

930 – 1010 Somerset Street

Transportation Impact Assessment



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Table of Contents

1	Scoping Report.....	1
1.1	Existing And Planned Conditions	1
1.1.1	Proposed Development	1
1.1.2	Existing Conditions	4
1.1.3	Planned Conditions	13
1.2	Study Area and Time Periods	19
1.2.1	Study Area.....	19
1.2.2	Time Periods	19
1.2.3	Horizon Years	19
1.3	Exemptions Review	20
2	Forecasting Report.....	21
2.1	Development Generated Travel Demand.....	21
2.1.1	Trip Generation.....	21
2.1.2	Trip Distribution	23
2.1.3	Trip Assignment.....	24
2.2	Background Network Travel Demand	26
2.2.1	Transportation Network Plans	26
2.2.2	General Background Growth.....	26
2.2.3	Other Area Development.....	26
2.3	Demand Rationalization	28
2.3.1	Future Total Traffic – Phase 1	29
2.3.2	Future Total Traffic – Phase 2.....	31
2.3.3	Future Total Traffic – Phase 3.....	32
2.3.4	Future Total Traffic – Phase 4.....	32
3	Strategy Report.....	38
3.1	Development Design	38
3.1.1	Design for Sustainable Modes	38
3.1.2	Circulation and Access	40
3.2	Parking	42
3.3	Boundary Street Design	43
3.4	Transportation Demand Management.....	44
3.4.1	Context for Post-Occupancy TDM Measures.....	44
3.4.2	Need and Opportunities for TDM Measures	44
3.4.3	TDM Program Measures	44
3.4.4	Implementation Plan.....	45
3.5	Transit.....	45
3.5.1	Future Site Generated Transit Demand	45
3.5.2	Transit Impacts	45
3.5.3	Transit Priority Measures.....	46
3.6	Intersection Design	46
3.6.1	Access Intersections.....	46
3.6.2	Intersection Capacity Analysis Methodology.....	48
3.6.3	Existing Intersection Controls	48
3.6.4	Existing Conditions	49
3.6.5	Phase 1 (Elementary School).....	53
3.6.6	Phase 2 (Affordable Housing)	56
3.6.7	Phase 3 (Market-Rate Housing).....	60



3.6.8	Phase 4 (Recreational and Cultural Centre)	62
3.7	Summary of Findings.....	1
3.8	Recommendations.....	2

List of Tables

Table 1: Study Intersections.....	5
Table 2: Somerset Street West - Collision Data	11
Table 3: Collisions data by mode	12
Table 4: Proposed Transit Network Improvements	15
Table 5: Future Developments around the Study Area	17
Table 6: Trip Generation Rates by Land-Use type	21
Table 7: Person Trip Generation by Land-Use type	22
Table 8: Multi-Modal Trips per Land-Use type.....	23
Table 9: Direction Trip Distribution.....	23
Table 10: Background Developments.....	27
Table 11: Breakdown of the Analysis Phases.....	28
Table 12: Phase 1 Critical Intersection Movements	31
Table 13: Phase 2 Critical Intersection Movements	31
Table 14: Phase 3 Critical Intersection Movements	32
Table 15: Phase 4 Critical Intersection Movements	32
Table 16: Minimum Vehicle Parking Requirements	42
Table 17: Minimum Bike Parking Requirement.....	42
Table 18: MMLOS Segment Analysis	43
Table 19: Level of Service Threshold	48
Table 20: Study Intersection MMLOS – Existing Conditions	49
Table 21: Intersection Turning Movement Operations - Existing Conditions.....	52
Table 22: Study Intersections MMLOS – Phase 1 Future Conditions	53
Table 23: Intersection Turning Movement Operations - Phase 1 Background Conditions.....	54
Table 24: Intersection Turning Movement Operations - Phase 1 Future Conditions.....	55
Table 25: Study Intersections MMLOS – Phase 2 Future Conditions	56
Table 26: Intersection Turning Movement Operations - Phase 2 Background Conditions.....	58
Table 27: Intersection Turning Movement Operations - Phase 2 Future Conditions.....	59
Table 28: Study Intersections MMLOS – Phase 3 Future Conditions	60
Table 29: Intersection Turning Movement Operations - Phase 3 Future Conditions.....	61
Table 30: Intersection Turning Movement Operations - Phase 4 Background Conditions.....	63
Table 31: Intersection Turning Movement Operations - Phase 4 Future Conditions.....	64
Table 32: Intersection operations with optimized STP	65

List of Figures

Figure 1: Corso Italia Station District Study Area	2
Figure 2: Study Area	5
Figure 3: Active Transportation Connections around the Study Area	7
Figure 4: Existing Traffic Volumes	10
Figure 5: O-Train Line 2 and Line 4 routes	16
Figure 6: New Ways to Bus - Revised Transit Network.....	16
Figure 7: Background Development around the Study Area	18
Figure 8: Total Site Generated Trips.....	25
Figure 9: Phase 1 Future Total Traffic	34
Figure 10: Phase 2 Future Total Traffic	35
Figure 11: Phase 3 Future Total Traffic	36
Figure 12: Phase 4 Future Total Traffic	37



Figure 13: Design for Sustainable Modes - Existing infrastructure.....	38
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List of Appendices

- Appendix A TIA Screening Form**
- Appendix B Concept Plan**
- Appendix C Traffic Count and Signal Timing Plans**
- Appendix D Trip Generation Datasheet**
- Appendix E MMLOS Guidelines Excerpts**
- Appendix F Synchro Analysis Results**



1 Scoping Report

1.1 Existing And Planned Conditions

1.1.1 Proposed Development

Stantec has been retained by the City of Ottawa (“the City”) to conduct a Transportation Impact Assessment for a proposed mixed-use development in the City’s downtown location, replacing the existing Impark facility at the municipal address of 1010 Somerset Street West. The proposed development will include approximately 150 affordable housing units and 150 market-rate housing units, an elementary school, a recreational and cultural facility, and a 1-hectare public park. The study area is primarily composed of a mix of commercial land uses and low-to-medium density residential uses. The subject site is bounded by Somerset Street West to the north, Oak Street to the south, the O-Train rail (future Trillium Line 2) corridor to the west, and Preston Street to the east.

The subject site is located within the Downtown Core Transect Hub, as designated in Schedule A of the City’s Official Plan. The Downtown Core serves as the centre of the regional public transit system and is a key economic and administrative hub for the greater Ottawa Metropolitan area. The Downtown Core Transect focuses on:

- Preserving and enhancing the urban form by encouraging development that supports 15-minute neighborhoods with mixed uses, high employment density, and cultural assets;
- Prioritizing active transportation, including walking, cycling, and public transit within the Downtown Core;
- Allowing high-rise buildings, especially those over 41 storeys, in Core Hubs; and
- Supporting residential growth in accordance with the Growth Management Framework.¹

The area of the subject site is identified as a **Hub** under Schedule B1 and is part of the **Protected Major Transit Station Area (PMTSA)** under Schedule C1. As a Hub, the area is planned for higher-density development and a mix of land-uses centered around rapid transit, supporting both residential and employment functions. The PMTSA designation further encourages compact, transit-oriented growth, with specific policies to increase density and discourage low-density and auto-oriented uses.

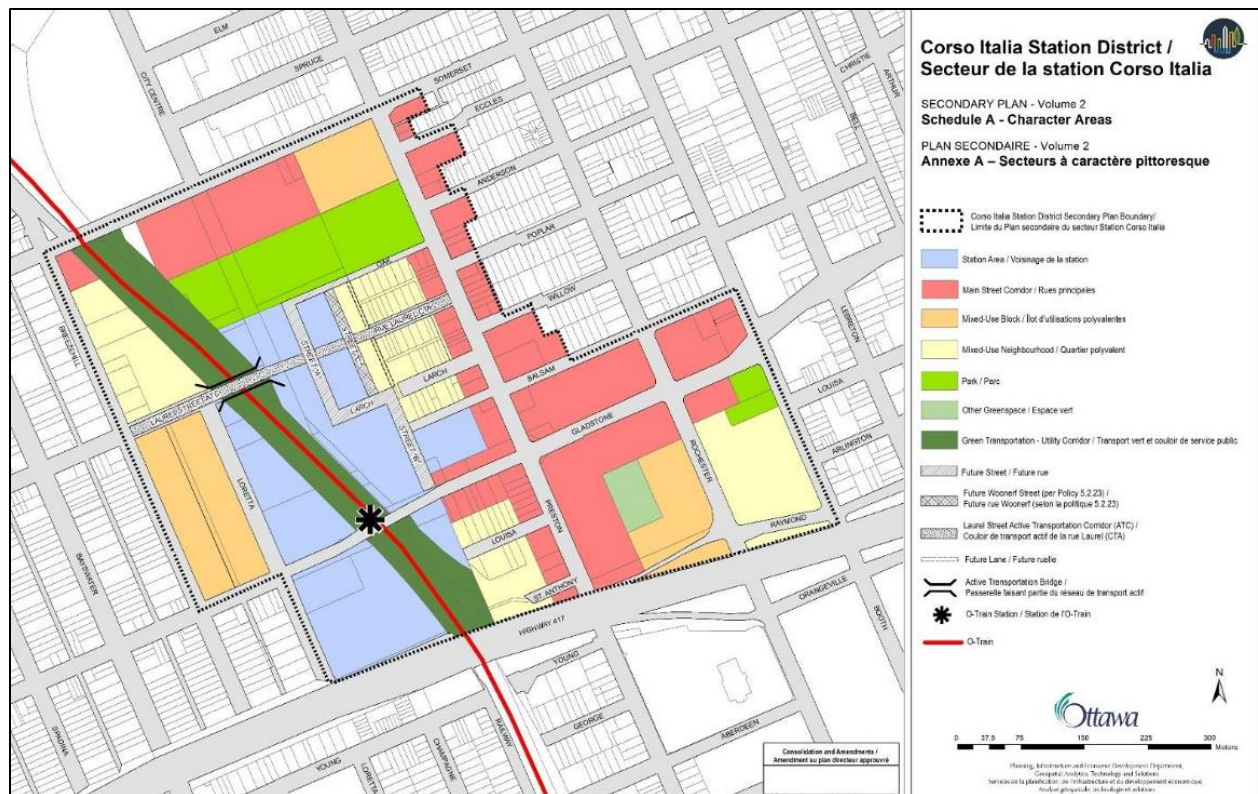
The study area is also part of the **Corso Italia Station Secondary Plan** which was created to direct private development and investments over the next 25 years, aiming to build a livable, sustainable and a transit-oriented community around the planned Corso Italia Station area that will service the future Trillium Line 2. The plan emphasizes sustainable transportation and seeks to integrate transit and active transportation infrastructure throughout the area to support a more accessible and environmentally

¹ City of Ottawa’s Official Plan – Schedule A



conscious neighborhood. The Corso Italia Secondary Plan area is bounded by Somerset Street to the north, Highway 417 to the south, Breezehill Avenue and Loretta Avenue (south of Gladstone Avenue) to the west, and Preston Street (including properties facing Preston Street on its east side) and Booth Street (south of Balsam Street) to the east. See **Figure 1** for the study area.

Figure 1: Corso Italia Station District Study Area



The proposed development comprises the following Institute of Transportation Engineers (ITE) Land Use Codes (LUC):

- Multi-Family Mid-Rise Residential (LUC-221)
- Multi-Family High-Rise Residential (LUC-222)
- Recreation Centre (LUC-495)
- Elementary School (LUC-520)

The development will be constructed in multiple phases, starting with the construction of the elementary school, which is scheduled for completion and occupancy by 2028. This will be followed by the addition of 150 affordable housing units, the public park, the 150 market-rate housing units, and finally, the construction of the recreational and cultural facility. Full build-out and occupancy of the proposed development is anticipated by 2038 and will feature the following access points:



- A signalized intersection on Somerset Street West, providing access to the residences and the recreational and cultural facility;
- Shared use of the western access point of the existing Plant Recreation Centre to allow service vehicles access to the recreational and cultural facility, while also accommodating inbound school bus traffic and other school related traffic;
- A new unsignalized access to Oak Street, for outbound school bus traffic only;
- A new pathway along City Centre Avenue, running under Somerset Street West as part of the Corso Italia Station Secondary Plan, providing cyclists and pedestrians access to both the subject site and the future 933 Gladstone Avenue site located to the south.



1.1.2 Existing Conditions

1.1.2.1 Roads and Traffic Control

The roadways and intersections under consideration in the study area are described as follows:

Somerset Street West	Somerset Street West is classified as an urban arterial road with a two-lane cross-section and a posted speed limit of 50 km/h. It serves as a significant east-west route, facilitating the movement of vehicles and providing access to various residential and commercial land-uses. Somerset Street West is also designated as an urban truck route. Somerset Street West also features an overpass west of the subject site that grade separates the road from the O-Train rail tracks. Somerset Street is also part of the transit priority corridor per the Official Plan. Somerset Street West culminate at its intersection with Garland Street and Wellington Street to the west.
Bayswater Avenue	A north-south local road primarily serving residential areas. Bayswater Avenue has a two-lane cross-section with a posted speed limit of 30 km/h and sidewalks on both sides of the road. Bayswater Avenue transitions to Bayview Station Road north of Somerset Street West. For convenience, this road will only be referred to as Bayswater Avenue.
Preston Street	Preston Street is an urban arterial road with a two-lane cross-section and an assumed speed limit of 40 km/h. Preston Street supports a mixed-use environment with restaurants, shops, and residential buildings. Preston Street is also designated as an urban truck route
Rochester Street	Rochester street is a major collector road, connecting local residential streets to the larger arterial roads in Ottawa's core. The road has an unmarked two-lane cross-section with an assumed speed limit of 40 km/h. Rochester Street also provides a connection for traffic to Trans-Canada Highway on the south. Rochester Street is designated as an urban truck route between Preston Street and Carling Avenue.
Oak Street	Oak Street is a local street connecting residences to Preston Street. There is a sidewalk on the south side of and on-street parking on the north side of the road. There are plans for Oak Street extension as part of the new Gladstone Village subdivision proposed west of Preston Street, south of the subject site.

The municipal intersections within the study area are listed in

Table 1, along with their corresponding traffic control measures. The lane configurations at each intersection are depicted in **Figure 2**.



Table 1: Study Intersections

Intersection	Traffic Control
Somerset Street West / Bayswater Avenue	Signalized
Somerset Street West / Preston Street	Signalized
Somerset Street West / Rochester Street	Signalized
Preston Street / Oak Street	One-Way Stop Controlled (Oak Street)

Figure 2: Study Area



1.1.2.2 Existing Driveways in the Study Area

There are several existing driveways within 200m of the proposed site driveway, which have been listed below:

- South-west of Somerset Street West / Preston Street:
 - » One driveway providing access to the existing Impark facility (commercial).
 - » One single-vehicle driveway for the restaurant east of the Impark facility (commercial)
 - » Two driveways for Ottawa's Plant Recreation facility, approximately 65m and 110m away from the proposed site driveway (commercial).
- North-west of Somerset Street West / Preston Street:
 - » One driveway directly north of the Impark facility driveway (commercial).
 - » One driveway for a public parking lot, 120m away from the site driveway (commercial).
- South-east of Somerset Street West / Preston Street:
 - » Two driveways for Kal Tire, approximately 180m and 200m away from the site driveway (commercial)
- North-east of Somerset Street West / Preston Street:
 - » One driveway for a residential building, approximately 180m away from the site driveway (residential).
 - » One driveway for a residential parking lot, approximately 200m away from the site driveway (residential)

1.1.2.3 Active Transportation Facilities

Somerset Street West – Sidewalks are present on both sides of the road, supporting east-west pedestrian movements through the corridor. There is a shared bike lane along Somerset Street West with sharrows, which transitions to a separated lane with bollards at the overpass to enhance safety for cyclists crossing the bridge.

Preston Street – Sidewalks are present on both sides of the road, which accommodate both pedestrian flow and outdoor seating for cafes and restaurants. Preston Street does not have any bike routes.

Bayswater Avenue – Sidewalks are present on both sides of the road in addition to an unmarked suggested bike route connecting cyclists to Scott Street on the north and Gladstone Avenue on the south.

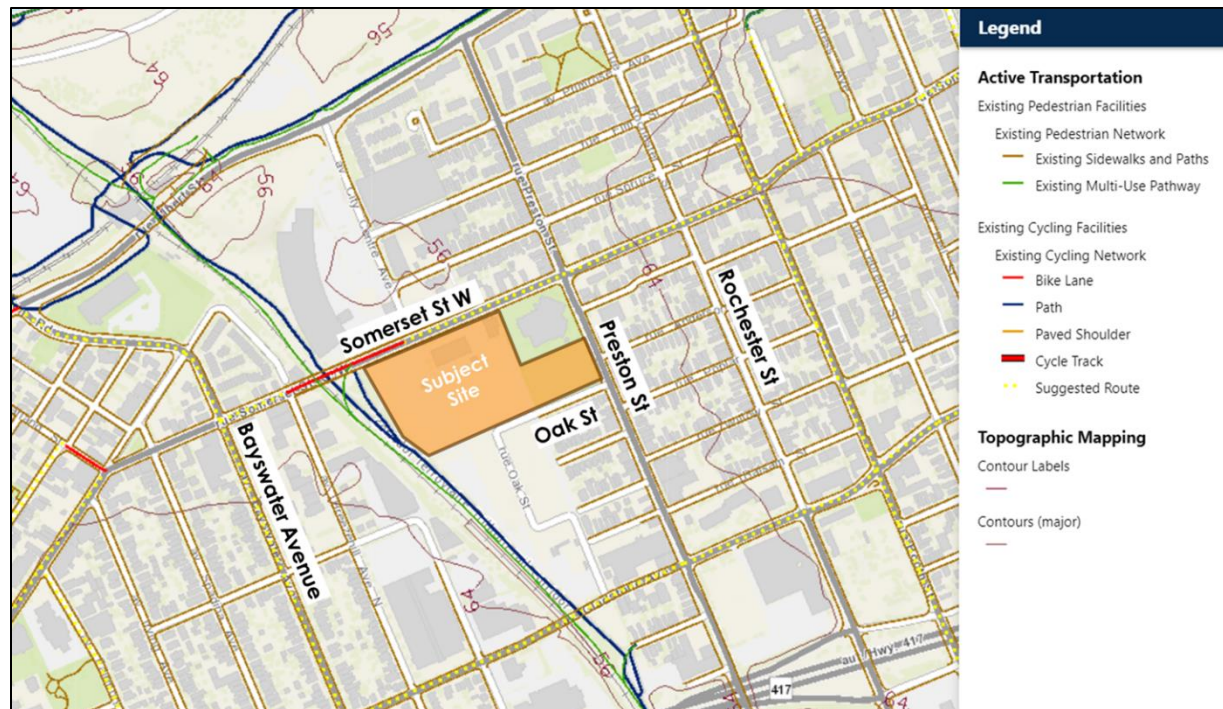
Rochester Street – Sidewalks are present on both sides of the road.

Oak Street – Sidewalks are present on both sides of the road.

Trillium Pathway – A Multi-Use Pathway (MUP) that runs parallel along the north-south O-Train tracks immediately west of the subject site. The Trillium MUP provides a direct off-road connection for pedestrians and cyclists to the Bayview Station on north and the Corso Italia Station on the south, which serve as key transit hubs. The MUP can be accessed via the Somerset Street West overpass, on the south side of the road



Figure 3: Active Transportation Connections around the Study Area



1.1.2.4 Transit

The transit network around the subject site is robust, with a mix of light rail, bus routes, and multi-modal connections that support both daily commutes and regional travel. The proximity to major transit hubs further strengthens accessibility, making the site a well-connected location within the city's transportation framework. The area benefits from proximity to key transit hubs and multiple bus routes, supported by the City's light rail infrastructure.

The site is conveniently located near two O-Train stations, both accessible via the Trillium Multi-Use Pathway (MUP), facilitating easy access for pedestrians and cyclists:

1. Bayview Station

- Functions as a major transit interchange, serving the Confederation Line (Line 1) and the future Trillium Line (Line 2).
- Provides connections to downtown Ottawa and key areas east and west, in addition to acting as a hub for various bus routes.

2. Corso Italia Station

- Part of the Stage 2 O-Train expansion project, the station will serve Line 2 and the new Line 4.



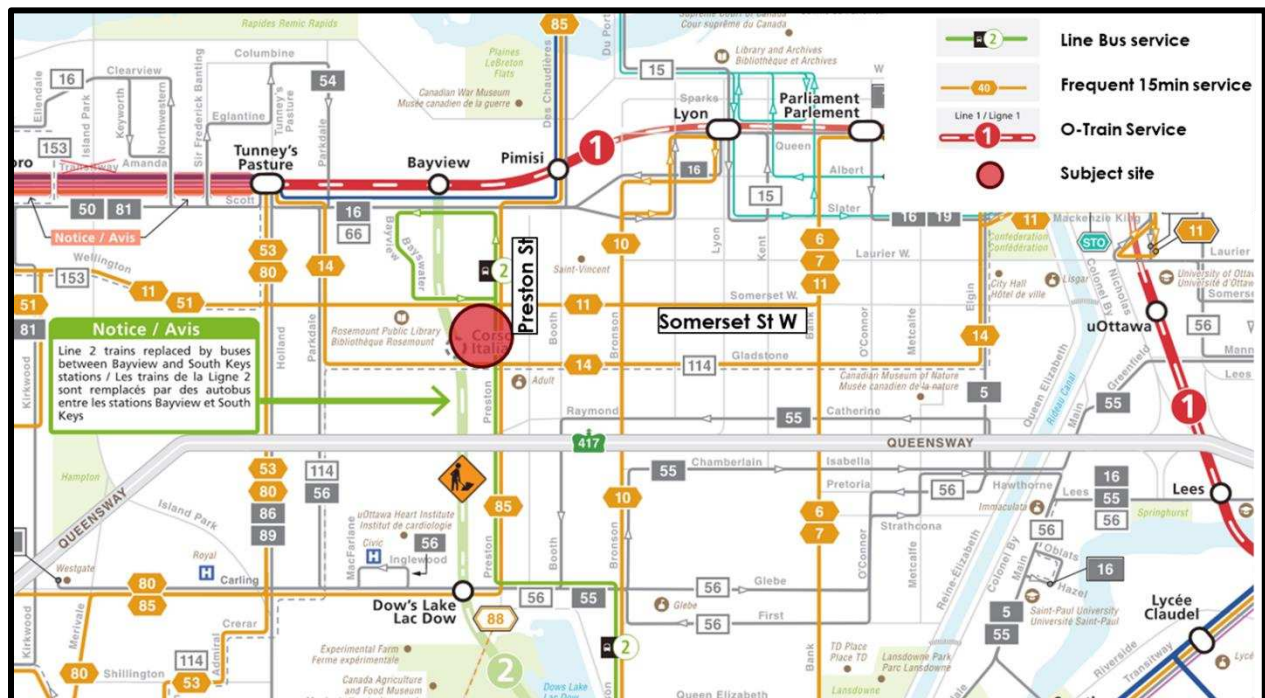
930 – 1010 Somerset Street

1 Scoping Report

- Located north of Gladstone Avenue, it provides access to the Corso Italia neighborhood and surrounding areas such as Hintonburg and Hintonburg.
- The station offers features for cyclists with bike parking spaces and pedestrian-friendly crosswalks.

Several OC Transpo bus routes also serve the area, with **Somerset Street West** being a primary corridor for bus transit. Key routes include:

- **Route 85**, which runs along Preston Street, providing service between Bayshore Station to the west and St. Laurent Station to the east. This route passes through important neighborhoods, including Hintonburg, Centretown, and downtown Ottawa.
- **Route 11**, which operates along Somerset Street West, providing east-west service through the city, connecting key locations such as Bayshore, Lincoln Fields, Westboro, Tunney's Pasture, and Rideau Centre. The **Rideau Centre** and **Tunney's Pasture** are major destinations that are easily accessible from the study area via the O-Train or bus routes. These hubs provide further connections to routes throughout the city and beyond, including intercity transit options.
- **Line 2** bus service (the temporary replacement for the O-Train Trillium Line during construction) which operates along **Preston Street**, providing a key north-south connection between **Bayview Station** and **South Keys Station**.



1.1.2.5 Traffic Management Measures

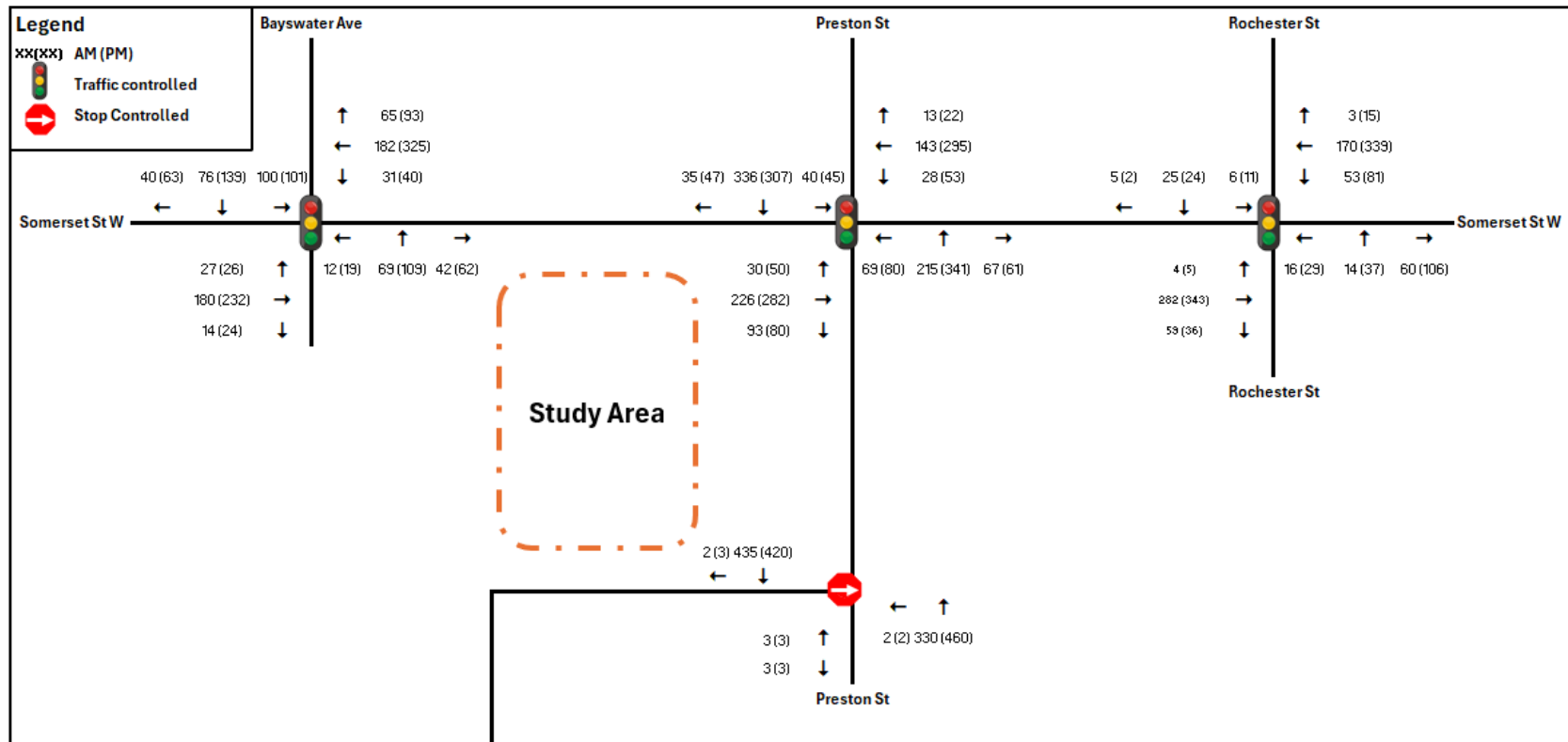
There are currently no traffic management measures in the vicinity of the subject development.

1.1.2.6 Traffic Volumes

The City provided Traffic Movement Counts (TMC) collected for intersections along Somerset Street West between 2022 and 2023. TMCs for Preston Street at Oak Street were sourced from the Gladstone Village development TIA (2020). No growth rate has been applied to the TMCs to forecast 2024 volumes, as the road network is present in the downtown core, where traffic volumes have been steadily declining due to the well-established transit and active transportation connectivity. A volume balancing exercise was also performed to align TMCs from different years, ensuring accurate reflection of existing and future background conditions. However, some imbalance remains between study intersections due to the presence of residential and commercial driveway accesses in the area.



Figure 4: Existing Traffic Volumes



1.1.2.7 Collision History

The City provided collision data for Somerset Street West between Preston Street and Breezehill Avenue for the five-year period from 2018 to 2022. A total of 20 collisions were reported, with 50% resulting in property damage only and the other 50% involving non-fatal injuries. Approximately 25% of the collisions in the studied segment involved motor vehicles and cyclists.

At the intersection of Somerset Street West and Preston Street, 11 collisions were recorded, representing 55% of the total collisions in the study area. Of these, 55% resulted in property damage only, while 45% involved non-fatal injuries. 6 out of 11 (55%) of these collisions involved turning movements. A review of the collision data found that most collisions were due to failure to yield to vehicles with the right-of-way.

8 out of 20 collisions (40%) occurred along the road segment between Preston Street and Breezehill Avenue fronting the northern frontage of the subject site. Of these incidents, 38% resulted in property damage only, while 62% involved non-fatal injuries. 75% of these collisions were associated with turning movements, highlighting turning as a primary factor; multiple driveways and on-street parking can be a contributing factor to the high proportion of collisions along the roadway being related to turning movements. Additionally, 38% of all collisions involved cyclists, indicating that the shared roadway on Somerset Street West likely contributes to increased opportunities for conflicts between cyclists and vehicles.; there are no cycling facilities along this stretch of Somerset Street West. Managing multiple access points, on-street parking, and cycling accommodation will be key considerations for the Traffic Impact Assessment. See **Table 2** and **Table 3** for collision data on Somerset Street West and between different modes.

Table 2: Somerset Street West - Collision Data

		Somerset St W / Preston St	Somerset St W between Preston St and Breezehill Avenue	Somerset St W / Breezehill Avenue
Classification	Property Damage Only	6	3	1
	Non-Fatal Injury	5	5	-
	Fatal Injury	-	-	-
Collision Type	Angle/Turning	6	6	-
	Rear End	1	-	1
	Single Motor Vehicle	2	1	-
	Other	2	1	-
Environmental Conditions	Clear	10	8	1
	Rain	-	-	-
	Snow	-	-	-
	Freezing Rain	1	-	-



Table 3: Collisions data by mode

Vehicle Type (caused by/with)	Cars	Motorcycle	Pick-up truck	Delivery van	Bicycle	Other	Total
Cars	35%	0%	5%	0%	15%	0%	55%
Pick-up truck	0%	5%	0%	0%	5%	5%	15%
Bus	0%	0%	0%	0%	0%	10%	10%
Bicycle	0%	0%	0%	5%	0%	0%	5%
Other	15%	0%	0%	0%	0%	0%	15%
Total	50%	5%	5%	5%	20%	15%	100%



1.1.3 Planned Conditions

1.1.3.1 Road Network

The City is currently undertaking Part 2 – Capital Infrastructure Plan of the new TMP, anticipated for release in 2025. A new list of projects in Ottawa's Ultimate Transit and Road Networks will be included as part of this phase and may introduce additional projects around the subject site. According to the Transportation Master Plan's Network Concept and Affordable Network, Preston Street is anticipated to be extended north of Albert Street, where the road may be extended as a bridge, carrying pedestrians and cyclists over the O-Train tracks.

1.1.3.2 Future Active Transportation Network

The following active transportation infrastructure improvement are being considered in the Corso Italia Station Secondary Plan around the study area:

- The City Centre Underpass and Pathway, linking City Centre Avenue to 1010 Somerset Street and the future 933 Gladstone Avenue development, providing the most direct, accessible and convenient route to significant, future redevelopments at City Centre Avenue, Albert Street, LeBreton Flats, and the Bayview O-Train Station and is anticipated to be used as a primary pedestrian and cycling corridor to and from these sites.
- An Active Transportation Corridor (ATC) will extend from the eastern cul-de-sac of Laurel Street to the Trillium Pathway, passing through the planned Gladstone Village development. This corridor will further connect to Laurel Street on the west side of the O-Train Corridor via a pedestrian and cyclist bridge.
- A new north-south MUP west of the O-Train transit corridor, continuing the route from south of the Queensway bridge to Somerset Street.
- The existing Trillium Pathway along the east side of the O-Train transit corridor is anticipated to be enhanced to include more space for both pedestrians and cyclists, create an attractive and safe public realm to support the infrastructure.

1.1.3.3 Future Transit Network

There are several major ongoing transit improvements around the subject site that are anticipated to influence the modal share characteristics in the future. It should be noted that the future improvements should be in operational condition by the time of this TIA's submission. The improvements include:

- The Stage 2 South Extension of Ottawa's Trillium Line, a key part of the city's light rail expansion, which extends the Trillium Line southward by approximately 16 kilometers, connecting it from the existing Greenboro Station to Limebank Road in Riverside South, with a new service (Line 4) directly serving the Ottawa Macdonald-Cartier International Airport. This project aims to create an efficient transit alternative to alleviate road congestion, support growth, and provide better access to the airport and nearby communities.



- The “New Ways to Bus” revised transit network initiatives that focuses on enhancing frequency, providing a better alignment with key O-Train stations (Line 1 and Line 2) and simplified routes to better serve neighbourhoods, facilitating connections across the city.

Table 4 provides further details about the proposed transit network improvements specifically within the study area. See **Figure 5** for Line 2 and Line 4 route illustrations and **Figure 6** for the revised bus network around the subject site.



Table 4: Proposed Transit Network Improvements

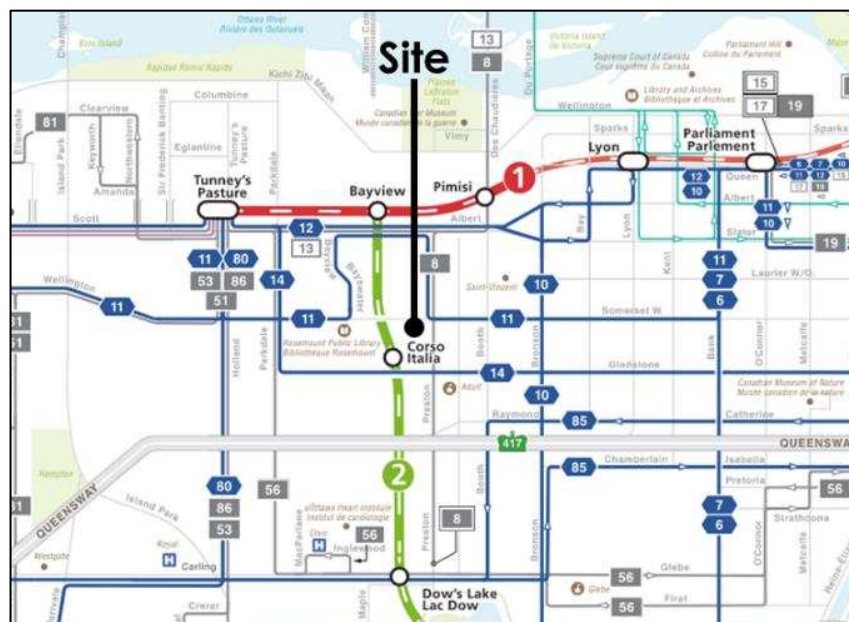
Proposed Improvements	Existing Operations	Future Operations	Anticipated Improvements	Anticipated Completion
Stage 2 Trillium Line South Extension – O-Train Line 2	Line 2 of the O-Train is currently out of service due to ongoing construction and upgrades related to its extension. The route is temporarily being serviced by Line 2 buses, which provide connections between Bayview and Southkeys stations.	Will provide a new LRT connection between Bayview Station in Little Italy to Limebank Station in Riverside.	• Reduce travel time • Anticipated 60% increase in ridership capacity	Operational by the time of this TIA submission
Stage 2 Trillium Line South Extension – O-Train Line 4	This is a new route anticipated to be introduced with Line 2 as part of Stage 2.	Will provide a new key connection to the Ottawa International Airport via Southkeys station.	• Provide frequent services to the airport. • Encourage transit over private vehicles to travel to/from the airport.	Operational by the time of this TIA submission
Preston Street Bus Route	Preston Street is currently serviced by Route 85, which runs between Terrasses de la Chaudière in Gatineau and Bayshore Station in Ottawa.	Under the revised bus network, Preston Street will be serviced by a new north-south Route 8, which will run between the Canadian Museum of History in Quebec and Dow's Lake Station along Preston Street. Route 85 will instead run east-west between Bayshore station and University of Ottawa along Carling Avenue.	• Provide a more frequent route with less stops • Will service more frequently during summer peak periods.	Operational by the time of this TIA submission
Somerset Street West Bus Route	Somerset Street West is currently serviced by Route 11, which runs between the University of Ottawa and Bayshore station.	Somerset Street West will continue to be served by Route 11, but the route will now serve Preston St, Scott Street and Bayswater Avenue before returning down to Somerset Street West.	• Will serve high-density areas, especially Preston Street and Scott Street. • Will likely provide more local route options to/from Bayview Station	Operational by the time of this TIA submission



Figure 5: O-Train Line 2 and Line 4 routes



Figure 6: New Ways to Bus - Revised Transit Network



1.1.3.4 Future Background Developments

Table 5 below shows the proposed future background developments that may influence the traffic operations around the study area. **Figure 7** shows the location of the proposed development in reference to the subject site.

Table 5: Future Developments around the Study Area

Key Plan Reference	Location	Description	Build-out Horizon
A	550 Albert St 615 Albert St 825 Albert St	This development is part of the LeBreton Flats redevelopment featuring a mix of high-density residential, office and retail type land uses, as well as approximately 12.7 hectares of parks and open spaces. The LeBreton Flats Concept Master Plan includes an option to host a new major event centre. The redevelopment is anticipated to occur in three (3) phases. The development is anticipated to generate 720 trips in the AM peak hour and 1220 trips in the PM peak hour.	Phase 1 – 2030 Phase 2 – 2040 Phase 3 – 2050
B	951 Gladstone Avenue And 145 Loretta Avenue	The proposed development plan application consists of approximately 872 residential units, 198,524 ft ² of office space and 17,611 ft ² of retail space. The development is anticipated to generate 187 trips in the AM peak hour and 211 trips in the PM peak hour.	2026
C	933 Gladstone Avenue	The proposed development is anticipated to consist of 96 townhouse units and 1,004 high-rise apartment units. The Gladstone village TIA anticipates non-residential land-use of approximately 77,000 ft ² of ground floor retail, commercial and institutional space, as well as 100,000 ft ² of office space. The development is anticipated to generate 105 trips in the AM peak hour and 118 trips in the PM peak hour.	2031
D	818 Gladstone Avenue	The proposed development consisting of approximately 270 residential units (32 stacked townhouses and 238 apartment units) and 5,125 ft ² commercial space. The development is anticipated to generate 35 trips in the AM peak hour and 40 trips in the PM peak hour.	2029
E	930 Carling Avenue and 520 Preston Street	The proposed development is for Ottawa Hospital, anticipated to be built out by 2028. The development is anticipated to generate 1188 trips in the AM peak hour and 1039 trips in the PM peak hour.	2028



F	1040-1050 Somerset St	The proposed development 30-storey mixed-use building and will provide 268 units, 141 m ² of commercial/retail floor space, and 191 underground parking spaces.	2025
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Figure 7: Background Development around the Study Area



1.2 Study Area and Time Periods

1.2.1 Study Area

The Study area includes the following intersections:

1. Somerset Street West and Bayswater Avenue (signalized)
2. Somerset Street West and Preston Street (signalized)
3. Somerset Street West and Rochester Street (signalized)
4. Preston Street and Oak Street (unsignalized)
5. Proposed site access on Somerset Street West (signalized)
6. Proposed site access for the Recreational and Cultural facility and the elementary school (unsignalized)

1.2.2 Time Periods

The transportation impact assessment includes the following time periods:

- Weekday AM peak hour; and
- Weekday PM peak hour.

1.2.3 Horizon Years

- Horizon year 1 – Phase 1 build-out (elementary school)
- Horizon year 2 – Phase 2 build-out (150 affordable housing)
- Horizon year 3 – Phase 3 build-out (150 high-rise)
- Horizon year 4 – Phase 4 Ultimate build-out (recreational and cultural centre)



1.3 Exemptions Review

Module	Element	Exemption Considerations	Status
Design Review Component			
4.1 Development Design	4.1.2 Circulation and Access	Only required for site plans	Not Exempt
	4.1.3 New Street Networks	Only required for plans of subdivision	Exempt
4.2 Parking	4.2.1 Parking Supply	Only required for site plans	Exempt
Network Impact Component			
4.5 Transportation Demand Management	All Elements	Not required for site plans expected to have fewer than 60 employees and/or students on location at any given time	Not Exempt
4.6 Neighbourhood Traffic Calming	All Elements	Only required when the development relies on local or collector streets for access and total volumes exceed ATM capacity thresholds	Exempt
4.7 Transit	4.7.1 Transit Route Capacity	>75 site transit trips	Not Exempt
	4.7.2 Transit Priority Requirements	>75 site auto trips	Not Exempt
	4.8 Network Concept	Only required when proposed development generates more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by established zoning	Not Exempt
4.9 Intersection Design	4.9.1 Intersection Controls (including site accesses)	>75 site auto trips	Not Exempt
	4.9.2 Intersection Design	>75 site auto trips	Not Exempt



2 Forecasting Report

2.1 Development Generated Travel Demand

2.1.1 Trip Generation

The TRANS Trip Generation Manual (October 2020) was utilized to estimate auto person trip generation for multi-family mid-rise and high-rise residential land uses. The Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) was applied to forecast auto trip generation for the proposed elementary school and recreational community center. Land use codes 221 and 222 (Multi-Unit High-Rise Dwelling from TRANS), 520 (Elementary School from ITE), and 495 (Recreational Community Center from ITE) were considered the most representative of the proposed land uses.

Table 6 below outlines the assumed land uses, and the trip generation rates for each land use.

Table 6: Trip Generation Rates by Land-Use type

Land Use Codes	Size	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Rate	In	Out	Rate
221 & 222 - Multi-Family Housing High-Rise Apartment	430 Units	31%	69%	0.80	58%	42%	0.90
520- Elementary School	537 Students	54%	46%	0.74	46%	54%	0.16
495 - Recreational Community Center	110,000 ft ² GFA	66%	34%	1.91	47%	53%	2.50

The auto trip generation rates for the elementary school and recreational community center land uses were converted to person trips using a conversion factor of 1.28, as specified in the City of Ottawa's 2017 TIA Guidelines. For the residential land uses, person trips were standardized by applying a peak period conversion factor for the AM and PM peak periods, as outlined in Table 4 of the TRANS Trip Generation Manual 2020, to adjust the residential trip generation rates from peak period to peak hour. **Table 7** outlines the person trips generated by each land-use in the subject development.



Table 7: Person Trip Generation by Land-Use type

Land Use Codes	Trip Conversion	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
221 & 222 - Multi-Family Housing High-Rise Apartment	Person Trips (Peak Period)	107	237	344	224	163	387
	Person Trips (Peak Hour 0.50 for AM 0.44 for PM)	54	119	173	99	72	171
	Auto Trips	215	182	397	40	46	86
520- Elementary School	Person Trip Factor	1.28					
	Person Trips	275	233	508	51	59	110
	Auto Trips	139	71	210	129	146	275
495 - Recreational Community Center	Person Trip Factor	1.28					
	Person Trips	178	91	269	165	187	352
	Auto Trips	139	71	210	129	146	275
Total	Person Trips	507	443	950	315	318	633

To reflect local travel characteristics, Person trips were allocated among the four primary modal shares—auto driver, auto passenger, transit, and active modes—using the TRANS Trip Generation 2020 data for the Ottawa Inner Area. This data incorporates the influence of developments near Rapid Transit, applying appropriate reductions to vehicular trips in the modal split. **Table 8** below shows the modal trips for each land-use in the subject development.



Table 8: Multi-Modal Trips per Land-Use type

Land Use Code	Mode	AM Peak Hour				PM Peak Hour			
		Trip Conversion	Entry	Exit	Total	Trip Conversion	Entry	Exit	Total
221 & 222 - Multi-Unit (High Rise)	Auto Driver	29%	16	35	51	29%	29	21	50
	Auto Passenger	8%	4	10	14	9%	9	6	15
	Transit	25%	14	30	44	19%	19	14	33
	Cycling	7%	4	8	12	7%	7	5	12
	Walking	31%	17	37	54	36%	36	26	62
520 - Elementary School	Auto Driver	22%	61	51	112	22%	11	13	24
	Transit	54%	149	126	274	54%	28	32	59
	Active modes/other	24%	66	56	122	24%	12	14	26
495 - Recreational Community Center	Auto Driver	39%	69	35	105	22%	36	41	77
	Auto Passenger	2%	4	2	5	4%	7	7	14
	Transit	16%	28	15	43	12%	20	22	42
	Cycling	3%	5	3	8	4%	7	7	14
	Walking	40%	71	36	108	58%	96	108	204
Total Auto Trips			146	121	268		76	75	151

2.1.2 Trip Distribution

The trip distribution of traffic to/from the proposed development was determined based on analysis of the TRANS Committee's 2011 Origin-Destination (O-D) Survey, key trip attractors within the Ottawa Inner Area, and typical travel routes. This included consideration of connections to other districts outside the Ottawa Inner Area. **Table 9** below shows the trip distribution to/from the development.

Table 9: Direction Trip Distribution

Direction	Trip Distribution
East	23%
North	27%
South	32%
West	18%

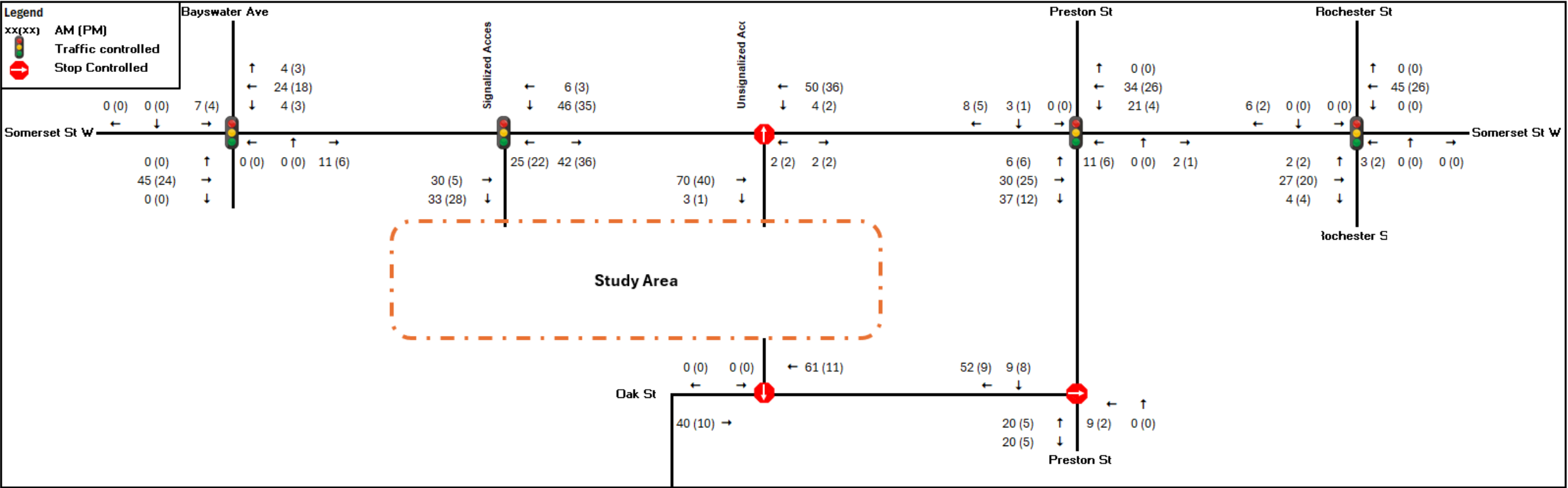


2.1.3 Trip Assignment

Auto trips generated by the site were allocated to the study area road network based on the trip distribution assumptions outlined in **Table 8**. **Figure 8** below depicts the total site-generated trips for the proposed development during the AM and PM peak hours.



Figure 8: Total Site Generated Trips



2.2 Background Network Travel Demand

2.2.1 Transportation Network Plans

As outlined in **Section 2.1.3** of the Screening and Scoping Report, several major transportation infrastructure projects are expected to impact mode share within the study area. These include the southward extension of Ottawa's Trillium Line (Line 2), the introduction of Line 4 providing a connection to Ottawa Macdonald-Cartier International Airport, and the "New Ways to Bus" initiative, designed to enhance transit frequency and improve route integration with the rapid transit system. These initiatives aim to reduce reliance on private vehicles, encouraging transit use and helping to prevent operational capacity concerns on the road network.

2.2.2 General Background Growth

As outlined in section 2.1.2.5 of the Screening and Scoping Report, no annualized growth rate has been applied to the existing volumes, as the road network is located in the downtown core area where traffic volumes have been steadily declining due to the well-established transit and active transportation connectivity. Any forecasted growth in traffic is expected to be a result of specific planned developments in the area, which is discussed further in Section 1.2.3.

2.2.3 Other Area Development

As outlined in **Section 2.3.1** of the Scoping and Screening Report and **Table 10** below, traffic to be generated by several future developments have been considered in the analysis of future development phases. Since the development is being constructed in multiple phases, these background developments were assigned to their respective phases based on the assumed build-out years.



Table 10: Background Developments

Location	Description	Build-out Horizon
550 Albert St 615 Albert St 825 Albert St	This development is part of the LeBreton Flats redevelopment featuring a mix of high-density residential, office and retail type land uses, as well as approximately 12.7 hectares of parks and open spaces. The LeBreton Flats Concept Master Plan includes an option to host a new major event centre. The redevelopment is anticipated to occur in three (3) phases. The development is anticipated to generate 720 trips in the AM peak hour and 1220 trips in the PM peak hour.	Phase 1 – 2030 Phase 2 – 2040 Phase 3 – 2050
951 Gladstone Avenue And 145 Loretta Avenue	The proposed development plan application consists of approximately 872 residential units, 198,524 ft ² of office space and 17,611 ft ² of retail space. The development is anticipated to generate 187 trips in the AM peak hour and 211 trips in the PM peak hour.	2026
933 Gladstone Avenue	The proposed development is anticipated to consist of 96 townhouse units and 1,004 high-rise apartment units. The Gladstone village TIA anticipates non-residential land-use of approximately 77,000 ft ² of ground floor retail, commercial and institutional space, as well as 100,000 ft ² of office space. The development is anticipated to generate 105 trips in the AM peak hour and 118 trips in the PM peak hour.	2031
818 Gladstone Avenue	The proposed development consisting of approximately 270 residential units (32 stacked townhouses and 238 apartment units) and 5,125 ft ² commercial space. The development is anticipated to generate 35 trips in the AM peak hour and 40 trips in the PM peak hour.	2029
930 Carling Avenue and 520 Preston Street	The proposed development is for Ottawa Hospital, anticipated to be built out by 2028. The development is anticipated to generate 1188 trips in the AM peak hour and 1039 trips in the PM peak hour.	2028
1040 Somerset Street	The proposed development 30-storey mixed-use building and will provide 268 units, 141 m ² of commercial/retail floor space, and 191 underground parking spaces.	2025



2.3 Demand Rationalization

Table 11 presents a breakdown of the multiple phases used to analyze future traffic operations. These phases have been defined based on the estimated build-out year for each land-use type of the proposed development.

Table 11: Breakdown of the Analysis Phases

Phases	Road Network Volume	Site Generated Volume Land-use	Background Developments
Phase 1	Background Volumes	• Elementary School	• 1040 Somerset • 951 Gladstone Avenue And 145 Loretta Avenue • 930 Carling Avenue and 520 Preston Street (Ottawa Hospital)
Phase 2	Background Volumes	• Elementary School • Ottawa Community Housing (60 Units)	• 1040 Somerset • 951 Gladstone Avenue And 145 Loretta Avenue • 930 Carling Avenue and 520 Preston Street (Ottawa Hospital) • LeBreton Flats Phase 1 (2030) • 818 Gladstone Avenue (Gladstone Village)
Phase 3	Background Volumes	• Elementary School • Ottawa Community Housing (60 Units) • Market-Rate housing (370 Units)	• 1040 Somerset • 951 Gladstone Avenue And 145 Loretta Avenue • 930 Carling Avenue and 520 Preston Street (Ottawa Hospital) • LeBreton Flats Phase 1 (2030) • 818 Gladstone Avenue (Gladstone Village)
Phase 4	Background Volumes	• Elementary School • Ottawa Community Housing (60 Units) • Market-Rate housing (370 Units) • Recreational & Community Centre	• 1040 Somerset • 951 Gladstone Avenue And 145 Loretta Avenue • 930 Carling Avenue and 520 Preston Street (Ottawa Hospital) • LeBreton Flats Phase 1 (2030)



-
- 818 Gladstone Avenue (Gladstone Village)
 - LeBreton Flats Phase 2 (2040)
-

Since no growth rate was applied to the background traffic volumes, the traffic operations for future background conditions will be evaluated for Phase 1, Phase 2 (same as Phase 3) and Phase 4 to understand the impacts of the background developments. This section will, however, focus on the demand for critical intersections for total future traffic operations, which includes future background and the site-generated traffic under each phase.

2.3.1 Future Total Traffic – Phase 1

The intersection movements with the highest delays during phase 1 future total traffic are summarized in **Table 12** for AM and PM peak hours. All intersection movements are anticipated to perform adequately and well under capacity with minor delays.



Figure 9 shows the phase 1 future total traffic volumes.

Table 12: Phase 1 Critical Intersection Movements

Intersection	AM Peak			PM Peak		
	Delay (s)	LOS	Movement	Delay (s)	LOS	Movement
Bayswater Avenue & Somerset St W	16	A	EBLT / WBLT	19	A	WBLT
Preston St & Somerset St W	24	C	NBL / SBTR	48	D	NBTR
Rochester St & Somerset St W	20	B	SBLTR	19	B	SBLTR
Preston St & Oak St	15	A	EBLR	15	A	EBLR
Somerset St W & Signalized Access	14	A	EBTR	15	A	EBTR
Somerset St W & Unsignalized Access	8	A	WBLT	8	A	WBLT
Oak St & Unsignalized Access	9	A	SBLR	9	A	SBLR

2.3.2 Future Total Traffic – Phase 2

The intersection movements with the highest delays during phase 2 future total traffic are summarized in **Table 13** for AM and PM peak hours. The northbound thru/right movement on Preston Street and Somerset Street West experiences delays of more than a minute and operates at capacity (volume-to-capacity ratio of 1.01) with LOS F. **Figure 10** shows the phase 2 future total traffic volumes.

Table 13: Phase 2 Critical Intersection Movements

Intersection	AM Peak			PM Peak		
	Delay (s)	LOS	Movement	Delay (s)	LOS	Movement
Bayswater Avenue & Somerset St W	16	A	EBLT / WBLT	19	A	WBLT
Preston St & Somerset St W	28	C	NBL	70	F	NBTR
Rochester St & Somerset St W	20	B	SBLTR	19	B	SBLTR
Preston St & Oak St	15	A	EBLR	15	A	EBLR
Somerset St W & Signalized Access	19	B	EBTR	20	C	WBT
Somerset St W & Unsignalized Access	8	A	WBLT	8	A	WBLT
Oak St & Unsignalized Access	9	A	SBLR	9	A	SBLR



2.3.3 Future Total Traffic – Phase 3

The intersection movements with the greatest delays during Phase 3 future total traffic conditions are summarized in **Table 14** for both the AM and PM peak hours. The northbound thru/right movement at the Preston Street and Somerset Street West intersection still experiences delays exceeding one minute and operates at capacity, with a volume-to-capacity ratio of 1.01 and a Level of Service (LOS) of F (similar to Phase 2). All other movements within the road network operate within acceptable parameters. Phase 3 future total traffic volumes are illustrated in **Figure 11**.

Table 14: Phase 3 Critical Intersection Movements

Intersection	AM Peak			PM Peak		
	Delay (s)	LOS	Movement	Delay (s)	LOS	Movement
Bayswater Avenue & Somerset St W	16	A	EBLT / WBLT	19	A	WBLT / SBL
Preston St & Somerset St W	28	C	NBL	70	F	NBTR
Rochester St & Somerset St W	20	B	SBLTR	19	B	SBLTR
Preston St & Oak St	17	A	EBLR	17	A	EBLR
Somerset St W & Signalized Access	19	B	EBTR	20	C	WBT
Somerset St W & Unsignalized Access	8	A	WBLT	8	A	WBLT
Oak St & Unsignalized Access	9	A	SBLR	9	A	SBLR

2.3.4 Future Total Traffic – Phase 4

The intersection movements with the highest delays during Phase 4 future total traffic conditions are summarized in **Table 15** for the AM and PM peak hours. At the Preston Street and Somerset Street West intersection, the northbound movements operate at a Level of Service (LOS) F. The left-turn movement experiences delays exceeding two minutes, while the northbound thru/right movement faces delays of over one minute. Although these movements perform below acceptable LOS, they are only slightly over capacity and may be optimized by modifying the Signal Timing Plan. All other movements within the road network operate within acceptable parameters. Phase 4 future total traffic volumes are illustrated in **Figure 12**.

Table 15: Phase 4 Critical Intersection Movements

Intersection	AM Peak			PM Peak		
	Delay (s)	LOS	Movement	Delay (s)	LOS	Movement
Bayswater Avenue & Somerset St W	17	A	EBLT / WBLT	20	A	WBLT
Preston St & Somerset St W	38	B	NB	139	F	NBL
				70	F	NBTR



930-1010 Somerset
2 Forecasting Report

Rochester St & Somerset St W	19	B	SBLTR	18	B	SBLTR
Preston St & Oak St	18	A	EBLR	19	A	EBLR
Somerset St W & Signalized Access	33	B	EBTR	32	C	EBTR
Somerset St W & Unsignalized Access	8	A	WBLT	9	A	WBLT
Oak St & Unsignalized Access	9	A	SBLR	9	A	SBLR



Figure 9: Phase 1 Future Total Traffic

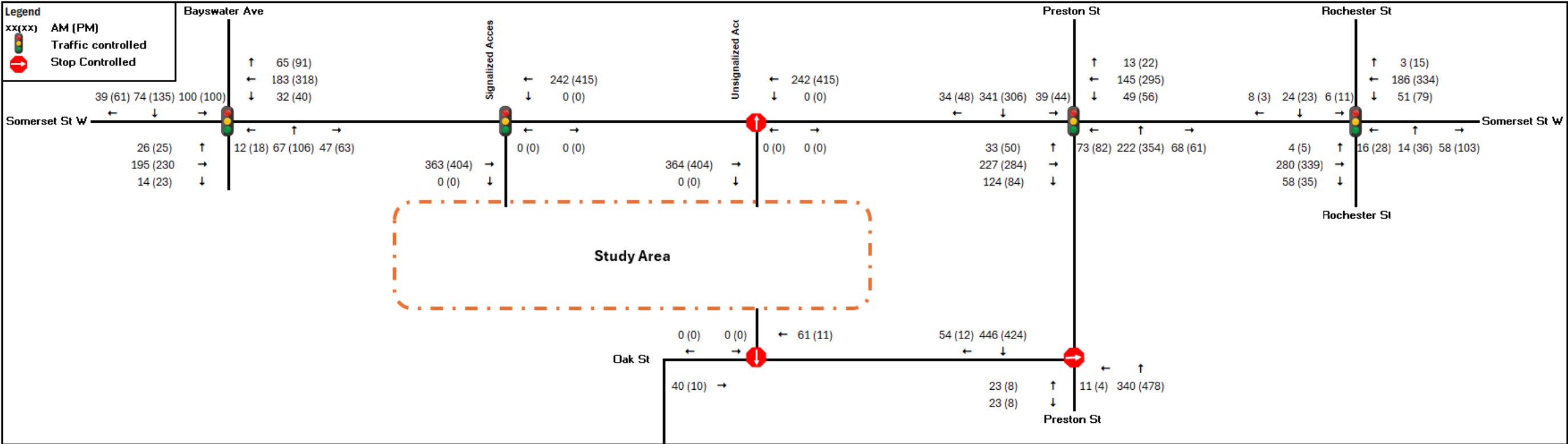


Figure 10: Phase 2 Future Total Traffic

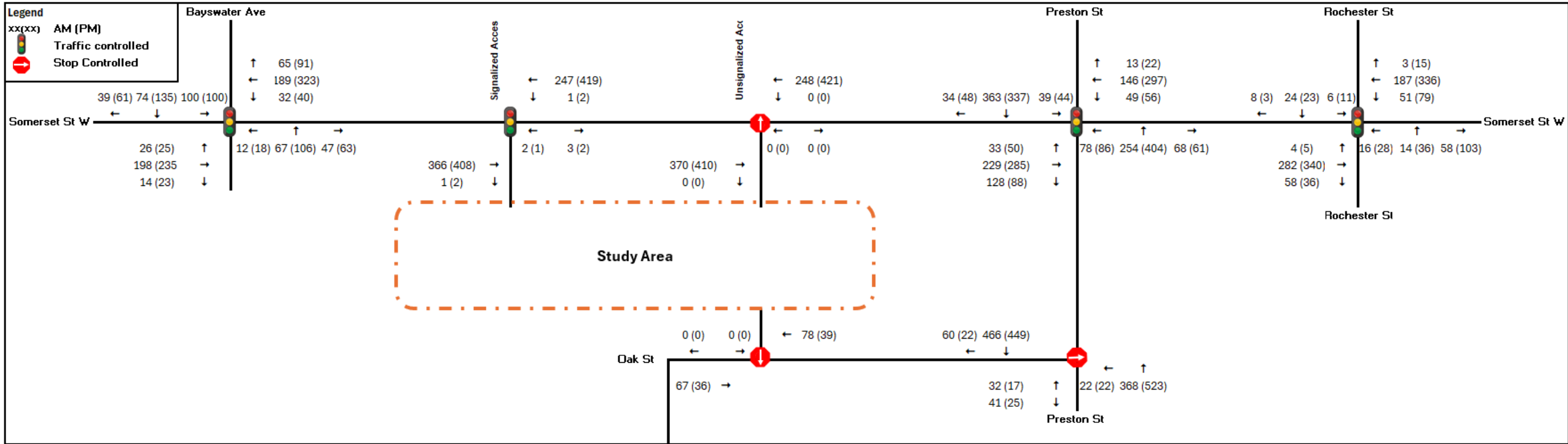


Figure 11: Phase 3 Future Total Traffic

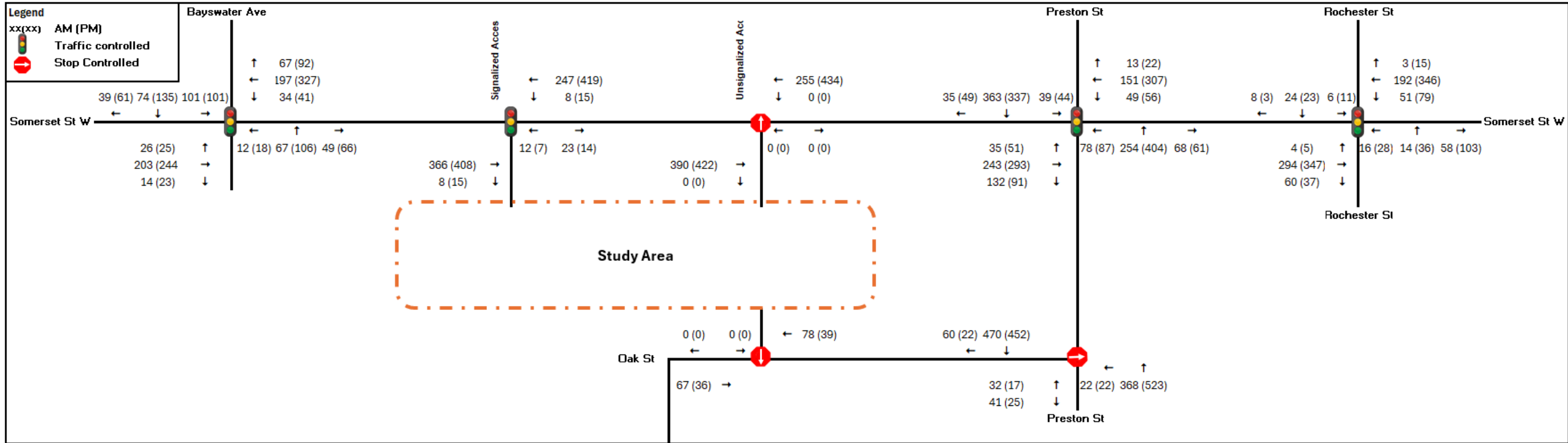
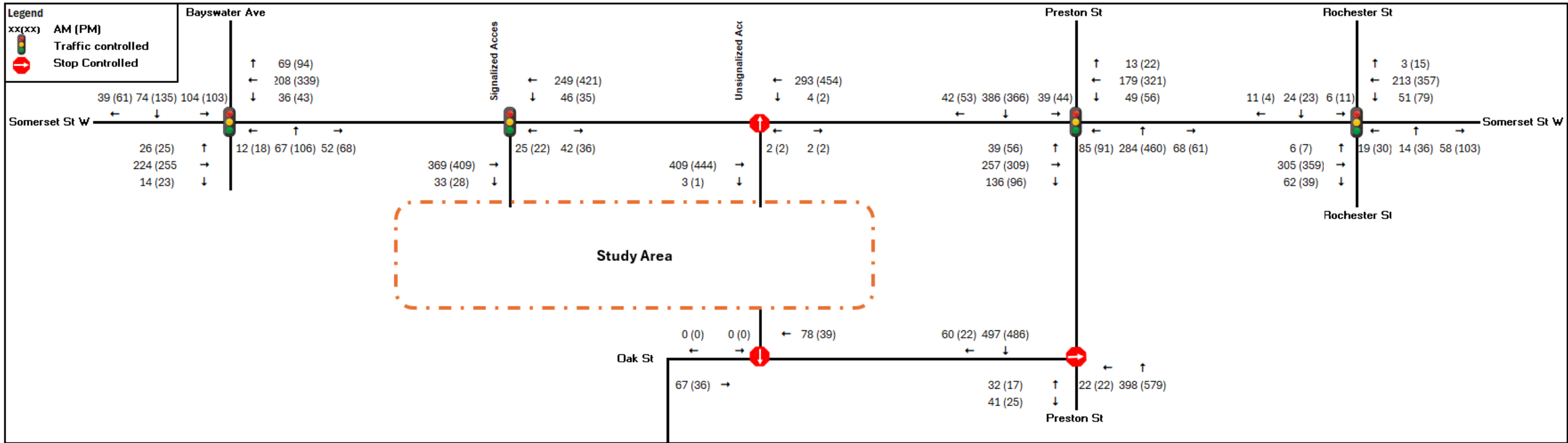


Figure 12: Phase 4 Future Total Traffic



3 Strategy Report

3.1 Development Design

3.1.1 Design for Sustainable Modes

The design of the proposed development will align with the City of Ottawa's *Planning and Design Guidelines*, ensuring support for sustainable modes of transportation. The multi-modal transportation infrastructure internal to the development will be planned and designed to seamlessly integrate with existing and future planned multi-modal transportation infrastructure surrounding the property. **Figure 13** illustrates existing transportation infrastructure external to the development which are supportive of sustainable modes of transportation and are further described in Section 2 (Parking), Section 3 (Boundary Street Design), and Section 5 (Transit).

Figure 13: Design for Sustainable Modes - Existing infrastructure



Key features of the site and surrounding area which will be supportive of sustainable modes are briefly described as follows:

- **Bicycle Parking Areas (see Section 2):**
 - » Public bicycle parking (i.e. bike rings) are available along Somerset Street West and Preston West near the subject site.
 - » Secure Bike lockers are available at Bayview Station.
 - » Short-term bicycle parking (i.e., bike racks/rings) and long-term bicycle parking (i.e., lockers, storage rooms) will be provided for each component (land use type) of the site, in adherence to applicable by-law requirements. Specific facility types, designs, placement, and quantity will be confirmed at Site Plan Application (SPA) stage for each respective land use internal to the development lands.
- **Pedestrian Routes and Facilities (see Section 3):**
 - » The site will be designed with an internal pedestrian pathway network that provides direct, safe, and accessible connections to the boundary sidewalk network, transit stops, and surrounding amenities.
 - » Enhanced features internal to the development such as pedestrian crosswalks, wide sidewalks, traffic calming devices, various surface treatments, lighting, and clear wayfinding and warning signage can be implemented to maximize user experience of the various facilities and safe mobility throughout the site.
- **TDM-Supportive Design Opportunities (see Section 4):**
 - » The development will include measures from the City of Ottawa's *TDM-Supportive Development Design and Infrastructure Checklist*, including on-site secure bike parking, bikeshare facilities, safer walking and cycling routes especially to/from transit stops in the study area.
- **Transit Amenities (see Section 5):**
 - » Multiple transit stops with numerous interconnection options to other municipal transit routes are located in proximity to the site and are easily accessible by walking from the subject site.
 - » Approximate walking distances to several nearby bus stops include:
 - **100 metres (approximately 1.5-minute walk)** from the northeast corner of the site to multiple transit stops at the signalized intersection of Somerset Street West at Preston Street.
 - **200 metres (approximately 3-minute walk)** from the northwest corner of the site to multiple transit stops at the signalized intersection of Somerset Street West at Bayswater Avenue.
 - **100 metres (approximately 1.5-minute walk)** across the length of Plouffe Park (via proposed sidewalk) to the transit stops along Preston Street near Oak Street and Anderson Street.
 - **580 metres (approximately 8-minute walk)** from the site to Bayview Station along the City Centre Avenue path.



3.1.2 Circulation and Access

3.1.2.1 Vehicular Access Points

The proposed development is planned to include the following three (3) vehicular access points to the boundary road network:

- **A new signalized access on Somerset Street West**, approximately 190 metres west of the existing signal at Preston Street, and approximately 350 metres east of the existing signal at Bayswater Avenue. This access will function as the general vehicular entry/exit point for the future residential development and the future recreation and cultural facility.
- **Use of the existing westernmost unsignalized access for the City of Ottawa Plant Recreation Centre**. This access will continue to function as one-of-two general vehicular entry/exit points for the Plant Recreation Centre but will also provide access for service vehicles for the future recreation and cultural facility and general vehicular access for the future school.
- **A new unsignalized access on Oak Street**, approximately 100 metres west of Preston Street. This access will function as the general vehicular entry/exit point for the future school.

3.1.2.2 Vehicular Circulation

All roads internal to the development will permit two-way travel, with one-lane per direction. Detailed cross-section designs (i.e., pavement width, curb-gutter design, intersection geometry) will be confirmed at Site Plan Application (SPA). However, all roads will be designed in accordance with Fire Route requirements as per the Ontario Building Code (OBC).

Servicing will function as follows:

- Service vehicles for the future residential development site will access the site via the proposed signalized access on Somerset Street West.
- Service vehicles for the future recreation and cultural facility will access the site via the existing unsignalized access on Somerset Street West.
- Service vehicles for the future school site may access the site via any of the proposed three (3) access points.

School bus traffic is currently planned to enter the site via the existing unsignalized access on Somerset Street West and exit via the proposed unsignalized access on Oak Street, which permits lay-by along the frontage of the future school site with the bus doors facing the school as desired.

Pavement marking and signage plans will be prepared for the development, with required regulatory signage, warning signage, wayfinding signage, and pavement markings in accordance with the Ontario Traffic Manual (OTM), at Site Plan Application (SPA).



3.1.2.3 Active Transportation Connections

The proposed development is planned to include the following seven (7) active transportation connections to the boundary active transportation network:

- At Trillium Trail at the west frontage of the site;
- At City Centre Avenue under Somerset Street West at the north frontage of the site;
- At Somerset Street West at the proposed signalized access at the north frontage of site;
- At Somerset Street West at the existing Plant Centre access at the north frontage of site;
- At Preston Street along the north side of Plouffe Park at the east frontage of site;
- At Oak Street at the proposed unsignalized access at the south frontage of site; and
- At Oak Street along the west side of the proposed school at the south frontage of site.

3.1.2.4 Active Transportation Circulation

The concept plan is currently conceptual, and more detailed design information for the internal active transportation network will be detailed at the Site Plan Application (SPA) stage for each individual land use application (i.e., intersection corner radii, crosswalk facilities and controls, traffic calming devices, surface treatments, pavement marking and signage plans, etc.).

Internal circulation will prioritize safe and efficient movement for active transportation (i.e., pedestrians and cyclists) and vulnerable road users (i.e., children) over vehicular traffic, through the design of an accessible and traffic-calmed multi-modal transportation network and implementation of traffic regulations (i.e., reduced speed zone, school zone, etc.). Traffic calming options internal to the development may include the following:

- Speed humps
- Raised crosswalks
- Crossrides
- Raised intersections
- Curb extensions
- Reduced road width
- Textured road surface treatments
- School zone and warning signage
- Reduced regulatory speed zone signage

Aggressive traffic calming features will also be considered for the proposed north-south road internal to the development connecting Somerset Street West to Oak Street, to reduce prevalence of traffic infiltration across the site.



3.2 Parking

Schedule 1A of the City of Ottawa's Zoning By-Law designates the study area as Area Z, which has reduced parking requirements due to its proximity to a major LRT station. **Table 16** outlines the required and proposed vehicle parking for the proposed development.

Table 16: Minimum Vehicle Parking Requirements

Land Use	Rate	Units/GFA	Parking Requirements	Proposed Parking
Residential	Residents: None Required Visitors: 0.1 per dwelling unit	430	43	180
Recreation Centre	None Required	110,000 ft ² (10219 m ²)	0	150
Elementary School	None Required	60,060 ft ² (5579 m ²)	0	-
Total			43	330

The proposed vehicle parking supply exceeds the minimum parking requirement established by the City's By-Law. It should be noted that 43 of the 180 residential spaces should be allocated as visitor parking, as required by Section 101 of the City's Zoning By-Law. Bicycle parking should also be provided per Section 111 of the Zoning By-Law to accommodate the needs of the residential development, recreational and cultural centre, and elementary school, with a total of approximately 278 spaces allocated across the three land-uses. See **Table 17** for bike parking requirement for each land-use. Allocations for bike parking will be determined during the Site Plan Application stage of the development.

Table 17: Minimum Bike Parking Requirement

Land Use	Rate	Units/GFA	Minimum Parking Requirements
Residential	0.50 per dwelling unit	430	215
Recreation Centre	1 per 1500 m ² of gross floor area	110,000 ft ² (10219 m ²)	7
Elementary School	1 per 100 m ² of gross floor area	60,060 ft ² (5579 m ²)	56
Total			278



3.3 Boundary Street Design

A Multi-Modal Level of Service (MMLOS) evaluation was conducted for Somerset Street West between Rochester Street and Bayview Station Road, and Preston Street between Somerset Street West and Oak Street, in their current configurations. This evaluation was carried out in accordance with the City's MMLOS guidelines to identify opportunities to improve multi-modal mobility and accessibility along the boundary road network in accordance with the City's MMLOS objectives.

The subject site is located within 600 metres of Bayview Station and 300m of Devonshire Public School, therefore the Pedestrian Level of Service (PLOS), Bicycle Level of Service (BLOS), Transit Level of Service (TLOS) and Truck Level of Service (TkLOS) are based on established targets for roadways within 600m of a Rapid Transit Station and 300m of a school, per Exhibit 22 of the MMLOS guidelines. **Table 18** shows the MMLOS results for Somerset Street West and Preston Street.

Table 18: MMLOS Segment Analysis

Segment	PLOS		BLOS		TLOS		TkLOS	
	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Somerset Street West	C	A	D	C	D	D	C	D
Preston Street	B	A	-	-	D	D	C	D

Somerset Street West currently does not meet the PLOS and BLOS targets. PLOS is influenced by factors such as sidewalk and boulevard width, AADT volumes, speed limit, and the availability of on-street parking. To improve PLOS on Somerset Street West and Preston Street, the following measures could be considered:

- Widening sidewalks where feasible to provide more comfortable walking space.
- Enhancing sidewalk buffers with street trees or low-profile planters to improve pedestrian comfort without reducing parking.
- Reducing the posted speed limit in this segment of Somerset Street West.

Bicycle Level of Service (BLOS) in the study area could be improved with the implementation of dedicated cycling infrastructure. Somerset Street West functions as a connector route and does not currently have dedicated cycling infrastructure along the broader corridor. As such, proposing dedicated bike infrastructure on Somerset Street West in the vicinity of the subject property may have limited benefit without broader corridor or network connectivity. On-street bike lanes could be considered on Somerset Street West as part of a broader corridor improvement project initiated by the City.

Preston Street also falls short of achieving a target PLOS A which could be achieved by further separating sidewalks from traffic with the addition of grassy boulevards or on-street parking. These measures would enhance the safety and comfort of pedestrians and cyclists, while promoting a more balanced multimodal use of the roadway.



3.4 Transportation Demand Management

The Transportation Demand Management (TDM) plan for the subject site presents post-occupancy measures designed to reduce auto-dependency. Located within a Protected Major Transit Station Area (PMTSA), the site benefits from its strategic location near transit hubs and active transportation networks, which form the foundation of the TDM strategy.

3.4.1 Context for Post-Occupancy TDM Measures

The modal targets for the subject site align with the Ottawa Inner Area (430) Traffic Analysis Zone (TAZ) averages for work, school, and residential trip purposes. Existing developments in similar zones serve as benchmarks for sustainable travel mode share expectations.

3.4.2 Need and Opportunities for TDM Measures

Nearby residential, institutional, and recreational land uses could experience negative impacts if the development fails to meet sustainable mode share targets. Potential negative impacts could include:

- Increased congestion and reduced accessibility.
- Strain on shared infrastructure and decreased efficiency.
- Elevated vehicle volumes leading to delays on the transportation network.

Post-occupancy TDM measures provide opportunities to:

- Improve the likelihood of achieving sustainable mode share targets.
- Mitigate risks associated with increased traffic volumes.
- Leverage the site's PMTSA location to maximize transit and active mode accessibility.

3.4.3 TDM Program Measures

A variety of post-occupancy TDM measures are proposed to enable and encourage sustainable travel, such as:

- **Active Transportation:**
 - » Implement bicycle parking and repair stations in proximity to the subject site.
 - » Develop safe pedestrian connections to transit hubs and local amenities.
 - » Provide wayfinding signage for cycling and walking routes.
- **Public Transit Integration:**
 - » Offer subsidized transit passes to residents and employees.
 - » Coordinate with OC Transpo to enhance transit stop infrastructure near the site.
 - » Provide real-time transit updates in communal spaces.
- **Vehicle Trip Reduction:**



- » Promote carpooling through a dedicated platform and incentives.
- » Limit parking for single-occupancy vehicles and prioritize shared-use spaces.
- » Establish partnerships with ride-share services to offer discounts.
- **Electric and Low-Emission Vehicles:**
 - » Install EV charging stations in parking areas.
 - » Incentivize the use of green vehicles through preferred parking.
- **Community Engagement:**
 - » Host sustainable travel workshops and events.
 - » Introduce shared mobility options such as bike-sharing stations.
- **Monitoring and Evaluation:**
 - » Conduct periodic surveys to track travel behavior.
 - » Install traffic counters to measure mode shares and volumes.
 - » Regularly review and adjust the TDM measures to meet performance targets.

3.4.4 Implementation Plan

The implementation plan can include but is not limited to:

- Collaboration with the City and transit authorities.
- **Funding and resources** through development agreements and management funds.
- Monitoring of the traffic operations during and after occupancy of the subject site.
- **Annual** reporting on TDM program effectiveness.

3.5 Transit

This section reviews potential impacts from development-generated demand to transit service, and the necessity of transit priority measures. The MMLOS analysis evaluates the transit level of service within the study area.

3.5.1 Future Site Generated Transit Demand

Based on the estimation of site-generated person trips from the proposed development and the assumed modal splits from the TRANS Trip Generation Manual for the Ottawa Inner Area, the site is anticipated to generate 318 and 92 transit trips in the AM and PM peak hours, respectively.

3.5.2 Transit Impacts

The anticipated increase in transit ridership, particularly during the AM peak hour, may result in higher passenger volumes at key stops and additional demand on existing transit routes. However, the impact of



the additional demand will depend on the current capacity of transit services. If sufficient excess capacity exists, the increased ridership could be accommodated without adjustments to service.

The City has plans to improve the transit infrastructure in the area, which are expected to enhance capacity and service reliability. These planned upgrades may further mitigate any potential impacts of increased ridership and ensure that transit services remain effective and accessible with additional demand from the proposed development.

3.5.3 Transit Priority Measures

The addition of site-generated vehicle and transit trips, as well as new access driveways along Somerset Street West and Preston Street, has the potential to influence transit travel times, particularly during peak hours. However, as discussed in section 2.1.3.3 of the screening and scoping report, OC Transpo is proposing significant planned network upgrades in the area which will improve the transit system's capacity, supporting the accommodation of additional site-generated transit trips.

Additional measures that can further improve transit operations include:

- Improving Signal Timing Plans (STP) at the study intersections to reduce delays for buses and improve travel time reliability.
- Collaborating with OC Transpo to monitor service levels and implement frequency adjustments or route modifications as necessary to accommodate long-term demand.
- Assessing the feasibility of short, isolated transit priority lanes near key access points to offset bus delays caused by turning vehicles.

3.6 Intersection Design

3.6.1 Access Intersections

The proposed locations, configurations and phasing of private vehicular accesses for the development at 930 - 1010 Somerset Street is described as follows:

Phase 1 (Elementary School)

- **Use of the existing westernmost unsignalized access** for the City of Ottawa Plant Recreation Centre.
 - This access will continue to function as one-of-two general vehicular entry/exit points for the Plant Recreation Centre but will also provide access for service vehicles for the future recreation and cultural facility and bus access for the future school.
 - Auxiliary turn lanes are not proposed at this access intersection, with one inbound lane and one outbound lane within the driveway, and no auxiliary turn lanes on Somerset Street West, as consistent with existing conditions.
- **A new unsignalized access on Oak Street**, approximately 100 metres west of Preston Street.



- This access will function as the entry/exit point for the future school, specifically for school buses.
- Auxiliary turn lanes are not proposed at this access intersection, with one inbound lane and one outbound lane within the driveway, and no auxiliary turn lanes on Oak Street as consistent with existing conditions.

Phase 2 (Affordable Housing)

- **A new signalized access on Somerset Street West**, approximately 190 metres west of the existing signal at Preston Street, and approximately 350 metres east of the existing signal at Bayswater Avenue.
 - This access will function as the general vehicular entry/exit point for the future residential development and the future recreation and cultural facility.
 - An auxiliary left-turn lane with a storage length of 15 metres is recommended for the westbound left-turn movement.
 - An auxiliary left-turn lane with a storage length of 15 metres is recommended for the northbound left-turn movement.

Phase 3 (Market-Rate Housing)

- No additional changes to the site's access arrangement are required at Phase 3.

Phase 4 (Culture and Recreation Centre)

- No additional changes to the site's access arrangement are required at Phase 4.

All proposed private accesses will undergo further evaluation during the Site Plan Application (SPA) stage to confirm compliance with Ottawa's Private Approach Guidelines and TAC standards, as well as sufficient geometry to ensure adequate turning movement for vehicles turning into and out of the approaches. Specific considerations, such as access widths (maximum of 9m), spacing from property lines (minimum of 3m), clear throat dimensions, and corner radii will be addressed at the SPA.



3.6.2 Intersection Capacity Analysis Methodology

The Intersection Capacity Analysis (“ICA”) utilized the City of Ottawa’s Traffic Impact Assessment (TIA) guidelines to measure how well key intersections can manage traffic, using the HCM 2000 methodology and Synchro Studio 11 software. Measures of effectiveness (MOEs) such as level of service (LOS), volume-to-capacity ratio (v/c ratio), and 95th percentile queuing was reported, and are defined below:

- Average vehicle control delay (in seconds / vehicle) quantifies the variations in travel time.
- V/c ratio quantifies the degree to which the capacity of a lane group is utilized. This will be used to determine the LOS per Ottawa’s TIA guidelines (**Table 19**).
- 95th percentile queue is the queue length which is expected to be exceeded only 5% of the time; it is common practice to identify preferred storage length requirements for auxiliary turn lanes at signalized intersections based on estimated peak hour 95th percentile queueing.

Table 19: Level of Service Threshold

Level of Service (LOS) Rating	Volume to Capacity Ratio
A	0 to 0.60
B	0.61 to 0.70
C	0.71 to 0.80
D	0.81 to 0.90
E	0.91 to 1.00
F	>1.00

Traffic operations will be analyzed for the future background and future total volumes for each of the four (4) phases.

3.6.3 Existing Intersection Controls

The intersections of Somerset Street West at Bayswater Avenue and Somerset Street West at Preston Street are signalized, whereas the intersection of Preston Street at Oak Street is unsignalized. The existing intersection configurations were maintained throughout the analysis up to the ultimate future horizon year, with any recommended intersection improvements identified as “improved” scenarios in the capacity analysis.



3.6.4 Existing Conditions

3.6.4.1 MMLOS Analysis

An MMLOS analysis was conducted to evaluate the current performance of various transportation modes at each study intersection under existing conditions. The vehicle analysis conducted using Synchro instead of MMLOS, will be discussed in the subsequent sections. **Table 20** presents the results of the MMLOS for pedestrians, cyclists, transit, and trucks at the existing study intersections.

Table 20: Study Intersection MMLOS – Existing Conditions

Intersections		Level of Service (LOS)			
		Pedestrian (PLOS)	Bike (BLOS)	Transit (TLOS)	Truck (TkLOS)
Somerset Street West and Bayswater Avenue	Actual	C	D	C	F
	Target	A	B	D	D
Somerset Street West and Preston Street	Actual	C	D	F	F
	Target	A	B	D	D
Somerset Street West and Rochester Street	Actual	D	D	C	F
	Target	A	B	D	D

3.6.4.1.1 Somerset Street West and Bayswater Avenue

Pedestrian Level of Service (PLOS)

Pedestrians cross three (3) lanes at the north, east and west approach and two (2) lanes at the south approach of the intersection. Left turns are permissive, and there is a standard right-turn channel without a receiving lane with corner radii of 5-10 metres. The intersection has a PLOS of C due to delays experienced by pedestrians while crossing from all approaches except south. The average Pedestrian Exposure to Traffic at Signalized Intersections (PETSI) score at the intersection is 74, which aligns with a PLOS of C.

Bike Level of Service (BLOS)

Somerset Street West and Bayswater Avenue feature a mixed-traffic bike path, assessed under Ottawa's MMLOS guidelines for Level of Traffic Stress (LTS). Based on the analysis, the intersection received an



LTS 3, indicating that it is primarily suitable for experienced adult cyclists. This rating reflects the mixed-traffic design, which creates conflicts between cyclists and motor vehicles, indicating a BLOS of D.

Transit Level of Service (TLOS)

Somerset Street West and Bayswater Avenue experiences a TLOS of C, which is below its target LOS of D. Bus operate well along Somerset Street West, with average delay of 20s or less.

Truck Level of Service (TkLOS)

Somerset Street West is designated as an urban truck route with one (1) receiving lane on departure from the intersection and effective corner radii of less than 10m. Therefore, Somerset Street West and Bayswater Avenue experience a TkLOS of F.

3.6.4.1.2 Somerset Street West and Preston Street

Pedestrian Level of Service (PLOS)

Pedestrians cross two (2) lanes at each approach of the intersection. Left turns are permissive and corner radii of 5-10 metres. The intersection has a PLOS of C due to delays experienced by pedestrians while crossing from the east approach. The average PETS score at the intersection has been calculated at 75, corresponding with PLOS of B.

Bike Level of Service (BLOS)

Mixed-traffic bike path is only present east-west on Somerset Street West at the intersection. Preston Street currently lacks a cycling infrastructure. Based on the analysis, the intersection received an LTS 3, indicating a BLOS of D.

Transit Level of Service (TLOS)

Somerset Street West and Preston Street experiences a TLOS of F due to delay of more than 40s on the north approach. The TLOS at this intersection can be addressed by optimizing the Signal Timing Plan at the intersection.

Truck Level of Service (TkLOS)

Preston Street is also a designated urban truck route in addition to Somerset Street West. The intersection has one receiving lane on departure at each approach and effective corner radii of less than 10m. As a result, the intersection experiences a Truck Level of Service (TkLOS) rating of F.

3.6.4.1.3 Somerset Street West and Rochester Street

Pedestrian Level of Service (PLOS)

Pedestrians cross two (2) lanes at each approach of the intersection. Left turns are permissive and corner radii of 5-10 metres. The intersection has a PLOS of D due to delays experienced by pedestrians on the



east and west approach. The average PETSf score at the intersection has been calculated at 86, corresponding with PLOS of B.

Bike Level of Service (BLOS)

Mixed-traffic bike path is only present east-west on Somerset Street West at the intersection. Rochester Street currently lacks a cycling infrastructure. Based on the analysis, the intersection received an LTS 3, indicating a BLOS of D.

Transit Level of Service (TLOS)

Somerset Street West and Rochester Street experiences a TLOS of F due to delays of more than 20s on the north and south approach. The TLOS at this intersection can be addressed by optimizing the Signal Timing Plan at the intersection.

Truck Level of Service (TkLOS)

The intersection has one receiving lane on departure at each approach and effective corner radii of less than 10m. As a result, the intersection experiences a Truck Level of Service (TkLOS) rating of F.

3.6.4.1.4 *Preston street and Oak Street*

MMLOS guidelines do not assess stop-controlled intersections directly and instead depend on segment analysis for evaluation. The immediate segments around the study area have been evaluated in **Section 1.3**. The VLOS for Preston And Oak Street was evaluated in the subsequent section using Synchro.

3.6.4.2 Existing Capacity Analysis

Table 21 presents the findings for movement capacity and operations at the study intersections under existing traffic volumes during the AM and PM peak hours. The results indicate that all intersection movements within the study area operate efficiently, remaining below capacity. LOS B or better is achieved during the AM peak hour, while LOS D or better is maintained during the PM peak hour, with no delay concerns identified.



Table 21: Intersection Turning Movement Operations - Existing Conditions

Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
Somerset Street West & Bayswater Avenue	EBLT	15 (15)	0.32 (0.36)	A (A)	33 (41)
	EBR	12 (12)	0.01 (0.02)	A (A)	1 (2)
	WBLT	15 (24)	0.33 (0.56)	A (A)	34 (78)
	WBR	13 (30)	0.05 (0.08)	A (A)	6 (m5)
	NBLTR	14 (17)	0.19 (0.31)	A (A)	18 (34)
	SBL	14 (18)	0.20 (0.30)	A (A)	18 (21)
	SBTR	14 (17)	0.17 (0.31)	A (A)	15 (33)
	Overall	14 (19)	0.27 (0.44)	-	-
Somerset Street West & Preston Street	EBL	11 (17)	0.09 (0.19)	A (A)	6 (13)
	EBTR	15 (24)	0.46 (0.64)	A (B)	50 (82)
	WBL	12 (17)	0.11 (0.23)	A (A)	6 (12)
	WBTR	12 (19)	0.22 (0.49)	A (A)	24 (59)
	NBL	22 (39)	0.41 (0.64)	A (B)	15 (22)
	NBTR	21 (42)	0.53 (0.87)	A (D)	51 (106)
	SBL	16 (30)	0.19 (0.42)	A (A)	9 (13)
	SBTR	23 (32)	0.64 (0.74)	B (C)	70 (83)
	Overall	18 (29)	0.58 (0.66)	-	-
Somerset Street West & Rochester Street	EBLTR	10 (10)	0.39 (0.41)	A (A)	38 (45)
	WBLTR	9 (11)	0.29 (0.49)	A (A)	27 (62)
	NBLTR	24 (26)	0.18 (0.37)	A (A)	4 (14)
	SBLTR	23 (22)	0.10 (0.10)	A (A)	11 (12)
	Overall	12 (14)	0.32 (0.45)	-	-
Preston St & Oak St	EBLR	13 (15)	0.01 (0.02)	A (A)	-
	SBTR	-	0.28 (0.27)	A (A)	-
	NBLT	-	0.00 (0.00)	A (A)	-

3.6.4.3 Recommended Intersection Improvements

- Although opportunities to improve multi-modal LOS are identified under existing conditions, recommendations to achieve the City's LOS targets will be made for the study's ultimate future horizon year based on the multi-modal LOS scores upon full build-out of the subject site.
- No intersection improvements are recommended to maintain an acceptable level of service under existing conditions.



3.6.5 Phase 1 (Elementary School)

3.6.5.1 MMLOS Analysis

The MMLOS at the study intersections under Phase 1 future conditions is expected to be similar to existing conditions, with a slight increase in average delays at intersection movements that do not affect the overall TLOS. **Table 22** shows the MMLOS results for phase 1 future conditions. It is important to note that the MMLOS for the proposed unsignalized access has not been assessed due to the one-way stop-controlled configuration of the intersection. The VLOS for the unsignalized has been evaluated in the subsequent section.

Table 22: Study Intersections MMLOS – Phase 1 Future Conditions

Intersections	Level of Service (LOS)				
		Pedestrian (PLOS)	Bike (BLOS)	Transit (TLOS)	Truck (TkLOS)
Somerset Street West and Bayswater Avenue	Actual	C	D	C	F
	Target	A	B	D	D
Somerset Street West and Preston Street	Actual	C	D	F	F
	Target	A	B	D	D
Somerset Street West and Rochester Street	Actual	D	D	C	F
	Target	A	B	D	D
Somerset Street West and Signalized Access	Actual	D	D	C	F
	Target	A	B	D	D

3.6.5.2 Future Background Capacity Analysis

Table 23 shows the movement operations of the study intersections under Phase 1 future background volumes. All intersection movements perform well under the background volumes, without any capacity concerns.



Table 23: Intersection Turning Movement Operations - Phase 1 Background Conditions

Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
Somerset Street West & Bayswater Avenue	EBLT	16 (15)	0.31 (0.36)	A (A)	33 (40)
	EBR	3 (4)	0.03 (0.04)	A (A)	1 (2)
	WBLT	16 (25)	0.34 (0.56)	A (A)	34 (65)
	WBR	4 (10)	0.12 (0.14)	A (A)	6 (m11)
	NBLTR	10 (16)	0.22 (0.33)	A (A)	18 (28)
	SBL	15 (19)	0.20 (0.30)	A (A)	18 (21)
	SBTR	9 (15)	0.20 (0.33)	A (A)	15 (31)
Somerset Street West & Preston Street	EBL	12 (17)	0.10 (0.20)	A (A)	6 (12)
	EBTR	16 (25)	0.47 (0.64)	A (B)	52 (76)
	WBL	12 (18)	0.11 (0.23)	A (A)	6 (13)
	WBTR	13 (20)	0.23 (0.49)	A (A)	25 (58)
	NBL	23 (44)	0.42 (0.66)	A (B)	16 (22)
	NBTR	22 (48)	0.54 (0.90)	A (D)	53 (106)
	SBL	17 (37)	0.19 (0.47)	A (A)	9 (15)
	SBTR	24 (33)	0.64 (0.74)	B (C)	72 (88)
Somerset Street West & Rochester Street	EBLTR	9 (10)	0.39 (0.41)	A (A)	39 (47)
	WBLTR	9 (12)	0.29 (0.49)	A (A)	27 (56)
	NBLTR	13 (18)	0.28 (0.44)	A (A)	4 (20)
	SBLTR	21 (20)	0.11 (0.11)	A (A)	11 (12)
Preston St & Oak St	EBLR	14 (15)	0.01 (0.02)	A (A)	-
	SBTR	-	0.29 (0.27)	A (A)	-
	NBLT	-	0.00(0.00)	A (A)	-



3.6.5.3 Future Total Capacity Analysis

Table 24 shows intersection movement operations under Phase 1 future total volumes, with all movements operating within capacity at LOS A in the AM peak and LOS D or better in the PM peak.

Table 24: Intersection Turning Movement Operations - Phase 1 Future Conditions

Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
Somerset Street West & Bayswater Avenue	EBLT	16 (15)	0.34 (0.36)	A (A)	36 (41)
	EBR	3 (4)	0.03 (0.04)	A (A)	1 (2)
	WBLT	16 (19)	0.35 (0.56)	A (A)	35 (59)
	WBR	4 (4)	0.12 (0.14)	A (A)	6 (7)
	NBLTR	10 (16)	0.23 (0.33)	A (A)	19 (29)
	SBL	15 (19)	0.21 (0.31)	A (A)	18 (21)
	SBTR	9 (15)	0.20 (0.33)	A (A)	15 (31)
Somerset Street West & Preston Street	EBL	12 (17)	0.10 (0.20)	A (A)	6 (12)
	EBTR	17 (24)	0.52 (0.65)	A (B)	58 (73)
	WBL	14 (19)	0.21 (0.25)	A (A)	9 (14)
	WBTR	13 (20)	0.23 (0.49)	A (A)	25 (58)
	NBL	24 (45)	0.45 (0.68)	A (B)	17 (23)
	NBTR	22 (48)	0.54 (0.90)	A (D)	54 (106)
	SBL	17 (37)	0.19 (0.47)	A (A)	9 (15)
	SBTR	24 (33)	0.65 (0.74)	B (C)	73 (89)
Somerset Street West & Rochester Street	EBLTR	9 (10)	0.39 (0.41)	A (A)	39 (47)
	WBLTR	9 (12)	0.31 (0.49)	A (A)	30 (56)
	NBLTR	13 (18)	0.28 (0.44)	A (A)	4 (20)
	SBLTR	20 (19)	0.12 (0.12)	A (A)	11 (12)
Preston Street & Oak Street	EBLR	16 (16)	0.13 (0.05)	A (A)	3 (1)
	NBLT	1 (1)	0.01 (0.00)	A (A)	0 (0)
	SBTR	0 (0)	0.32 (0.28)	A (A)	0 (0)
Somerset St West & Unsignalized Access	EBTR	0 (0)	0.23 (0.26)	A (A)	0 (0)
	WBL	0 (0)	0.00 (0.00)	A (A)	0 (0)
	WBT	0 (0)	0.15 (0.27)	A (A)	0 (0)
Oak Street & Unsignalized Access	EBT	0 (0)	0.03 (0.01)	A (A)	0 (0)
	WBT	0 (0)	0.04 (0.01)	A (A)	0 (0)
	SBLR	0 (0)	0.00 (0.00)	A (A)	0 (0)



3.6.5.4 Recommended Intersection Improvements

- No intersection improvements are recommended to maintain an acceptable level of service upon build-out of Phase 1.

3.6.6 Phase 2 (Affordable Housing)

3.6.6.1 MMLOS Analysis

Table 25 shows the MMLOS results at the study intersections under the phase 2 future conditions volumes. MMLOS at all intersections are similar to phase 1 future conditions as there are no multi-modal infrastructure changes proposed in the area. However, the TLOS at Somerset Street West and Signalized Access changes from D to E due to the increase in traffic delays at the east and west approaches, exceeding the target of LOS D here.

Table 25: Study Intersections MMLOS – Phase 2 Future Conditions

Intersections		Level of Service (LOS)			
		Pedestrian (PLOS)	Bike (BLOS)	Transit (TLOS)	Truck (TkLOS)
Somerset Street West and Bayswater Avenue	Actual	C	D	C	F
	Target	A	B	D	D
Somerset Street West and Preston Street	Actual	C	D	F	F
	Target	A	B	D	D
Somerset Street West and Rochester Street	Actual	D	D	C	F
	Target	A	B	D	D
Somerset Street West and Signalized Access	Actual	D	D	E	F
	Target	A	B	D	D

3.6.6.1.1 Somerset Street West and Signalized Access

Pedestrian Level of Service (PLOS)

Pedestrians are anticipated to cross three (two thru and one left turn) lanes in the east, two in the west and south approach of the intersection. The eastbound left turn movement is anticipated to be permissive



and corner radii at the intersection are assumed to be 5-10m. The intersection has a PLOS of D due to delays experienced by pedestrians on the east and west approach. The average PETSI score at the intersection has been calculated at 86, corresponding with PLOS of B.

Bike Level of Service (BLOS)

Cyclists will operate as mixed-traffic in the east-west direction along Somerset Street West. Based on the analysis, the intersection received an LTS 3, representing BLOS of D.

Transit Level of Service (TLOS)

Somerset Street West and Preston Street experiences a TLOS of C due to delay of more than 10s on the east and west approach. The TLOS at this intersection can be addressed by optimizing the Signal Timing Plan at the intersection.

Truck Level of Service (TkLOS)

Preston Street is also a designated urban truck route in addition to Somerset Street West. The intersection has one receiving lane on departure at each approach and effective corner radii of less than 10m. As a result, the intersection experiences a TkLOS rating of F.



3.6.6.2 Future Background Capacity Analysis

Table 26 shows the movement operations at the study intersections under phase 2 future background volumes. The northbound thru/right movement at Somerset Street West and Preston Street slightly exceeds capacity, operating at LOS F during the PM peak hour. The movement experiences delays of over a minute. All other intersection movements operate within capacity at LOS C or better during the AM peak hour and LOS D or better during the PM peak hour.

Table 26: Intersection Turning Movement Operations - Phase 2 Background Conditions

Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
Somerset Street West & Bayswater Avenue	EBLT	16 (15)	0.32 (0.36)	A (A)	34 (41)
	EBR	3 (4)	0.03 (0.04)	A (A)	1 (2)
	WBLT	16 (24)	0.35 (0.56)	A (A)	35 (65)
	WBR	4 (10)	0.12 (0.14)	A (A)	6 (10)
	NBLTR	10 (16)	0.22 (0.33)	A (A)	18 (28)
	SBL	15 (19)	0.20 (0.30)	A (A)	18 (21)
	SBTR	9 (15)	0.20 (0.33)	A (A)	15 (31)
Somerset Street West & Preston Street	EBL	12 (18)	0.10 (0.20)	A (A)	6 (12)
	EBTR	16 (25)	0.47 (0.65)	A (B)	53 (79)
	WBL	12 (18)	0.11 (0.23)	A (A)	6 (13)
	WBTR	13 (20)	0.23 (0.49)	A (A)	25 (58)
	NBL	26 (65)	0.49 (0.81)	A (D)	17 (28)
	NBTR	23 (70)	0.60 (1.01)	A (F)	60 (125)
	SBL	18 (52)	0.21 (0.59)	A (A)	9 (19)
	SBTR	25 (37)	0.68 (0.80)	B (C)	77 (100)
Somerset Street West & Rochester Street	EBLTR	9 (10)	0.39 (0.41)	A (A)	39 (47)
	WBLTR	9 (12)	0.29 (0.49)	A (A)	27 (56)
	NBLTR	13 (18)	0.28 (0.44)	A (A)	4 (20)
	SBLTR	21 (20)	0.11 (0.11)	A (A)	11 (12)
Preston St & Oak St	EBLR	14 (15)	0.08 (0.10)	A (A)	-
	SBTR	-	0.30 (0.30)	A (A)	-
	NBLT	-	0.01(0.02)	A (A)	-
	Overall	-	-	-	-



3.6.6.3 Future Total Capacity Analysis

Table 27 presents the intersection movement operations at the study intersections under Phase 2 future total volumes. The performance of the intersection movements is similar to that observed under the Phase 2 future background volumes.

Table 27: Intersection Turning Movement Operations - Phase 2 Future Conditions

Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
Somerset Street West & Bayswater Avenue	EBLT	16 (15)	0.35 (0.37)	A (A)	37 (42)
	EBR	3 (4)	0.03 (0.04)	A (A)	1 (2)
	WBLT	16 (19)	0.35 (0.57)	A (A)	36 (60)
	WBR	4 (4)	0.12 (0.14)	A (A)	6 (7)
	NBLTR	10 (16)	0.23 (0.33)	A (A)	19 (29)
	SBL	15 (19)	0.21 (0.31)	A (A)	18 (21)
	SBTR	9 (15)	0.20 (0.33)	A (A)	15 (31)
Somerset Street West & Preston Street	EBL	12 (17)	0.10 (0.20)	A (A)	6 (12)
	EBTR	17 (24)	0.53 (0.66)	A (B)	59 (74)
	WBL	14 (19)	0.21 (0.25)	A (A)	9 (14)
	WBTR	13 (20)	0.23 (0.49)	A (A)	25 (58)
	NBL	28 (67)	0.52 (0.82)	A (D)	18 (29)
	NBTR	23 (70)	0.60 (1.01)	A (F)	61 (125)
	SBL	18 (52)	0.21 (0.59)	A (A)	9 (19)
	SBTR	25 (37)	0.68 (0.80)	B (C)	78 (100)
Somerset Street West & Rochester Street	EBLTR	9 (10)	0.40 (0.42)	A (A)	40 (48)
	WBLTR	9 (12)	0.31 (0.50)	A (A)	30 (57)
	NBLTR	13 (18)	0.28 (0.44)	A (A)	4 (20)
	SBLTR	20 (19)	0.12 (0.12)	A (A)	11 (12)
Preston Street & Oak Street	EBLR	18 (17)	0.21 (0.13)	A (A)	6 (3)
	NBLT	1 (1)	0.02 (0.02)	A (A)	1 (1)
	SBTR	0 (0)	0.34 (0.30)	A (A)	0 (0)
Somerset Street West & Signalized Access	EBTR	35 (33)	0.71 (0.71)	C (C)	77 (80)
	WBL	18 (16)	0.01 (0.01)	A (A)	1 (1)
	WBT	28 (33)	0.48 (0.73)	A (C)	50 (82)
	NBL	11 (12)	0.00 (0.00)	A (A)	1 (1)
	NBR	8 (10)	0.00 (0.00)	A (A)	1 (1)
Somerset St West & Unsignalized Access	EBTR	0 (0)	0.24 (0.26)	A (A)	0 (0)
	WBL	0 (0)	0.00 (0.00)	A (A)	0 (0)
	WBT	0 (0)	0.16 (0.27)	A (A)	0 (0)



	NBLR	0 (0)	0.00 (0.00)	A (A)	0 (0)
Oak Street & Unsignalized Access	EBT	0 (0)	0.04 (0.02)	A (A)	0 (0)
	WBT	0 (0)	0.05 (0.02)	A (A)	0 (0)
	SBLR	0 (0)	0.00 (0.00)	A (A)	0 (0)

3.6.6.4 Recommended Intersection Improvements

- Optimize signal timings for the intersection of Preston Street at Somerset Street West, to provide additional needed capacity for the northbound shared through/right-turn movement during the p.m. peak hour. See Section 6.8.4 for updated performance results with signal timing optimizations implemented, upon full build-out of the subject site.
- Introduce a signalized access on Somerset Street to serve Phases 2, 3 and 4.

3.6.7 Phase 3 (Market-Rate Housing)

3.6.7.1 MMLOS Analysis

Table 28 shows the MMLOS results at the study intersections under the phase 3 future conditions volumes. MMLOS at all intersections are similar to phase 2 future conditions.

Table 28: Study Intersections MMLOS – Phase 3 Future Conditions

Intersections		Level of Service (LOS)			
		Pedestrian (PLOS)	Bike (BLOS)	Transit (TLOS)	Truck (TkLOS)
Somerset Street West and Bayswater Avenue	Actual	C	D	C	F
	Target	A	B	D	D
Somerset Street West and Preston Street	Actual	C	D	F	F
	Target	A	B	D	D
Somerset Street West and Rochester Street	Actual	D	D	C	F
	Target	A	B	D	D
Somerset Street West and Signalized Access	Actual	D	D	E	F
	Target	A	B	D	D



3.6.7.2 Future Background Capacity Analysis

Since the Phase 3 future background volumes are identical to those in Phase 2, the background results for Phase 3 are the same as those for Phase 2.

3.6.7.3 Future Total Capacity Analysis

Table 29 shows the intersection movement operations under the phase 3 future conditions volumes. All intersection movements are anticipated to operate similar to phase 2 future conditions.

Table 29: Intersection Turning Movement Operations - Phase 3 Future Conditions

Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
Somerset Street West & Bayswater Avenue	EBLT	16 (16)	0.36 (0.38)	A (A)	38 (43)
	EBR	3 (4)	0.03 (0.04)	A (A)	1 (2)
	WBLT	16 (19)	0.37 (0.58)	A (A)	38 (62)
	WBR	4 (4)	0.12 (0.14)	A (A)	6 (7)
	NBLTR	10 (16)	0.23 (0.34)	A (A)	19 (29)
	SBL	15 (19)	0.22 (0.31)	A (A)	19 (21)
	SBTR	9 (15)	0.20 (0.33)	A (A)	15 (31)
Somerset Street West & Preston Street	EBL	12 (17)	0.11 (0.21)	A (A)	7 (12)
	EBTR	17 (25)	0.55 (0.68)	A (B)	63 (77)
	WBL	14 (19)	0.22 (0.27)	A (A)	9 (14)
	WBTR	13 (20)	0.23 (0.51)	A (A)	25 (60)
	NBL	28 (71)	0.53 (0.85)	A (D)	18 (30)
	NBTR	23 (70)	0.60 (1.01)	A (F)	61 (125)
	SBL	18 (52)	0.21 (0.59)	A (A)	9 (19)
	SBTR	25 (38)	0.69 (0.81)	B (D)	78 (101)
Somerset Street West & Rochester Street	EBLTR	10 (10)	0.41 (0.42)	A (A)	42 (49)
	WBLTR	9 (12)	0.32 (0.51)	A (A)	31 (59)
	NBLTR	13 (18)	0.28 (0.44)	A (A)	4 (20)
	SBLTR	20 (19)	0.12 (0.12)	A (A)	11 (12)
Preston Street & Oak Street	EBLR	18 (17)	0.22 (0.13)	A (A)	6 (3)
	NBLT	1 (1)	0.02 (0.02)	A (A)	1 (1)
	SBTR	0 (0)	0.34 (0.30)	A (A)	0 (0)
Somerset Street West & Signalized Access	EBTR	35 (33)	0.72 (0.73)	C (C)	77 (82)
	WBL	20 (19)	0.06 (0.11)	A (A)	4 (5)
	WBT	27 (33)	0.47 (0.72)	A (C)	49 (82)
	NBL	11 (13)	0.01 (0.01)	A (A)	4 (3)
	NBR	5 (7)	0.03 (0.02)	A (A)	4 (3)



Somerset St West & Unsignalized Access	EBTR	0 (0)	0.25 (0.27)	A (A)	0 (0)
	WBL	0 (0)	0.00 (0.00)	A (A)	0 (0)
	WBT	0 (0)	0.16 (0.28)	A (A)	0 (0)
	NBLR	0 (0)	0.00 (0.00)	A (A)	0 (0)
Oak Street & Unsignalized Access	EBT	0 (0)	0.04 (0.02)	A (A)	0 (0)
	WBT	0 (0)	0.05 (0.02)	A (A)	0 (0)
	SBLR	0 (0)	0.00 (0.00)	A (A)	0 (0)

3.6.7.4 Recommended Intersection Improvements

- Optimize signal timings for the intersection of Preston Street at Somerset Street West, to provide additional needed capacity for the northbound shared through/right-turn movement during the p.m. peak hour. See Section 6.8.4 for updated performance results with signal timing optimizations implemented, upon full build-out of the subject site.

3.6.8 Phase 4 (Recreational and Cultural Centre)

3.6.8.1 MMLOS Analysis

MMLOS results under the phase 4 future volumes are consistent with the results from the phase 2 future conditions.

3.6.8.2 Future Background Capacity Analysis

Table 30 presents the intersection movement operations under phase 4 future background volumes. The northbound thru/right movement at Somerset Street West and Preston Street is anticipated to worsen, experiencing delays of more than a minute and LOS F during the PM peak hour. All other intersection movements perform within capacity during the AM and PM peak hours.



Table 30: Intersection Turning Movement Operations - Phase 4 Background Conditions

Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
Somerset Street West & Bayswater Avenue	EBLT	16 (15)	0.32 (0.36)	A (A)	34 (41)
	EBR	3 (4)	0.03 (0.04)	A (A)	1 (2)
	WBLT	16 (24)	0.35 (0.56)	A (A)	35 (60)
	WBR	4 (10)	0.12 (0.14)	A (A)	6 (10)
	NBLTR	10 (16)	0.22 (0.33)	A (A)	18 (28)
	SBL	15 (19)	0.20 (0.30)	A (A)	18 (21)
	SBTR	9 (15)	0.20 (0.33)	A (A)	15 (31)
Somerset Street West & Preston Street	EBL	12 (18)	0.10 (0.20)	A (A)	6 (12)
	EBTR	16 (25)	0.47 (0.65)	A (B)	53 (79)
	WBL	12 (18)	0.11 (0.23)	A (A)	6 (13)
	WBTR	13 (20)	0.23 (0.49)	A (A)	25 (58)
	NBL	29 (104)	0.54 (0.97)	A (E)	18 (32)
	NBTR	25 (107)	0.65 (1.13)	B (F)	67 (145)
	SBL	18 (52)	0.23 (0.59)	A (A)	9 (19)
	SBTR	27 (43)	0.72 (0.86)	C (D)	83 (111)
Somerset Street West & Rochester Street	EBLTR	9 (10)	0.39 (0.41)	A (A)	39 (47)
	WBLTR	9 (12)	0.29 (0.49)	A (A)	27 (56)
	NBLTR	13 (18)	0.28 (0.44)	A (A)	4 (20)
	SBLTR	21 (20)	0.11 (0.11)	A (A)	11 (12)
Preston St & Oak St	EBLR	15 (15)	0.09 (0.11)	A (A)	-
	SBTR	-	0.32 (0.31)	A (A)	-
	NBLT	-	0.01 (0.02)	A (A)	-

3.6.8.3 Future Total Capacity Analysis

Table 31 presents the intersection movement operations under phase future total volumes. The northbound thru/right movement at Somerset Street West and Preston Street continues to operate overcapacity with delays of more than a minute and LOS F during the PM peak hour. The northbound left movement at the same intersection performs over capacity with more than two (2) minutes of delay and LOS F during the PM peak hour. All other intersection movements perform at acceptable during the AM and PM peak hours.



Table 31: Intersection Turning Movement Operations - Phase 4 Future Conditions

Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
Somerset Street West & Bayswater Avenue	EBLT	17 (16)	0.39 (0.39)	A (A)	41 (45)
	EBR	3 (4)	0.03 (0.04)	A (A)	1 (2)
	WBLT	17 (20)	0.39 (0.60)	A (A)	40 (64)
	WBR	4 (4)	0.12 (0.14)	A (A)	6 (7)
	NBLTR	10 (16)	0.24 (0.34)	A (A)	19 (29)
	SBL	15 (19)	0.22 (0.32)	A (A)	19 (21)
	SBTR	9 (15)	0.20 (0.33)	A (A)	15 (31)
Somerset Street West & Preston Street	EBL	12 (18)	0.12 (0.24)	A (A)	7 (13)
	EBTR	18 (26)	0.58 (0.72)	A (C)	67 (83)
	WBL	14 (20)	0.23 (0.29)	A (A)	9 (15)
	WBTR	13 (21)	0.27 (0.53)	A (A)	29 (63)
	NBL	38 (139)	0.65 (1.09)	B (F)	21 (36)
	NBTR	25 (108)	0.66 (1.13)	B (F)	67 (146)
	SBL	18 (52)	0.23 (0.59)	A (A)	9 (19)
	SBTR	28 (45)	0.74 (0.88)	C (D)	88 (114)
Somerset Street West & Rochester Street	EBLTR	10 (10)	0.43 (0.44)	A (A)	44 (52)
	WBLTR	10 (12)	0.35 (0.52)	A (A)	33 (61)
	NBLTR	14 (18)	0.29 (0.46)	A (A)	5 (20)
	SBLTR	19 (18)	0.13 (0.13)	A (A)	11 (12)
Preston Street & Oak Street	EBLR	19 (20)	0.23 (0.15)	A (A)	7 (4)
	NBLT	1 (1)	0.03 (0.02)	A (A)	1 (1)
	SBTR	0 (0)	0.36 (0.32)	A (A)	0 (0)
Somerset Street West & Signalized Access	EBTR	33 (32)	0.72 (0.73)	C (C)	79 (83)
	WBL	27 (23)	0.34 (0.26)	A (A)	14 (10)
	WBT	26 (31)	0.45 (0.70)	A (B)	47 (80)
	NBL	12 (13)	0.03 (0.02)	A (A)	7 (7)
	NBR	5 (5)	0.05 (0.04)	A (A)	6 (6)
Somerset St West & Unsignalized Access	EBTR	0 (0)	0.26 (0.28)	A (A)	0 (0)
	WBL	9 (9)	0.00 (0.00)	A (A)	0 (0)
	WBT	0 (0)	0.19 (0.29)	A (A)	0 (0)
	NBLR	13 (12)	0.01 (0.01)	A (A)	0 (0)
Oak Street & Unsignalized Access	EBT	0 (0)	0.04 (0.02)	A (A)	0 (0)
	WBT	0 (0)	0.05 (0.02)	A (A)	0 (0)
	SBLR	0 (0)	0.00 (0.00)	A (A)	0 (0)



3.6.8.4 Recommended Intersection Improvements

- Optimize signal timings for the intersection of Preston Street at Somerset Street West, to provide additional needed capacity for the northbound shared through/right-turn movement during the p.m. peak hour. See **Table 32** below for the results from the capacity analysis with the optimized timings, indicating all movements operating with an acceptable level of service.

Table 32: Intersection operations with optimized STP

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
Preston St & Somerset St W (Optimized STP)	EBL	12 (25)	0.12 (0.34)	A (A)	7 (15)
	EBTR	17 (42)	0.53 (0.87)	A (D)	60 (104)
	WBL	13 (34)	0.17 (0.46)	A (A)	7 (18)
	WBTR	13 (28)	0.28 (0.65)	A (B)	31 (73)
	NBL	38 (36)	0.65 (0.63)	B (B)	21 (23)
	NBTR	25 (44)	0.66 (0.91)	B (E)	67 (127)
	SBL	18 (36)	0.23 (0.49)	A (A)	9 (15)
	SBTR	28 (27)	0.74 (0.71)	C (C)	88 (88)



3.7 Summary of Findings

- Transit network analysis highlights an anticipated increase in ridership, during the AM and PM peak hours, may require scheduling and frequency adjustments.
- TDM measures play a critical role in reducing single-occupancy vehicle trips and should promote sustainable travel modes, including enhanced bicycle parking, subsidized transit passes, and carpooling programs
- **Existing conditions,**
 - » The Transit Level of Service (TLOS) fails to meet the desired target at Somerset Street West and Preston Street.
 - » The Truck Level of Service (TkLOS) fails to meet the desired target at intersections along Somerset Street West at Bayswater Avenue, Preston Street, and Rochester Street.
 - » All study intersections are currently operating acceptably at peak hours, maintaining an acceptable level of service.
- **Phase 1,**
 - » The Transit Level of Service (TLOS) fails to meet the desired target at Somerset Street West and Preston Street.
 - » The Truck Level of Service (TkLOS) fails to meet the desired target at intersections along Somerset Street West at Bayswater Avenue, Preston Street, and Rochester Street.
 - » All study intersections are currently operating acceptably at peak hours, maintaining an acceptable level of service.
- **Phase 2,**
 - » The Transit Level of Service (TLOS) fails to meet the desired target at Somerset Street West and Preston Street.
 - » The Truck Level of Service (TkLOS) fails to meet the desired target at intersections along Somerset Street West at Bayswater Avenue, Preston Street, and Rochester Street.
 - » The northbound thru/right at Somerset Street West and Preston Street is anticipated to operate overcapacity at LOS F during the PM peak hour under the future background volumes. All other intersection movements operate acceptably at LOS B or better during AM peak hour and LOS D or better during PM peak hour
 - » It is recommended that the Signal Timing Plan (STP) be update at Somerset Street West and Preston Street during the PM peak period to allocate more green time to the northbound movement, allowing the movement to operate within capacity at acceptable LOS.
- **Phase 3,**
 - » The northbound thru/right at Somerset Street West and Preston Street continue to operate overcapacity at LOS F. All other movements continue to operate under capacity at LOS B or better during AM peak hour and LOS D or better during PM peak hour under the future total volumes.

- **Phase 4,**
 - » The northbound left and thru/right movements are anticipated to operate overcapacity at LOS F. All other intersection movements perform within capacity at LOS B or better during AM peak hour and LOS D or better during PM peak hour under the future total volumes

3.8 Recommendations

The recommendations are as follows:

- Develop internal pedestrian pathways to connect directly to boundary sidewalks, nearby transit stops, and local amenities.
- Include pedestrian safety features such as raised crosswalks, traffic calming measures, and clear wayfinding signage to enhance accessibility and mobility within the site.
- 215 bicycle parking spaces for residential, 7 for the recreational and cultural centre, and 56 for the elementary school should be provided in compliance with the City's Zoning By-Law.
- While a dedicated cycling infrastructure would improve the Bike Level of Service (BLOS) along Somerset Street West, its implementation is not recommended due to the lack of connectivity to the broader dedicated cycling infrastructure in the area.
- Although OC Transpo has planned transit improvements in the study area to accommodate increasing demands, it is recommended that the transit service levels be monitored under the potential ridership increase and implement adjustments such as frequency changes or route modifications, as necessary.
- Continue to monitor intersection operations at the intersection of Somerset Street West at Preston Street. Should the northbound shared through/right-turn lane experience operational concerns over times as traffic volumes in the area increase (potentially), optimize the intersection's signal timings to provide additional needed capacity (if required).

Phase 1 (Elementary School)

- Use of the existing westernmost unsignalized access for the City of Ottawa Plant Recreation Centre.
 - » This access will continue to function as one-of-two general vehicular entry/exit points for the Plant Recreation Centre but will also provide access for service vehicles for the future recreation and cultural facility and bus access for the future school.
 - » Auxiliary turn lanes are not proposed at this access intersection, with one inbound lane and one outbound lane within the driveway, and no auxiliary turn lanes on Somerset Street West, as consistent with existing conditions.
- **A new unsignalized access on Oak Street**, approximately 100 metres west of Preston Street.
 - » This access will function as the entry/exit point for the future school, specifically for school buses.

- » Auxiliary turn lanes are not proposed at this access intersection, with one inbound lane and one outbound lane within the driveway, and no auxiliary turn lanes on Oak Street as consistent with existing conditions.

Phase 2 (Affordable Housing)

- **A new signalized access on Somerset Street West**, approximately 190 metres west of the existing signal at Preston Street, and approximately 350 metres east of the existing signal at Bayswater Avenue.
 - » This access will function as the general vehicular entry/exit point for the future residential development and the future recreation and cultural facility.
 - » An auxiliary left-turn lane with a storage length of 15 metres is recommended for the westbound left-turn movement.
 - » An auxiliary left-turn lane with a storage length of 15 metres is recommended for the northbound left-turn movement.

Phase 3 (Market-Rate Housing)

- No additional changes to the site's access arrangement are required at Phase 3.

Phase 4 (Culture and Recreation Centre)

- No additional changes to the site's access arrangement are required at Phase 4.

Appendix A TIA Screening Form

Summary of Development

Municipal Address	1010 Somerset St W
Description of Location	Southwest of Somerset St W and Preston St.
Land Use Classification	Residential, Elementary School, Community Centre, Park space
Development Size (units)	Proposed 300 residential units (150 affordable housing units, 150 market-rate housing units) Existing: Impark facility (~267,000 ft ²), restaurants (~8370 ft ²)
Development Size (m²)	Proposed community centre: 10,219 m ² (110,000 ft ²) Proposed elementary school: 60,060 ft ² (approximately 449 students and 89 children in childcare) Park Space: 1 Acre
Number of Accesses and Locations	One existing unsignalized access on Somerset St W (two other accesses at adjacent Plan Rec Centre property). Proposed signalized access on Somerset St W and proposed unsignalized access on Oak Street; maintain two existing accesses for Plant Rec Centre property.
Phase of Development	4 phases
Buildout Year	Assumed build-out and occupancy by 2038

If available, please attach a sketch of the development or site plan to this form.

Trip Generation Trigger

Considering the Development's Land Use type and Size (as filled out in the previous section), please refer to the Trip Generation Trigger checks below.

Land Use Type	Minimum Development Size	Triggered
Single-family homes	40 units	✗
Townhomes or apartments	90 units	✓
Office	3,500 m ²	✗
Industrial	5,000 m ²	✗
Fast-food restaurant or coffee shop	100 m ²	✗
Destination retail	1,000 m ²	✗
Gas station or convenience market	75 m ²	✗

* If the development has a land use type other than what is presented in the table above, estimates of person-trip generation may be made based on average trip generation characteristics represented in the current edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.

If the proposed development size is greater than the sizes identified above, **the Trip Generation Trigger is satisfied.**

Location Triggers

	Yes	No
Does the development propose a new driveway to a boundary street that is designated as part of the City's Transit Priority, Rapid Transit or Spine Bicycle Networks?	✓	
Is the development in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone? *	✓	

*DPA and TOD are identified in the City of Ottawa Official Plan (DPA in Section 2.5.1 and Schedules A and B; TOD in Annex 6). See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA).

If any of the above questions were answered with 'Yes,' **the Location Trigger is satisfied.**

Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 km/hr or greater?		✗
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?	✓	
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e., within 300 m of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?	✓	
Is the proposed driveway within auxiliary lanes of an intersection?		✗
Does the proposed driveway make use of an existing median break that serves an existing site?		✗
Is there a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?		✗
Does the development include a drive-thru facility?		✗

If any of the above questions were answered with 'Yes,' **the Safety Trigger is satisfied.**

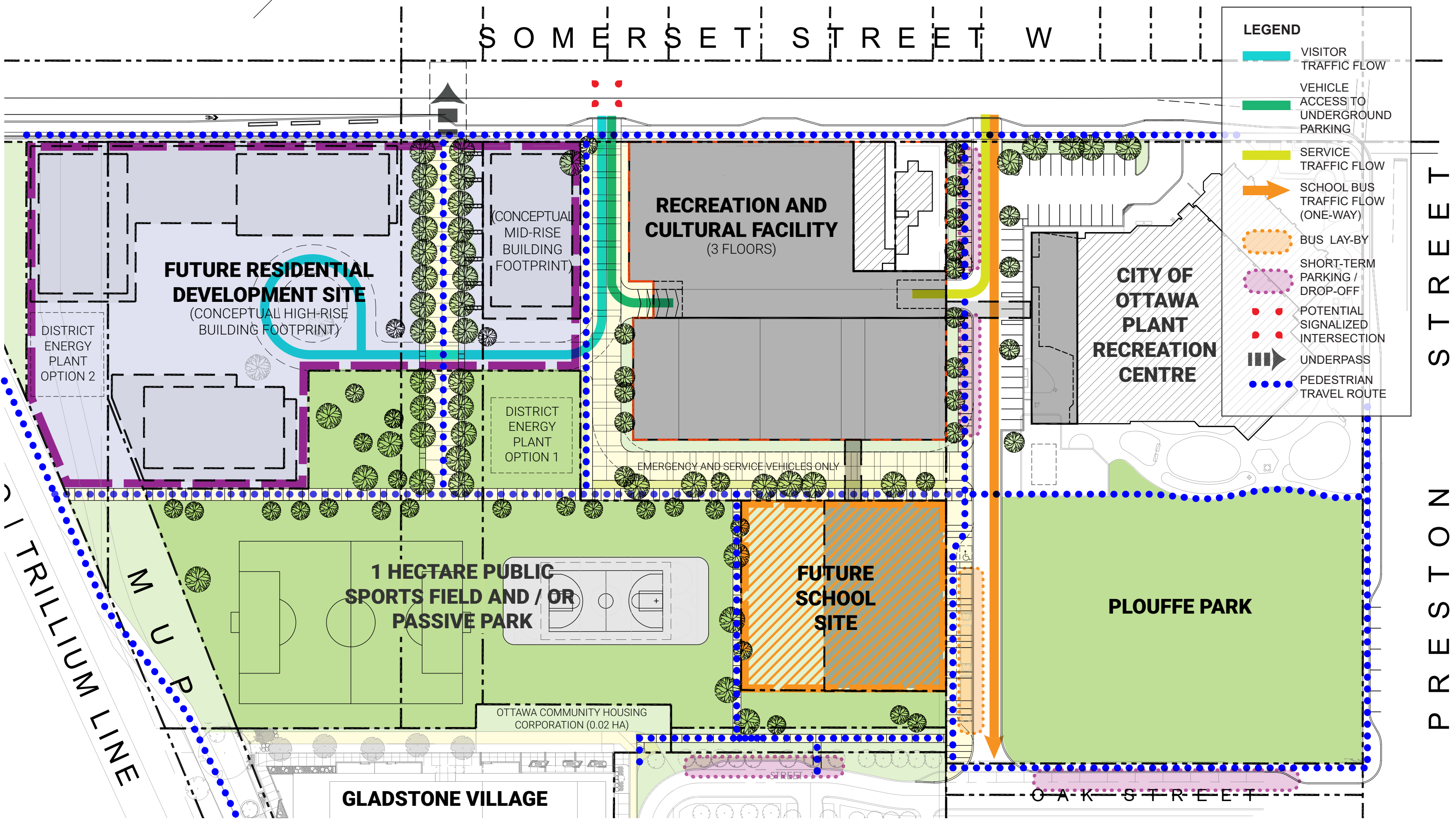
Summary

Yes	No
-----	----

Does the development satisfy the Trip Generation Trigger?	✓	
Does the development satisfy the Location Trigger?	✓	
Does the development satisfy the Safety Trigger?	✓	

If none of the triggers are satisfied, the TIA Study is complete. If one or more of the triggers is satisfied, the TIA Study must continue into the next stage (Screening and Scoping).

Appendix B Concept Plan



1010 SOMERSET

Appendix C Traffic Count and Signal Timing Plans

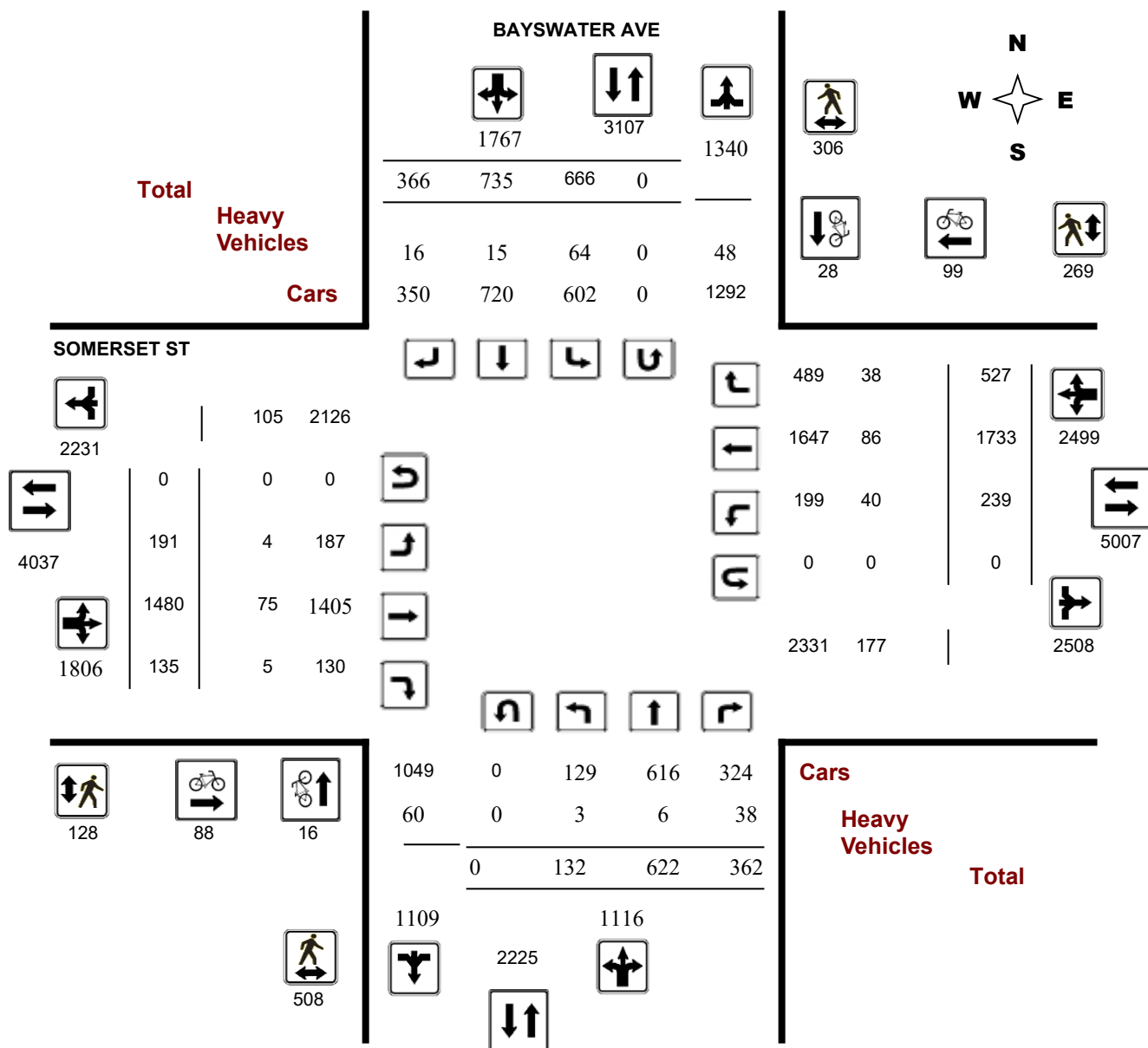
Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

WO No: 40520

Device: Miovision

Full Study Diagram



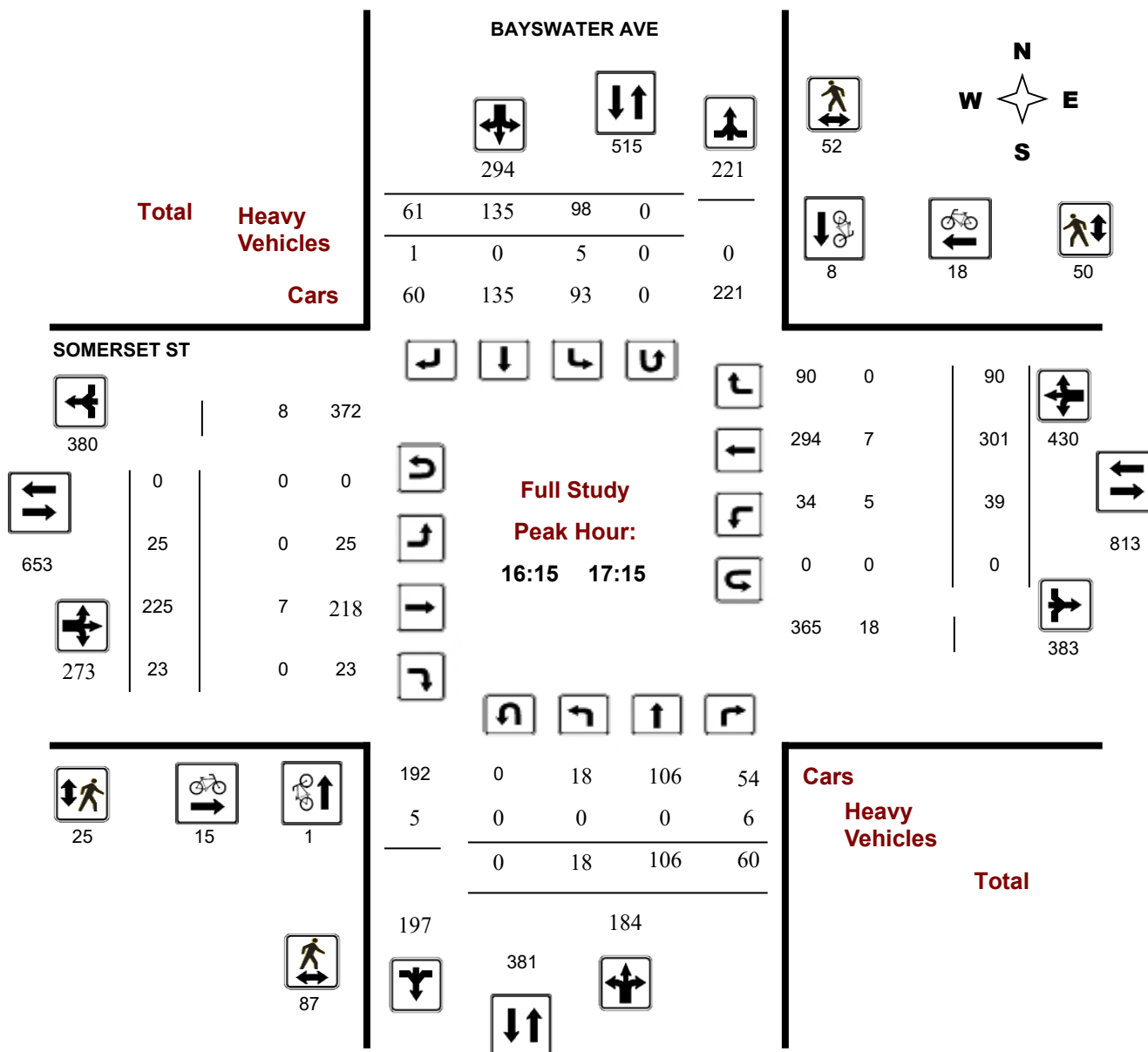
Survey Date: Tuesday, August 23, 2022

WO No: 40520

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram



Turning Movement Count - Peak Hour Diagram

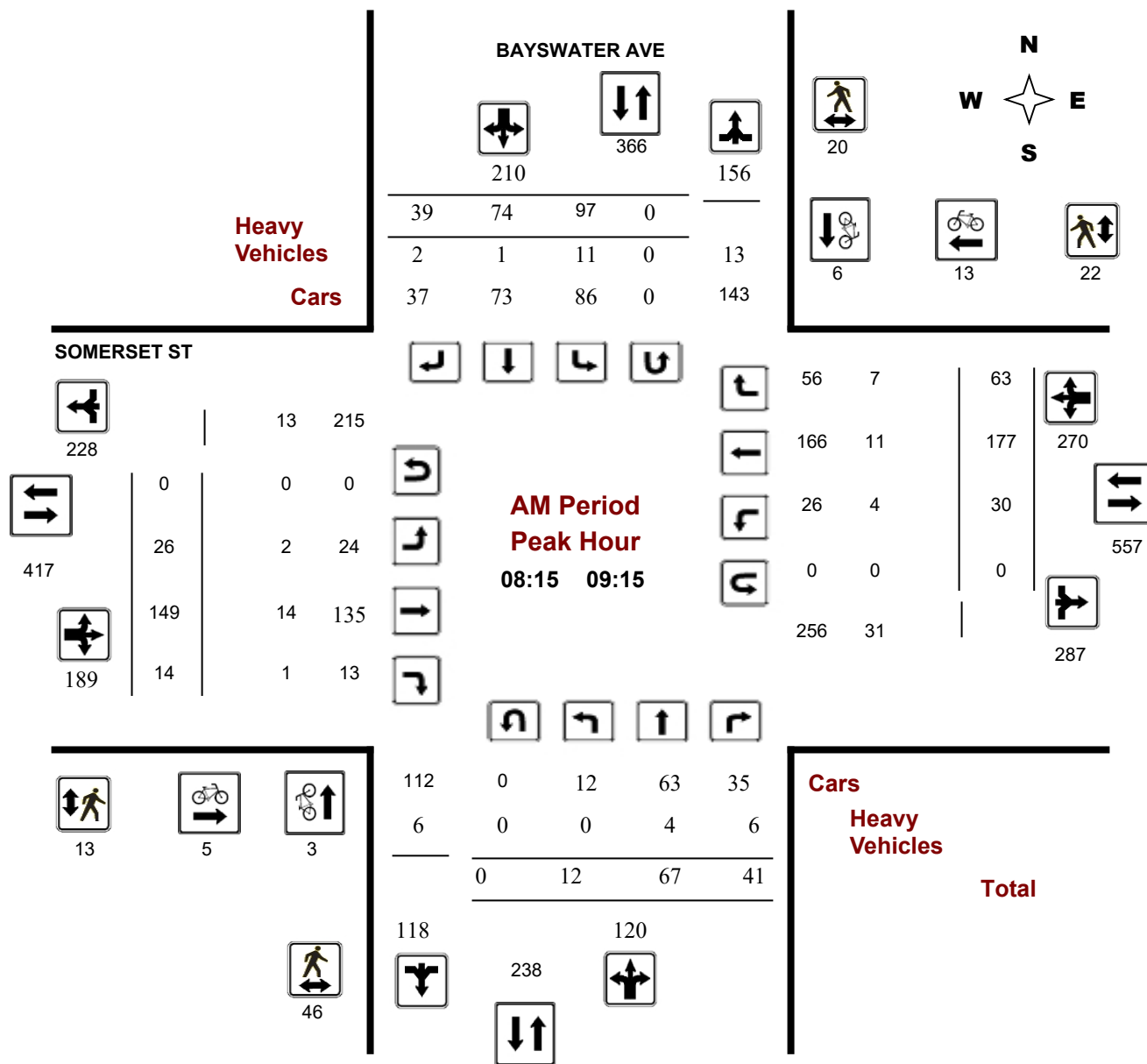
BAYSWATER AVE @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

WO No: 40520

Device: Miovision



Turning Movement Count - Peak Hour Diagram

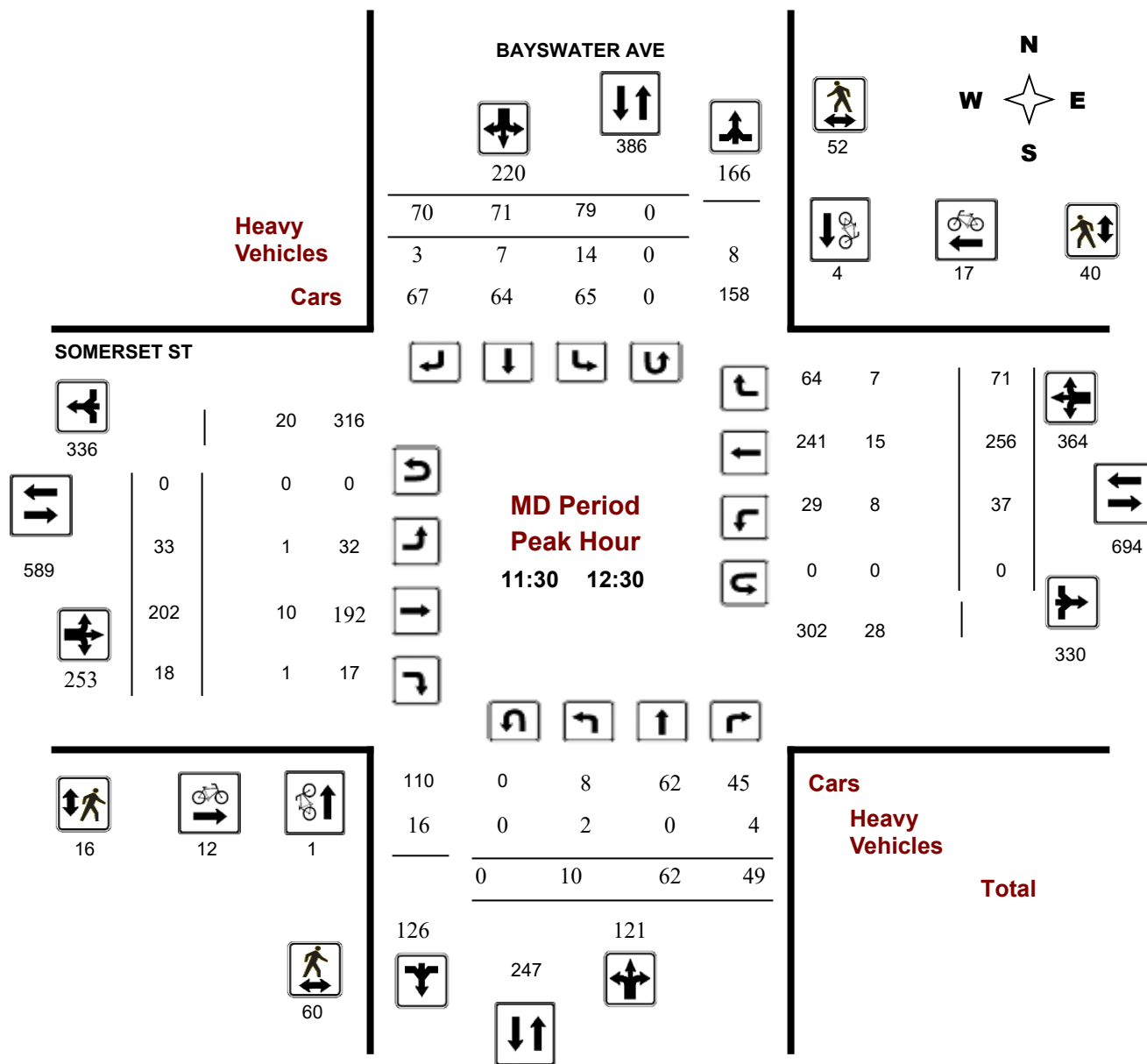
BAYSWATER AVE @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

WO No: 40520

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

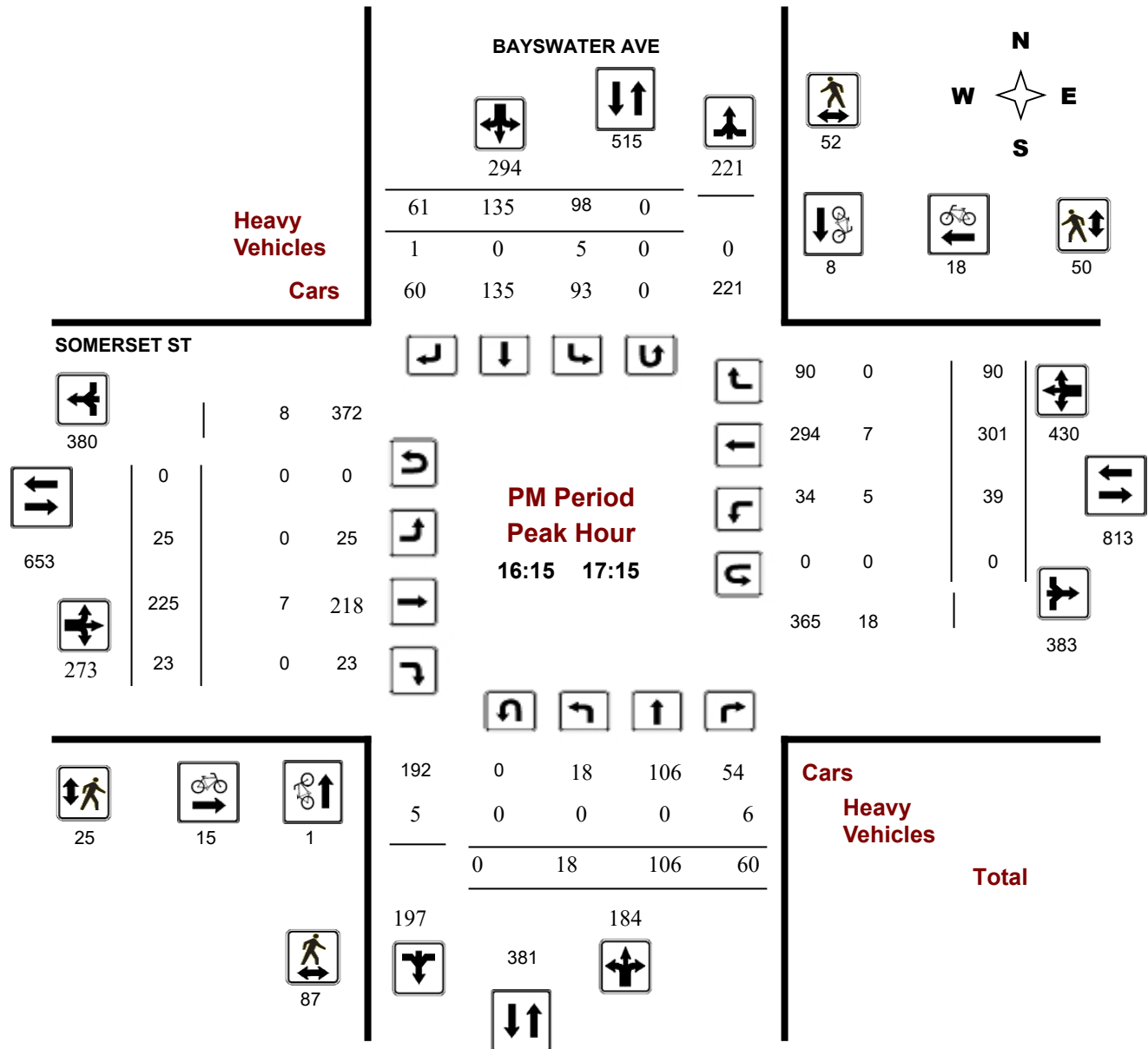
BAYSWATER AVE @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

WO No: 40520

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYSWATER AVE @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

WO No: 40520

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, August 23, 2022

Total Observed U-Turns

AADT Factor

Northbound: 0 Southbound: 0

.90

Eastbound: 0 Westbound: 0

BAYSWATER AVE

SOMERSET ST

		Northbound				Southbound				Eastbound				Westbound						Grand Total
Period		LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	
07:00	08:00	8	35	24	67	58	71	21	150	217	17	104	6	127	15	109	40	164	291	508
08:00	09:00	14	65	46	125	101	78	36	215	340	22	160	13	195	34	164	56	254	449	789
09:00	10:00	14	52	44	110	67	67	28	162	272	27	168	18	213	25	179	57	261	474	746
11:30	12:30	10	62	49	121	79	71	70	220	341	33	202	18	253	37	256	71	364	617	958
12:30	13:30	10	72	47	129	74	94	55	223	352	21	195	17	233	27	221	76	324	557	909
15:00	16:00	36	121	50	207	104	115	44	263	470	24	220	24	268	34	258	76	368	636	1106
16:00	17:00	22	107	56	185	105	134	57	296	481	20	213	17	250	34	300	86	420	670	1151
17:00	18:00	18	108	46	172	78	105	55	238	410	27	218	22	267	33	246	65	344	611	1021
Sub Total		132	622	362	1116	666	735	366	1767	2883	191	1480	135	1806	239	1733	527	2499	4305	7188
U Turns		0				0				0	0				0				0	0
Total		132	622	362	1116	666	735	366	1767	2883	191	1480	135	1806	239	1733	527	2499	4305	7188
EQ 12Hr		183	865	503	1551	926	1022	509	2456	4007	265	2057	188	2510	332	2409	733	3474	5984	9991
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														1.39						
AVG 12Hr		165	778	453	1396	833	1205	600	2210	3606	238	1851	169	2259	299	2168	660	3127	5386	8992
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														.90						
AVG 24Hr		216	1019	593	1829	1091	1579	786	2895	4724	312	2425	221	2959	392	2840	865	4096	7056	11780
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														1.31						
Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.																				



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYSWATER AVE @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

WO No: 40520

Start Time: 07:00

Device: Miovision

Full Study 15 Minute Increments

BAYSWATER AVE

SOMERSET ST

Northbound

Southbound

Eastbound

Westbound

Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00 07:15	1	4	2	7	10	12	2	24	31	4	22	1	27	6	29	7	42	69	100
07:15 07:30	2	6	7	15	17	18	5	40	55	2	24	2	28	4	27	5	36	64	119
07:30 07:45	3	13	4	20	13	19	7	39	59	3	32	1	36	3	19	14	36	72	131
07:45 08:00	2	12	11	25	18	22	7	47	72	8	26	2	36	2	34	14	50	86	158
08:00 08:15	4	12	14	30	26	20	4	50	80	3	52	3	58	11	32	12	55	113	193
08:15 08:30	6	17	13	36	23	18	5	46	82	6	31	2	39	7	41	17	65	104	186
08:30 08:45	2	19	7	28	26	17	11	54	82	6	37	5	48	8	40	10	58	106	188
08:45 09:00	2	17	12	31	26	23	16	65	96	7	40	3	50	8	51	17	76	126	222
09:00 09:15	2	14	9	25	22	16	7	45	70	7	41	4	52	7	45	19	71	123	193
09:15 09:30	6	14	10	30	14	13	5	32	62	5	46	3	54	7	45	17	69	123	185
09:30 09:45	5	11	15	31	17	17	6	40	71	6	37	3	46	8	49	12	69	115	186
09:45 10:00	1	13	10	24	14	21	10	45	69	9	44	8	61	3	40	9	52	113	182
11:30 11:45	2	19	11	32	18	23	11	52	84	7	51	5	63	7	68	18	93	156	240
11:45 12:00	2	15	17	34	27	19	21	67	101	7	50	3	60	8	63	15	86	146	247
12:00 12:15	6	15	11	32	18	15	21	54	86	13	48	7	68	15	62	22	99	167	253
12:15 12:30	0	13	10	23	16	14	17	47	70	6	53	3	62	7	63	16	86	148	218
12:30 12:45	3	20	13	36	29	24	15	68	104	4	45	3	52	10	54	19	83	135	239
12:45 13:00	1	18	10	29	16	32	15	63	92	8	48	7	63	5	48	15	68	131	223
13:00 13:15	3	18	14	35	15	21	10	46	81	4	49	4	57	8	61	22	91	148	229
13:15 13:30	3	16	10	29	14	17	15	46	75	5	53	3	61	4	58	20	82	143	218
15:00 15:15	7	28	9	44	25	32	11	68	112	6	55	6	67	7	78	13	98	165	277
15:15 15:30	13	34	14	61	25	32	9	66	127	10	55	4	69	9	57	27	93	162	289
15:30 15:45	8	23	14	45	24	28	18	70	115	6	59	10	75	10	60	23	93	168	283
15:45 16:00	8	36	13	57	30	23	6	59	116	2	51	4	57	8	63	13	84	141	257
16:00 16:15	8	28	10	46	25	38	12	75	121	3	45	2	50	7	59	18	84	134	255
16:15 16:30	5	22	15	42	26	23	19	68	110	6	54	4	64	10	68	18	96	160	270
16:30 16:45	6	24	16	46	31	33	11	75	121	7	60	4	71	11	93	24	128	199	320
16:45 17:00	3	33	15	51	23	40	15	78	129	4	54	7	65	6	80	26	112	177	306
17:00 17:15	4	27	14	45	18	39	16	73	118	8	57	8	73	12	60	22	94	167	285
17:15 17:30	4	27	7	38	28	33	16	77	115	4	54	2	60	7	67	16	90	150	265
17:30 17:45	7	30	11	48	15	19	12	46	94	7	49	5	61	7	68	18	93	154	248
17:45 18:00	3	24	14	41	17	14	11	42	83	8	58	7	73	7	51	9	67	140	223
Total:	132	622	362	1116	666	735	366	1767	2883	191	1480	135	1806	239	1733	527	2499	4305	7,188

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYSWATER AVE @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

WO No: 40520

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

BAYSWATER AVE

SOMERSET ST

Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00 07:15	0	0	0	0	0	0	0
07:15 07:30	0	0	0	2	2	4	4
07:30 07:45	0	0	0	0	1	1	1
07:45 08:00	0	1	1	0	1	1	2
08:00 08:15	1	0	1	3	0	3	4
08:15 08:30	0	2	2	2	0	2	4
08:30 08:45	1	2	3	0	4	4	7
08:45 09:00	2	1	3	3	5	8	11
09:00 09:15	0	1	1	0	4	4	5
09:15 09:30	1	0	1	3	1	4	5
09:30 09:45	0	0	0	3	1	4	4
09:45 10:00	0	1	1	1	1	2	3
11:30 11:45	0	1	1	0	1	1	2
11:45 12:00	1	2	3	2	6	8	11
12:00 12:15	0	0	0	3	4	7	7
12:15 12:30	0	1	1	7	6	13	14
12:30 12:45	1	1	2	10	4	14	16
12:45 13:00	1	0	1	2	4	6	7
13:00 13:15	0	1	1	4	4	8	9
13:15 13:30	0	0	0	6	6	12	12
15:00 15:15	0	1	1	0	3	3	4
15:15 15:30	0	0	0	3	3	6	6
15:30 15:45	0	0	0	1	1	2	2
15:45 16:00	1	0	1	1	1	2	3
16:00 16:15	1	1	2	4	2	6	8
16:15 16:30	0	1	1	3	5	8	9
16:30 16:45	1	2	3	7	5	12	15
16:45 17:00	0	3	3	2	2	4	7
17:00 17:15	0	2	2	3	6	9	11
17:15 17:30	2	2	4	4	7	11	15
17:30 17:45	1	1	2	6	5	11	13
17:45 18:00	2	1	3	3	4	7	10
Total	16	28	44	88	99	187	231



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYSWATER AVE @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

WO No: 40520

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

BAYSWATER AVE

SOMERSET ST

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	2	5	7	1	2	3	10
07:15 07:30	2	2	4	0	2	2	6
07:30 07:45	1	3	4	4	4	8	12
07:45 08:00	4	8	12	4	8	12	24
08:00 08:15	6	6	12	4	13	17	29
08:15 08:30	8	6	14	4	5	9	23
08:30 08:45	15	5	20	3	7	10	30
08:45 09:00	10	4	14	2	7	9	23
09:00 09:15	13	5	18	4	3	7	25
09:15 09:30	8	8	16	7	9	16	32
09:30 09:45	6	9	15	0	12	12	27
09:45 10:00	15	6	21	5	2	7	28
11:30 11:45	12	8	20	4	4	8	28
11:45 12:00	15	10	25	3	14	17	42
12:00 12:15	16	19	35	4	11	15	50
12:15 12:30	17	15	32	5	11	16	48
12:30 12:45	27	28	55	8	11	19	74
12:45 13:00	25	11	36	3	10	13	49
13:00 13:15	22	12	34	0	8	8	42
13:15 13:30	20	4	24	0	3	3	27
15:00 15:15	18	5	23	1	10	11	34
15:15 15:30	19	4	23	3	7	10	33
15:30 15:45	15	9	24	1	4	5	29
15:45 16:00	23	4	27	4	3	7	34
16:00 16:15	24	7	31	6	7	13	44
16:15 16:30	19	17	36	6	15	21	57
16:30 16:45	24	11	35	4	11	15	50
16:45 17:00	20	13	33	10	14	24	57
17:00 17:15	24	11	35	5	10	15	50
17:15 17:30	35	16	51	9	19	28	79
17:30 17:45	23	8	31	6	11	17	48
17:45 18:00	20	27	47	8	12	20	67
Total	508	306	814	128	269	397	1211



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYSWATER AVE @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

WO No: 40520

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

BAYSWATER AVE

SOMERSET ST

Northbound

Southbound

Eastbound

Westbound

Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00 07:15	0	0	1	3	2	0	0	4	7	0	3	0	4	2	1	2	11	15	11
07:15 07:30	0	0	3	4	3	0	1	4	8	0	2	0	6	1	3	0	12	18	13
07:30 07:45	0	0	1	2	0	0	1	2	4	0	2	0	6	1	3	1	8	14	9
07:45 08:00	0	0	0	1	2	0	1	5	6	0	1	0	4	1	2	2	8	12	9
08:00 08:15	0	0	2	4	1	0	0	3	7	0	2	1	5	1	2	2	10	15	11
08:15 08:30	0	3	3	7	4	0	0	8	15	0	2	0	6	1	4	1	15	21	18
08:30 08:45	0	1	1	3	2	0	0	7	10	1	3	1	8	0	3	3	12	20	15
08:45 09:00	0	0	1	4	3	0	1	5	9	0	7	0	10	3	2	1	17	27	18
09:00 09:15	0	0	1	2	2	1	1	7	9	1	2	0	6	0	2	2	9	15	12
09:15 09:30	0	0	1	2	2	0	1	5	7	0	1	0	8	1	6	2	13	21	14
09:30 09:45	0	0	1	3	3	0	1	4	7	0	2	0	6	2	3	0	11	17	12
09:45 10:00	0	0	1	3	3	1	0	5	8	1	4	0	9	1	4	0	13	22	15
11:30 11:45	0	0	1	4	2	2	0	7	11	0	1	0	7	1	6	3	14	21	16
11:45 12:00	1	0	2	6	6	1	2	12	18	1	3	0	10	2	3	2	18	28	23
12:00 12:15	1	0	0	7	3	1	0	6	13	0	3	1	8	4	3	2	15	23	18
12:15 12:30	0	0	1	5	3	3	1	7	12	0	3	0	7	1	3	0	11	18	15
12:30 12:45	1	1	2	7	2	2	1	7	14	0	6	0	13	1	5	1	17	30	22
12:45 13:00	0	1	3	5	2	0	2	6	11	0	2	1	8	0	3	1	11	19	15
13:00 13:15	0	0	1	4	1	0	0	3	7	0	2	1	5	2	2	2	10	15	11
13:15 13:30	0	0	0	1	1	0	1	6	7	0	2	0	3	1	0	4	8	11	9
15:00 15:15	0	0	0	6	3	4	0	9	15	0	3	0	5	2	2	2	12	17	16
15:15 15:30	0	0	2	2	3	0	0	5	7	0	3	0	6	0	3	2	13	19	13
15:30 15:45	0	0	0	2	1	0	0	3	5	0	4	0	5	2	1	2	10	15	10
15:45 16:00	0	0	1	1	0	0	0	1	2	0	1	0	4	0	3	1	6	10	6
16:00 16:15	0	0	2	3	3	0	0	3	6	0	1	0	6	1	5	0	12	18	12
16:15 16:30	0	0	1	3	2	0	0	2	5	0	4	0	6	2	2	0	11	17	11
16:30 16:45	0	0	1	2	1	0	1	2	4	0	1	0	4	1	2	0	6	10	7
16:45 17:00	0	0	2	3	1	0	0	1	4	0	2	0	4	1	2	0	8	12	8
17:00 17:15	0	0	2	3	1	0	0	1	4	0	0	0	1	1	1	0	5	6	5
17:15 17:30	0	0	0	0	1	0	1	2	2	0	2	0	5	0	2	0	5	10	6
17:30 17:45	0	0	0	2	0	0	0	0	2	0	0	0	1	2	1	0	3	4	3
17:45 18:00	0	0	1	3	1	0	0	1	4	0	1	0	3	2	2	0	7	10	7
Total: None	3	6	38	107	64	15	16	143	250	4	75	5	189	40	86	38	341	530	390



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYSWATER AVE @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

WO No: 40520

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

BAYSWATER AVE

SOMERSET ST

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
Total		0	0	0	0	0

Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

Survey Date: Tuesday, December 19, 2023

Start Time: 07:00

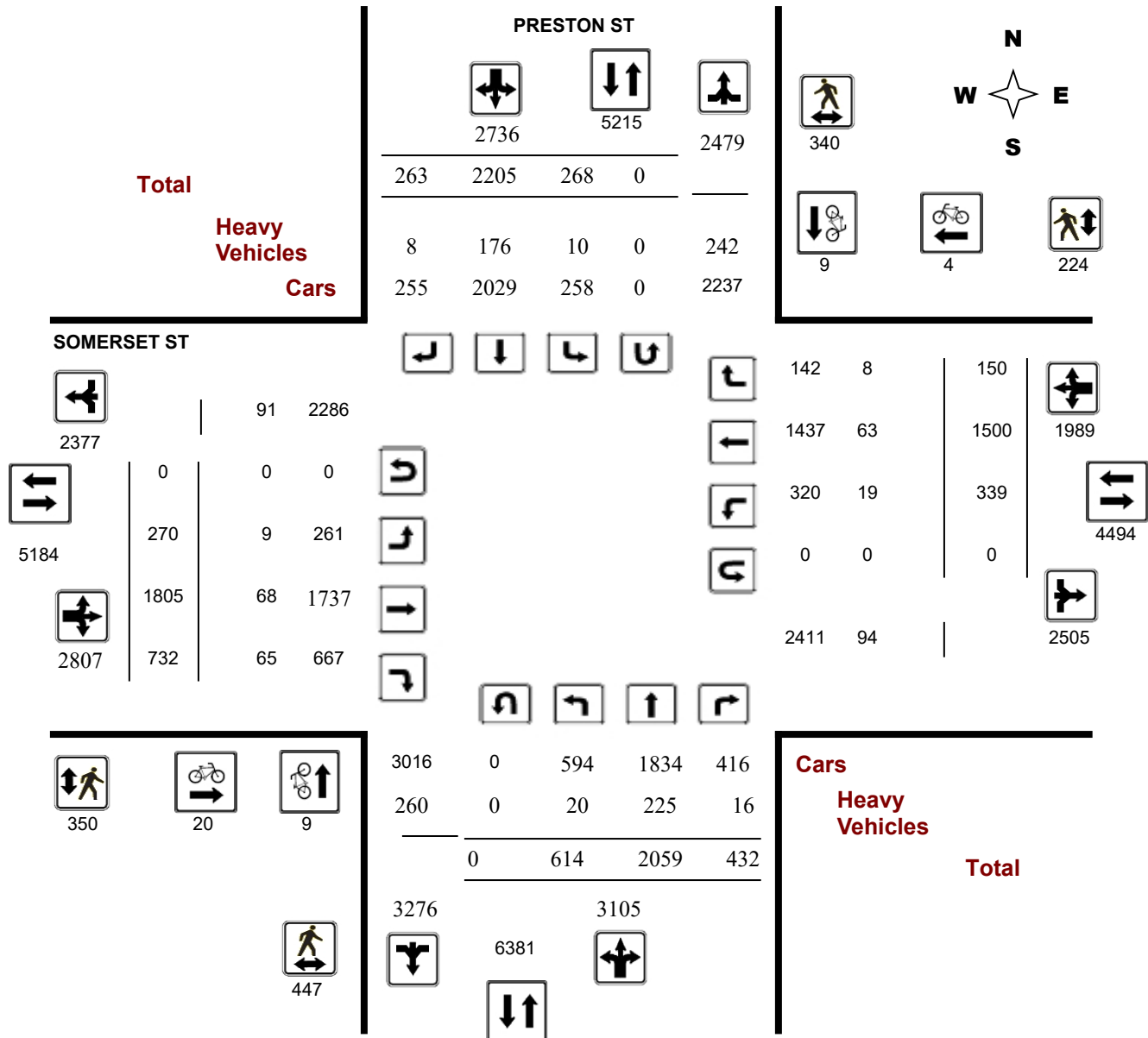
WO No:

41404

Device:

Miovision

Full Study Diagram



Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

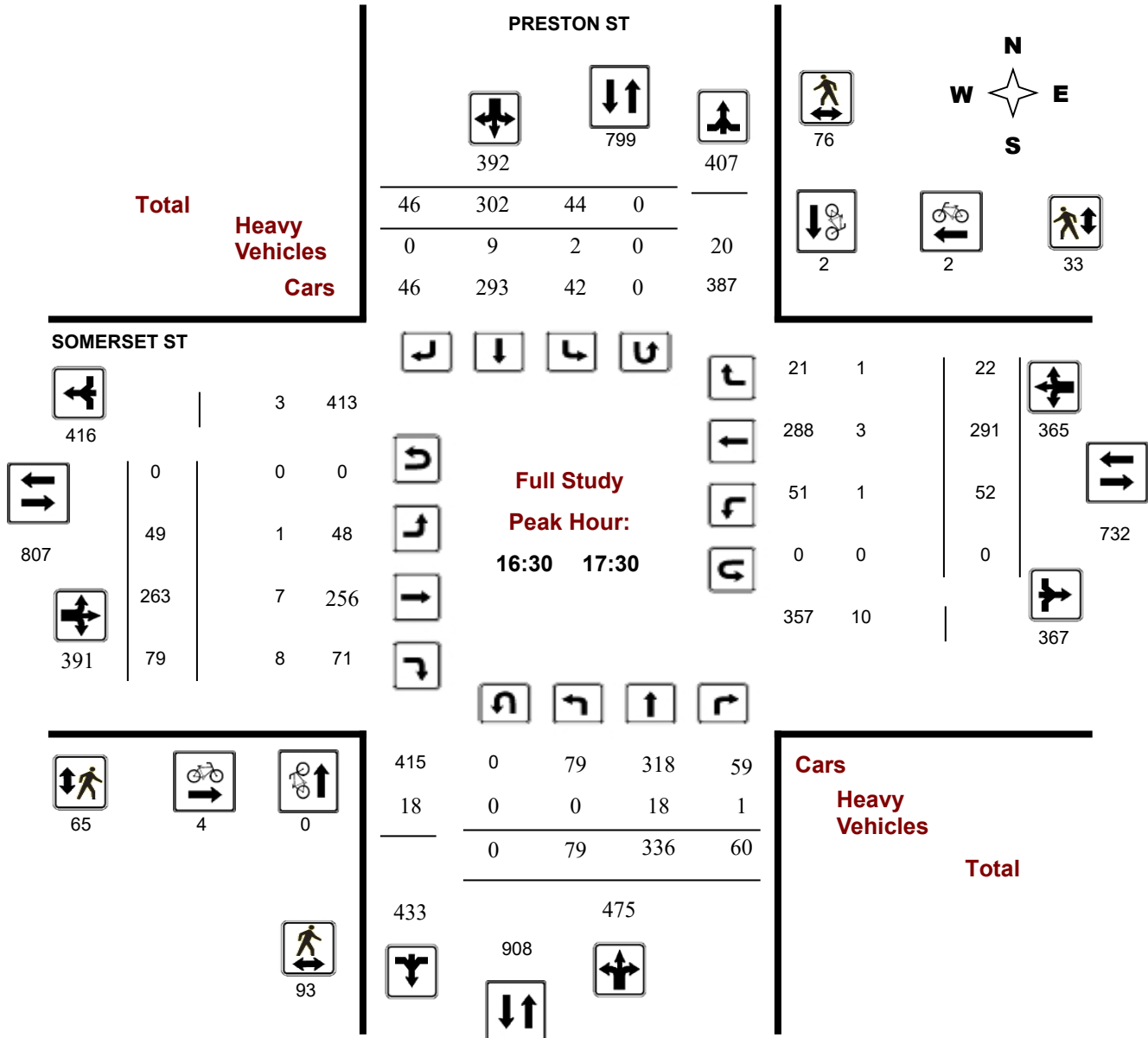
Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram



Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

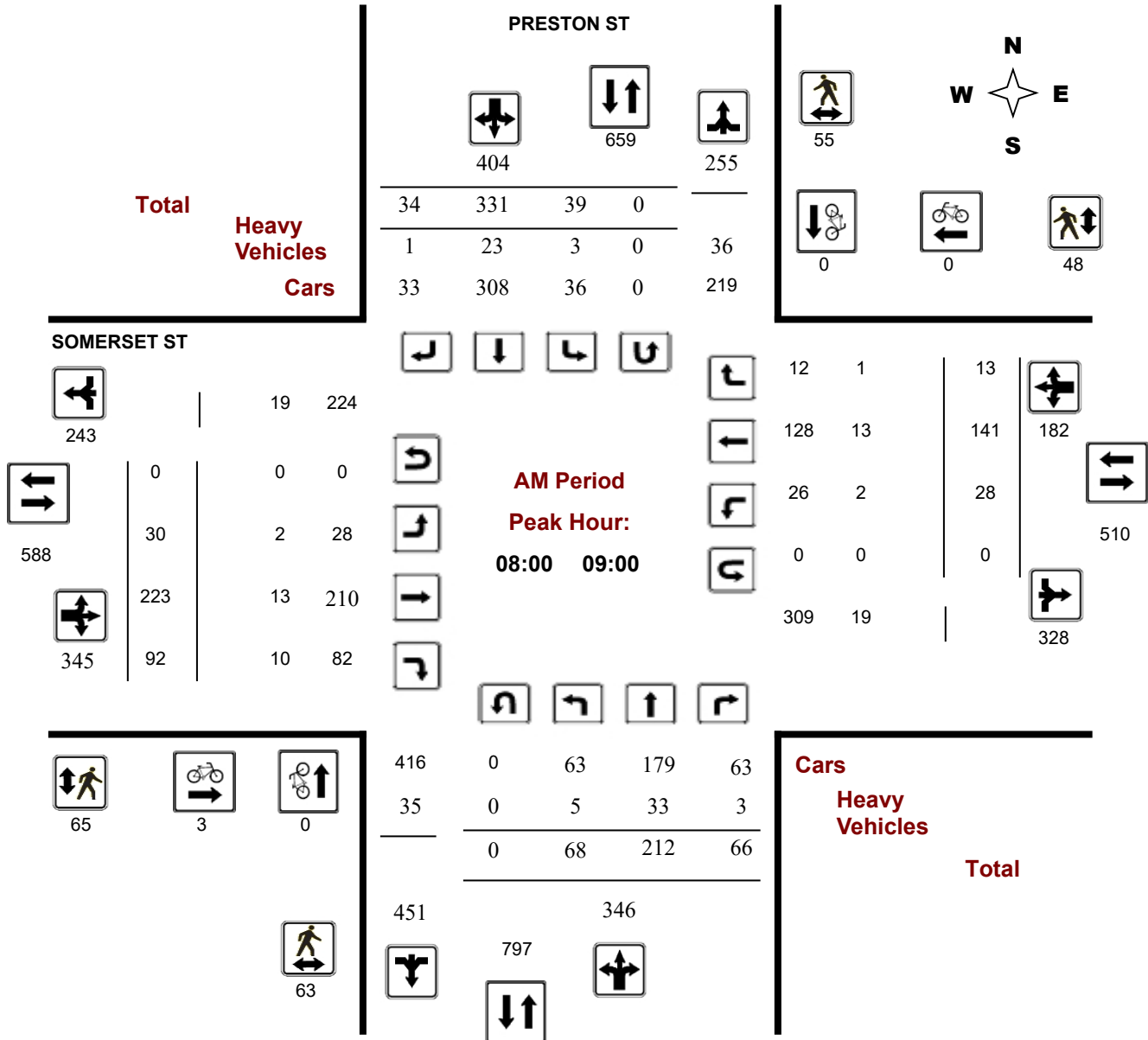
Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

AM Period Peak Hour Diagram



Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

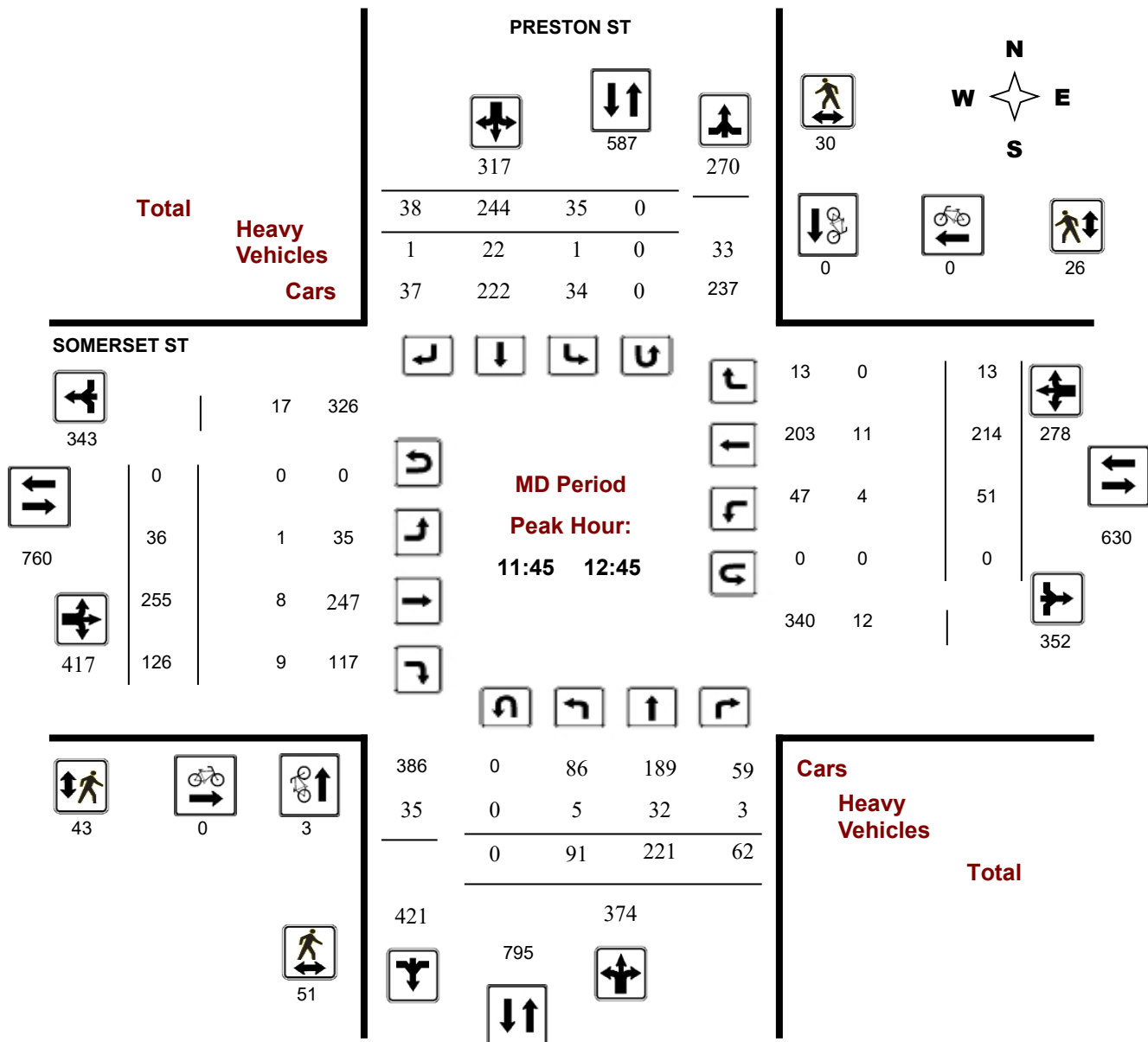
Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

MD Period Peak Hour Diagram



Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

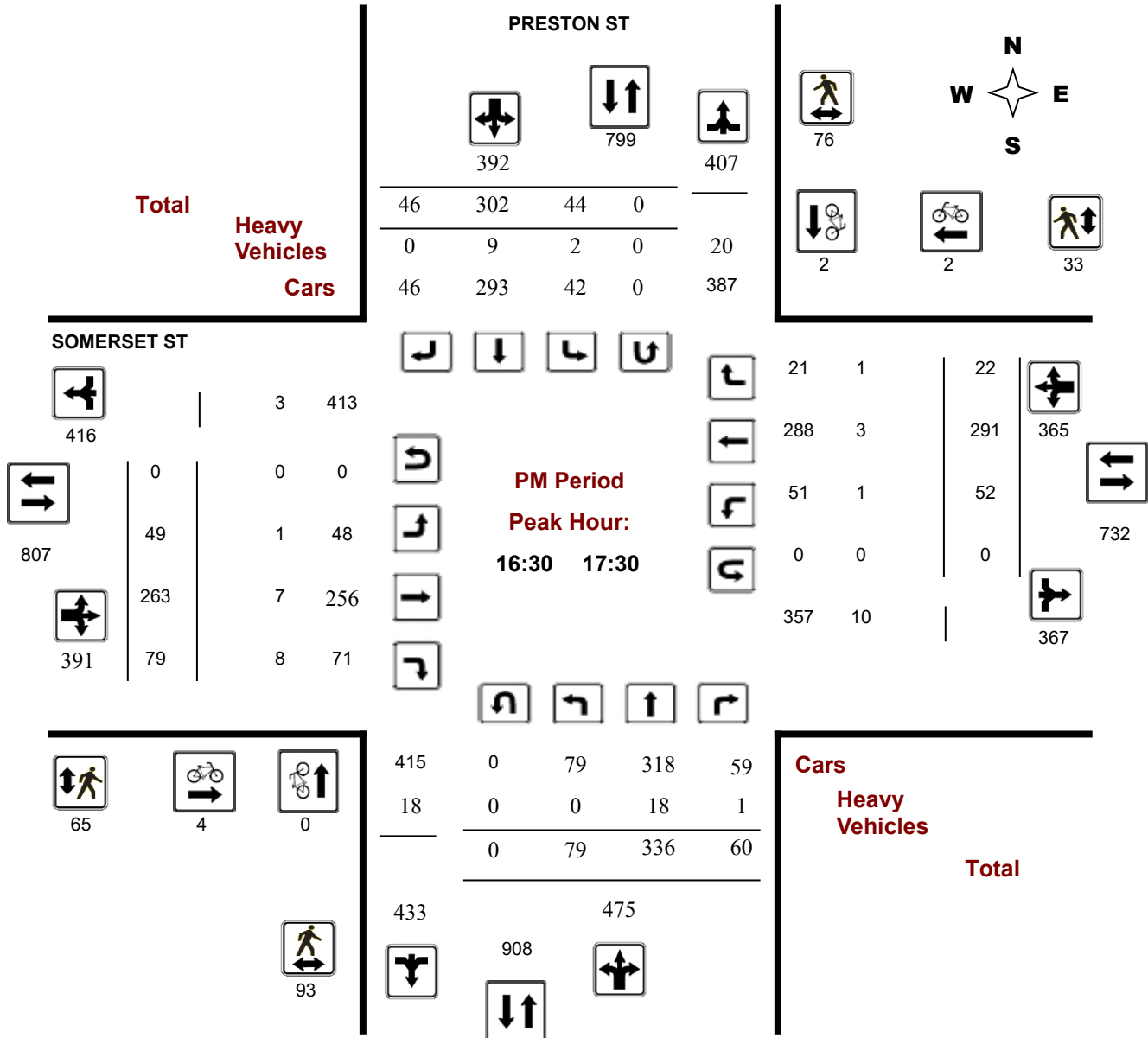
Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

PM Period Peak Hour Diagram



Transportation Services - Traffic Services

Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, December 19, 2023

Total Observed U-Turns

AADT Factor

Northbound: 0 Southbound: 0

1.30

Eastbound: 0 Westbound: 0

PRESTON ST

SOMERSET ST

Period	Northbound					Southbound					Eastbound					Westbound					Grand Total
	LT	ST	RT	NB TOT		LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT		LT	ST	RT	WB TOT	STR TOT	
07:00 08:00	38	191	28	257		24	349	17	390	647	19	167	79	265		19	84	4	107	372	1019
08:00 09:00	68	212	66	346		39	331	34	404	750	30	223	92	345		28	141	13	182	527	1277
09:00 10:00	65	220	46	331		28	254	28	310	641	20	183	68	271		34	130	14	178	449	1090
11:30 12:30	84	207	59	350		31	245	41	317	667	35	261	135	431		44	219	14	277	708	1375
12:30 13:30	91	215	65	371		31	252	31	314	685	32	221	102	355		56	188	16	260	615	1300
15:00 16:00	98	348	51	497		35	245	34	314	811	43	267	107	417		50	217	32	299	716	1527
16:00 17:00	75	325	57	457		42	291	45	378	835	50	246	61	357		56	298	31	385	742	1577
17:00 18:00	95	341	60	496		38	238	33	309	805	41	237	88	366		52	223	26	301	667	1472
Sub Total	614	2059	432	3105		268	2205	263	2736	5841	270	1805	732	2807		339	1500	150	1989	4796	10637
U Turns				0					0	0				0					0	0	0
Total	614	2059	432	3105		268	2205	263	2736	5841	270	1805	732	2807		339	1500	150	1989	4796	10637
EQ 12Hr	853	2862	600	4316		373	3065	366	3803	8119	375	2509	1017	3902		471	2085	208	2765	6666	14785

Note: These values are calculated by multiplying the totals by the appropriate expansion factor.

1.39

AVG 12Hr	1109	3721	780	5611		485	5220	623	4944	10555	488	3262	1322	5073		612	2711	270	3595	8666	19221
-----------------	------	------	-----	------	--	-----	------	-----	------	-------	-----	------	------	------	--	-----	------	-----	------	------	-------

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.

1.30

AVG 24Hr	1453	4875	1022	7350		635	6838	816	6477	13827	639	4273	1732	6646		802	3551	354	4709	11352	25180
-----------------	------	------	------	------	--	-----	------	-----	------	-------	-----	------	------	------	--	-----	------	-----	------	-------	-------

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.

1.31

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

Full Study 15 Minute Increments

PRESTON ST

SOMERSET ST

Northbound

Southbound

Eastbound

Westbound

Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total	
07:00	07:15	7	42	5	54	4	102	1	107	161	9	37	22	68	1	15	2	18	86	247
07:15	07:30	9	47	5	61	4	71	3	78	139	3	37	17	57	3	14	0	17	74	213
07:30	07:45	10	52	10	72	9	87	5	101	173	0	42	18	60	10	22	1	33	93	266
07:45	08:00	12	50	8	70	7	89	8	104	174	7	51	22	80	5	33	1	39	119	293
08:00	08:15	8	61	18	87	15	89	12	116	203	5	55	19	79	5	36	2	43	122	325
08:15	08:30	16	61	17	94	4	77	10	91	185	12	56	24	92	5	33	4	42	134	319
08:30	08:45	19	44	12	75	11	93	9	113	188	5	60	29	94	7	34	1	42	136	324
08:45	09:00	25	46	19	90	9	72	3	84	174	8	52	20	80	11	38	6	55	135	309
09:00	09:15	11	62	14	87	11	69	3	83	170	4	43	21	68	10	39	1	50	118	288
09:15	09:30	16	56	16	88	5	68	8	81	169	7	47	15	69	8	34	9	51	120	289
09:30	09:45	19	55	11	85	4	58	8	70	155	6	49	18	73	9	21	2	32	105	260
09:45	10:00	19	47	5	71	8	59	9	76	147	3	44	14	61	7	36	2	45	106	253
11:30	11:45	16	31	14	61	2	66	12	80	141	5	58	35	98	11	55	6	72	170	311
17:45	18:00	22	70	18	110	10	46	8	64	174	14	64	23	101	15	40	7	62	163	337
16:30	16:45	14	75	12	101	14	83	12	109	210	16	63	12	91	15	83	4	102	193	403
11:45	12:00	20	62	16	98	8	63	10	81	179	12	73	41	126	14	64	2	80	206	385
12:00	12:15	27	54	15	96	13	58	10	81	177	13	58	30	101	10	52	4	66	167	344
12:15	12:30	21	60	14	95	8	58	9	75	170	5	72	29	106	9	48	2	59	165	335
12:30	12:45	23	45	17	85	6	65	9	80	165	6	52	26	84	18	50	5	73	157	322
12:45	13:00	22	71	20	113	8	59	8	75	188	12	47	26	85	11	48	1	60	145	333
13:00	13:15	28	43	8	79	11	59	5	75	154	8	62	25	95	14	35	3	52	147	301
13:15	13:30	18	56	20	94	6	69	9	84	178	6	60	25	91	13	55	7	75	166	344
15:00	15:15	22	88	13	123	8	53	11	72	195	16	72	30	118	15	52	7	74	192	387
15:15	15:30	23	81	18	122	7	76	9	92	214	7	50	28	85	13	50	8	71	156	370
15:30	15:45	28	96	9	133	10	57	6	73	206	12	69	24	105	16	55	7	78	183	389
15:45	16:00	25	83	11	119	10	59	8	77	196	8	76	25	109	6	60	10	76	185	381
16:00	16:15	24	95	15	134	5	63	11	79	213	10	45	15	70	11	68	12	91	161	374
16:15	16:30	17	82	14	113	9	72	10	91	204	10	60	17	87	18	70	8	96	183	387
16:45	17:00	20	73	16	109	14	73	12	99	208	14	78	17	109	12	77	7	96	205	413
17:00	17:15	29	89	16	134	8	62	15	85	219	11	64	22	97	14	67	6	87	184	403
17:15	17:30	16	99	16	131	8	84	7	99	230	8	58	28	94	11	64	5	80	174	404
17:30	17:45	28	83	10	121	12	46	3	61	182	8	51	15	74	12	52	8	72	146	328
Total:		614	2059	432	3105	268	2205	263	2736	5841	270	1805	732	2807	339	1500	150	1989	4796	10,637

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

		PRESTON ST			SOMERSET ST			Grand Total
Time Period		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00	07:15	0	0	0	0	0	0	0
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	0	0	0	0	0	0	0
07:45	08:00	0	0	0	1	0	1	1
08:00	08:15	0	0	0	0	0	0	0
08:15	08:30	0	0	0	2	0	2	2
08:30	08:45	0	0	0	0	0	0	0
08:45	09:00	0	0	0	1	0	1	1
09:00	09:15	0	0	0	2	0	2	2
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	1	1	2	0	2	3
09:45	10:00	0	0	0	1	0	1	1
11:30	11:45	0	3	3	1	0	1	4
17:45	18:00	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	1	1	1
11:45	12:00	0	0	0	0	0	0	0
12:00	12:15	1	0	1	0	0	0	1
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	2	0	2	0	0	0	2
12:45	13:00	5	0	5	1	0	1	6
13:00	13:15	0	1	1	3	0	3	4
13:15	13:30	0	1	1	0	0	0	1
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	1	0	1	0	1	1	2
15:45	16:00	0	1	1	0	0	0	1
16:00	16:15	0	0	0	0	1	1	1
16:15	16:30	0	0	0	0	0	0	0
16:45	17:00	0	0	0	1	0	1	1
17:00	17:15	0	0	0	1	1	2	2
17:15	17:30	0	2	2	2	0	2	4
17:30	17:45	0	0	0	2	0	2	2
Total		9	9	18	20	4	24	42



Transportation Services - Traffic Services

Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

PRESTON ST

SOMERSET ST

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	9	3	12	4	5	9	21
07:15 07:30	4	4	8	3	1	4	12
07:30 07:45	8	3	11	4	5	9	20
07:45 08:00	5	6	11	7	4	11	22
08:00 08:15	11	12	23	19	12	31	54
08:15 08:30	25	20	45	21	18	39	84
08:30 08:45	19	17	36	19	15	34	70
08:45 09:00	8	6	14	6	3	9	23
09:00 09:15	3	11	14	7	1	8	22
09:15 09:30	5	4	9	9	3	12	21
09:30 09:45	2	6	8	4	2	6	14
09:45 10:00	7	8	15	10	4	14	29
11:30 11:45	6	5	11	6	4	10	21
17:45 18:00	18	8	26	10	10	20	46
16:30 16:45	25	18	43	18	6	24	67
11:45 12:00	13	14	27	12	7	19	46
12:00 12:15	7	4	11	7	8	15	26
12:15 12:30	12	7	19	8	5	13	32
12:30 12:45	19	5	24	16	6	22	46
12:45 13:00	8	11	19	7	0	7	26
13:00 13:15	10	13	23	12	5	17	40
13:15 13:30	14	3	17	6	5	11	28
15:00 15:15	28	10	38	13	7	20	58
15:15 15:30	30	13	43	6	11	17	60
15:30 15:45	10	11	21	8	8	16	37
15:45 16:00	19	18	37	12	5	17	54
16:00 16:15	16	14	30	23	12	35	65
16:15 16:30	20	14	34	13	13	26	60
16:45 17:00	24	20	44	16	9	25	69
17:00 17:15	26	16	42	13	12	25	67
17:15 17:30	18	22	40	18	6	24	64
17:30 17:45	18	14	32	13	12	25	57
Total	447	340	787	350	224	574	1361



Transportation Services - Traffic Services

Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

PRESTON ST

SOMERSET ST

Northbound

Southbound

Eastbound

Westbound

Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	9	0	9	0	8	0	8	17	0	1	2	3	0	3	1	4	7	24
07:15	07:30	0	5	1	6	0	7	0	7	13	0	2	1	3	0	0	0	0	3	16
07:30	07:45	0	10	1	11	0	7	1	8	19	0	2	1	3	0	3	0	3	6	25
07:45	08:00	1	6	1	8	0	7	0	7	15	2	3	0	5	0	4	0	4	9	24
08:00	08:15	0	10	1	11	2	4	1	7	18	1	5	4	10	0	3	0	3	13	31
08:15	08:30	2	7	0	9	0	5	0	5	14	0	2	1	3	0	4	0	4	7	21
08:30	08:45	2	7	0	9	0	7	0	7	16	1	4	4	9	1	3	1	5	14	30
08:45	09:00	1	9	2	12	1	7	0	8	20	0	2	1	3	1	3	0	4	7	27
09:00	09:15	0	9	0	9	1	9	0	10	19	0	1	2	3	0	3	0	3	6	25
09:15	09:30	1	8	1	10	0	8	0	8	18	1	0	3	4	1	3	1	5	9	27
09:30	09:45	1	9	0	10	0	5	1	6	16	0	5	1	6	1	3	0	4	10	26
09:45	10:00	2	9	0	11	0	12	0	12	23	0	2	2	4	0	1	2	3	7	30
11:30	11:45	0	6	0	6	0	11	1	12	18	0	0	2	2	1	4	0	5	7	25
17:45	18:00	0	4	0	4	0	2	0	2	6	0	0	3	3	0	0	0	0	3	9
16:30	16:45	0	4	1	5	1	3	0	4	9	1	1	3	5	0	1	0	1	6	15
11:45	12:00	1	4	1	6	0	6	0	6	12	0	3	1	4	1	3	0	4	8	20
12:00	12:15	2	6	0	8	0	4	0	4	12	0	1	3	4	1	1	0	2	6	18
12:15	12:30	1	14	1	16	1	5	1	7	23	0	2	4	6	1	2	0	3	9	32
12:30	12:45	1	8	1	10	0	7	0	7	17	1	2	1	4	1	5	0	6	10	27
12:45	13:00	3	9	1	13	0	4	0	4	17	0	2	3	5	1	4	0	5	10	27
13:00	13:15	1	8	0	9	1	11	0	12	21	0	3	2	5	3	1	0	4	9	30
13:15	13:30	1	11	2	14	1	11	2	14	28	1	4	2	7	0	1	0	1	8	36
15:00	15:15	0	8	0	8	1	2	0	3	11	0	2	2	4	0	0	0	0	4	15
15:15	15:30	0	7	1	8	0	2	0	2	10	0	2	1	3	0	0	0	0	3	13
15:30	15:45	0	4	0	4	0	6	0	6	10	1	5	1	7	1	1	0	2	9	19
15:45	16:00	0	7	0	7	0	2	0	2	9	0	0	3	3	1	1	0	2	5	14
16:00	16:15	0	2	1	3	0	3	1	4	7	0	1	3	4	1	1	1	3	7	14
16:15	16:30	0	4	0	4	0	3	0	3	7	0	5	3	8	2	1	1	4	12	19
16:45	17:00	0	5	0	5	1	5	0	6	11	0	2	1	3	0	0	1	1	4	15
17:00	17:15	0	4	0	4	0	1	0	1	5	0	2	3	5	0	2	0	2	7	12
17:15	17:30	0	5	0	5	0	0	0	0	5	0	2	1	3	1	0	0	1	4	9
17:30	17:45	0	7	0	7	0	2	0	2	9	0	0	1	1	0	2	0	2	3	12
Total:	None	20	225	16	261	10	176	8	194	455	9	68	65	142	19	63	8	90	232	687

Transportation Services - Traffic Services

Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

PRESTON ST

SOMERSET ST

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
16:30	16:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
Total		0	0	0	0	0

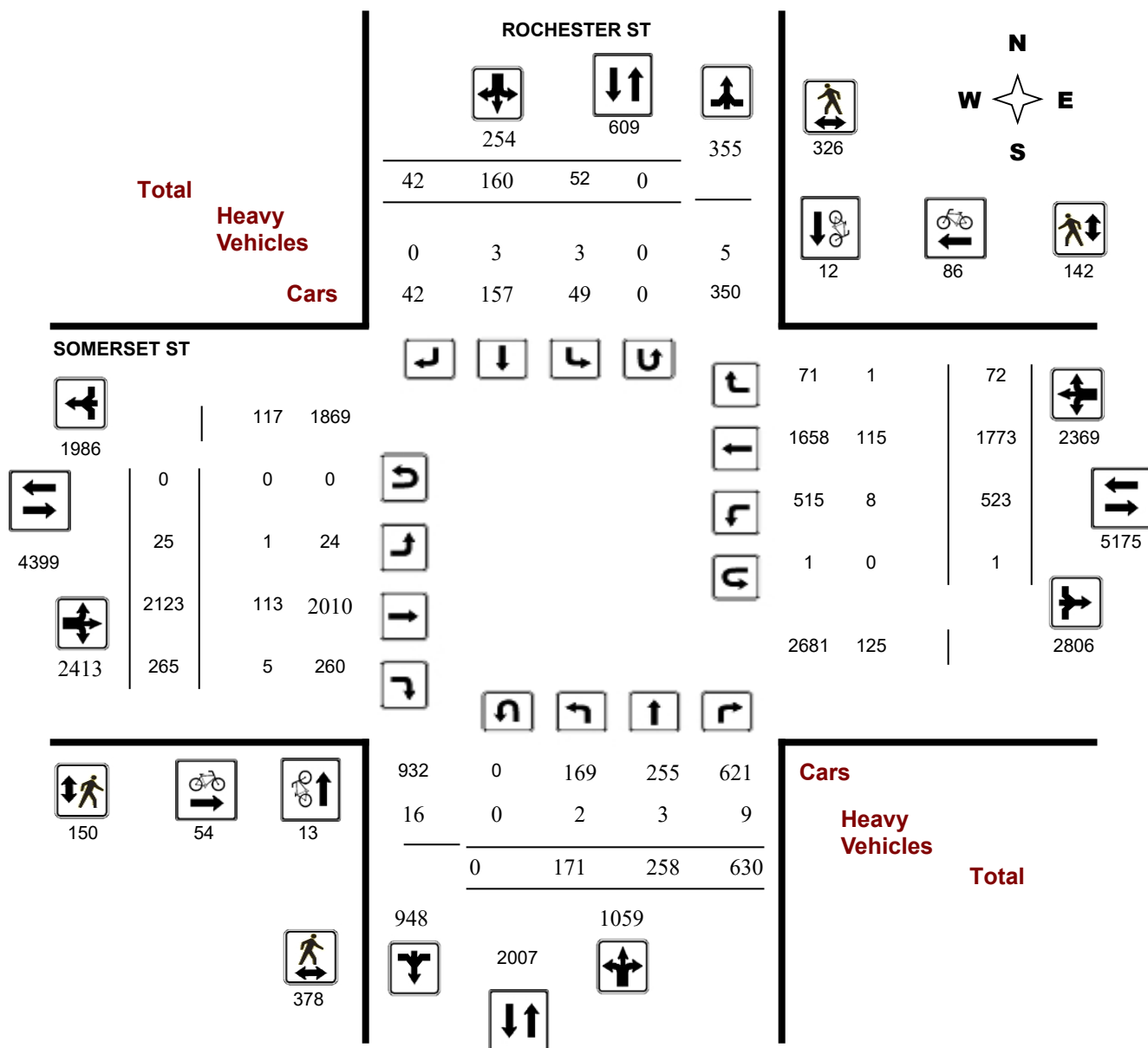
Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

WO No: 40516

Device: Miovision

Full Study Diagram



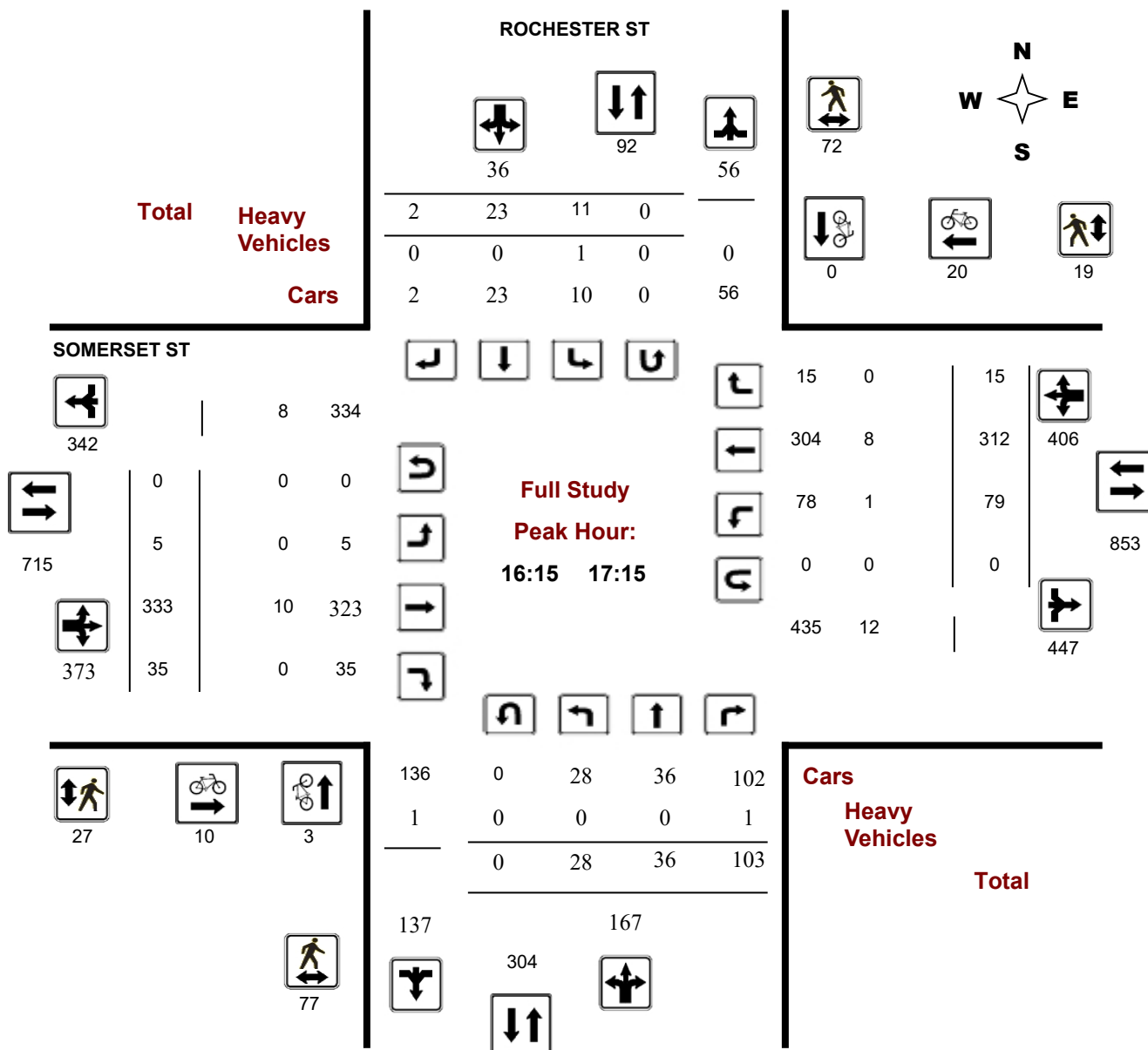
Survey Date: Tuesday, August 23, 2022

WO No: 40516

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram



Turning Movement Count - Peak Hour Diagram

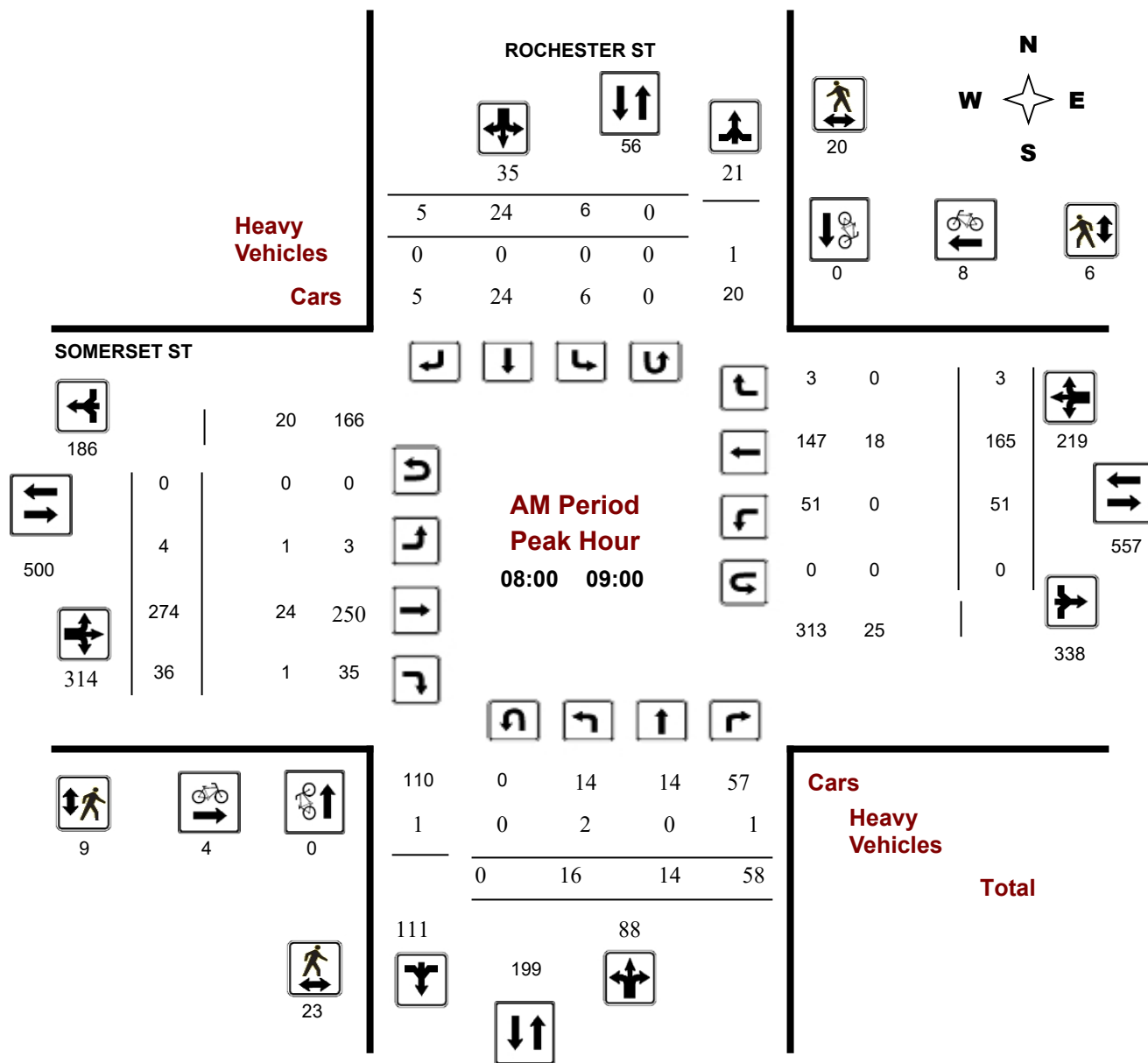
ROCHESTER ST @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

WO No: 40516

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

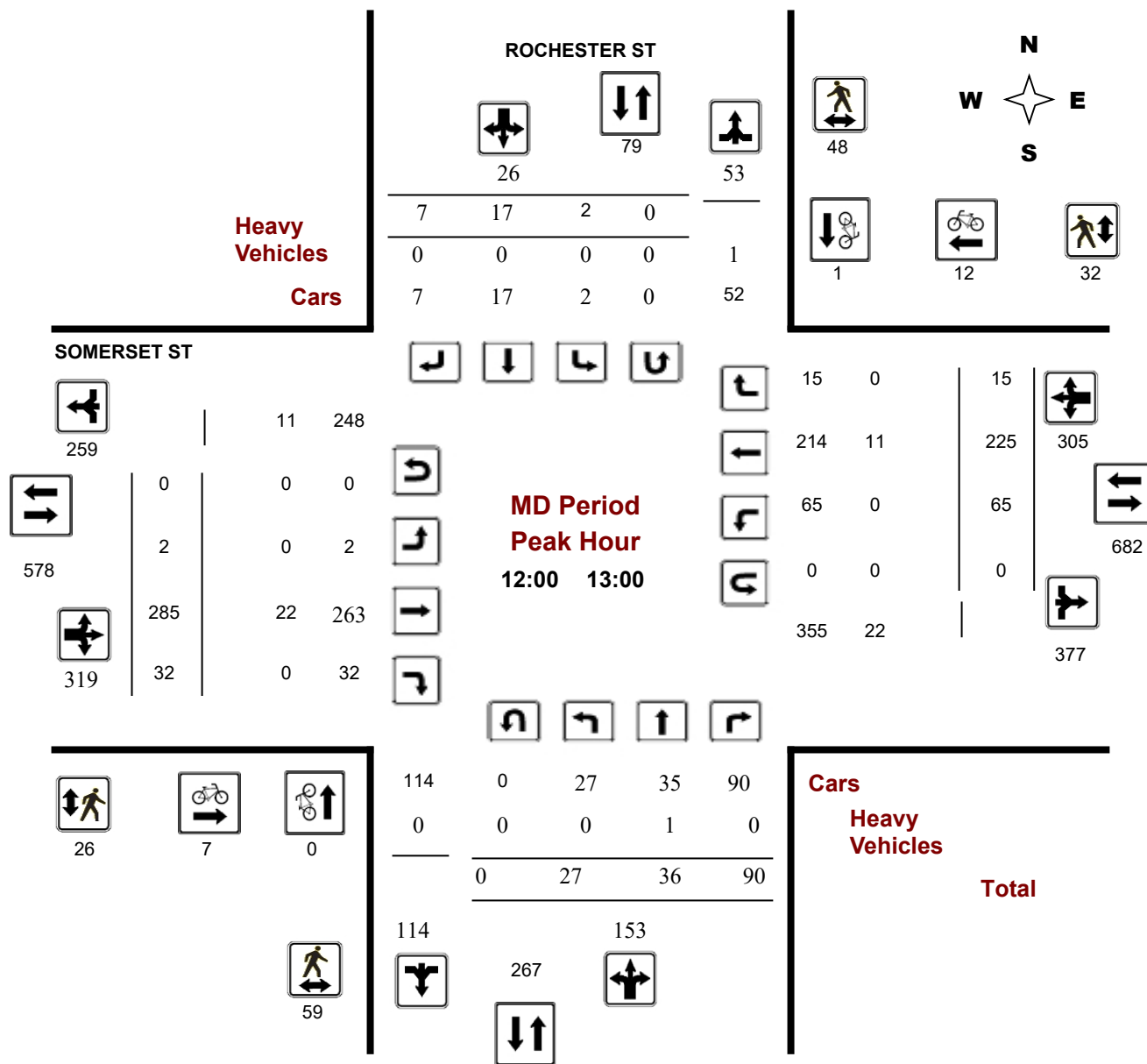
ROCHESTER ST @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

WO No: 40516

Device: Miovision



Turning Movement Count - Peak Hour Diagram

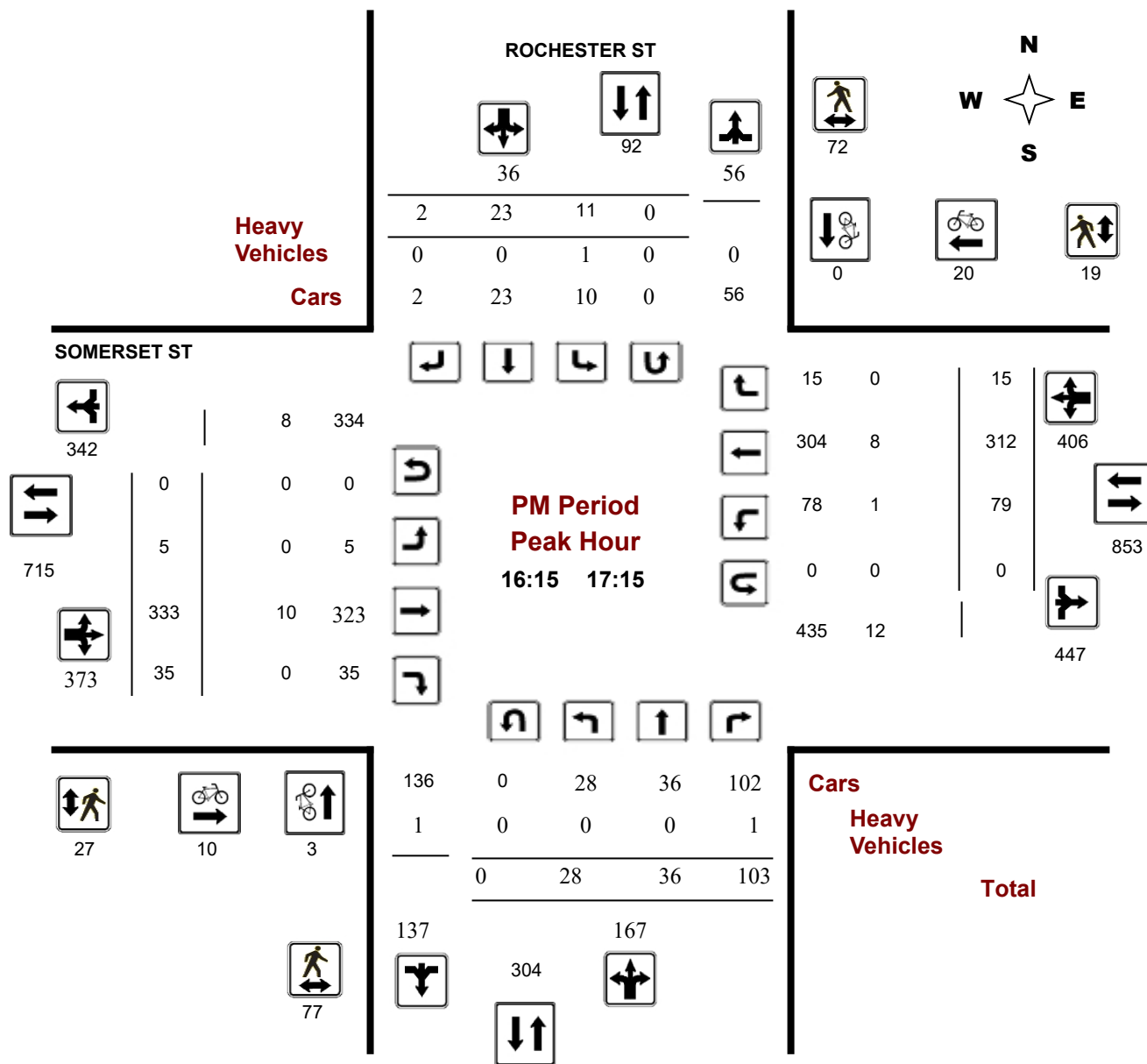
ROCHESTER ST @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

WO No: 40516

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Study Results

ROCHESTER ST @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

WO No: 40516

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, August 23, 2022

Total Observed U-Turns

Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 1

AADT Factor

.90

ROCHESTER ST

SOMERSET ST

Period	Northbound					Southbound					Eastbound					Westbound					Grand Total
	LT	ST	RT	NB TOT		LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT		LT	ST	RT	WB TOT	STR TOT	
07:00 08:00	10	18	73	101		5	12	2	19	120	2	153	18	173		45	135	5	185	358	478
08:00 09:00	16	14	58	88		6	24	5	35	123	4	274	36	314		51	165	3	219	533	656
09:00 10:00	19	29	65	113		8	16	3	27	140	6	226	29	261		50	177	8	235	496	636
11:30 12:30	27	43	95	165		5	9	10	24	189	2	259	46	307		58	225	9	292	599	788
12:30 13:30	20	26	61	107		5	19	6	30	137	1	281	31	313		55	241	15	311	624	761
15:00 16:00	26	48	83	157		8	29	7	44	201	2	333	40	375		116	267	5	388	763	964
16:00 17:00	29	46	89	164		8	25	4	37	201	4	315	29	348		84	316	13	413	761	962
17:00 18:00	24	34	106	164		7	26	5	38	202	4	282	36	322		64	247	14	325	647	849
Sub Total	171	258	630	1059		52	160	42	254	1313	25	2123	265	2413		523	1773	72	2368	4781	6094
U Turns				0					0	0				0					1	1	1
Total	171	258	630	1059		52	160	42	254	1313	25	2123	265	2413		523	1773	72	2369	4782	6095
EQ 12Hr	238	359	876	1472		72	222	58	353	1825	35	2951	368	3354		727	2464	100	3293	6647	8472

Note: These values are calculated by multiplying the totals by the appropriate expansion factor.

1.39

AVG 12Hr 214 323 788 1325 65 262 69 318 1642 32 2656 331 3019 654 2218 90 2964 5982 7625

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.

.90

AVG 24Hr 280 423 1032 1736 85 343 90 417 2151 42 3479 434 3955 857 2906 118 3883 7836 9989

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.

1.31

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ROCHESTER ST @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

WO No: 40516

Start Time: 07:00

Device: Miovision

Full Study 15 Minute Increments

ROCHESTER ST

SOMERSET ST

Northbound

Southbound

Eastbound

Westbound

Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00 07:15	2	2	26	30	0	3	1	4	34	2	26	3	31	7	30	1	38	69	103
07:15 07:30	2	3	15	20	0	3	1	4	24	0	47	5	52	9	27	3	39	91	115
07:30 07:45	3	4	22	29	3	2	0	5	34	0	40	3	43	16	28	1	45	88	122
07:45 08:00	3	9	10	22	2	4	0	6	28	0	40	7	47	13	50	0	63	110	138
08:00 08:15	2	3	19	24	1	8	1	10	34	2	66	10	78	16	35	0	51	129	163
08:15 08:30	4	0	12	16	1	6	1	8	24	0	83	9	92	9	38	1	48	140	164
08:30 08:45	6	8	10	24	1	6	1	8	32	0	65	11	76	13	48	1	62	138	170
08:45 09:00	4	3	17	24	3	4	2	9	33	2	60	6	68	13	44	1	58	126	159
09:00 09:15	7	8	11	26	0	2	0	2	28	1	63	5	69	11	40	4	55	124	152
09:15 09:30	2	6	16	24	1	2	0	3	27	1	54	6	61	15	41	3	59	120	147
09:30 09:45	7	8	20	35	4	5	1	10	45	2	51	13	66	14	42	0	56	122	167
09:45 10:00	3	7	18	28	3	7	2	12	40	2	58	5	65	10	54	1	65	130	170
11:30 11:45	5	6	23	34	2	3	2	7	41	0	61	14	75	12	60	1	73	148	189
11:45 12:00	7	17	16	40	2	2	4	8	48	1	58	13	72	11	53	1	65	137	185
12:00 12:15	9	12	29	50	0	1	4	5	55	1	66	9	76	15	56	4	75	151	206
12:15 12:30	6	8	27	41	1	3	0	4	45	0	74	10	84	20	56	3	79	163	208
12:30 12:45	5	11	18	34	1	8	2	11	45	0	67	6	73	14	48	3	65	138	183
12:45 13:00	7	5	16	28	0	5	1	6	34	1	78	7	86	16	65	5	86	172	206
13:00 13:15	3	8	14	25	3	5	2	10	35	0	57	13	70	8	71	2	81	151	186
13:15 13:30	5	2	13	20	1	1	1	3	23	0	79	5	84	17	57	5	79	163	186
15:00 15:15	6	14	14	34	3	4	0	7	41	1	70	8	79	21	76	2	99	178	219
15:15 15:30	12	9	23	44	1	5	2	8	52	1	74	16	91	34	65	1	100	191	243
15:30 15:45	3	14	28	45	2	6	1	9	54	0	90	8	98	34	70	1	105	203	257
15:45 16:00	5	11	18	34	2	14	4	20	54	0	99	8	107	27	56	1	85	192	246
16:00 16:15	5	15	18	38	1	9	2	12	50	0	63	6	69	23	79	2	104	173	223
16:15 16:30	9	4	25	38	2	5	0	7	45	1	78	11	90	21	72	4	97	187	232
16:30 16:45	5	14	26	45	3	6	2	11	56	1	82	6	89	21	83	5	109	198	254
16:45 17:00	10	13	20	43	2	5	0	7	50	2	92	6	100	19	82	2	103	203	253
17:00 17:15	4	5	32	41	4	7	0	11	52	1	81	12	94	18	75	4	97	191	243
17:15 17:30	8	13	22	43	0	9	3	12	55	0	71	7	78	16	72	3	91	169	224
17:30 17:45	8	7	29	44	1	6	1	8	52	1	61	9	71	16	46	3	65	136	188
17:45 18:00	4	9	23	36	2	4	1	7	43	2	69	8	79	14	54	4	72	151	194
Total:	171	258	630	1059	52	160	42	254	1313	25	2123	265	2413	523	1773	72	2369	4782	6,095

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ROCHESTER ST @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

WO No: 40516

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

		ROCHESTER ST			SOMERSET ST			Grand Total
Time Period		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00	07:15	0	0	0	1	1	2	2
07:15	07:30	0	0	0	2	1	3	3
07:30	07:45	1	0	1	0	0	0	1
07:45	08:00	1	1	2	1	1	2	4
08:00	08:15	0	0	0	2	2	4	4
08:15	08:30	0	0	0	0	3	3	3
08:30	08:45	0	0	0	0	1	1	1
08:45	09:00	0	0	0	2	2	4	4
09:00	09:15	0	0	0	0	2	2	2
09:15	09:30	2	0	2	1	1	2	4
09:30	09:45	1	0	1	5	0	5	6
09:45	10:00	1	1	2	1	4	5	7
11:30	11:45	0	0	0	2	3	5	5
11:45	12:00	1	0	1	2	3	5	6
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	1	1	4	2	6	7
12:30	12:45	0	0	0	2	5	7	7
12:45	13:00	0	0	0	1	5	6	6
13:00	13:15	0	1	1	2	4	6	7
13:15	13:30	0	0	0	3	6	9	9
15:00	15:15	1	0	1	0	2	2	3
15:15	15:30	1	1	2	1	2	3	5
15:30	15:45	0	0	0	1	0	1	1
15:45	16:00	0	2	2	0	5	5	7
16:00	16:15	0	2	2	1	0	1	3
16:15	16:30	0	0	0	3	6	9	9
16:30	16:45	1	0	1	3	3	6	7
16:45	17:00	1	0	1	3	6	9	10
17:00	17:15	1	0	1	1	5	6	7
17:15	17:30	0	1	1	1	5	6	7
17:30	17:45	1	1	2	7	3	10	12
17:45	18:00	0	1	1	2	3	5	6
Total		13	12	25	54	86	140	165



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ROCHESTER ST @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

WO No: 40516

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

ROCHESTER ST

SOMERSET ST

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	3	3	6	2	2	4	10
07:15 07:30	3	4	7	5	3	8	15
07:30 07:45	1	2	3	2	1	3	6
07:45 08:00	1	4	5	2	1	3	8
08:00 08:15	5	3	8	1	3	4	12
08:15 08:30	4	5	9	1	1	2	11
08:30 08:45	4	5	9	4	0	4	13
08:45 09:00	10	7	17	3	2	5	22
09:00 09:15	6	10	16	1	3	4	20
09:15 09:30	5	7	12	3	1	4	16
09:30 09:45	8	10	18	2	2	4	22
09:45 10:00	5	10	15	4	1	5	20
11:30 11:45	17	7	24	6	3	9	33
11:45 12:00	16	10	26	4	2	6	32
12:00 12:15	16	7	23	1	7	8	31
12:15 12:30	12	14	26	6	4	10	36
12:30 12:45	8	13	21	7	10	17	38
12:45 13:00	23	14	37	12	11	23	60
13:00 13:15	12	11	23	10	5	15	38
13:15 13:30	6	9	15	2	5	7	22
15:00 15:15	5	4	9	2	3	5	14
15:15 15:30	15	7	22	8	8	16	38
15:30 15:45	30	8	38	1	5	6	44
15:45 16:00	10	24	34	8	9	17	51
16:00 16:15	6	7	13	8	3	11	24
16:15 16:30	26	26	52	2	3	5	57
16:30 16:45	20	14	34	8	8	16	50
16:45 17:00	14	13	27	10	2	12	39
17:00 17:15	17	19	36	7	6	13	49
17:15 17:30	31	13	44	9	7	16	60
17:30 17:45	19	12	31	3	6	9	40
17:45 18:00	20	24	44	6	15	21	65
Total	378	326	704	150	142	292	996



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ROCHESTER ST @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

WO No: 40516

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

ROCHESTER ST

SOMERSET ST

Northbound

Southbound

Eastbound

Westbound

Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00 07:15	0	0	1	2	0	1	0	1	3	0	2	0	7	0	5	0	8	15	9
07:15 07:30	0	0	0	0	0	0	0	0	0	0	5	0	9	0	4	0	9	18	9
07:30 07:45	0	0	0	2	0	0	0	0	2	0	2	0	6	2	4	0	8	14	8
07:45 08:00	0	0	0	0	0	0	0	0	0	0	2	0	8	0	6	0	8	16	8
08:00 08:15	0	0	1	1	0	0	0	1	2	1	1	0	7	0	5	0	7	14	8
08:15 08:30	1	0	0	1	0	0	0	0	1	0	8	0	10	0	1	0	9	19	10
08:30 08:45	0	0	0	0	0	0	0	0	0	0	4	0	11	0	7	0	11	22	11
08:45 09:00	1	0	0	2	0	0	0	0	2	0	11	1	18	0	5	0	16	34	18
09:00 09:15	0	0	0	0	0	0	0	0	0	0	4	0	8	0	4	0	8	16	8
09:15 09:30	0	0	0	1	0	0	0	0	1	0	3	0	9	1	6	0	10	19	10
09:30 09:45	0	0	0	3	0	0	0	0	3	0	3	2	12	1	7	0	11	23	13
09:45 10:00	0	0	2	3	0	0	0	0	3	0	4	0	11	1	7	0	14	25	14
11:30 11:45	0	0	0	2	1	1	0	2	4	0	4	1	8	0	3	0	8	16	10
11:45 12:00	0	0	2	4	0	0	0	1	5	0	6	0	10	2	4	1	15	25	15
12:00 12:15	0	1	0	1	0	0	0	1	2	0	5	0	8	0	3	0	8	16	9
12:15 12:30	0	0	0	0	0	0	0	0	0	0	7	0	9	0	2	0	9	18	9
12:30 12:45	0	0	0	0	0	0	0	0	0	0	3	0	6	0	3	0	6	12	6
12:45 13:00	0	0	0	0	0	0	0	0	0	0	7	0	10	0	3	0	10	20	10
13:00 13:15	0	0	0	1	0	1	0	1	2	0	2	0	6	0	4	0	6	12	7
13:15 13:30	0	0	0	0	0	0	0	0	0	0	2	0	6	0	4	0	6	12	6
15:00 15:15	0	0	0	0	0	0	0	0	0	0	2	0	6	0	4	0	6	12	6
15:15 15:30	0	1	0	1	0	0	0	1	2	0	5	0	11	0	6	0	11	22	12
15:30 15:45	0	0	1	2	0	0	0	0	2	0	2	1	5	0	2	0	5	10	6
15:45 16:00	0	0	0	0	1	0	0	1	1	0	3	0	5	0	2	0	6	11	6
16:00 16:15	0	1	1	2	0	0	0	1	3	0	3	0	7	0	4	0	8	15	9
16:15 16:30	0	0	0	0	0	0	0	0	0	0	3	0	6	0	3	0	6	12	6
16:30 16:45	0	0	0	0	0	0	0	0	0	0	2	0	4	0	2	0	4	8	4
16:45 17:00	0	0	1	1	0	0	0	0	1	0	2	0	4	0	2	0	5	9	5
17:00 17:15	0	0	0	1	1	0	0	1	2	0	3	0	4	1	1	0	6	10	6
17:15 17:30	0	0	0	0	0	0	0	0	0	0	2	0	3	0	1	0	3	6	3
17:30 17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45 18:00	0	0	0	0	0	0	0	0	0	0	1	0	2	0	1	0	2	4	2
Total: None	2	3	9	30	3	3	0	11	41	1	113	5	236	8	115	1	249	485	263



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ROCHESTER ST @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

WO No: 40516

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

ROCHESTER ST

SOMERSET ST

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	1	1
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
Total		0	0	0	1	1

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

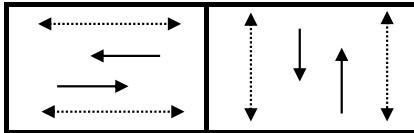
Intersection:	Main: Somerset	Side: Bayswater
Controller:	MS3200	TSD: 5018
Author:	Hamadoun Issabre	Date: 16-Oct-2024

Existing Timing Plans[†]

	Plan					Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Weekend 5	Walk	DW	A+R
Cycle	70	60	75	60	65			
Offset	19	38	63	40	38			
EB Thru	35	31	40	31	35	17	8	3.3+2.2
WB Thru	35	31	40	31	35	17	8	3.3+2.2
NB Thru	35	29	35	29	30	13	10	3.3+2.3
SB Thru	35	29	35	29	30	13	10	3.3+2.3

Phasing Sequence[‡]

Plan: All



Schedule

Weekday		Saturday		Sunday	
Time	Plan	Time	Plan	Time	Plan
0:15	4	0:15	4	0:15	4
6:30	1	6:30	2	6:30	2
9:30	2	9:00	5	9:00	5
15:00	3	18:30	2	18:00	2
18:30	2	22:30	4	22:30	4
22:30	4				

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◀.....▶ Pedestrian signal

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

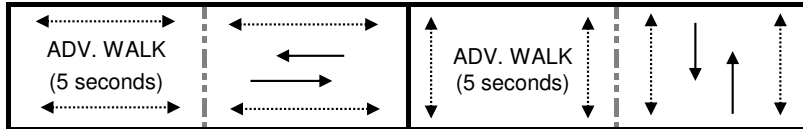
Intersection:	Main: Somerset	Side: Preston
Controller:	ATC3	TSD: 5079
Author:	Hamadoun Issabre	Date: 07-May-2024

Existing Timing Plans†

	Plan					Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Weekend 5	Walk	DW	A+R
Cycle	80	75	75	60	65			
Offset	58	73	32	28	28			
EB Thru	43	42	41	30	31	7	12	3.3+2.3
WB Thru	43	42	41	30	31	7	12	3.3+2.3
NB Thru	37	33	34	30	34	7	14	3.3+2.4
SB Thru	37	33	34	30	34	7	14	3.3+2.4

Phasing Sequence‡

Plan:



Notes: 1) All movements have a No Right-turn on Red restriction between 7:00 - 19:00, Mon to Fri

Schedule

Weekday

Time	Plan
0:15	4
6:00	1
9:30	2
15:00	3
18:00	2
22:00	4

Saturday

Time	Plan
0:15	4
8:00	2
12:00	5
18:00	2
22:00	4

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◀.....▶ Pedestrian signal

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

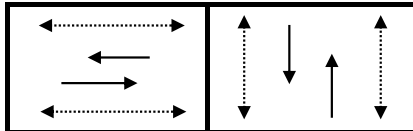
Intersection:	<i>Main:</i> Somerset	<i>Side:</i> Rochester
Controller:	MS3200	TSD: 5439
Author:	Hamadoun Issabre	Date: 16-Oct-2024

Existing Timing Plans[†]

	Plan					Ped Minimum Time		
	Early AM 1	Off Peak 2	PM Peak 3	Night 4	Weekend 5	Walk	DW	A+R
Cycle	80	75	75	60	65			
Offset	72	12	61	X	38			
EB Thru	54	49	51	36	41	15	6	3.3+1.8
WB Thru	54	49	51	36	41	15	6	3.3+1.8
NB Thru	26	26	24	24	24	10	8	3.3+2.1
SB Thru	26	26	24	24	24	10	8	3.3+2.1

Phasing Sequence[‡]

Plan: All



Schedule

Weekday		Weekend	
Time	Plan	Time	Plan
0:15	4	0:15	4
6:00	1	8:00	2
9:30	2	12:00	5
15:00	3	18:00	2
18:00	2	22:00	4
22:00	4		

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄.....► Pedestrian signal

Appendix D Trip Generation Datasheet

Auto trips

Land-Use	LUC	Source	Units / Employees / GFA / students (1000's SF)	AM Peak Hour		Total	PM Peak Hour		Total
				Entry	Exit		Entry	Exit	
Residential - High-Rise	221 & 222 - Multi-Unit (High Rise)	TRANS Trip Generation Manual	430 Units	107	237	344	224	163	387
Elementary School	520 - Elementary School	ITE	537 Students	215	182	397	40	46	86
Recreational Community Centre	495 - Recreational Community Center	ITE	11000 GFA	139	71	210	129	146	275
				461	490	951	393	355	

Person Trips

Land-Use	LUC	Source	Units / Employees / GFA / students (1000's SF)	AM Peak Hour		Total	PM Peak Hour		Total
				Entry	Exit		Entry	Exit	
Residential - High-Rise	221 & 222 - Multi-Unit (High Rise)	TRANS Trip Generation Manual	430 Units	54	119	173	99	72	171
Elementary School	520 - Elementary School	ITE	537 Students	275	233	508	51	59	110
Recreational Community Centre	495 - Recreational Community Center	ITE	110000 GFA	178	91	269	165	187	352
				507	443	950	315	318	633

LUC codes	Land Use Code		AM Peak Hour	AM	AM2	AM3		PM	PM2	PM3
			Trip Conversion	Entry	Exit	Total	Trip Conversion	Entry	Exit	Total
221 & 222	Multi-Unit (High Rise)	Auto Driver	29%	16	35	51	29%	29	21	50
	Multi-Unit (High Rise)	Auto Passenger	8%	4	10	14	9%	9	6	15
	Multi-Unit (High Rise)	Transit	25%	14	30	44	19%	19	14	33
	Multi-Unit (High Rise)	Cycling	7%	4	8	12	7%	7	5	12
	Multi-Unit (High Rise)	Walking	31%	17	37	54	36%	36	26	62
520	Elementary School	Auto Driver	22%	61	51	112	22%	11	13	24
	Elementary School	Transit	54%	149	126	274	54%	28	32	59
	Elementary School	Active modes/other	24%	66	56	122	24%	12	14	26
495	Recreational Community Center	Auto Driver	39%	69	35	105	22%	36	41	77
	Recreational Community Center	Auto Passenger	2%	4	2	5	4%	7	7	14
	Recreational Community Center	Transit	16%	28	15	43	12%	20	22	42
	Recreational Community Center	Cycling	3%	5	3	8	4%	7	7	14
	Recreational Community Center	Walking	40%	71	36	108	58%	96	108	204
	TOTAL	Auto Driver		146	121	268		76	75	151
		Transit		191	171	361		67	68	134
		Active modes/other		171	152	323		174	173	347

Appendix E MMLOS Guidelines Excerpts

Multi-Modal Level of Service - Intersections Form

Consultant

Scenario

Comments

STANTEC

2024 Existing

Project

Date

1010 Somerset St

15-Nov-24



INTERSECTIONS		Somerset St W and Bayswater Ave				Somerset St W and Preston St				Somerset St W and Rochester St			
Crossing Side		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	3	3	3	3	3	3	3	3	0 - 2	0 - 2	0 - 2	0 - 2
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
	Conflicting Left Turns	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
	Conflicting Right Turns	Permissive or yield control	Permissive or yield control	Protected/ Permissive	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
	Right Turns on Red (RTor) ?	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR prohibited	RTOR prohibited	RTOR prohibited	RTOR prohibited	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No
	Right Turn Channel	No Channel	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel
	Corner Radius	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
	PETSI Score	71	75	75	75	76	76	76	76	86	86	86	86
	Ped. Exposure to Traffic LoS	C	B	B	B	B	B	B	B	B	B	B	B
	Cycle Length	75	75	75	75	80	80	80	80	80	80	80	80
	Effective Walk Time	14	32	14	14	35	38	21	39	40	40	10	10
Average Pedestrian Delay	25	12	25	25	13	11	22	11	10	10	31	31	
Pedestrian Delay LoS	C	B	C	C	B	B	C	B	B	B	D	D	
Level of Service	C	B	C	C	B	B	C	B	B	B	D	D	
	C				C				D				
Approach From		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic		Mixed Traffic		Mixed Traffic		Mixed Traffic	
	IF Dedicated Right Turn Lane, THEN Right Turn Configuration, ELSE <blank>			≤ 50 m	≤ 50 m								
	Dedicated Right Turning Speed			≤ 25 km/h	≤ 25 km/h								
	Cyclist Through Movement	D				-				-			
	Separated or Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	-	-	Mixed Traffic	Mixed Traffic	-	-	Mixed Traffic	Mixed Traffic
	Left Turn Approach	No lane crossed	One lane crossed	No lane crossed	No lane crossed	One lane crossed		One lane crossed		One lane crossed		One lane crossed	
	Operating Speed	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h
Left Turning Cyclist	B	D	B	B	-	-	D	D	-	-	D	D	
Level of Service	B	D	D	D	-	-	D	D	-	-	D	D	
	D				D				D				
Transit	Average Signal Delay	≤ 20 sec	≤ 20 sec	≤ 20 sec	≤ 20 sec	≤ 40 sec	> 40 sec	≤ 20 sec	≤ 30 sec	≤ 20 sec	≤ 20 sec	≤ 20 sec	≤ 10 sec
	Level of Service	C	C	C	C	E	F	C	D	C	C	C	B
		C				F				C			
Truck	Effective Corner Radius	< 10 m	< 10 m			< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m
	Number of Receiving Lanes on Departure from Intersection	1	1	1	1	1	1	1	1	1	1	1	1
	Level of Service	F	F	-	-	F	F	F	F	F	F	F	F
		F				F				F			
Auto	Volume to Capacity Ratio	0.91 - 1.00				0.91 - 1.00				0.61 - 0.70			
	Level of Service	E				E				B			

Multi-Modal Level of Service - Intersections Form

Consultant

Scenario

Comments

STANTEC

Phase 1

Project

Date

1010 Somerset St

15-Nov-24



INTERSECTIONS		Somerset St W and Bayswater Ave				Somerset St W and Preston St				Somerset St W and Rochester St			
Crossing Side		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	3	3	3	3	3	3	3	3	0 - 2	0 - 2	0 - 2	0 - 2
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
	Conflicting Left Turns	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
	Conflicting Right Turns	Permissive or yield control	Permissive or yield control	Protected/ Permissive	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
	Right Turns on Red (RTor) ?	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR prohibited	RTOR prohibited	RTOR prohibited	RTOR prohibited	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No
	Right Turn Channel	No Channel	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel
	Corner Radius	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
	PETSI Score	71	75	75	75	76	76	76	76	86	86	86	86
	Ped. Exposure to Traffic LoS	C	B	B	B	B	B	B	B	B	B	B	B
	Cycle Length	75	75	75	75	80	80	80	80	80	80	80	80
	Effective Walk Time	14	32	14	14	35	38	21	39	40	40	10	10
Average Pedestrian Delay	25	12	25	25	13	11	22	11	10	10	31	31	
Pedestrian Delay LoS	C	B	C	C	B	B	C	B	B	B	D	D	
Level of Service	C	B	C	C	B	B	C	B	B	B	D	D	
	C				C				D				
Approach From		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic		Mixed Traffic		Mixed Traffic		Mixed Traffic	
	IF Dedicated Right Turn Lane, THEN Right Turn Configuration, ELSE <blank>			≤ 50 m	≤ 50 m								
	Dedicated Right Turning Speed			≤ 25 km/h	≤ 25 km/h								
	Cyclist Through Movement	D				-		-		-		-	
	Separated or Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	-		-		Mixed Traffic		Mixed Traffic	
	Left Turn Approach	No lane crossed	One lane crossed	No lane crossed	No lane crossed	One lane crossed		One lane crossed		One lane crossed		One lane crossed	
	Operating Speed	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h
Left Turning Cyclist	B	D	B	B	-		-		D		D		
Level of Service	B	D	D	D	-		-		D		D		
	D				D				D				
Transit	Average Signal Delay	≤ 20 sec	≤ 20 sec	≤ 20 sec	≤ 20 sec	≤ 40 sec	> 40 sec	≤ 20 sec	≤ 30 sec	≤ 20 sec	≤ 20 sec	≤ 20 sec	≤ 10 sec
	Level of Service	C	C	C	C	E	F	C	D	C	C	C	B
		C				F				C			
Truck	Effective Corner Radius	< 10 m	< 10 m			< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m
	Number of Receiving Lanes on Departure from Intersection	1	1	1	1	1	1	1	1	1	1	1	1
	Level of Service	F	F	-	-	F	F	F	F	F	F	F	F
		F				F				F			
Auto	Volume to Capacity Ratio	0.91 - 1.00				0.91 - 1.00				0.61 - 0.70			
	Level of Service	E				E				B			

Multi-Modal Level of Service - Intersections Form

Consultant

Scenario

Comments

STANTEC

Phase 2

Project

Date

1010 Somerset St

15-Nov-24



INTERSECTIONS		Somerset St W and Bayswater Ave				Somerset St W and Preston St				Somerset St W and Rochester St			
Crossing Side		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	3	3	3	3	3	3	3	3	0 - 2	0 - 2	0 - 2	0 - 2
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
	Conflicting Left Turns	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
	Conflicting Right Turns	Permissive or yield control	Permissive or yield control	Protected/ Permissive	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
	Right Turns on Red (RTor) ?	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR prohibited	RTOR prohibited	RTOR prohibited	RTOR prohibited	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No
	Right Turn Channel	No Channel	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel
	Corner Radius	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
	PETSI Score	71	75	75	75	76	76	76	76	86	86	86	86
	Ped. Exposure to Traffic LoS	C	B	B	B	B	B	B	B	B	B	B	B
	Cycle Length	75	75	75	75	80	80	80	80	80	80	80	80
	Effective Walk Time	14	32	14	14	35	38	21	39	40	40	10	10
Average Pedestrian Delay	25	12	25	25	13	11	22	11	10	10	31	31	
Pedestrian Delay LoS	C	B	C	C	B	B	C	B	B	B	D	D	
Level of Service	C	B	C	C	B	B	C	B	B	B	D	D	
	C				C				D				
Approach From		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic		Mixed Traffic		Mixed Traffic		Mixed Traffic	
	IF Dedicated Right Turn Lane, THEN Right Turn Configuration, ELSE <blank>			≤ 50 m	≤ 50 m								
	Dedicated Right Turning Speed			≤ 25 km/h	≤ 25 km/h								
	Cyclist Through Movement			D	D	-		-		-		-	
	Separated or Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	-		-		Mixed Traffic		Mixed Traffic	
	Left Turn Approach	No lane crossed	One lane crossed	No lane crossed	No lane crossed	One lane crossed		One lane crossed		One lane crossed		One lane crossed	
	Operating Speed	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h
	Left Turning Cyclist	B	D	B	B	-		-		D		D	
Level of Service	B	D	D	D	-		-		D		D		
	D				D				D				
Transit	Average Signal Delay	≤ 20 sec	≤ 20 sec	≤ 20 sec	≤ 20 sec	≤ 40 sec	> 40 sec	≤ 20 sec	≤ 30 sec	≤ 20 sec	≤ 20 sec	≤ 10 sec	≤ 20 sec
	Level of Service	C	C	C	C	E	F	C	D	C	C	B	C
		C				F				C			
Truck	Effective Corner Radius	< 10 m	< 10 m			< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m
	Number of Receiving Lanes on Departure from Intersection	1	1	1	1	1	1	1	1	1	1	1	1
	Level of Service	F	F	-	-	F	F	F	F	F	F	F	F
		F				F				F			
Auto	Volume to Capacity Ratio	0.91 - 1.00				0.91 - 1.00				0.61 - 0.70			
	Level of Service	E				E				B			

Multi-Modal Level of Service - Intersections Form

Consultant

Scenario

Comments

STANTEC

Phase 3

Project

Date

1010 Somerset St

15-Nov-24



INTERSECTIONS		Somerset St W and Bayswater Ave				Somerset St W and Preston St				Somerset St W and Rochester St			
Crossing Side		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	3	3	3	3	3	3	3	3	0 - 2	0 - 2	0 - 2	0 - 2
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
	Conflicting Left Turns	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
	Conflicting Right Turns	Permissive or yield control	Permissive or yield control	Protected/ Permissive	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
	Right Turns on Red (RToR) ?	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR prohibited	RTOR prohibited	RTOR prohibited	RTOR prohibited	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No
	Right Turn Channel	No Channel	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel
	Corner Radius	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
	PETSI Score	71	75	75	75	76	76	76	76	86	86	86	86
	Ped. Exposure to Traffic LoS	C	B	B	B	B	B	B	B	B	B	B	B
	Cycle Length	75	75	75	75	80	80	80	80	80	80	80	80
	Effective Walk Time	14	32	14	14	35	38	21	39	40	40	10	10
Average Pedestrian Delay	25	12	25	25	13	11	22	11	10	10	31	31	
Pedestrian Delay LoS	C	B	C	C	B	B	C	B	B	B	D	D	
Level of Service	C	B	C	C	B	B	C	B	B	B	D	D	
	C				C				D				
Approach From		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic			Mixed Traffic	Mixed Traffic			Mixed Traffic	Mixed Traffic
	IF Dedicated Right Turn Lane, THEN Right Turn Configuration, ELSE <blank>			≤ 50 m	≤ 50 m								
	Dedicated Right Turning Speed			≤ 25 km/h	≤ 25 km/h								
	Cyclist Through Movement			D	D	-		-		-		-	
	Separated or Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	-		-	Mixed Traffic	Mixed Traffic	-		-
	Left Turn Approach	No lane crossed	One lane crossed	No lane crossed	No lane crossed				One lane crossed	One lane crossed			One lane crossed
	Operating Speed	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h
	Left Turning Cyclist	B	D	B	B	-		-	D	D	-		-
Level of Service	B	D	D	D	-		-	D	D	-		-	
	D				D				D				
Transit	Average Signal Delay	≤ 20 sec	≤ 20 sec	≤ 20 sec	≤ 20 sec	> 40 sec	> 40 sec	≤ 20 sec	≤ 30 sec	≤ 20 sec	≤ 20 sec	≤ 10 sec	≤ 20 sec
	Level of Service	C	C	C	C	F	F	C	D	C	C	B	C
		C				F				C			
Truck	Effective Corner Radius	< 10 m	< 10 m			< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m
	Number of Receiving Lanes on Departure from Intersection	1	1	1	1	1	1	1	1	1	1	1	1
	Level of Service	F	F	-	-	F	F	F	F	F	F	F	F
		F				F				F			
Auto	Volume to Capacity Ratio	0.91 - 1.00				0.91 - 1.00				0.61 - 0.70			
	Level of Service	E				E				B			

Multi-Modal Level of Service - Intersections Form

Consultant

Scenario

Comments

STANTEC

Phase 4

Project

Date

1010 Somerset St

15-Nov-24



INTERSECTIONS		Somerset St W and Bayswater Ave				Somerset St W and Preston St				Somerset St W and Rochester St			
Crossing Side		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	3	3	3	3	3	3	3	3	0 - 2	0 - 2	0 - 2	0 - 2
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
	Conflicting Left Turns	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
	Conflicting Right Turns	Permissive or yield control	Permissive or yield control	Protected/ Permissive	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
	Right Turns on Red (RTor) ?	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR prohibited	RTOR prohibited	RTOR prohibited	RTOR prohibited	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No
	Right Turn Channel	No Channel	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel
	Corner Radius	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
	PETSI Score	71	75	75	75	76	76	76	76	86	86	86	86
	Ped. Exposure to Traffic LoS	C	B	B	B	B	B	B	B	B	B	B	B
	Cycle Length	75	75	75	75	80	80	80	80	80	80	80	80
	Effective Walk Time	14	32	14	14	35	38	21	39	40	40	10	10
Average Pedestrian Delay	25	12	25	25	13	11	22	11	10	10	31	31	
Pedestrian Delay LoS	C	B	C	C	B	B	C	B	B	B	D	D	
Level of Service	C	B	C	C	B	B	C	B	B	B	D	D	
	C				C				D				
Approach From		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic			Mixed Traffic	Mixed Traffic			Mixed Traffic	Mixed Traffic
	IF Dedicated Right Turn Lane, THEN Right Turn Configuration, ELSE <blank>			≤ 50 m	≤ 50 m								
	Dedicated Right Turning Speed			≤ 25 km/h	≤ 25 km/h								
	Cyclist Through Movement			D	D	-		-		-		-	
	Separated or Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	-		-		Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Left Turn Approach	No lane crossed	One lane crossed	No lane crossed	No lane crossed			One lane crossed	One lane crossed			One lane crossed	One lane crossed
	Operating Speed	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h
	Left Turning Cyclist	B	D	B	B	-		-		D	D	D	D
Level of Service	B	D	D	D	-		-		D	D	D	D	
	D				D				D				
Transit	Average Signal Delay	≤ 20 sec	≤ 20 sec	≤ 20 sec	≤ 20 sec	> 40 sec	> 40 sec	≤ 20 sec	≤ 30 sec	≤ 20 sec	≤ 20 sec	≤ 20 sec	≤ 20 sec
	Level of Service	C	C	C	C	F	F	C	D	C	C	C	C
		C				F				C			
Truck	Effective Corner Radius	< 10 m	< 10 m			< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m	< 10 m
	Number of Receiving Lanes on Departure from Intersection	1	1	1	1	1	1	1	1	1	1	1	1
	Level of Service	F	F	-	-	F	F	F	F	F	F	F	F
		F				F				F			
Auto	Volume to Capacity Ratio	0.91 - 1.00				0.91 - 1.00				0.61 - 0.70			
	Level of Service	E				E				B			

Multi-Modal Level of Service - Segments Form

Consultant Scenario Comments	STANTEC	Project Date	1010 Somerset St
			15-Nov-24

SEGMENTS		LOS	Somerset Street	Preston Street		
			Across Frontage	West Across Frontage	East Across Frontage	
Pedestrian	Sidewalk Width	B	1.8 m	1.8 m		1.5 m
	Boulevard Width		> 2 m	0.5 - 2 m		0.5 - 2 m
	Avg Daily Curb Lane Traffic Volume		> 3000	≤ 3000		≤ 3000
	Operating Speed		> 30 to 50 km/h	> 30 to 50 km/h		> 50 to 60 km/h
	On-Street Parking		yes	no		yes
	Exposure to Traffic PLoS		B	B		0
	Level of Service		B	B		A
Bicycle	Type of Cycling Facility	D	Curbside Bike Lane			Mixed Traffic
	Number of Travel Lanes		≤ 1 each direction	≤ 2 (no centreline)		≤ 2 (no centreline)
	Operating Speed		≤ 50 km/h	≤ 40 km/h		≥ 50 to 60 km/h
	# of Lanes & Operating Speed LoS		A	-		D
	Bike Lane (+ Parking Lane) Width					
	Bike Lane Width LoS		-	-		-
	Bike Lane Blockages					
	Blockage LoS		-	-		-
	Level of Service		A	-		D
Transit	Facility Type	E	Mixed Traffic	Mixed Traffic		Mixed Traffic
	Friction or Ratio Transit:Posted Speed		Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8		Vt/Vp ≤ 0.6
	Level of Service		D	D		E
Truck	Truck Lane Width	C	≤ 3.5 m	≤ 3.5 m		> 3.7 m
	Travel Lanes per Direction		1	1		1
	Level of Service		C	C		B

Appendix F Synchro Analysis Results

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	175	14	30	177	63	12	67	41	97	74	39
Future Volume (vph)	26	175	14	30	177	63	12	67	41	97	74	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.954			0.939	
Flt Protected		0.994			0.993			0.992		0.950		
Satd. Flow (prot)	0	1754	1526	0	1784	1471	0	1681	0	1644	1758	0
Flt Permitted		0.944			0.940			0.946		0.708		
Satd. Flow (perm)	0	1666	1526	0	1688	1471	0	1603	0	1225	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			76		46			61	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			540.9			476.9			104.6	
Travel Time (s)		20.3			64.9			57.2			12.6	
Peak Hour Factor	0.93	0.91	0.70	0.94	0.87	0.83	0.50	0.88	0.79	0.93	0.80	0.61
Heavy Vehicles (%)	8%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	28	192	20	32	203	76	24	76	52	104	93	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	220	20	0	235	76	0	152	0	104	157	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		29.5	29.5		29.5	29.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.42	0.42		0.42	0.42		0.42		0.42	0.42	
v/c Ratio		0.31	0.03		0.33	0.11		0.22		0.20	0.20	
Control Delay		15.1	2.1		15.3	4.0		10.0		14.2	8.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		15.1	2.1		15.3	4.0		10.0		14.2	8.8	
LOS		B	A		B	A		A		B	A	
Approach Delay		14.0			12.5			10.0			11.0	
Approach LOS		B			B			A			B	
Queue Length 50th (m)		18.5	0.0		19.9	0.0		8.3		8.3	7.4	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		33.0	0.7		33.6	5.6		18.2		17.7	14.9	
Internal Link Dist (m)		145.1			516.9			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		702	666		711	663		699		514	773	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.31	0.03		0.33	0.11		0.22		0.20	0.20	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.33

Intersection Signal Delay: 12.1

Intersection LOS: B

Intersection Capacity Utilization 48.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	223	92	28	141	13	68	212	66	39	331	34
Future Volume (vph)	30	223	92	28	141	13	68	212	66	39	331	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.951			0.980			0.964			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1697	0	1706	1729	0	1706	1633	0	1690	1772	0
Flt Permitted	0.646			0.486			0.368			0.486		
Satd. Flow (perm)	1160	1697	0	873	1729	0	661	1633	0	864	1772	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		540.9			189.8			173.9			224.6	
Travel Time (s)		64.9			22.8			20.9			27.0	
Peak Hour Factor	0.63	0.93	0.79	0.64	0.93	0.54	0.68	0.87	0.87	0.65	0.89	0.71
Heavy Vehicles (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	48	240	116	44	152	24	100	244	76	60	372	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	356	0	44	176	0	100	320	0	60	420	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	47.5%	47.5%		47.5%	47.5%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.38	0.38		0.38	0.38	
v/c Ratio	0.09	0.45		0.11	0.22		0.40	0.52		0.19	0.63	
Control Delay	11.2	15.1		11.6	12.2		22.2	20.8		16.6	23.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	1.0	1.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	6%	6%	6%	6%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	11.2	15.1		11.6	12.2		22.2	20.8		16.6	23.1	
LOS	B	B		B	B		C	C		B	C	
Approach Delay		14.7			12.1			21.1			22.3	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	3.4	30.0		3.1	13.1		9.4	31.7		5.1	43.9	
Queue Length 95th (m)	5.9	50.2		5.7	24.2		15.2	51.3		8.8	70.2	
Internal Link Dist (m)		516.9			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	536	785		404	800		248	613		324	665	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.09	0.45		0.11	0.22		0.40	0.52		0.19	0.63	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 18.5

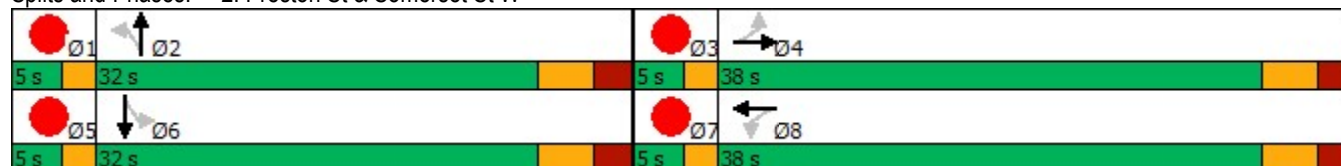
Intersection LOS: B

Intersection Capacity Utilization 62.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	274	58	51	165	3	16	14	58	6	24	5
Future Volume (vph)	4	274	58	51	165	3	16	14	58	6	24	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.998			0.922			0.979	
Flt Protected		0.999			0.988			0.991			0.989	
Satd. Flow (prot)	0	1732	0	0	1752	0	0	1696	0	0	1860	0
Flt Permitted		0.994			0.837			0.947			0.932	
Satd. Flow (perm)	0	1723	0	0	1484	0	0	1620	0	0	1753	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			2			76			8	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		22.8			14.4			33.1			28.7	
Peak Hour Factor	0.50	0.83	0.82	0.80	0.86	0.75	0.67	0.44	0.76	0.50	0.75	0.63
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	330	71	64	192	4	24	32	76	12	32	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	0	0	260	0	0	132	0	0	52	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.4	26.4		26.4	26.4	
Total Split (%)	67.2%	67.2%		67.2%	67.2%		32.8%	32.8%		32.8%	32.8%	
Maximum Green (s)	48.9	48.9		48.9	48.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.9			48.9			21.0			21.0	
Actuated g/C Ratio		0.61			0.61			0.26			0.26	
v/c Ratio		0.39			0.29			0.28			0.11	
Control Delay		8.8			8.5			13.0			20.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.8			8.5			13.0			20.7	
LOS		A			A			B			C	
Approach Delay		8.8			8.5			13.0			20.7	
Approach LOS		A			A			B			C	
Queue Length 50th (m)		26.8			16.9			6.6			5.1	
Queue Length 95th (m)		38.4			27.0			4.4			10.7	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1057			903			479			463	
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		0.39			0.29			0.28			0.11	

Intersection Summary

Area Type: Other

Cycle Length: 80.4

Actuated Cycle Length: 80.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 10.1

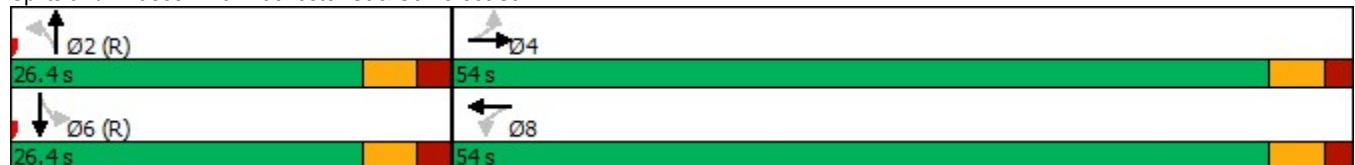
Intersection LOS: B

Intersection Capacity Utilization 49.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	3	2	330	435	2
Future Volume (vph)	3	3	2	330	435	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.999	
Flt Protected	0.976					
Satd. Flow (prot)	1713	0	0	1883	1882	0
Flt Permitted	0.976					
Satd. Flow (perm)	1713	0	0	1883	1882	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	102.2			93.5	173.9	
Travel Time (s)	12.3			11.2	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	3	2	359	473	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	361	475	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.0% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	3	2	330	435	2
Future Volume (Veh/h)	3	3	2	330	435	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	3	2	359	473	2
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.89	0.89	0.89			
vC, conflicting volume	837	474	475			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	759	353	354			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	334	618	1078			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	6	361	475			
Volume Left	3	2	0			
Volume Right	3	0	2			
cSH	434	1078	1700			
Volume to Capacity	0.01	0.00	0.28			
Queue Length 95th (m)	0.3	0.0	0.0			
Control Delay (s)	13.4	0.1	0.0			
Lane LOS	B	A				
Approach Delay (s)	13.4	0.1	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		33.0%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	225	23	39	316	90	18	106	60	98	135	61
Future Volume (vph)	25	225	23	39	316	90	18	106	60	98	135	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.956			0.944	
Flt Protected		0.995			0.995			0.992		0.950		
Satd. Flow (prot)	0	1755	1526	0	1791	1471	0	1687	0	1644	1770	0
Flt Permitted		0.941			0.945			0.920		0.603		
Satd. Flow (perm)	0	1660	1526	0	1701	1471	0	1564	0	1044	1770	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			108		38			47	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			540.9			476.9			104.6	
Travel Time (s)		20.3			64.9			57.2			12.6	
Peak Hour Factor	0.93	0.91	0.70	0.94	0.87	0.83	0.50	0.88	0.79	0.93	0.80	0.61
Heavy Vehicles (%)	8%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	27	247	33	41	363	108	36	120	76	105	169	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	274	33	0	404	108	0	232	0	105	269	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	34.5	34.5	34.5	34.5	34.5	34.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		34.5	34.5		34.5	34.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.46	0.46		0.46	0.46		0.39		0.39	0.39	
v/c Ratio		0.36	0.05		0.52	0.15		0.36		0.26	0.37	
Control Delay		14.8	3.9		19.0	4.3		15.4		17.6	15.0	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		14.8	3.9		19.0	4.3		15.4		17.6	15.0	
LOS		B	A		B	A		B		B	B	
Approach Delay		13.7			15.9			15.4			15.8	
Approach LOS		B			B			B			B	
Queue Length 50th (m)		23.9	0.0		50.9	2.8		18.6		9.8	21.3	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		40.5	2.3		m77.8	m4.7		33.9		20.7	32.7	
Internal Link Dist (m)		145.1			516.9			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		763	722		782	734		636		409	722	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.36	0.05		0.52	0.15		0.36		0.26	0.37	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 15.3

Intersection LOS: B

Intersection Capacity Utilization 71.6%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Bayswater Avenue & Somerset St W

 Ø2 (R)	 Ø4
35 s	40 s
 Ø6 (R)	 Ø8
35 s	40 s

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	278	79	52	291	22	79	336	60	44	302	46
Future Volume (vph)	49	278	79	52	291	22	79	336	60	44	302	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.983			0.977			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1723	0	1706	1734	0	1706	1642	0	1690	1763	0
Flt Permitted	0.453			0.404			0.316			0.247		
Satd. Flow (perm)	813	1723	0	725	1734	0	567	1642	0	439	1763	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		540.9			189.8			173.9			224.6	
Travel Time (s)		64.9			22.8			20.9			27.0	
Peak Hour Factor	0.63	0.93	0.79	0.64	0.93	0.54	0.68	0.87	0.87	0.65	0.89	0.71
Heavy Vehicles (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	78	299	100	81	313	41	116	386	69	68	339	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	399	0	81	354	0	116	455	0	68	404	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	36.0	36.0		36.0	36.0		29.0	29.0		29.0	29.0	
Total Split (%)	48.0%	48.0%		48.0%	48.0%		38.7%	38.7%		38.7%	38.7%	
Maximum Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.31	0.31		0.31	0.31	
v/c Ratio	0.24	0.57		0.28	0.50		0.66	0.89		0.50	0.74	
Control Delay	21.0	26.2		18.2	19.8		43.7	47.5		36.4	33.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.0	26.2		18.2	19.8		43.7	47.5		36.4	33.0	
LOS	C	C		B	B		D	D		D	C	
Approach Delay		25.4			19.5			46.7			33.5	
Approach LOS		C			B			D			C	
Queue Length 50th (m)	9.5	53.8		7.5	36.3		14.1	60.8		7.8	50.5	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	7%	7%	7%	7%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)	13.3	82.0		11.5	59.1		22.1	#105.6		13.3	#83.1	
Internal Link Dist (m)		516.9			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	329	698		293	702		176	510		136	547	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.24	0.57		0.28	0.50		0.66	0.89		0.50	0.74	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 32.2

Intersection LOS: C

Intersection Capacity Utilization 67.9%

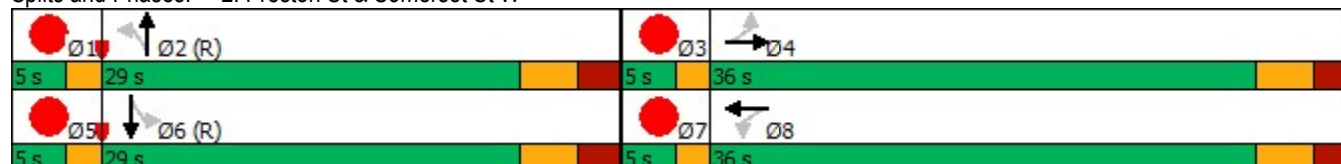
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	333	35	79	330	15	28	36	103	11	23	2
Future Volume (vph)	5	333	35	79	330	15	28	36	103	11	23	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987			0.995			0.929			0.993	
Flt Protected		0.999			0.990			0.992			0.981	
Satd. Flow (prot)	0	1741	0	0	1746	0	0	1716	0	0	1871	0
Flt Permitted		0.989			0.836			0.944			0.859	
Satd. Flow (perm)	0	1724	0	0	1474	0	0	1633	0	0	1639	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			5			70			3	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		22.8			14.4			33.1			28.7	
Peak Hour Factor	0.50	0.83	0.82	0.80	0.86	0.75	0.67	0.44	0.76	0.50	0.75	0.63
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	10	401	43	99	384	20	42	82	136	22	31	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	454	0	0	503	0	0	260	0	0	56	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	51.0	51.0		51.0	51.0		26.4	26.4		26.4	26.4	
Total Split (%)	65.9%	65.9%		65.9%	65.9%		34.1%	34.1%		34.1%	34.1%	
Maximum Green (s)	45.9	45.9		45.9	45.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		45.9			45.9			21.0			21.0	
Actuated g/C Ratio		0.59			0.59			0.27			0.27	
v/c Ratio		0.44			0.57			0.53			0.13	
Control Delay		10.1			12.9			21.8			21.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		10.1			12.9			21.8			21.4	
LOS		B			B			C			C	
Approach Delay		10.1			12.9			21.8			21.4	
Approach LOS		B			B			C			C	
Queue Length 50th (m)		32.1			40.6			23.0			5.8	
Queue Length 95th (m)		45.3			62.0			14.3			11.6	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1027			876			494			446	
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		0.44			0.57			0.53			0.13	

Intersection Summary

Area Type: Other

Cycle Length: 77.4

Actuated Cycle Length: 77.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 14.1

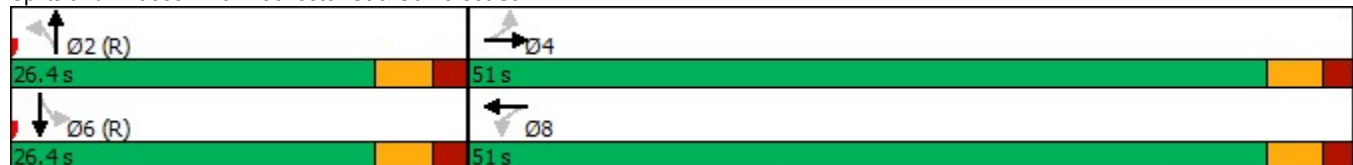
Intersection LOS: B

Intersection Capacity Utilization 66.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			T	T	L
Traffic Volume (vph)	3	3	2	460	420	3
Future Volume (vph)	3	3	2	460	420	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.999	
Flt Protected	0.976					
Satd. Flow (prot)	1713	0	0	1883	1882	0
Flt Permitted	0.976					
Satd. Flow (perm)	1713	0	0	1883	1882	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	102.2			93.5	173.9	
Travel Time (s)	12.3			11.2	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	3	2	500	457	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	502	460	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.8% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	3	2	460	420	3
Future Volume (Veh/h)	3	3	2	460	420	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	3	2	500	457	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.90	0.90	0.90			
vC, conflicting volume	962	458	460			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	902	342	343			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	277	630	1093			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	6	502	460			
Volume Left	3	2	0			
Volume Right	3	0	3			
cSH	384	1093	1700			
Volume to Capacity	0.02	0.00	0.27			
Queue Length 95th (m)	0.4	0.0	0.0			
Control Delay (s)	14.5	0.1	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.5	0.1	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		35.8%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	231	23	40	321	91	18	106	62	99	135	61
Future Volume (vph)	25	231	23	40	321	91	18	106	62	99	135	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.960			0.952	
Flt Protected		0.994			0.995			0.995		0.950		
Satd. Flow (prot)	0	1798	1570	0	1826	1512	0	1742	0	1644	1799	0
Flt Permitted		0.923			0.937			0.953		0.611		
Satd. Flow (perm)	0	1669	1570	0	1720	1512	0	1668	0	1057	1799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			105		33			37	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		169.1			540.9			476.9			104.6	
Travel Time (s)		12.7			40.6			35.8			7.8	
Peak Hour Factor	0.78	0.94	0.72	0.81	0.81	0.87	0.75	0.80	0.94	0.79	0.84	0.80
Heavy Vehicles (%)	8%	6%	4%	10%	4%	8%	0%	4%	10%	11%	1%	3%
Adj. Flow (vph)	32	246	32	49	396	105	24	133	66	125	161	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	278	32	0	445	105	0	223	0	125	237	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	34.5	34.5	34.5	34.5	34.5	34.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		34.5	34.5		34.5	34.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.46	0.46		0.46	0.46		0.39		0.39	0.39	
v/c Ratio		0.36	0.04		0.56	0.14		0.33		0.30	0.33	
Control Delay		14.9	3.8		23.6	9.3		15.1		18.3	14.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		14.9	3.8		23.6	9.3		15.1		18.3	14.8	
LOS		B	A		C	A		B		B	B	
Approach Delay		13.7			20.9			15.1			16.0	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		24.3	0.0		46.7	2.8		17.9		11.9	18.8	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		41.0	2.3		m60.1	m9.9		28.4		20.5	31.4	
Internal Link Dist (m)		145.1			516.9			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		767	742		791	752		673		414	727	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.36	0.04		0.56	0.14		0.33		0.30	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 17.2

Intersection LOS: B

Intersection Capacity Utilization 72.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Bayswater Avenue & Somerset St W

35 s	40 s
35 s	40 s

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	284	84	52	295	22	85	460	60	44	365	48
Future Volume (vph)	50	284	84	52	295	22	85	460	60	44	365	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.961			0.988			0.984			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	1724	0	1755	1824	0	1722	1727	0	1706	1756	0
Flt Permitted	0.443			0.343			0.230			0.172		
Satd. Flow (perm)	818	1724	0	634	1824	0	417	1727	0	309	1756	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		540.9			189.8			173.9			224.6	
Travel Time (s)		40.6			14.2			13.0			16.8	
Peak Hour Factor	0.77	0.84	0.71	0.87	0.88	0.79	0.68	0.85	0.94	0.79	0.90	0.77
Heavy Vehicles (%)	4%	5%	13%	4%	4%	5%	6%	10%	5%	7%	8%	2%
Adj. Flow (vph)	65	338	118	60	335	28	125	541	64	56	406	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	456	0	60	363	0	125	605	0	56	468	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	36.0	36.0		36.0	36.0		29.0	29.0		29.0	29.0	
Total Split (%)	48.0%	48.0%		48.0%	48.0%		38.7%	38.7%		38.7%	38.7%	
Maximum Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.31	0.31		0.31	0.31	
v/c Ratio	0.20	0.65		0.23	0.49		0.97	1.13		0.59	0.86	
Control Delay	17.2	24.8		17.8	19.4		103.5	107.0		51.2	42.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.2	24.8		17.8	19.4		103.5	107.0		51.2	42.2	
LOS	B	C		B	B		F	F		D	D	
Approach Delay		23.8			19.2			106.4			43.2	
Approach LOS		C			B			F			D	
Queue Length 50th (m)	5.9	44.9		5.4	36.9		17.3	~101.0		6.6	61.5	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	7%	7%	7%	7%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)	11.5	78.9		13.2	57.8		#31.9	#145.1		#18.9	#111.4	
Internal Link Dist (m)		516.9			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	331	698		256	739		129	536		95	545	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.65		0.23	0.49		0.97	1.13		0.59	0.86	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 55.0

Intersection LOS: D

Intersection Capacity Utilization 75.1%

ICU Level of Service D

Analysis Period (min) 15

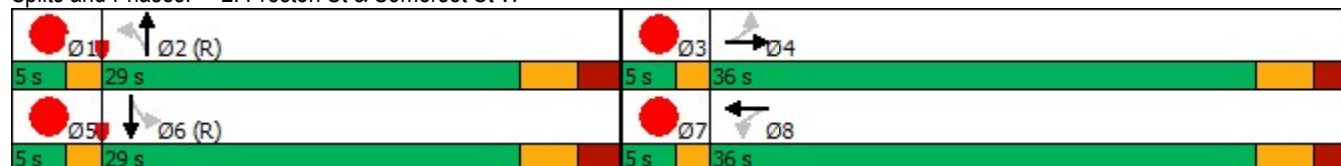
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	339	35	79	331	15	28	36	103	11	23	2
Future Volume (vph)	5	339	35	79	331	15	28	36	103	11	23	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.994			0.923			0.979	
Flt Protected		0.999			0.991			0.991			0.985	
Satd. Flow (prot)	0	1770	0	0	1809	0	0	1726	0	0	1853	0
Flt Permitted		0.992			0.856			0.940			0.886	
Satd. Flow (perm)	0	1758	0	0	1562	0	0	1637	0	0	1666	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			5			86			8	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		14.2			9.0			20.7			17.9	
Peak Hour Factor	0.62	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	20%	7%	3%	0%	6%	0%	7%	0%	1%	0%	0%	0%
Adj. Flow (vph)	8	377	48	84	352	20	40	56	129	16	28	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	433	0	0	456	0	0	225	0	0	52	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	51.0	51.0		51.0	51.0		26.4	26.4		26.4	26.4	
Total Split (%)	65.9%	65.9%		65.9%	65.9%		34.1%	34.1%		34.1%	34.1%	
Maximum Green (s)	45.9	45.9		45.9	45.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		45.9			45.9			21.0			21.0	
Actuated g/C Ratio		0.59			0.59			0.27			0.27	
v/c Ratio		0.41			0.49			0.44			0.11	
Control Delay		9.7			11.2			17.4			19.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.7			11.2			17.4			19.5	
LOS		A			B			B			B	
Approach Delay		9.7			11.2			17.4			19.5	
Approach LOS		A			B			B			B	
Queue Length 50th (m)		29.8			34.2			16.2			4.8	
Queue Length 95th (m)		47.4			55.7			19.7			11.5	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1048			928			506			457	
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		0.41			0.49			0.44			0.11	

Intersection Summary

Area Type: Other

Cycle Length: 77.4

Actuated Cycle Length: 77.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 12.2

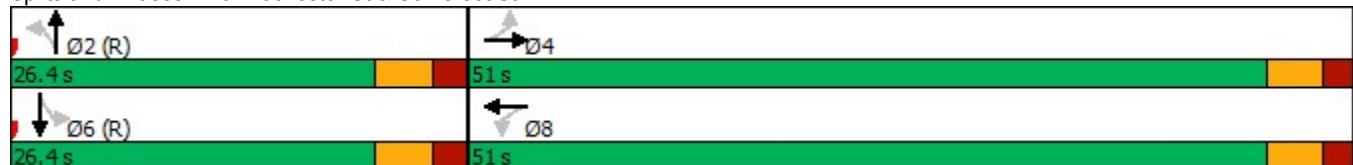
Intersection LOS: B

Intersection Capacity Utilization 67.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	20	20	579	478	13
Future Volume (vph)	12	20	20	579	478	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.915				0.996	
Flt Protected	0.982			0.998		
Satd. Flow (prot)	1692	0	0	1880	1876	0
Flt Permitted	0.982			0.998		
Satd. Flow (perm)	1692	0	0	1880	1876	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	164.1			93.5	173.9	
Travel Time (s)	12.3			7.0	13.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	22	22	629	520	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	0	651	534	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 56.6% ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	20	20	579	478	13
Future Volume (Veh/h)	12	20	20	579	478	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	22	22	629	520	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.79	0.79	0.79			
vC, conflicting volume	1200	527	534			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1122	275	283			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	96	98			
cM capacity (veh/h)	177	607	1015			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	35	651	534			
Volume Left	13	22	0			
Volume Right	22	0	14			
cSH	319	1015	1700			
Volume to Capacity	0.11	0.02	0.31			
Queue Length 95th (m)	2.8	0.5	0.0			
Control Delay (s)	17.7	0.6	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.7	0.6	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		0.8				
Intersection Capacity Utilization		56.6%		ICU Level of Service		B
Analysis Period (min)		15				

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	176	14	32	179	65	12	67	41	97	74	39
Future Volume (vph)	26	176	14	32	179	65	12	67	41	97	74	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.954			0.939	
Flt Protected		0.994			0.993			0.992		0.950		
Satd. Flow (prot)	0	1754	1526	0	1783	1471	0	1681	0	1644	1758	0
Flt Permitted		0.944			0.937			0.946		0.708		
Satd. Flow (perm)	0	1666	1526	0	1682	1471	0	1603	0	1225	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			78		46			61	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			540.9			476.9			104.6	
Travel Time (s)		20.3			64.9			57.2			12.6	
Peak Hour Factor	0.93	0.91	0.70	0.94	0.87	0.83	0.50	0.88	0.79	0.93	0.80	0.61
Heavy Vehicles (%)	8%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	28	193	20	34	206	78	24	76	52	104	93	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	221	20	0	240	78	0	152	0	104	157	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		29.5	29.5		29.5	29.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.42	0.42		0.42	0.42		0.42		0.42	0.42	
v/c Ratio		0.31	0.03		0.34	0.12		0.22		0.20	0.20	
Control Delay		15.1	2.1		15.4	3.9		10.0		14.2	8.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		15.1	2.1		15.4	3.9		10.0		14.2	8.8	
LOS		B	A		B	A		A		B	A	
Approach Delay		14.0			12.6			10.0			11.0	
Approach LOS		B			B			A			B	
Queue Length 50th (m)		18.6	0.0		20.4	0.0		8.3		8.3	7.4	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		33.0	0.7		34.3	5.6		18.2		17.7	14.9	
Internal Link Dist (m)		145.1			516.9			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		702	666		708	665		699		514	773	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.31	0.03		0.34	0.12		0.22		0.20	0.20	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 12.1

Intersection LOS: B

Intersection Capacity Utilization 49.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W

			
Ø2 (R)			Ø4
35 s			35 s
			
Ø6 (R)			Ø8
35 s			35 s

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	227	96	28	145	13	69	222	66	39	338	34
Future Volume (vph)	33	227	96	28	145	13	69	222	66	39	338	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.980			0.966			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1695	0	1706	1729	0	1706	1635	0	1690	1772	0
Flt Permitted	0.644			0.476			0.358			0.472		
Satd. Flow (perm)	1156	1695	0	855	1729	0	643	1635	0	840	1772	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		540.9			189.8			173.9			224.6	
Travel Time (s)		64.9			22.8			20.9			27.0	
Peak Hour Factor	0.63	0.93	0.79	0.64	0.93	0.54	0.68	0.87	0.87	0.65	0.89	0.71
Heavy Vehicles (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	52	244	122	44	156	24	101	255	76	60	380	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	366	0	44	180	0	101	331	0	60	428	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	47.5%	47.5%		47.5%	47.5%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.38	0.38		0.38	0.38	
v/c Ratio	0.10	0.47		0.11	0.23		0.42	0.54		0.19	0.64	
Control Delay	11.3	15.4		11.7	12.2		22.9	21.1		16.7	23.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	1.0	1.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	6%	6%	6%	6%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	11.3	15.4		11.7	12.2		22.9	21.1		16.7	23.4	
LOS	B	B		B	B		C	C		B	C	
Approach Delay		14.8			12.1			21.5			22.6	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	3.6	31.2		3.1	13.4		9.5	33.0		5.2	45.0	
Queue Length 95th (m)	6.2	51.9		5.7	24.6		15.6	53.3		8.8	71.9	
Internal Link Dist (m)		516.9			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	535	784		395	800		241	614		315	665	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.47		0.11	0.23		0.42	0.54		0.19	0.64	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 18.7

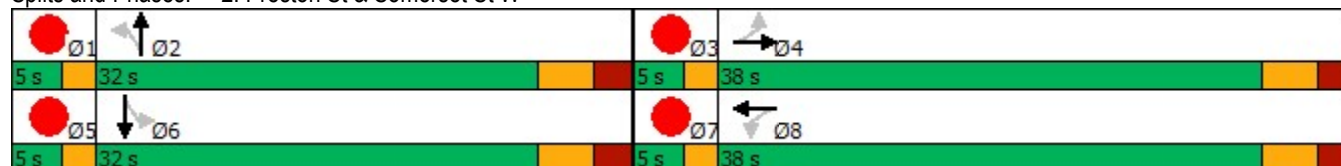
Intersection LOS: B

Intersection Capacity Utilization 64.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	4	278	58	51	168	3	16	14	58	6	24	5
Future Volume (vph)	4	278	58	51	168	3	16	14	58	6	24	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.998			0.922			0.979	
Flt Protected		0.999			0.988			0.991			0.989	
Satd. Flow (prot)	0	1732	0	0	1751	0	0	1696	0	0	1860	0
Flt Permitted		0.994			0.838			0.947			0.932	
Satd. Flow (perm)	0	1723	0	0	1486	0	0	1620	0	0	1753	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			2			76			8	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		22.8			14.4			33.1			28.7	
Peak Hour Factor	0.50	0.83	0.82	0.80	0.86	0.75	0.67	0.44	0.76	0.50	0.75	0.63
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	335	71	64	195	4	24	32	76	12	32	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	414	0	0	263	0	0	132	0	0	52	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.4	26.4		26.4	26.4	
Total Split (%)	67.2%	67.2%		67.2%	67.2%		32.8%	32.8%		32.8%	32.8%	
Maximum Green (s)	48.9	48.9		48.9	48.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.9			48.9			21.0			21.0	
Actuated g/C Ratio		0.61			0.61			0.26			0.26	
v/c Ratio		0.39			0.29			0.28			0.11	
Control Delay		8.9			8.5			13.0			20.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.9			8.5			13.0			20.7	
LOS		A			A			B			C	
Approach Delay		8.9			8.5			13.0			20.7	
Approach LOS		A			A			B			C	
Queue Length 50th (m)		27.2			17.1			6.6			5.1	
Queue Length 95th (m)		39.0			27.3			4.4			10.7	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1057			904			479			463	
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		0.39			0.29			0.28			0.11	

Intersection Summary

Area Type: Other

Cycle Length: 80.4

Actuated Cycle Length: 80.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 10.1

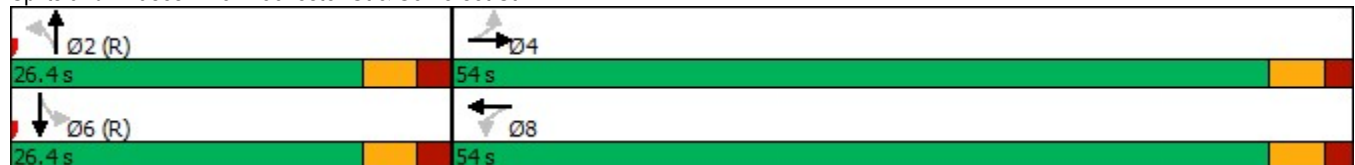
Intersection LOS: B

Intersection Capacity Utilization 50.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	3	2	340	446	2
Future Volume (vph)	3	3	2	340	446	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.999	
Flt Protected	0.976					
Satd. Flow (prot)	1713	0	0	1883	1882	0
Flt Permitted	0.976					
Satd. Flow (perm)	1713	0	0	1883	1882	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	164.1			93.5	173.9	
Travel Time (s)	19.7			11.2	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	3	2	370	485	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	372	487	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.6% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	3	2	340	446	2
Future Volume (Veh/h)	3	3	2	340	446	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	3	2	370	485	2
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.89	0.89	0.89			
vC, conflicting volume	860	486	487			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	779	358	359			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	323	609	1065			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	6	372	487			
Volume Left	3	2	0			
Volume Right	3	0	2			
cSH	422	1065	1700			
Volume to Capacity	0.01	0.00	0.29			
Queue Length 95th (m)	0.3	0.0	0.0			
Control Delay (s)	13.7	0.1	0.0			
Lane LOS	B	A				
Approach Delay (s)	13.7	0.1	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		33.6%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	227	23	40	317	91	18	106	62	99	135	61
Future Volume (vph)	25	227	23	40	317	91	18	106	62	99	135	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.960			0.952	
Flt Protected		0.994			0.994			0.995		0.950		
Satd. Flow (prot)	0	1798	1570	0	1824	1512	0	1742	0	1644	1799	0
Flt Permitted		0.922			0.937			0.953		0.611		
Satd. Flow (perm)	0	1667	1570	0	1720	1512	0	1668	0	1057	1799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			105		33			37	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		169.1			540.9			476.9			104.6	
Travel Time (s)		12.7			40.6			35.8			7.8	
Peak Hour Factor	0.78	0.94	0.72	0.81	0.81	0.87	0.75	0.80	0.94	0.79	0.84	0.80
Heavy Vehicles (%)	8%	6%	4%	10%	4%	8%	0%	4%	10%	11%	1%	3%
Adj. Flow (vph)	32	241	32	49	391	105	24	133	66	125	161	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	273	32	0	440	105	0	223	0	125	237	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	34.5	34.5	34.5	34.5	34.5	34.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		34.5	34.5		34.5	34.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.46	0.46		0.46	0.46		0.39		0.39	0.39	
v/c Ratio		0.36	0.04		0.56	0.14		0.33		0.30	0.33	
Control Delay		14.8	3.8		24.1	9.5		15.1		18.3	14.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		14.8	3.8		24.1	9.5		15.1		18.3	14.8	
LOS		B	A		C	A		B		B	B	
Approach Delay		13.6			21.3			15.1			16.0	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		23.8	0.0		47.3	2.9		17.9		11.9	18.8	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		40.3	2.3		64.6	m11.4		28.4		20.5	31.4	
Internal Link Dist (m)		145.1			516.9			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		766	742		791	752		673		414	727	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.36	0.04		0.56	0.14		0.33		0.30	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 17.4

Intersection LOS: B

Intersection Capacity Utilization 71.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Bayswater Avenue & Somerset St W

Ø2 (R) 35 s	Ø4 40 s
Ø6 (R) 35 s	Ø8 40 s

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	284	80	52	295	22	81	354	60	44	305	48
Future Volume (vph)	50	284	80	52	295	22	81	354	60	44	305	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.988			0.980			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	1727	0	1755	1824	0	1722	1722	0	1706	1753	0
Flt Permitted	0.443			0.348			0.320			0.214		
Satd. Flow (perm)	818	1727	0	643	1824	0	580	1722	0	384	1753	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		540.9			189.8			173.9			224.6	
Travel Time (s)		40.6			14.2			13.0			16.8	
Peak Hour Factor	0.77	0.84	0.71	0.87	0.88	0.79	0.68	0.85	0.94	0.79	0.90	0.77
Heavy Vehicles (%)	4%	5%	13%	4%	4%	5%	6%	10%	5%	7%	8%	2%
Adj. Flow (vph)	65	338	113	60	335	28	119	416	64	56	339	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	451	0	60	363	0	119	480	0	56	401	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	36.0	36.0		36.0	36.0		29.0	29.0		29.0	29.0	
Total Split (%)	48.0%	48.0%		48.0%	48.0%		38.7%	38.7%		38.7%	38.7%	
Maximum Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.31	0.31		0.31	0.31	
v/c Ratio	0.20	0.64		0.23	0.49		0.66	0.90		0.47	0.74	
Control Delay	17.0	24.4		17.6	19.4		43.4	47.6		36.4	32.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.0	24.4		17.6	19.4		43.4	47.6		36.4	32.9	
LOS	B	C		B	B		D	D		D	C	
Approach Delay		23.4			19.1			46.8			33.4	
Approach LOS		C			B			D			C	
Queue Length 50th (m)	5.9	44.0		5.4	36.9		14.5	64.2		6.3	50.2	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	7%	7%	7%	7%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)	11.5	75.9		13.1	57.8		22.3	#106.1		15.1	#88.1	
Internal Link Dist (m)		516.9			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	331	700		260	739		180	534		119	544	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.64		0.23	0.49		0.66	0.90		0.47	0.74	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 31.8

Intersection LOS: C

Intersection Capacity Utilization 69.3%

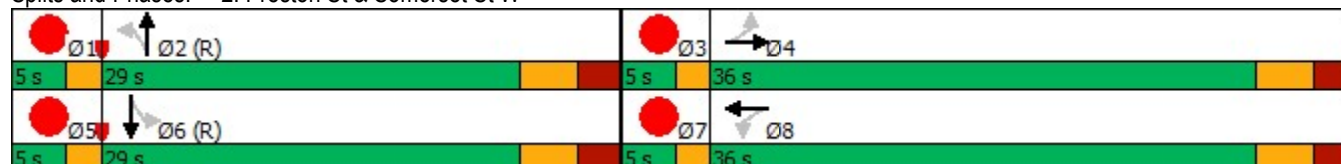
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings
3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	339	35	79	331	15	28	36	103	11	23	2
Future Volume (vph)	5	339	35	79	331	15	28	36	103	11	23	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.994			0.923			0.979	
Flt Protected		0.999			0.991			0.991			0.985	
Satd. Flow (prot)	0	1770	0	0	1809	0	0	1726	0	0	1853	0
Flt Permitted		0.992			0.856			0.940			0.886	
Satd. Flow (perm)	0	1758	0	0	1562	0	0	1637	0	0	1666	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			5			86			8	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		14.2			9.0			20.7			17.9	
Peak Hour Factor	0.62	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	20%	7%	3%	0%	6%	0%	7%	0%	1%	0%	0%	0%
Adj. Flow (vph)	8	377	48	84	352	20	40	56	129	16	28	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	433	0	0	456	0	0	225	0	0	52	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	51.0	51.0		51.0	51.0		26.4	26.4		26.4	26.4	
Total Split (%)	65.9%	65.9%		65.9%	65.9%		34.1%	34.1%		34.1%	34.1%	
Maximum Green (s)	45.9	45.9		45.9	45.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		45.9			45.9			21.0			21.0	
Actuated g/C Ratio		0.59			0.59			0.27			0.27	
v/c Ratio		0.41			0.49			0.44			0.11	
Control Delay		9.7			11.2			17.4			19.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.7			11.2			17.4			19.5	
LOS		A			B			B			B	
Approach Delay		9.7			11.2			17.4			19.5	
Approach LOS		A			B			B			B	
Queue Length 50th (m)		29.8			34.2			16.2			4.8	
Queue Length 95th (m)		47.4			55.7			19.7			11.5	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1048			928			506			457	
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		0.41			0.49			0.44			0.11	

Intersection Summary

Area Type: Other

Cycle Length: 77.4

Actuated Cycle Length: 77.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 12.2

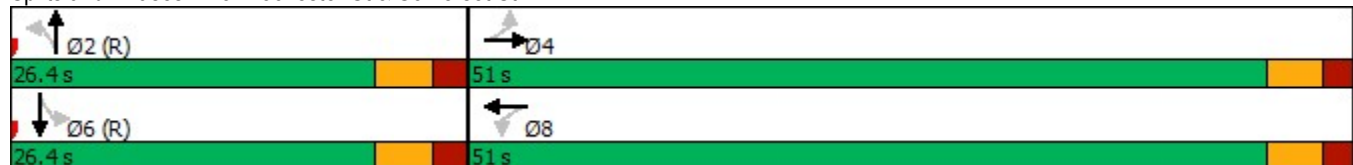
Intersection LOS: B

Intersection Capacity Utilization 67.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	3	3	2	478	424	3
Future Volume (vph)	3	3	2	478	424	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.999	
Flt Protected	0.976					
Satd. Flow (prot)	1713	0	0	1883	1882	0
Flt Permitted	0.976					
Satd. Flow (perm)	1713	0	0	1883	1882	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	164.1			93.5	173.9	
Travel Time (s)	12.3			7.0	13.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	3	2	520	461	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	522	464	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 36.7% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	3	2	478	424	3
Future Volume (Veh/h)	3	3	2	478	424	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	3	2	520	461	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.85	0.85	0.85			
vC, conflicting volume	986	462	464			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	897	281	283			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	264	645	1089			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	6	522	464			
Volume Left	3	2	0			
Volume Right	3	0	3			
cSH	374	1089	1700			
Volume to Capacity	0.02	0.00	0.27			
Queue Length 95th (m)	0.4	0.0	0.0			
Control Delay (s)	14.8	0.1	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.8	0.1	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		36.7%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	179	14	32	184	65	12	67	41	97	74	39
Future Volume (vph)	26	179	14	32	184	65	12	67	41	97	74	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.954			0.939	
Flt Protected		0.994			0.993			0.992		0.950		
Satd. Flow (prot)	0	1754	1526	0	1783	1471	0	1681	0	1644	1758	0
Flt Permitted		0.944			0.937			0.946		0.708		
Satd. Flow (perm)	0	1666	1526	0	1683	1471	0	1603	0	1225	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			78		46			61	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			540.9			476.9			104.6	
Travel Time (s)		20.3			64.9			57.2			12.6	
Peak Hour Factor	0.93	0.91	0.70	0.94	0.87	0.83	0.50	0.88	0.79	0.93	0.80	0.61
Heavy Vehicles (%)	8%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	28	197	20	34	211	78	24	76	52	104	93	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	225	20	0	245	78	0	152	0	104	157	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		29.5	29.5		29.5	29.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.42	0.42		0.42	0.42		0.42		0.42	0.42	
v/c Ratio		0.32	0.03		0.35	0.12		0.22		0.20	0.20	
Control Delay		15.2	2.1		15.5	3.9		10.0		14.2	8.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		15.2	2.1		15.5	3.9		10.0		14.2	8.8	
LOS		B	A		B	A		A		B	A	
Approach Delay		14.1			12.7			10.0			11.0	
Approach LOS		B			B			A			B	
Queue Length 50th (m)		19.0	0.0		20.9	0.0		8.3		8.3	7.4	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		33.7	0.7		35.0	5.6		18.2		17.7	14.9	
Internal Link Dist (m)		145.1			516.9			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		702	666		709	665		699		514	773	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.32	0.03		0.35	0.12		0.22		0.20	0.20	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 12.2

Intersection LOS: B

Intersection Capacity Utilization 49.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W

					
Ø2 (R)			Ø4		
35 s			35 s		
					
Ø6 (R)			Ø8		
35 s			35 s		

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	227	99	28	145	13	74	284	66	39	383	34
Future Volume (vph)	33	227	99	28	145	13	74	284	66	39	383	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.949			0.980			0.972			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1693	0	1706	1729	0	1706	1639	0	1690	1775	0
Flt Permitted	0.644			0.473			0.302			0.388		
Satd. Flow (perm)	1156	1693	0	849	1729	0	542	1639	0	690	1775	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		540.9			189.8			173.9			224.6	
Travel Time (s)		64.9			22.8			20.9			27.0	
Peak Hour Factor	0.63	0.93	0.79	0.64	0.93	0.54	0.68	0.87	0.87	0.65	0.89	0.71
Heavy Vehicles (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	52	244	125	44	156	24	109	326	76	60	430	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	369	0	44	180	0	109	402	0	60	478	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	47.5%	47.5%		47.5%	47.5%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.38	0.38		0.38	0.38	
v/c Ratio	0.10	0.47		0.11	0.23		0.54	0.65		0.23	0.72	
Control Delay	11.3	15.4		11.7	12.2		29.0	24.2		17.9	26.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	1.0	1.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	6%	6%	6%	6%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	11.3	15.4		11.7	12.2		29.0	24.2		17.9	26.1	
LOS	B	B		B	B		C	C		B	C	
Approach Delay		14.9			12.1			25.2			25.2	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	3.6	31.5		3.1	13.4		10.9	42.5		5.2	52.1	
Queue Length 95th (m)	6.2	52.5		5.7	24.6		17.8	67.1		9.1	82.6	
Internal Link Dist (m)		516.9			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	535	783		392	800		203	615		259	666	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.47		0.11	0.23		0.54	0.65		0.23	0.72	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 20.9

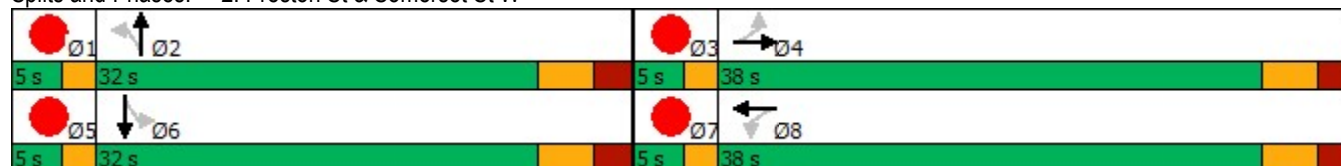
Intersection LOS: C

Intersection Capacity Utilization 67.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	278	58	51	168	3	16	14	58	6	24	5
Future Volume (vph)	4	278	58	51	168	3	16	14	58	6	24	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.998			0.922			0.979	
Flt Protected		0.999			0.988			0.991			0.989	
Satd. Flow (prot)	0	1732	0	0	1751	0	0	1696	0	0	1860	0
Flt Permitted		0.994			0.838			0.947			0.932	
Satd. Flow (perm)	0	1723	0	0	1486	0	0	1620	0	0	1753	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			2			76			8	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		22.8			14.4			33.1			28.7	
Peak Hour Factor	0.50	0.83	0.82	0.80	0.86	0.75	0.67	0.44	0.76	0.50	0.75	0.63
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	335	71	64	195	4	24	32	76	12	32	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	414	0	0	263	0	0	132	0	0	52	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.4	26.4		26.4	26.4	
Total Split (%)	67.2%	67.2%		67.2%	67.2%		32.8%	32.8%		32.8%	32.8%	
Maximum Green (s)	48.9	48.9		48.9	48.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.9			48.9			21.0			21.0	
Actuated g/C Ratio		0.61			0.61			0.26			0.26	
v/c Ratio		0.39			0.29			0.28			0.11	
Control Delay		8.9			8.5			13.0			20.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.9			8.5			13.0			20.7	
LOS		A			A			B			C	
Approach Delay		8.9			8.5			13.0			20.7	
Approach LOS		A			A			B			C	
Queue Length 50th (m)		27.2			17.1			6.6			5.1	
Queue Length 95th (m)		39.0			27.3			4.4			10.7	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1057			904			479			463	
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		0.39			0.29			0.28			0.11	

Intersection Summary

Area Type: Other

Cycle Length: 80.4

Actuated Cycle Length: 80.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 10.1

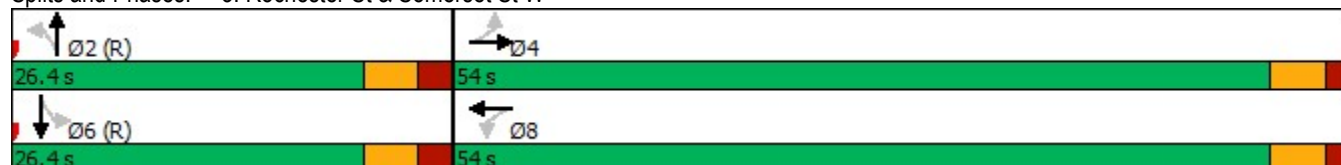
Intersection LOS: B

Intersection Capacity Utilization 50.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	21	13	398	488	8
Future Volume (vph)	12	21	13	398	488	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.914				0.998	
Flt Protected	0.982			0.998		
Satd. Flow (prot)	1690	0	0	1880	1880	0
Flt Permitted	0.982			0.998		
Satd. Flow (perm)	1690	0	0	1880	1880	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	164.1			93.5	173.9	
Travel Time (s)	19.7			11.2	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	23	14	433	530	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	447	539	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.4% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (veh/h)	12	21	13	398	488	8
Future Volume (Veh/h)	12	21	13	398	488	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	23	14	433	530	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.84	0.84	0.84			
vC, conflicting volume	996	534	539			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	900	352	358			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	96	99			
cM capacity (veh/h)	256	582	1010			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	36	447	539			
Volume Left	13	14	0			
Volume Right	23	0	9			
cSH	399	1010	1700			
Volume to Capacity	0.09	0.01	0.32			
Queue Length 95th (m)	2.2	0.3	0.0			
Control Delay (s)	14.9	0.4	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.9	0.4	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			41.4%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	231	23	40	321	91	18	106	62	99	135	61
Future Volume (vph)	25	231	23	40	321	91	18	106	62	99	135	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.960			0.952	
Flt Protected		0.994			0.995			0.995		0.950		
Satd. Flow (prot)	0	1798	1570	0	1826	1512	0	1742	0	1644	1799	0
Flt Permitted		0.923			0.937			0.953		0.611		
Satd. Flow (perm)	0	1669	1570	0	1720	1512	0	1668	0	1057	1799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			105		33			37	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		169.1			540.9			476.9			104.6	
Travel Time (s)		12.7			40.6			35.8			7.8	
Peak Hour Factor	0.78	0.94	0.72	0.81	0.81	0.87	0.75	0.80	0.94	0.79	0.84	0.80
Heavy Vehicles (%)	8%	6%	4%	10%	4%	8%	0%	4%	10%	11%	1%	3%
Adj. Flow (vph)	32	246	32	49	396	105	24	133	66	125	161	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	278	32	0	445	105	0	223	0	125	237	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	34.5	34.5	34.5	34.5	34.5	34.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		34.5	34.5		34.5	34.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.46	0.46		0.46	0.46		0.39		0.39	0.39	
v/c Ratio		0.36	0.04		0.56	0.14		0.33		0.30	0.33	
Control Delay		14.9	3.8		23.6	9.3		15.1		18.3	14.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		14.9	3.8		23.6	9.3		15.1		18.3	14.8	
LOS		B	A		C	A		B		B	B	
Approach Delay		13.7			20.9			15.1			16.0	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		24.3	0.0		46.7	2.8		17.9		11.9	18.8	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		41.0	2.3		m60.1	m9.9		28.4		20.5	31.4	
Internal Link Dist (m)		145.1			516.9			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		767	742		791	752		673		414	727	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.36	0.04		0.56	0.14		0.33		0.30	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 17.2

Intersection LOS: B

Intersection Capacity Utilization 72.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Bayswater Avenue & Somerset St W

 Ø2 (R)	 Ø4
35 s	40 s
 Ø6 (R)	 Ø8
35 s	40 s

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	284	84	52	295	22	85	460	60	44	365	48
Future Volume (vph)	50	284	84	52	295	22	85	460	60	44	365	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.961			0.988			0.984			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	1724	0	1755	1824	0	1722	1727	0	1706	1756	0
Flt Permitted	0.443			0.343			0.230			0.172		
Satd. Flow (perm)	818	1724	0	634	1824	0	417	1727	0	309	1756	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		540.9			189.8			173.9			224.6	
Travel Time (s)		40.6			14.2			13.0			16.8	
Peak Hour Factor	0.77	0.84	0.71	0.87	0.88	0.79	0.68	0.85	0.94	0.79	0.90	0.77
Heavy Vehicles (%)	4%	5%	13%	4%	4%	5%	6%	10%	5%	7%	8%	2%
Adj. Flow (vph)	65	338	118	60	335	28	125	541	64	56	406	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	456	0	60	363	0	125	605	0	56	468	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	36.0	36.0		36.0	36.0		29.0	29.0		29.0	29.0	
Total Split (%)	48.0%	48.0%		48.0%	48.0%		38.7%	38.7%		38.7%	38.7%	
Maximum Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.31	0.31		0.31	0.31	
v/c Ratio	0.20	0.65		0.23	0.49		0.97	1.13		0.59	0.86	
Control Delay	17.2	24.8		17.8	19.4		103.5	107.0		51.2	42.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.2	24.8		17.8	19.4		103.5	107.0		51.2	42.2	
LOS	B	C		B	B		F	F		D	D	
Approach Delay		23.8			19.2			106.4			43.2	
Approach LOS		C			B			F			D	
Queue Length 50th (m)	5.9	44.9		5.4	36.9		17.3	~101.0		6.6	61.5	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	7%	7%	7%	7%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)	11.5	78.9		13.2	57.8		#31.9	#145.1		#18.9	#111.4	
Internal Link Dist (m)		516.9			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	331	698		256	739		129	536		95	545	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.65		0.23	0.49		0.97	1.13		0.59	0.86	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 55.0

Intersection LOS: D

Intersection Capacity Utilization 75.1%

ICU Level of Service D

Analysis Period (min) 15

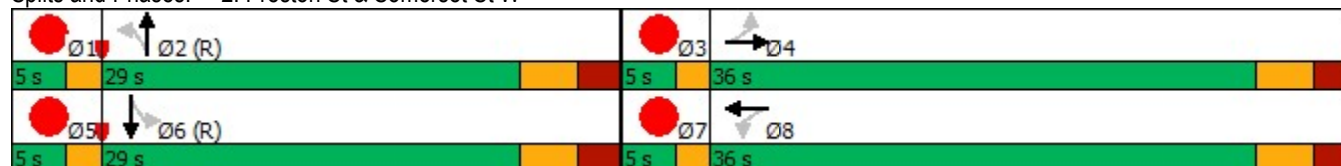
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings
3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	339	35	79	331	15	28	36	103	11	23	2
Future Volume (vph)	5	339	35	79	331	15	28	36	103	11	23	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.994			0.923			0.979	
Flt Protected		0.999			0.991			0.991			0.985	
Satd. Flow (prot)	0	1770	0	0	1809	0	0	1726	0	0	1853	0
Flt Permitted		0.992			0.856			0.940			0.886	
Satd. Flow (perm)	0	1758	0	0	1562	0	0	1637	0	0	1666	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			5			86			8	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		14.2			9.0			20.7			17.9	
Peak Hour Factor	0.62	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	20%	7%	3%	0%	6%	0%	7%	0%	1%	0%	0%	0%
Adj. Flow (vph)	8	377	48	84	352	20	40	56	129	16	28	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	433	0	0	456	0	0	225	0	0	52	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	51.0	51.0		51.0	51.0		26.4	26.4		26.4	26.4	
Total Split (%)	65.9%	65.9%		65.9%	65.9%		34.1%	34.1%		34.1%	34.1%	
Maximum Green (s)	45.9	45.9		45.9	45.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		45.9			45.9			21.0			21.0	
Actuated g/C Ratio		0.59			0.59			0.27			0.27	
v/c Ratio		0.41			0.49			0.44			0.11	
Control Delay		9.7			11.2			17.4			19.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.7			11.2			17.4			19.5	
LOS		A			B			B			B	
Approach Delay		9.7			11.2			17.4			19.5	
Approach LOS		A			B			B			B	
Queue Length 50th (m)		29.8			34.2			16.2			4.8	
Queue Length 95th (m)		47.4			55.7			19.7			11.5	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1048			928			506			457	
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		0.41			0.49			0.44			0.11	

Intersection Summary

Area Type: Other

Cycle Length: 77.4

Actuated Cycle Length: 77.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 12.2

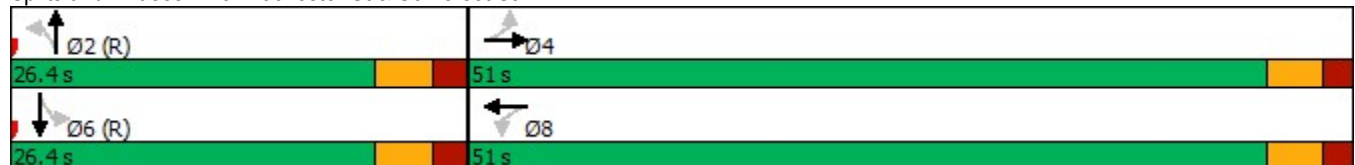
Intersection LOS: B

Intersection Capacity Utilization 67.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	20	20	579	478	13
Future Volume (vph)	12	20	20	579	478	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.915				0.996	
Flt Protected	0.982			0.998		
Satd. Flow (prot)	1692	0	0	1880	1876	0
Flt Permitted	0.982			0.998		
Satd. Flow (perm)	1692	0	0	1880	1876	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	164.1			93.5	173.9	
Travel Time (s)	12.3			7.0	13.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	22	22	629	520	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	0	651	534	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 56.6% ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	20	20	579	478	13
Future Volume (Veh/h)	12	20	20	579	478	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	22	22	629	520	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.79	0.79	0.79			
vC, conflicting volume	1200	527	534			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1122	275	283			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	96	98			
cM capacity (veh/h)	177	607	1015			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	35	651	534			
Volume Left	13	22	0			
Volume Right	22	0	14			
cSH	319	1015	1700			
Volume to Capacity	0.11	0.02	0.31			
Queue Length 95th (m)	2.8	0.5	0.0			
Control Delay (s)	17.7	0.6	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.7	0.6	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization		56.6%		ICU Level of Service		B
Analysis Period (min)		15				

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	203	14	34	197	67	12	67	49	101	74	39
Future Volume (vph)	26	203	14	34	197	67	12	67	49	101	74	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.948			0.939	
Flt Protected		0.994			0.993			0.993		0.950		
Satd. Flow (prot)	0	1754	1526	0	1783	1471	0	1666	0	1644	1758	0
Flt Permitted		0.948			0.933			0.949		0.697		
Satd. Flow (perm)	0	1673	1526	0	1676	1471	0	1592	0	1206	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			81		55			61	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			306.4			476.9			104.6	
Travel Time (s)		20.3			36.8			57.2			12.6	
Peak Hour Factor	0.93	0.91	0.70	0.94	0.87	0.83	0.50	0.88	0.79	0.93	0.80	0.61
Heavy Vehicles (%)	8%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	28	223	20	36	226	81	24	76	62	109	93	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	251	20	0	262	81	0	162	0	109	157	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		29.5	29.5		29.5	29.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.42	0.42		0.42	0.42		0.42		0.42	0.42	
v/c Ratio		0.36	0.03		0.37	0.12		0.23		0.22	0.20	
Control Delay		15.6	2.1		15.8	3.9		9.6		14.4	8.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		15.6	2.1		15.8	3.9		9.6		14.4	8.8	
LOS		B	A		B	A		A		B	A	
Approach Delay		14.6			13.0			9.6			11.1	
Approach LOS		B			B			A			B	
Queue Length 50th (m)		21.5	0.0		22.7	0.0		8.4		8.8	7.4	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		37.6	0.7		37.6	5.7		18.6		18.5	14.9	
Internal Link Dist (m)		145.1			282.4			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		705	666		706	666		700		506	773	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.36	0.03		0.37	0.12		0.23		0.22	0.20	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 12.4

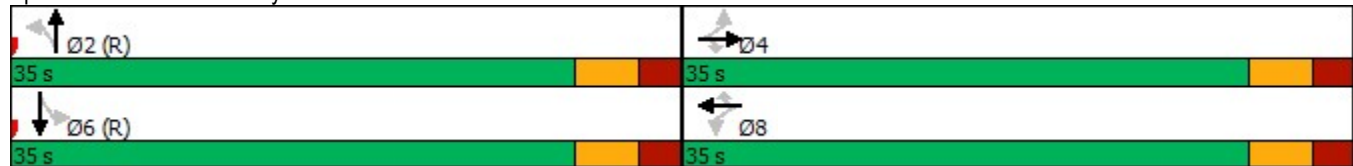
Intersection LOS: B

Intersection Capacity Utilization 52.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W



Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	243	104	38	162	13	78	254	68	39	360	38
Future Volume (vph)	35	243	104	38	162	13	78	254	68	39	360	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.982			0.968			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1695	0	1706	1733	0	1706	1636	0	1690	1771	0
Flt Permitted	0.633			0.450			0.324			0.426		
Satd. Flow (perm)	1137	1695	0	808	1733	0	582	1636	0	758	1771	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		110.6			189.8			173.9			224.6	
Travel Time (s)		13.3			22.8			20.9			27.0	
Peak Hour Factor	0.63	0.93	0.79	0.64	0.93	0.54	0.68	0.87	0.87	0.65	0.89	0.71
Heavy Vehicles (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	56	261	132	59	174	24	115	292	78	60	404	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	393	0	59	198	0	115	370	0	60	458	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	47.5%	47.5%		47.5%	47.5%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.38	0.38		0.38	0.38	
v/c Ratio	0.11	0.50		0.16	0.25		0.53	0.60		0.21	0.69	
Control Delay	11.4	15.9		12.3	12.5		27.7	22.7		17.3	24.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	1.0	1.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	6%	6%	6%	6%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	11.4	15.9		12.3	12.5		27.7	22.7		17.3	24.9	
LOS	B	B		B	B		C	C		B	C	
Approach Delay		15.4			12.4			23.9			24.0	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	3.9	34.1		4.2	14.9		11.4	38.1		5.2	49.2	
Queue Length 95th (m)	6.6	56.5		7.3	27.0		18.3	60.5		8.9	78.3	
Internal Link Dist (m)		86.6			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	526	784		373	802		218	614		284	665	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.11	0.50		0.16	0.25		0.53	0.60		0.21	0.69	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 20.0

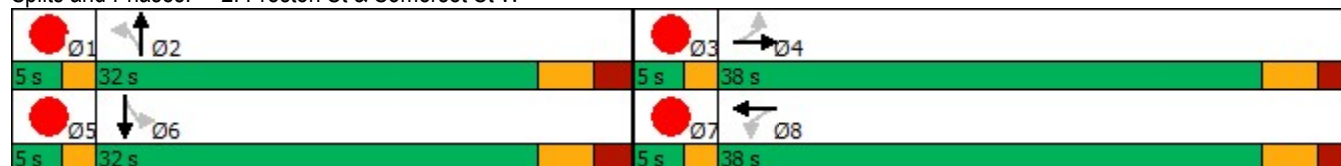
Intersection LOS: B

Intersection Capacity Utilization 67.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings
3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	294	60	51	192	3	16	14	58	6	24	8
Future Volume (vph)	4	294	60	51	192	3	16	14	58	6	24	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.998			0.922			0.969	
Flt Protected		0.999			0.989			0.991			0.990	
Satd. Flow (prot)	0	1732	0	0	1749	0	0	1696	0	0	1843	0
Flt Permitted		0.994			0.845			0.946			0.938	
Satd. Flow (perm)	0	1723	0	0	1494	0	0	1619	0	0	1746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			2			76			13	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		22.8			14.4			33.1			28.7	
Peak Hour Factor	0.50	0.83	0.82	0.80	0.86	0.75	0.67	0.44	0.76	0.50	0.75	0.63
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	354	73	64	223	4	24	32	76	12	32	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	435	0	0	291	0	0	132	0	0	57	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.4	26.4		26.4	26.4	
Total Split (%)	67.2%	67.2%		67.2%	67.2%		32.8%	32.8%		32.8%	32.8%	
Maximum Green (s)	48.9	48.9		48.9	48.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.9			48.9			21.0			21.0	
Actuated g/C Ratio		0.61			0.61			0.26			0.26	
v/c Ratio		0.41			0.32			0.28			0.12	
Control Delay		9.2			8.8			13.0			19.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.2			8.8			13.0			19.4	
LOS		A			A			B			B	
Approach Delay		9.2			8.8			13.0			19.4	
Approach LOS		A			A			B			B	
Queue Length 50th (m)		29.3			19.3			6.6			5.1	
Queue Length 95th (m)		41.5			30.5			4.4			11.0	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1056			909			479			465	
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		0.41			0.32			0.28			0.12	

Intersection Summary

Area Type: Other

Cycle Length: 80.4

Actuated Cycle Length: 80.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 10.3

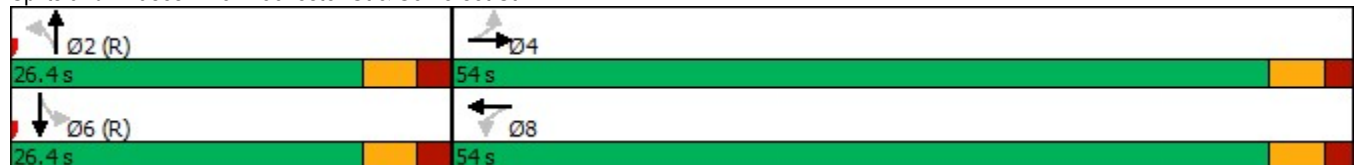
Intersection LOS: B

Intersection Capacity Utilization 52.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	41	22	368	470	18
Future Volume (vph)	32	41	22	368	470	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.924				0.995	
Flt Protected	0.979			0.997		
Satd. Flow (prot)	1704	0	0	1878	1874	0
Flt Permitted	0.979			0.997		
Satd. Flow (perm)	1704	0	0	1878	1874	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	118.3			93.5	173.9	
Travel Time (s)	14.2			11.2	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	45	24	400	511	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	0	424	531	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.3% ICU Level of Service A

Analysis Period (min) 15

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	32	41	22	368	470	18
Future Volume (Veh/h)	32	41	22	368	470	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	45	24	400	511	20
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.87	0.87	0.87			
vC, conflicting volume	969	521	531			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	888	371	382			
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	92	98			
cM capacity (veh/h)	266	585	1020			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	80	424	531			
Volume Left	35	24	0			
Volume Right	45	0	20			
cSH	384	1020	1700			
Volume to Capacity	0.21	0.02	0.31			
Queue Length 95th (m)	5.9	0.5	0.0			
Control Delay (s)	16.8	0.7	0.0			
Lane LOS	C	A				
Approach Delay (s)	16.8	0.7	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization		48.3%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Volume (vph)	366	8	8	247	12	23
Future Volume (vph)	366	8	8	247	12	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	9.1		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1878	0	1789	1883	1789	1601
Flt Permitted			0.257		0.950	
Satd. Flow (perm)	1878	0	484	1883	1789	1601
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2					25
Link Speed (k/h)	30			30	30	
Link Distance (m)	306.4			123.9	49.9	
Travel Time (s)	36.8			14.9	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	398	9	9	268	13	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	407	0	9	268	13	25
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	60.0		60.0	60.0	30.0	30.0
Total Split (%)	66.7%		66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	55.5		55.5	55.5	25.5	25.5
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	1.2		1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effect Green (s)	27.2		27.2	27.2	53.8	53.8
Actuated g/C Ratio	0.30		0.30	0.30	0.60	0.60
v/c Ratio	0.72		0.06	0.47	0.01	0.03
Control Delay	34.2		19.2	27.0	10.4	4.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	34.2		19.2	27.0	10.4	4.7

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	C		B	C	B	A
Approach Delay	34.2			26.7	6.7	
Approach LOS	C			C	A	
Queue Length 50th (m)	61.9		1.1	37.4	0.9	0.0
Queue Length 95th (m)	77.2		3.8	49.0	4.0	3.9
Internal Link Dist (m)	282.4			99.9	25.9	
Turn Bay Length (m)			9.1			
Base Capacity (vph)	1158		298	1161	1068	966
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	0.35		0.03	0.23	0.01	0.03

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 29.9

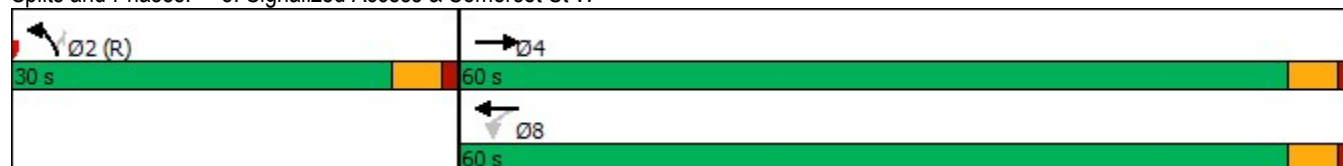
Intersection LOS: C

Intersection Capacity Utilization 31.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Signalized Access & Somerset St W



Lanes, Volumes, Timings

6: Unsignalized Access & Somerset St W

02/21/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	362	28	14	255	0	0
Future Volume (vph)	362	28	14	255	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.990					
Flt Protected			0.950			
Satd. Flow (prot)	1865	0	1789	1883	1883	0
Flt Permitted			0.950			
Satd. Flow (perm)	1865	0	1789	1883	1883	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	123.9			110.6	172.4	
Travel Time (s)	14.9			13.3	20.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	393	30	15	277	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	423	0	15	277	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	24.1%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Unsignalized Access & Somerset St W

02/21/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	362	28	14	255	0	0
Future Volume (Veh/h)	362	28	14	255	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)	393	30	15	277	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)	124			111		
pX, platoon unblocked			0.80		0.80	0.80
vC, conflicting volume			423		715	408
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			161		524	142
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1141		408	728
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	423	15	277	0		
Volume Left	0	15	0	0		
Volume Right	30	0	0	0		
cSH	1700	1141	1700	1700		
Volume to Capacity	0.25	0.01	0.16	0.00		
Queue Length 95th (m)	0.0	0.3	0.0	0.0		
Control Delay (s)	0.0	8.2	0.0	0.0		
Lane LOS		A		A		
Approach Delay (s)	0.0	0.4		0.0		
Approach LOS				A		
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			24.1%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings

7: Oak St & Unsignalized Access

02/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (vph)	0	27	36	0	40	10
Future Volume (vph)	0	27	36	0	40	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t					0.972	
Fl _t Protected					0.962	
Satd. Flow (prot)	0	1883	1883	0	1761	0
Fl _t Permitted					0.962	
Satd. Flow (perm)	0	1883	1883	0	1761	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		45.8	118.3		172.4	
Travel Time (s)		5.5	14.2		20.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	29	39	0	43	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	29	39	0	54	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

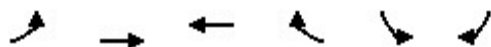
Intersection Capacity Utilization 13.3% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Unsignalized Access

02/21/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	27	36	0	40	10
Future Volume (Veh/h)	0	27	36	0	40	10
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	29	39	0	43	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	39				68	39
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	39				68	39
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				95	99
cM capacity (veh/h)	1571				937	1033
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	29	39	54			
Volume Left	0	0	43			
Volume Right	0	0	11			
cSH	1700	1700	955			
Volume to Capacity	0.02	0.02	0.06			
Queue Length 95th (m)	0.0	0.0	1.4			
Control Delay (s)	0.0	0.0	9.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.0			
Approach LOS			A			
Intersection Summary						
Average Delay			4.0			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	25	22	523	452	15
Future Volume (Veh/h)	17	25	22	523	452	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	27	24	568	491	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)					174	
pX, platoon unblocked	0.82	0.82	0.82			
vC, conflicting volume	1115	499	507			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1032	283	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 %	91	96	98			
cM capacity (veh/h)	207	622	1044			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	45	592	507			
Volume Left	18	24	0			
Volume Right	27	0	16			
cSH	345	1044	1700			
Volume to Capacity	0.13	0.02	0.30			
Queue Length 95th (m)	3.4	0.5	0.0			
Control Delay (s)	17.0	0.6	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.0	0.6	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		1.0				
Intersection Capacity Utilization		55.4%		ICU Level of Service		B
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

6: Unsignalized Access & Somerset St W

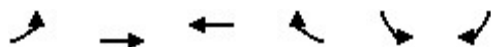
02/21/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	418	4	3	434	0	0
Future Volume (Veh/h)	418	4	3	434	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)	454	4	3	472	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)	124			111		
pX, platoon unblocked			0.78		0.86	0.78
vC, conflicting volume			458		934	456
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			166		444	164
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)			1103		488	688
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	458	3	472	0		
Volume Left	0	3	0	0		
Volume Right	4	0	0	0		
cSH	1700	1103	1700	1700		
Volume to Capacity	0.27	0.00	0.28	0.00		
Queue Length 95th (m)	0.0	0.1	0.0	0.0		
Control Delay (s)	0.0	8.3	0.0	0.0		
Lane LOS		A		A		
Approach Delay (s)	0.0	0.1		0.0		
Approach LOS				A		
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			26.2%		ICU Level of Service	
					A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Unsignalized Access

02/21/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	26	32	0	10	2
Future Volume (Veh/h)	0	26	32	0	10	2
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	28	35	0	11	2
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	35				63	35
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	35				63	35
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				99	100
cM capacity (veh/h)	1576				943	1038
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	28	35	13			
Volume Left	0	0	11			
Volume Right	0	0	2			
cSH	1700	1700	956			
Volume to Capacity	0.02	0.02	0.01			
Queue Length 95th (m)	0.0	0.0	0.3			
Control Delay (s)	0.0	0.0	8.8			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	179	14	32	184	65	12	67	41	97	74	39
Future Volume (vph)	26	179	14	32	184	65	12	67	41	97	74	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.954			0.939	
Flt Protected		0.994			0.993			0.992		0.950		
Satd. Flow (prot)	0	1754	1526	0	1783	1471	0	1681	0	1644	1758	0
Flt Permitted		0.944			0.937			0.946		0.708		
Satd. Flow (perm)	0	1666	1526	0	1683	1471	0	1603	0	1225	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			78		46			61	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			540.9			476.9			104.6	
Travel Time (s)		20.3			64.9			57.2			12.6	
Peak Hour Factor	0.93	0.91	0.70	0.94	0.87	0.83	0.50	0.88	0.79	0.93	0.80	0.61
Heavy Vehicles (%)	8%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	28	197	20	34	211	78	24	76	52	104	93	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	225	20	0	245	78	0	152	0	104	157	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		29.5	29.5		29.5	29.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.42	0.42		0.42	0.42		0.42		0.42	0.42	
v/c Ratio		0.32	0.03		0.35	0.12		0.22		0.20	0.20	
Control Delay		15.2	2.1		15.5	3.9		10.0		14.2	8.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		15.2	2.1		15.5	3.9		10.0		14.2	8.8	
LOS		B	A		B	A		A		B	A	
Approach Delay		14.1			12.7			10.0			11.0	
Approach LOS		B			B			A			B	
Queue Length 50th (m)		19.0	0.0		20.9	0.0		8.3		8.3	7.4	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		33.7	0.7		35.0	5.6		18.2		17.7	14.9	
Internal Link Dist (m)		145.1			516.9			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		702	666		709	665		699		514	773	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.32	0.03		0.35	0.12		0.22		0.20	0.20	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 12.2

Intersection LOS: B

Intersection Capacity Utilization 49.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W

			
Ø2 (R)			Ø4
35 s			35 s
			
Ø6 (R)			Ø8
35 s			35 s

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	227	99	28	145	13	74	284	66	39	383	34
Future Volume (vph)	33	227	99	28	145	13	74	284	66	39	383	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.949			0.980			0.972			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1693	0	1706	1729	0	1706	1639	0	1690	1775	0
Flt Permitted	0.644			0.473			0.302			0.388		
Satd. Flow (perm)	1156	1693	0	849	1729	0	542	1639	0	690	1775	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		540.9			189.8			173.9			224.6	
Travel Time (s)		64.9			22.8			20.9			27.0	
Peak Hour Factor	0.63	0.93	0.79	0.64	0.93	0.54	0.68	0.87	0.87	0.65	0.89	0.71
Heavy Vehicles (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	52	244	125	44	156	24	109	326	76	60	430	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	369	0	44	180	0	109	402	0	60	478	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	47.5%	47.5%		47.5%	47.5%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.38	0.38		0.38	0.38	
v/c Ratio	0.10	0.47		0.11	0.23		0.54	0.65		0.23	0.72	
Control Delay	11.3	15.4		11.7	12.2		29.0	24.2		17.9	26.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	1.0	1.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	6%	6%	6%	6%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	11.3	15.4		11.7	12.2		29.0	24.2		17.9	26.1	
LOS	B	B		B	B		C	C		B	C	
Approach Delay		14.9			12.1			25.2			25.2	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	3.6	31.5		3.1	13.4		10.9	42.5		5.2	52.1	
Queue Length 95th (m)	6.2	52.5		5.7	24.6		17.8	67.1		9.1	82.6	
Internal Link Dist (m)		516.9			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	535	783		392	800		203	615		259	666	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.47		0.11	0.23		0.54	0.65		0.23	0.72	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 20.9

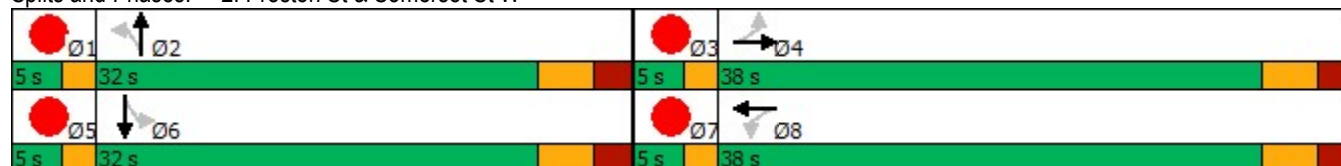
Intersection LOS: C

Intersection Capacity Utilization 67.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	4	278	58	51	168	3	16	14	58	6	24	5
Future Volume (vph)	4	278	58	51	168	3	16	14	58	6	24	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.998			0.922			0.979	
Flt Protected		0.999			0.988			0.991			0.989	
Satd. Flow (prot)	0	1732	0	0	1751	0	0	1696	0	0	1860	0
Flt Permitted		0.994			0.838			0.947			0.932	
Satd. Flow (perm)	0	1723	0	0	1486	0	0	1620	0	0	1753	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			2			76			8	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		22.8			14.4			33.1			28.7	
Peak Hour Factor	0.50	0.83	0.82	0.80	0.86	0.75	0.67	0.44	0.76	0.50	0.75	0.63
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	335	71	64	195	4	24	32	76	12	32	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	414	0	0	263	0	0	132	0	0	52	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.4	26.4		26.4	26.4	
Total Split (%)	67.2%	67.2%		67.2%	67.2%		32.8%	32.8%		32.8%	32.8%	
Maximum Green (s)	48.9	48.9		48.9	48.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.9			48.9			21.0			21.0	
Actuated g/C Ratio		0.61			0.61			0.26			0.26	
v/c Ratio		0.39			0.29			0.28			0.11	
Control Delay		8.9			8.5			13.0			20.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.9			8.5			13.0			20.7	
LOS		A			A			B			C	
Approach Delay		8.9			8.5			13.0			20.7	
Approach LOS		A			A			B			C	
Queue Length 50th (m)		27.2			17.1			6.6			5.1	
Queue Length 95th (m)		39.0			27.3			4.4			10.7	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1057			904			479			463	
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		0.39			0.29			0.28			0.11	

Intersection Summary

Area Type: Other

Cycle Length: 80.4

Actuated Cycle Length: 80.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 10.1

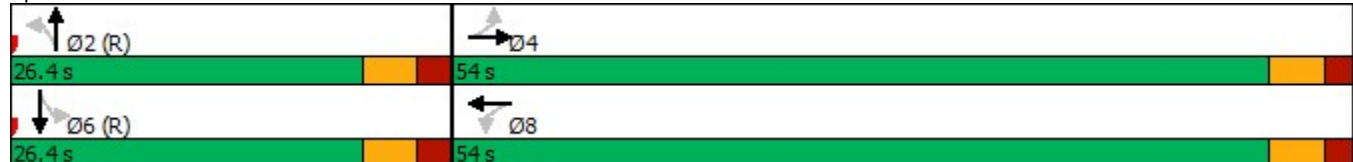
Intersection LOS: B

Intersection Capacity Utilization 50.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	21	13	398	488	8
Future Volume (vph)	12	21	13	398	488	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.914				0.998	
Flt Protected	0.982			0.998		
Satd. Flow (prot)	1690	0	0	1880	1880	0
Flt Permitted	0.982			0.998		
Satd. Flow (perm)	1690	0	0	1880	1880	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	164.1			93.5	173.9	
Travel Time (s)	19.7			11.2	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	23	14	433	530	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	447	539	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.4% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	21	13	398	488	8
Future Volume (Veh/h)	12	21	13	398	488	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	23	14	433	530	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.84	0.84	0.84			
vC, conflicting volume	996	534	539			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	900	352	358			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	96	99			
cM capacity (veh/h)	256	582	1010			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	36	447	539			
Volume Left	13	14	0			
Volume Right	23	0	9			
cSH	399	1010	1700			
Volume to Capacity	0.09	0.01	0.32			
Queue Length 95th (m)	2.2	0.3	0.0			
Control Delay (s)	14.9	0.4	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.9	0.4	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization		41.4%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	198	14	32	189	65	12	67	47	100	74	39
Future Volume (vph)	26	198	14	32	189	65	12	67	47	100	74	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.950			0.939	
Flt Protected		0.994			0.993			0.993		0.950		
Satd. Flow (prot)	0	1754	1526	0	1784	1471	0	1671	0	1644	1758	0
Flt Permitted		0.948			0.936			0.948		0.700		
Satd. Flow (perm)	0	1673	1526	0	1681	1471	0	1596	0	1212	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			78		52			61	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			306.4			476.9			104.6	
Travel Time (s)		20.3			36.8			57.2			12.6	
Peak Hour Factor	0.93	0.91	0.70	0.94	0.87	0.83	0.50	0.88	0.79	0.93	0.80	0.61
Heavy Vehicles (%)	8%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	28	218	20	34	217	78	24	76	59	108	93	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	246	20	0	251	78	0	159	0	108	157	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		29.5	29.5		29.5	29.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.42	0.42		0.42	0.42		0.42		0.42	0.42	
v/c Ratio		0.35	0.03		0.35	0.12		0.23		0.21	0.20	
Control Delay		15.5	2.1		15.6	3.9		9.8		14.4	8.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		15.5	2.1		15.6	3.9		9.8		14.4	8.8	
LOS		B	A		B	A		A		B	A	
Approach Delay		14.5			12.8			9.8			11.1	
Approach LOS		B			B			A			B	
Queue Length 50th (m)		21.0	0.0		21.5	0.0		8.4		8.7	7.4	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		36.8	0.7		35.9	5.6		18.6		18.4	14.9	
Internal Link Dist (m)		145.1			282.4			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		705	666		708	665		700		509	773	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.35	0.03		0.35	0.12		0.23		0.21	0.20	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 12.3

Intersection LOS: B

Intersection Capacity Utilization 51.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W

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Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	229	128	49	146	13	78	254	68	39	363	34
Future Volume (vph)	33	229	128	49	146	13	78	254	68	39	363	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940			0.980			0.968			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1672	0	1706	1729	0	1706	1636	0	1690	1774	0
Flt Permitted	0.643			0.435			0.327			0.426		
Satd. Flow (perm)	1154	1672	0	781	1729	0	587	1636	0	758	1774	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		110.6			189.8			173.9			224.6	
Travel Time (s)		13.3			22.8			20.9			27.0	
Peak Hour Factor	0.63	0.93	0.79	0.64	0.93	0.54	0.68	0.87	0.87	0.65	0.89	0.71
Heavy Vehicles (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	52	246	162	77	157	24	115	292	78	60	408	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	408	0	77	181	0	115	370	0	60	456	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	47.5%	47.5%		47.5%	47.5%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.38	0.38		0.38	0.38	
v/c Ratio	0.10	0.53		0.21	0.23		0.52	0.60		0.21	0.68	
Control Delay	11.3	16.5		13.2	12.2		27.4	22.7		17.3	24.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	1.0	1.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	6%	6%	6%	6%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	11.3	16.5		13.2	12.2		27.4	22.7		17.3	24.7	
LOS	B	B		B	B		C	C		B	C	
Approach Delay		15.9			12.5			23.8			23.9	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	3.6	36.0		5.7	13.5		11.4	38.1		5.2	48.9	
Queue Length 95th (m)	6.2	59.4		9.1	24.8		18.3	60.5		8.9	77.8	
Internal Link Dist (m)		86.6			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	534	773		361	800		220	614		284	666	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.53		0.21	0.23		0.52	0.60		0.21	0.68	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 20.0

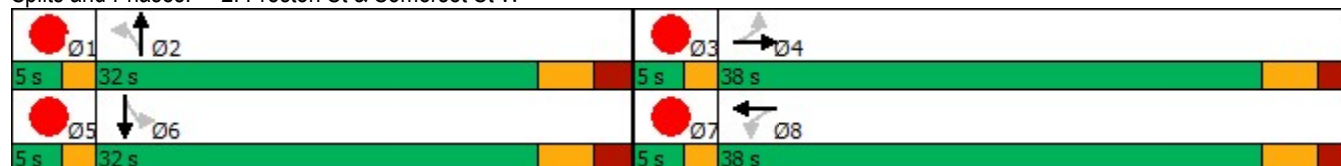
Intersection LOS: C

Intersection Capacity Utilization 68.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings
3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	282	58	51	187	3	16	14	58	6	24	8
Future Volume (vph)	4	282	58	51	187	3	16	14	58	6	24	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.998			0.922			0.969	
Flt Protected		0.999			0.989			0.991			0.990	
Satd. Flow (prot)	0	1732	0	0	1750	0	0	1696	0	0	1843	0
Flt Permitted		0.994			0.846			0.946			0.938	
Satd. Flow (perm)	0	1723	0	0	1497	0	0	1619	0	0	1746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			2			76			13	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		22.8			14.4			33.1			28.7	
Peak Hour Factor	0.50	0.83	0.82	0.80	0.86	0.75	0.67	0.44	0.76	0.50	0.75	0.63
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	340	71	64	217	4	24	32	76	12	32	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	419	0	0	285	0	0	132	0	0	57	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.4	26.4		26.4	26.4	
Total Split (%)	67.2%	67.2%		67.2%	67.2%		32.8%	32.8%		32.8%	32.8%	
Maximum Green (s)	48.9	48.9		48.9	48.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.9			48.9			21.0			21.0	
Actuated g/C Ratio		0.61			0.61			0.26			0.26	
v/c Ratio		0.40			0.31			0.28			0.12	
Control Delay		9.0			8.7			13.0			19.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.0			8.7			13.0			19.4	
LOS		A			A			B			B	
Approach Delay		9.0			8.7			13.0			19.4	
Approach LOS		A			A			B			B	
Queue Length 50th (m)		27.8			18.8			6.6			5.1	
Queue Length 95th (m)		39.5			29.7			4.4			11.0	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1056			911			479			465	
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		0.40			0.31			0.28			0.12	

Intersection Summary

Area Type: Other

Cycle Length: 80.4

Actuated Cycle Length: 80.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 10.2

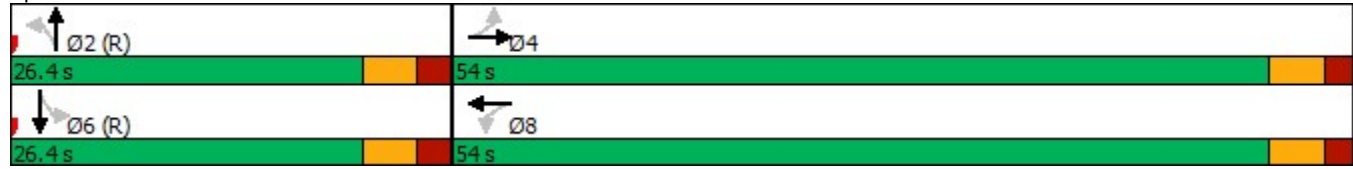
Intersection LOS: B

Intersection Capacity Utilization 51.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	41	22	368	466	60
Future Volume (vph)	32	41	22	368	466	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.924				0.985	
Flt Protected	0.979			0.997		
Satd. Flow (prot)	1704	0	0	1878	1855	0
Flt Permitted	0.979			0.997		
Satd. Flow (perm)	1704	0	0	1878	1855	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	118.3			93.5	173.9	
Travel Time (s)	14.2			11.2	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	45	24	400	507	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	0	424	572	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.3% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	32	41	22	368	466	60
Future Volume (Veh/h)	32	41	22	368	466	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	45	24	400	507	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.87	0.87	0.87			
vC, conflicting volume	988	540	572			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	909	392	429			
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	92	98			
cM capacity (veh/h)	258	569	980			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	80	424	572			
Volume Left	35	24	0			
Volume Right	45	0	65			
cSH	373	980	1700			
Volume to Capacity	0.21	0.02	0.34			
Queue Length 95th (m)	6.1	0.6	0.0			
Control Delay (s)	17.3	0.8	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.3	0.8	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		1.6				
Intersection Capacity Utilization		48.3%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Volume (vph)	366	1	1	247	2	3
Future Volume (vph)	366	1	1	247	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	9.1		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1883	0	1789	1883	1789	1601
Flt Permitted			0.262		0.950	
Satd. Flow (perm)	1883	0	493	1883	1789	1601
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						3
Link Speed (k/h)	30			30	30	
Link Distance (m)	306.4			123.9	49.9	
Travel Time (s)	36.8			14.9	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	398	1	1	268	2	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	399	0	1	268	2	3
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	60.0		60.0	60.0	30.0	30.0
Total Split (%)	66.7%		66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	55.5		55.5	55.5	25.5	25.5
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	1.2		1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effect Green (s)	26.8		26.8	26.8	54.2	54.2
Actuated g/C Ratio	0.30		0.30	0.30	0.60	0.60
v/c Ratio	0.71		0.01	0.48	0.00	0.00
Control Delay	34.6		18.0	27.4	10.5	7.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	34.6		18.0	27.4	10.5	7.7

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	C		B	C	B	A
Approach Delay	34.6			27.4	8.8	
Approach LOS	C			C	A	
Queue Length 50th (m)	61.0		0.1	37.7	0.1	0.0
Queue Length 95th (m)	76.5		1.0	49.5	1.3	1.4
Internal Link Dist (m)	282.4			99.9	25.9	
Turn Bay Length (m)			9.1			
Base Capacity (vph)	1161		304	1161	1076	965
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	0.34		0.00	0.23	0.00	0.00

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 31.5

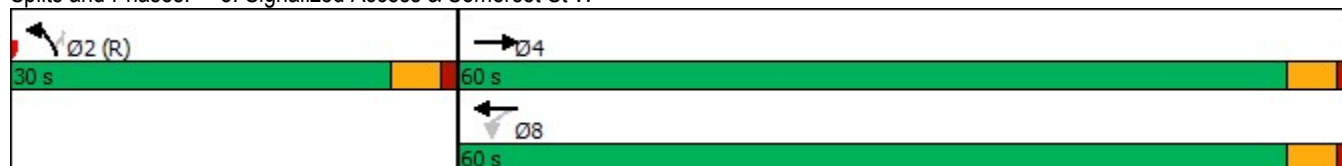
Intersection LOS: C

Intersection Capacity Utilization 31.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Signalized Access & Somerset St W



Lanes, Volumes, Timings

6: Unsignalized Access & Somerset St W

02/21/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	370	0	0	248	0	0
Future Volume (vph)	370	0	0	248	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	1883	1883	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	123.9			110.6	172.4	
Travel Time (s)	14.9			13.3	20.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	0	0	270	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	402	0	0	270	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 22.8%				ICU Level of Service A		
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis

6: Unsignalized Access & Somerset St W

02/21/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	370	0	0	248	0	0
Future Volume (Veh/h)	370	0	0	248	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)	402	0	0	270	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)	124		111			
pX, platoon unblocked			0.81		0.81	0.81
vC, conflicting volume			402		672	402
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			137		472	137
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)			1166		443	734
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	402	0	270	0		
Volume Left	0	0	0	0		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.24	0.00	0.16	0.00		
Queue Length 95th (m)	0.0	0.0	0.0	0.0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS				A		
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS				A		
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			22.8%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings

7: Oak St & Unsignalized Access

02/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑↑	
Traffic Volume (vph)	0	67	78	0	0	0
Future Volume (vph)	0	67	78	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t						
Fl _t Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Fl _t Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		45.8	118.3		172.4	
Travel Time (s)		5.5	14.2		20.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	73	85	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	73	85	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

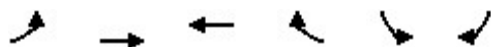
Intersection Capacity Utilization 7.4% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Unsignalized Access

02/21/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	67	78	0	0	0
Future Volume (Veh/h)	0	67	78	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	73	85	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	85				158	85
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	85				158	85
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)	1512				833	974
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	73	85	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.04	0.05	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			7.4%		ICU Level of Service	
Analysis Period (min)			15		A	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	235	23	40	323	91	18	106	63	100	135	61
Future Volume (vph)	25	235	23	40	323	91	18	106	63	100	135	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.960			0.952	
Flt Protected		0.994			0.995			0.995		0.950		
Satd. Flow (prot)	0	1798	1570	0	1826	1512	0	1742	0	1644	1799	0
Flt Permitted		0.924			0.937			0.953		0.609		
Satd. Flow (perm)	0	1671	1570	0	1720	1512	0	1668	0	1054	1799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			105		34			37	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		169.1			306.4			476.9			104.6	
Travel Time (s)		12.7			23.0			35.8			7.8	
Peak Hour Factor	0.78	0.94	0.72	0.81	0.81	0.87	0.75	0.80	0.94	0.79	0.84	0.80
Heavy Vehicles (%)	8%	6%	4%	10%	4%	8%	0%	4%	10%	11%	1%	3%
Adj. Flow (vph)	32	250	32	49	399	105	24	133	67	127	161	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	282	32	0	448	105	0	224	0	127	237	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	34.5	34.5	34.5	34.5	34.5	34.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		34.5	34.5		34.5	34.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.46	0.46		0.46	0.46		0.39		0.39	0.39	
v/c Ratio		0.37	0.04		0.57	0.14		0.33		0.31	0.33	
Control Delay		14.9	3.8		18.3	3.2		15.1		18.4	14.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		14.9	3.8		18.3	3.2		15.1		18.4	14.8	
LOS		B	A		B	A		B		B	B	
Approach Delay		13.8			15.4			15.1			16.0	
Approach LOS		B			B			B			B	
Queue Length 50th (m)		24.7	0.0		44.1	0.0		18.0		12.1	18.8	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		41.7	2.3		60.3	6.8		28.6		20.8	31.4	
Internal Link Dist (m)		145.1			282.4			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		768	742		791	752		674		413	727	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.37	0.04		0.57	0.14		0.33		0.31	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 15.2

Intersection LOS: B

Intersection Capacity Utilization 72.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W

			
Ø2 (R)			Ø4
35 s			40 s
			
Ø6 (R)			Ø8
35 s			40 s

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	285	88	56	297	22	86	404	61	44	337	48
Future Volume (vph)	50	285	88	56	297	22	86	404	61	44	337	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960			0.989			0.982			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	1721	0	1755	1826	0	1722	1724	0	1706	1755	0
Flt Permitted	0.440			0.336			0.273			0.172		
Satd. Flow (perm)	813	1721	0	621	1826	0	495	1724	0	309	1755	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		110.6			189.8			173.9			224.6	
Travel Time (s)		8.3			14.2			13.0			16.8	
Peak Hour Factor	0.77	0.84	0.71	0.87	0.88	0.79	0.68	0.85	0.94	0.79	0.90	0.77
Heavy Vehicles (%)	4%	5%	13%	4%	4%	5%	6%	10%	5%	7%	8%	2%
Adj. Flow (vph)	65	339	124	64	338	28	126	475	65	56	374	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	463	0	64	366	0	126	540	0	56	436	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	36.0	36.0		36.0	36.0		29.0	29.0		29.0	29.0	
Total Split (%)	48.0%	48.0%		48.0%	48.0%		38.7%	38.7%		38.7%	38.7%	
Maximum Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.31	0.31		0.31	0.31	
v/c Ratio	0.20	0.66		0.25	0.49		0.82	1.01		0.59	0.80	
Control Delay	16.5	23.8		18.2	19.5		66.6	69.9		51.2	37.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.5	23.8		18.2	19.5		66.6	69.9		51.2	37.0	
LOS	B	C		B	B		E	E		D	D	
Approach Delay		22.9			19.3			69.3			38.6	
Approach LOS		C			B			E			D	
Queue Length 50th (m)	5.8	51.7		5.8	37.3		16.3	~76.8		6.6	55.9	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	7%	7%	7%	7%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)	11.6	74.2		14.1	58.3		#28.8	#124.9		#18.9	#100.3	
Internal Link Dist (m)		86.6			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	329	697		251	740		153	535		95	545	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.66		0.25	0.49		0.82	1.01		0.59	0.80	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 40.4

Intersection LOS: D

Intersection Capacity Utilization 72.5%

ICU Level of Service C

Analysis Period (min) 15

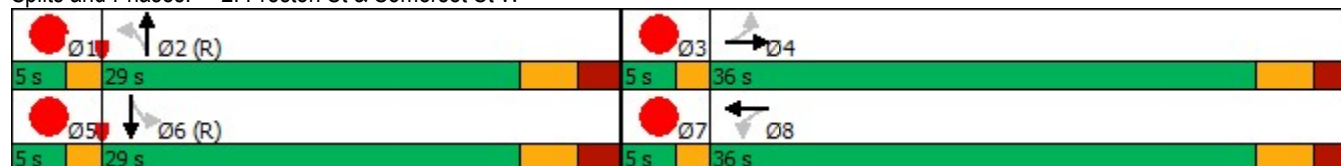
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	5	340	36	79	336	15	28	36	103	11	23	3
Future Volume (vph)	5	340	36	79	336	15	28	36	103	11	23	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.994			0.923			0.971	
Flt Protected		0.999			0.991			0.991			0.986	
Satd. Flow (prot)	0	1770	0	0	1808	0	0	1726	0	0	1839	0
Flt Permitted		0.992			0.857			0.940			0.893	
Satd. Flow (perm)	0	1758	0	0	1564	0	0	1637	0	0	1666	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			5			86			12	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		14.2			9.0			20.7			17.9	
Peak Hour Factor	0.62	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	20%	7%	3%	0%	6%	0%	7%	0%	1%	0%	0%	0%
Adj. Flow (vph)	8	378	49	84	357	20	40	56	129	16	28	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	435	0	0	461	0	0	225	0	0	56	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	51.0	51.0		51.0	51.0		26.4	26.4		26.4	26.4	
Total Split (%)	65.9%	65.9%		65.9%	65.9%		34.1%	34.1%		34.1%	34.1%	
Maximum Green (s)	45.9	45.9		45.9	45.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		45.9			45.9			21.0			21.0	
Actuated g/C Ratio		0.59			0.59			0.27			0.27	
v/c Ratio		0.42			0.50			0.44			0.12	
Control Delay		9.7			11.3			17.4			18.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.7			11.3			17.4			18.5	
LOS		A			B			B			B	
Approach Delay		9.7			11.3			17.4			18.5	
Approach LOS		A			B			B			B	
Queue Length 50th (m)		29.8			34.8			16.2			4.8	
Queue Length 95th (m)		47.8			56.6			19.7			11.7	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1048			929			506			460	
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		0.42			0.50			0.44			0.12	

Intersection Summary

Area Type: Other

Cycle Length: 77.4

Actuated Cycle Length: 77.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 12.2

Intersection LOS: B

Intersection Capacity Utilization 67.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	25	22	523	449	22
Future Volume (vph)	17	25	22	523	449	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919				0.994	
Flt Protected	0.980			0.998		
Satd. Flow (prot)	1696	0	0	1880	1872	0
Flt Permitted	0.980			0.998		
Satd. Flow (perm)	1696	0	0	1880	1872	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	118.3			93.5	173.9	
Travel Time (s)	8.9			7.0	13.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	27	24	568	488	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	0	592	512	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 55.4% ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	25	22	523	449	22
Future Volume (Veh/h)	17	25	22	523	449	22
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	27	24	568	488	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.82	0.82	0.82			
vC, conflicting volume	1116	500	512			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1033	283	297			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	96	98			
cM capacity (veh/h)	207	621	1038			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	45	592	512			
Volume Left	18	24	0			
Volume Right	27	0	24			
cSH	345	1038	1700			
Volume to Capacity	0.13	0.02	0.30			
Queue Length 95th (m)	3.4	0.5	0.0			
Control Delay (s)	17.0	0.6	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.0	0.6	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		1.0				
Intersection Capacity Utilization		55.4%		ICU Level of Service		B
Analysis Period (min)		15				

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Volume (vph)	408	2	2	419	1	2
Future Volume (vph)	408	2	2	419	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	9.1		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1882	0	1789	1883	1789	1601
Flt Permitted			0.246		0.950	
Satd. Flow (perm)	1882	0	463	1883	1789	1601
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						2
Link Speed (k/h)	48			48	48	
Link Distance (m)	306.4			123.9	49.9	
Travel Time (s)	23.0			9.3	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	443	2	2	455	1	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	445	0	2	455	1	2
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	60.0		60.0	60.0	30.0	30.0
Total Split (%)	66.7%		66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	55.5		55.5	55.5	25.5	25.5
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	1.2		1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effect Green (s)	29.8		29.8	29.8	51.2	51.2
Actuated g/C Ratio	0.33		0.33	0.33	0.57	0.57
v/c Ratio	0.71		0.01	0.73	0.00	0.00
Control Delay	32.1		16.0	32.8	12.0	9.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	32.1		16.0	32.8	12.0	9.5

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	C		B	C	B	A
Approach Delay	32.1			32.7	10.3	
Approach LOS	C			C	B	
Queue Length 50th (m)	67.2		0.2	69.2	0.1	0.0
Queue Length 95th (m)	80.1		1.4	82.4	0.9	1.2
Internal Link Dist (m)	282.4			99.9	25.9	
Turn Bay Length (m)			9.1			
Base Capacity (vph)	1160		285	1161	1017	910
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		0.01	0.39	0.00	0.00

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 32.3

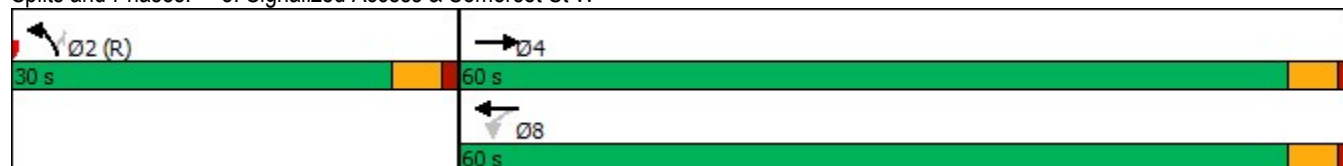
Intersection LOS: C

Intersection Capacity Utilization 33.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Signalized Access & Somerset St W



Lanes, Volumes, Timings

6: Unsignalized Access & Somerset St W

02/21/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	410	0	0	421	0	0
Future Volume (vph)	410	0	0	421	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	1883	1883	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	123.9			110.6	172.4	
Travel Time (s)	9.3			8.3	12.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	446	0	0	458	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	446	0	0	458	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Unsignalized Access & Somerset St W

02/21/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	410	0	0	421	0	0
Future Volume (Veh/h)	410	0	0	421	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)	446	0	0	458	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)	124			111		
pX, platoon unblocked				0.79	0.86	0.79
vC, conflicting volume				446	904	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol				160	432	160
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)				1116	498	696
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	446	0	458	0		
Volume Left	0	0	0	0		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.26	0.00	0.27	0.00		
Queue Length 95th (m)	0.0	0.0	0.0	0.0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			25.5%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings

7: Oak St & Unsignalized Access

02/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (vph)	0	36	39	0	0	0
Future Volume (vph)	0	36	39	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr t						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		45.8	118.3		172.4	
Travel Time (s)		3.4	8.9		12.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	39	42	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	39	42	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

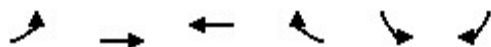
Intersection Capacity Utilization 6.7% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Unsignalized Access

02/21/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	36	39	0	0	0
Future Volume (Veh/h)	0	36	39	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	39	42	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	42				81	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	42				81	42
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)	1567				921	1029
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	39	42	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			6.7%		ICU Level of Service	
Analysis Period (min)			15			
			A			

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	203	14	34	197	67	12	67	49	101	74	39
Future Volume (vph)	26	203	14	34	197	67	12	67	49	101	74	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.948			0.939	
Flt Protected		0.994			0.993			0.993		0.950		
Satd. Flow (prot)	0	1754	1526	0	1783	1471	0	1666	0	1644	1758	0
Flt Permitted		0.948			0.933			0.949		0.697		
Satd. Flow (perm)	0	1673	1526	0	1676	1471	0	1592	0	1206	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			81		55			61	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			306.4			476.9			104.6	
Travel Time (s)		20.3			36.8			57.2			12.6	
Peak Hour Factor	0.93	0.91	0.70	0.94	0.87	0.83	0.50	0.88	0.79	0.93	0.80	0.61
Heavy Vehicles (%)	8%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	28	223	20	36	226	81	24	76	62	109	93	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	251	20	0	262	81	0	162	0	109	157	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		29.5	29.5		29.5	29.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.42	0.42		0.42	0.42		0.42		0.42	0.42	
v/c Ratio		0.36	0.03		0.37	0.12		0.23		0.22	0.20	
Control Delay		15.6	2.1		15.8	3.9		9.6		14.4	8.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		15.6	2.1		15.8	3.9		9.6		14.4	8.8	
LOS		B	A		B	A		A		B	A	
Approach Delay		14.6			13.0			9.6			11.1	
Approach LOS		B			B			A			B	
Queue Length 50th (m)		21.5	0.0		22.7	0.0		8.4		8.8	7.4	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		37.6	0.7		37.6	5.7		18.6		18.5	14.9	
Internal Link Dist (m)		145.1			282.4			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		705	666		706	666		700		506	773	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.36	0.03		0.37	0.12		0.23		0.22	0.20	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 12.4

Intersection LOS: B

Intersection Capacity Utilization 52.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W

			
Ø2 (R)			Ø4
35 s			35 s
			
Ø6 (R)			Ø8
35 s			35 s

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	243	132	49	151	13	78	254	68	39	363	35
Future Volume (vph)	35	243	132	49	151	13	78	254	68	39	363	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.941			0.981			0.968			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1675	0	1706	1731	0	1706	1636	0	1690	1774	0
Flt Permitted	0.640			0.416			0.325			0.426		
Satd. Flow (perm)	1149	1675	0	747	1731	0	584	1636	0	758	1774	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		110.6			189.8			173.9			224.6	
Travel Time (s)		13.3			22.8			20.9			27.0	
Peak Hour Factor	0.63	0.93	0.79	0.64	0.93	0.54	0.68	0.87	0.87	0.65	0.89	0.71
Heavy Vehicles (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	56	261	167	77	162	24	115	292	78	60	408	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	428	0	77	186	0	115	370	0	60	457	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	47.5%	47.5%		47.5%	47.5%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.38	0.38		0.38	0.38	
v/c Ratio	0.11	0.55		0.22	0.23		0.53	0.60		0.21	0.69	
Control Delay	11.4	17.0		13.5	12.3		27.6	22.7		17.3	24.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	1.0	1.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	6%	6%	6%	6%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	11.4	17.0		13.5	12.3		27.6	22.7		17.3	24.8	
LOS	B	B		B	B		C	C		B	C	
Approach Delay		16.3			12.6			23.8			23.9	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	3.9	38.4		5.7	13.9		11.4	38.1		5.2	49.0	
Queue Length 95th (m)	6.6	63.3		9.2	25.4		18.3	60.5		8.9	78.0	
Internal Link Dist (m)		86.6			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	531	775		345	801		219	614		284	666	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.11	0.55		0.22	0.23		0.53	0.60		0.21	0.69	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 20.1

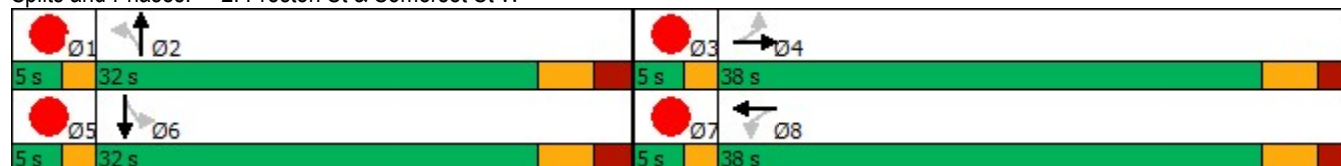
Intersection LOS: C

Intersection Capacity Utilization 69.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings
3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	294	60	51	192	3	16	14	58	6	24	8
Future Volume (vph)	4	294	60	51	192	3	16	14	58	6	24	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.998			0.922			0.969	
Flt Protected		0.999			0.989			0.991			0.990	
Satd. Flow (prot)	0	1732	0	0	1749	0	0	1696	0	0	1843	0
Flt Permitted		0.994			0.845			0.946			0.938	
Satd. Flow (perm)	0	1723	0	0	1494	0	0	1619	0	0	1746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			2			76			13	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		22.8			14.4			33.1			28.7	
Peak Hour Factor	0.50	0.83	0.82	0.80	0.86	0.75	0.67	0.44	0.76	0.50	0.75	0.63
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	354	73	64	223	4	24	32	76	12	32	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	435	0	0	291	0	0	132	0	0	57	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.4	26.4		26.4	26.4	
Total Split (%)	67.2%	67.2%		67.2%	67.2%		32.8%	32.8%		32.8%	32.8%	
Maximum Green (s)	48.9	48.9		48.9	48.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.9			48.9			21.0			21.0	
Actuated g/C Ratio		0.61			0.61			0.26			0.26	
v/c Ratio		0.41			0.32			0.28			0.12	
Control Delay		9.2			8.8			13.0			19.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.2			8.8			13.0			19.4	
LOS		A			A			B			B	
Approach Delay		9.2			8.8			13.0			19.4	
Approach LOS		A			A			B			B	
Queue Length 50th (m)		29.3			19.3			6.6			5.1	
Queue Length 95th (m)		41.5			30.5			4.4			11.0	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1056			909			479			465	
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		0.41			0.32			0.28			0.12	

Intersection Summary

Area Type: Other

Cycle Length: 80.4

Actuated Cycle Length: 80.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 10.3

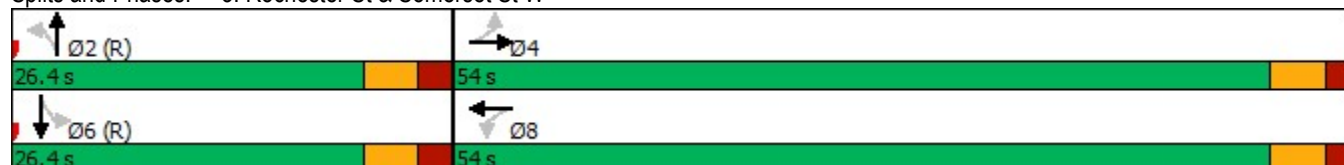
Intersection LOS: B

Intersection Capacity Utilization 52.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	41	22	368	470	60
Future Volume (vph)	32	41	22	368	470	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.924				0.985	
Flt Protected	0.979			0.997		
Satd. Flow (prot)	1704	0	0	1878	1855	0
Flt Permitted	0.979			0.997		
Satd. Flow (perm)	1704	0	0	1878	1855	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	118.3			93.5	173.9	
Travel Time (s)	14.2			11.2	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	45	24	400	511	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	0	424	576	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.3% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	32	41	22	368	470	60
Future Volume (Veh/h)	32	41	22	368	470	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	45	24	400	511	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.87	0.87	0.87			
vC, conflicting volume	992	544	576			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	914	397	434			
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	92	98			
cM capacity (veh/h)	257	566	976			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	80	424	576			
Volume Left	35	24	0			
Volume Right	45	0	65			
cSH	370	976	1700			
Volume to Capacity	0.22	0.02	0.34			
Queue Length 95th (m)	6.1	0.6	0.0			
Control Delay (s)	17.4	0.8	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.4	0.8	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		1.6				
Intersection Capacity Utilization		48.3%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Volume (vph)	366	8	8	247	12	23
Future Volume (vph)	366	8	8	247	12	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	9.1		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1878	0	1789	1883	1789	1601
Flt Permitted			0.257		0.950	
Satd. Flow (perm)	1878	0	484	1883	1789	1601
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2					25
Link Speed (k/h)	30			30	30	
Link Distance (m)	306.4			123.9	49.9	
Travel Time (s)	36.8			14.9	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	398	9	9	268	13	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	407	0	9	268	13	25
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	60.0		60.0	60.0	30.0	30.0
Total Split (%)	66.7%		66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	55.5		55.5	55.5	25.5	25.5
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	1.2		1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effect Green (s)	27.2		27.2	27.2	53.8	53.8
Actuated g/C Ratio	0.30		0.30	0.30	0.60	0.60
v/c Ratio	0.72		0.06	0.47	0.01	0.03
Control Delay	34.2		19.2	27.0	10.4	4.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	34.2		19.2	27.0	10.4	4.7

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	C		B	C	B	A
Approach Delay	34.2			26.7	6.7	
Approach LOS	C			C	A	
Queue Length 50th (m)	61.9		1.1	37.4	0.9	0.0
Queue Length 95th (m)	77.2		3.8	49.0	4.0	3.9
Internal Link Dist (m)	282.4			99.9	25.9	
Turn Bay Length (m)			9.1			
Base Capacity (vph)	1158		298	1161	1068	966
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	0.35		0.03	0.23	0.01	0.03

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 29.9

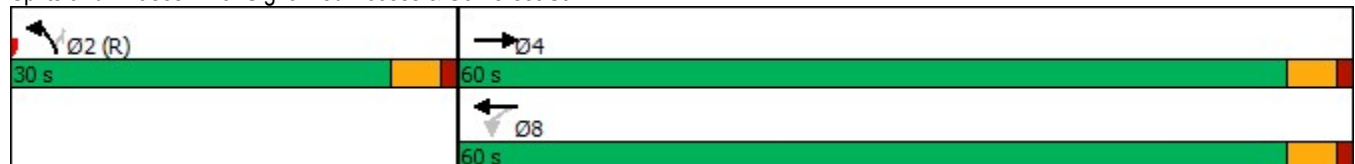
Intersection LOS: C

Intersection Capacity Utilization 31.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Signalized Access & Somerset St W



Lanes, Volumes, Timings

6: Unsignalized Access & Somerset St W

02/21/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	390	0	0	255	0	0
Future Volume (vph)	390	0	0	255	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	1883	1883	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	123.9			110.6	172.4	
Travel Time (s)	14.9			13.3	20.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	424	0	0	277	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	424	0	0	277	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	23.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Unsignalized Access & Somerset St W

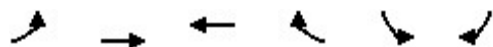
02/21/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	390	0	0	255	0	0
Future Volume (Veh/h)	390	0	0	255	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)	424	0	0	277	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)	124		111			
pX, platoon unblocked			0.80		0.80	0.80
vC, conflicting volume			424		701	424
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			162		507	162
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)			1139		423	710
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	424	0	277	0		
Volume Left	0	0	0	0		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.25	0.00	0.16	0.00		
Queue Length 95th (m)	0.0	0.0	0.0	0.0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS				A		
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS				A		
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			23.9%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings

7: Oak St & Unsignalized Access

02/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (vph)	0	67	78	0	0	0
Future Volume (vph)	0	67	78	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr t						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		45.8	118.3		172.4	
Travel Time (s)		5.5	14.2		20.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	73	85	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	73	85	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

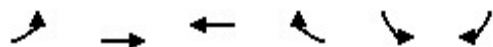
Intersection Capacity Utilization 7.4% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Unsignalized Access

02/21/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	67	78	0	0	0
Future Volume (Veh/h)	0	67	78	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	73	85	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	85				158	85
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	85				158	85
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)	1512				833	974
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	73	85	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.04	0.05	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			7.4%		ICU Level of Service	
Analysis Period (min)			15		A	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	244	23	41	327	92	18	106	66	101	135	61
Future Volume (vph)	25	244	23	41	327	92	18	106	66	101	135	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.958			0.952	
Flt Protected		0.995			0.994			0.995		0.950		
Satd. Flow (prot)	0	1800	1570	0	1824	1512	0	1737	0	1644	1799	0
Flt Permitted		0.925			0.934			0.954		0.606		
Satd. Flow (perm)	0	1673	1570	0	1714	1512	0	1665	0	1049	1799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			106		35			37	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		169.1			306.4			476.9			104.6	
Travel Time (s)		12.7			23.0			35.8			7.8	
Peak Hour Factor	0.78	0.94	0.72	0.81	0.81	0.87	0.75	0.80	0.94	0.79	0.84	0.80
Heavy Vehicles (%)	8%	6%	4%	10%	4%	8%	0%	4%	10%	11%	1%	3%
Adj. Flow (vph)	32	260	32	51	404	106	24	133	70	128	161	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	292	32	0	455	106	0	227	0	128	237	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	34.5	34.5	34.5	34.5	34.5	34.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		34.5	34.5		34.5	34.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.46	0.46		0.46	0.46		0.39		0.39	0.39	
v/c Ratio		0.38	0.04		0.58	0.14		0.34		0.31	0.33	
Control Delay		15.1	3.8		18.5	3.2		15.1		18.5	14.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		15.1	3.8		18.5	3.2		15.1		18.5	14.8	
LOS		B	A		B	A		B		B	B	
Approach Delay		14.0			15.6			15.1			16.1	
Approach LOS		B			B			B			B	
Queue Length 50th (m)		25.8	0.0		45.1	0.0		18.1		12.2	18.8	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		43.2	2.3		61.5	6.8		28.9		21.1	31.4	
Internal Link Dist (m)		145.1			282.4			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		769	742		788	752		673		411	727	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.38	0.04		0.58	0.14		0.34		0.31	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 15.3

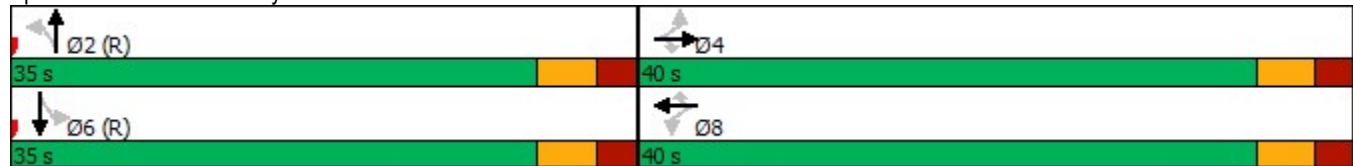
Intersection LOS: B

Intersection Capacity Utilization 73.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W



Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	293	91	56	307	22	87	404	61	44	337	49
Future Volume (vph)	51	293	91	56	307	22	87	404	61	44	337	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960			0.989			0.982			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	1721	0	1755	1826	0	1722	1724	0	1706	1754	0
Flt Permitted	0.428			0.321			0.270			0.172		
Satd. Flow (perm)	791	1721	0	593	1826	0	489	1724	0	309	1754	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		110.6			189.8			173.9			224.6	
Travel Time (s)		8.3			14.2			13.0			16.8	
Peak Hour Factor	0.77	0.84	0.71	0.87	0.88	0.79	0.68	0.85	0.94	0.79	0.90	0.77
Heavy Vehicles (%)	4%	5%	13%	4%	4%	5%	6%	10%	5%	7%	8%	2%
Adj. Flow (vph)	66	349	128	64	349	28	128	475	65	56	374	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	477	0	64	377	0	128	540	0	56	438	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	36.0	36.0		36.0	36.0		29.0	29.0		29.0	29.0	
Total Split (%)	48.0%	48.0%		48.0%	48.0%		38.7%	38.7%		38.7%	38.7%	
Maximum Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.31	0.31		0.31	0.31	
v/c Ratio	0.21	0.68		0.27	0.51		0.85	1.01		0.59	0.81	
Control Delay	16.7	24.5		18.7	19.7		71.0	69.9		51.2	37.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.7	24.5		18.7	19.7		71.0	69.9		51.2	37.4	
LOS	B	C		B	B		E	E		D	D	
Approach Delay		23.5			19.6			70.1			39.0	
Approach LOS		C			B			E			D	
Queue Length 50th (m)	5.9	53.8		5.9	38.8		16.7	~76.8		6.6	56.4	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	7%	7%	7%	7%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)	11.8	77.1		14.3	60.2		#29.7	#124.9		#18.9	#101.0	
Internal Link Dist (m)		86.6			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	320	697		240	740		151	535		95	544	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.21	0.68		0.27	0.51		0.85	1.01		0.59	0.81	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Pretimed

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 40.8

Intersection LOS: D

Intersection Capacity Utilization 73.1%

ICU Level of Service D

Analysis Period (min) 15

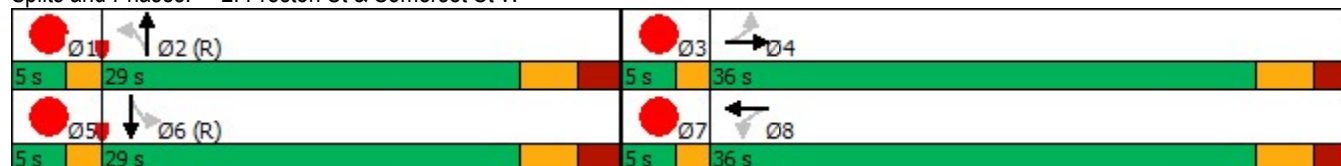
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings
3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	347	37	79	346	15	28	36	103	11	23	3
Future Volume (vph)	5	347	37	79	346	15	28	36	103	11	23	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.994			0.923			0.971	
Flt Protected		0.999			0.991			0.991			0.986	
Satd. Flow (prot)	0	1770	0	0	1808	0	0	1726	0	0	1839	0
Flt Permitted		0.992			0.857			0.940			0.893	
Satd. Flow (perm)	0	1758	0	0	1563	0	0	1637	0	0	1666	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			5			86			12	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		14.2			9.0			20.7			17.9	
Peak Hour Factor	0.62	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	20%	7%	3%	0%	6%	0%	7%	0%	1%	0%	0%	0%
Adj. Flow (vph)	8	386	51	84	368	20	40	56	129	16	28	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	445	0	0	472	0	0	225	0	0	56	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	51.0	51.0		51.0	51.0		26.4	26.4		26.4	26.4	
Total Split (%)	65.9%	65.9%		65.9%	65.9%		34.1%	34.1%		34.1%	34.1%	
Maximum Green (s)	45.9	45.9		45.9	45.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		45.9			45.9			21.0			21.0	
Actuated g/C Ratio		0.59			0.59			0.27			0.27	
v/c Ratio		0.42			0.51			0.44			0.12	
Control Delay		9.8			11.5			17.4			18.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.8			11.5			17.4			18.5	
LOS		A			B			B			B	
Approach Delay		9.8			11.5			17.4			18.5	
Approach LOS		A			B			B			B	
Queue Length 50th (m)		30.8			36.0			16.2			4.8	
Queue Length 95th (m)		49.2			58.5			19.7			11.7	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1048			928			506			460	
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		0.42			0.51			0.44			0.12	

Intersection Summary

Area Type: Other

Cycle Length: 77.4

Actuated Cycle Length: 77.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 12.3

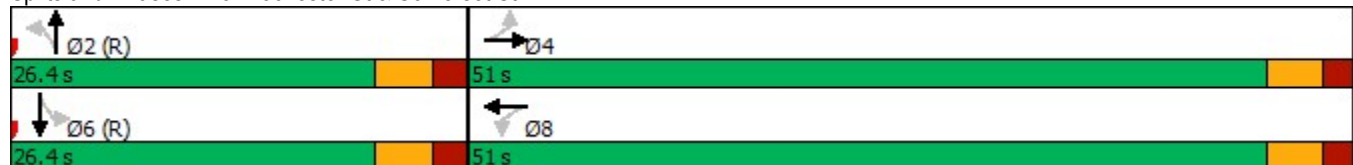
Intersection LOS: B

Intersection Capacity Utilization 68.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	25	22	523	452	22
Future Volume (vph)	17	25	22	523	452	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919				0.994	
Flt Protected	0.980			0.998		
Satd. Flow (prot)	1696	0	0	1880	1872	0
Flt Permitted	0.980			0.998		
Satd. Flow (perm)	1696	0	0	1880	1872	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	118.3			93.5	173.9	
Travel Time (s)	8.9			7.0	13.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	27	24	568	491	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	0	592	515	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 55.4% ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	25	22	523	452	22
Future Volume (Veh/h)	17	25	22	523	452	22
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	27	24	568	491	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.82	0.82	0.82			
vC, conflicting volume	1119	503	515			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1036	286	301			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	96	98			
cM capacity (veh/h)	206	618	1035			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	45	592	515			
Volume Left	18	24	0			
Volume Right	27	0	24			
cSH	343	1035	1700			
Volume to Capacity	0.13	0.02	0.30			
Queue Length 95th (m)	3.4	0.5	0.0			
Control Delay (s)	17.1	0.6	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.1	0.6	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		1.0				
Intersection Capacity Utilization		55.4%		ICU Level of Service		B
Analysis Period (min)		15				

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Volume (vph)	408	15	15	419	7	14
Future Volume (vph)	408	15	15	419	7	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	9.1		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1874	0	1789	1883	1789	1601
Flt Permitted			0.235		0.950	
Satd. Flow (perm)	1874	0	443	1883	1789	1601
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	4					15
Link Speed (k/h)	48			48	48	
Link Distance (m)	306.4			123.9	49.9	
Travel Time (s)	23.0			9.3	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	443	16	16	455	8	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	459	0	16	455	8	15
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	60.0		60.0	60.0	30.0	30.0
Total Split (%)	66.7%		66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	55.5		55.5	55.5	25.5	25.5
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	1.2		1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effect Green (s)	30.2		30.2	30.2	50.8	50.8
Actuated g/C Ratio	0.34		0.34	0.34	0.56	0.56
v/c Ratio	0.73		0.11	0.72	0.01	0.02
Control Delay	32.2		18.6	32.1	12.3	6.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	32.2		18.6	32.1	12.3	6.4

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	C		B	C	B	A
Approach Delay	32.2			31.7	8.4	
Approach LOS	C			C	A	
Queue Length 50th (m)	68.5		1.9	68.3	0.6	0.0
Queue Length 95th (m)	82.1		5.3	81.6	3.1	3.4
Internal Link Dist (m)	282.4			99.9	25.9	
Turn Bay Length (m)			9.1			
Base Capacity (vph)	1157		273	1161	1010	910
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	0.40		0.06	0.39	0.01	0.02

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 31.4

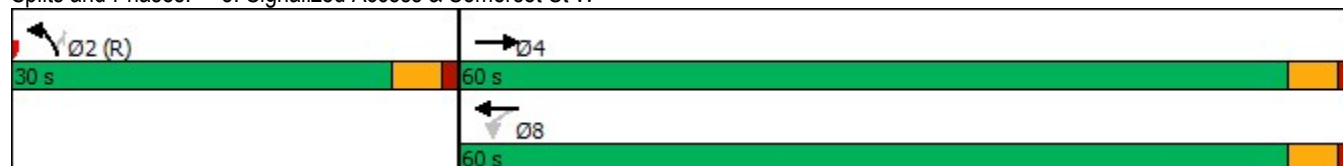
Intersection LOS: C

Intersection Capacity Utilization 34.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Signalized Access & Somerset St W



Lanes, Volumes, Timings

6: Unsignalized Access & Somerset St W

02/21/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	422	0	0	434	0	0
Future Volume (vph)	422	0	0	434	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	1883	1883	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	123.9			110.6	172.4	
Travel Time (s)	9.3			8.3	12.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	459	0	0	472	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	459	0	0	472	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	26.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Unsignalized Access & Somerset St W

02/21/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	422	0	0	434	0	0
Future Volume (Veh/h)	422	0	0	434	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)	459	0	0	472	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)	124			111		
pX, platoon unblocked	0.78			0.86	0.78	
vC, conflicting volume	459			931	459	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	168			440	168	
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)	1102			492	685	
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	459	0	472	0		
Volume Left	0	0	0	0		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.27	0.00	0.28	0.00		
Queue Length 95th (m)	0.0	0.0	0.0	0.0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS				A		
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS				A		
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	26.2%			ICU Level of Service	A	
Analysis Period (min)	15					

Lanes, Volumes, Timings

7: Oak St & Unsignalized Access

02/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (vph)	0	36	39	0	0	0
Future Volume (vph)	0	36	39	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t						
Fl _t Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Fl _t Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		45.8	118.3		172.4	
Travel Time (s)		3.4	8.9		12.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	39	42	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	39	42	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

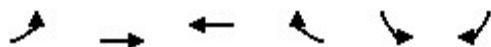
Intersection Capacity Utilization 6.7% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Unsignalized Access

02/21/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	36	39	0	0	0
Future Volume (Veh/h)	0	36	39	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	39	42	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	42				81	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	42				81	42
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)	1567				921	1029
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	39	42	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			6.7%		ICU Level of Service	
Analysis Period (min)			15			
			A			

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↕		↱	↰	
Traffic Volume (vph)	26	224	14	36	208	69	12	67	52	104	74	39
Future Volume (vph)	26	224	14	36	208	69	12	67	52	104	74	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.946			0.939	
Flt Protected		0.995			0.993			0.993		0.950		
Satd. Flow (prot)	0	1755	1526	0	1784	1471	0	1660	0	1644	1758	0
Flt Permitted		0.950			0.929			0.950		0.692		
Satd. Flow (perm)	0	1676	1526	0	1669	1471	0	1588	0	1198	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			83		59			61	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			306.4			476.9			104.6	
Travel Time (s)		20.3			36.8			57.2			12.6	
Peak Hour Factor	0.93	0.91	0.70	0.94	0.87	0.83	0.50	0.88	0.79	0.93	0.80	0.61
Heavy Vehicles (%)	8%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	28	246	20	38	239	83	24	76	66	112	93	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	274	20	0	277	83	0	166	0	112	157	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		29.5	29.5		29.5	29.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.42	0.42		0.42	0.42		0.42		0.42	0.42	
v/c Ratio		0.39	0.03		0.39	0.12		0.24		0.22	0.20	
Control Delay		16.1	2.1		16.2	3.9		9.5		14.5	8.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		16.1	2.1		16.2	3.9		9.5		14.5	8.8	
LOS		B	A		B	A		A		B	A	
Approach Delay		15.1			13.3			9.5			11.2	
Approach LOS		B			B			A			B	
Queue Length 50th (m)		23.9	0.0		24.2	0.0		8.4		9.0	7.4	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		41.1	0.7		39.9	5.8		18.7		18.9	14.9	
Internal Link Dist (m)		145.1			282.4			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		706	666		703	667		701		503	773	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.39	0.03		0.39	0.12		0.24		0.22	0.20	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 12.7

Intersection LOS: B

Intersection Capacity Utilization 54.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W

					
Ø2 (R)			Ø4		
35 s			35 s		
					
Ø6 (R)			Ø8		
35 s			35 s		

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	257	136	49	179	13	85	284	68	39	386	42
Future Volume (vph)	39	257	136	49	179	13	85	284	68	39	386	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.942			0.983			0.971			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1677	0	1706	1734	0	1706	1638	0	1690	1771	0
Flt Permitted	0.623			0.397			0.285			0.386		
Satd. Flow (perm)	1119	1677	0	713	1734	0	512	1638	0	687	1771	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		110.6			189.8			173.9			224.6	
Travel Time (s)		13.3			22.8			20.9			27.0	
Peak Hour Factor	0.63	0.93	0.79	0.64	0.93	0.54	0.68	0.87	0.87	0.65	0.89	0.71
Heavy Vehicles (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	62	276	172	77	192	24	125	326	78	60	434	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	448	0	77	216	0	125	404	0	60	493	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	47.5%	47.5%		47.5%	47.5%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.38	0.38		0.38	0.38	
v/c Ratio	0.12	0.58		0.23	0.27		0.65	0.66		0.23	0.74	
Control Delay	11.5	17.5		13.8	12.7		37.7	24.3		18.0	27.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	1.0	1.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	6%	6%	6%	6%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	11.5	17.5		13.8	12.7		37.7	24.3		18.0	27.3	
LOS	B	B		B	B		D	C		B	C	
Approach Delay		16.8			13.0			27.5			26.3	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	4.4	40.8		5.8	16.5		13.2	42.7		5.2	54.4	
Queue Length 95th (m)	7.2	67.2		9.3	29.3		21.2	67.4		9.1	#87.6	
Internal Link Dist (m)		86.6			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	517	776		330	802		192	615		258	665	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.58		0.23	0.27		0.65	0.66		0.23	0.74	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 22.0

Intersection LOS: C

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Preston St & Somerset St W

			
5 s	32 s	5 s	38 s
			
5 s	32 s	5 s	38 s

Lane Group	Ø1	Ø3	Ø5	Ø7
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings
3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	305	62	51	213	3	19	14	58	6	24	11
Future Volume (vph)	6	305	62	51	213	3	19	14	58	6	24	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.998			0.925			0.962	
Flt Protected		0.999			0.990			0.990			0.990	
Satd. Flow (prot)	0	1729	0	0	1747	0	0	1695	0	0	1830	0
Flt Permitted		0.990			0.851			0.936			0.941	
Satd. Flow (perm)	0	1714	0	0	1502	0	0	1602	0	0	1739	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			1			76			17	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		22.8			14.4			33.1			28.7	
Peak Hour Factor	0.50	0.83	0.82	0.80	0.86	0.75	0.67	0.44	0.76	0.50	0.75	0.63
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	12	367	76	64	248	4	28	32	76	12	32	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	455	0	0	316	0	0	136	0	0	61	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.4	26.4		26.4	26.4	
Total Split (%)	67.2%	67.2%		67.2%	67.2%		32.8%	32.8%		32.8%	32.8%	
Maximum Green (s)	48.9	48.9		48.9	48.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.9			48.9			21.0			21.0	
Actuated g/C Ratio		0.61			0.61			0.26			0.26	
v/c Ratio		0.43			0.35			0.29			0.13	
Control Delay		9.5			9.1			13.4			18.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.5			9.1			13.4			18.6	
LOS		A			A			B			B	
Approach Delay		9.5			9.1			13.4			18.6	
Approach LOS		A			A			B			B	
Queue Length 50th (m)		31.3			21.5			7.1			5.1	
Queue Length 95th (m)		44.0			33.4			4.6			11.1	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1051			913			474			466	
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		0.43			0.35			0.29			0.13	

Intersection Summary

Area Type: Other

Cycle Length: 80.4

Actuated Cycle Length: 80.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 10.5

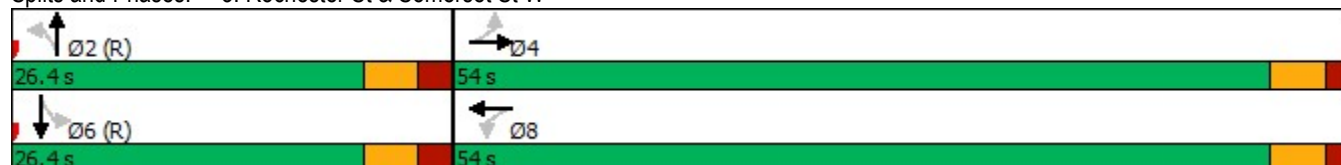
Intersection LOS: B

Intersection Capacity Utilization 55.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	41	22	398	497	60
Future Volume (vph)	32	41	22	398	497	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.924				0.985	
Flt Protected	0.979			0.997		
Satd. Flow (prot)	1704	0	0	1878	1855	0
Flt Permitted	0.979			0.997		
Satd. Flow (perm)	1704	0	0	1878	1855	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	118.3			93.5	173.9	
Travel Time (s)	14.2			11.2	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	45	24	433	540	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	0	457	605	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 49.9% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	32	41	22	398	497	60
Future Volume (Veh/h)	32	41	22	398	497	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	45	24	433	540	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.84	0.84	0.84			
vC, conflicting volume	1054	572	605			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	971	400	439			
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	92	97			
cM capacity (veh/h)	231	548	945			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	80	457	605			
Volume Left	35	24	0			
Volume Right	45	0	65			
cSH	342	945	1700			
Volume to Capacity	0.23	0.03	0.36			
Queue Length 95th (m)	6.8	0.6	0.0			
Control Delay (s)	18.7	0.8	0.0			
Lane LOS	C	A				
Approach Delay (s)	18.7	0.8	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization		49.9%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Volume (vph)	369	33	46	249	25	42
Future Volume (vph)	369	33	46	249	25	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	9.1		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1863	0	1789	1883	1789	1601
Flt Permitted			0.246		0.950	
Satd. Flow (perm)	1863	0	463	1883	1789	1601
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	9					46
Link Speed (k/h)	30			30	30	
Link Distance (m)	306.4			123.9	49.9	
Travel Time (s)	36.8			14.9	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	401	36	50	271	27	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	437	0	50	271	27	46
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	60.0		60.0	60.0	30.0	30.0
Total Split (%)	66.7%		66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	55.5		55.5	55.5	25.5	25.5
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	1.2		1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effect Green (s)	29.1		29.1	29.1	51.9	51.9
Actuated g/C Ratio	0.32		0.32	0.32	0.58	0.58
v/c Ratio	0.72		0.34	0.45	0.03	0.05
Control Delay	32.4		26.7	25.1	11.3	4.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	32.4		26.7	25.1	11.3	4.3

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	C		C	C	B	A
Approach Delay	32.4			25.3	6.9	
Approach LOS	C			C	A	
Queue Length 50th (m)	65.0		6.5	36.8	1.8	0.0
Queue Length 95th (m)	78.7		13.7	46.9	6.9	5.6
Internal Link Dist (m)	282.4			99.9	25.9	
Turn Bay Length (m)			9.1			
Base Capacity (vph)	1152		285	1161	1032	943
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		0.18	0.23	0.03	0.05

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 27.4

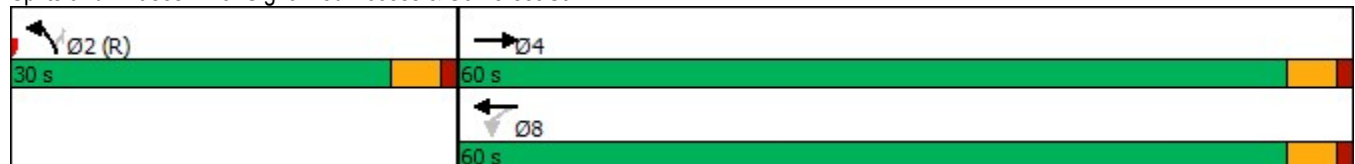
Intersection LOS: C

Intersection Capacity Utilization 41.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Signalized Access & Somerset St W



Lanes, Volumes, Timings

6: Unsignalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	
Traffic Volume (vph)	409	3	4	293	2	2
Future Volume (vph)	409	3	4	293	2	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999				0.932	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	1882	0	1789	1883	1713	0
Flt Permitted			0.950		0.976	
Satd. Flow (perm)	1882	0	1789	1883	1713	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	123.9			110.6	172.4	
Travel Time (s)	14.9			13.3	20.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	445	3	4	318	2	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	448	0	4	318	4	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Unsignalized Access & Somerset St W

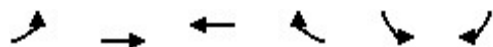
02/21/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱		↱	↱	↘	
Traffic Volume (veh/h)	409	3	4	293	2	2
Future Volume (Veh/h)	409	3	4	293	2	2
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)	445	3	4	318	2	2
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	124			111		
pX, platoon unblocked			0.80		0.80	0.80
vC, conflicting volume			448		772	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			184		590	182
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		99	100
cM capacity (veh/h)			1112		375	688
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	448	4	318	4		
Volume Left	0	4	0	2		
Volume Right	3	0	0	2		
cSH	1700	1112	1700	485		
Volume to Capacity	0.26	0.00	0.19	0.01		
Queue Length 95th (m)	0.0	0.1	0.0	0.2		
Control Delay (s)	0.0	8.2	0.0	12.5		
Lane LOS		A		B		
Approach Delay (s)	0.0	0.1		12.5		
Approach LOS				B		
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			31.7%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings

7: Oak St & Unsignalized Access

02/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑↑	
Traffic Volume (vph)	0	67	78	0	0	0
Future Volume (vph)	0	67	78	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr t						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		45.8	118.3		172.4	
Travel Time (s)		5.5	14.2		20.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	73	85	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	73	85	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

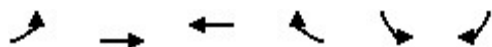
Intersection Capacity Utilization 7.4% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Unsignalized Access

02/21/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	67	78	0	0	0
Future Volume (Veh/h)	0	67	78	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	73	85	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	85				158	85
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	85				158	85
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)	1512				833	974
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	73	85	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.04	0.05	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			7.4%		ICU Level of Service	
Analysis Period (min)			15		A	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	255	23	43	339	94	18	106	68	103	135	61
Future Volume (vph)	25	255	23	43	339	94	18	106	68	103	135	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.958			0.952	
Flt Protected		0.995			0.994			0.995		0.950		
Satd. Flow (prot)	0	1800	1570	0	1824	1512	0	1736	0	1644	1799	0
Flt Permitted		0.925			0.931			0.954		0.604		
Satd. Flow (perm)	0	1673	1570	0	1709	1512	0	1665	0	1045	1799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			108		36			37	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		169.1			306.4			476.9			104.6	
Travel Time (s)		12.7			23.0			35.8			7.8	
Peak Hour Factor	0.78	0.94	0.72	0.81	0.81	0.87	0.75	0.80	0.94	0.79	0.84	0.80
Heavy Vehicles (%)	8%	6%	4%	10%	4%	8%	0%	4%	10%	11%	1%	3%
Adj. Flow (vph)	32	271	32	53	419	108	24	133	72	130	161	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	303	32	0	472	108	0	229	0	130	237	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	34.5	34.5	34.5	34.5	34.5	34.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		34.5	34.5		34.5	34.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.46	0.46		0.46	0.46		0.39		0.39	0.39	
v/c Ratio		0.39	0.04		0.60	0.14		0.34		0.32	0.33	
Control Delay		15.3	3.8		19.1	3.2		15.1		18.6	14.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		15.3	3.8		19.1	3.2		15.1		18.6	14.8	
LOS		B	A		B	A		B		B	B	
Approach Delay		14.2			16.1			15.1			16.1	
Approach LOS		B			B			B			B	
Queue Length 50th (m)		27.0	0.0		47.6	0.0		18.3		12.4	18.8	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		45.0	2.3		64.4	6.9		29.0		21.4	31.4	
Internal Link Dist (m)		145.1			282.4			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		769	742		786	753		674		409	727	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.39	0.04		0.60	0.14		0.34		0.32	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 15.5

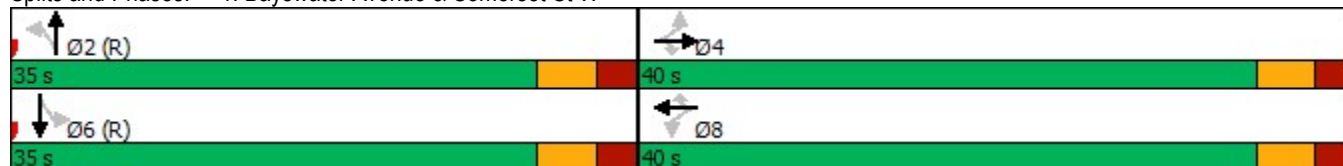
Intersection LOS: B

Intersection Capacity Utilization 75.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W



Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	309	96	56	321	22	91	460	61	44	366	53
Future Volume (vph)	56	309	96	56	321	22	91	460	61	44	366	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960			0.989			0.984			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	1721	0	1755	1826	0	1722	1727	0	1706	1754	0
Flt Permitted	0.410			0.295			0.219			0.172		
Satd. Flow (perm)	757	1721	0	545	1826	0	397	1727	0	309	1754	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		110.6			189.8			173.9			224.6	
Travel Time (s)		8.3			14.2			13.0			16.8	
Peak Hour Factor	0.77	0.84	0.71	0.87	0.88	0.79	0.68	0.85	0.94	0.79	0.90	0.77
Heavy Vehicles (%)	4%	5%	13%	4%	4%	5%	6%	10%	5%	7%	8%	2%
Adj. Flow (vph)	73	368	135	64	365	28	134	541	65	56	407	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	503	0	64	393	0	134	606	0	56	476	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	36.0	36.0		36.0	36.0		29.0	29.0		29.0	29.0	
Total Split (%)	48.0%	48.0%		48.0%	48.0%		38.7%	38.7%		38.7%	38.7%	
Maximum Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.31	0.31		0.31	0.31	
v/c Ratio	0.24	0.72		0.29	0.53		1.09	1.13		0.59	0.88	
Control Delay	17.4	26.0		19.6	20.2		138.6	107.7		51.2	44.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.4	26.0		19.6	20.2		138.6	107.7		51.2	44.1	
LOS	B	C		B	C		F	F		D	D	
Approach Delay		24.9			20.1			113.3			44.9	
Approach LOS		C			C			F			D	
Queue Length 50th (m)	6.6	58.1		5.9	40.9		~21.7	~101.3		6.6	63.1	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	7%	7%	7%	7%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)	12.9	82.6		14.7	63.3		#35.8	#145.7		#18.9	#114.2	
Internal Link Dist (m)		86.6			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	306	697		220	740		123	536		95	544	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.24	0.72		0.29	0.53		1.09	1.13		0.59	0.88	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 56.9

Intersection LOS: E

Intersection Capacity Utilization 77.2%

ICU Level of Service D

Analysis Period (min) 15

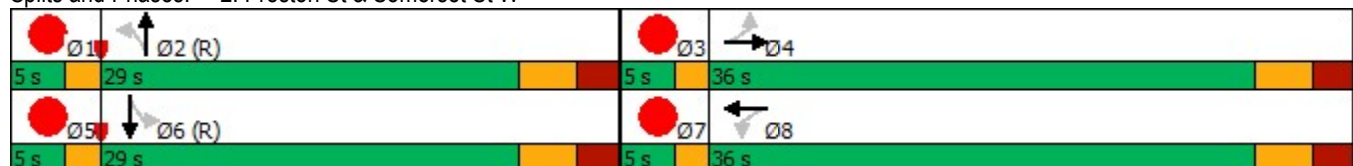
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings
3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	359	39	79	357	15	30	36	103	11	23	4
Future Volume (vph)	7	359	39	79	357	15	30	36	103	11	23	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.994			0.924			0.964	
Flt Protected		0.999			0.991			0.991			0.987	
Satd. Flow (prot)	0	1769	0	0	1807	0	0	1727	0	0	1828	0
Flt Permitted		0.988			0.856			0.934			0.898	
Satd. Flow (perm)	0	1750	0	0	1561	0	0	1627	0	0	1663	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			5			83			16	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		14.2			9.0			20.7			17.9	
Peak Hour Factor	0.62	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	20%	7%	3%	0%	6%	0%	7%	0%	1%	0%	0%	0%
Adj. Flow (vph)	11	399	53	84	380	20	43	56	129	16	28	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	463	0	0	484	0	0	228	0	0	60	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	51.0	51.0		51.0	51.0		26.4	26.4		26.4	26.4	
Total Split (%)	65.9%	65.9%		65.9%	65.9%		34.1%	34.1%		34.1%	34.1%	
Maximum Green (s)	45.9	45.9		45.9	45.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		45.9			45.9			21.0			21.0	
Actuated g/C Ratio		0.59			0.59			0.27			0.27	
v/c Ratio		0.44			0.52			0.46			0.13	
Control Delay		10.0			11.7			18.0			17.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		10.0			11.7			18.0			17.7	
LOS		B			B			B			B	
Approach Delay		10.0			11.7			18.0			17.7	
Approach LOS		B			B			B			B	
Queue Length 50th (m)		32.6			37.3			17.0			4.8	
Queue Length 95th (m)		52.0			60.7			20.4			12.0	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1043			927			501			462	
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		0.44			0.52			0.46			0.13	

Intersection Summary

Area Type: Other

Cycle Length: 77.4

Actuated Cycle Length: 77.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 12.5

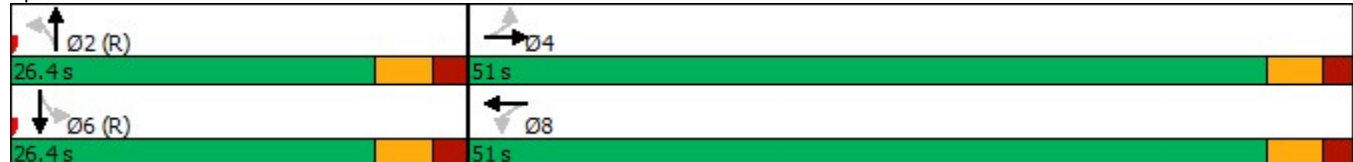
Intersection LOS: B

Intersection Capacity Utilization 70.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	17	25	22	579	486	22
Future Volume (vph)	17	25	22	579	486	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919				0.994	
Flt Protected	0.980			0.998		
Satd. Flow (prot)	1696	0	0	1880	1872	0
Flt Permitted	0.980			0.998		
Satd. Flow (perm)	1696	0	0	1880	1872	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	118.3			93.5	173.9	
Travel Time (s)	8.9			7.0	13.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	27	24	629	528	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	0	653	552	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 58.3% ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	25	22	579	486	22
Future Volume (Veh/h)	17	25	22	579	486	22
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	27	24	629	528	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.79	0.79	0.79			
vC, conflicting volume	1217	540	552			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1143	288	303			
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	95	98			
cM capacity (veh/h)	171	595	996			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	45	653	552			
Volume Left	18	24	0			
Volume Right	27	0	24			
cSH	299	996	1700			
Volume to Capacity	0.15	0.02	0.32			
Queue Length 95th (m)	4.0	0.6	0.0			
Control Delay (s)	19.2	0.6	0.0			
Lane LOS	C	A				
Approach Delay (s)	19.2	0.6	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		1.0				
Intersection Capacity Utilization		58.3%		ICU Level of Service		B
Analysis Period (min)		15				

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Volume (vph)	409	28	35	421	22	36
Future Volume (vph)	409	28	35	421	22	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	9.1		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1866	0	1789	1883	1789	1601
Flt Permitted			0.229		0.950	
Satd. Flow (perm)	1866	0	431	1883	1789	1601
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7					39
Link Speed (k/h)	48			48	48	
Link Distance (m)	306.4			123.9	49.9	
Travel Time (s)	23.0			9.3	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	445	30	38	458	24	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	475	0	38	458	24	39
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	60.0		60.0	60.0	30.0	30.0
Total Split (%)	66.7%		66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	55.5		55.5	55.5	25.5	25.5
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	1.2		1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effect Green (s)	31.1		31.1	31.1	49.9	49.9
Actuated g/C Ratio	0.35		0.35	0.35	0.55	0.55
v/c Ratio	0.73		0.26	0.70	0.02	0.04
Control Delay	31.5		22.6	30.7	12.5	4.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	31.5		22.6	30.7	12.5	4.9

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	C		C	C	B	A
Approach Delay	31.5			30.0	7.8	
Approach LOS	C			C	A	
Queue Length 50th (m)	69.9		4.7	67.4	1.8	0.0
Queue Length 95th (m)	83.3		10.3	80.2	6.8	5.5
Internal Link Dist (m)	282.4			99.9	25.9	
Turn Bay Length (m)			9.1			
Base Capacity (vph)	1153		265	1161	991	905
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		0.14	0.39	0.02	0.04

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 29.3

Intersection LOS: C

Intersection Capacity Utilization 40.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Signalized Access & Somerset St W

↖ Ø2 (R)	→ Ø4
30 s	60 s
	↖ Ø8
	60 s

Lanes, Volumes, Timings

6: Unsignalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕		↙	↕	↘	
Traffic Volume (vph)	444	1	2	454	2	2
Future Volume (vph)	444	1	2	454	2	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.932	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	1883	0	1789	1883	1713	0
Flt Permitted			0.950		0.976	
Satd. Flow (perm)	1883	0	1789	1883	1713	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	123.9			110.6	172.4	
Travel Time (s)	9.3			8.3	12.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	483	1	2	493	2	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	484	0	2	493	4	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Unsignalized Access & Somerset St W

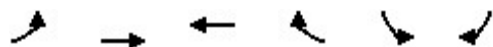
02/21/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱		↰	↱	↰	
Traffic Volume (veh/h)	444	1	2	454	2	2
Future Volume (Veh/h)	444	1	2	454	2	2
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)	483	1	2	493	2	2
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	124			111		
pX, platoon unblocked			0.78		0.86	0.78
vC, conflicting volume			484		980	484
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			191		469	191
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)			1073		473	661
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	484	2	493	4		
Volume Left	0	2	0	2		
Volume Right	1	0	0	2		
cSH	1700	1073	1700	552		
Volume to Capacity	0.28	0.00	0.29	0.01		
Queue Length 95th (m)	0.0	0.0	0.0	0.2		
Control Delay (s)	0.0	8.4	0.0	11.6		
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	11.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			33.9%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings

7: Oak St & Unsignalized Access

02/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑↑	
Traffic Volume (vph)	0	36	39	0	0	0
Future Volume (vph)	0	36	39	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr t						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		45.8	118.3		172.4	
Travel Time (s)		3.4	8.9		12.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	39	42	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	39	42	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

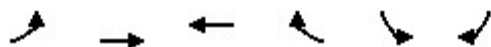
Intersection Capacity Utilization 6.7% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Unsignalized Access

02/21/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	36	39	0	0	0
Future Volume (Veh/h)	0	36	39	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	39	42	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	42				81	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	42				81	42
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)	1567				921	1029
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	39	42	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			6.7%		ICU Level of Service	
Analysis Period (min)			15		A	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	195	14	32	183	65	12	67	47	100	74	39
Future Volume (vph)	26	195	14	32	183	65	12	67	47	100	74	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.950			0.939	
Flt Protected		0.994			0.993			0.993		0.950		
Satd. Flow (prot)	0	1754	1526	0	1783	1471	0	1671	0	1644	1758	0
Flt Permitted		0.948			0.935			0.948		0.700		
Satd. Flow (perm)	0	1673	1526	0	1679	1471	0	1596	0	1212	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			78		52			61	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			306.4			476.9			104.6	
Travel Time (s)		20.3			36.8			57.2			12.6	
Peak Hour Factor	0.93	0.91	0.70	0.94	0.87	0.83	0.50	0.88	0.79	0.93	0.80	0.61
Heavy Vehicles (%)	8%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	28	214	20	34	210	78	24	76	59	108	93	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	242	20	0	244	78	0	159	0	108	157	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		29.5	29.5		29.5	29.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.42	0.42		0.42	0.42		0.42		0.42	0.42	
v/c Ratio		0.34	0.03		0.35	0.12		0.23		0.21	0.20	
Control Delay		15.5	2.1		15.5	3.9		9.8		14.4	8.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		15.5	2.1		15.5	3.9		9.8		14.4	8.8	
LOS		B	A		B	A		A		B	A	
Approach Delay		14.4			12.7			9.8			11.1	
Approach LOS		B			B			A			B	
Queue Length 50th (m)		20.6	0.0		20.8	0.0		8.4		8.7	7.4	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		36.2	0.7		34.8	5.6		18.6		18.4	14.9	
Internal Link Dist (m)		145.1			282.4			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		705	666		707	665		700		509	773	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.34	0.03		0.35	0.12		0.23		0.21	0.20	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 12.3

Intersection LOS: B

Intersection Capacity Utilization 50.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W

Ø2 (R) 35 s	Ø4 35 s
Ø6 (R) 35 s	Ø8 35 s

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	227	124	49	145	13	73	222	68	39	341	34
Future Volume (vph)	33	227	124	49	145	13	73	222	68	39	341	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.941			0.980			0.965			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1675	0	1706	1729	0	1706	1634	0	1690	1772	0
Flt Permitted	0.644			0.442			0.355			0.470		
Satd. Flow (perm)	1156	1675	0	794	1729	0	637	1634	0	836	1772	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		110.6			189.8			173.9			224.6	
Travel Time (s)		13.3			22.8			20.9			27.0	
Peak Hour Factor	0.63	0.93	0.79	0.64	0.93	0.54	0.68	0.87	0.87	0.65	0.89	0.71
Heavy Vehicles (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	52	244	157	77	156	24	107	255	78	60	383	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	401	0	77	180	0	107	333	0	60	431	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	47.5%	47.5%		47.5%	47.5%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	32.4	32.4		32.4	32.4		26.3	26.3		26.3	26.3	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.38	0.38		0.38	0.38	
v/c Ratio	0.10	0.52		0.21	0.23		0.45	0.54		0.19	0.65	
Control Delay	11.3	16.3		13.1	12.2		23.8	21.2		16.8	23.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	1.0	1.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	6%	6%	6%	6%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	11.3	16.3		13.1	12.2		23.8	21.2		16.8	23.6	
LOS	B	B		B	B		C	C		B	C	
Approach Delay		15.7			12.5			21.9			22.7	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	3.6	35.2		5.7	13.4		10.3	33.3		5.2	45.4	
Queue Length 95th (m)	6.2	58.1		9.1	24.6		16.5	53.7		8.8	72.6	
Internal Link Dist (m)		86.6			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	535	775		367	800		239	613		314	665	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.52		0.21	0.23		0.45	0.54		0.19	0.65	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 19.0

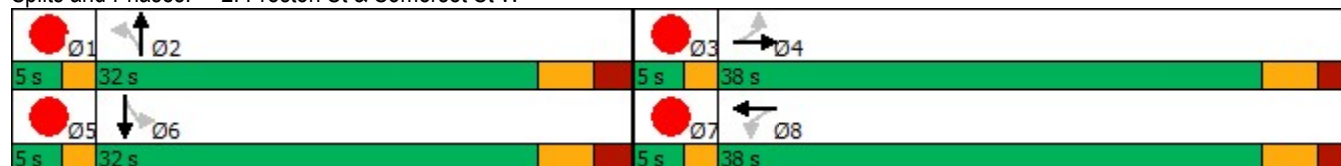
Intersection LOS: B

Intersection Capacity Utilization 66.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings
3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	280	58	51	186	3	16	14	58	6	24	8
Future Volume (vph)	4	280	58	51	186	3	16	14	58	6	24	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.998			0.922			0.969	
Flt Protected		0.999			0.989			0.991			0.990	
Satd. Flow (prot)	0	1732	0	0	1750	0	0	1696	0	0	1843	0
Flt Permitted		0.994			0.847			0.946			0.938	
Satd. Flow (perm)	0	1723	0	0	1499	0	0	1619	0	0	1746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			2			76			13	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		22.8			14.4			33.1			28.7	
Peak Hour Factor	0.50	0.83	0.82	0.80	0.86	0.75	0.67	0.44	0.76	0.50	0.75	0.63
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	337	71	64	216	4	24	32	76	12	32	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	416	0	0	284	0	0	132	0	0	57	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.4	26.4		26.4	26.4	
Total Split (%)	67.2%	67.2%		67.2%	67.2%		32.8%	32.8%		32.8%	32.8%	
Maximum Green (s)	48.9	48.9		48.9	48.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.9			48.9			21.0			21.0	
Actuated g/C Ratio		0.61			0.61			0.26			0.26	
v/c Ratio		0.39			0.31			0.28			0.12	
Control Delay		8.9			8.7			13.0			19.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.9			8.7			13.0			19.4	
LOS		A			A			B			B	
Approach Delay		8.9			8.7			13.0			19.4	
Approach LOS		A			A			B			B	
Queue Length 50th (m)		27.4			18.7			6.6			5.1	
Queue Length 95th (m)		39.1			29.6			4.4			11.0	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1057			912			479			465	
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		0.39			0.31			0.28			0.12	

Intersection Summary

Area Type: Other

Cycle Length: 80.4

Actuated Cycle Length: 80.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 10.1

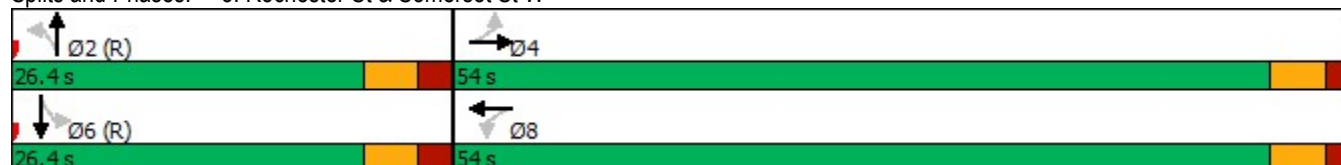
Intersection LOS: B

Intersection Capacity Utilization 51.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	23	11	340	446	54
Future Volume (vph)	23	23	11	340	446	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.985	
Flt Protected	0.976			0.998		
Satd. Flow (prot)	1713	0	0	1880	1855	0
Flt Permitted	0.976			0.998		
Satd. Flow (perm)	1713	0	0	1880	1855	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	118.3			93.5	173.9	
Travel Time (s)	14.2			11.2	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	25	12	370	485	59
Shared Lane Traffic (%)						
Lane Group Flow (vph)	50	0	0	382	544	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 36.8% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	23	11	340	446	54
Future Volume (Veh/h)	23	23	11	340	446	54
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	25	12	370	485	59
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.89	0.89	0.89			
vC, conflicting volume	908	514	544			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	835	392	425			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	96	99			
cM capacity (veh/h)	297	584	1009			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	50	382	544			
Volume Left	25	12	0			
Volume Right	25	0	59			
cSH	394	1009	1700			
Volume to Capacity	0.13	0.01	0.32			
Queue Length 95th (m)	3.3	0.3	0.0			
Control Delay (s)	15.5	0.4	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.5	0.4	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization		36.8%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	363	0	0	242	0	0
Future Volume (vph)	363	0	0	242	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	9.1		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	1883	1883	1883
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	1883	1883	1883
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	30			30	30	
Link Distance (m)	306.4			123.9	49.9	
Travel Time (s)	36.8			14.9	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	395	0	0	263	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	395	0	0	263	0	0
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	60.0		60.0	60.0	30.0	30.0
Total Split (%)	66.7%		66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	55.5		55.5	55.5	25.5	25.5
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	1.2		1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effect Green (s)	26.6			26.6		
Actuated g/C Ratio	0.30			0.30		
v/c Ratio	0.71			0.47		
Control Delay	34.7			27.5		
Queue Delay	0.0			0.0		
Total Delay	34.7			27.5		

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	C			C		
Approach Delay	34.7			27.5		
Approach LOS	C			C		
Queue Length 50th (m)	60.5			37.0		
Queue Length 95th (m)	76.2			49.2		
Internal Link Dist (m)	282.4			99.9	25.9	
Turn Bay Length (m)						
Base Capacity (vph)	1161			1161		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.34			0.23		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 31.8

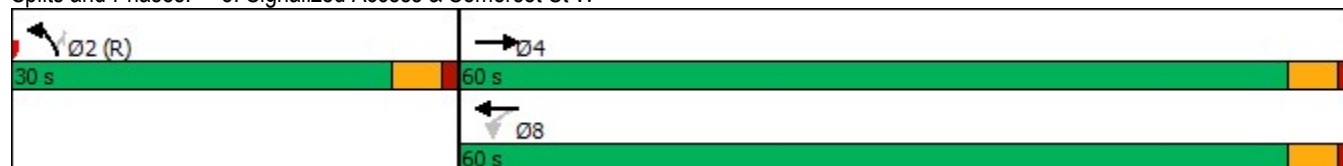
Intersection LOS: C

Intersection Capacity Utilization 22.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Signalized Access & Somerset St W



Lanes, Volumes, Timings

6: Unsignalized Access & Somerset St W

02/21/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	364	0	0	242	0	0
Future Volume (vph)	364	0	0	242	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	1883	1883	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	123.9			110.6	172.4	
Travel Time (s)	14.9			13.3	20.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	396	0	0	263	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	396	0	0	263	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Unsignalized Access & Somerset St W

02/21/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	364	0	0	242	0	0
Future Volume (Veh/h)	364	0	0	242	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)	396	0	0	263	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)	124		111			
pX, platoon unblocked			0.81		0.81	0.81
vC, conflicting volume			396		659	396
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			133		458	133
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)			1173		453	740
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	396	0	263	0		
Volume Left	0	0	0	0		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.23	0.00	0.15	0.00		
Queue Length 95th (m)	0.0	0.0	0.0	0.0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS				A		
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS				A		
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			22.5%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings

7: Oak St & Unsignalized Access

02/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑↑	
Traffic Volume (vph)	0	40	61	0	0	0
Future Volume (vph)	0	40	61	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t						
Fl _t Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Fl _t Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		45.8	118.3		172.4	
Travel Time (s)		5.5	14.2		20.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	43	66	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	66	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

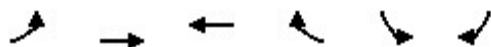
Intersection Capacity Utilization 6.7% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Unsignalized Access

02/21/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	40	61	0	0	0
Future Volume (Veh/h)	0	40	61	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	43	66	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	66				109	66
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	66				109	66
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1536				888	998
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	43	66	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.03	0.04	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			6.7%		ICU Level of Service	
Analysis Period (min)			15			
			A			

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	230	23	40	318	91	18	106	63	100	135	61
Future Volume (vph)	25	230	23	40	318	91	18	106	63	100	135	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		75.0	0.0		0.0	60.0		0.0
Storage Lanes	0		1	0		1	0		0	1		0
Taper Length (m)	0.0			0.0			0.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.960			0.952	
Flt Protected		0.994			0.994			0.995		0.950		
Satd. Flow (prot)	0	1798	1570	0	1824	1512	0	1742	0	1644	1799	0
Flt Permitted		0.923			0.937			0.953		0.609		
Satd. Flow (perm)	0	1669	1570	0	1720	1512	0	1668	0	1054	1799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			105		34			37	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		169.1			306.4			476.9			104.6	
Travel Time (s)		12.7			23.0			35.8			7.8	
Peak Hour Factor	0.78	0.94	0.72	0.81	0.81	0.87	0.75	0.80	0.94	0.79	0.84	0.80
Heavy Vehicles (%)	8%	6%	4%	10%	4%	8%	0%	4%	10%	11%	1%	3%
Adj. Flow (vph)	32	245	32	49	393	105	24	133	67	127	161	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	277	32	0	442	105	0	224	0	127	237	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Minimum Split (s)	33.5	33.5	33.5	33.5	33.5	33.5	29.6	29.6		29.6	29.6	
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	35.0	35.0		35.0	35.0	
Total Split (%)	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	34.5	34.5	34.5	34.5	34.5	34.5	29.4	29.4		29.4	29.4	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	17.0	17.0	17.0	17.0	17.0	17.0	13.0	13.0		13.0	13.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		34.5	34.5		34.5	34.5		29.4		29.4	29.4	
Actuated g/C Ratio		0.46	0.46		0.46	0.46		0.39		0.39	0.39	
v/c Ratio		0.36	0.04		0.56	0.14		0.33		0.31	0.33	
Control Delay		14.8	3.8		18.1	3.2		15.1		18.4	14.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		14.8	3.8		18.1	3.2		15.1		18.4	14.8	
LOS		B	A		B	A		B		B	B	
Approach Delay		13.7			15.3			15.1			16.0	
Approach LOS		B			B			B			B	
Queue Length 50th (m)		24.2	0.0		43.4	0.0		18.0		12.1	18.8	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)		40.9	2.3		59.3	6.8		28.6		20.8	31.4	
Internal Link Dist (m)		145.1			282.4			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		767	742		791	752		674		413	727	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.36	0.04		0.56	0.14		0.33		0.31	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 15.1

Intersection LOS: B

Intersection Capacity Utilization 72.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Bayswater Avenue & Somerset St W

			
Ø2 (R)			Ø4
35 s			40 s
			
Ø6 (R)			Ø8
35 s			40 s

Lanes, Volumes, Timings
2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	284	84	56	295	22	82	354	61	44	306	48
Future Volume (vph)	50	284	84	56	295	22	82	354	61	44	306	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	19.0		0.0	28.0		0.0	32.0		0.0	27.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.961			0.988			0.980			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	1724	0	1755	1824	0	1722	1722	0	1706	1753	0
Flt Permitted	0.443			0.343			0.319			0.213		
Satd. Flow (perm)	818	1724	0	634	1824	0	578	1722	0	382	1753	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		110.6			189.8			173.9			224.6	
Travel Time (s)		8.3			14.2			13.0			16.8	
Peak Hour Factor	0.77	0.84	0.71	0.87	0.88	0.79	0.68	0.85	0.94	0.79	0.90	0.77
Heavy Vehicles (%)	4%	5%	13%	4%	4%	5%	6%	10%	5%	7%	8%	2%
Adj. Flow (vph)	65	338	118	64	335	28	121	416	65	56	340	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	456	0	64	363	0	121	481	0	56	402	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	24.6	24.6		24.6	24.6		26.7	26.7		26.7	26.7	
Total Split (s)	36.0	36.0		36.0	36.0		29.0	29.0		29.0	29.0	
Total Split (%)	48.0%	48.0%		48.0%	48.0%		38.7%	38.7%		38.7%	38.7%	
Maximum Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.6	5.6		5.6	5.6		5.7	5.7		5.7	5.7	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	30.4	30.4		30.4	30.4		23.3	23.3		23.3	23.3	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.31	0.31		0.31	0.31	
v/c Ratio	0.20	0.65		0.25	0.49		0.68	0.90		0.47	0.74	
Control Delay	16.4	23.5		18.1	19.4		44.7	47.9		36.8	33.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.4	23.5		18.1	19.4		44.7	47.9		36.8	33.0	
LOS	B	C		B	B		D	D		D	C	
Approach Delay		22.6			19.2			47.3			33.5	
Approach LOS		C			B			D			C	
Queue Length 50th (m)	5.8	50.6		5.8	36.9		14.8	64.4		6.3	50.3	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	7%	7%	7%	7%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (m)				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (m)	11.6	72.6		14.0	57.8		22.7	#106.1		15.1	#88.7	
Internal Link Dist (m)		86.6			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	331	698		256	739		179	534		118	544	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.65		0.25	0.49		0.68	0.90		0.47	0.74	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 31.8

Intersection LOS: C

Intersection Capacity Utilization 69.6%

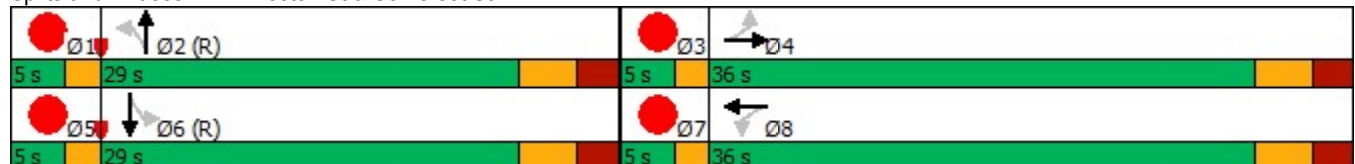
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Preston St & Somerset St W



Lane Group	Ø1	Ø3	Ø5	Ø7
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

02/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	5	339	35	79	334	15	28	36	103	11	23	3
Future Volume (vph)	5	339	35	79	334	15	28	36	103	11	23	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.994			0.923			0.971	
Flt Protected		0.999			0.991			0.991			0.986	
Satd. Flow (prot)	0	1770	0	0	1808	0	0	1726	0	0	1839	0
Flt Permitted		0.992			0.857			0.940			0.893	
Satd. Flow (perm)	0	1758	0	0	1564	0	0	1637	0	0	1666	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			5			86			12	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		189.8			120.0			275.9			239.0	
Travel Time (s)		14.2			9.0			20.7			17.9	
Peak Hour Factor	0.62	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	20%	7%	3%	0%	6%	0%	7%	0%	1%	0%	0%	0%
Adj. Flow (vph)	8	377	48	84	355	20	40	56	129	16	28	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	433	0	0	459	0	0	225	0	0	56	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	31.1	31.1		31.1	31.1		26.4	26.4		26.4	26.4	
Total Split (s)	51.0	51.0		51.0	51.0		26.4	26.4		26.4	26.4	
Total Split (%)	65.9%	65.9%		65.9%	65.9%		34.1%	34.1%		34.1%	34.1%	
Maximum Green (s)	45.9	45.9		45.9	45.9		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.8	1.8		1.8	1.8		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		45.9			45.9			21.0			21.0	
Actuated g/C Ratio		0.59			0.59			0.27			0.27	
v/c Ratio		0.41			0.49			0.44			0.12	
Control Delay		9.7			11.2			17.4			18.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.7			11.2			17.4			18.5	
LOS		A			B			B			B	
Approach Delay		9.7			11.2			17.4			18.5	
Approach LOS		A			B			B			B	
Queue Length 50th (m)		29.8			34.5			16.2			4.8	
Queue Length 95th (m)		47.4			56.2			19.7			11.7	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												

Lanes, Volumes, Timings 3: Rochester St & Somerset St W

02/21/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1048			929			506			460	
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		0.41			0.49			0.44			0.12	

Intersection Summary

Area Type: Other

Cycle Length: 77.4

Actuated Cycle Length: 77.4

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 12.2

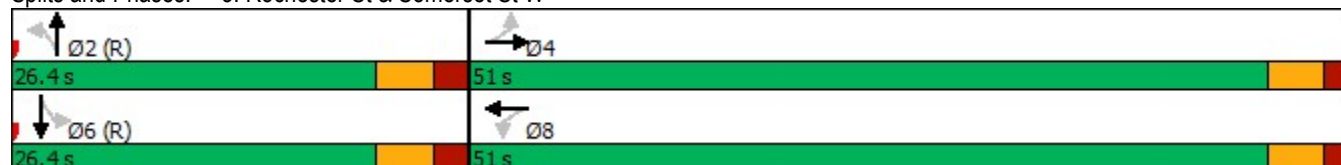
Intersection LOS: B

Intersection Capacity Utilization 67.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Rochester St & Somerset St W



Lanes, Volumes, Timings

4: Preston St & Oak St

02/21/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	8	4	478	424	12
Future Volume (vph)	8	8	4	478	424	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.996	
Flt Protected	0.976					
Satd. Flow (prot)	1713	0	0	1883	1876	0
Flt Permitted	0.976					
Satd. Flow (perm)	1713	0	0	1883	1876	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	118.3			93.5	173.9	
Travel Time (s)	8.9			7.0	13.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	9	4	520	461	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	524	474	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.3% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

02/21/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	8	4	478	424	12
Future Volume (Veh/h)	8	8	4	478	424	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	9	4	520	461	13
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					174	
pX, platoon unblocked	0.85	0.85	0.85			
vC, conflicting volume	996	468	474			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	906	285	293			
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	99	100			
cM capacity (veh/h)	259	641	1078			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	18	524	474			
Volume Left	9	4	0			
Volume Right	9	0	13			
cSH	369	1078	1700			
Volume to Capacity	0.05	0.00	0.28			
Queue Length 95th (m)	1.2	0.1	0.0			
Control Delay (s)	15.2	0.1	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.2	0.1	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		0.3				
Intersection Capacity Utilization		38.3%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Volume (vph)	404	0	0	415	0	0
Future Volume (vph)	404	0	0	415	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	9.1		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	1883	1883	1883
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	1883	1883	1883
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	48			48	48	
Link Distance (m)	306.4			123.9	49.9	
Travel Time (s)	23.0			9.3	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	439	0	0	451	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	439	0	0	451	0	0
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	60.0		60.0	60.0	30.0	30.0
Total Split (%)	66.7%		66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	55.5		55.5	55.5	25.5	25.5
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	1.2		1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	55.5			55.5		
Actuated g/C Ratio	0.62			0.62		
v/c Ratio	0.38			0.39		
Control Delay	9.8			9.9		
Queue Delay	0.0			0.0		
Total Delay	9.8			9.9		
LOS	A			A		
Approach Delay	9.8			9.9		
Approach LOS	A			A		
Queue Length 50th (m)	34.4			35.7		
Queue Length 95th (m)	51.8			53.7		

Lanes, Volumes, Timings

5: Signalized Access & Somerset St W

02/21/2025



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Internal Link Dist (m)	282.4			99.9	25.9	
Turn Bay Length (m)						
Base Capacity (vph)	1161			1161		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.38			0.39		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 45

Control Type: Pretimed

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 9.9

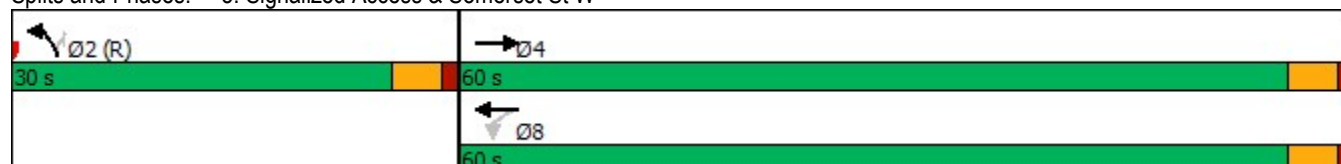
Intersection LOS: A

Intersection Capacity Utilization 25.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Signalized Access & Somerset St W



Lanes, Volumes, Timings

6: Unsignalized Access & Somerset St W

02/21/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	404	0	0	415	0	0
Future Volume (vph)	404	0	0	415	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.6		7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	1883	1883	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	123.9			110.6	172.4	
Travel Time (s)	9.3			8.3	12.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	439	0	0	451	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	439	0	0	451	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Unsignalized Access & Somerset St W

02/21/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	404	0	0	415	0	0
Future Volume (Veh/h)	404	0	0	415	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)	439	0	0	451	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)	124			111		
pX, platoon unblocked				0.88	0.92	0.88
vC, conflicting volume				439	890	439
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol				292	543	292
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)				1115	462	656
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	439	0	451	0		
Volume Left	0	0	0	0		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.26	0.00	0.27	0.00		
Queue Length 95th (m)	0.0	0.0	0.0	0.0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			25.2%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings

7: Oak St & Unsignalized Access

02/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (vph)	0	10	11	0	0	0
Future Volume (vph)	0	10	11	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t						
Fl _t Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Fl _t Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		45.8	118.3		172.4	
Travel Time (s)		3.4	8.9		12.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	11	12	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	11	12	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

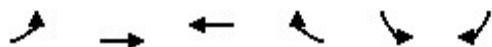
Intersection Capacity Utilization 6.7% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Unsignalized Access

02/21/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	10	11	0	0	0
Future Volume (Veh/h)	0	10	11	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	11	12	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	12				23	12
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	12				23	12
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)	1607				993	1069
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	11	12	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.01	0.01	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			6.7%		ICU Level of Service	
Analysis Period (min)			15		A	



Stantec is a global leader in sustainable architecture, engineering, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

