	265
Future Volume (vph)	480	80	225	455	65	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1836		1801	1881	1805	1527
Flt Permitted	1.00		0.30	1.00	0.95	1.00
Satd. Flow (perm)	1836		566	1881	1805	1527
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	522	87	245	495	71	288
RTOR Reduction (vph)	6	0	0	0	0	248
Lane Group Flow (vph)	603	0	245	495	71	40
Confl. Peds. (#/hr)		15	15		10	20
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	42.4		54.2	54.2	10.8	10.8
Effective Green, g (s)	42.4		54.2	54.2	10.8	10.8
Actuated g/C Ratio	0.54		0.70	0.70	0.14	0.14
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	999		549	1308	250	211
v/s Ratio Prot	c0.33		c0.06	0.26	c0.04	
v/s Ratio Perm			0.25			0.03
v/c Ratio	0.60		0.45	0.38	0.28	0.19
Uniform Delay, d1	12.0		5.9	4.9	30.1	29.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9		0.6	0.8	0.5	0.3
Delay (s)	12.9		6.5	5.7	30.5	30.0
Level of Service	B		A	A	C	C
Approach Delay (s/veh)	12.9			6.0	30.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	125	445	405	115	85	180
Future Volume (Veh/h)	125	445	405	115	85	180
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	133	473	431	122	90	191
Pedestrians					20	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.89				0.89	0.89
vC, conflicting volume	573				1251	512
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	457				1220	388
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				41	67
cM capacity (veh/h)	974				151	579

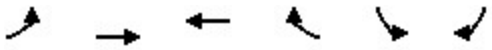
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	606	553	90	191
Volume Left	133	0	90	0
Volume Right	0	122	0	191
cSH	974	1700	151	579
Volume to Capacity	0.14	0.33	0.59	0.33
Queue Length 95th (m)	3.8	0.0	25.0	11.5
Control Delay (s/veh)	3.4	0.0	58.6	14.3
Lane LOS	A		F	B
Approach Delay (s/veh)	3.4	0.0	28.5	
Approach LOS			D	

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	75	245	45	75	195
Future Volume (Veh/h)	50	75	245	45	75	195
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	57	86	282	52	86	224
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	709	313			339	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	709	313			339	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	88			93	
cM capacity (veh/h)	374	729			1226	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	143	334	310
Volume Left	57	0	86
Volume Right	86	52	0
cSH	529	1700	1226
Volume to Capacity	0.27	0.20	0.07
Queue Length 95th (m)	8.7	0.0	1.8
Control Delay (s/veh)	14.3	0.0	2.7
Lane LOS	B		A
Approach Delay (s/veh)	14.3	0.0	2.7
Approach LOS	B		

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	75	45	50	5	5	75
Future Volume (Veh/h)	75	45	50	5	5	75
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	49	54	5	5	82
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	59				270	57
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	59				270	57
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				99	92
cM capacity (veh/h)	1545				682	1010

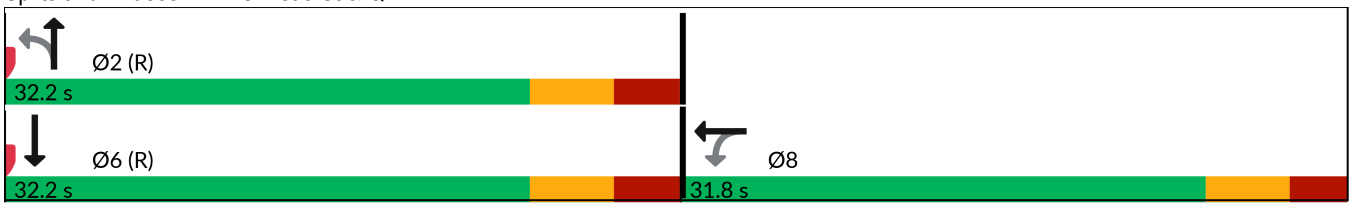
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	131	59	87
Volume Left	82	0	5
Volume Right	0	5	82
cSH	1545	1700	983
Volume to Capacity	0.05	0.03	0.09
Queue Length 95th (m)	1.3	0.0	2.3
Control Delay (s/veh)	4.8	0.0	9.0
Lane LOS	A		A
Approach Delay (s/veh)	4.8	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	250	280	310	205
Future Volume (vph)	250	280	310	205
Lane Group Flow (vph)	474	295	326	284
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Detector Phase	8	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.62	0.50	0.16	0.14
Control Delay (s/veh)	25.6	9.6	5.4	5.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.6	9.6	5.4	5.8
Queue Length 50th (m)	27.3	12.0	5.8	5.8
Queue Length 95th (m)	36.7	m29.1	m11.8	13.0
Internal Link Dist (m)	407.1		125.8	172.2
Turn Bay Length (m)		50.0		
Base Capacity (vph)	1368	589	2033	1981
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.50	0.16	0.14

Intersection Summary
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Christie St & QEW WB



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	165	250	35	280	310	0	0	205	65
Future Volume (vph)	0	0	0	165	250	35	280	310	0	0	205	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.8		7.2	7.2			7.2	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.96	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3480		1719	3610			3464	
Flt Permitted					0.98		0.58	1.00			1.00	
Satd. Flow (perm)					3480		1045	3610			3464	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	174	263	37	295	326	0	0	216	68
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	0	0	30	0
Lane Group Flow (vph)	0	0	0	0	461	0	295	326	0	0	254	0
Confl. Peds. (#/hr)									5	5		
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	5%	0%	0%	0%	0%	2%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					13.9		36.1	36.1			36.1	
Effective Green, g (s)					13.9		36.1	36.1			36.1	
Actuated g/C Ratio					0.22		0.56	0.56			0.56	
Clearance Time (s)					6.8		7.2	7.2			7.2	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					755		589	2036			1953	
v/s Ratio Prot								0.09			0.07	
v/s Ratio Perm					0.13		c0.28					
v/c Ratio					0.61		0.50	0.16			0.13	
Uniform Delay, d1					22.6		8.5	6.7			6.6	
Progression Factor					1.03		0.68	0.70			1.00	
Incremental Delay, d2					1.5		2.6	0.1			0.1	
Delay (s)					24.7		8.4	4.8			6.7	
Level of Service					C		A	A			A	
Approach Delay (s/veh)		0.0			24.7			6.5			6.7	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

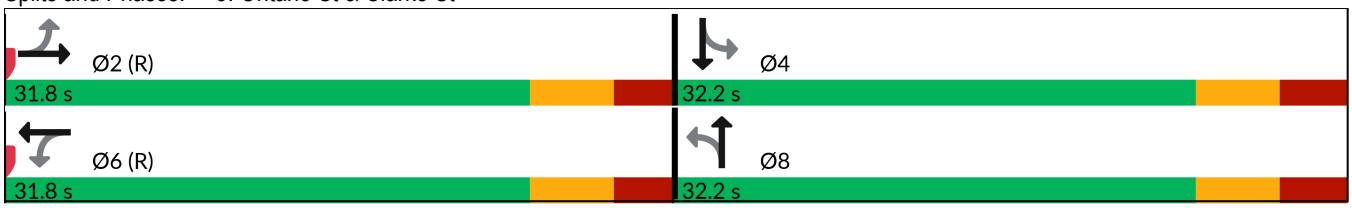
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	210	25	165	25	180	145	235
Future Volume (vph)	20	210	25	165	25	180	145	235
Lane Group Flow (vph)	0	258	0	268	0	320	0	442
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	24.8	25.2	25.2	25.2	25.2
Total Split (s)	31.8	31.8	31.8	31.8	32.2	32.2	32.2	32.2
Total Split (%)	49.7%	49.7%	49.7%	49.7%	50.3%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.8		6.8		7.2		7.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
v/c Ratio		0.27		0.29		0.70		0.70
Control Delay (s/veh)		10.4		9.6		26.2		26.2
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		10.4		9.6		26.2		26.2
Queue Length 50th (m)		15.7		14.7		31.0		25.2
Queue Length 95th (m)		35.3		34.5		48.5		34.2
Internal Link Dist (m)		167.5		112.0		146.5		53.2
Turn Bay Length (m)								
Base Capacity (vph)		946		931		679		959
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.27		0.29		0.47		0.46

Intersection Summary

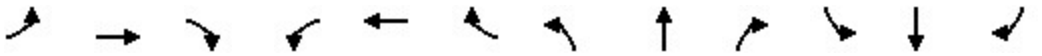
Cycle Length: 64
Actuated Cycle Length: 64
Offset: 32.2 (50%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 8: Ontario St & Clarke St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	210	15	25	165	65	25	180	100	145	235	40
Future Volume (vph)	20	210	15	25	165	65	25	180	100	145	235	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8			6.8			7.2			7.2	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.99			0.97			0.96			0.99	
Flt Protected		1.00			1.00			1.00			0.98	
Satd. Flow (prot)		1854			1814			1801			3470	
Flt Permitted		0.96			0.96			0.92			0.69	
Satd. Flow (perm)		1794			1742			1669			2424	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	221	16	26	174	68	26	189	105	153	247	42
RTOR Reduction (vph)	0	3	0	0	15	0	0	34	0	0	15	0
Lane Group Flow (vph)	0	255	0	0	253	0	0	286	0	0	427	0
Heavy Vehicles (%)	9%	0%	8%	0%	1%	0%	5%	0%	0%	1%	0%	5%
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)		33.7			33.7			16.3			16.3	
Effective Green, g (s)		33.7			33.7			16.3			16.3	
Actuated g/C Ratio		0.53			0.53			0.25			0.25	
Clearance Time (s)		6.8			6.8			7.2			7.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		944			917			425			617	
v/s Ratio Prot												
v/s Ratio Perm		0.14			c0.15			0.17			c0.18	
v/c Ratio		0.27			0.28			0.67			0.69	
Uniform Delay, d1		8.4			8.4			21.5			21.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.7			4.2			3.4	
Delay (s)		9.1			9.1			25.6			24.9	
Level of Service		A			A			C			C	
Approach Delay (s/veh)		9.1			9.1			25.6			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

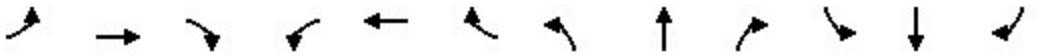


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	115	160	25	265	210	0	0	225	70
Future Volume (Veh/h)	0	0	0	115	160	25	265	210	0	0	225	70
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	124	172	27	285	226	0	0	242	75
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1076	1076	159	917	1113	113	317			226		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1076	1076	159	917	1113	113	317			226		
tC, single (s)	7.5	6.5	6.9	*6.0	*5.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.9	*2.5	3.3	2.3			2.2		
p0 queue free %	100	100	100	60	40	97	76			100		
cM capacity (veh/h)	75	168	865	310	287	912	1184			1354		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	210	113	285	113	113	161	156
Volume Left	124	0	285	0	0	0	0
Volume Right	0	27	0	0	0	0	75
cSH	300	343	1184	1700	1700	1700	1700
Volume to Capacity	0.70	0.33	0.24	0.07	0.07	0.09	0.09
Queue Length 95th (m)	39.0	11.2	7.5	0.0	0.0	0.0	0.0
Control Delay (s/veh)	40.8	20.6	9.0	0.0	0.0	0.0	0.0
Lane LOS	E	C	A				
Approach Delay (s/veh)	33.7		5.0			0.0	
Approach LOS	D						

Intersection Summary				
Average Delay	11.7			
Intersection Capacity Utilization	47.3%	ICU Level of Service	A	
Analysis Period (min)	15			

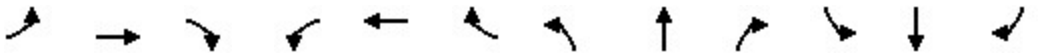
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	105	225	55	50	65	0	0	150	25
Future Volume (Veh/h)	0	0	0	105	225	55	50	65	0	0	150	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	115	247	60	55	71	0	0	165	27
Pedestrians		5										
Lane Width (m)		0.0										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	535	351	170	346	378	71	197			71		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	535	351	170	346	378	71	197			71		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	81	54	94	96			100		
cM capacity (veh/h)	267	554	879	594	532	997	1388			1542		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	239	184	55	71	165	27
Volume Left	115	0	55	0	0	0
Volume Right	0	60	0	0	0	27
cSH	560	628	1388	1700	1700	1700
Volume to Capacity	0.43	0.29	0.04	0.04	0.10	0.02
Queue Length 95th (m)	16.9	9.7	1.0	0.0	0.0	0.0
Control Delay (s/veh)	16.1	13.1	7.7	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	14.8		3.4		0.0	
Approach LOS	B					

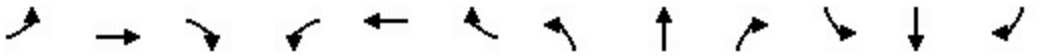
Intersection Summary				
Average Delay	9.0			
Intersection Capacity Utilization	33.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	55	300	5	60	30	0	0	70	25
Future Volume (Veh/h)	0	0	0	55	300	5	60	30	0	0	70	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	60	330	5	66	33	0	0	77	27
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	409	261	91	261	274	22	104			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	409	261	91	261	274	22	104			38		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	91	45	100	96			100		
cM capacity (veh/h)	290	616	956	649	604	1053	1485			1579		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	225	170	66	17	17	104
Volume Left	60	0	66	0	0	0
Volume Right	0	5	0	0	0	27
cSH	615	611	1485	1700	1700	1700
Volume to Capacity	0.37	0.28	0.04	0.01	0.01	0.06
Queue Length 95th (m)	13.4	9.1	1.1	0.0	0.0	0.0
Control Delay (s/veh)	14.2	13.1	7.5	0.0	0.0	0.0
Lane LOS	B	B	A			
Approach Delay (s/veh)	13.7		5.0			0.0
Approach LOS	B					

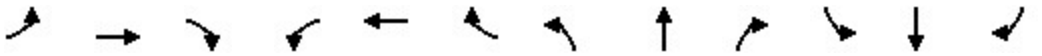
Intersection Summary				
Average Delay	9.9			
Intersection Capacity Utilization	28.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	210	40	0	0	0	0	85	50	20	105	0
Future Volume (Veh/h)	5	210	40	0	0	0	0	85	50	20	105	0
Sign Control		Stop			Stop			Free			Free	
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)	5	223	43	0	0	0	0	90	53	21	112	0
Pedestrians					5							
Lane Width (m)					0.0							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	199	302	112	430	276	77	112			148		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	199	302	112	430	276	77	112			148		
tC, single (s)	7.9	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	62	95	100	100	100	100			99		
cM capacity (veh/h)	687	594	916	343	626	976	1490			1446		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	117	155	60	83	21	112
Volume Left	5	0	0	0	21	0
Volume Right	0	43	0	53	0	0
cSH	597	658	1700	1700	1446	1700
Volume to Capacity	0.20	0.23	0.04	0.05	0.01	0.07
Queue Length 95th (m)	5.7	7.3	0.0	0.0	0.4	0.0
Control Delay (s/veh)	12.5	12.1	0.0	0.0	7.5	0.0
Lane LOS	B	B			A	
Approach Delay (s/veh)	12.3		0.0		1.2	
Approach LOS	B					

Intersection Summary				
Average Delay	6.4			
Intersection Capacity Utilization	28.6%	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)	10	150	80	0	0	0	0	120	55	50	230	0
Future Volume (Veh/h)	10	150	80	0	0	0	0	120	55	50	230	0
Sign Control		Stop			Stop			Free			Free	
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)	10	156	83	0	0	0	0	125	57	52	240	0
Pedestrians		5										
Lane Width (m)		3.6										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	474	531	245	630	474	125	245			182		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	474	531	245	630	474	125	245			182		
tC, single (s)	7.1	6.6	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	63	89	100	100	100	100			96		
cM capacity (veh/h)	486	424	788	246	471	931	1327			1381		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	88	161	125	57	52	240
Volume Left	10	0	0	0	52	0
Volume Right	0	83	0	57	0	0
cSH	431	557	1700	1700	1381	1700
Volume to Capacity	0.20	0.29	0.07	0.03	0.04	0.14
Queue Length 95th (m)	6.1	9.5	0.0	0.0	0.9	0.0
Control Delay (s/veh)	15.5	14.1	0.0	0.0	7.7	0.0
Lane LOS	C	B			A	
Approach Delay (s/veh)	14.6		0.0		1.4	
Approach LOS	B					

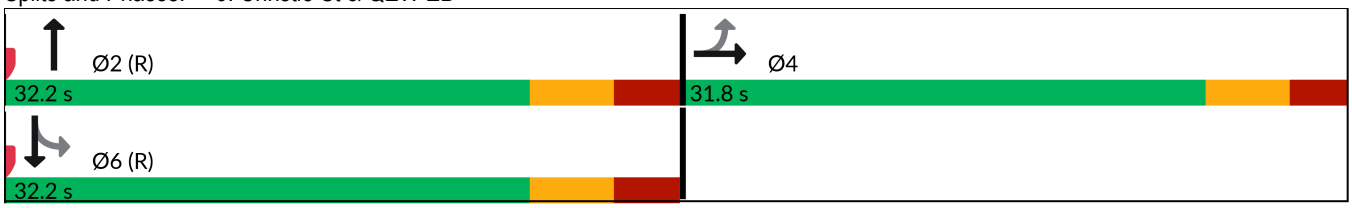
Intersection Summary				
Average Delay	5.6			
Intersection Capacity Utilization	33.1%	ICU Level of Service	A	
Analysis Period (min)	15			

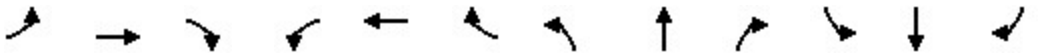
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	125	440	25	315
Future Volume (vph)	125	440	25	315
Lane Group Flow (vph)	375	576	27	342
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.60	0.26	0.05	0.15
Control Delay (s/veh)	15.5	5.4	5.6	5.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.5	5.4	5.6	5.3
Queue Length 50th (m)	10.5	12.5	1.1	7.5
Queue Length 95th (m)	20.7	23.2	4.3	14.7
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1373	2195	507	2259
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.27	0.26	0.05	0.15

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

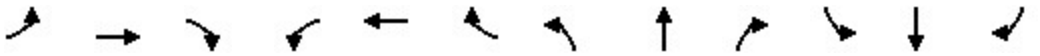
Splits and Phases: 6: Christie St & QEW EB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	125	185	0	0	0	0	440	90	25	315	0
Future Volume (vph)	35	125	185	0	0	0	0	440	90	25	315	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frt		0.92						0.97		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3201						3415		1736	3539	
Flt Permitted		0.99						1.00		0.44	1.00	
Satd. Flow (perm)		3201						3415		795	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	136	201	0	0	0	0	478	98	27	342	0
RTOR Reduction (vph)	0	172	0	0	0	0	0	16	0	0	0	0
Lane Group Flow (vph)	0	203	0	0	0	0	0	560	0	27	342	0
Heavy Vehicles (%)	3%	2%	4%	0%	0%	0%	0%	3%	3%	4%	2%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		9.1						40.9		40.9	40.9	
Effective Green, g (s)		9.1						40.9		40.9	40.9	
Actuated g/C Ratio		0.14						0.64		0.64	0.64	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		455						2182		508	2261	
v/s Ratio Prot								c0.16			0.10	
v/s Ratio Perm		0.06								0.03		
v/c Ratio		0.45						0.26		0.05	0.15	
Uniform Delay, d1		25.1						5.0		4.3	4.6	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.7						0.3		0.2	0.1	
Delay (s)		25.8						5.3		4.5	4.8	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		25.8			0.0			5.3			4.7	
Approach LOS		C			A			A			A	

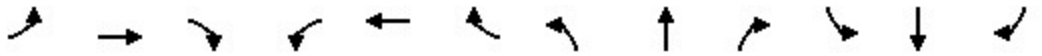
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	95	15	35	190	65	15	105	55	95	130	70
Future Volume (Veh/h)	10	95	15	35	190	65	15	105	55	95	130	70
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)	11	106	17	39	211	72	17	117	61	106	144	78
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	754	607	111	536	616	148	222			178		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	754	607	111	536	616	148	222			178		
tC, single (s)	7.7	6.5	7.1	7.5	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3			2.3		
p0 queue free %	92	72	98	87	42	92	99			92		
cM capacity (veh/h)	133	373	890	309	363	870	1308			1367		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	134	322	195	178	150
Volume Left	11	39	17	106	0
Volume Right	17	72	61	0	78
cSH	347	407	1308	1367	1700
Volume to Capacity	0.39	0.79	0.01	0.08	0.09
Queue Length 95th (m)	14.2	55.0	0.3	2.0	0.0
Control Delay (s/veh)	21.8	39.9	0.8	4.9	0.0
Lane LOS	C	E	A	A	
Approach Delay (s/veh)	21.8	39.9	0.8	2.7	
Approach LOS	C	E			

Intersection Summary				
Average Delay	17.2			
Intersection Capacity Utilization	50.9%	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)	25	345	15	25	490	30	20	5	25	10	5	20
Future Volume (Veh/h)	25	345	15	25	490	30	20	5	25	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	28	383	17	28	544	33	22	6	28	11	6	22
Pedestrians					10			10			5	
Lane Width (m)					3.6			3.6			3.6	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					1			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked												
vC, conflicting volume	582			410			1099	1096	412	1110	1088	566
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	582			410			1099	1096	412	1110	1088	566
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			98			87	97	96	93	97	96
cM capacity (veh/h)	941			1150			169	201	634	165	203	514

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	428	605	22	34	11	28
Volume Left	28	28	22	0	11	0
Volume Right	17	33	0	28	0	22
cSH	941	1150	169	460	165	387
Volume to Capacity	0.03	0.02	0.13	0.07	0.07	0.07
Queue Length 95th (m)	0.7	0.6	3.5	1.9	1.7	1.9
Control Delay (s/veh)	0.9	0.7	29.5	13.5	28.4	15.0
Lane LOS	A	A	D	B	D	C
Approach Delay (s/veh)	0.9	0.7	19.7		18.8	
Approach LOS			C		C	

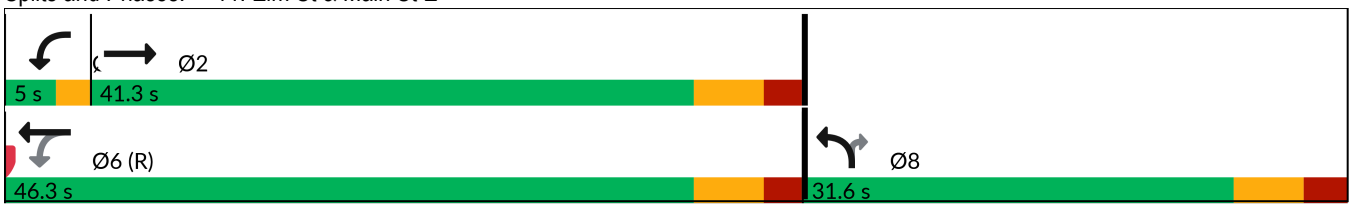
Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	50.8%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	280	160	385	20	165
Future Volume (vph)	280	160	385	20	165
Lane Group Flow (vph)	406	213	513	27	220
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	2.0	8.0	10.0	10.0
Minimum Split (s)	30.3	4.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.39	0.29	0.40	0.12	0.55
Control Delay (s/veh)	10.9	3.8	6.1	30.6	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	10.9	3.8	6.1	30.6	10.4
Queue Length 50th (m)	30.6	6.8	26.7	3.8	0.0
Queue Length 95th (m)	43.8	11.0	35.5	8.8	9.7
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1041	746	1292	551	657
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.29	0.40	0.05	0.33

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

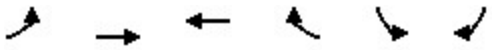
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	280	25	160	385	20	165
Future Volume (vph)	280	25	160	385	20	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		0.99	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1822		1778	1845	1719	1583
Flt Permitted	1.00		0.46	1.00	0.95	1.00
Satd. Flow (perm)	1822		865	1845	1719	1583
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	373	33	213	513	27	220
RTOR Reduction (vph)	3	0	0	0	0	191
Lane Group Flow (vph)	403	0	213	513	27	29
Confl. Peds. (#/hr)		15	15			
Heavy Vehicles (%)	3%	0%	1%	3%	5%	2%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	44.5		54.6	54.6	10.4	10.4
Effective Green, g (s)	44.5		54.6	54.6	10.4	10.4
Actuated g/C Ratio	0.57		0.70	0.70	0.13	0.13
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1040		701	1293	229	211
v/s Ratio Prot	0.22		0.03	c0.28	0.02	
v/s Ratio Perm			0.18			c0.02
v/c Ratio	0.39		0.30	0.40	0.12	0.14
Uniform Delay, d1	9.2		4.2	4.8	29.7	29.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.2	0.9	0.2	0.2
Delay (s)	9.4		4.4	5.7	29.9	30.0
Level of Service	A		A	A	C	C
Approach Delay (s/veh)	9.4			5.4	30.0	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	75	270	350	55	35	70
Future Volume (Veh/h)	75	270	350	55	35	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	87	314	407	64	41	81
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.89				0.89	0.89
vC, conflicting volume	476				932	444
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	348				861	312
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	92				84	87
cM capacity (veh/h)	1062				261	647

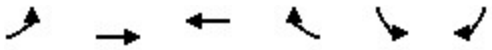
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	401	471	41	81
Volume Left	87	0	41	0
Volume Right	0	64	0	81
cSH	1062	1700	261	647
Volume to Capacity	0.08	0.28	0.16	0.13
Queue Length 95th (m)	2.1	0.0	4.4	3.4
Control Delay (s/veh)	2.6	0.0	21.4	11.4
Lane LOS	A		C	B
Approach Delay (s/veh)	2.6	0.0	14.7	
Approach LOS			B	

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	30	145	10	20	150
Future Volume (Veh/h)	10	30	145	10	20	150
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	14	42	201	14	28	208
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	472	208			215	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	472	208			215	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	95			98	
cM capacity (veh/h)	543	830			1337	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	56	215	236
Volume Left	14	0	28
Volume Right	42	14	0
cSH	733	1700	1337
Volume to Capacity	0.08	0.13	0.02
Queue Length 95th (m)	2.0	0.0	0.5
Control Delay (s/veh)	10.3	0.0	1.1
Lane LOS	B		A
Approach Delay (s/veh)	10.3	0.0	1.1
Approach LOS	B		

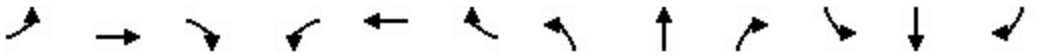
Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	30.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085

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

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

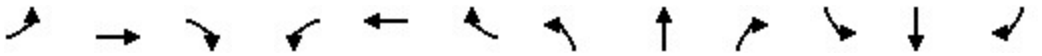


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	125	185	25	215	280	0	0	200	50
Future Volume (Veh/h)	0	0	0	125	185	25	215	280	0	0	200	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	132	195	26	226	295	0	0	211	53
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	961	990	132	858	1016	153	264			300		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	961	990	132	858	1016	153	264			300		
tC, single (s)	7.5	6.5	6.9	*5.8	*5.7	7.0	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*3.2	*3.2	3.3	2.2			2.2		
p0 queue free %	100	100	100	62	30	97	82			100		
cM capacity (veh/h)	80	204	899	346	280	856	1276			1267		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	230	124	226	148	148	141	123
Volume Left	132	0	226	0	0	0	0
Volume Right	0	26	0	0	0	0	53
cSH	315	326	1276	1700	1700	1700	1700
Volume to Capacity	0.73	0.38	0.18	0.09	0.09	0.08	0.07
Queue Length 95th (m)	43.0	13.7	5.1	0.0	0.0	0.0	0.0
Control Delay (s/veh)	41.9	22.6	8.4	0.0	0.0	0.0	0.0
Lane LOS	E	C	A				
Approach Delay (s/veh)	35.1		3.7			0.0	
Approach LOS	E						

Intersection Summary				
Average Delay	12.6			
Intersection Capacity Utilization	58.6%	ICU Level of Service	B	
Analysis Period (min)	15			

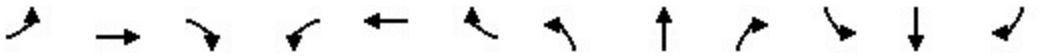
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	60	245	55	50	160	0	0	170	40
Future Volume (Veh/h)	0	0	0	60	245	55	50	160	0	0	170	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	68	278	62	57	182	0	0	193	45
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	690	489	193	489	534	182	238			182		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	690	489	193	489	534	182	238			182		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	86	36	93	96			100		
cM capacity (veh/h)	160	462	854	473	436	866	1341			1405		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	207	201	57	182	193	45
Volume Left	68	0	57	0	0	0
Volume Right	0	62	0	0	0	45
cSH	447	514	1341	1700	1700	1700
Volume to Capacity	0.46	0.39	0.04	0.11	0.11	0.03
Queue Length 95th (m)	19.1	14.7	1.1	0.0	0.0	0.0
Control Delay (s/veh)	19.8	16.4	7.8	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s/veh)	18.1		1.9		0.0	
Approach LOS	C					

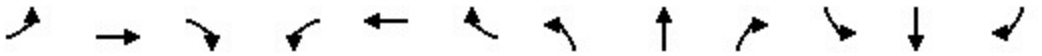
Intersection Summary				
Average Delay	8.9			
Intersection Capacity Utilization	37.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	65	255	10	90	110	0	0	70	15
Future Volume (Veh/h)	0	0	0	65	255	10	90	110	0	0	70	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	70	274	11	97	118	0	0	75	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	484	395	83	395	403	59	91			118		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	484	395	83	395	403	59	91			118		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	86	46	99	94			100		
cM capacity (veh/h)	254	510	966	517	505	1001	1517			1483		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	207	148	97	59	59	91
Volume Left	70	0	97	0	0	0
Volume Right	0	11	0	0	0	16
cSH	509	524	1517	1700	1700	1700
Volume to Capacity	0.41	0.28	0.06	0.03	0.03	0.05
Queue Length 95th (m)	15.6	9.2	1.6	0.0	0.0	0.0
Control Delay (s/veh)	16.8	14.5	7.5	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	15.9		3.4			0.0
Approach LOS	C					

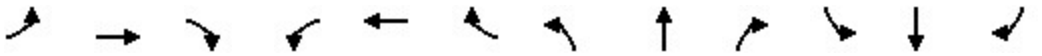
Intersection Summary				
Average Delay	9.6			
Intersection Capacity Utilization	32.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	310	80	0	0	0	0	160	60	10	125	0
Future Volume (Veh/h)	40	310	80	0	0	0	0	160	60	10	125	0
Sign Control		Stop			Stop			Free			Free	
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)	43	330	85	0	0	0	0	170	64	11	133	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	240	389	133	607	357	117	133			234		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	240	389	133	607	357	117	133			234		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	39	91	100	100	100	100			99		
cM capacity (veh/h)	695	540	898	177	568	919	1464			1345		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	208	250	113	121	11	133
Volume Left	43	0	0	0	11	0
Volume Right	0	85	0	64	0	0
cSH	566	625	1700	1700	1345	1700
Volume to Capacity	0.37	0.40	0.07	0.07	0.01	0.08
Queue Length 95th (m)	13.4	15.4	0.0	0.0	0.2	0.0
Control Delay (s/veh)	15.0	14.6	0.0	0.0	7.7	0.0
Lane LOS	C	B			A	
Approach Delay (s/veh)	14.8		0.0		0.6	
Approach LOS	B					

Intersection Summary				
Average Delay	8.2			
Intersection Capacity Utilization	32.0%	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)	55	315	125	0	0	0	0	180	65	50	195	0
Future Volume (Veh/h)	55	315	125	0	0	0	0	180	65	50	195	0
Sign Control		Stop			Stop			Free			Free	
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)	60	342	136	0	0	0	0	196	71	54	212	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	516	587	212	823	516	196	212			267		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	516	587	212	823	516	196	212			267		
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 %	87	15	84	100	100	100	100			96		
cM capacity (veh/h)	458	404	831	69	447	850	1370			1308		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	231	307	196	71	54	212
Volume Left	60	0	0	0	54	0
Volume Right	0	136	0	71	0	0
cSH	417	523	1700	1700	1308	1700
Volume to Capacity	0.55	0.59	0.12	0.04	0.04	0.12
Queue Length 95th (m)	26.1	29.9	0.0	0.0	1.0	0.0
Control Delay (s/veh)	23.8	21.2	0.0	0.0	7.9	0.0
Lane LOS	C	C			A	
Approach Delay (s/veh)	22.3		0.0		1.6	
Approach LOS	C					

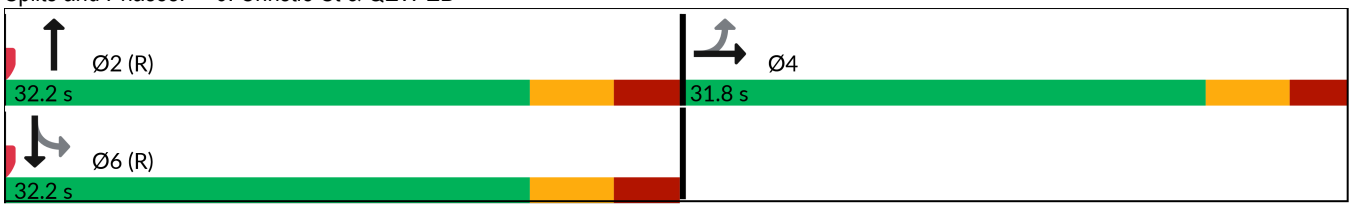
Intersection Summary				
Average Delay	11.6			
Intersection Capacity Utilization	37.1%	ICU Level of Service		A
Analysis Period (min)	15			

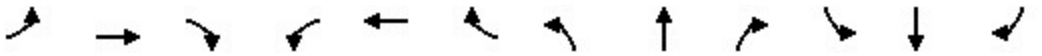
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	280	415	15	310
Future Volume (vph)	280	415	15	310
Lane Group Flow (vph)	714	691	17	348
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.72	0.36	0.04	0.17
Control Delay (s/veh)	16.4	7.5	9.1	8.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.4	7.5	9.1	8.3
Queue Length 50th (m)	23.3	17.2	0.9	10.2
Queue Length 95th (m)	34.4	33.2	4.3	20.1
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1487	1931	409	2000
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.48	0.36	0.04	0.17

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 6: Christie St & QEW EB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	280	275	0	0	0	0	415	200	15	310	0
Future Volume (vph)	80	280	275	0	0	0	0	415	200	15	310	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frpb, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		1.00	1.00	
Frt		0.94						0.95		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3326						3366		1805	3610	
Flt Permitted		0.99						1.00		0.39	1.00	
Satd. Flow (perm)		3326						3366		739	3610	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	90	315	309	0	0	0	0	466	225	17	348	0
RTOR Reduction (vph)	0	239	0	0	0	0	0	66	0	0	0	0
Lane Group Flow (vph)	0	475	0	0	0	0	0	625	0	17	348	0
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	2%	2%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		14.5						35.5		35.5	35.5	
Effective Green, g (s)		14.5						35.5		35.5	35.5	
Actuated g/C Ratio		0.23						0.55		0.55	0.55	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		753						1867		409	2002	
v/s Ratio Prot								c0.19			0.10	
v/s Ratio Perm		0.14								0.02		
v/c Ratio		0.63						0.33		0.04	0.17	
Uniform Delay, d1		22.3						7.8		6.5	7.0	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		1.7						0.5		0.2	0.2	
Delay (s)		24.1						8.3		6.7	7.2	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		24.1			0.0			8.3			7.2	
Approach LOS		C			A			A			A	

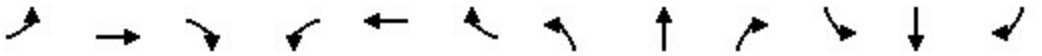
Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	180	15	25	140	65	20	130	85	145	130	40
Future Volume (Veh/h)	20	180	15	25	140	65	20	130	85	145	130	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	189	16	26	147	68	21	137	89	153	137	42
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	829	732	90	709	709	182	179			226		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	829	732	90	709	709	182	179			226		
tC, single (s)	7.7	6.5	7.1	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	84	38	98	82	53	92	98			89		
cM capacity (veh/h)	133	306	932	148	314	836	1372			1347		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	226	241	247	222	111
Volume Left	21	26	21	153	0
Volume Right	16	68	89	0	42
cSH	285	332	1372	1347	1700
Volume to Capacity	0.79	0.72	0.02	0.11	0.07
Queue Length 95th (m)	49.8	43.0	0.4	3.1	0.0
Control Delay (s/veh)	52.6	39.7	0.8	5.8	0.0
Lane LOS	F	E	A	A	
Approach Delay (s/veh)	52.6	39.7	0.8	3.9	
Approach LOS	F	E			

Intersection Summary				
Average Delay	21.9			
Intersection Capacity Utilization	49.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	530	20	40	510	20	20	0	40	10	5	20
Future Volume (Veh/h)	20	530	20	40	510	20	20	0	40	10	5	20
Sign Control		Free			Free			Stop			Stop	
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)	21	546	21	41	526	21	21	0	41	10	5	21
Pedestrians								15			5	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.95			0.95	0.95	0.95	0.95	0.95	
vC, conflicting volume	552			582			1256	1248	572	1263	1248	542
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	552			537			1243	1235	526	1251	1235	542
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			96			83	100	92	92	97	96
cM capacity (veh/h)	1024			980			127	156	523	119	156	542

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	588	588	21	41	10	26
Volume Left	21	41	21	0	10	0
Volume Right	21	21	0	41	0	21
cSH	1024	980	127	523	119	368
Volume to Capacity	0.02	0.04	0.17	0.08	0.08	0.07
Queue Length 95th (m)	0.5	1.0	4.6	2.0	2.2	1.8
Control Delay (s/veh)	0.6	1.1	38.9	12.5	37.9	15.5
Lane LOS	A	A	E	B	E	C
Approach Delay (s/veh)	0.6	1.1	21.4		21.7	
Approach LOS			C		C	

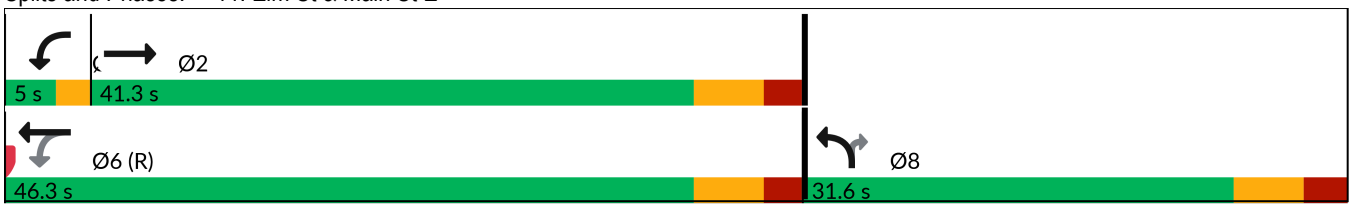
Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	59.2%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	340	225	350	45	265
Future Volume (vph)	340	225	350	45	265
Lane Group Flow (vph)	435	245	380	49	288
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	2.0	8.0	10.0	10.0
Minimum Split (s)	30.3	4.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.42	0.34	0.29	0.20	0.63
Control Delay (s/veh)	11.9	4.3	5.4	31.1	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	11.9	4.3	5.4	31.1	10.7
Queue Length 50th (m)	33.2	8.0	17.9	6.9	0.0
Queue Length 95th (m)	67.0	17.9	35.3	15.6	20.1
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1030	723	1308	579	685
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.34	0.29	0.08	0.42

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

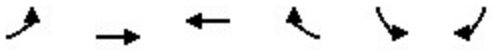
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	340	60	225	350	45	265
Future Volume (vph)	340	60	225	350	45	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1834		1797	1881	1805	1527
Flt Permitted	1.00		0.44	1.00	0.95	1.00
Satd. Flow (perm)	1834		823	1881	1805	1527
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	65	245	380	49	288
RTOR Reduction (vph)	7	0	0	0	0	248
Lane Group Flow (vph)	428	0	245	380	49	40
Confl. Peds. (#/hr)		15	15		10	20
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	43.5		54.2	54.2	10.8	10.8
Effective Green, g (s)	43.5		54.2	54.2	10.8	10.8
Actuated g/C Ratio	0.56		0.70	0.70	0.14	0.14
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1024		681	1308	250	211
v/s Ratio Prot	c0.23		c0.04	0.20	c0.03	
v/s Ratio Perm			0.21			0.03
v/c Ratio	0.42		0.36	0.29	0.20	0.19
Uniform Delay, d1	9.9		4.6	4.5	29.7	29.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.3	0.6	0.3	0.3
Delay (s)	10.1		4.9	5.1	30.0	30.0
Level of Service	B		A	A	C	C
Approach Delay (s/veh)	10.1			5.0	30.0	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	115	350	335	60	50	115
Future Volume (Veh/h)	115	350	335	60	50	115
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	122	372	356	64	53	122
Pedestrians					20	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.92				0.92	0.92
vC, conflicting volume	440				1024	408
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	350				984	316
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				76	81
cM capacity (veh/h)	1106				224	659

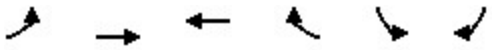
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	494	420	53	122
Volume Left	122	0	53	0
Volume Right	0	64	0	122
cSH	1106	1700	224	659
Volume to Capacity	0.11	0.25	0.24	0.19
Queue Length 95th (m)	3.0	0.0	7.1	5.4
Control Delay (s/veh)	3.1	0.0	26.0	11.7
Lane LOS	A		D	B
Approach Delay (s/veh)	3.1	0.0	16.0	
Approach LOS			C	

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	40	210	15	30	135
Future Volume (Veh/h)	10	40	210	15	30	135
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	46	241	17	34	155
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	478	255			263	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	478	255			263	
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	94			97	
cM capacity (veh/h)	534	786			1307	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	57	258	189
Volume Left	11	0	34
Volume Right	46	17	0
cSH	720	1700	1307
Volume to Capacity	0.08	0.15	0.03
Queue Length 95th (m)	2.1	0.0	0.6
Control Delay (s/veh)	10.4	0.0	1.6
Lane LOS	B		A
Approach Delay (s/veh)	10.4	0.0	1.6
Approach LOS	B		

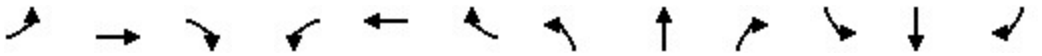
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	34.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085

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

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

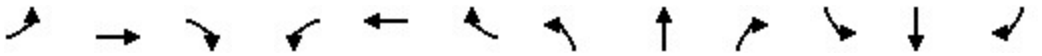


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	115	175	25	265	210	0	0	225	70
Future Volume (Veh/h)	0	0	0	115	175	25	265	210	0	0	225	70
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	124	188	27	285	226	0	0	242	75
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	1084	1076	159	917	1113	113	317			226		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1084	1076	159	917	1113	113	317			226		
tC, single (s)	7.5	6.5	6.9	*6.0	*5.5	7.0	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*2.9	*2.5	3.3	2.3			2.2		
p0 queue free %	100	100	100	60	34	97	76			100		
cM capacity (veh/h)	67	168	865	310	287	912	1184			1354		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	218	121	285	113	113	161	156
Volume Left	124	0	285	0	0	0	0
Volume Right	0	27	0	0	0	0	75
cSH	300	338	1184	1700	1700	1700	1700
Volume to Capacity	0.73	0.36	0.24	0.07	0.07	0.09	0.09
Queue Length 95th (m)	42.3	12.6	7.5	0.0	0.0	0.0	0.0
Control Delay (s/veh)	43.4	21.4	9.0	0.0	0.0	0.0	0.0
Lane LOS	E	C	A				
Approach Delay (s/veh)	35.6		5.0			0.0	
Approach LOS	E						

Intersection Summary				
Average Delay	12.5			
Intersection Capacity Utilization	47.7%	ICU Level of Service	A	
Analysis Period (min)	15			

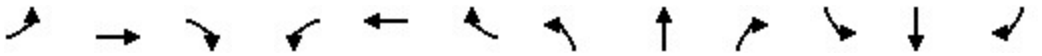
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	110	225	55	65	65	0	0	150	25
Future Volume (Veh/h)	0	0	0	110	225	55	65	65	0	0	150	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	121	247	60	71	71	0	0	165	27
Pedestrians		5										
Lane Width (m)		0.0										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	567	383	170	378	410	71	197			71		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	567	383	170	378	410	71	197			71		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	78	51	94	95			100		
cM capacity (veh/h)	244	525	879	560	504	997	1388			1542		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	245	184	71	71	165	27
Volume Left	121	0	71	0	0	0
Volume Right	0	60	0	0	0	27
cSH	531	601	1388	1700	1700	1700
Volume to Capacity	0.46	0.31	0.05	0.04	0.10	0.02
Queue Length 95th (m)	19.2	10.3	1.3	0.0	0.0	0.0
Control Delay (s/veh)	17.5	13.6	7.7	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	15.8		3.9		0.0	
Approach LOS	C					

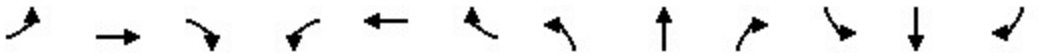
Intersection Summary				
Average Delay	9.6			
Intersection Capacity Utilization	33.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	55	305	5	60	30	0	0	70	25
Future Volume (Veh/h)	0	0	0	55	305	5	60	30	0	0	70	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	60	335	5	66	33	0	0	77	27
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	412	261	91	261	274	22	104			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	412	261	91	261	274	22	104			38		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	91	44	100	96			100		
cM capacity (veh/h)	286	616	956	649	604	1053	1485			1579		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	228	173	66	17	17	104
Volume Left	60	0	66	0	0	0
Volume Right	0	5	0	0	0	27
cSH	615	611	1485	1700	1700	1700
Volume to Capacity	0.37	0.28	0.04	0.01	0.01	0.06
Queue Length 95th (m)	13.6	9.2	1.1	0.0	0.0	0.0
Control Delay (s/veh)	14.3	13.2	7.5	0.0	0.0	0.0
Lane LOS	B	B	A			
Approach Delay (s/veh)	13.8		5.0			0.0
Approach LOS	B					

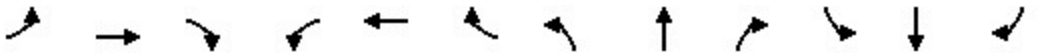
Intersection Summary				
Average Delay	10.0			
Intersection Capacity Utilization	28.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	225	40	0	0	0	0	85	50	20	105	0
Future Volume (Veh/h)	5	225	40	0	0	0	0	85	50	20	105	0
Sign Control		Stop			Stop			Free			Free	
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)	5	239	43	0	0	0	0	90	53	21	112	0
Pedestrians					5							
Lane Width (m)					0.0							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	199	302	112	438	276	77	112			148		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	199	302	112	438	276	77	112			148		
tC, single (s)	7.9	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	60	95	100	100	100	100			99		
cM capacity (veh/h)	687	594	916	328	626	976	1490			1446		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	125	163	60	83	21	112
Volume Left	5	0	0	0	21	0
Volume Right	0	43	0	53	0	0
cSH	597	655	1700	1700	1446	1700
Volume to Capacity	0.21	0.25	0.04	0.05	0.01	0.07
Queue Length 95th (m)	6.2	7.8	0.0	0.0	0.4	0.0
Control Delay (s/veh)	12.6	12.3	0.0	0.0	7.5	0.0
Lane LOS	B	B			A	
Approach Delay (s/veh)	12.4		0.0		1.2	
Approach LOS	B					

Intersection Summary				
Average Delay	6.6			
Intersection Capacity Utilization	28.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	150	95	0	0	0	0	135	70	50	235	0
Future Volume (Veh/h)	10	150	95	0	0	0	0	135	70	50	235	0
Sign Control		Stop			Stop			Free			Free	
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)	10	156	99	0	0	0	0	141	73	52	245	0
Pedestrians		5										
Lane Width (m)		3.6										
Walking Speed (m/s)		1.2										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	495	568	250	667	495	141	250			214		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	495	568	250	667	495	141	250			214		
tC, single (s)	7.1	6.6	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	61	87	100	100	100	100			96		
cM capacity (veh/h)	470	404	783	222	458	912	1322			1344		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	88	177	141	73	52	245
Volume Left	10	0	0	0	52	0
Volume Right	0	99	0	73	0	0
cSH	410	554	1700	1700	1344	1700
Volume to Capacity	0.21	0.32	0.08	0.04	0.04	0.14
Queue Length 95th (m)	6.4	11.0	0.0	0.0	1.0	0.0
Control Delay (s/veh)	16.2	14.5	0.0	0.0	7.8	0.0
Lane LOS	C	B			A	
Approach Delay (s/veh)	15.1		0.0		1.4	
Approach LOS	C					

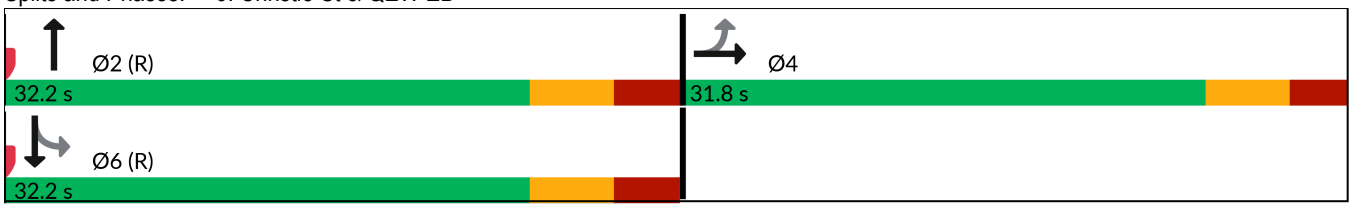
Intersection Summary				
Average Delay	5.7			
Intersection Capacity Utilization	33.5%	ICU Level of Service		A
Analysis Period (min)	15			

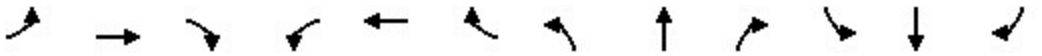
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	140	440	25	315
Future Volume (vph)	140	440	25	315
Lane Group Flow (vph)	391	576	27	342
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.61	0.26	0.05	0.15
Control Delay (s/veh)	15.9	5.5	5.8	5.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.9	5.5	5.8	5.4
Queue Length 50th (m)	11.4	12.8	1.1	7.7
Queue Length 95th (m)	21.8	23.6	4.4	15.0
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1378	2181	504	2245
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.26	0.05	0.15

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

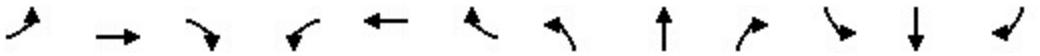
Splits and Phases: 6: Christie St & QEW EB





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	140	185	0	0	0	0	440	90	25	315	0
Future Volume (vph)	35	140	185	0	0	0	0	440	90	25	315	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frt		0.92						0.97		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3215						3415		1736	3539	
Flt Permitted		1.00						1.00		0.44	1.00	
Satd. Flow (perm)		3215						3415		795	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	152	201	0	0	0	0	478	98	27	342	0
RTOR Reduction (vph)	0	171	0	0	0	0	0	16	0	0	0	0
Lane Group Flow (vph)	0	220	0	0	0	0	0	560	0	27	342	0
Heavy Vehicles (%)	3%	2%	4%	0%	0%	0%	0%	3%	3%	4%	2%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		9.4						40.6		40.6	40.6	
Effective Green, g (s)		9.4						40.6		40.6	40.6	
Actuated g/C Ratio		0.15						0.63		0.63	0.63	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		472						2166		504	2245	
v/s Ratio Prot								c0.16			0.10	
v/s Ratio Perm		0.07								0.03		
v/c Ratio		0.47						0.26		0.05	0.15	
Uniform Delay, d1		25.0						5.1		4.4	4.7	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.7						0.3		0.2	0.1	
Delay (s)		25.7						5.4		4.6	4.9	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		25.7			0.0			5.4			4.9	
Approach LOS		C			A			A			A	

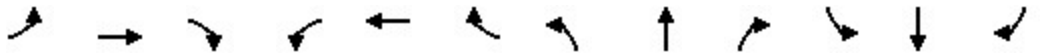
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	95	20	35	190	65	20	135	60	95	150	70
Future Volume (Veh/h)	10	95	20	35	190	65	20	135	60	95	150	70
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)	11	106	22	39	211	72	22	150	67	106	167	78
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	823	679	123	598	685	184	245			217		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	823	679	123	598	685	184	245			217		
tC, single (s)	7.7	6.5	7.1	7.5	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3			2.3		
p0 queue free %	90	68	97	85	36	91	98			92		
cM capacity (veh/h)	106	336	875	268	329	824	1283			1321		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	139	322	239	190	162
Volume Left	11	39	22	106	0
Volume Right	22	72	67	0	78
cSH	313	368	1283	1321	1700
Volume to Capacity	0.44	0.88	0.02	0.08	0.10
Queue Length 95th (m)	17.4	67.9	0.4	2.1	0.0
Control Delay (s/veh)	25.4	54.9	0.9	4.7	0.0
Lane LOS	D	F	A	A	
Approach Delay (s/veh)	25.4	54.9	0.9	2.6	
Approach LOS	D	F			

Intersection Summary				
Average Delay	21.2			
Intersection Capacity Utilization	53.6%	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)	25	345	15	25	490	35	20	5	25	15	5	20
Future Volume (Veh/h)	25	345	15	25	490	35	20	5	25	15	5	20
Sign Control		Free			Free			Stop			Stop	
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)	28	383	17	28	544	39	22	6	28	17	6	22
Pedestrians					10			10			5	
Lane Width (m)					3.6			3.6			3.6	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					1			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked												
vC, conflicting volume	588			410			1102	1102	412	1113	1091	569
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	588			410			1102	1102	412	1113	1091	569
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			98			87	97	96	90	97	96
cM capacity (veh/h)	936			1150			168	200	634	164	203	512

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	428	611	22	34	17	28
Volume Left	28	28	22	0	17	0
Volume Right	17	39	0	28	0	22
cSH	936	1150	168	458	164	386
Volume to Capacity	0.03	0.02	0.13	0.07	0.10	0.07
Queue Length 95th (m)	0.7	0.6	3.5	1.9	2.7	1.9
Control Delay (s/veh)	0.9	0.7	29.6	13.5	29.4	15.1
Lane LOS	A	A	D	B	D	C
Approach Delay (s/veh)	0.9	0.7	19.8		20.5	
Approach LOS			C		C	

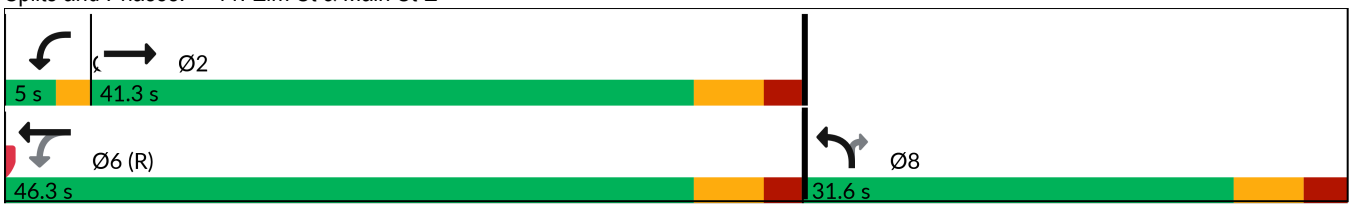
Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	51.2%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	280	160	385	35	165
Future Volume (vph)	280	160	385	35	165
Lane Group Flow (vph)	426	213	513	47	220
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	2.0	8.0	10.0	10.0
Minimum Split (s)	30.3	4.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.41	0.29	0.40	0.20	0.55
Control Delay (s/veh)	11.1	3.8	6.1	32.1	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	11.1	3.8	6.1	32.1	10.4
Queue Length 50th (m)	32.2	6.8	26.7	6.7	0.0
Queue Length 95th (m)	46.0	11.0	35.5	13.1	9.7
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1037	728	1292	551	657
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.29	0.40	0.09	0.33

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

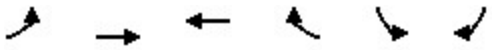
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	280	40	160	385	35	165
Future Volume (vph)	280	40	160	385	35	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1810		1778	1845	1719	1583
Flt Permitted	1.00		0.45	1.00	0.95	1.00
Satd. Flow (perm)	1810		837	1845	1719	1583
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	373	53	213	513	47	220
RTOR Reduction (vph)	5	0	0	0	0	191
Lane Group Flow (vph)	421	0	213	513	47	29
Confl. Peds. (#/hr)		15	15			
Heavy Vehicles (%)	3%	0%	1%	3%	5%	2%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	44.5		54.6	54.6	10.4	10.4
Effective Green, g (s)	44.5		54.6	54.6	10.4	10.4
Actuated g/C Ratio	0.57		0.70	0.70	0.13	0.13
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1033		684	1293	229	211
v/s Ratio Prot	0.23		0.03	c0.28	c0.03	
v/s Ratio Perm			0.19			0.02
v/c Ratio	0.41		0.31	0.40	0.21	0.14
Uniform Delay, d1	9.3		4.3	4.8	30.1	29.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.3	0.9	0.3	0.2
Delay (s)	9.5		4.5	5.7	30.4	30.0
Level of Service	A		A	A	C	C
Approach Delay (s/veh)	9.5			5.4	30.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	270	350	70	50	85
Future Volume (Veh/h)	85	270	350	70	50	85
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	99	314	407	81	58	99
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.89				0.89	0.89
vC, conflicting volume	493				965	453
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	367				897	321
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	91				76	85
cM capacity (veh/h)	1045				244	639

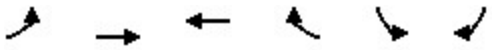
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	413	488	58	99
Volume Left	99	0	58	0
Volume Right	0	81	0	99
cSH	1045	1700	244	639
Volume to Capacity	0.09	0.29	0.24	0.15
Queue Length 95th (m)	2.5	0.0	7.2	4.4
Control Delay (s/veh)	2.9	0.0	24.2	11.7
Lane LOS	A		C	B
Approach Delay (s/veh)	2.9	0.0	16.3	
Approach LOS			C	

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	40	70	145	35	45	150
Future Volume (Veh/h)	40	70	145	35	45	150
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	56	97	201	49	62	208
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	558	226			250	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	558	226			250	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	88			95	
cM capacity (veh/h)	471	811			1298	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	153	250	270
Volume Left	56	0	62
Volume Right	97	49	0
cSH	642	1700	1298
Volume to Capacity	0.24	0.15	0.05
Queue Length 95th (m)	7.4	0.0	1.2
Control Delay (s/veh)	12.4	0.0	2.1
Lane LOS	B		A
Approach Delay (s/veh)	12.4	0.0	2.1
Approach LOS	B		

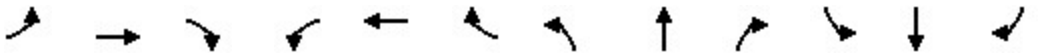
Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	30	40	5	5	70
Future Volume (Veh/h)	50	30	40	5	5	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	33	43	5	5	76
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	48				187	46
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	48				187	46
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				99	93
cM capacity (veh/h)	1559				775	1024

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	87	48	81
Volume Left	54	0	5
Volume Right	0	5	76
cSH	1559	1700	1004
Volume to Capacity	0.03	0.03	0.08
Queue Length 95th (m)	0.9	0.0	2.1
Control Delay (s/veh)	4.7	0.0	8.9
Lane LOS	A		A
Approach Delay (s/veh)	4.7	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	22.3%	ICU Level of Service	A
Analysis Period (min)	15		

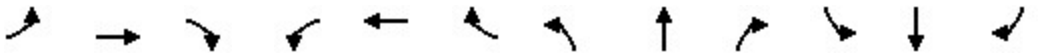


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	125	190	25	215	280	0	0	200	50
Future Volume (Veh/h)	0	0	0	125	190	25	215	280	0	0	200	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	132	200	26	226	295	0	0	211	53
Pedestrians					5							
Lane Width (m)					3.6							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								150				
pX, platoon unblocked												
vC, conflicting volume	963	990	132	858	1016	153	264			300		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	963	990	132	858	1016	153	264			300		
tC, single (s)	7.5	6.5	6.9	*5.8	*5.7	7.0	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*3.2	*3.2	3.3	2.2			2.2		
p0 queue free %	100	100	100	62	29	97	82			100		
cM capacity (veh/h)	77	204	899	346	280	856	1276			1267		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	232	126	226	148	148	141	123
Volume Left	132	0	226	0	0	0	0
Volume Right	0	26	0	0	0	0	53
cSH	314	325	1276	1700	1700	1700	1700
Volume to Capacity	0.74	0.39	0.18	0.09	0.09	0.08	0.07
Queue Length 95th (m)	44.1	14.2	5.1	0.0	0.0	0.0	0.0
Control Delay (s/veh)	42.8	22.9	8.4	0.0	0.0	0.0	0.0
Lane LOS	E	C	A				
Approach Delay (s/veh)	35.8		3.7			0.0	
Approach LOS	E						

Intersection Summary				
Average Delay	12.9			
Intersection Capacity Utilization	59.4%	ICU Level of Service	B	
Analysis Period (min)	15			

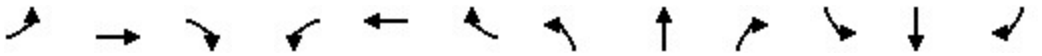
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	75	245	55	55	160	0	0	170	40
Future Volume (Veh/h)	0	0	0	75	245	55	55	160	0	0	170	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	85	278	62	62	182	0	0	193	45
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	700	499	193	499	544	182	238			182		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	700	499	193	499	544	182	238			182		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	82	35	93	95			100		
cM capacity (veh/h)	154	454	854	465	428	866	1341			1405		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	224	201	62	182	193	45
Volume Left	85	0	62	0	0	0
Volume Right	0	62	0	0	0	45
cSH	442	507	1341	1700	1700	1700
Volume to Capacity	0.51	0.40	0.05	0.11	0.11	0.03
Queue Length 95th (m)	22.4	15.0	1.2	0.0	0.0	0.0
Control Delay (s/veh)	21.3	16.7	7.8	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s/veh)	19.1		2.0		0.0	
Approach LOS	C					

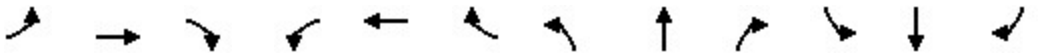
Intersection Summary				
Average Delay	9.5			
Intersection Capacity Utilization	38.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	65	270	10	90	110	0	0	70	15
Future Volume (Veh/h)	0	0	0	65	270	10	90	110	0	0	70	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	70	290	11	97	118	0	0	75	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	492	395	83	395	403	59	91			118		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	492	395	83	395	403	59	91			118		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	86	43	99	94			100		
cM capacity (veh/h)	239	510	966	517	505	1001	1517			1483		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1
Volume Total	215	156	97	59	59	91
Volume Left	70	0	97	0	0	0
Volume Right	0	11	0	0	0	16
cSH	509	523	1517	1700	1700	1700
Volume to Capacity	0.42	0.30	0.06	0.03	0.03	0.05
Queue Length 95th (m)	16.6	9.9	1.6	0.0	0.0	0.0
Control Delay (s/veh)	17.2	14.8	7.5	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s/veh)	16.2		3.4			0.0
Approach LOS	C					

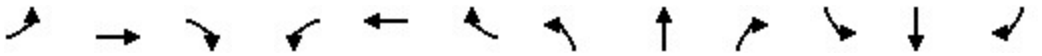
Intersection Summary				
Average Delay	9.9			
Intersection Capacity Utilization	32.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	320	80	0	0	0	0	160	60	10	125	0
Future Volume (Veh/h)	40	320	80	0	0	0	0	160	60	10	125	0
Sign Control		Stop			Stop			Free			Free	
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)	43	340	85	0	0	0	0	170	64	11	133	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	240	389	133	612	357	117	133			234		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	240	389	133	612	357	117	133			234		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	37	91	100	100	100	100			99		
cM capacity (veh/h)	695	540	898	170	568	919	1464			1345		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	213	255	113	121	11	133
Volume Left	43	0	0	0	11	0
Volume Right	0	85	0	64	0	0
cSH	566	623	1700	1700	1345	1700
Volume to Capacity	0.38	0.41	0.07	0.07	0.01	0.08
Queue Length 95th (m)	13.9	15.9	0.0	0.0	0.2	0.0
Control Delay (s/veh)	15.2	14.7	0.0	0.0	7.7	0.0
Lane LOS	C	B			A	
Approach Delay (s/veh)	14.9		0.0		0.6	
Approach LOS	B					

Intersection Summary				
Average Delay	8.4			
Intersection Capacity Utilization	32.2%	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)	55	315	155	0	0	0	0	185	75	50	210	0
Future Volume (Veh/h)	55	315	155	0	0	0	0	185	75	50	210	0
Sign Control		Stop			Stop			Free			Free	
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)	60	342	168	0	0	0	0	201	82	54	228	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	537	619	228	876	537	201	228			283		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	537	619	228	876	537	201	228			283		
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 %	86	12	79	100	100	100	100			96		
cM capacity (veh/h)	443	388	814	51	434	845	1352			1291		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	231	339	201	82	54	228
Volume Left	60	0	0	0	54	0
Volume Right	0	168	0	82	0	0
cSH	401	523	1700	1700	1291	1700
Volume to Capacity	0.58	0.65	0.12	0.05	0.04	0.13
Queue Length 95th (m)	28.1	36.8	0.0	0.0	1.0	0.0
Control Delay (s/veh)	25.5	23.7	0.0	0.0	7.9	0.0
Lane LOS	D	C			A	
Approach Delay (s/veh)	24.4		0.0		1.5	
Approach LOS	C					

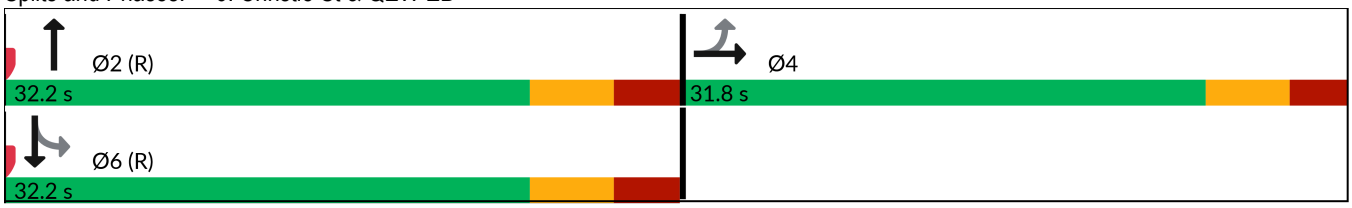
Intersection Summary				
Average Delay	12.6			
Intersection Capacity Utilization	38.3%	ICU Level of Service	A	
Analysis Period (min)	15			

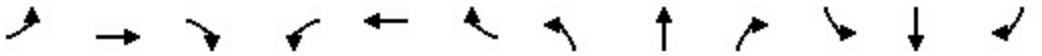
Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	310	415	15	310
Future Volume (vph)	310	415	15	310
Lane Group Flow (vph)	747	691	17	348
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Detector Phase	4	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.8	25.2	25.2	25.2
Total Split (s)	31.8	32.2	32.2	32.2
Total Split (%)	49.7%	50.3%	50.3%	50.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.8	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	7.2	7.2	7.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
v/c Ratio	0.73	0.36	0.04	0.18
Control Delay (s/veh)	16.7	7.8	9.5	8.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.7	7.8	9.5	8.7
Queue Length 50th (m)	25.3	17.7	0.9	10.5
Queue Length 95th (m)	36.4	34.1	4.4	20.6
Internal Link Dist (m)	322.4	15.9		125.8
Turn Bay Length (m)			40.0	
Base Capacity (vph)	1492	1900	400	1965
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.50	0.36	0.04	0.18

Intersection Summary

Cycle Length: 64
Actuated Cycle Length: 64
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 6: Christie St & QEW EB

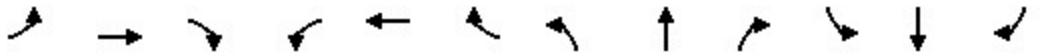




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	310	275	0	0	0	0	415	200	15	310	0
Future Volume (vph)	80	310	275	0	0	0	0	415	200	15	310	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8						7.2		7.2	7.2	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frpb, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		1.00	1.00	
Frt		0.94						0.95		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3338						3366		1805	3610	
Flt Permitted		0.99						1.00		0.39	1.00	
Satd. Flow (perm)		3338						3366		735	3610	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	90	348	309	0	0	0	0	466	225	17	348	0
RTOR Reduction (vph)	0	236	0	0	0	0	0	68	0	0	0	0
Lane Group Flow (vph)	0	511	0	0	0	0	0	623	0	17	348	0
Confl. Peds. (#/hr)							5					5
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	2%	2%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		15.2						34.8		34.8	34.8	
Effective Green, g (s)		15.2						34.8		34.8	34.8	
Actuated g/C Ratio		0.24						0.54		0.54	0.54	
Clearance Time (s)		6.8						7.2		7.2	7.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		792						1830		399	1962	
v/s Ratio Prot								c0.19			0.10	
v/s Ratio Perm		0.15								0.02		
v/c Ratio		0.65						0.34		0.04	0.18	
Uniform Delay, d1		22.0						8.2		6.8	7.4	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		1.8						0.5		0.2	0.2	
Delay (s)		23.8						8.7		7.0	7.6	
Level of Service		C						A		A	A	
Approach Delay (s/veh)		23.8			0.0			8.7			7.5	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

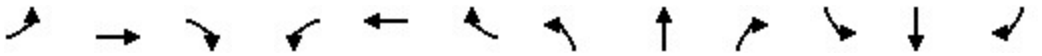
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	180	15	25	140	65	25	145	100	145	175	40
Future Volume (Veh/h)	20	180	15	25	140	65	25	145	100	145	175	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	189	16	26	147	68	26	153	105	153	184	42
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	910	821	113	766	790	206	226			258		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	910	821	113	766	790	206	226			258		
tC, single (s)	7.7	6.5	7.1	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	80	30	98	77	47	92	98			88		
cM capacity (veh/h)	106	270	899	115	280	807	1318			1311		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	226	241	284	245	134
Volume Left	21	26	26	153	0
Volume Right	16	68	105	0	42
cSH	247	288	1318	1311	1700
Volume to Capacity	0.92	0.84	0.02	0.12	0.08
Queue Length 95th (m)	64.0	56.1	0.5	3.2	0.0
Control Delay (s/veh)	80.4	58.6	0.9	5.4	0.0
Lane LOS	F	F	A	A	
Approach Delay (s/veh)	80.4	58.6	0.9	3.5	
Approach LOS	F	F			

Intersection Summary				
Average Delay	30.0			
Intersection Capacity Utilization	53.0%	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)	20	530	20	40	510	25	20	0	40	15	5	20
Future Volume (Veh/h)	20	530	20	40	510	25	20	0	40	15	5	20
Sign Control		Free			Free			Stop			Stop	
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)	21	546	21	41	526	26	21	0	41	15	5	21
Pedestrians								15			5	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		290										
pX, platoon unblocked				0.96			0.96	0.96	0.96	0.96	0.96	
vC, conflicting volume	557			582			1258	1253	572	1266	1250	544
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	557			543			1248	1242	532	1255	1239	544
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			96			83	100	92	87	97	96
cM capacity (veh/h)	1019			981			127	156	522	119	157	541

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	588	593	21	41	15	26
Volume Left	21	41	21	0	15	0
Volume Right	21	26	0	41	0	21
cSH	1019	981	127	522	119	367
Volume to Capacity	0.02	0.04	0.17	0.08	0.13	0.07
Queue Length 95th (m)	0.5	1.0	4.6	2.0	3.3	1.8
Control Delay (s/veh)	0.6	1.1	39.0	12.5	39.5	15.5
Lane LOS	A	A	E	B	E	C
Approach Delay (s/veh)	0.6	1.1	21.5		24.3	
Approach LOS			C		C	

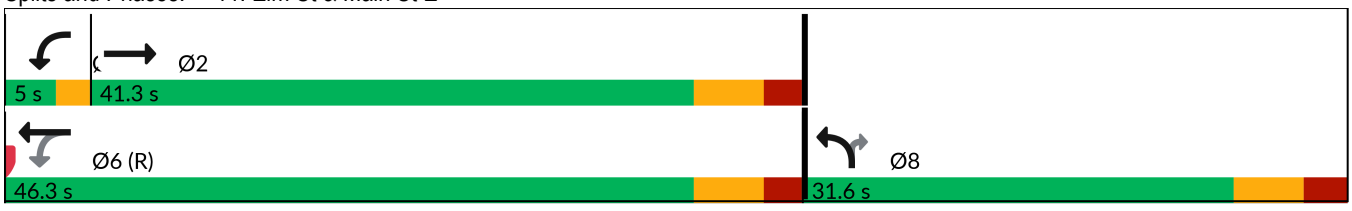
Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	59.6%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	340	225	350	65	265
Future Volume (vph)	340	225	350	65	265
Lane Group Flow (vph)	457	245	380	71	288
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	2	1	6	8	
Permitted Phases		6			8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	10.0	2.0	8.0	10.0	10.0
Minimum Split (s)	30.3	4.0	30.3	30.6	30.6
Total Split (s)	41.3	5.0	46.3	31.6	31.6
Total Split (%)	53.0%	6.4%	59.4%	40.6%	40.6%
Yellow Time (s)	4.1	2.0	4.1	4.1	4.1
All-Red Time (s)	2.2	0.0	2.2	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	2.0	6.3	6.6	6.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	C-Min	None	None
v/c Ratio	0.45	0.35	0.29	0.28	0.63
Control Delay (s/veh)	12.1	4.4	5.4	32.7	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.1	4.4	5.4	32.7	10.7
Queue Length 50th (m)	35.0	8.0	17.9	10.2	0.0
Queue Length 95th (m)	70.9	17.9	35.3	20.8	20.1
Internal Link Dist (m)	18.1		266.3	48.9	
Turn Bay Length (m)		20.0		40.0	
Base Capacity (vph)	1024	703	1308	579	685
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.45	0.35	0.29	0.12	0.42

Intersection Summary

Cycle Length: 77.9
Actuated Cycle Length: 77.9
Offset: 9.7 (12%), Referenced to phase 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

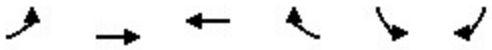
Splits and Phases: 11: Elm St & Main St E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	340	80	225	350	65	265
Future Volume (vph)	340	80	225	350	65	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		2.0	6.3	6.6	6.6
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1821		1797	1881	1805	1527
Flt Permitted	1.00		0.42	1.00	0.95	1.00
Satd. Flow (perm)	1821		791	1881	1805	1527
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	87	245	380	71	288
RTOR Reduction (vph)	9	0	0	0	0	248
Lane Group Flow (vph)	448	0	245	380	71	40
Confl. Peds. (#/hr)		15	15		10	20
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	43.5		54.2	54.2	10.8	10.8
Effective Green, g (s)	43.5		54.2	54.2	10.8	10.8
Actuated g/C Ratio	0.56		0.70	0.70	0.14	0.14
Clearance Time (s)	6.3		2.0	6.3	6.6	6.6
Vehicle Extension (s)	2.5		3.0	2.5	2.5	2.5
Lane Grp Cap (vph)	1016		662	1308	250	211
v/s Ratio Prot	c0.25		c0.04	0.20	c0.04	
v/s Ratio Perm			0.22			0.03
v/c Ratio	0.44		0.37	0.29	0.28	0.19
Uniform Delay, d1	10.1		4.6	4.5	30.1	29.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.4	0.6	0.5	0.3
Delay (s)	10.3		5.0	5.1	30.5	30.0
Level of Service	B		A	A	C	C
Approach Delay (s/veh)	10.3			5.0	30.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	125	350	335	80	70	135
Future Volume (Veh/h)	125	350	335	80	70	135
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	133	372	356	85	74	144
Pedestrians					20	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			42			
pX, platoon unblocked	0.92				0.92	0.92
vC, conflicting volume	461				1057	419
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	373				1019	327
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				65	78
cM capacity (veh/h)	1085				211	650

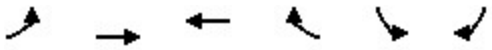
Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	505	441	74	144
Volume Left	133	0	74	0
Volume Right	0	85	0	144
cSH	1085	1700	211	650
Volume to Capacity	0.12	0.26	0.35	0.22
Queue Length 95th (m)	3.3	0.0	11.9	6.7
Control Delay (s/veh)	3.3	0.0	31.1	12.1
Lane LOS	A		D	B
Approach Delay (s/veh)	3.3	0.0	18.5	
Approach LOS			C	

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	75	210	45	75	135
Future Volume (Veh/h)	50	75	210	45	75	135
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	57	86	241	52	86	155
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	599	272			298	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	599	272			298	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	89			93	
cM capacity (veh/h)	434	768			1269	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	143	293	241
Volume Left	57	0	86
Volume Right	86	52	0
cSH	588	1700	1269
Volume to Capacity	0.24	0.17	0.07
Queue Length 95th (m)	7.6	0.0	1.7
Control Delay (s/veh)	13.1	0.0	3.3
Lane LOS	B		A
Approach Delay (s/veh)	13.1	0.0	3.3
Approach LOS	B		

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	75	45	50	5	5	75
Future Volume (Veh/h)	75	45	50	5	5	75
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	49	54	5	5	82
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	59				270	57
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	59				270	57
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				99	92
cM capacity (veh/h)	1545				682	1010

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	131	59	87
Volume Left	82	0	5
Volume Right	0	5	82
cSH	1545	1700	983
Volume to Capacity	0.05	0.03	0.09
Queue Length 95th (m)	1.3	0.0	2.3
Control Delay (s/veh)	4.8	0.0	9.0
Lane LOS	A		A
Approach Delay (s/veh)	4.8	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay		5.1	
Intersection Capacity Utilization		24.8%	ICU Level of Service
Analysis Period (min)		15	

Appendix H:
Signal Warrants

Input Data Sheet

Analysis Sheet | Results Sheet | Justification 5A | Justification 7 | GO TO Justification:

What are the intersecting roadways? Clarke St / Ontario St - FB 2030

What is the direction of the Main Road street? North-South

When was the data collected? 2025-12-04

Justification 1 - 4: Volume Warrants

a.- Number of approach lanes on the Main Road? 2 or more

b.- Number of approach lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Urban Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
8:00	15	117	55	12	102	17	93	152	70	35	199	67	2
9:00	12	93	35	14	146	8	57	114	41	24	169	54	3
11:00	19	114	50	17	147	14	74	109	23	27	165	48	6
12:00	23	112	76	22	169	18	82	110	39	37	166	41	3
14:00	20	126	64	16	213	10	94	101	34	23	187	70	2
15:00	27	158	103	16	182	11	119	138	32	28	163	46	2
16:00	17	142	84	14	195	14	154	144	44	26	135	57	3
17:00	18	139	74	20	177	14	46	161	46	18	144	72	1
Total	**151**	**1,001**	**541**	**131**	**1,331**	**106**	**719**	**1,029**	**329**	**218**	**1,328**	**455**	**22**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

Note: If desired, Justification 5A can be calculated instead to determine expected safety improvement following signalization

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	22	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	22		0		0		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									22
Net 8 Hour Vehicular Volume on Street Being Crossed									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	22	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	22		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									22
Net 8 Hour Volume of Delayed Pedestrians									0

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: Clarke St / Ontario St - FB 2030 Count Date: 2025-12-04

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	8:00	9:00	11:00	12:00	14:00	15:00	16:00	17:00		
1A	480	720	600	900	934	767	807	895	958	1,023	1,026	929		
	COMPLIANCE %				100	85	90	99	100	100	100	100	774	97
1B	120	170	120	170	432	415	418	453	519	446	441	445		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 1:

Both 1A and 1B 100% Fulfilled each of 8 hours — Yes ☐ No ☑

Lesser of 1A or 1B at least 80% fulfilled each of 8 hours — Yes ☑ No ☐

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	8:00	9:00	11:00	12:00	14:00	15:00	16:00	17:00		
2A	480	720	600	900	502	352	389	442	439	577	585	484		
	COMPLIANCE %				56	39	43	49	49	64	65	54	419	52
2B	50	75	50	75	248	210	215	231	254	228	238	216		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 2:

Both 2A and 2B 100% fulfilled each of 8 hours — Yes ☐ No ☑

Lesser of 2A or 2B at least 80% fulfilled each of 8 hours — Yes ☐ No ☑

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YE ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	502	301	333	90 %	79 %
	15:00	577	237	296	80 %	
	16:00	585	223	292	76 %	
	17:00	484	234	342	68 %	

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: Clarke St / Ontario St - FB 2030 Count Date: 2025-12-04

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8-Hour Vehicle Volume Crossing Main Road (V8)		8-Hour Net Pedestrian Volume Crossing Main Road (Vp)				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

Pedestrian Delay Analysis

8-Hour Net Pedestrian Volume Crossing Main Road (Vp)		8-Hour Net Pedestrian Volume Crossing Main Road Delayed > 10 Seconds (Vd)		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Justification 5A | Justification 7

Intersection: Clarke St / Ontario St - FB 2030 Count Date: 2025-12-04

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	97	%	☐	☑
	B	Crossing Volume	100	%		
2. Delay to Cross Traffic	A	Main Road	52	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	97	%	☐	☑
	B	Justification 2	52	%		
4. 4-Hr Volume			79	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Justification 5A | Justification 7 | GO TO Justification:

What are the intersecting roadways? Clarke St / Ontario St - FT 2030

What is the direction of the Main Road street? North-South

When was the data collected? 2025-12-04

Justification 1 - 4: Volume Warrants

a.- Number of approach lanes on the Main Road? 2 or more

b.- Number of approach lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Urban Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
8:00	20	147	60	12	102	22	93	172	70	35	199	67	2
9:00	16	118	39	14	146	12	57	130	41	24	169	54	3
11:00	23	140	54	17	147	18	74	126	23	27	165	48	6
12:00	28	141	81	22	169	23	82	129	39	37	166	41	3
14:00	20	145	73	16	213	15	94	143	34	23	187	70	2
15:00	27	178	113	16	182	16	119	183	32	28	163	46	2
16:00	17	162	94	14	195	19	154	189	44	26	135	57	3
17:00	18	159	84	20	177	19	46	206	46	18	144	72	1
Total	**169**	**1,190**	**598**	**131**	**1,331**	**144**	**719**	**1,278**	**329**	**218**	**1,328**	**455**	**22**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

Note: If desired, Justification 5A can be calculated instead to determine expected safety improvement following signalization

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	22	0	0	1	5	0	0	
Factored 8 hour pedestrian volume	22		0		7		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									22
Net 8 Hour Vehicular Volume on Street Being Crossed									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	22	0	0	1	5	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	22		0		7		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									22
Net 8 Hour Volume of Delayed Pedestrians									34

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: Clarke St / Ontario St - FT 2030 Count Date: 2025-12-04

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	8:00	9:00	11:00	12:00	14:00	15:00	16:00	17:00		
1A	480	720	600	900	999	820	862	958	1,033	1,103	1,106	1,009		
	COMPLIANCE %				100	91	96	100	100	100	100	100	787	98
1B	120	170	120	170	437	419	422	458	524	451	446	450		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 1:	Both 1A and 1B 100% Fulfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 1A or 1B at least 80% fulfilled each of 8 hours	Yes ☑	No ☐

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. ☐	FREE FLOW ☐	RESTR. ☑	8:00	9:00	11:00	12:00	14:00	15:00	16:00	17:00		
2A	480	720	600	900	562	401	440	500	509	652	660	559		
	COMPLIANCE %				62	45	49	56	57	72	73	62	476	59
2B	50	75	50	75	248	210	215	231	254	228	238	216		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 2:	Both 2A and 2B 100% fulfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 2A or 2B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More			Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YE ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	562	301	303	99 %	89 %
	15:00	652	237	262	90 %	
	16:00	660	228	259	88 %	
	17:00	559	234	305	77 %	

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: Clarke St / Ontario St - FT 2030 Count Date: 2025-12-04

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8-Hour Vehicle Volume Crossing Main Road (V8)		8-Hour Net Pedestrian Volume Crossing Main Road (Vp)				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

Pedestrian Delay Analysis

8-Hour Net Pedestrian Volume Crossing Main Road (Vp)		8-Hour Net Pedestrian Volume Crossing Main Road Delayed > 10 Seconds (Vd)		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Justification 5A | Justification 7

Intersection: Clarke St / Ontario St - FT 2030 Count Date: 2025-12-04

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	98	%	☐	☑
	B	Crossing Volume	100	%		
2. Delay to Cross Traffic	A	Main Road	59	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	98	%	☐	☑
	B	Justification 2	59	%		
4. 4-Hr Volume			89	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Justification 5A | Justification 7 | GO TO Justification:

What are the intersecting roadways? Clarke St / Ontario St - FB2035

What is the direction of the Main Road street? North-South

When was the data collected? 2025-12-04

Justification 1 - 4: Volume Warrants

a.- Number of approach lanes on the Main Road? 2 or more

b.- Number of approach lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Urban Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
8:00	15	127	55	12	107	17	93	172	70	35	209	67	2
9:00	12	102	35	14	150	8	57	130	41	24	178	54	3
11:00	19	123	50	17	152	14	74	126	23	27	174	48	6
12:00	23	122	76	22	174	18	82	129	39	37	176	41	3
14:00	20	140	64	16	222	10	94	120	34	23	196	70	2
15:00	27	173	103	16	192	11	119	158	32	28	173	46	2
16:00	17	157	84	14	205	14	154	164	44	26	145	57	3
17:00	18	154	74	20	187	14	46	181	46	18	154	72	1
Total	**151**	**1,098**	**541**	**131**	**1,389**	**106**	**719**	**1,180**	**329**	**218**	**1,405**	**455**	**22**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

Note: If desired, Justification 5A can be calculated instead to determine expected safety improvement following signalization

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	22	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	22		0		0		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									22
Net 8 Hour Vehicular Volume on Street Being Crossed									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	22	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	0	0	0	0	0	0	
Factored volume of total pedestrians	22		0		0		0		
Factored volume of delayed pedestrians	30		0		0		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									22
Net 8 Hour Volume of Delayed Pedestrians									30

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: Clarke St / Ontario St - FB2035 Count Date: 2025-12-04

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	8:00	9:00	11:00	12:00	14:00	15:00	16:00	17:00		
1A	480	720	600	900	979	805	847	939	1,009	1,078	1,081	984		
	COMPLIANCE %				100	89	94	100	100	100	100	100	784	98
1B	120	170	120	170	447	428	432	468	537	466	461	465		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 1:

Both 1A and 1B 100% Fulfilled each of 8 hours — Yes ☐ No ☑

Lesser of 1A or 1B at least 80% fulfilled each of 8 hours — Yes ☑ No ☐

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. ☐	FREE FLOW ☐	RESTR. ☑	8:00	9:00	11:00	12:00	14:00	15:00	16:00	17:00		
2A	480	720	600	900	532	377	415	471	472	612	620	519		
	COMPLIANCE %				59	42	46	52	52	68	69	58	446	56
2B	50	75	50	75	258	219	224	238	263	238	248	226		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 2:

Both 2A and 2B 100% fulfilled each of 8 hours — Yes ☐ No ☑

Lesser of 2A or 2B at least 80% fulfilled each of 8 hours — Yes ☐ No ☑

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YE ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	532	311	318	98 %	86 %
	15:00	612	247	280	88 %	
	16:00	620	233	276	84 %	
	17:00	519	244	324	75 %	

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: Clarke St / Ontario St - FB2035 Count Date: 2025-12-04

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8-Hour Vehicle Volume Crossing Main Road (V8)		8-Hour Net Pedestrian Volume Crossing Main Road (Vp)				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

Pedestrian Delay Analysis

8-Hour Net Pedestrian Volume Crossing Main Road (Vp)		8-Hour Net Pedestrian Volume Crossing Main Road Delayed > 10 Seconds (Vd)		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Justification 5A | Justification 7

Intersection: Clarke St / Ontario St - FB2035 Count Date: 2025-12-04

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	98	%	☐	☑
	B	Crossing Volume	100	%		
2. Delay to Cross Traffic	A	Main Road	56	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	98	%	☐	☑
	B	Justification 2	56	%		
4. 4-Hr Volume			86	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Justification 5A | Justification 7 | GO TO Justification:

What are the intersecting roadways? Clarke St / Ontario St - FT 2035

What is the direction of the Main Road street? North-South

When was the data collected? 2025-12-04

Justification 1 - 4: Volume Warrants

a.- Number of approach lanes on the Main Road? 2 or more

b.- Number of approach lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Urban Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
8:00	20	157	60	12	107	22	93	192	70	35	209	67	2
9:00	16	127	39	14	150	12	57	146	41	24	178	54	3
11:00	23	149	54	17	152	18	74	143	23	27	174	48	6
12:00	28	151	81	22	174	23	82	148	39	37	176	41	3
14:00	20	159	73	16	222	15	94	162	34	23	196	70	2
15:00	27	193	113	16	192	16	119	203	32	28	173	46	2
16:00	17	177	94	14	205	19	154	209	44	26	145	57	3
17:00	18	174	84	20	187	19	46	226	46	18	154	72	1
Total	**169**	**1,287**	**598**	**131**	**1,389**	**144**	**719**	**1,429**	**329**	**218**	**1,405**	**455**	**22**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

Note: If desired, Justification 5A can be calculated instead to determine expected safety improvement following signalization

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	22	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	22		0		0		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									22
Net 8 Hour Vehicular Volume on Street Being Crossed									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	22	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	0	0	0	0	0	0	
Factored volume of total pedestrians	22		0		0		0		
Factored volume of delayed pedestrians	30		0		0		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									22
Net 8 Hour Volume of Delayed Pedestrians									30

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: Clarke St / Ontario St - FT 2035 Count Date: 2025-12-04

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	8:00	9:00	11:00	12:00	14:00	15:00	16:00	17:00		
1A	480	720	600	900	1,044	858	902	1,002	1,084	1,158	1,161	1,064		
	COMPLIANCE %				100	95	100	100	100	100	100	100	795	99
1B	120	170	120	170	452	432	436	473	542	471	466	470		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 1:	Both 1A and 1B 100% Fulfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 1A or 1B at least 80% fulfilled each of 8 hours	Yes ☑	No ☐

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. ☐	FREE FLOW ☐	RESTR. ☑	8:00	9:00	11:00	12:00	14:00	15:00	16:00	17:00		
2A	480	720	600	900	592	426	466	529	542	687	695	594		
	COMPLIANCE %				66	47	52	59	60	76	77	66	503	63
2B	50	75	50	75	258	219	224	238	263	238	248	226		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 2:	Both 2A and 2B 100% fulfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 2A or 2B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YE ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	592	311	289	100 %	96 %
	15:00	687	247	247	100 %	
	16:00	695	238	244	98 %	
	17:00	594	244	288	85 %	

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: Clarke St / Ontario St - FT 2035 Count Date: 2025-12-04

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8-Hour Vehicle Volume Crossing Main Road (V8)		8-Hour Net Pedestrian Volume Crossing Main Road (Vp)				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

Pedestrian Delay Analysis

8-Hour Net Pedestrian Volume Crossing Main Road (Vp)		8-Hour Net Pedestrian Volume Crossing Main Road Delayed > 10 Seconds (Vd)		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Justification 5A | Justification 7

Intersection: Clarke St / Ontario St - FT 2035 Count Date: 2025-12-04

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	99	%	☐	☑
	B	Crossing Volume	100	%		
2. Delay to Cross Traffic	A	Main Road	63	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	99	%	☐	☑
	B	Justification 2	63	%		
4. 4-Hr Volume			96	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Justification 5A | Justification 7 | GO TO Justification:

What are the intersecting roadways? Clarke St / Ontario St - FB2040

What is the direction of the Main Road street? North-South

When was the data collected? 2025-12-04

Justification 1 - 4: Volume Warrants

a.- Number of approach lanes on the Main Road? 2 or more

b.- Number of approach lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Urban Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
8:00	15	137	55	12	112	17	93	192	70	35	219	67	2
9:00	12	110	35	14	154	8	57	146	41	24	186	54	3
11:00	19	132	50	17	156	14	74	143	23	27	182	48	6
12:00	23	131	76	22	178	18	82	148	39	37	186	41	3
14:00	20	149	64	16	232	10	94	144	34	23	205	70	2
15:00	27	183	103	16	202	11	119	183	32	28	183	46	2
16:00	17	167	84	14	215	14	154	189	44	26	155	57	3
17:00	18	164	74	20	197	14	46	206	46	18	164	72	1
Total	**151**	**1,173**	**541**	**131**	**1,446**	**106**	**719**	**1,351**	**329**	**218**	**1,480**	**455**	**22**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

Note: If desired, Justification 5A can be calculated instead to determine expected safety improvement following signalization

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	22	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	22		0		0		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									22
Net 8 Hour Vehicular Volume on Street Being Crossed									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	22	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	0	0	0	0	0	0	
Factored volume of total pedestrians	22		0		0		0		
Factored volume of delayed pedestrians	30		0		0		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									22
Net 8 Hour Volume of Delayed Pedestrians									30

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: Clarke St / Ontario St - FB2040 Count Date: 2025-12-04

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	8:00	9:00	11:00	12:00	14:00	15:00	16:00	17:00		
1A	480	720	600	900	1,024	841	885	981	1,061	1,133	1,136	1,039		
	COMPLIANCE %				100	93	98	100	100	100	100	100	792	99
1B	120	170	120	170	462	440	444	482	556	486	481	485		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
Restricted Flow Signal Justification 1:					Both 1A and 1B 100% Fulfilled each of 8 hours — Yes ☐ No ☑									
					Lesser of 1A or 1B at least 80% fulfilled each of 8 hours — Yes ☑ No ☐									

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. ☐	FREE FLOW ☐	RESTR. ☑	8:00	9:00	11:00	12:00	14:00	15:00	16:00	17:00		
2A	480	720	600	900	562	401	441	499	505	647	655	554		
	COMPLIANCE %				62	45	49	55	56	72	73	62	474	59
2B	50	75	50	75	268	227	232	248	273	248	258	236		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
Restricted Flow Signal Justification 2:					Both 2A and 2B 100% fulfilled each of 8 hours — Yes ☐ No ☑									
					Lesser of 2A or 2B at least 80% fulfilled each of 8 hours — Yes ☐ No ☑									

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YE ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	562	321	303	100 %	93 %
	15:00	647	257	264	97 %	
	16:00	655	243	261	93 %	
	17:00	554	254	307	83 %	

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: Clarke St / Ontario St - FB2040 Count Date: 2025-12-04

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8-Hour Vehicle Volume Crossing Main Road (V8)		8-Hour Net Pedestrian Volume Crossing Main Road (Vp)				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

Pedestrian Delay Analysis

8-Hour Net Pedestrian Volume Crossing Main Road (Vp)		8-Hour Net Pedestrian Volume Crossing Main Road Delayed > 10 Seconds (Vd)		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Justification 5A | Justification 7

Intersection: Clarke St / Ontario St - FB2040 Count Date: 2025-12-04

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	99	%	☐	☑
	B	Crossing Volume	100	%		
2. Delay to Cross Traffic	A	Main Road	59	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	99	%	☐	☑
	B	Justification 2	59	%		
4. 4-Hr Volume			93	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Justification 5A | Justification 7 | GO TO Justification:

What are the intersecting roadways? Clarke St / Ontario St - FT 2040

What is the direction of the Main Road street? North-South

When was the data collected? 2025-12-04

Justification 1 - 4: Volume Warrants

a.- Number of approach lanes on the Main Road? 2 or more

b.- Number of approach lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Urban Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
8:00	20	167	60	12	112	22	93	212	70	35	219	67	2
9:00	16	135	39	14	154	12	57	162	41	24	186	54	3
11:00	23	158	54	17	156	18	74	160	23	27	182	48	6
12:00	28	160	81	22	178	23	82	167	39	37	186	41	3
14:00	20	168	73	16	232	15	94	186	34	23	205	70	2
15:00	27	203	113	16	202	16	119	228	32	28	183	46	2
16:00	17	187	94	14	215	19	154	234	44	26	155	57	3
17:00	18	184	84	20	197	19	46	251	46	18	164	72	1
Total	**169**	**1,362**	**598**	**131**	**1,446**	**144**	**719**	**1,600**	**329**	**218**	**1,480**	**455**	**22**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

Note: If desired, Justification 5A can be calculated instead to determine expected safety improvement following signalization

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	22	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	22		0		0		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									22
Net 8 Hour Vehicular Volume on Street Being Crossed									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	22	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	0	0	0	0	0	0	
Factored volume of total pedestrians	22		0		0		0		
Factored volume of delayed pedestrians	30		0		0		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									22
Net 8 Hour Volume of Delayed Pedestrians									30

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: Clarke St / Ontario St - FT 2040 Count Date: 2025-12-04

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	8:00	9:00	11:00	12:00	14:00	15:00	16:00	17:00		
1A	480	720	600	900	1,089	894	940	1,044	1,136	1,213	1,216	1,119		
	COMPLIANCE %				100	99	100	100	100	100	100	100	799	100
1B	120	170	120	170	467	444	448	487	561	491	486	490		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 1:	Both 1A and 1B 100% Fulfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 1A or 1B at least 80% fulfilled each of 8 hours	Yes ☑	No ☐

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. ☐	FREE FLOW ☐	RESTR. ☑	8:00	9:00	11:00	12:00	14:00	15:00	16:00	17:00		
2A	480	720	600	900	622	450	492	557	575	722	730	629		
	COMPLIANCE %				69	50	55	62	64	80	81	70	531	66
2B	50	75	50	75	268	227	232	248	273	248	258	236		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 2:	Both 2A and 2B 100% fulfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 2A or 2B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YE ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	622	321	275	100 %	98 %
	15:00	722	257	233	100 %	
	16:00	730	248	229	100 %	
	17:00	629	254	272	93 %	

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: Clarke St / Ontario St - FT 2040 Count Date: 2025-12-04

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8-Hour Vehicle Volume Crossing Main Road (V8)		8-Hour Net Pedestrian Volume Crossing Main Road (Vp)				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

Pedestrian Delay Analysis

8-Hour Net Pedestrian Volume Crossing Main Road (Vp)		8-Hour Net Pedestrian Volume Crossing Main Road Delayed > 10 Seconds (Vd)		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Justification 5A | Justification 7

Intersection: Clarke St / Ontario St - FT 2040 Count Date: 2025-12-04

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	100	%		
2. Delay to Cross Traffic	A	Main Road	66	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	100	%	☐	☑
	B	Justification 2	66	%		
4. 4-Hr Volume			98	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Justification 5A | Justification 7 | GO TO Justification:

What are the intersecting roadways? QEW WB Ramp Terminal / Christie St - FB 2030

What is the direction of the Main Road street? North-South

When was the data collected? 2025-12-04

Justification 1 - 4: Volume Warrants

a.- Number of approach lanes on the Main Road? 2 or more

b.- Number of approach lanes on the Minor Road? 2 or more

c.- How many approaches? 3

d.- What is the operating environment? Urban Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	311	81	0	0	0	0	0	105	97	95	149	18	0
8:00	295	204	0	0	0	0	0	199	79	117	161	31	0
9:00	245	132	0	0	0	0	0	154	54	91	177	21	0
10:00	228	151	0	0	0	0	0	159	43	87	154	19	0
15:00	201	188	0	0	0	0	0	134	24	88	122	20	0
16:00	201	274	0	0	0	0	0	163	60	117	161	25	0
17:00	243	267	0	0	0	0	0	205	47	105	183	36	0
18:00	211	263	0	0	0	0	0	170	51	141	181	26	0
Total	**1,935**	**1,560**	**0**	**0**	**0**	**0**	**0**	**1,289**	**455**	**841**	**1,288**	**196**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

Note: If desired, Justification 5A can be calculated instead to determine expected safety improvement following signalization

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									34

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: QEW WB Ramp Terminal / Christie St - FB 2030 Count Date: 2025-12-04

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
1A	480	720	600	900	856	1,086	874	841	777	1,001	1,086	1,043		
	COMPLIANCE %				95	100	97	93	86	100	100	100	772	97
1B	180	255	180	255	262	309	289	260	230	303	324	348		
	COMPLIANCE %				100	100	100	100	90	100	100	100	790	99

Restricted Flow Signal Justification 1:

Both 1A and 1B 100% Fulfilled each of 8 hours — Yes ☐ No ☑

Lesser of 1A or 1B at least 80% fulfilled each of 8 hours — Yes ☑ No ☐

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
2A	480	720	600	900	594	777	585	581	547	698	762	695		
	COMPLIANCE %				66	86	65	65	61	78	85	77	582	73
2B	50	75	50	75	244	278	268	241	210	278	288	322		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 2:

Both 2A and 2B 100% fulfilled each of 8 hours — Yes ☐ No ☑

Lesser of 2A or 2B at least 80% fulfilled each of 8 hours — Yes ☐ No ☑

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YE ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	777	309	288	100 %	98 %
	16:00	698	303	329	92 %	
	17:00	762	324	296	100 %	
	18:00	695	348	331	100 %	

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: QEW WB Ramp Terminal / Christie St - FB 2030 Count Date: 2025-12-04

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8-Hour Vehicle Volume Crossing Main Road (V8)		8-Hour Net Pedestrian Volume Crossing Main Road (Vp)				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

Pedestrian Delay Analysis

8-Hour Net Pedestrian Volume Crossing Main Road (Vp)		8-Hour Net Pedestrian Volume Crossing Main Road Delayed > 10 Seconds (Vd)		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Justification 5A | Justification 7

Intersection: QEW WB Ramp Terminal / Christie St - FB 2030 Count Date: 2025-12-04

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	97	%	☐	☑
	B	Crossing Volume	99	%		
2. Delay to Cross Traffic	A	Main Road	73	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	97	%	☐	☑
	B	Justification 2	73	%		
4. 4-Hr Volume			98	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Justification 5A | Justification 7 | GO TO Justification:

What are the intersecting roadways? QEW WB Ramp Terminal / Christie St - FT 2030

What is the direction of the Main Road street? North-South

When was the data collected? 2025-12-04

Justification 1 - 4: Volume Warrants

a.- Number of approach lanes on the Main Road? 2 or more

b.- Number of approach lanes on the Minor Road? 2 or more

c.- How many approaches? 3

d.- What is the operating environment? Urban Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	311	81	0	0	0	0	0	105	97	95	161	18	10
8:00	295	204	0	0	0	0	0	199	79	117	176	31	10
9:00	245	132	0	0	0	0	0	154	54	91	189	21	10
10:00	228	151	0	0	0	0	0	159	43	87	166	19	10
15:00	201	188	0	0	0	0	0	134	24	88	129	20	10
16:00	201	274	0	0	0	0	0	163	60	117	170	25	10
17:00	243	267	0	0	0	0	0	205	47	105	193	36	10
18:00	211	263	0	0	0	0	0	170	51	141	191	26	10
Total	**1,935**	**1,560**	**0**	**0**	**0**	**0**	**0**	**1,289**	**455**	**841**	**1,375**	**196**	**80**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

Note: If desired, Justification 5A can be calculated instead to determine expected safety improvement following signalization

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									0

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: QEW WB Ramp Terminal / Christie St - FT 2030 Count Date: 2025-12-04

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
1A	480	720	600	900	868	1,101	886	853	784	1,010	1,096	1,053		
	COMPLIANCE %				96	100	98	95	87	100	100	100	777	97
1B	180	255	180	255	274	324	301	272	237	312	334	358		
	COMPLIANCE %				100	100	100	100	93	100	100	100	793	99

Restricted Flow Signal Justification 1:	Both 1A and 1B 100% Fulfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 1A or 1B at least 80% fulfilled each of 8 hours	Yes ☑	No ☐

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
2A	480	720	600	900	594	777	585	581	547	698	762	695		
	COMPLIANCE %				66	86	65	65	61	78	85	77	582	73
2B	50	75	50	75	266	303	290	263	227	297	308	342		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 2:	Both 2A and 2B 100% fulfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 2A or 2B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YE ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	777	324	288	100 %	99 %
	16:00	698	312	329	95 %	
	17:00	762	334	296	100 %	
	18:00	695	358	331	100 %	

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: QEW WB Ramp Terminal / Christie St - FT 2030 Count Date: 2025-12-04

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8-Hour Vehicle Volume Crossing Main Road (V8)		8-Hour Net Pedestrian Volume Crossing Main Road (Vp)				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

Pedestrian Delay Analysis

8-Hour Net Pedestrian Volume Crossing Main Road (Vp)		8-Hour Net Pedestrian Volume Crossing Main Road Delayed > 10 Seconds (Vd)		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Justification 5A | Justification 7

Intersection: QEW WB Ramp Terminal / Christie St - FT 2030 Count Date: 2025-12-04

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	97	%	☐	☑
	B	Crossing Volume	99	%		
2. Delay to Cross Traffic	A	Main Road	73	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	97	%	☐	☑
	B	Justification 2	73	%		
4. 4-Hr Volume			99	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Justification 5A | Justification 7 | GO TO Justification:

What are the intersecting roadways? QEW WB Ramp Terminal / Christie St - FB 2035

What is the direction of the Main Road street? North-South

When was the data collected? 2025-12-04

Justification 1 - 4: Volume Warrants

a.- Number of approach lanes on the Main Road? 2 or more

b.- Number of approach lanes on the Minor Road? 2 or more

c.- How many approaches? 3

d.- What is the operating environment? Urban Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	334	85	0	0	0	0	0	105	105	103	160	18	0
8:00	325	209	0	0	0	0	0	199	89	127	176	31	0
9:00	269	136	0	0	0	0	0	154	62	99	189	21	0
10:00	251	155	0	0	0	0	0	159	51	95	166	19	0
15:00	218	195	0	0	0	0	0	138	27	99	144	20	0
16:00	224	283	0	0	0	0	0	168	64	131	189	25	0
17:00	268	277	0	0	0	0	0	210	52	120	213	36	0
18:00	235	272	0	0	0	0	0	175	56	156	210	26	0
Total	**2,124**	**1,612**	**0**	**0**	**0**	**0**	**0**	**1,308**	**506**	**930**	**1,447**	**196**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

Note: If desired, Justification 5A can be calculated instead to determine expected safety improvement following signalization

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									34

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: QEW WB Ramp Terminal / Christie St - FB 2035 Count Date: 2025-12-04

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
1A	480	720	600	900	910	1,156	930	896	841	1,084	1,176	1,130		
	COMPLIANCE %				100	100	100	100	93	100	100	100	793	99
1B	180	255	180	255	281	334	309	280	263	345	369	392		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
Restricted Flow Signal Justification 1:					**Both 1A and 1B 100% Fulfilled each of 8 hours** Yes ☐ No ☑ **Lesser of 1A or 1B at least 80% fulfilled each of 8 hours** Yes ☑ No ☐									

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. ☐	FREE FLOW ☐	RESTR. ☑	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
2A	480	720	600	900	629	822	621	616	578	739	807	738		
	COMPLIANCE %				70	91	69	68	64	82	90	82	617	77
2B	50	75	50	75	263	303	288	261	243	320	333	366		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
Restricted Flow Signal Justification 2:					**Both 2A and 2B 100% fulfilled each of 8 hours** Yes ☐ No ☑ **Lesser of 2A or 2B at least 80% fulfilled each of 8 hours** Yes ☐ No ☑									

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YE ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	822	334	267	100 %	100 %
	16:00	739	345	308	100 %	
	17:00	807	369	274	100 %	
	18:00	738	392	308	100 %	

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: QEW WB Ramp Terminal / Christie St - FB 2035 Count Date: 2025-12-04

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8-Hour Vehicle Volume Crossing Main Road (V8)		8-Hour Net Pedestrian Volume Crossing Main Road (Vp)				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

Pedestrian Delay Analysis

8-Hour Net Pedestrian Volume Crossing Main Road (Vp)		8-Hour Net Pedestrian Volume Crossing Main Road Delayed > 10 Seconds (Vd)		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Justification 5A | Justification 7

Intersection: QEW WB Ramp Terminal / Christie St - FB 2035 Count Date: 2025-12-04

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	99	%	☐	☑
	B	Crossing Volume	100	%		
2. Delay to Cross Traffic	A	Main Road	77	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	99	%	☐	☑
	B	Justification 2	77	%		
4. 4-Hr Volume			100	%	☑	☐
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Justification 5A | Justification 7 | GO TO Justification:

What are the intersecting roadways? QEW WB Ramp Terminal / Christie St - FT 2035

What is the direction of the Main Road street? North-South

When was the data collected? 2025-12-04

Justification 1 - 4: Volume Warrants

a.- Number of approach lanes on the Main Road? 2 or more

b.- Number of approach lanes on the Minor Road? 2 or more

c.- How many approaches? 3

d.- What is the operating environment? Urban Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	334	85	0	0	0	0	0	105	105	103	172	18	0
8:00	325	209	0	0	0	0	0	199	89	127	191	31	0
9:00	269	136	0	0	0	0	0	154	62	99	201	21	0
10:00	251	155	0	0	0	0	0	159	51	95	178	19	0
15:00	218	195	0	0	0	0	0	138	27	99	151	20	0
16:00	224	283	0	0	0	0	0	168	64	131	198	25	0
17:00	268	277	0	0	0	0	0	210	52	120	223	36	0
18:00	235	272	0	0	0	0	0	175	56	156	220	26	0
Total	**2,124**	**1,612**	**0**	**0**	**0**	**0**	**0**	**1,308**	**506**	**930**	**1,534**	**196**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

Note: If desired, Justification 5A can be calculated instead to determine expected safety improvement following signalization

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									0

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: QEW WB Ramp Terminal / Christie St - FT 2035 Count Date: 2025-12-04

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
1A	480	720	600	900	922	1,171	942	908	848	1,093	1,186	1,140		
	COMPLIANCE %				100	100	100	100	94	100	100	100	794	99
1B	180	255	180	255	293	349	321	292	270	354	379	402		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 1:	Both 1A and 1B 100% Fulfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 1A or 1B at least 80% fulfilled each of 8 hours	Yes ☑	No ☐

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
2A	480	720	600	900	629	822	621	616	578	739	807	738		
	COMPLIANCE %				70	91	69	68	64	82	90	82	617	77
2B	50	75	50	75	275	318	300	273	250	329	343	376		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 2:	Both 2A and 2B 100% fulfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 2A or 2B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More			Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YE ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	822	349	267	100 %	100 %
	16:00	739	354	308	100 %	
	17:00	807	379	274	100 %	
	18:00	738	402	308	100 %	

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: QEW WB Ramp Terminal / Christie St - FT 2035 Count Date: 2025-12-04

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8-Hour Vehicle Volume Crossing Main Road (V8)		8-Hour Net Pedestrian Volume Crossing Main Road (Vp)				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

Pedestrian Delay Analysis

8-Hour Net Pedestrian Volume Crossing Main Road (Vp)		8-Hour Net Pedestrian Volume Crossing Main Road Delayed > 10 Seconds (Vd)		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Justification 5A | Justification 7

Intersection: QEW WB Ramp Terminal / Christie St - FT 2035 Count Date: 2025-12-04

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	99	%	☐	☑
	B	Crossing Volume	100	%		
2. Delay to Cross Traffic	A	Main Road	77	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	99	%	☐	☑
	B	Justification 2	77	%		
4. 4-Hr Volume			100	%	☑	☐
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Justification 5A | Justification 7 | GO TO Justification:

What are the intersecting roadways? QEW WB Ramp Terminal / Christie St - FB 2040

What is the direction of the Main Road street? North-South

When was the data collected? 2025-12-04

Justification 1 - 4: Volume Warrants

a.- Number of approach lanes on the Main Road? 2 or more

b.- Number of approach lanes on the Minor Road? 2 or more

c.- How many approaches? 3

d.- What is the operating environment? Urban Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	362	85	0	0	0	0	0	109	109	114	176	22	0
8:00	360	209	0	0	0	0	0	204	94	142	196	36	0
9:00	297	136	0	0	0	0	0	158	66	111	205	25	0
10:00	278	155	0	0	0	0	0	163	54	107	181	23	0
15:00	233	202	0	0	0	0	0	138	31	110	154	23	0
16:00	242	293	0	0	0	0	0	168	69	145	203	29	0
17:00	288	287	0	0	0	0	0	210	57	135	228	41	0
18:00	255	282	0	0	0	0	0	175	60	170	224	31	0
Total	**2,315**	**1,649**	**0**	**0**	**0**	**0**	**0**	**1,325**	**540**	**1,034**	**1,567**	**230**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

Note: If desired, Justification 5A can be calculated instead to determine expected safety improvement following signalization

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									34

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: QEW WB Ramp Terminal / Christie St - FB 2040 Count Date: 2025-12-04

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
1A	480	720	600	900	977	1,241	998	961	891	1,149	1,246	1,197		
	COMPLIANCE %				100	100	100	100	99	100	100	100	799	100
1B	180	255	180	255	312	374	341	311	287	377	404	425		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
Restricted Flow Signal Justification 1:					**Both 1A and 1B 100% Fulfilled each of 8 hours** Yes ☐ No ☑ **Lesser of 1A or 1B at least 80% fulfilled each of 8 hours** Yes ☑ No ☐									

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. ☐	FREE FLOW ☐	RESTR. ☑	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
2A	480	720	600	900	665	867	657	650	604	772	842	772		
	COMPLIANCE %				74	96	73	72	67	86	94	86	648	81
2B	50	75	50	75	290	338	316	288	264	348	363	394		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
Restricted Flow Signal Justification 2:					**Both 2A and 2B 100% fulfilled each of 8 hours** Yes ☐ No ☑ **Lesser of 2A or 2B at least 80% fulfilled each of 8 hours** Yes ☐ No ☑									

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YE ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	867	374	247	100 %	100 %
	16:00	772	377	291	100 %	
	17:00	842	404	258	100 %	
	18:00	772	425	291	100 %	

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: QEW WB Ramp Terminal / Christie St - FB 2040 Count Date: 2025-12-04

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8-Hour Vehicle Volume Crossing Main Road (V8)		8-Hour Net Pedestrian Volume Crossing Main Road (Vp)				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

Pedestrian Delay Analysis

8-Hour Net Pedestrian Volume Crossing Main Road (Vp)		8-Hour Net Pedestrian Volume Crossing Main Road Delayed > 10 Seconds (Vd)		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Justification 5A | Justification 7

Intersection: QEW WB Ramp Terminal / Christie St - FB 2040 Count Date: 2025-12-04

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	100	%		
2. Delay to Cross Traffic	A	Main Road	81	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	100	%	☐	☑
	B	Justification 2	81	%		
4. 4-Hr Volume			100	%	☑	☐
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Justification 5A | Justification 7 | GO TO Justification:

What are the intersecting roadways? QEW WB Ramp Terminal / Christie St - FT 2040

What is the direction of the Main Road street? North-South

When was the data collected? 2025-12-04

Justification 1 - 4: Volume Warrants

a.- Number of approach lanes on the Main Road? 2 or more

b.- Number of approach lanes on the Minor Road? 2 or more

c.- How many approaches? 3

d.- What is the operating environment? Urban Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	362	85	0	0	0	0	0	109	109	114	188	22	0
8:00	360	209	0	0	0	0	0	204	94	142	211	36	0
9:00	297	136	0	0	0	0	0	158	66	111	217	25	0
10:00	278	155	0	0	0	0	0	163	54	107	193	23	0
15:00	233	202	0	0	0	0	0	138	31	110	161	23	0
16:00	242	293	0	0	0	0	0	168	69	145	212	29	0
17:00	288	287	0	0	0	0	0	210	57	135	238	41	0
18:00	255	282	0	0	0	0	0	175	60	170	234	31	0
Total	**2,315**	**1,649**	**0**	**0**	**0**	**0**	**0**	**1,325**	**540**	**1,034**	**1,654**	**230**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

Note: If desired, Justification 5A can be calculated instead to determine expected safety improvement following signalization

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									6,411

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection (Zone 1) or in proximity to the intersection (Zones 2-4). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2 (if needed)		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									0

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: QEW WB Ramp Terminal / Christie St - FT 2040 Count Date: 2025-12-04

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☑	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
1A	480	720	600	900	989	1,256	1,010	973	898	1,158	1,256	1,207		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
1B	180	255	180	255	324	389	353	323	294	386	414	435		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 1:	Both 1A and 1B 100% Fulfilled each of 8 hours	Yes ☐ No ☑
	Lesser of 1A or 1B at least 80% fulfilled each of 8 hours	Yes ☑ No ☐

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. ☐	FREE FLOW ☐	RESTR. ☑	7:00	8:00	9:00	10:00	15:00	16:00	17:00	18:00		
2A	480	720	600	900	665	867	657	650	604	772	842	772		
	COMPLIANCE %				74	96	73	72	67	86	94	86	648	81
2B	50	75	50	75	302	353	328	300	271	357	373	404		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 2:	Both 2A and 2B 100% fulfilled each of 8 hours	Yes ☐ No ☑
	Lesser of 2A or 2B at least 80% fulfilled each of 8 hours	Yes ☐ No ☑

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YE ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	8:00	867	389	247	100 %	100 %
	16:00	772	386	291	100 %	
	17:00	842	414	258	100 %	
	18:00	772	435	291	100 %	

Analysis Sheet

Input Sheet | Results Sheet | Justification 5A | Justification 7

GO TO Justification:

Intersection: QEW WB Ramp Terminal / Christie St - FT 2040 Count Date: 2025-12-04

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8-Hour Vehicle Volume Crossing Main Road (V8)		8-Hour Net Pedestrian Volume Crossing Main Road (Vp)				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					
	2601 - 7000	Not Justified				
	> 7000					

Pedestrian Delay Analysis

8-Hour Net Pedestrian Volume Crossing Main Road (Vp)		8-Hour Net Pedestrian Volume Crossing Main Road Delayed > 10 Seconds (Vd)		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Justification 5A | Justification 7

Intersection: QEW WB Ramp Terminal / Christie St - FT 2040 Count Date: 2025-12-04

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	100	%		
2. Delay to Cross Traffic	A	Main Road	81	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	100	%	☐	☑
	B	Justification 2	81	%		
4. 4-Hr Volume			100	%	☑	☐
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Appendix I:
MTO Queue Assessment

INTERSECTION: QEW EB / Christie St (Grimsby ON)
SCENARIO EXISTING
TYPE: URBAN
QUEUE PERCENTILE 95%
SPACING: 7.5 m / vehicle
Christie Speed 50 km/h
QEW EB Speed 100 km /h

Legend

PCPH	equivalent passenger car volume
C	cycle length in seconds
n	number of lanes
f*	volume split factor of busiest lane over multiple lanes
m	vehicle arrival rate

Peak Hour	Movement	Volume	Heavy Vehicle %	PHF	PCPH	C	n		f*	m	Design Queue (veh)	Design Queue (m)	Storage Length (m)
AM	**EBL**	35	3%	0.92	39								
AM	**EBLT**			0.92	103	64	1	1.00	1.0	1.8	4	30.0	200
AM	**EBT**	58	2%	0.92	64								
AM	**EBTR**			0.92	229	64	1	1.00	1.0	4.1	8	60.0	200
AM	**EBR**	165	4%	0.92	165								
AM	**NBT**	215	3%	0.92	241	64	1	1.00	1.0	4.3	8	60.0	35
AM	**NBTR**			0.92	316	64	1	1.00	1.0	5.6	10	75.0	35
AM	**NBR**	75	3%	0.92	75								
AM	**SBL**	25	4%	0.92	28	64	1	1.00	1.0	0.5	2	15.0	200
AM	**SBT**	150	2%	0.92	166	64	2	2.00	0.5	1.5	4	30.0	130
PM	**EBL**	80	0%	0.89	90								
PM	**EBLT**			0.89	242	64	1	1.00	1.0	4.3	8	60.0	200
PM	**EBT**	135	0%	0.89	152								
PM	**EBTR**			0.89	412	64	1	1.00	1.0	7.3	12	90.0	200
PM	**EBR**	260	0%	0.89	260								
PM	**NBT**	198	2%	0.89	227	64	1	1.00	1.0	4.0	8	60.0	35
PM	**NBTR**			0.89	407	64	1	1.00	1.0	7.2	12	90.0	35
PM	**NBR**	180	1%	0.89	180								
PM	**SBL**	15	0%	0.89	17	64	1	1.00	1.0	0.3	1	7.5	200
PM	**SBT**	150	0%	0.89	169	64	2	2.00	0.5	1.5	4	30.0	130

Note: EBL and EBT consolidated analysis into EBLT;
EBT + EBR consolidated analysis into EBTR

Left and Through Movement Equation

Source: MTO Traffic Signal Operating & Timing Policy, Section 3.1 (dated October 1, 2012)

$$m = \frac{V_{Le} \times C}{3600 \times n}$$

m = vehicle arrival rate
VLe = Vehicle volume
C = cycle length
n = number of lanes

Right Turn Movement Equation

Source: TAC Geometric Design Guide for Canadian Roads, Section 9.14.4

At signalized intersections, the storage lane length should accommodate about 1.5 times the average number of vehicles to be stored per cycle for roadways with design speeds of 60 km/h or less, and about twice the average number of vehicles for design speeds greater than 60 km/h.

INTERSECTION: QEW EB / Christie St (Grimsby ON)
SCENARIO Future Background (2030)
TYPE: URBAN
QUEUE PERCENTILE 95%
SPACING: 7.5 m / vehicle
Christie Speed 50 km/h
QEW EB Speed 100 km /h

Legend

PCPH equivalent passenger car volume
C cycle length in seconds
n number of lanes
f* volume split factor of busiest lane over multiple lanes
m vehicle arrival rate

Peak Hour	Movement	Volume	Heavy Vehicle %	PHF	PCPH	C	n		f*	m	Design Queue (veh)	Design Queue (m)	Storage Length (m)
AM	**EBL**	40	3%	0.92	45								
AM	**EBLT**			0.92	120	64	1	1.00	1.0	2.1	5	37.5	200
AM	**EBT**	68	2%	0.92	75								
AM	**EBTR**			0.92	275	64	1	1.00	1.0	4.9	9	67.5	200
AM	**EBR**	200	4%	0.92	200								
AM	**NBT**	233	3%	0.92	261	64	1	1.00	1.0	4.6	8	60.0	35
AM	**NBTR**			0.92	361	64	1	1.00	1.0	6.4	11	82.5	35
AM	**NBR**	100	3%	0.92	100								
AM	**SBL**	30	4%	0.92	34	64	1	1.00	1.0	0.6	2	15.0	200
AM	**SBT**	163	2%	0.92	181	64	2	2.00	0.5	1.6	4	30.0	130
PM	**EBL**	90	0%	0.89	101								
PM	**EBLT**			0.89	275	64	1	1.00	1.0	4.9	9	67.5	200
PM	**EBT**	155	0%	0.89	174								
PM	**EBTR**			0.89	474	64	1	1.00	1.0	8.4	13	97.5	200
PM	**EBR**	300	0%	0.89	300								
PM	**NBT**	218	2%	0.89	250	64	1	1.00	1.0	4.4	8	60.0	35
PM	**NBTR**			0.89	470	64	1	1.00	1.0	8.4	13	97.5	35
PM	**NBR**	220	1%	0.89	220								
PM	**SBL**	15	0%	0.89	17	64	1	1.00	1.0	0.3	1	7.5	200
PM	**SBT**	160	0%	0.89	180	64	2	2.00	0.5	1.6	4	30.0	130

Note: EBL and EBT consolidated analysis into EBLT;
EBT + EBR consolidated analysis into EBTR

Left and Through Movement Equation

Source: MTO Traffic Signal Operating & Timing Policy, Section 3.1 (dated October 1, 2012)

$$m = \frac{V_{Le} \times C}{3600 \times n}$$

m = vehicle arrival rate
VLe = Vehicle volume
C = cycle length
n = number of lanes

Right Turn Movement Equation

Source: TAC Geometric Design Guide for Canadian Roads, Section 9.14.4

At signalized intersections, the storage lane length should accommodate about 1.5 times the average number of vehicles to be stored per cycle for roadways with design speeds of 60 km/h or less, and about twice the average number of vehicles for design speeds greater than 60 km/h.

INTERSECTION: QEW EB / Christie St (Grimsby ON)
SCENARIO Future Background (2035)
TYPE: URBAN
QUEUE PERCENTILE 95%
SPACING: 7.5 m / vehicle
Christie Speed 50 km/h
QEW EB Speed 100 km /h

Legend

PCPH	equivalent passenger car volume
C	cycle length in seconds
n	number of lanes
f*	volume split factor of busiest lane over multiple lanes
m	vehicle arrival rate

Peak Hour	Movement	Volume	Heavy Vehicle %	PHF	PCPH	C	n		f*	m	Design Queue (veh)	Design Queue (m)	Storage Length (m)
AM	**EBL**	45	3%	0.92	50								
AM	**EBLT**			0.92	133	64	1	1.00	1.0	2.4	5	37.5	200
AM	**EBT**	75	2%	0.92	83								
AM	**EBTR**			0.92	303	64	1	1.00	1.0	5.4	9	67.5	200
AM	**EBR**	220	4%	0.92	220							0.0	0
AM	**NBT**	248	3%	0.92	278	64	1	1.00	1.0	4.9	9	67.5	35
AM	**NBTR**			0.92	383	64	1	1.00	1.0	6.8	11	82.5	35
AM	**NBR**	105	3%	0.92	105								
AM	**SBL**	30	4%	0.92	34	64	1	1.00	1.0	0.6	2	15.0	200
AM	**SBT**	168	2%	0.92	186	64	2	2.00	0.5	1.7	4	30.0	130
PM	**EBL**	100	0%	0.89	112								
PM	**EBLT**			0.89	303	64	1	1.00	1.0	5.4	9	67.5	200
PM	**EBT**	170	0%	0.89	191								
PM	**EBTR**			0.89	521	64	1	1.00	1.0	9.3	15	112.5	200
PM	**EBR**	330	0%	0.89	330							0.0	0
PM	**NBT**	230	2%	0.89	264	64	1	1.00	1.0	4.7	9	67.5	35
PM	**NBTR**			0.89	504	64	1	1.00	1.0	9.0	14	105.0	35
PM	**NBR**	240	1%	0.89	240								
PM	**SBL**	20	0%	0.89	22	64	1	1.00	1.0	0.4	2	15.0	200
PM	**SBT**	168	0%	0.89	189	64	2	2.00	0.5	1.7	4	30.0	130

Note: EBL and EBT consolidated analysis into EBLT;
EBT + EBR consolidated analysis into EBTR

Left and Through Movement Equation

Source: MTO Traffic Signal Operating & Timing Policy, Section 3.1 (dated October 1, 2012)

$$m = \frac{V_{Le} \times C}{3600 \times n}$$

m = vehicle arrival rate
VLe = Vehicle volume
C = cycle length
n = number of lanes

Right Turn Movement Equation

Source: TAC Geometric Design Guide for Canadian Roads, Section 9.14.4

At signalized intersections, the storage lane length should accommodate about 1.5 times the average number of vehicles to be stored per cycle for roadways with design speeds of 60 km/h or less, and about twice the average number of vehicles for design speeds greater than 60 km/h.

INTERSECTION: QEW EB / Christie St (Grimsby ON)
SCENARIO Future Background (2040)
TYPE: URBAN
QUEUE PERCENTILE 95%
SPACING: 7.5 m / vehicle
Christie Speed 50 km/h
QEW EB Speed 100 km /h

Legend

PCPH	equivalent passenger car volume
C	cycle length in seconds
n	number of lanes
f*	volume split factor of busiest lane over multiple lanes
m	vehicle arrival rate

Peak Hour	Movement	Volume	Heavy Vehicle %	PHF	PCPH	C	n		f*	m	Design Queue (veh)	Design Queue (m)	Storage Length (m)
AM	**EBL**	45	3%	0.92	50								
AM	**EBLT**			0.92	142	64	1	1.00	1.0	2.5	5	37.5	200
AM	**EBT**	83	2%	0.92	92								
AM	**EBTR**			0.92	332	64	1	1.00	1.0	5.9	10	75.0	200
AM	**EBR**	240	4%	0.92	240								
AM	**NBT**	265	3%	0.92	297	64	1	1.00	1.0	5.3	9	67.5	35
AM	**NBTR**			0.92	412	64	1	1.00	1.0	7.3	12	90.0	35
AM	**NBR**	115	3%	0.92	115								
AM	**SBL**	35	4%	0.92	40	64	1	1.00	1.0	0.7	2	15.0	200
AM	**SBT**	175	2%	0.92	194	64	2	2.00	0.5	1.7	4	30.0	130
PM	**EBL**	110	0%	0.89	124								
PM	**EBLT**			0.89	335	64	1	1.00	1.0	6.0	10	75.0	200
PM	**EBT**	188	0%	0.89	211								
PM	**EBTR**			0.89	576	64	1	1.00	1.0	10.2	16	120.0	200
PM	**EBR**	365	0%	0.89	365								
PM	**NBT**	240	2%	0.89	275	64	1	1.00	1.0	4.9	9	67.5	35
PM	**NBTR**			0.89	535	64	1	1.00	1.0	9.5	15	112.5	35
PM	**NBR**	260	1%	0.89	260								
PM	**SBL**	20	0%	0.89	22	64	1	1.00	1.0	0.4	2	15.0	200
PM	**SBT**	175	0%	0.89	197	64	2	2.00	0.5	1.8	4	30.0	130

Note: EBL and EBT consolidated analysis into EBLT;
EBT + EBR consolidated analysis into EBTR

Left and Through Movement Equation

Source: MTO Traffic Signal Operating & Timing Policy, Section 3.1 (dated October 1, 2012)

$$m = \frac{V_{Le} \times C}{3600 \times n}$$

m = vehicle arrival rate
VLe = Vehicle volume
C = cycle length
n = number of lanes

Right Turn Movement Equation

Source: TAC Geometric Design Guide for Canadian Roads, Section 9.14.4

At signalized intersections, the storage lane length should accommodate about 1.5 times the average number of vehicles to be stored per cycle for roadways with design speeds of 60 km/h or less, and about twice the average number of vehicles for design speeds greater than 60 km/h.

INTERSECTION: QEW EB / Christie St (Grimsby ON)
SCENARIO Future Total (2030)
TYPE: URBAN
QUEUE PERCENTILE 95%
SPACING: 7.5 m / vehicle
Christie Speed 50 km/h
QEW EB Speed 100 km /h

Legend

PCPH	equivalent passenger car volume
C	cycle length in seconds
n	number of lanes
f*	volume split factor of busiest lane over multiple lanes
m	vehicle arrival rate

Peak Hour	Movement	Volume	Heavy Vehicle %	PHF	PCPH	C	n		f*	m	Design Queue (veh)	Design Queue (m)	Storage Length (m)
AM	**EBL**	40	3%	0.92	45								
AM	**EBLT**			0.92	128	64	1	1.00	1.0	2.3	5	37.5	200
AM	**EBT**	75	2%	0.92	83								
AM	**EBTR**			0.92	283	64	1	1.00	1.0	5.0	9	67.5	200
AM	**EBR**	200	4%	0.92	200								
AM	**NBT**	233	3%	0.92	261	64	1	1.00	1.0	4.6	8	60.0	35
AM	**NBTR**			0.92	361	64	1	1.00	1.0	6.4	11	82.5	35
AM	**NBR**	100	3%	0.92	100								
AM	**SBL**	30	4%	0.92	34	64	1	1.00	1.0	0.6	2	15.0	200
AM	**SBT**	163	2%	0.92	181	64	2	2.00	0.5	1.6	4	30.0	130
PM	**EBL**	90	0%	0.89	101								
PM	**EBLT**			0.89	290	64	1	1.00	1.0	5.2	9	67.5	200
PM	**EBT**	168	0%	0.89	189								
PM	**EBTR**			0.89	489	64	1	1.00	1.0	8.7	14	105.0	200
PM	**EBR**	300	0%	0.89	300								
PM	**NBT**	218	2%	0.89	250	64	1	1.00	1.0	4.4	8	60.0	35
PM	**NBTR**			0.89	470	64	1	1.00	1.0	8.4	13	97.5	35
PM	**NBR**	220	1%	0.89	220								
PM	**SBL**	15	0%	0.89	17	64	1	1.00	1.0	0.3	1	7.5	200
PM	**SBT**	160	0%	0.89	180	64	2	2.00	0.5	1.6	4	30.0	130

Note: EBL and EBT consolidated analysis into EBLT;
EBT + EBR consolidated analysis into EBTR

Left and Through Movement Equation

Source: MTO Traffic Signal Operating & Timing Policy, Section 3.1 (dated October 1, 2012)

$$m = \frac{V_{Le} \times C}{3600 \times n}$$

m = vehicle arrival rate
VLe = Vehicle volume
C = cycle length
n = number of lanes

Right Turn Movement Equation

Source: TAC Geometric Design Guide for Canadian Roads, Section 9.14.4

At signalized intersections, the storage lane length should accommodate about 1.5 times the average number of vehicles to be stored per cycle for roadways with design speeds of 60 km/h or less, and about twice the average number of vehicles for design speeds greater than 60 km/h.

INTERSECTION: QEW EB / Christie St (Grimsby ON)
SCENARIO Future Total (2035)
TYPE: URBAN
QUEUE PERCENTILE 95%
SPACING: 7.5 m / vehicle
Christie Speed 50 km/h
QEW EB Speed 100 km /h

Legend

PCPH	equivalent passenger car volume
C	cycle length in seconds
n	number of lanes
f*	volume split factor of busiest lane over multiple lanes
m	vehicle arrival rate

Peak Hour	Movement	Volume	Heavy Vehicle %	PHF	PCPH	C	n		f*	m	Design Queue (veh)	Design Queue (m)	Storage Length (m)
AM	**EBL**	45	3%	0.92	50								
AM	**EBLT**			0.92	142	64	1	1.00	1.0	2.5	5	37.5	200
AM	**EBT**	83	2%	0.92	92								
AM	**EBTR**			0.92	312	64	1	1.00	1.0	5.5	10	75.0	200
AM	**EBR**	220	4%	0.92	220							0.0	0
AM	**NBT**	248	3%	0.92	278	64	1	1.00	1.0	4.9	9	67.5	35
AM	**NBTR**			0.92	383	64	1	1.00	1.0	6.8	11	82.5	35
AM	**NBR**	105	3%	0.92	105								
AM	**SBL**	30	4%	0.92	34	64	1	1.00	1.0	0.6	2	15.0	200
AM	**SBT**	168	2%	0.92	186	64	2	2.00	0.5	1.7	4	30.0	130
PM	**EBL**	100	0%	0.89	112								
PM	**EBLT**			0.89	318	64	1	1.00	1.0	5.7	10	75.0	200
PM	**EBT**	183	0%	0.89	206								
PM	**EBTR**			0.89	536	64	1	1.00	1.0	9.5	15	112.5	200
PM	**EBR**	330	0%	0.89	330							0.0	0
PM	**NBT**	230	2%	0.89	264	64	1	1.00	1.0	4.7	9	67.5	35
PM	**NBTR**			0.89	504	64	1	1.00	1.0	9.0	14	105.0	35
PM	**NBR**	240	1%	0.89	240								
PM	**SBL**	20	0%	0.89	22	64	1	1.00	1.0	0.4	2	15.0	200
PM	**SBT**	168	0%	0.89	189	64	2	2.00	0.5	1.7	4	30.0	130

Note: EBL and EBT consolidated analysis into EBLT;
EBT + EBR consolidated analysis into EBTR

Left and Through Movement Equation

Source: MTO Traffic Signal Operating & Timing Policy, Section 3.1 (dated October 1, 2012)

$$m = \frac{V_{Le} \times C}{3600 \times n}$$

m = vehicle arrival rate
VLe = Vehicle volume
C = cycle length
n = number of lanes

Right Turn Movement Equation

Source: TAC Geometric Design Guide for Canadian Roads, Section 9.14.4

At signalized intersections, the storage lane length should accommodate about 1.5 times the average number of vehicles to be stored per cycle for roadways with design speeds of 60 km/h or less, and about twice the average number of vehicles for design speeds greater than 60 km/h.

INTERSECTION: QEW EB / Christie St (Grimsby ON)
SCENARIO Future Total (2040)
TYPE: URBAN
QUEUE PERCENTILE 95%
SPACING: 7.5 m / vehicle
Christie Speed 50 km/h
QEW EB Speed 100 km /h

Legend

PCPH	equivalent passenger car volume
C	cycle length in seconds
n	number of lanes
f*	volume split factor of busiest lane over multiple lanes
m	vehicle arrival rate

Peak Hour	Movement	Volume	Heavy Vehicle %	PHF	PCPH	C	n		f*	m	Design Queue (veh)	Design Queue (m)	Storage Length (m)
AM	**EBL**	45	3%	0.92	50								
AM	**EBLT**			0.92	150	64	1	1.00	1.0	2.7	5	37.5	200
AM	**EBT**	90	2%	0.92	100								
AM	**EBTR**			0.92	340	64	1	1.00	1.0	6.0	10	75.0	200
AM	**EBR**	240	4%	0.92	240								
AM	**NBT**	265	3%	0.92	297	64	1	1.00	1.0	5.3	9	67.5	35
AM	**NBTR**			0.92	412	64	1	1.00	1.0	7.3	12	90.0	35
AM	**NBR**	115	3%	0.92	115								
AM	**SBL**	35	4%	0.92	40	64	1	1.00	1.0	0.7	2	15.0	200
AM	**SBT**	175	2%	0.92	194	64	2	2.00	0.5	1.7	4	30.0	130
PM	**EBL**	110	0%	0.89	124								
PM	**EBLT**			0.89	349	64	1	1.00	1.0	6.2	11	82.5	200
PM	**EBT**	200	0%	0.89	225								
PM	**EBTR**			0.89	590	64	1	1.00	1.0	10.5	16	120.0	200
PM	**EBR**	365	0%	0.89	365								
PM	**NBT**	240	2%	0.89	275	64	1	1.00	1.0	4.9	9	67.5	35
PM	**NBTR**			0.89	535	64	1	1.00	1.0	9.5	15	112.5	35
PM	**NBR**	260	1%	0.89	260								
PM	**SBL**	20	0%	0.89	22	64	1	1.00	1.0	0.4	2	15.0	200
PM	**SBT**	175	0%	0.89	197	64	2	2.00	0.5	1.8	4	30.0	130

Note: EBL and EBT consolidated analysis into EBLT;
EBT + EBR consolidated analysis into EBTR

Left and Through Movement Equation

Source: MTO Traffic Signal Operating & Timing Policy, Section 3.1 (dated October 1, 2012)

$$m = \frac{V_{Le} \times C}{3600 \times n}$$

m = vehicle arrival rate
VLe = Vehicle volume
C = cycle length
n = number of lanes

Right Turn Movement Equation

Source: TAC Geometric Design Guide for Canadian Roads, Section 9.14.4

At signalized intersections, the storage lane length should accommodate about 1.5 times the average number of vehicles to be stored per cycle for roadways with design speeds of 60 km/h or less, and about twice the average number of vehicles for design speeds greater than 60 km/h.

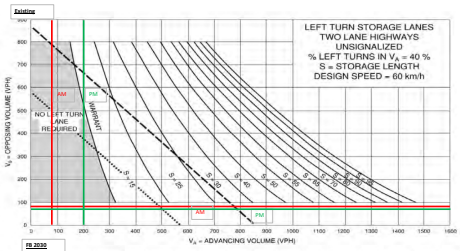
UNSIGNALIZED LEFT TURN LANE WARRANT (2-Lane)

Maple Ave NBL @ OEW WB Ramps

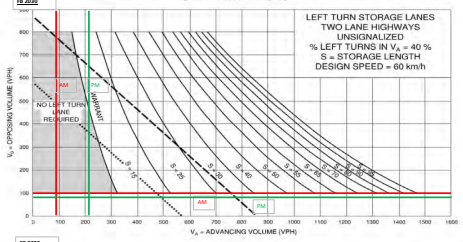
INPUTS

	Existing		FB 2030		FB 2035		FB 2040		FT 2030		FT 2035		FT 2040	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Advancing Volume (V_A)	80	200	95	210	105	230	110	240	95	210	105	230	110	245
Opposing Volume (V_O)	70	70	100	85	105	90	110	95	105	85	105	90	110	95
Left Turn Volume	60	50	65	95	75	110	80	120	65	95	75	110	80	120
Percentage Left Turns in V_A	75%	45%	68%	45%	71%	48%	73%	49%	68%	45%	71%	48%	73%	49%
Design Speed (km/h)	60	60	60	60	60	60	60	60	60	60	60	60	60	60

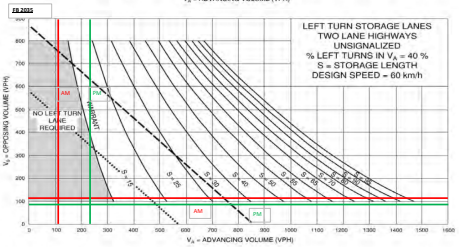
Existing



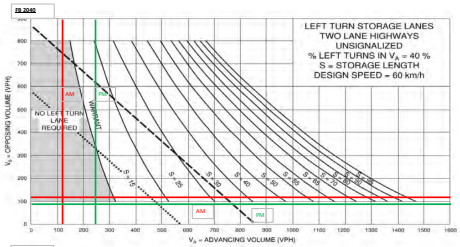
FB 2030



FB 2035



FB 2040



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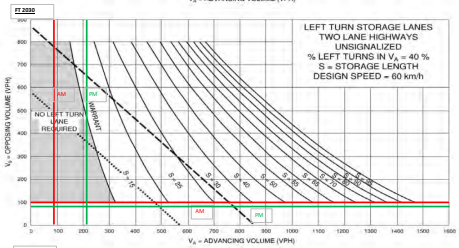

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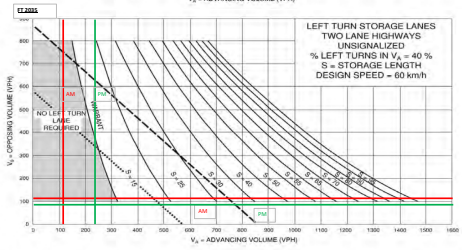
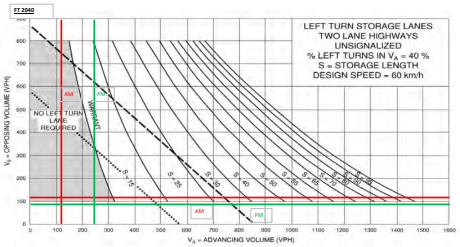


FT 2040



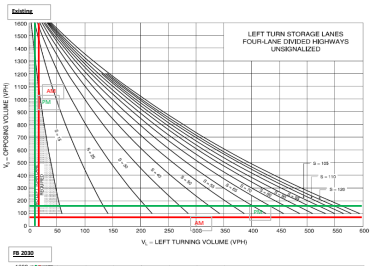
UNSIGNALIZED LEFT TURN LANE WARRANT (4-Lane Divided)

Maple Ave SBL @ QEW EB Ramps

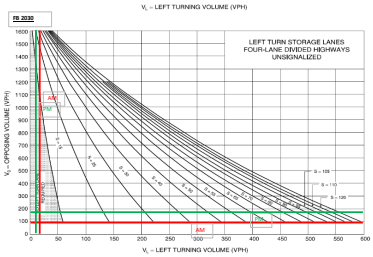
INPUTS

	Existing		FB 2030		FB 2035		FB 2040		FT 2030		FT 2035		FT 2040	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Left Turn Volume (V_{LT})	20	10	20	10	20	10	25	15	20	10	25	15	25	15
Opposing Volume (V_{OP})	75	160	90	165	100	180	105	190	90	165	100	180	105	190

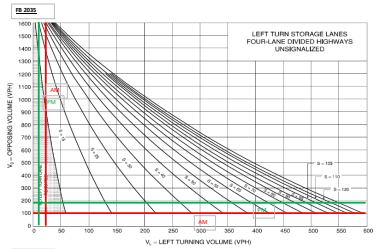
Existing



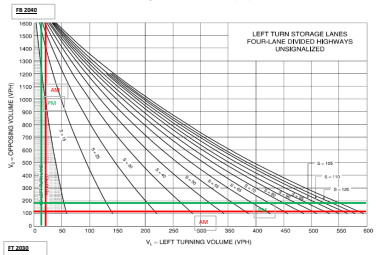
FB 2030



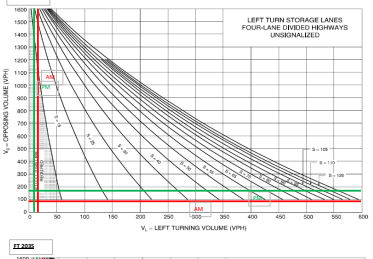
FB 2035



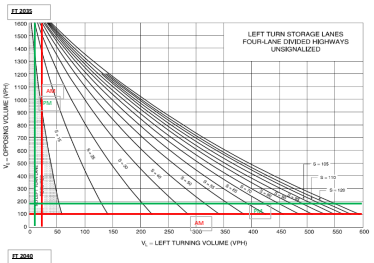
FB 2040



FT 2030



FT 2035



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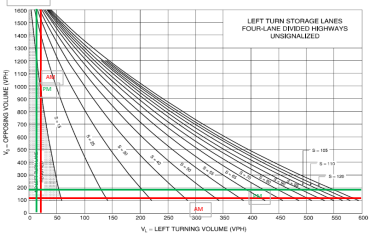


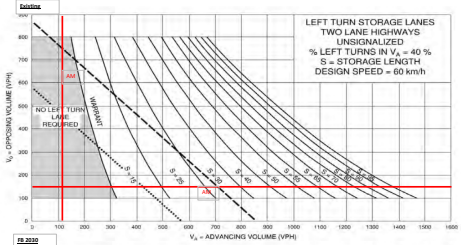
UNSIGNALIZED LEFT TURN LANE WARRANT (2-Lane)

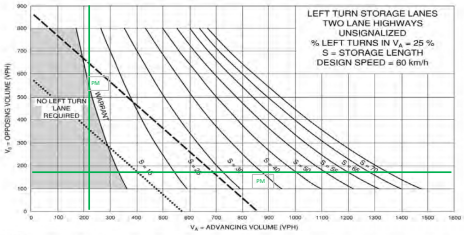
Ontario St NBL @ OEW WB Ramps

INPUTS

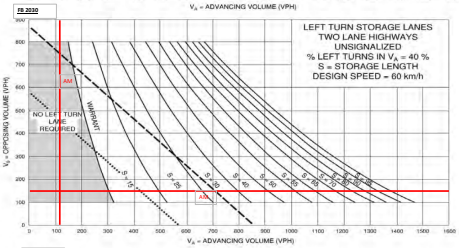
	Existing		FB 2030		FB 2035		FB 2040		FT 2030		FT 2035		FT 2040	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Advancing Volume (V_A)	110	205	120	220	125	230	130	240	135	210	140	250	150	255
Opposing Volume (V_O)	150	170	155	175	160	180	165	185	155	175	160	180	165	185
Left Turn Volume	45	45	55	55	60	60	65	65	70	65	75	70	80	75
Percentage Left Turns in V_A	41%	22%	46%	25%	48%	26%	48%	27%	52%	28%	54%	28%	53%	29%
Design Speed (km/h)	60	60	60	60	60	60	60	60	60	60	60	60	60	60

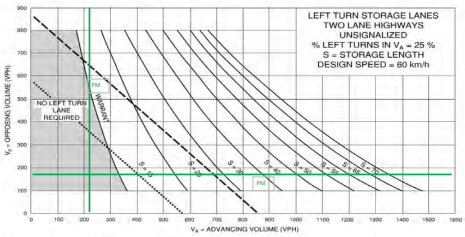
Existing



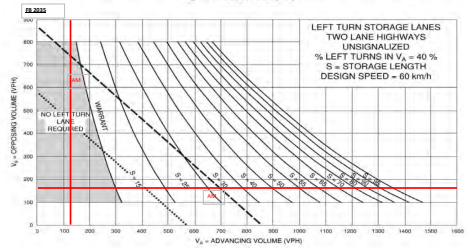


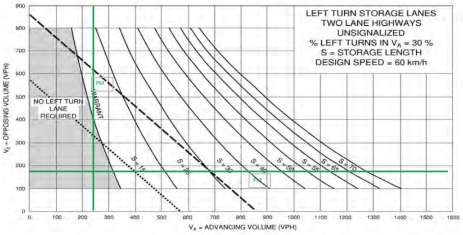
FB 2030



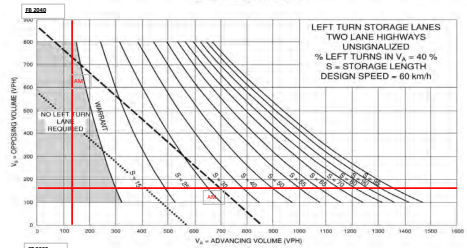


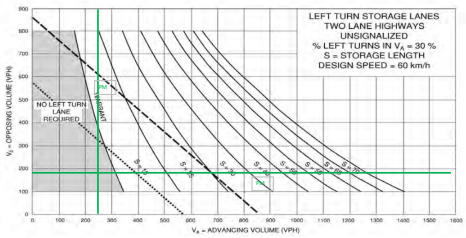
FB 2035



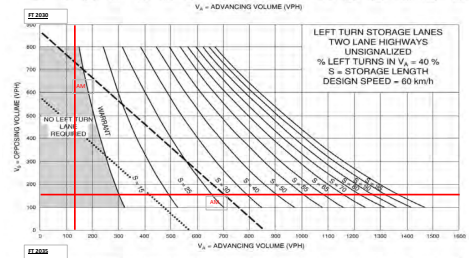


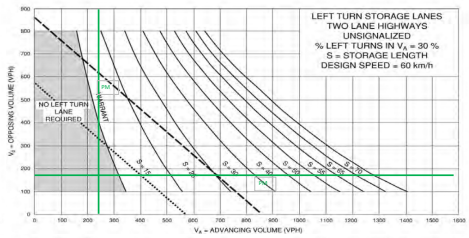
FB 2040



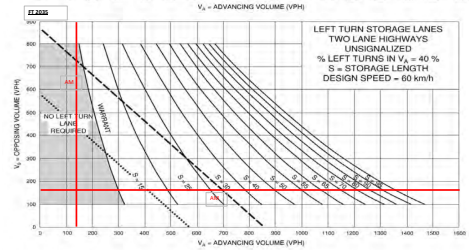


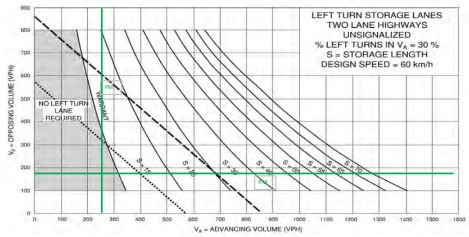
FT 2030



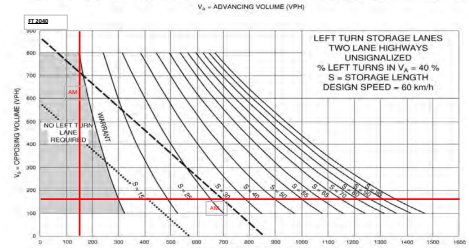


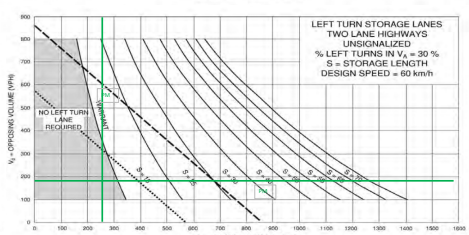
FT 2035





FT 2040





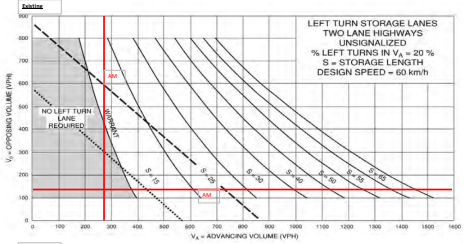
UNSIGNALIZED LEFT TURN LANE WARRANT (2-Lane)

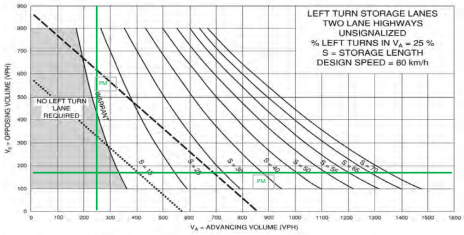
Ontario St SBL @ OEW EB Ramps

INPUTS

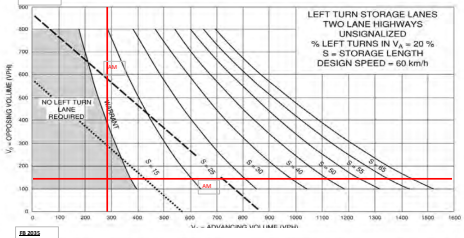
	Existing		FB 2030		FB 2035		FB 2040		FT 2030		FT 2035		FT 2040	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Advancing Volume (V_A)	280	240	295	255	315	265	330	280	300	275	320	285	335	300
Opposing Volume (V_O)	115	175	130	185	130	150	135	195	145	195	145	200	150	205
Left Turn Volume	50	55	55	55	60	60	65	65	55	55	60	60	65	65
Percentage Left Turns in V_A	18%	23%	19%	22%	19%	23%	20%	23%	18%	20%	19%	21%	19%	22%
Design Speed (km/h)	60	60	60	60	60	60	60	60	60	60	60	60	60	60

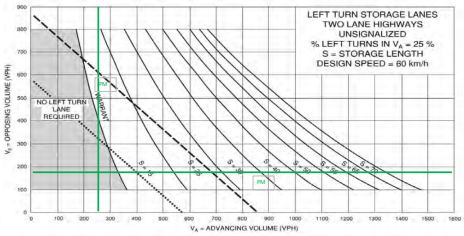
Existing



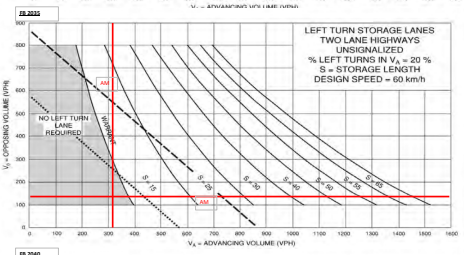


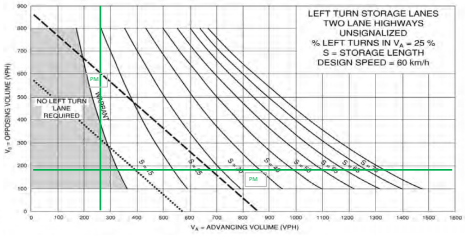
FB 2030



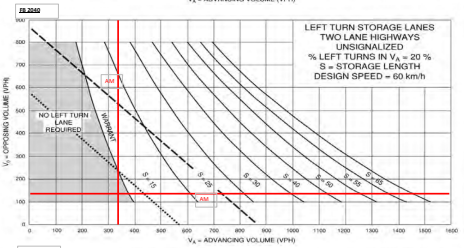


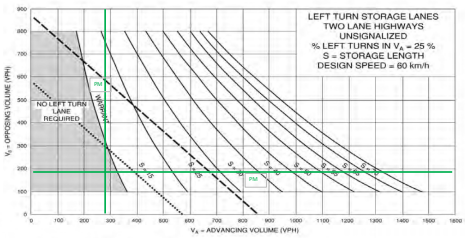
FB 2035



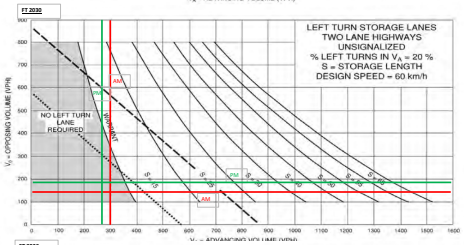


FB 2040

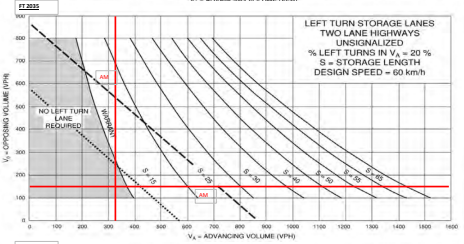


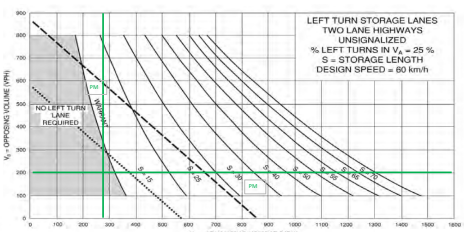


FT 2030

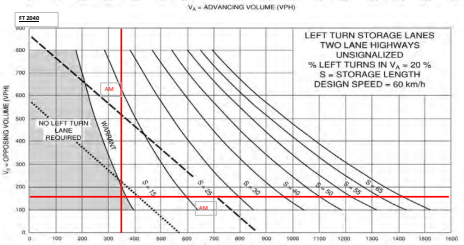


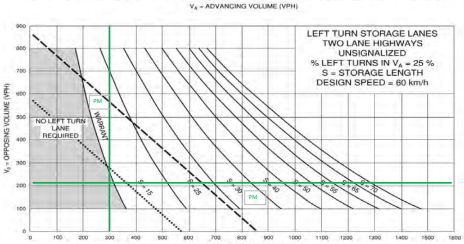
FT 2035





FT 2040





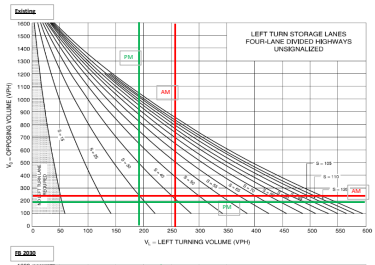
UNSIGNALIZED LEFT TURN LANE WARRANT (4-Lane Divided)

Christie St NBL @ QEW WB Ramps

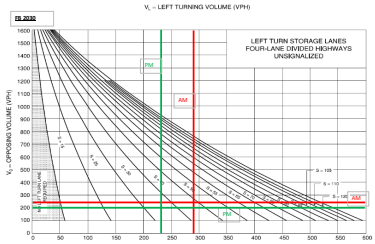
INPUTS

	Existing		FB 2030		FB 2035		FB 2040		FT 2030		FT 2035		FT 2040	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Left Turn Volume (V_{LT})	255	195	290	235	320	260	355	280	295	235	320	260	355	280
Opposing Volume (V_{OP})	225	200	230	200	230	205	235	205	230	205	230	205	235	205

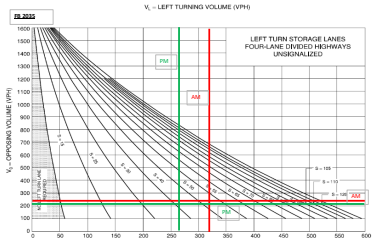
Existing



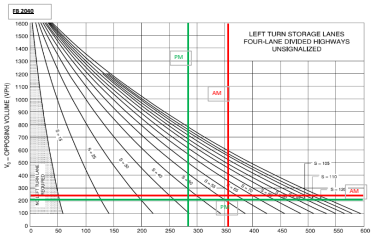
FB 2030



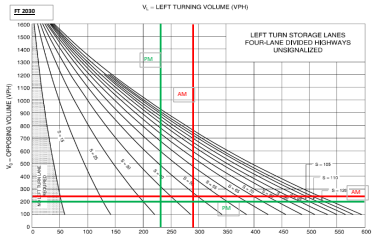
FB 2035



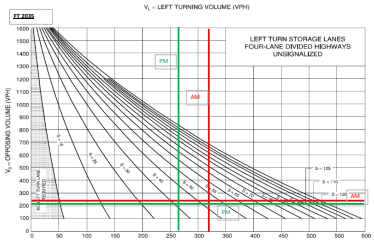
FB 2040



FT 2030



FT 2035



FT 2040