

930 – 1010 Somerset Street

Transportation Impact Assessment



Revision Schedule

Revision	Description	Author	Date	Quality Check	Date	Independent Review	Date

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Prepared by



Ahmad Hassan Kamal

Reviewed by:



Colin MacKenzie



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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 Ottawa Community 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 Line 2 corridor to the west, and Preston Street to the east. The Concept Plan for the site is shown in **Figure 1** below.



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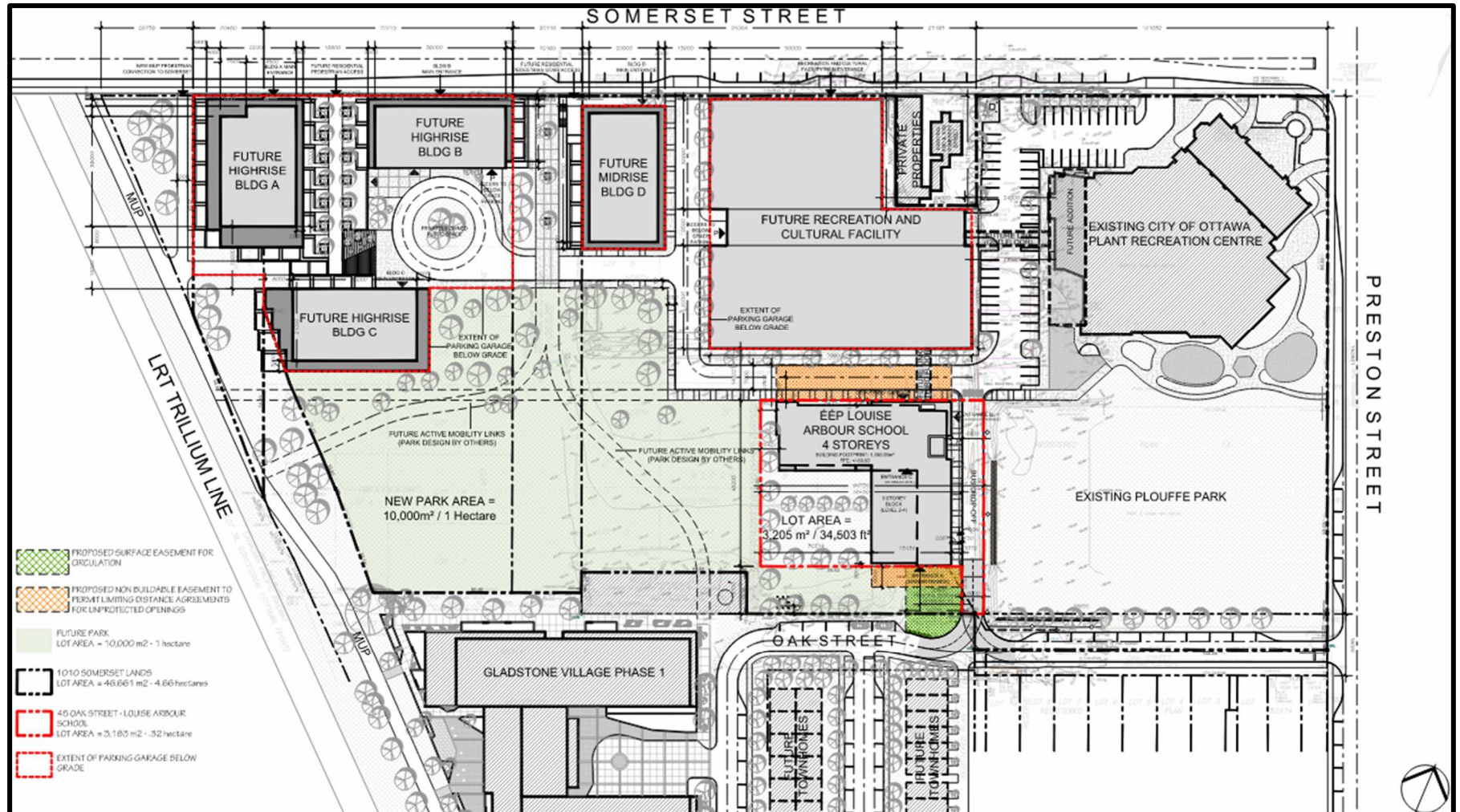


Figure 1: 1010 Somerset St Concept Plan (Source: Hobin Architects, May 21, 2025)



The subject site is located within the Downtown Core Transect Hub (see **Figure 2**), 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

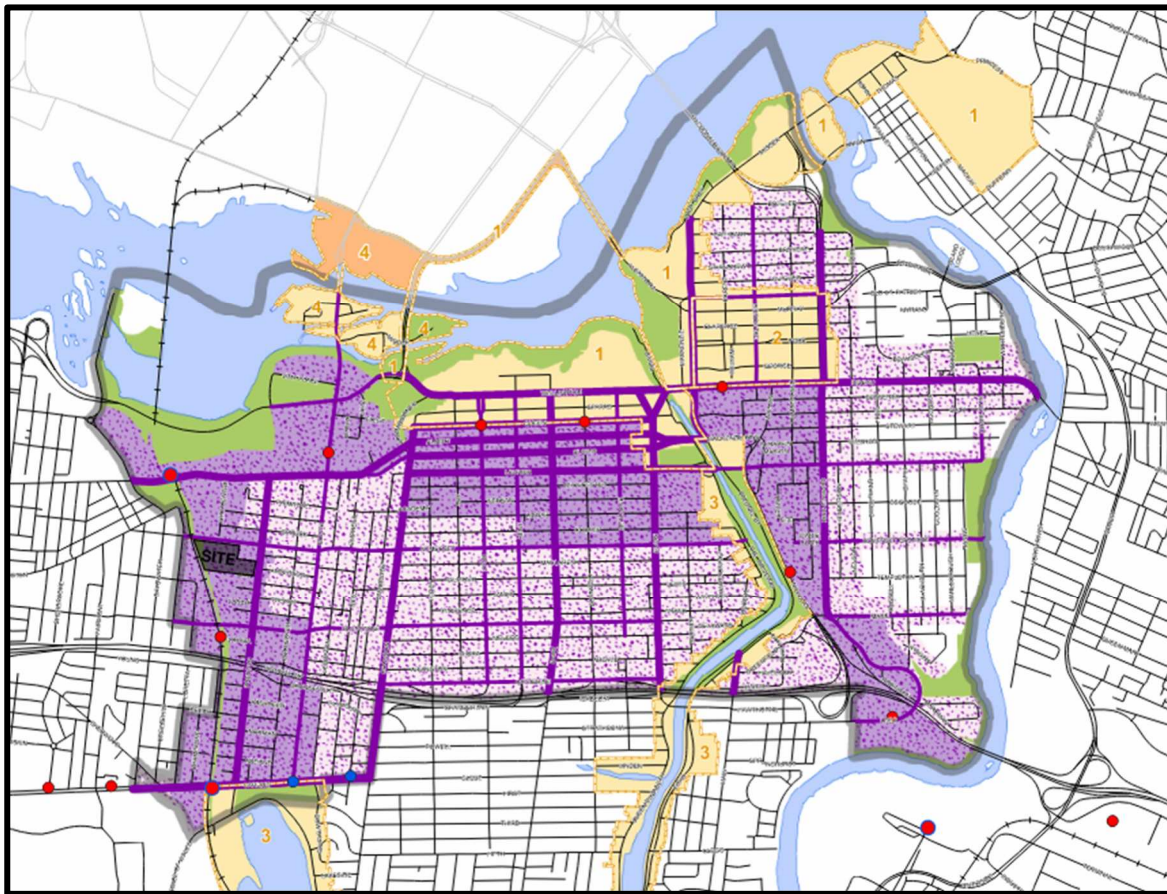


Figure 2: Downtown Core Transect Hub

¹ City of Ottawa's Official Plan – Schedule A



The subject site is located within a **Design Priority Area (DPA)**, as identified in **Schedule C7-A** of the City of Ottawa's Official Plan and is therefore subject to enhanced urban design expectations that promote high-quality, context-sensitive development contributing positively to the public realm. The site is also designated as a Hub under **Schedule B1**, which identifies it as an area intended for higher-density, mixed-use development focused on rapid transit, supporting both residential and employment uses. In addition, the site falls within a **Protected Major Transit Station Area (PMTSA)** as per **Schedule C1**, which encourages compact, transit-oriented growth and includes policies aimed at increasing density and limiting low-density, auto-oriented development.

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 O-Train 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 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 3** for the Corso Italia Station District Study Area.

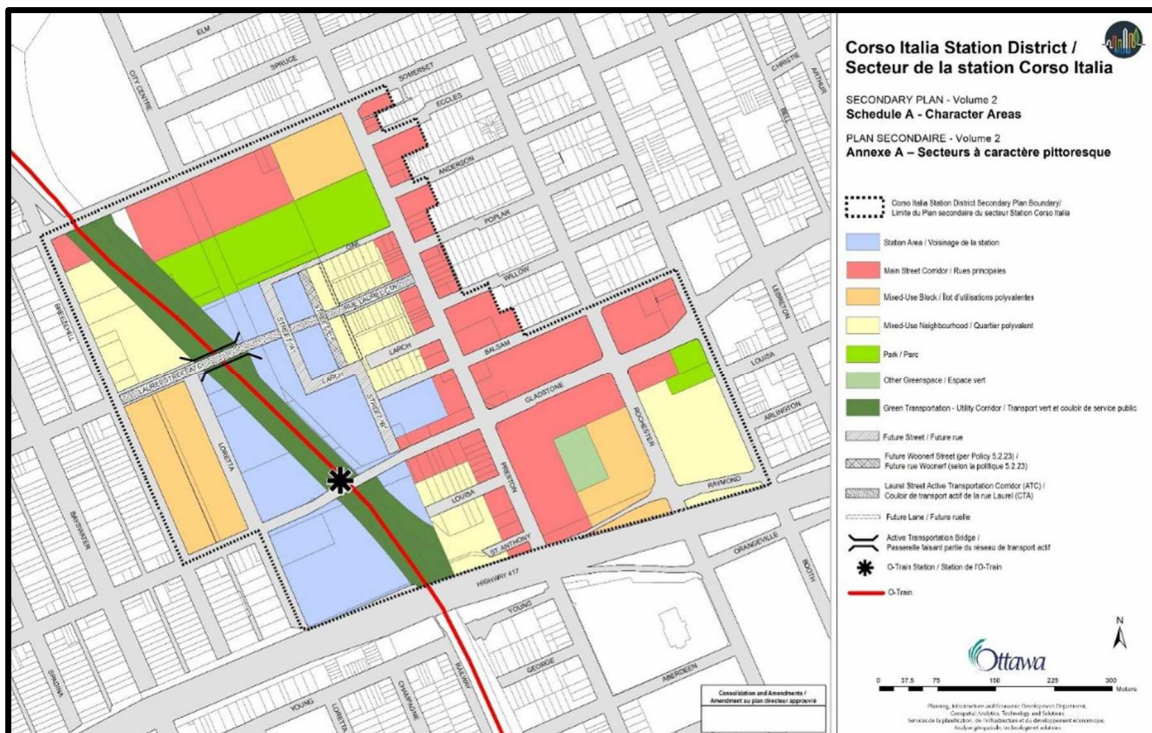


Figure 3: Corso Italia Station District Study Area



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 expected to be complete and occupied by 2028. This will be followed by the addition of 150 Ottawa Community 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:

- An access ("**Access 1**") on Somerset Street West between O-Train Line 2 and Preston Street, providing access to the residences and the recreational and cultural facility;
- The eastern access point ("**Access 2**") will be a 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 Access 2 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 (Gladstone Village).



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 south of Somerset Street West and assumed speed limit of 50km/h. Bayswater Avenue has 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 50 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 local street, with an unmarked two-lane cross-section and posted speed limit of 30 km/h. To the south, Rochester Street also provides a connection for traffic to and from the west on Highway 417.
Gladstone Avenue	Gladstone Avenue is an urban major collector road, with a two-lane cross-section and a posted speed limited of 40 km/h within the study area. The road includes sidewalks on both sides and is serviced by OC Transpo bus routes.
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 an Oak Street extension to Gladstone Avenue as part of the new Gladstone Village subdivision proposed west of Preston Street, south of the subject site.



Breezehill Avenue	Breezehill Avenue is a local street with a two-lane urban cross-section and a posted speed limit of 40km/h. Planned improvements have been proposed on Breezehill Avenue including traffic calming measures such as speed humps, curb extensions, a raised intersection at Laurel Street, and a raised crossing at Gladstone Avenue, aligning with the City's 30 km/h traffic calming policy. The work is anticipated to be completed by spring 2026, before the build-out of the subject development.
City Centre Avenue	City Centre Avenue is a two-way local street connecting to Albert Street, and providing access to the City Centre Mall. City Centre Avenue has an assumed speed limit of 50 km/h. The City Centre underpass from City Centre Avenue to the subject site is anticipated to be pedestrianized, providing an active transportation connection between the new developments south of Somerset Street West and the LeBreton Flats area.

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 4**.

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
Gladstone Avenue / Preston Street	Signalized
Preston Street / Oak Street	One-Way Stop Controlled (Oak Street)
Somerset Street West / Breezehill Avenue	One-Way Stop Controlled (Breezehill Avenue)



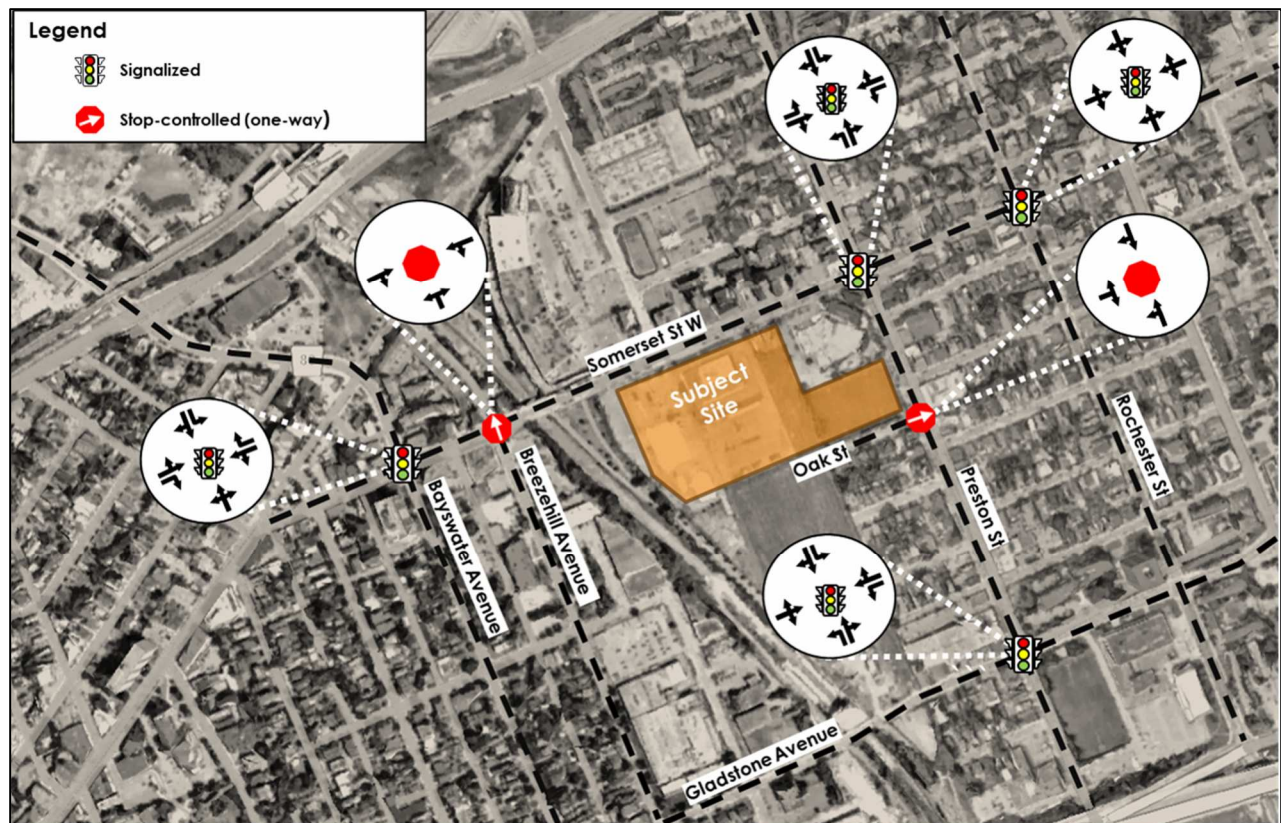


Figure 4: Study Area

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).
- Two driveways for the Veterinary Hospital, on the east (customer parking) and west side (private parking) of the building. (commercial)
- One driveway for shared restaurant parking directly north of the western plant recreation facility access.
- One driveway for truck loading for 935 Somerset Street West approximately 20 metres east of the Plant recreation access (commercial)



- One driveway for 933 Somerset Street directly north of the eastern plant recreation facility driveway (residential)
- One driveway for 927 Somerset Street directly north of the eastern plant recreation facility driveway (residential)
- One driveway for the private parking lot between 927 and 901 Somerset Street West, approximately 30 metres west of Somerset Street West / Preston Street,
- 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)
- South-west of Oak Street / Preston Street
- Six driveways for detached residential dwelling units along the south side of Oak Street.

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 seasonal flex post 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. There is a pedestrian crossover (PXO) on Preston Street at its intersection with Anderson Street.

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 – Sidewalk is present on the south side 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 Pathway 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



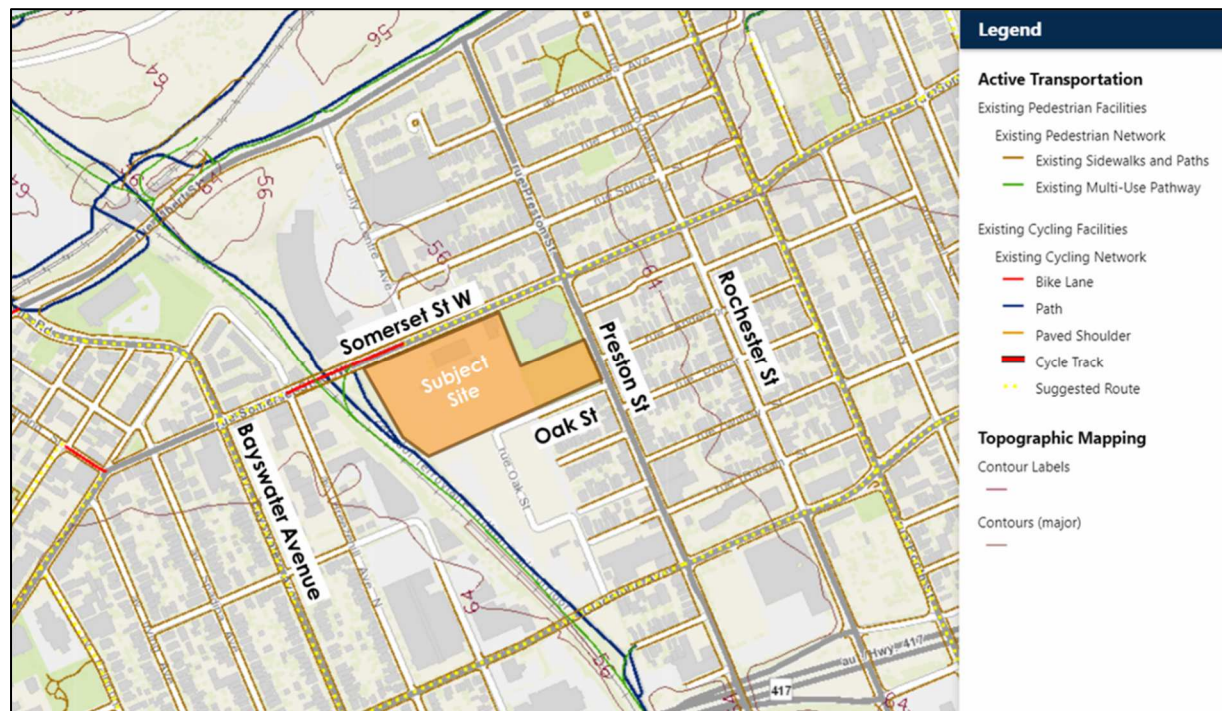


Figure 5: Active Transportation Connections around the Study Area

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. With the implementation of OC Transpo's "New Ways to Bus" network in April 2025, the area now benefits from enhanced bus routing, frequencies, and better connections to Ottawa's O-Train network. The transit system supports multi-modal travel by integrating bus, rail, cycling, and pedestrian 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

- Located near the intersection of Albert Street and Bayview Road, Bayview Station is a key interchange point between O-Train Line 1 (Confederation Line) and the newly reopened O-Train Line 2 (Trillium Line).
- The station provides direct connections to downtown Ottawa, Tunney's Pasture, and Blair Station on Line 1, as well as north-south service from Bayview to Limebank Station via Line 2, including connections to existing and future facilities such as Carleton University, South Keys Shopping Centre, and The Ottawa Hospital's new campus near Carling Avenue / Preston Street..



- Bayview Station is approximately 650m from the heart of the site by walking or biking, via the Trillium Pathway.

2. Corso Italia Station

- Located just north of Gladstone Avenue and west of Preston Street, Corso Italia Station is part of the O-Train Line 2 extension completed under Stage 2 of Ottawa's LRT project. See **Figure 6** for the Line 2 route.
- The station serves the Corso Italia neighborhood and nearby communities such as Little Italy and Hintonburg, and includes amenities such as secure bike parking and pedestrian crosswalks.
- Corso Italia Station is approximately 500m from the heart of the site by walking or biking, via the Trillium Pathway.

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

- **Route 8**, a local route providing direct trips along Preston Street between Dow's Lake Station and the Canadian Museum of History in Gatineau, replacing Route 85. It offers all-day service and connects nearby residential areas to key destinations. Route 8 operates with a 30-minute frequency
- **Route 11**, operating primarily along Somerset Street West, offers east-west service connecting major nodes such as Rideau Centre, Tunney's Pasture, Westboro, Lincoln Fields, and Bayshore Shopping Centre. The revised route now travels via Ambleside Drive, Bayswater Avenue, Scott Street, and Preston Street. Route 11 operates every day of the week with a 15-minute frequency.
- **Route 14** is a frequent route providing east-west service between St-Laurent Shopping Centre and Tunney's Pasture Station, operating along Gladstone Avenue. It connects central neighbourhoods including Centretown, Little Italy, and Hintonburg, and provides transfer points to both O-Train Line 1 via Tunney's Pasture Station and O-Train Line 2 via Corso Italia Station. Route 14 operates every day of the week with 15-minute frequency during peak hours and 30-minute frequency during off-peak hours (after 6pm).

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.
- 500 metres (approximately 8-minute walk) from the site to Corso Italia Station along the Trillium Pathway.
- 650 metres (approximately 9-minute walk) from the site to Bayview Station along the Trillium Pathway.



Figure 7 shows the existing transit system and **Figure 8** shows the location of the bus stops and the O-Train stations in the study area.



Figure 6: O-Train Line 2 Route

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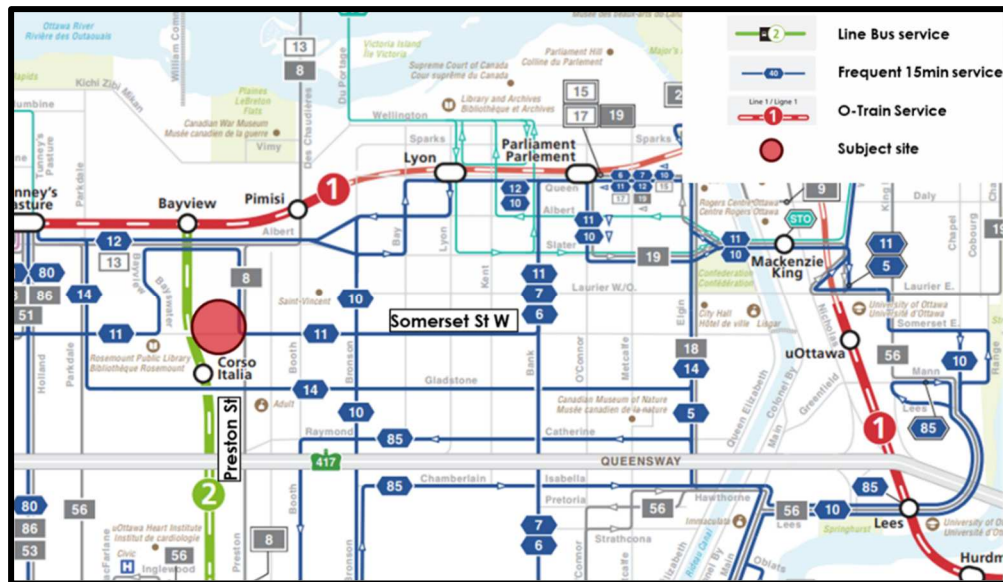


Figure 7: Existing Transit System



Figure 8: Location of Bus Stops and O-Train Stations



1.1.2.5 Traffic Management Measures

There are several existing traffic management measures within the study area aimed at improving safety and moderating vehicle speeds on local streets. These measures include a combination of curb extensions and vertical deflection treatments:

- Curb extensions are in place to frame parking bays and visually narrow the roadway along Somerset Street West and Preston Street, helping to calm traffic and improve pedestrian visibility.
- Additional curb extensions are located at intersections along Rochester Street, including the intersection with Somerset Street West, to shorten crossing distances and enhance pedestrian safety.
- Speed humps are installed along Breezehill Avenue North to reduce vehicle speeds in residential areas.
- Speed cushions are implemented on Bayswater Avenue, just south of Somerset Street West, serving a similar traffic calming function while maintaining emergency vehicle accessibility.
- Curb extensions are also present on Bayview Station Road at Wellington Street West, further enhancing pedestrian crossings in that area.

1.1.2.6 Traffic Volumes

The City provided Turning 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, as outlined in both the 2013 TMP and the Transportation Trends Report for the New TMP. 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. See **Figure 9** for existing traffic data.

The pedestrian and cyclist traffic for the study intersections are shown in **Figure 10** and **Figure 11**. It should be noted that the cycling and pedestrian counts on Preston Street at Oak Street may underrepresent actual conditions as the counts at this intersection were conducted in the month of December, when pedestrian and cycling volumes tend to be lower.

See **Appendix B** for traffic data provided by the City.



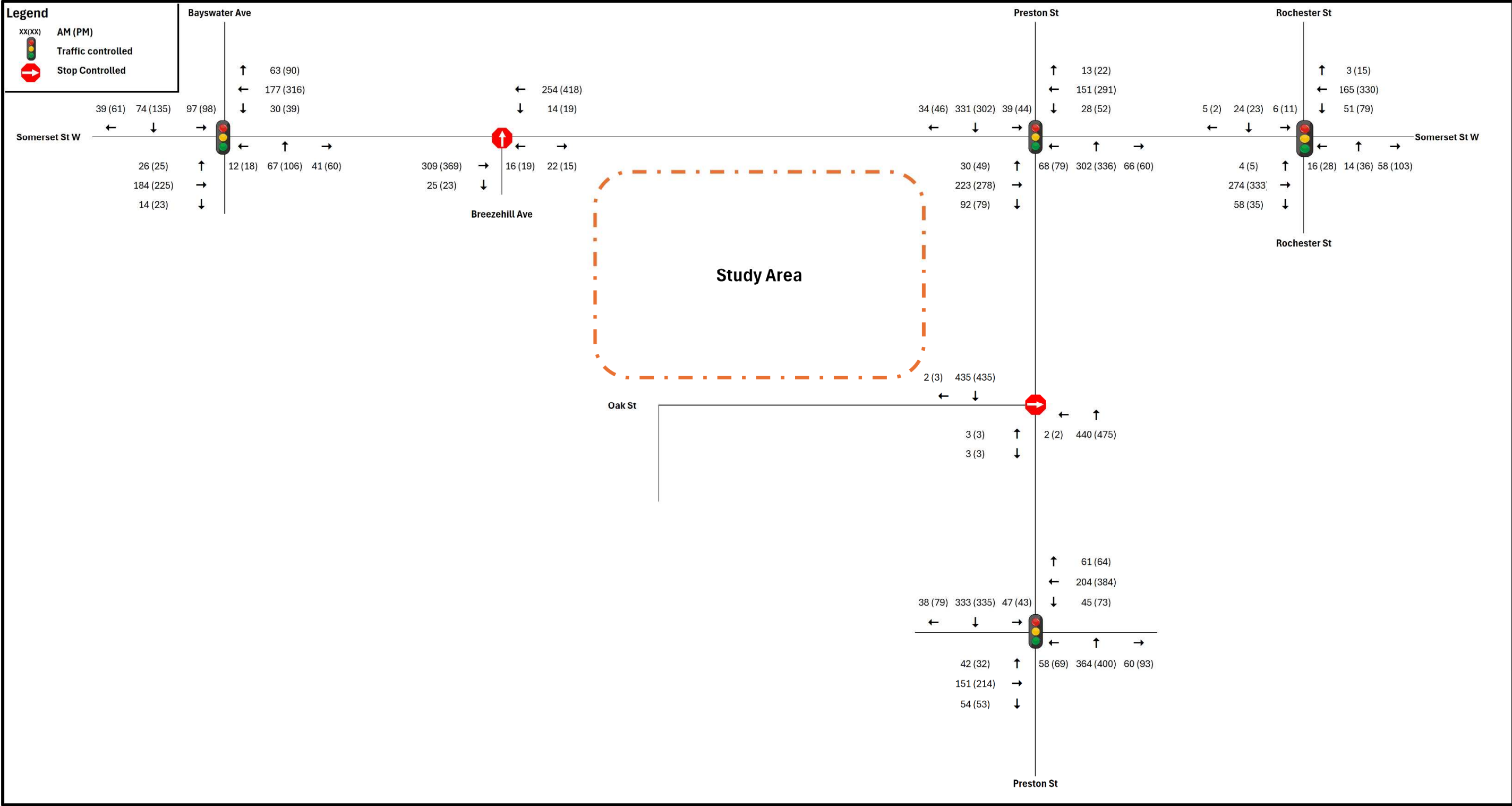


Figure 9: Existing Traffic Volumes



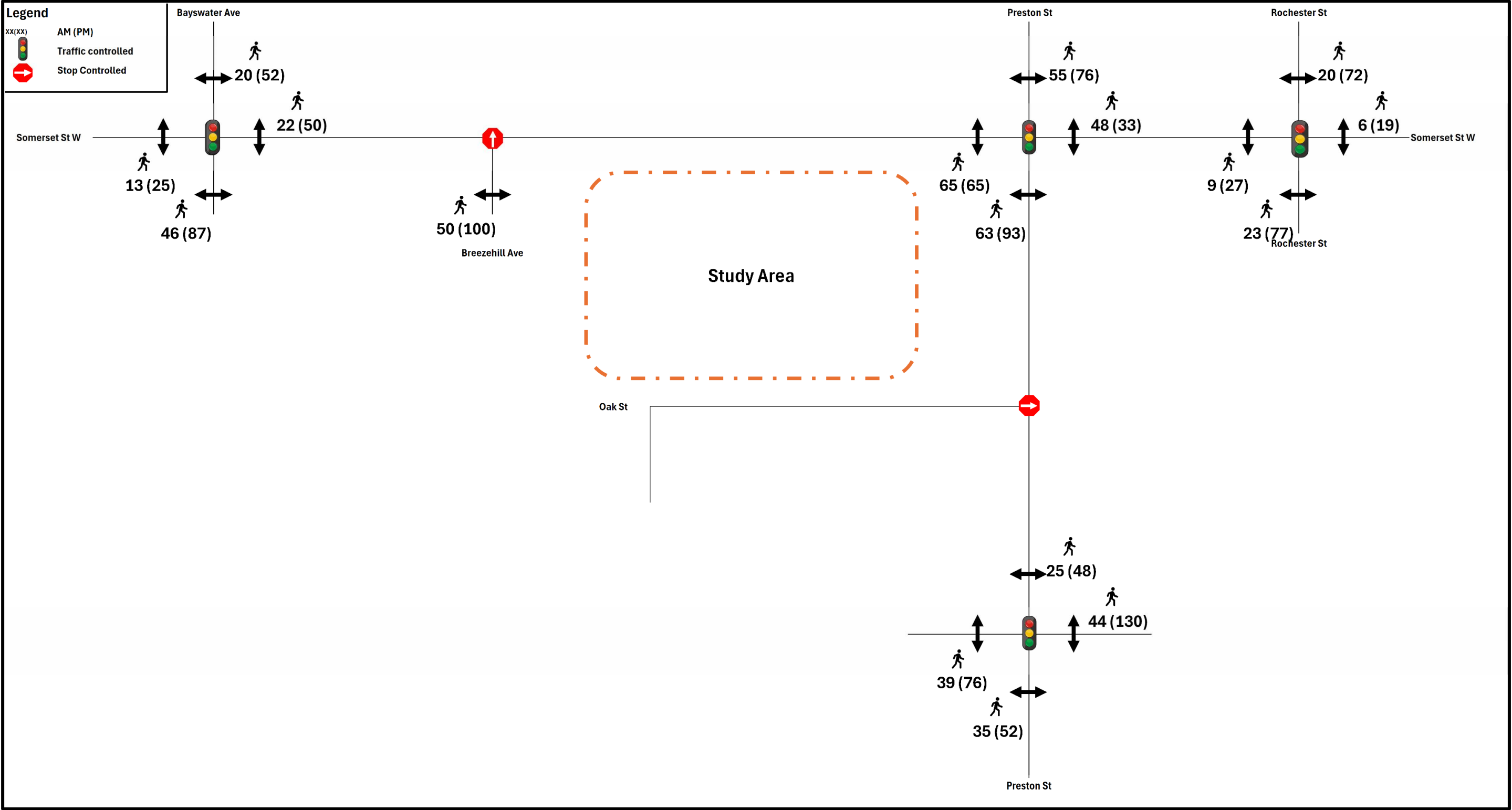


Figure 10: Existing Pedestrian Traffic



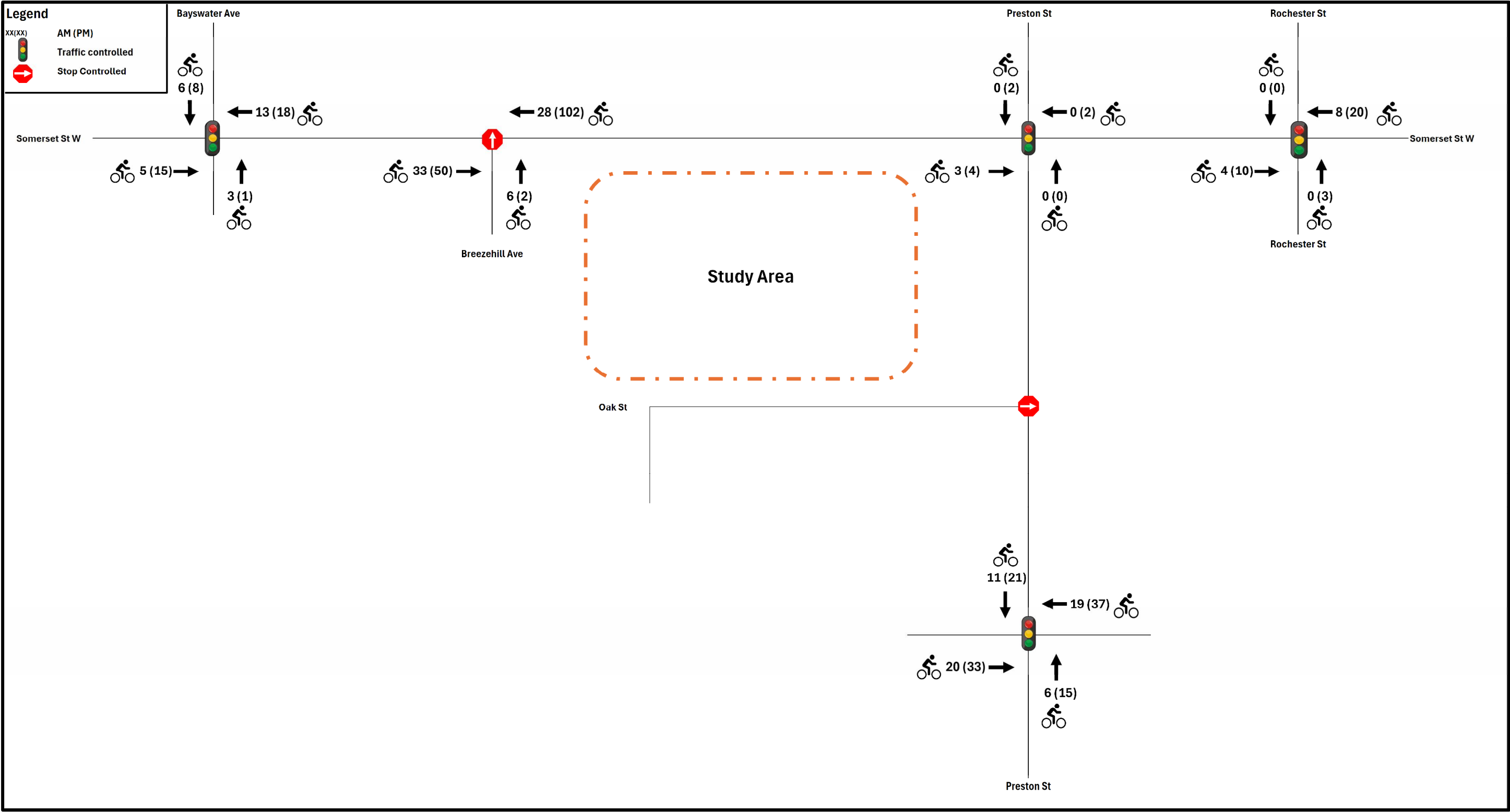


Figure 11: Existing Cyclists Traffic



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 cyclists.

At the intersection of Somerset Street West and Preston Street, a total of 11 collisions were reported, accounting for 55% of all collisions within the study area. Of these incidents, 55% resulted in property damage only, while the remaining 45% involved non-fatal injuries. Turning movements were a factor in 6 of the 11 collisions (55%), with majority of collisions attributed to drivers failing to yield to vehicles with the right-of-way. Two (2) collisions involved pedestrians: one where a pickup truck making an eastbound left turn struck a pedestrian crossing the intersection (assumedly crossing east-west on the north crosswalk), and another where a municipal transit bus traveling southbound collided with a pedestrian, likely attempting to cross east-west. One (1) collision involved a cyclist, in which a pickup truck turning right from the northbound approach struck an eastbound cyclist.

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, as there are no cycling facilities along this stretch of Somerset Street West. See **Table 2** and

Table 3 for collision data on Somerset Street West and between different modes. See **Appendix C** for the collision data



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: Collision Data by Mode

Vehicle Type (caused by/with)	Cars	Motorcycle	Pick-up truck		Delivery van	Cyclists	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 TMP's Needs Based Road Network, Preston Street is anticipated to be extended north of Albert Street, where the road may be extended as a bridge, carrying vehicles, pedestrians and cyclists over the O-Train tracks. It should be noted that the Transportation Impact Assessment for the LeBreton Flats development north of the site recommended the removal of the Preston Street extension from the Official Plan, as the extension would result in 'diverted demand', drawing more traffic to the corridor, especially the residential neighbourhood north of the 1010 Somerset site. The LeBreton Flats development proposed that the extension of Preston Street be used as only an active transportation extension, which would provide modal filtering through the site, and greatly reduce costs to build the bridge. This would provide residents and users of 1010 Somerset with an improved active transportation across two barriers (O-Train Line 1, and the aqueduct that runs through the site).

As part of the 1040 Somerset development to the west, there are planned transportation improvements at the intersection of Somerset Street West and Breezehill Avenue, including the installation of new traffic signals, the addition of a dedicated westbound left turn lane on Somerset Street West, and the introduction of marked pedestrian crossings to enhance safety. A painted center median is also proposed on the west approach to better organize traffic flow and minimize conflicts. Construction is expected to begin in 2025 in coordination with adjacent infrastructure work.

1.1.3.2 Future Active Transportation Network

The following active transportation infrastructure improvements 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 Gladstone Village development, is identified in the Corso Italia Station District Secondary Plan as a key active transportation connection. This connection will provide 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. Section 5.2 (13) of the secondary plan directs that future development must provide a staircase linking pedestrians from the City Centre Underpass Pathway directly to the south side of Somerset Street West. Section 5.2 (16) of the secondary plan further outlines that a new pedestrian and cycling route shall extend from the City Centre underpass, across the new 1.0-hectare park, connecting near the extended Oak Street to the southeast and to the Trillium Pathway to the west. The alignment of this route will be coordinated with park programming to support both recreational use and direct access to off-site destinations.
- An Active Transportation Corridor 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 feasibility study for this project has been identified for the First Phase of the City's New TMP.

- A new north-south MUP west of the O-Train corridor, continuing the route from south of the Highway 417 bridge to Somerset Street.
- The existing Trillium Pathway along the east side of the O-Train 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.
- Ottawa City Council has approved a feasibility study to explore the implementation of cycling facilities along Gladstone Avenue between Percy Street and Corso Italia Station. The study will examine options for dedicated cycling infrastructure, such as protected or painted bike lanes, to improve connectivity and safety for cyclists along this corridor. While the project is currently in the feasibility stage, it has been identified as a priority in the City's 2023 Transportation Master Plan. Further design work, public consultation, and funding approvals will determine the final form and timeline of the cycling improvements.

1.1.3.3 Future Transit Network

Several major transit infrastructure improvements around the area have already been implemented and are expected to influence future travel behaviour. These include the completion of the Stage 2 South Extension of the O-Train (Trillium Line) and the launch of OC Transpo's "New Ways to Bus" network, both of which are operational as of April 2025.

While no further transit infrastructure changes are planned within the immediate study area, major city-wide improvements are underway. O-Train Line 1 is anticipated to be extended eastward from Blair Station to the future Trim Station by 2026, adding 12.5 kilometres of rail and five new stations. To the west, Line 1 will be extended 15 kilometres to Moodie Station by 2027, with 11 new stations. These expansions will enhance regional connectivity and induce mode shift in the study area.

1.1.3.4 Future Background Developments

Table 4 below shows the proposed future background developments that may influence the traffic operations around the study area. **Figure 12** shows the location of the proposed development in reference to the subject site.



Table 4: 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 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
G	900 Albert Street	The proposed development is anticipated to consist of three (3) high-rise residential buildings with 1,632 units, 10,864 m ² of commercial ground-floor retail, and 17,442 m ² of office space.	2028
H	979 Wellington Street	The proposed development consists of a mixed-use building with 252 residential units, 8,498 ft ² of ground floor commercial space, and 151 underground parking spaces.	2025
I	50 Bayswater Avenue and 1088 Somerset Street	The proposed development will consist of new 15-storey building extension of the existing residential tower with 80 additional units and 2,316 ft ² of commercial space, along with a new six-storey mixed-use building providing 21 units and 1,027 ft ² of commercial space.	2028



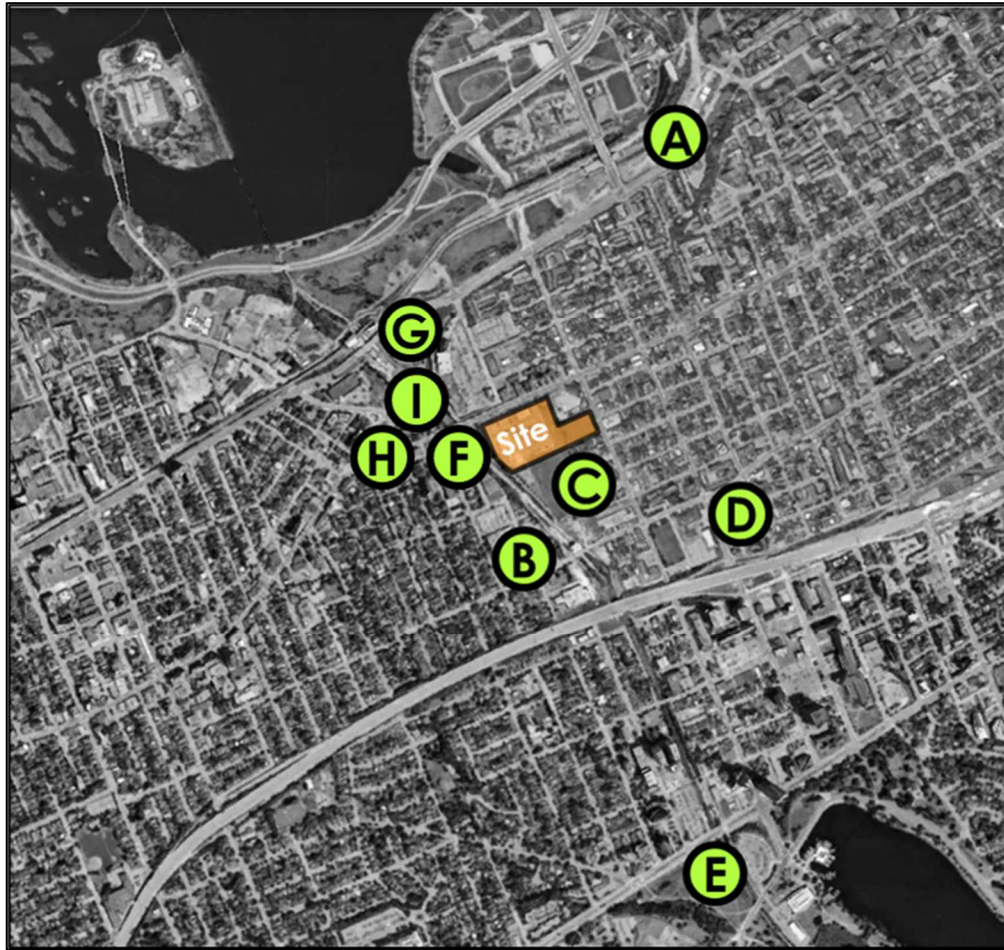


Figure 12: Background Development around the Study Area

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. Somerset Street West and Breezehill Avenue (unsignalized)
6. Preston Street and Gladstone Avenue (signalized)
7. Proposed site access on Somerset Street West (Access 1)
8. Proposed site access for the Recreational and Cultural facility and the elementary school (Access 2)

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 Ottawa Community 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	Not 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	Not 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 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.

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 data for Ottawa Centre district. Due to proximity to two O-Train stations, mode share for transit was increased by reallocating some percentage of trips from walking to transit. This data incorporates the influence of developments near rapid transit.

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 TRANS Trip Generation Manual. For the residential land uses, blended person trip-rates for Multi-Unit (High-Rise) were utilized from Table 3 of the TRANS Trip Generation Manual in conjunction with the entering and exiting rates from ITE to estimate the AM and PM peak period trips. The person trips were then 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, to adjust the residential trip generation rates from peak period to peak hour. This conversion factor was applied after the application of modal shares.

The following sections break the trip generation down by phases.



2.1.1.1 Trip Generation – Phase 1

Since the development will first comprise build-out of the elementary school, only trips generated by the elementary school were included in the analysis of Phase 1. **Table 5** shows the ITE trips generated by the elementary school and the associated person trip conversion. It should be noted that due to the lack of parking for the school, the number of trips 'entering' will equal the trips 'exiting' the school and were analyzed as such (see **Table 7**).

Table 5: Phase 1 (Elementary School) – Trip Generation

Land-Use	LUC	Source	Units / Employees / GFA / students (1000's SF)	AM Peak Period		Total	PM Peak Period		Total	
				Entry	Exit		Entry	Exit		
Elementary School	LUC-520	ITE	537	Students	215	182	397	40	46	86
		Person Trip Conversion				1.28				
		Total Person Trips				275	233	508	51	59

Approximately 48% of student trips generated by the elementary school are expected to be made by school bus, while 22% are anticipated to be auto passenger trips. As elementary students cannot drive, these trips were added to the network, as they can be considered new trips generated destined to the site. It should be noted that the school trips are much lower in the PM peak hour, as elementary school generally ends before the PM peak hour. Based on a conservative analysis that school buses will be 80% full, it is anticipated that five (5) school buses will serve the school during the peak hours.

Table 6: Phase 1 (Elementary School) – Modal Share

LUC	Land Use	Mode	AM Peak Hour				PM Peak Hour			
			Trip Conversion	Entry	Exit	Total	Trip Conversion	Entry	Exit	Total
LUC-520	Elementary School	Auto Passenger	22%	61	51	112	22%	11	13	24
		School Bus	48%	5	5	10	48%	5	5	10
		Transit	6%	17	14	31	6%	3	4	7
		Active modes/other	24%	66	56	122	24%	12	14	26

Table 7: Phase 1 – Total Auto Trip Generation

Land Use	Units	AM Peak Hour			PM Peak Hour		
		Entry	Exit	Total	Entry	Exit	Total
Elementary School	537 Students	61	61	122	11	11	22

2.1.1.2 Trip Generation – Phase 2

Phase 2 of the development will include trips from the elementary school and the 150 Ottawa Community Housing residential units. **Table 8** shows the anticipated person trip generated by the residential units in the AM and PM peak period in Phase 2.



Table 8: Phase 2 (Residential Units) – Trip Generation

Land-Use	LUC	Source	Units / Employee s / GFA / students (1000's SF)	AM Peak Period		Total	PM Peak Period		Total
				Entry	Exit		Entry	Exit	
				Total AM trips * 0.31	Total AM Trips * 0.69	Units * 0.8	Total PM trips * 0.58	Total PM Trips * 0.42	units * 0.9
Residential - High-Rise	221 & 222 - Multi- Unit (High Rise)	TRANS Trip Gen Manual	150 Units	37	83	120	78	57	135

The residential mode share for high-rise multifamily housing for Ottawa Centre district was applied to the residential trips to determine the mode-specific peak period person trip generation. The peak period trips were then converted to peak hour trips by applying the rates from Table 4 of the TRANS Trip Generation Manual. **Table 9** shows the modal share and the peak period-to-hour conversion for the residential units in Phase 2.

Table 9: Phase 2 (Residential Units) – Modal Share

LUC	Land Use	Units	Mode	AM Peak Hour				PM Peak Hour			
				Trip Conversion	Entry	Exit	Total	Trip Conversion	Entry	Exit	Total
			Auto Driver	18%	7	15	22	17%	13	10	23
			Auto Passenger	2%	1	2	2	9%	7	5	12
			Transit	40%	15	33	48	40%	31	23	54
			Cycling	1%	0	1	1	1%	1	1	1
			Walking	39%	14	32	47	33%	26	19	45
221 & 222	Multi-Unit (High Rise)	150	Peak Period to Peak Hour Conversion								
			Auto Driver	0.48	3	7	10	0.44	6	4	10
			Auto Passenger	-	1	2	3	-	7	5	12
			Transit	0.55	8	18	26	0.47	15	11	26
			Cycling	0.58	0	0	0	0.48	0	0	0
			Walking	0.58	8	19	27	0.52	13	10	23

Table 10 illustrates the total auto trips generated in Phase 2.



Table 10: Phase 2 – Total Auto Trip Generation

Land Use	Units	AM Peak Hour			PM Peak Hour		
		Entry	Exit	Total	Entry	Exit	Total
Elementary School	537 Students	61	61	122	11	11	22
Multi-Unit (High Rise)	150	3	7	10	6	4	10
TOTAL		64	68	132	17	15	32

2.1.1.3 Trip Generation – Phase 3

Phase 3 of the development will introduce the remaining 150 market-rate high-rise residential units of the total 300 units, doubling the number of trips generated by the residential units in Phase 2 of the development. This portion of the development follows the same trip generation process illustrated in **Table 8** and **Table 9**. **Table 11** shows the total trips generated by Phase 3.

Table 11: Phase 3 – Total Trip Generation

Land Use	Units	AM Peak Hour			PM Peak Hour		
		Entry	Exit	Total	Entry	Exit	Total
Elementary School	537 Students	61	61	122	11	11	22
Multi-Unit (High Rise)	300	6	14	20	12	8	20
TOTAL		67	75	142	23	19	42

2.1.1.4 Trip Generation – Phase 4

Phase 4, the final phase of the development, will comprise build-out of the recreational and cultural centre. **Table 12** shows the ITE trips generated by the recreational and cultural centre and the associated person trip conversion. Since recreation trips are not accounted for in the TRANS Trip Generation Manual, it was assumed that the mode share for the recreation centre would mostly closely resemble the mode share for school trips. This is due to the similarities between schools and recreation centres, as they tend to be focused on the immediate community (increasing sustainable trips) and tend to be focused on younger age groups. As the mode shares for schools do not include Auto Driver, a comparison against the Commercial Mode Share for Ottawa Centre district in the PM Peak was used to determine Auto Driver and Auto Passenger. The Ottawa Centre district was used as it more closely resembles the sustainable nature of modes likely to use a facility next to a major transit station, and the PM peak hour is the time period most common for recreational trips. Thus, the mode shares illustrated in **Table 13** were used for the recreation centre.

Table 12: Phase 4 (Recreational Centre) – Trip Generation

Land-Use	LUC	Source	AM Peak Period	Total	PM Peak Period	Total
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		GFA (1000's SF)	Entry	Exit		Entry	Exit		
Recreational and Cultural Community Centre	LUC-495	ITE	110	139	71	210	129	146	275
		Person Trip Conversion							1.28
		Total Person Trips		178	91	269	165	187	352

Table 13: Phase 4 (Recreational Centre) – Modal Share

LUC	Land Use	GFA (1000's SF)	Mode	AM Peak Hour				PM Peak Hour			
				Trip Conversion	Entry	Exit	Total	Trip Conversion	Entry	Exit	Total
495	Recreational and Cultural Community Centre	110	Auto Driver	20%	36	18	54	20%	33	37	70
			Auto Passenger	12%	21	11	32	12%	20	22	42
			Transit	44%	78	40	118	44%	73	82	155
			Cycling	19%	34	17	51	19%	31	36	67
			Walking	5%	9	5	13	5%	8	9	18

Table 14 shows the total auto trips generated in Phase 4 of the development.

Table 14: Phase 4 - Total Auto Trip Generation

Land Use	Units	AM Peak Hour			PM Peak Hour		
		Entry	Exit	Total	Entry	Exit	Total
Elementary School	537 Students	61	61	122	11	11	22
Multi-Unit (High Rise)	300	6	14	20	12	8	20
Recreational Centre	110,000 GFA	36	18	54	33	37	70
TOTAL		103	93	196	56	56	112

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. It is noted that a portion of eastbound trips originating from the subject site will access Highway 417 via the Parkdale Avenue on-ramp. As a result, 20% of eastbound trips have been assigned to travel west along Somerset Street West to reach Parkdale Avenue. Table 15 presents the trip distribution for the residential development.

Given that the elementary school and recreational community centre are expected to primarily serve the surrounding neighbourhoods, their trip distribution is anticipated to be more localized. Table 16 illustrates the distribution for the elementary school and recreational centre. It should be noted that all school trips entering Oak Street are anticipated to exit south on Gladstone Avenue via the future Oak Street extension through the Gladstone Village development and distributed accordingly, as U-turns will not be permitted around the school due to safety concerns.



Table 15: Directional Trip Distribution – Residential Development

Distribution Direction	Distribution	Out Assignment		In Assignment	
Quebec (Île de Hull, Hull Périphérie)	13%	80%	Via Preston North	100%	Via Preston North
		20%	Via Somerset East	0%	Via Somerset East
Ottawa Centre/Ottawa East/Beacon/Orleans	52%	25%	Via Preston North	25%	Via Preston North
		30%	Via Somerset East	25%	Via Somerset East
		25%	Via Gladstone East	50%	Via Gladstone East
		20%	Via Somerset West	0%	Via Somerset West
Alta Vista	16%	60%	Via Preston South	60%	Via Preston South
		40%	Via Gladstone East	40%	Via Gladstone East
Ottawa West/Merivale	19%	100%	Via Somerset West	100%	Via Somerset West

Table 16: Directional Trip Distribution – Elementary School & Recreational Centre

Land Use	Direction	Trip Distribution		In Assignment		Out Assignment	
Elementary School	North	10%	50%	Via Bayswater Avenue	50%	Via Bayswater Avenue	
			50%	Via Preston Street	50%	Via Preston Street	
	South	35%	29%	Via Bayswater Avenue	29%	Via Bayswater Avenue	
			29%	Via Breezehill Avenue	29%	Via Breezehill Avenue	
			42%	Via Preston Street	42%	Via Preston Street	
	East	25%	20%	Via Somerset Street West	20%	Via Somerset Street West	
			80%	Via Gladstone Avenue	80%	Via Gladstone Avenue	
	West	30%	33%	Somerset Street West	33%	Somerset Street West	
67%			Gladstone Avenue	67%	Gladstone Avenue		
Recreation Centre	North	20%	25%	Via Bayswater Avenue	25%	Via Bayswater Avenue	
			50%	Via Preston Street	50%	Via Preston Street	
			25%	Via Rochester Street	25%	Via Rochester Street	
	South	30%	33%	Via Bayswater Avenue	33%	Via Bayswater Avenue	
			17%	Via Breezehill Avenue	17%	Via Breezehill Avenue	
			33%	Via Preston Street	33%	Via Preston Street	
			17%	Via Rochester Street	17%	Via Rochester Street	
	East	25%	80%	Via Somerset Street West	80%	Via Somerset Street West	
			20%	Via Gladstone Avenue	20%	Via Gladstone Avenue	
	West	25%	80%	Somerset Street West	80%	Somerset Street West	
20%			Gladstone Avenue	20%	Gladstone Avenue		

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 **section 2.1.2** above. **Figure 13 to Figure 16** below depicts the total site-generated trips for the proposed development during the AM and PM peak hours.



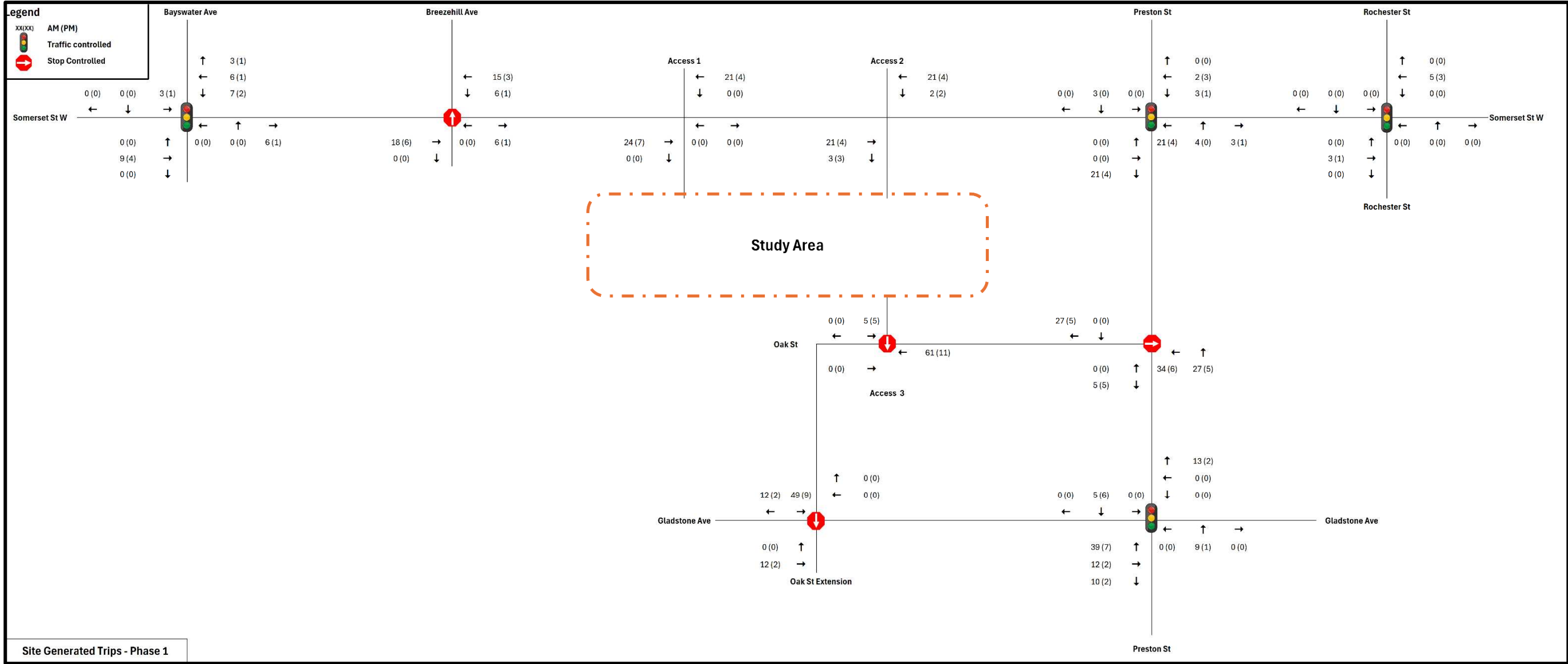


Figure 13: Site Generated Trips – Phase 1



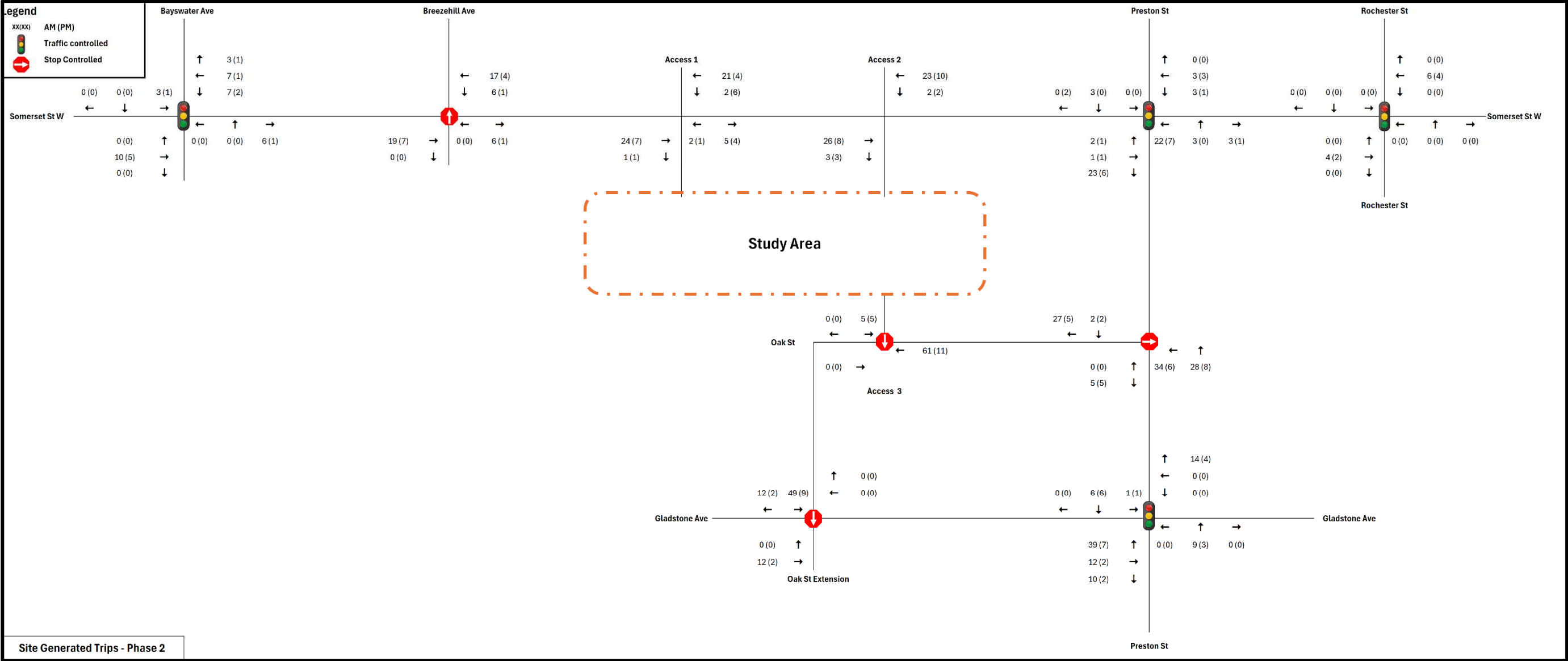


Figure 14: Site Generated Trips – Phase 2



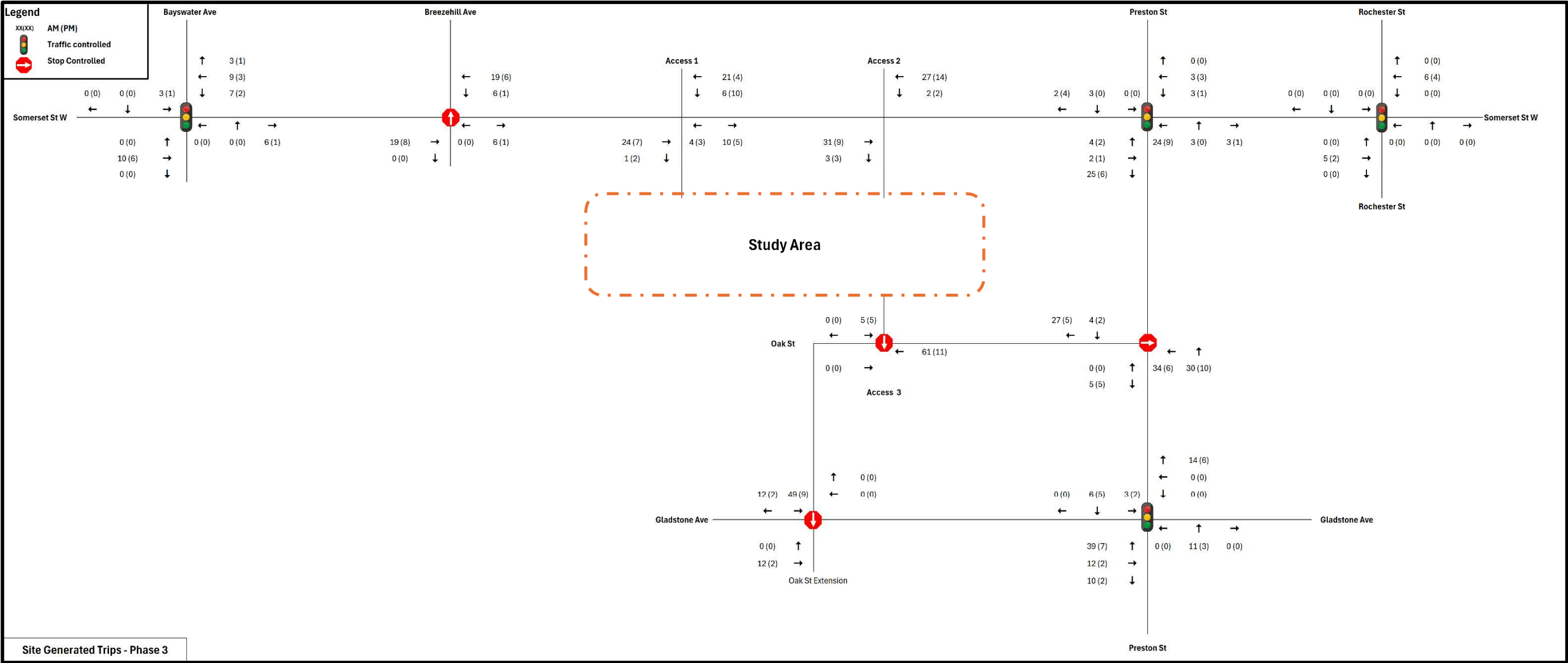


Figure 15: Site Generated Trips – Phase 3



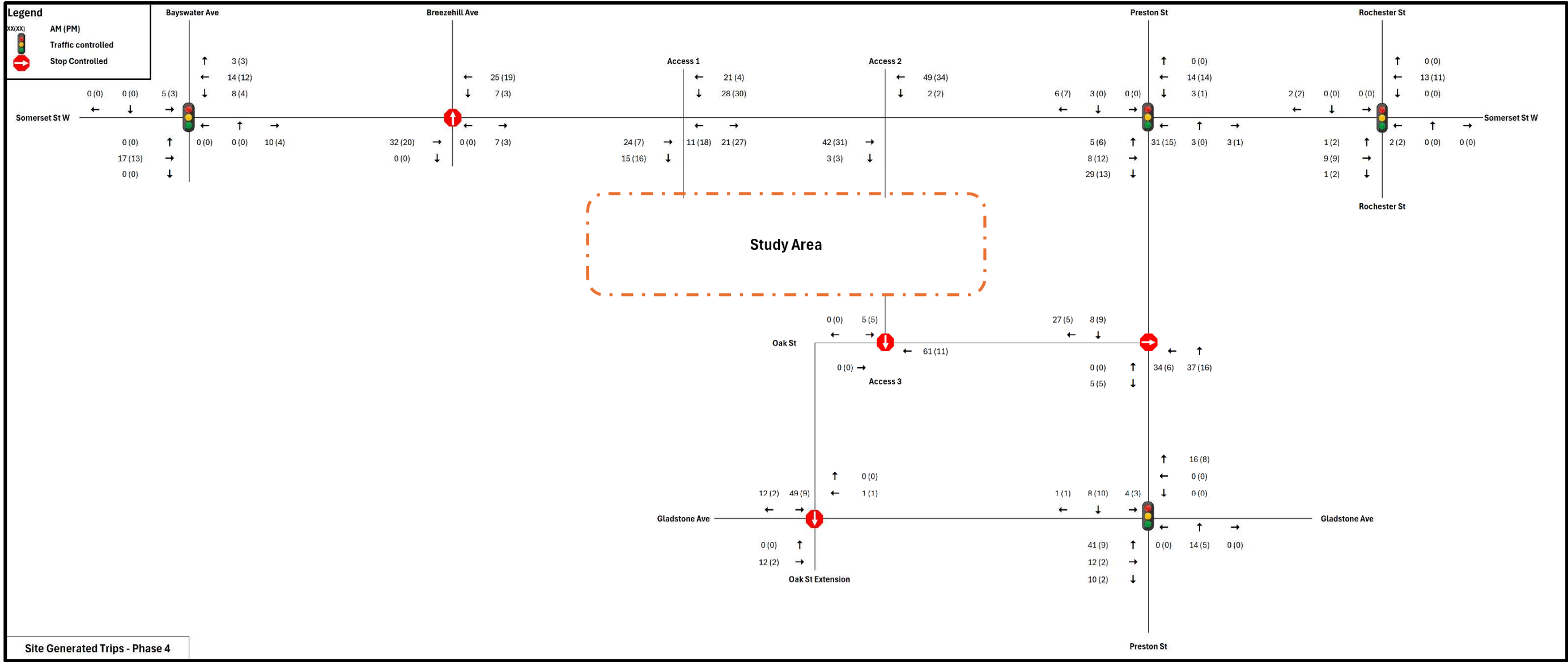


Figure 16: Site Generated Trips – Phase 4



2.2 Background Network Travel Demand

2.2.1 Transportation Network Plans

As outlined in Section 1.1.3 of this report, several major transportation infrastructure projects are expected to impact mode share within the study area. These include the southward extension of O-Train 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 1.1.2.6, no annual growth rate has been applied to existing traffic volumes, as the site is located within the downtown core where traffic volumes have been consistently declining. This trend is largely attributed to the area's strong transit and active transportation infrastructure. According to the City's 2024 Transportation Trends Report, daily trips decreased by 0.7 percent between 2011 and 2022, with a shift toward shorter and more localized travel. Given the site's central and transit-supportive setting, along with ongoing changes in travel behavior such as increased remote work, applying a background growth rate would likely overestimate future traffic volumes. Any forecasted growth in traffic is expected to be a result of specific planned developments in the area, which is discussed further in Section 2.2.3.

2.2.3 Other Area Development

As outlined in **Table 17** 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. **Figure 18**, **Figure 19**, and **Figure 20** show the background volumes for each phase of the development.

Table 17: Background Developments

Location	Description	Build-Out Horizon
550 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
615 Albert St		Phase 2 – 2040
825 Albert St		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 is a 30-storey mixed-use building and will provide 268 units, 141 m ² of commercial/retail floor space, and 191 underground parking spaces.	2025
989 Somerset Street	The proposed development consists of 127 residential condominium units and approximately 1,409 square metres (15,169 square feet) of commercial and general retail space. As the TIA for this development anticipated trip distribution primarily via Albert Street and City Centre Avenue, which are outside the study area of this TIA, its' traffic was not included as part of the background traffic.	2027

2.2.3.1 Gladstone Village Development

The Gladstone Village development is a major mixed-use project proposed by Ottawa Community Housing Corporation, situated south of the 1010 Somerset site, north of Gladstone Avenue between Preston Street and the O-Train Line 2 corridor. The development includes a mix of residential and non-residential components, featuring 206 townhome units, 176 mid-rise residential units distributed across



three 8-storey buildings, and 687 high-rise residential units housed within four towers ranging from 18 to 30 storeys. Additionally, approximately 100,000 square feet of commercial, retail, and institutional space, along with 100,000 square feet of office space, are proposed to support a vibrant, transit-oriented community.

The internal road network will be centered around Oak Street, which will act as the main spine road connecting Preston Street to Gladstone Avenue through the development. A secondary access is proposed at Balsam Street, and a future connection to Larch Street may be explored. Oak Street will include sidewalks on both sides, pedestrian crossings, and internal pathways to enhance walkability and circulation within the site. A woonerf design is also proposed between the townhome blocks to support local access and services, such as waste collection.

The development is strongly aligned with the City's active transportation goals. It will integrate with the adjacent Trillium Pathway, providing multiple pedestrian and cycling access points. A future pedestrian bridge over the Trillium Line is under consideration for Laurel Street, offering improved connectivity across the corridor. To further enhance pedestrian safety and accessibility, a new pedestrian crossover (PXO) is being considered at the intersection of Preston Street and Laurel Street, linking the internal path network with the surrounding community.

Figure 17 illustrates the site plan for Gladstone Village.





Figure 17: Gladstone Village – Site Plan



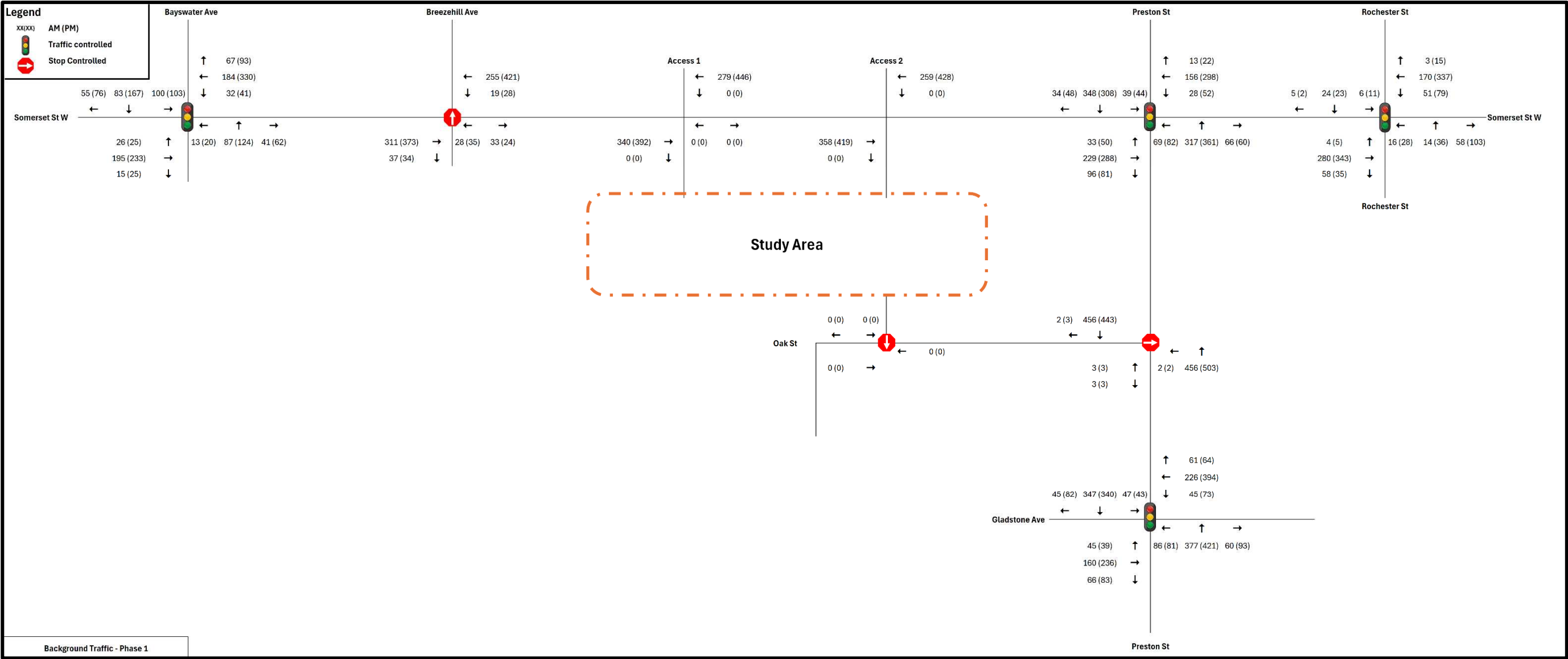


Figure 18: Background Traffic – Phase 1



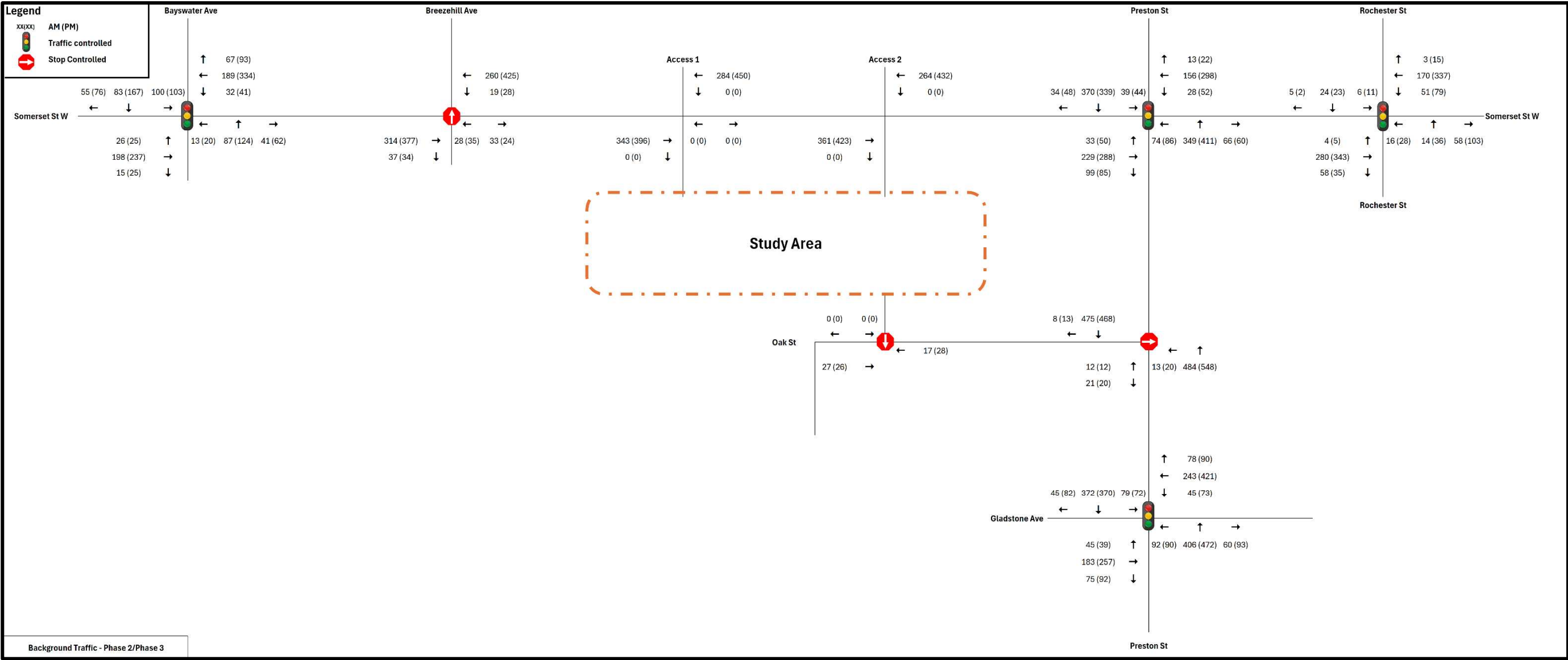


Figure 19: Background Traffic – Phase 2 & Phase 3



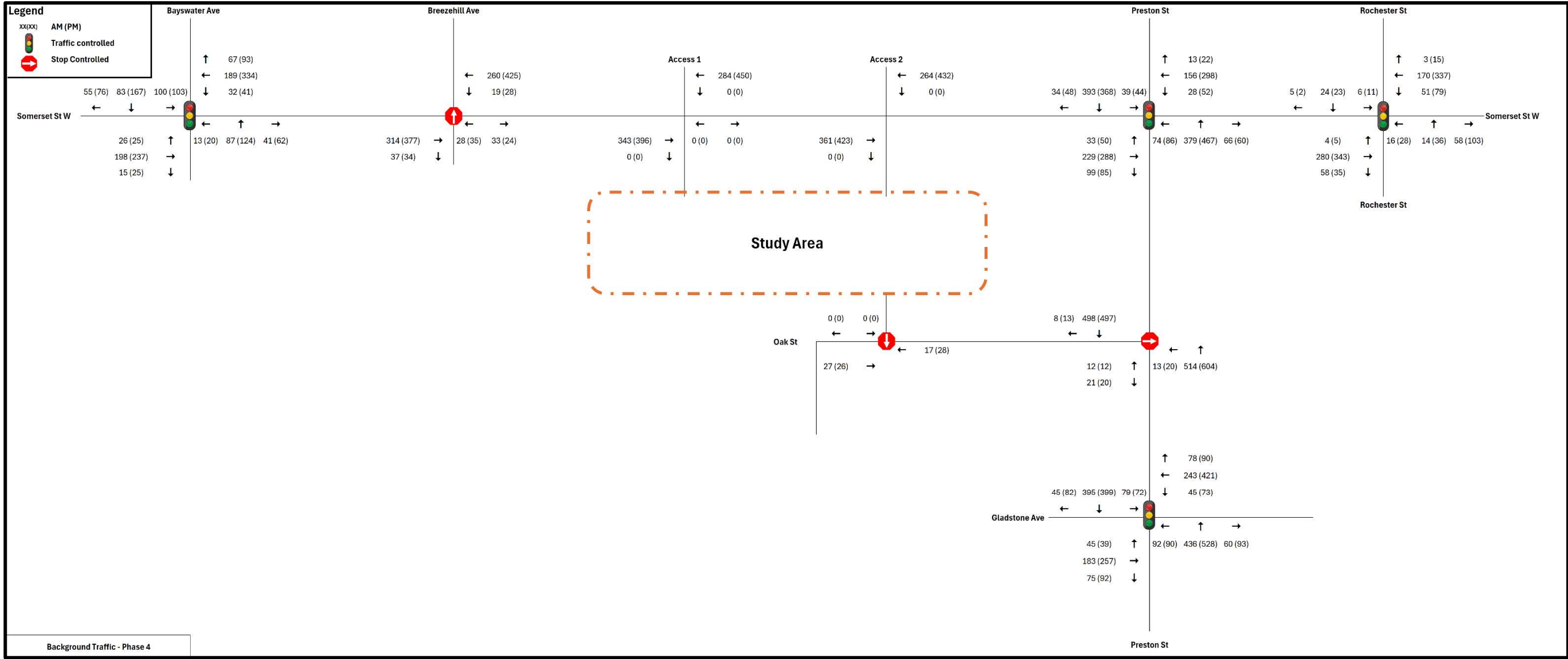


Figure 20: Background Traffic – Phase 4



2.3 Demand Rationalization

Existing peak hour traffic volumes along Somerset Street West and Preston Street range between 300 and 400 vehicles per hour, while volumes along Gladstone Avenue are slightly higher, ranging from 400 to 500 vehicles per hour.

No annual background growth rate has been applied, as outlined in Section 2.2.2. As such, the only increase in traffic volumes is expected to result from nearby background developments.

Traffic from these developments is anticipated to add approximately 20 to 30 vehicles per hour to Somerset Street West, about 120 to 130 vehicles per hour to Preston Street between Albert Street and Gladstone Avenue, and 30 to 50 vehicles per hour along Gladstone Avenue between Rochester Street and Booth Street. These increases are modest and are not expected to result in significant operational impacts. Accordingly, the proposed travel demand assumptions are considered appropriate for this study.



3 Strategy Report

3.1 Development Design

3.1.1 Design for Sustainable Modes

The design of the proposed development will align with City of Ottawa 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 21** illustrates existing transportation infrastructure external to the development which are supportive of sustainable modes of transportation and are further described in Section 3.2 (Parking), Section 3.3 (Boundary Street Design), Section 3.4 (Transportation Demand Management) and Section 3.5 (Transit).

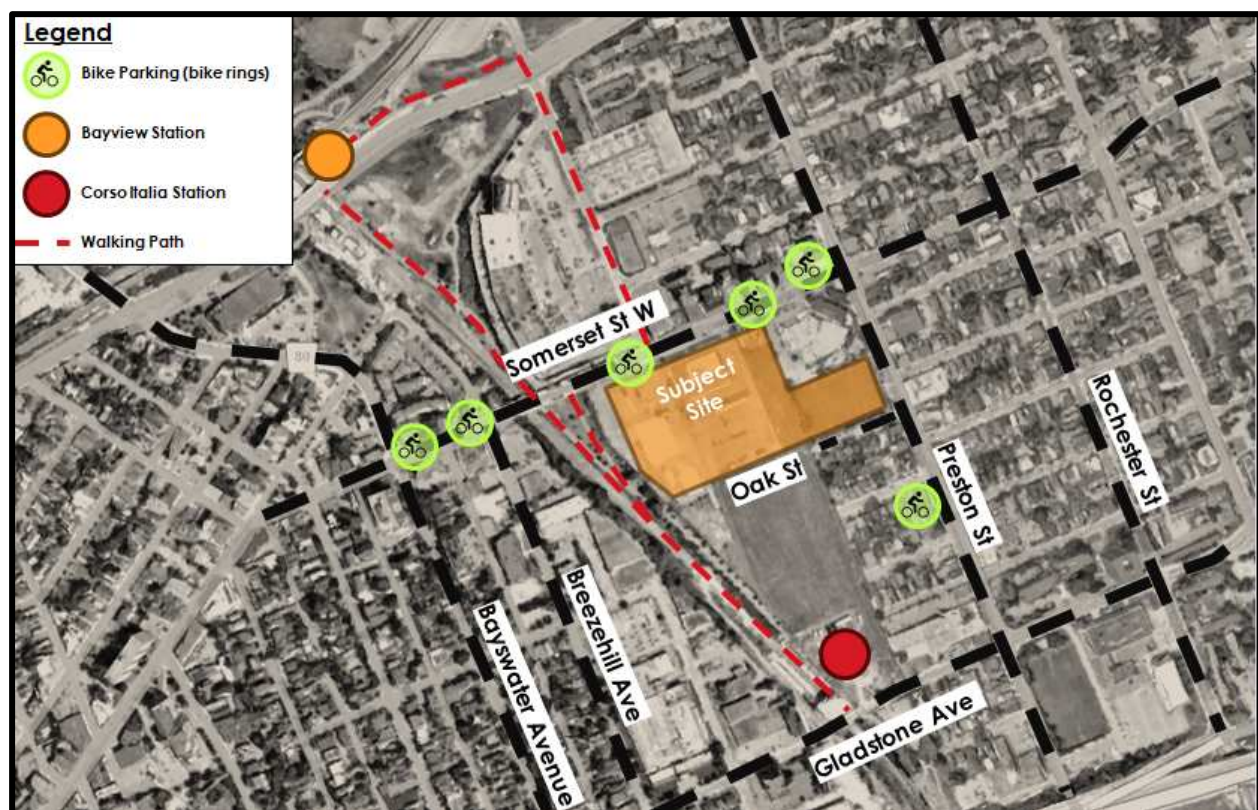


Figure 21: Design for Sustainable Modes - Existing Infrastructure

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



- **Parking Areas (see Section 3.2):**
 - » All vehicle parking for the development will be located underground, aligning with City of Ottawa zoning guidelines, which discourage or prohibit surface parking in the downtown and Inner Urban areas to promote compact, walkable communities.
 - » 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. Bicycle parking will be accommodated through a combination of in-building storage, underground facilities, and at-grade racks located near primary entrances, providing convenient and secure options for both residents and visitors. 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 3.3):**
 - » 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 3.4):**
 - » 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 3.5):**
 - » Multiple transit stops with interconnection options to other municipal transit routes are located in proximity to the site and will be accessible via a fulsome internal active transportation network with adequate connectivity to the transit stops.

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:

- **Access 1 on Somerset Street West**, approximately 190 metres west of the existing signal at Preston Street, and approximately 250 metres east of the future signal at Breezehill 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 access (Access 2) 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 school bus access for the future school.

- **Access 3 on Oak Street**, approximately 100 metres west of Preston Street. This access will function as the school bus exit point for the future school.

3.1.2.2 Vehicular Circulation

All roads internal to the development will accommodate two-way travel with one lane per direction, except for the access laneway connecting Somerset Street West and Oak Street. This laneway is anticipated to operate as a one-way southbound route designated exclusively for school bus use. 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 Access 1 on Somerset Street West.
- Service vehicles for the future recreation and cultural facility will access the site via Access 2 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 Access 2 on Somerset Street West and exit via Access 3 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, which have been highlighted previously in this report:

- At Trillium Pathway 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 Access 1 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 Access 3 at the south frontage of site; and
- At Oak Street along the west side of the proposed school at the south frontage of site.
- A sidewalk will be added on the north side of Oak Street as part of the Site Plan Application for the school.
- Sidewalks will be provided on both sides of the internal streets, with the exception of the east side of the bus drop-off loop. Due to limited space adjacent to Plouffe Park, constructing a sidewalk in this location would require modifications to the park, which have been deemed unacceptable.

3.1.2.4 Active Transportation Circulation

The plan shown in Figure 1 is currently conceptual in nature, 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

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.



3.1.3 Neighbourhood Traffic Calming

Given that Oak Street is a local road serving a future school, park, and the Gladstone Village residential development, there is an expectation of increased pedestrian activity and a higher presence of vulnerable road users. The projected future traffic volumes include 82 entering and 38 exiting vehicles in the AM peak hour, and 44 entering and 37 exiting in the PM peak hour. This results in two-way volumes of 120 vehicles in the AM and 81 in the PM. These volumes account for site-generated traffic from Gladstone Village.

According to the City of Ottawa's Transportation Impact Assessment (TIA) Guidelines, local roads are generally expected to carry fewer than 120 vehicles per hour during peak periods. The projected AM volume meets this threshold, while the PM volume remains below it. Although the volumes are within acceptable limits, Oak Street's role as an access point to several land uses justifies continued monitoring. The existing on-street parking north of Oak Street provides a passive traffic calming effect by narrowing the travel lane. However, given the expected increase in pedestrian and vehicle activity, the City may consider a future review or the implementation of traffic calming measures should operational or safety concerns arise.

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 18** outlines the required and proposed vehicle parking for the proposed development.

Table 18: Minimum Vehicle Parking Requirements

Land Use	Rate	Units/GFA	Parking Requirements	Proposed Parking
Residential	Residents: None Required Visitors: 0.1 per dwelling unit	100	10	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 10 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. However, Corso Italia Secondary Plan requires that the bicycle parking space provisions exceed the minimum parking threshold determined as per the By-Law, recommending one (1) space per dwelling unit. Therefore, 363 spaces are required to be allocated across the three land-uses. See **Table 19** 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 19: Minimum Bike Parking Requirement

Land Use	Rate	Units/GFA	Minimum Parking Requirements
Residential	1 per dwelling unit	300	300
Recreation Centre	1 per 1500 m2 of gross floor area	110,000 ft2 (10219 m2)	7
Elementary School	1 per 100 m2 of gross floor area	60,060 ft2 (5579 m2)	56
Total			363

3.3 Boundary Street Design

A Multi-Modal Level of Service (MMLOS) evaluation was conducted for Somerset Street West between Preston Street and the O-Train Line 2, 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. See **Appendix E** for the MMLOS Guidelines Excerpts.

The subject site is located within 600 metres of Bayview Station and 300m of Devonshire Public School and will have a future school on site. 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 20** shows the MMLOS results for Somerset Street West and Preston Street.

Table 20: MMLOS Segment Analysis

Segment	PLOS		BLOS		TLOS		TkLOS	
	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Somerset Street West (North across frontage)	A	A	E	B	D	D	C	D
Somerset Street West (South across frontage)	A	A	E	B	D	D	C	D
Preston Street (West across frontage)	A	A	E	D	D	D	B	D
Preston Street (East across frontage)	C	A	E	D	D	D	C	D

Somerset Street West and Preston Street currently do not meet the BLOS targets, which 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.

The east segment of Preston Street across the development frontage also falls short of achieving a target PLOS A which could be achieved by further separating sidewalks from traffic with the addition of landscaped 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. More detailed TDM information will be provided at future stages of the site plan application process. See **Appendix C** for the TDM-Supportive Development Design and Infrastructure Checklist.

3.4.1 Context for Post-Occupancy TDM Measures

The modal assumptions for the subject site for work, school, and residential trip purposes have been outlined in Section 2 above.

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.
 - » 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, the site is anticipated to generate 201 and 213 transit trips in the AM and PM peak hours, respectively. In the AM peak hour, 111 trips will be entering the site (i.e., alighting from transit) whereas 90 trips will be exiting the site (i.e., boarding transit at nearby bus and O-Train stops). In the PM peak hour, 106 trips will be entering the site (i.e., alighting from transit) whereas 107 trips will be exiting the site (i.e., boarding transit at nearby bus and O-Train stops).

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. Based on the Transportation Trends Report 2024 from the City's New TMP, it appears that of transit users in Ottawa Centre and Ottawa Inner Area, 74% take the bus, while 26% take the O-Train. However, this is based on the 2022 Origin-Destination Survey, which didn't include O-Train Line 2. So, it is likely that a significantly higher number of transit users from the 1010 Somerset site will use O-Train Line 2. Based on the same dataset from the Transportation Trends Report, the City-wide average is 58% of transit users take the bus, while 42% of users take the O-Train. This is likely closer to the split between bus and O-Train that will be observed for the 1010 Somerset site in the future.

With the split applied to the transit trips generated for the site, it is anticipated that in the AM peak hour there will be 64 new bus trips arriving within the vicinity of the site, and 52 new bus trips departing from the site. In the PM peak hour, there will be 61 bus trips arriving, and 62 bus trips departing from the site. With three transit routes in the area, as identified in Section 1.1.2.4, there are approximately 20 buses per hour serving the study area (four buses for Route 8 with 30-minute service, eight buses for Route 11 and Route 14 with 15-minute service). Therefore, it is estimated that Route 8 will see an increase of approximately 12 new riders in the peak hours, distributed across four buses (3 new riders per bus). Routes 11 and 14 will see an increase of approximately 26 new riders in the peak hours, distributed across eight buses (3 new riders per bus).

In the AM peak hour there will be 47 new trips arriving by O-Train, and 38 new trips departing by O-Train. Bayview Station and Corsa Italia Station are a similar distance from the site, but Bayview Station serves both Line 1 and Line 2, therefore it is assumed that 75% of O-Train trips will use Bayview Station, and 25% will use Corsa Italia Station. This results in 35 arrivals and 29 departures at Bayview Station, with 12 arrivals and 9 departures at Corsa Italia Station. In the PM peak hour there will be 45 new trips arriving by O-Train, and 45 new trips departing by O-Train. Of these, there will be 34 arrivals and 34 departures at Bayview Station, and 11 arrivals and 11 departures at Corsa Italia Station.

However, the impact of the additional demand will depend on the current capacity of transit services, which is unknown at the time of this study. If sufficient excess capacity exists, the increased ridership could be accommodated without adjustments to service.



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. 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. This will be challenging due to the constrained right-of-way and built-up nature of the existing road network.

3.6 Intersection Design

Table 21 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 21: Breakdown of the Multi-Phasal Analysis

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) • 900 Albert Street • 50 Bayswater Avenue and 1088 Somerset Street • 979 Wellington Avenue • 818 Gladstone Avenue (Rochester Village)
Phase 2	Background Volumes	• Elementary School • Ottawa Community Housing (150 Units)	• 1040 Somerset • 951 Gladstone Avenue And 145 Loretta Avenue • 930 Carling Avenue and 520 Preston Street (Ottawa Hospital) • 900 Albert Street • 50 Bayswater Avenue and 1088 Somerset Street • 979 Wellington Avenue • 818 Gladstone Avenue (Rochester Village) • LeBreton Flats Phase 1 (2030) • 933 Gladstone Avenue (Gladstone Village)
Phase 3	Background Volumes	• Elementary School • Ottawa Community Housing (150 Units)	• 1040 Somerset • 951 Gladstone Avenue And 145 Loretta Avenue



Phases	Road Network Volume	Site Generated Volume Land-use	Background Developments
		Market-Rate housing 150 Units)	930 Carling Avenue and 520 Preston Street (Ottawa Hospital) 900 Albert Street 50 Bayswater Avenue and 1088 Somerset Street 979 Wellington Avenue 818 Gladstone Avenue (Rochester Village) - LeBreton Flats Phase 1 (2030) 933 Gladstone Avenue (Gladstone Village)
Phase 4	Background Volumes	- Elementary School - Ottawa Community Housing (150 Units) - Market-Rate housing (150 Units) - Recreational & Community Centre	1040 Somerset 951 Gladstone Avenue And 145 Loretta Avenue 930 Carling Avenue and 520 Preston Street (Ottawa Hospital) 900 Albert Street 50 Bayswater Avenue and 1088 Somerset Street 979 Wellington Avenue 818 Gladstone Avenue (Rochester Village) - LeBreton Flats Phase 1 (2030) 933 Gladstone Avenue (Gladstone Village) - LeBreton Flats Phase 2 (2040)



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 access (Access 2) 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 two outbound lanes within the driveway, and no auxiliary turn lanes on Somerset Street West, as consistent with existing conditions.
 - While it is understood that traffic infiltration through the site may be a concern, there is not felt to be high potential of cut-through traffic through the Plant Recreation Centre parking lot. The design of the bus drop-off area does not align with the travelled lanes of the parking lot, forcing vehicles to make multiple turns to get through the site, slowing travel speeds. Additionally, westbound left turn lanes into Access 2 are not provided, making it less likely that drivers will want to use this as a cut-through, versus using the left turn lane at the Preston / Somerset intersection 100m to the east.
- Access 3 on Oak Street, approximately 100 metres west of Preston Street.
 - This access will function as the exit point for the future school, specifically for school buses.
 - Auxiliary turn lanes are not proposed at this access intersection, with two outbound lanes within the driveway, and no auxiliary turn lanes on Oak Street as consistent with existing conditions.

Phase 2 (Ottawa Community Housing)

- Access 1 on Somerset Street West, approximately 190 metres west of the existing signal at Preston Street, and approximately 250 metres east of the future signal at Breezehill Avenue.
 - This access will function as the general vehicular entry/exit point for the future residential development and the future recreation and cultural facility.

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 Signal Warrant Analysis

In accordance with the Ontario Traffic Manual (OTM) Book 12 - Traffic Signals, a Signal Warrant Analysis was carried out for Access 1 at Somerset Street West. The analysis considered various applicable factors, including projected future vehicle volumes and delays for cross traffic. Based on the analysis, signalization is not warranted at Access 1. The traffic volumes and crossing activity fall well below the thresholds typically required to justify a traffic signal. For example, the total traffic volume meets only about 59% of the required level, while volumes on the minor street are just 8% of what is needed. Similarly, other measures such as crossing delays and pedestrian activity also fall short, with compliance percentages ranging between 56% and 60%. Given these low levels, a traffic signal at Access 1 is not recommended. The results of Signal Warrant Analysis can be found in **Appendix F**.

3.6.3 Intersection Capacity Analysis Methodology

The intersection capacity analysis 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 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 22**).
- 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 22: 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. See **Appendix G** for the Synchro analysis results.

3.6.4 Existing Intersection Controls

The intersections of Somerset Street West at Bayswater Avenue, Somerset Street West at Preston Street, Somerset Street West at Rochester Street, and Preston Street at Gladstone Avenue are signalized, whereas the intersections of Preston Street at Oak Street, and Somerset Street West at Breezehill Avenue are unsignalized. With the exception of Somerset Street West at Breezehill Avenue (which is being signalized as part of the 1040 Somerset Street development, as previously noted), 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.

3.6.5 Existing Conditions

3.6.5.1 MMLOS Analysis

An MMLOS analysis was conducted to evaluate the current performance of various transportation modes at each study signalized intersection under existing conditions. The vehicle analysis conducted using Synchro instead of MMLOS, will be discussed in the subsequent sections. **Table 23** presents the results of the MMLOS for pedestrians, cyclists, transit, and trucks at the existing study intersections.



Table 23: 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	E	D	E	F
	Target	A	B	D	D
Somerset Street West and Preston Street	Actual	D	E	D	F
	Target	A	B	D	D
Somerset Street West and Rochester Street	Actual	D	C	D	F
	Target	A	B	D	D
Preston Street and Gladstone Avenue	Actual	D	E	F	F
	Target	A	B	D	D

3.6.5.1.1 Somerset Street West at Bayswater Avenue

Pedestrian Level of Service (PLOS)

Pedestrians cross three (4) lanes at the south, east and west approach and five (5) lanes at the south approach of the intersection. Left turns are permissive and a corner radii of 5-10 metres. The intersection has a PLOS of E due to delays experienced by pedestrians while crossing from the north approach. The average Pedestrian Exposure to Traffic at Signalized Intersections (PETSI) score at the intersection is 53, which aligns with a PLOS of D.

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 E, which is below its target LOS of D. Buses are anticipated to 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.



3.6.5.1.2 *Somerset Street West at Preston Street*

Pedestrian Level of Service (PLOS)

Pedestrians cross five (5) travel lanes at each approach of the intersection, except west where pedestrians cross four (4) lanes. Left turns are permissive and corner radii of 5-10 metres. The intersection has a PLOS of D due to delays experienced by pedestrians while crossing from the east approach. The average PETSI score at the intersection has been calculated at 50, corresponding with PLOS of D. Improvements to the pedestrian realm are required to meet the target LOS 'A'. Protected intersection elements would be beneficial, however the right-of-way is constrained at this intersection, which means property acquisition would be required for any improvements. The removal of left turn lanes may provide space for pedestrian improvements, however that would likely result in a severe deterioration in the operations of the intersection, impacting transit and vehicular LOS.

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. Improvements to the cycling realm are required to meet the target LOS 'B'. Protected intersection elements would be beneficial, however the right-of-way is constrained at this intersection, which means property acquisition would be required for any improvements. The removal of left turn lanes may provide space for cycling improvements, however that would likely result in a severe deterioration in the operations of the intersection, impacting transit and vehicular LOS.

Transit Level of Service (TLOS)

Somerset Street West and Preston Street experiences a TLOS of D due to delay of around 30s on the northbound approach.

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.

3.6.5.1.3 *Somerset Street West at Rochester Street*

Pedestrian Level of Service (PLOS)

Pedestrians cross four (4) travel lanes at the north and south approach and three (3) travel lanes at the east and west 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 PETSI score at the intersection has been calculated at 66, corresponding with PLOS of C.



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 D due to delays of around 30s on the east and west approach.

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.

3.6.5.1.4 *Preston Street and Gladstone Avenue*

Pedestrian Level of Service (PLOS)

Pedestrians cross four (4) travel lanes at the north and south approach and three (3) travel lanes at the east and west 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 PETSI score at the intersection has been calculated at 66, corresponding with PLOS of C.

Bike Level of Service (BLOS)

Mixed-traffic bike path is only present east-west on Somerset Street West at the intersection. 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 40s on west approach.

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.

3.6.5.1.5 *Preston Street at Oak Street*

MMLOS guidelines do not assess stop-controlled intersections directly and instead depend on segment analysis for evaluation. The VLOS for Preston at Oak Street was evaluated in the subsequent section using Synchro.



3.6.5.2 Existing Capacity Analysis

Table 24 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 the intersection that the eastbound shared left/thru/right turn experiences overcapacity, operating with LOS of F and delays of over a minute during the AM peak hour. All other intersection movements perform acceptably with LOS C or better during the AM peak hour and LOS D or better during the PM peak hour, with no delay concerns identified.

Table 24: 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	32 (33)	0.62 (0.62)	B (B)	41 (43)
	EBR	3 (4)	0.06 (0.06)	A (A)	1 (1)
	WBLT	32 (34)	0.64 (0.67)	B (B)	41 (42)
	WBR	7 (7)	0.21 (0.20)	A (A)	7 (7)
	NBLTR	6 (7)	0.15 (0.14)	A (A)	15 (14)
	SBL	8 (9)	0.15 (0.19)	A (A)	15 (16)
	SBTR	5 (6)	0.14 (0.13)	A (A)	12 (13)
	Overall	18 (20)	0.47 (0.48)	A (A)	-
Somerset Street West & Preston Street	EBL	23 (19)	0.17 (0.13)	A (A)	8 (8)
	EBTR	40 (37)	0.76 (0.78)	C (C)	74 (68)
	WBL	27 (21)	0.27 (0.19)	A (A)	8 (9)
	WBTR	27 (23)	0.38 (0.34)	A (A)	37 (32)
	NBL	13 (15)	0.22 (0.24)	A (A)	15 (15)
	NBTR	15 (17)	0.45 (0.48)	A (A)	73 (73)
	SBL	12 (14)	0.13 (0.12)	A (A)	9 (10)
	SBTR	14 (16)	0.41 (0.43)	A (A)	72 (74)
	Overall	21 (21)	0.56 (0.58)	A (A)	-
Somerset Street West & Rochester Street	EBLTR	29 (27)	0.72 (0.71)	C (C)	57 (57)
	WBLTR	28 (24)	0.61 (0.53)	B (A)	42 (37)
	NBLTR	7 (6)	0.15 (0.14)	A (A)	3 (7)
	SBLTR	11 (9)	0.05 (0.06)	A (A)	8 (9)
	Overall	24 (22)	0.58 (0.54)	A (A)	-
Preston St & Oak St	EBLR	15 (15)	0.02 (0.02)	A (A)	0 (0)
	SBTR	1 (1)	0.00 (0.00)	A (A)	0 (0)
	NBLT	0 (0)	0.28 (0.28)	A (A)	0 (0)
	Overall	0 (0)	-	-	-
Somerset Street West & Breezehill Avenue	EBTR	0 (0)	0.23 (0.21)	A (A)	0 (0)
	WBLT	1 (1)	0.02 (0.02)	A (A)	0 (0)
	NBLR	15 (15)	0.12 (0.14)	A (A)	3 (4)



Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
Preston Street & Gladstone Avenue	Overall	1 (2)	-	-	-
	EBLTR	88 (48)	1.03 (0.88)	F (D)	80 (54)
	WBL	25 (20)	0.30 (0.19)	A (A)	12 (10)
	WBTR	35 (24)	0.76 (0.59)	C (A)	52 (42)
	NBL	9 (11)	0.17 (0.14)	A (A)	8 (12)
	NBTR	11 (13)	0.49 (0.44)	A (A)	54 (62)
	SBL	9 (11)	0.13 (0.14)	A (A)	8 (10)
	SBTR	11 (12)	0.42 (0.38)	A (A)	45 (52)
	Overall	22 (20)	0.54 (0.53)	A (A)	-

3.6.5.3 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.
- It is recommended that the signal timing be adjusted under the same cycle length to provide more capacity to the eastbound movement on Preston Street and Gladstone Avenue.

3.6.6 Phase 1 (Elementary School)

3.6.6.1 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 25** shows the MMLOS results for Phase 1 future conditions. It is important to note that the MMLOS for the proposed Access 2 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 25: 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	E	F
	Target	A	B	D	D
Somerset Street West and Preston Street	Actual	C	D	D	F
	Target	A	B	D	D
Somerset Street West and Rochester Street	Actual	D	D	D	F



	Target	A	B	D	D
Preston Street and Gladstone Avenue	Actual	D	D	F	F
	Target	A	B	D	D

3.6.6.2 Future Background Capacity Analysis

Table 26 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, with LOS D or better during both peak hours. The queue at eastbound approach at Somerset Street West and Preston Street is anticipated to spill back past the eastern access of the Plant Recreation Centre, which is approximately 40 metres away from the intersection. It should be noted that signal timings were adjusted in all future scenarios by allocating additional green time to the eastbound approach at Gladstone Avenue and Preston Street to increase capacity. The cycle length was maintained consistent with existing conditions throughout the future analyses. With the adjusted signal timing, the eastbound movement on Preston Street and Gladstone is anticipated to be nearing capacity (v/c 0.98) during the PM peak hour and LOS of E. All other intersection continue to perform acceptably with LOS of C or better during both the AM and PM peak hours.

Table 26: 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	32 (22)	0.64 (0.53)	B (A)	43 (44)
	EBR	4 (5)	0.06 (0.07)	A (A)	1 (3)
	WBLT	29 (30)	0.65 (0.77)	B (C)	43 (63)
	WBR	8 (4)	0.21 (0.20)	A (A)	9 (7)
	NBLTR	7 (14)	0.18 (0.31)	A (A)	18 (33)
	SBL	9 (16)	0.16 (0.26)	A (A)	16 (22)
	SBTR	6 (13)	0.18 (0.33)	A (A)	14 (40)
	Overall	17 (19)	0.48 (0.53)	A (A)	-
Somerset Street West & Preston Street	EBL	22 (21)	0.18 (0.28)	A (A)	9 (12)
	EBTR	39 (34)	0.77 (0.79)	C (C)	76 (74)
	WBL	26 (25)	0.27 (0.36)	A (A)	8 (14)
	WBTR	26 (26)	0.38 (0.60)	A (A)	37 (59)
	NBL	14 (18)	0.23 (0.31)	A (A)	15 (20)
	NBTR	16 (21)	0.48 (0.59)	A (A)	78 (94)
	SBL	13 (16)	0.14 (0.17)	A (A)	9 (12)
	SBTR	15 (18)	0.44 (0.46)	A (A)	77 (78)



Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
	Overall	22 (24)	0.58 (0.64)	A (B)	-
Somerset Street West & Rochester Street	EBLTR	29 (19)	0.72 (0.60)	C (A)	57 (50)
	WBLTR	28 (25)	0.61 (0.75)	B (C)	42 (61)
	NBLTR	7 (13)	0.15 (0.31)	A (A)	3 (19)
	SBLTR	11 (15)	0.05 (0.07)	A (A)	8 (11)
	Overall	24 (20)	0.58 (0.60)	A (A)	-
Preston St & Oak St	EBLR	15 (14)	0.02 (0.01)	A (A)	0 (0)
	NBLT	1 (1)	0.00 (0.00)	A (A)	0 (0)
	SBTR	0 (0)	0.29 (0.29)	A (A)	0 (0)
	Overall	0 (0)	-	-	-
Somerset Street West & Breezehill Avenue	EBTR	16 (8)	0.36 (0.37)	A (A)	52 (34)
	WBL	5 (5)	0.05 (0.06)	A (A)	3 (4)
	WBT	6 (7)	0.22 (0.35)	A (A)	21 (34)
	NBLR	16 (16)	0.25 (0.27)	A (A)	10 (13)
	Overall	12 (8)	0.33 (0.34)	A (A)	-
Preston Street & Gladstone Avenue	EBLTR	50 (63)	0.92 (0.98)	E (E)	53 (103)
	WBL	19 (18)	0.27 (0.25)	A (A)	9 (16)
	WBTR	27 (26)	0.71 (0.72)	C (C)	41 (81)
	NBL	15 (16)	0.29 (0.29)	A (A)	18 (17)
	NBTR	16 (20)	0.54 (0.66)	A (B)	84 (80)
	SBL	13 (15)	0.15 (0.22)	A (A)	11 (10)
	SBTR	15 (17)	0.48 (0.54)	A (A)	73 (61)
	Overall	24 (29)	0.63 (0.73)	B (C)	-

3.6.6.3 Future Total Capacity Analysis

Table 27 shows intersection movement operations under Phase 1 future total volumes, with all movements operating within capacity at LOS E in the AM peak and LOS D or better in the PM peak. The queueing at the eastbound approach of Somerset Street West and Preston Street is anticipated to spillback to the western Plant Recreation Centre access (Access 2) during both peak hours. This is not unexpected, as a 95thile queue of 80m is not a significant concern during peak hours. The eastbound movement at Preston Street and Gladstone Avenue operates similar to Phase 1 future background conditions during both AM and PM peak hours. **Figure 22** shows the future total traffic volumes on the road network in Phase 1



Table 27: 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	31 (22)	0.63 (0.53)	B (A)	44 (44)
	EBR	3 (5)	0.06 (0.07)	A (A)	1 (3)
	WBLT	30 (31)	0.69 (0.77)	B (C)	52 (64)
	WBR	11 (4)	0.21 (0.20)	A (A)	13 (7)
	NBLTR	7 (14)	0.19 (0.32)	A (A)	19 (33)
	SBL	9 (16)	0.17 (0.27)	A (A)	16 (22)
	SBTR	6 (14)	0.18 (0.34)	A (A)	15 (40)
	Overall	18 (19)	0.49 (0.53)	A (A)	-
Somerset Street West & Preston Street	EBL	21 (20)	0.17 (0.28)	A (A)	9 (12)
	EBTR	39 (34)	0.78 (0.79)	C (C)	80 (74)
	WBL	25 (24)	0.28 (0.36)	A (A)	9 (14)
	WBTR	24 (26)	0.36 (0.60)	A (A)	36 (59)
	NBL	16 (19)	0.32 (0.33)	A (A)	20 (21)
	NBTR	17 (22)	0.50 (0.60)	A (A)	83 (96)
	SBL	14 (17)	0.15 (0.17)	A (A)	10 (12)
	SBTR	16 (18)	0.46 (0.46)	A (A)	81 (79)
Somerset Street West & Rochester Street	Overall	22 (24)	0.59 (0.64)	A (B)	-
	EBLTR	29 (19)	0.72 (0.60)	C (A)	58 (50)
	WBLTR	28 (25)	0.61 (0.75)	B (C)	43 (62)
	NBLTR	7 (13)	0.15 (0.31)	A (A)	3 (19)
	SBLTR	11 (16)	0.05 (0.07)	A (A)	9 (11)
	Overall	24 (20)	0.58 (0.60)	A (A)	-
	EBLR	14 (13)	0.03 (0.02)	A (A)	1 (1)
	NBLT	1 (1)	0.04 (0.01)	A (A)	1 (0)
Preston Street & Oak Street	SBTR	0 (0)	0.31 (0.29)	A (A)	0 (0)
	Overall	1 (0)	-	-	-
Somerset Street West & Breezehill Avenue	EBTR	26 (25)	0.70 (0.70)	B (B)	65 (58)
	WBL	16 (16)	0.20 (0.18)	A (A)	6 (7)
	WBT	19 (24)	0.44 (0.67)	A (B)	37 (57)
	NBLR	8 (8)	0.12 (0.13)	A (A)	8 (10)
	Overall	21 (22)	0.59 (0.60)	A (A)	-



Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
Preston Street & Gladstone Avenue	EBLTR	53 (62)	0.96 (0.98)	E (E)	61 (106)
	WBL	14 (17)	0.21 (0.23)	A (A)	7 (15)
	WBTR	18 (23)	0.59 (0.69)	A (B)	33 (79)
	NBL	24 (18)	0.39 (0.31)	A (A)	22 (17)
	NBTR	25 (22)	0.66 (0.69)	B (B)	123 (85)
	SBL	19 (17)	0.21 (0.24)	A (A)	14 (10)
	SBTR	23 (18)	0.58 (0.57)	A (A)	104 (65)
	Overall	28 (29)	0.73 (0.74)	C (C)	-
Somerset Street West & Access 1	EBTR	0 (0)	0.23 (0.26)	A (A)	0 (0)
	WBLT	0 (0)	0.00 (0.00)	A (A)	0 (0)
	NBLR	0 (0)	0.00 (0.00)	A (A)	0 (0)
	Overall	0 (0)	-	-	-
Somerset Street West & Access 2	EBTR	0 (0)	0.24 (0.27)	A (A)	0 (0)
	WBLT	1 (1)	0.00 (0.00)	A (A)	0 (0)
	Overall	0 (0)	-	-	-
Oak Street & Access 3	EBT	0 (0)	0.00 (0.00)	A (A)	0 (0)
	WBT	0 (0)	0.04 (0.01)	A (A)	0 (0)
	SBLR	9 (9)	0.01 (0.00)	A (A)	0 (0)
	Overall	1 (3)	-	-	-

3.6.6.4 Recommended Intersection Improvements

- Although no improvements are required for individual movements under future total traffic conditions in Phase 1, it is recommended that the City continue to monitor the Preston Street and Gladstone Avenue intersection and adjust signal timings as needed to provide additional capacity for the eastbound movement during the AM and PM peak hours.

3.6.7 Phase 2 (Ottawa Community Housing)

3.6.7.1 MMLOS Analysis

Table 28 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 Access 1 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 28: 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	E	F
	Target	A	B	D	D
Somerset Street West and Preston Street	Actual	C	D	D	F
	Target	A	B	D	D
Somerset Street West and Rochester Street	Actual	D	D	D	F
	Target	A	B	D	D
Preston Street and Gladstone Avenue	Actual	D	D	F	F
	Target	A	B	D	D

3.6.7.2 Future Background Capacity Analysis

Table 29 shows the movement operations at the study intersections under phase 2 future background volumes. The eastbound shared through/right movement continues to exhibit downstream queueing past the eastern access to the Plant Recreation Centre, consistent with conditions observed in Phase 1. The eastbound movement at Preston Street and Gladstone Avenue is anticipated to be nearing capacity under the PM peak hour traffic, operating with LOS of E and delays of approximately a minute. All other intersection movements operate within capacity, with LOS C or better during the AM and PM peak hours.

Table 29: 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	31 (22)	0.64 (0.54)	B (A)	43 (44)
	EBR	4 (5)	0.06 (0.07)	A (A)	1 (3)
	WBLT	29 (31)	0.65 (0.77)	B (C)	44 (64)
	WBR	8 (4)	0.21 (0.20)	A (A)	9 (7)
	NBLTR	7 (14)	0.18 (0.31)	A (A)	19 (33)
	SBL	9 (16)	0.16 (0.26)	A (A)	16 (22)
	SBTR	6 (13)	0.18 (0.34)	A (A)	15 (40)
	Overall	17 (19)	0.48 (0.53)	A (A)	-
Somerset Street West & Preston Street	EBL	22 (20)	0.18 (0.28)	A (A)	9 (12)
	EBTR	39 (34)	0.77 (0.79)	C (C)	76 (74)
	WBL	26 (24)	0.27 (0.36)	A (A)	8 (14)
	WBTR	26 (25)	0.37 (0.59)	A (A)	37 (58)



Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
	NBL	15 (20)	0.26 (0.35)	A (A)	17 (21)
	NBTR	17 (24)	0.52 (0.67)	A (B)	87 (123)
	SBL	13 (18)	0.15 (0.20)	A (A)	9 (13)
	SBTR	15 (19)	0.47 (0.50)	A (A)	83 (88)
	Overall	22 (24)	0.59 (0.68)	A (B)	-
Somerset Street West & Rochester Street	EBLTR	29 (19)	0.72 (0.60)	C (A)	57 (50)
	WBLTR	28 (25)	0.61 (0.75)	B (C)	42 (61)
	NBLTR	7 (13)	0.15 (0.31)	A (A)	3 (19)
	SBLTR	11 (15)	0.05 (0.07)	A (A)	8 (11)
	Overall	24 (20)	0.58 (0.60)	A (A)	-
Preston Street & Oak Street	EBLR	16 (14)	0.09 (0.07)	A (A)	2 (2)
	NBLT	1 (1)	0.01 (0.02)	A (A)	0 (1)
	SBTR	0 (0)	0.31 (0.31)	A (A)	0 (0)
	Overall	1 (1)	-	-	-
Somerset Street West & Breezehill Avenue	EBTR	16 (8)	0.36 (0.37)	A (A)	51 (35)
	WBL	5 (5)	0.05 (0.06)	A (A)	3 (4)
	WBT	6 (7)	0.22 (0.35)	A (A)	22 (35)
	NBLR	16 (16)	0.25 (0.27)	A (A)	10 (13)
	Overall	12 (8)	0.33 (0.34)	A (A)	-
Preston Street & Gladstone Avenue	EBLTR	52 (63)	0.94 (0.99)	E (E)	58 (109)
	WBL	17 (16)	0.25 (0.23)	A (A)	8 (14)
	WBTR	26 (25)	0.72 (0.75)	C (C)	43 (88)
	NBL	19 (21)	0.37 (0.39)	A (A)	21 (21)
	NBTR	20 (28)	0.61 (0.78)	B (C)	113 (115)
	SBL	18 (28)	0.30 (0.50)	A (A)	20 (19)
	SBTR	18 (21)	0.54 (0.62)	A (B)	94 (73)
	Overall	26 (32)	0.68 (0.80)	B (C)	-

3.6.7.3 Future Total Capacity Analysis

Table 30 presents the intersection movement operations at the study intersections under Phase 2 future total volumes. The eastbound movement at Preston Street and Gladstone Avenue is nearing capacity



during both AM and PM peak hours, operating at LOS E and delays of just approximately a minute.

Figure 23 shows the future total traffic volumes on the road network in Phase 2.

Table 30: 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	30 (22)	0.63 (0.54)	B (A)	44 (45)
	EBR	3 (5)	0.06 (0.07)	A (A)	1 (3)
	WBLT	30 (31)	0.70 (0.77)	B (C)	52 (65)
	WBR	11 (4)	0.21 (0.20)	A (A)	13 (7)
	NBLTR	7 (14)	0.19 (0.32)	A (A)	20 (33)
	SBL	9 (16)	0.17 (0.27)	A (A)	17 (22)
	SBTR	6 (14)	0.19 (0.34)	A (A)	15 (40)
	Overall	18 (19)	0.50 (0.53)	A (A)	-
Somerset Street West & Preston Street	EBL	21 (20)	0.18 (0.28)	A (A)	9 (12)
	EBTR	39 (35)	0.79 (0.80)	C (C)	81 (76)
	WBL	25 (24)	0.28 (0.36)	A (A)	9 (14)
	WBTR	24 (25)	0.35 (0.59)	A (A)	36 (59)
	NBL	18 (21)	0.36 (0.39)	A (A)	22 (23)
	NBTR	18 (24)	0.55 (0.67)	A (B)	93 (124)
	SBL	15 (18)	0.16 (0.20)	A (A)	10 (13)
	SBTR	17 (19)	0.49 (0.51)	A (A)	88 (89)
	Overall	23 (25)	0.62 (0.68)	B (B)	-
Somerset Street West & Rochester Street	EBLTR	29 (19)	0.72 (0.60)	C (A)	58 (50)
	WBLTR	27 (25)	0.61 (0.75)	B (C)	43 (62)
	NBLTR	7 (13)	0.15 (0.31)	A (A)	3 (19)
	SBLTR	11 (16)	0.05 (0.07)	A (A)	9 (11)
	Overall	24 (20)	0.58 (0.60)	A (A)	-
Preston Street & Oak Street	EBLR	17 (15)	0.12 (0.10)	A (A)	3 (3)
	NBLT	2 (1)	0.05 (0.03)	A (A)	1 (1)
	SBTR	0 (0)	0.33 (0.31)	A (A)	0 (0)
	Overall	1 (1)	-	-	-
Somerset Street West & Breezehill Avenue	EBTR	26 (25)	0.71 (0.71)	C (C)	66 (58)
	WBL	16 (16)	0.20 (0.18)	A (A)	6 (7)



Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
	WBT	19 (24)	0.45 (0.67)	A (B)	38 (57)
	NBLR	8 (8)	0.12 (0.13)	A (A)	8 (10)
	Overall	21 (22)	0.60 (0.61)	A (B)	-
Preston Street & Gladstone Avenue	EBLTR	58 (62)	0.99 (0.99)	E (E)	70 (112)
	WBL	12 (15)	0.20 (0.22)	A (A)	7 (14)
	WBTR	18 (23)	0.61 (0.72)	B (C)	36 (86)
	NBL	32 (24)	0.52 (0.44)	A (A)	30 (22)
	NBTR	30 (32)	0.75 (0.83)	C (D)	138 (119)
	SBL	31 (37)	0.46 (0.59)	A (A)	30 (22)
	SBTR	27 (23)	0.66 (0.66)	B (B)	119 (77)
	Overall	32 (33)	0.79 (0.83)	C (D)	-
Somerset Street West & Access 1	EBTR	0 (0)	0.24 (0.26)	A (A)	0 (0)
	WBLT	1 (1)	0.00 (0.01)	A (A)	0 (0)
	NBLR	12 (12)	0.01 (0.01)	A (A)	0 (0)
	Overall	0 (0)	-	-	-
Somerset Street West & Access 2	EBTR	0 (0)	0.25 (0.28)	A (A)	0 (0)
	WBLT	1 (1)	0.00 (0.00)	A (A)	0 (0)
	Overall	0 (0)	-	-	-
Oak Street & Access 2	EBT	0 (0)	0.02 (0.02)	A (A)	0 (0)
	WBT	0 (0)	0.05 (0.02)	A (A)	0 (0)
	SBLR	10 (9)	0.01 (0.01)	A (A)	0 (0)
	Overall	0 (1)	-	-	-

3.6.7.4 Recommended Intersection Improvements

- Although no improvements are required for individual movements under future total traffic conditions in Phase 2, it is recommended that the City continue to monitor the Preston Street and Gladstone Avenue intersection and adjust signal timings as needed to provide additional capacity for the eastbound movement during the AM and PM peak hours.



3.6.8 Phase 3 (Market-Rate Housing)

3.6.8.1 MMLOS Analysis

Table 31 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 31: 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	E	F
	Target	A	B	D	D
Somerset Street West and Preston Street	Actual	C	D	D	F
	Target	A	B	D	D
Somerset Street West and Rochester Street	Actual	D	D	D	F
	Target	A	B	D	D
Preston Street and Gladstone Avenue	Actual	D	D	F	F
	Target	A	B	D	D

3.6.8.2 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.

3.6.8.3 Future Total Capacity Analysis

Table 32 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. **Figure 24** shows the future total traffic volumes on the road network in Phase 3

Table 32: Intersection Turning Movement Operations - Phase 3 Future Conditions

Intersections	Movements	Delay (s)	v/c Ratio	LOS	95th Queue (m)
		AM (PM)	AM (PM)	AM (PM)	AM (PM)
Somerset Street West & Bayswater Avenue	EBLT	30 (22)	0.63 (0.54)	B (A)	44 (45)
	EBR	3 (5)	0.06 (0.07)	A (A)	1 (3)
	WBLT	30 (31)	0.70 (0.78)	B (C)	53 (65)
	WBR	11 (4)	0.21 (0.20)	A (A)	13 (7)
	NBLTR	7 (14)	0.19 (0.32)	A (A)	20 (33)
	SBL	9 (16)	0.17 (0.27)	A (A)	17 (22)



Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
	SBTR	6 (14)	0.19 (0.34)	A (A)	15 (40)
	Overall	18 (19)	0.50 (0.54)	A (A)	-
Somerset Street West & Preston Street	EBL	21 (20)	0.19 (0.28)	A (A)	9 (12)
	EBTR	39 (35)	0.79 (0.80)	C (C)	82 (76)
	WBL	25 (24)	0.28 (0.36)	A (A)	9 (14)
	WBTR	24 (25)	0.35 (0.59)	A (A)	36 (59)
	NBL	18 (21)	0.38 (0.40)	A (A)	23 (24)
	NBTR	19 (24)	0.55 (0.67)	A (B)	93 (124)
	SBL	15 (18)	0.16 (0.20)	A (A)	10 (13)
	SBTR	17 (19)	0.49 (0.52)	A (A)	89 (90)
	Overall	23 (25)	0.62 (0.68)	B (B)	-
Somerset Street West & Rochester Street	EBLTR	29 (19)	0.72 (0.60)	C (A)	58 (50)
	WBLTR	27 (25)	0.61 (0.75)	B (C)	43 (62)
	NBLTR	7 (13)	0.15 (0.31)	A (A)	4 (19)
	SBLTR	11 (16)	0.05 (0.07)	A (A)	9 (11)
	Overall	24 (20)	0.58 (0.60)	A (A)	-
Preston Street & Oak Street	EBLR	17 (15)	0.12 (0.10)	A (A)	3 (3)
	NBLT	2 (1)	0.05 (0.03)	A (A)	1 (1)
	SBTR	0 (0)	0.33 (0.31)	A (A)	0 (0)
	Overall	1 (1)	-	-	-
Somerset Street West & Breezehill Avenue	EBTR	26 (25)	0.71 (0.71)	C (C)	64 (58)
	WBL	16 (16)	0.20 (0.18)	A (A)	6 (7)
	WBT	19 (24)	0.45 (0.67)	A (B)	38 (57)
	NBLR	8 (8)	0.12 (0.13)	A (A)	8 (10)
	Overall	21 (22)	0.60 (0.61)	A (B)	-
Preston Street & Gladstone Avenue	EBLTR	58 (61)	0.99 (0.99)	E (E)	70 (112)
	WBL	12 (15)	0.20 (0.22)	A (A)	7 (14)
	WBTR	18 (23)	0.61 (0.72)	B (C)	36 (87)
	NBL	32 (24)	0.52 (0.44)	A (A)	30 (22)
	NBTR	30 (32)	0.75 (0.83)	C (D)	139 (119)



Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
	SBL	32 (38)	0.47 (0.60)	A (A)	32 (24)
	SBTR	27 (23)	0.66 (0.66)	B (B)	119 (77)
	Overall	32 (33)	0.79 (0.83)	C (D)	-
Somerset Street West & Access 1	EBTR	0 (0)	0.24 (0.26)	A (A)	0 (0)
	WBLT	1 (1)	0.01 (0.01)	A (A)	0 (0)
	NBLR	12 (13)	0.03 (0.02)	A (A)	1 (0)
	Overall	0 (0)	-	-	-
Somerset Street West & Access 2	EBTR	0 (0)	0.25 (0.28)	A (A)	0 (0)
	WBLT	1 (1)	0.00 (0.00)	A (A)	0 (0)
	Overall	0 (0)	-	-	-
Oak Street & Access 2	EBT	0 (0)	0.02 (0.02)	A (A)	0 (0)
	WBT	0 (0)	0.05 (0.02)	A (A)	0 (0)
	SBLR	10 (9)	0.01 (0.01)	A (A)	0 (0)
	Overall	0 (1)	-	-	-

3.6.8.4 Recommended Intersection Improvements

- Although no improvements are required for individual movements under future total traffic conditions in Phase 3, it is recommended that the City continue to monitor the Preston Street and Gladstone Avenue intersection and adjust signal timings as needed to provide additional capacity for the eastbound movement during the AM and PM peak hours.

3.6.9 Phase 4 (Recreational and Cultural Centre)

3.6.9.1 MMLOS Analysis

MMLOS results under the Phase 4 future volumes are consistent with the results from the Phase 3 future conditions.

3.6.9.2 Future Background Capacity Analysis

Table 33 presents the intersection movement operations under Phase 4 future background volumes. The operational conditions under these volumes are similar to Phase 3. The eastbound approach on Somerset Street West and Preston Street continues to exhibit downstream queueing past the eastern access to the Plant Recreation Centre, consistent with conditions observed in Phase 2. The eastbound movement at Preston Street and Gladstone Avenue continues to operate almost at capacity under the



PM peak hour, with LOS of E and delay of approximately a minute. All other intersection movements operate with LOS of C or better during both AM and PM peak hour.

Table 33: 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	31 (22)	0.64 (0.54)	B (A)	43 (44)
	EBR	4 (5)	0.06 (0.07)	A (A)	1 (3)
	WBLT	29 (31)	0.65 (0.77)	B (C)	44 (64)
	WBR	8 (4)	0.21 (0.20)	A (A)	9 (7)
	NBLTR	7 (14)	0.18 (0.31)	A (A)	19 (33)
	SBL	9 (16)	0.16 (0.26)	A (A)	16 (22)
	SBTR	6 (13)	0.18 (0.34)	A (A)	15 (40)
	Overall	17 (19)	0.48 (0.53)	A (A)	-
Somerset Street West & Preston Street	EBL	22 (20)	0.18 (0.28)	A (A)	9 (12)
	EBTR	39 (34)	0.77 (0.79)	C (C)	76 (74)
	WBL	26 (24)	0.27 (0.36)	A (A)	8 (14)
	WBTR	26 (25)	0.37 (0.59)	A (A)	37 (58)
	NBL	15 (20)	0.26 (0.35)	A (A)	17 (21)
	NBTR	17 (24)	0.52 (0.67)	A (B)	87 (123)
	SBL	13 (18)	0.15 (0.20)	A (A)	9 (13)
	SBTR	15 (19)	0.47 (0.50)	A (A)	83 (88)
	Overall	22 (24)	0.59 (0.68)	A (B)	-
Somerset Street West & Rochester Street	EBLTR	29 (19)	0.72 (0.60)	C (A)	57 (50)
	WBLTR	28 (25)	0.61 (0.75)	B (C)	42 (61)
	NBLTR	7 (13)	0.15 (0.31)	A (A)	3 (19)
	SBLTR	11 (15)	0.05 (0.07)	A (A)	8 (11)
	Overall	24 (20)	0.58 (0.60)	A (A)	-
Preston Street & Oak Street	EBLR	16 (16)	0.10 (0.09)	A (A)	2 (2)
	NBLT	1 (1)	0.01 (0.02)	A (A)	0 (1)
	SBTR	0 (0)	0.32 (0.33)	A (A)	0 (0)
	Overall	1 (1)	-	-	-
Somerset Street West & Breezehill Avenue	EBTR	16 (8)	0.36 (0.37)	A (A)	51 (35)
	WBL	5 (5)	0.05 (0.06)	A (A)	3 (4)



Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
	WBT	6 (7)	0.22 (0.35)	A (A)	22 (35)
	NBLR	16 (16)	0.25 (0.27)	A (A)	10 (13)
	Overall	12 (8)	0.33 (0.34)	A (A)	-
Preston Street & Gladstone Avenue	EBLTR	52 (63)	0.94 (0.99)	E (E)	58 (109)
	WBL	17 (16)	0.25 (0.23)	A (A)	8 (14)
	WBTR	26 (25)	0.72 (0.75)	C (C)	43 (88)
	NBL	19 (21)	0.37 (0.39)	A (A)	21 (21)
	NBTR	20 (28)	0.61 (0.78)	B (C)	113 (115)
	SBL	18 (28)	0.30 (0.50)	A (A)	20 (19)
	SBTR	18 (21)	0.54 (0.62)	A (B)	94 (73)
	Overall	26 (32)	0.68 (0.80)	B (C)	-

3.6.9.3 Future Total Capacity Analysis

Table 34 presents the intersection movement operations under Phase 4 future total volumes. The performance of the intersection movements is similar to that observed under the Phase 4 future background volumes. **Figure 25** shows the future total traffic volumes on the road network in Phase 1.

Table 34: 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	30 (22)	0.63 (0.55)	B (A)	45 (47)
	EBR	3 (5)	0.05 (0.07)	A (A)	1 (3)
	WBLT	31 (31)	0.71 (0.78)	C (C)	54 (68)
	WBR	11 (4)	0.20 (0.20)	A (A)	13 (7)
	NBLTR	7 (14)	0.20 (0.33)	A (A)	20 (33)
	SBL	10 (17)	0.18 (0.28)	A (A)	17 (22)
	SBTR	6 (14)	0.19 (0.34)	A (A)	15 (40)
	Overall	18 (20)	0.50 (0.54)	A (A)	-
Somerset Street West & Preston Street	EBL	21 (20)	0.19 (0.30)	A (A)	9 (13)
	EBTR	38 (35)	0.79 (0.82)	C (D)	84 (82)
	WBL	24 (24)	0.28 (0.37)	A (A)	9 (14)
	WBTR	23 (25)	0.36 (0.59)	A (A)	37 (61)



Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
	NBL	21 (24)	0.44 (0.48)	A (A)	26 (26)
	NBTR	20 (29)	0.60 (0.77)	A (C)	105 (146)
	SBL	16 (20)	0.18 (0.25)	A (A)	10 (14)
	SBTR	18 (21)	0.53 (0.57)	A (A)	98 (99)
	Overall	24 (27)	0.65 (0.75)	B (C)	-
Somerset Street West & Rochester Street	EBLTR	28 (19)	0.72 (0.62)	C (B)	58 (52)
	WBLTR	26 (25)	0.61 (0.75)	B (C)	43 (62)
	NBLTR	8 (13)	0.15 (0.32)	A (A)	4 (20)
	SBLTR	11 (15)	0.06 (0.08)	A (A)	9 (11)
	Overall	23 (20)	0.58 (0.61)	A (B)	-
Preston Street & Oak Street	EBLR	17 (16)	0.12 (0.11)	A (A)	3 (3)
	NBLT	2 (1)	0.05 (0.03)	A (A)	1 (1)
	SBTR	0 (0)	0.35 (0.34)	A (A)	0 (0)
	Overall	1 (1)	-	-	-
Somerset Street West & Breezehill Avenue	EBTR	25 (24)	0.71 (0.71)	C (C)	64 (59)
	WBL	16 (16)	0.20 (0.19)	A (A)	6 (7)
	WBT	19 (24)	0.45 (0.68)	A (B)	37 (58)
	NBLR	8 (8)	0.13 (0.13)	A (A)	8 (10)
	Overall	20 (22)	0.60 (0.61)	A (B)	-
Preston Street & Gladstone Avenue	EBLTR	59 (61)	0.99 (0.99)	E (E)	72 (112)
	WBL	12 (14)	0.20 (0.21)	A (A)	7 (13)
	WBTR	17 (22)	0.61 (0.72)	B (C)	36 (85)
	NBL	36 (28)	0.58 (0.50)	A (A)	32 (24)
	NBTR	34 (44)	0.81 (0.92)	D (E)	151 (141)
	SBL	38 (81)	0.55 (0.85)	A (D)	34 (30)
	SBTR	29 (26)	0.71 (0.72)	C (C)	129 (97)
	Overall	34 (38)	0.83 (0.90)	D (D)	-
Somerset Street West & Access 1	EBTR	0 (0)	0.24 (0.27)	A (A)	0 (0)
	WBLT	1 (1)	0.03 (0.03)	A (A)	1 (1)
	NBLR	13 (15)	0.07 (0.11)	A (A)	2 (3)



Intersections	Movements	Delay (s) AM (PM)	v/c Ratio AM (PM)	LOS AM (PM)	95th Queue (m) AM (PM)
	Overall	1 (1)	-	-	-
Somerset Street West & Access 2	EBTR	0 (0)	0.26 (0.29)	A (A)	0 (0)
	WBLT	1 (1)	0.00 (0.00)	A (A)	0 (0)
	Overall	0 (0)	-	-	-
Oak Street & Access 2	EBT	0 (0)	0.02 (0.02)	A (A)	0 (0)
	WBT	0 (0)	0.05 (0.02)	A (A)	0 (0)
	SBLR	10 (9)	0.01 (0.01)	A (A)	0 (0)
	Overall	0 (1)	-	-	-

3.6.9.4 Recommended Intersection Improvements

- It is recommended that the City continue to monitor the eastbound movement at the Preston Street and Gladstone Avenue intersection. Should the need arise due to an unanticipated increase in traffic volumes, signal timing optimization can be implemented to improve operational efficiency and maintain acceptable levels of service.
- If additional improvements are needed to enhance the eastbound movement, the westbound left-turn phase can be modified from permissive to protected/permitted. This change would help clear opposing westbound traffic before the eastbound signal turns green, resulting in longer and more consistent gaps for eastbound left-turning vehicles and improving overall intersection performance.



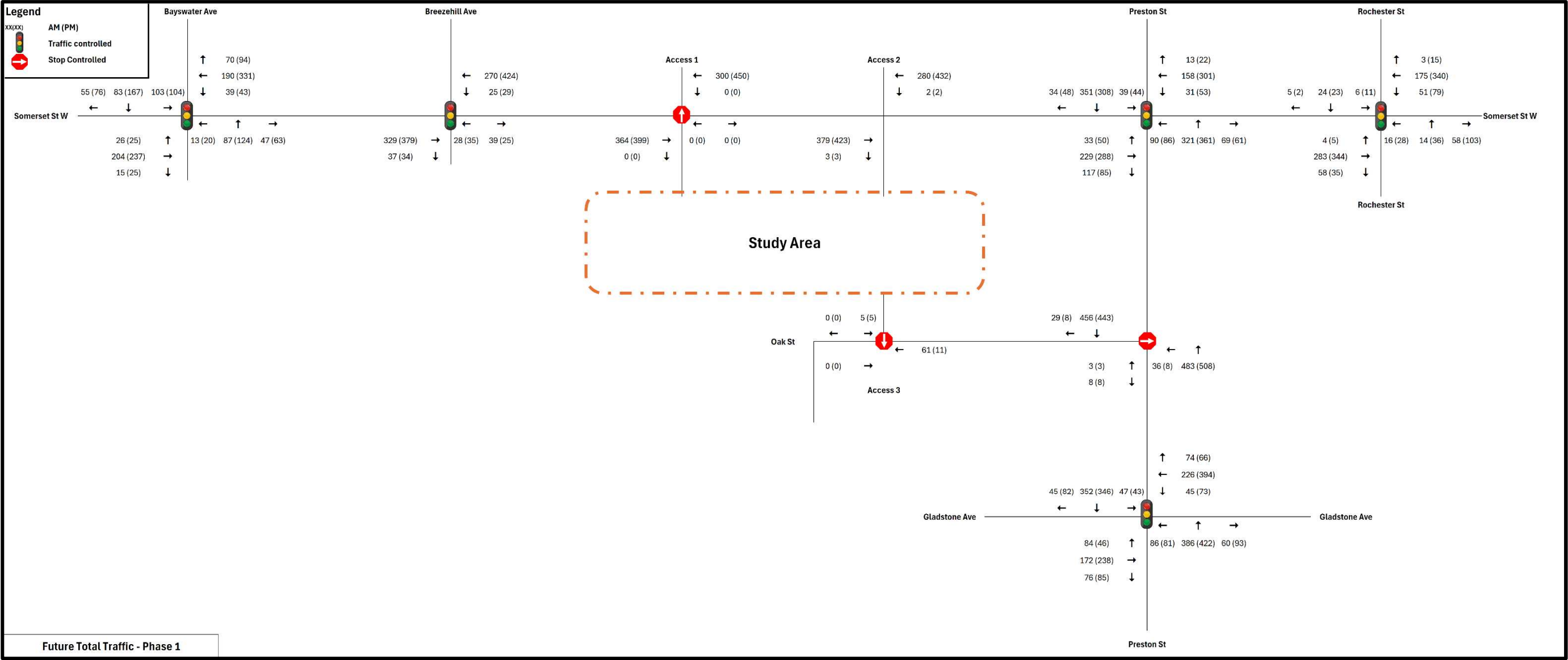


Figure 22: Future Total Traffic - Phase 1



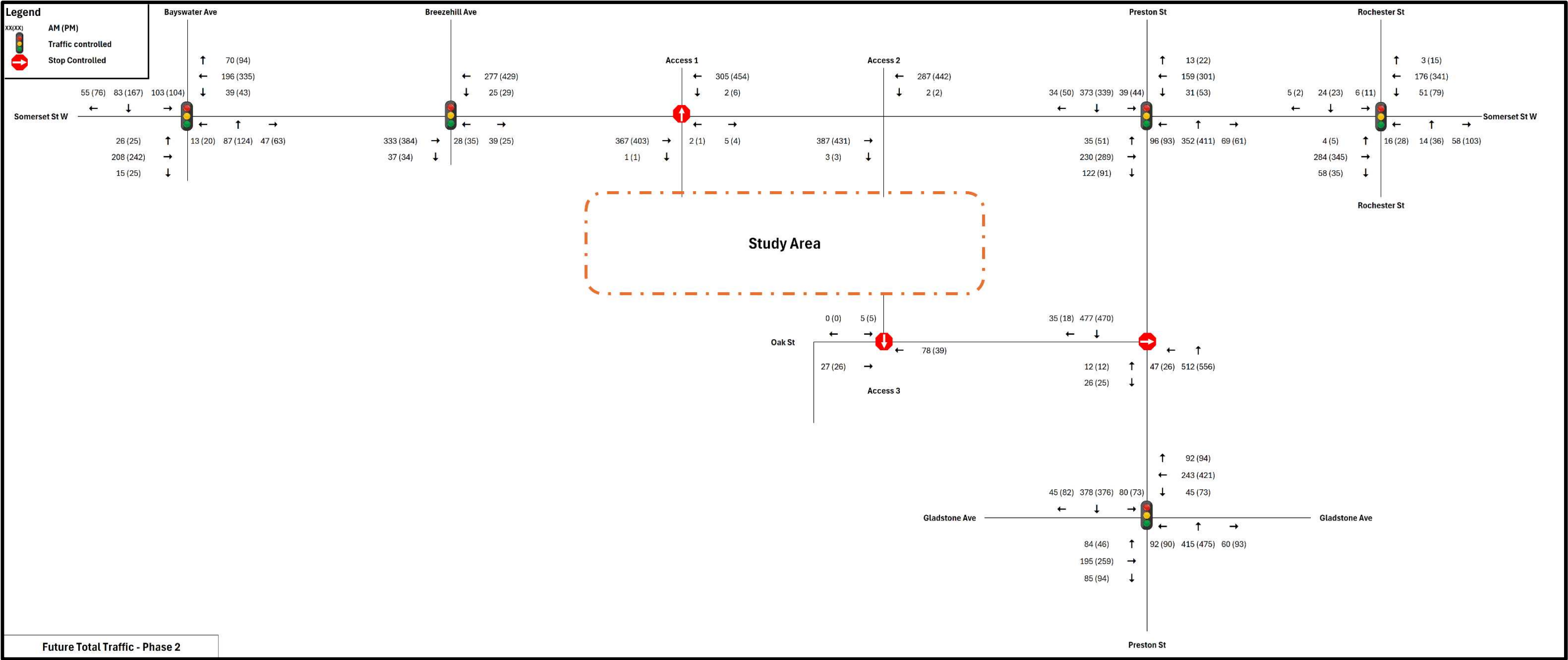


Figure 23: Future Total Traffic - Phase 2



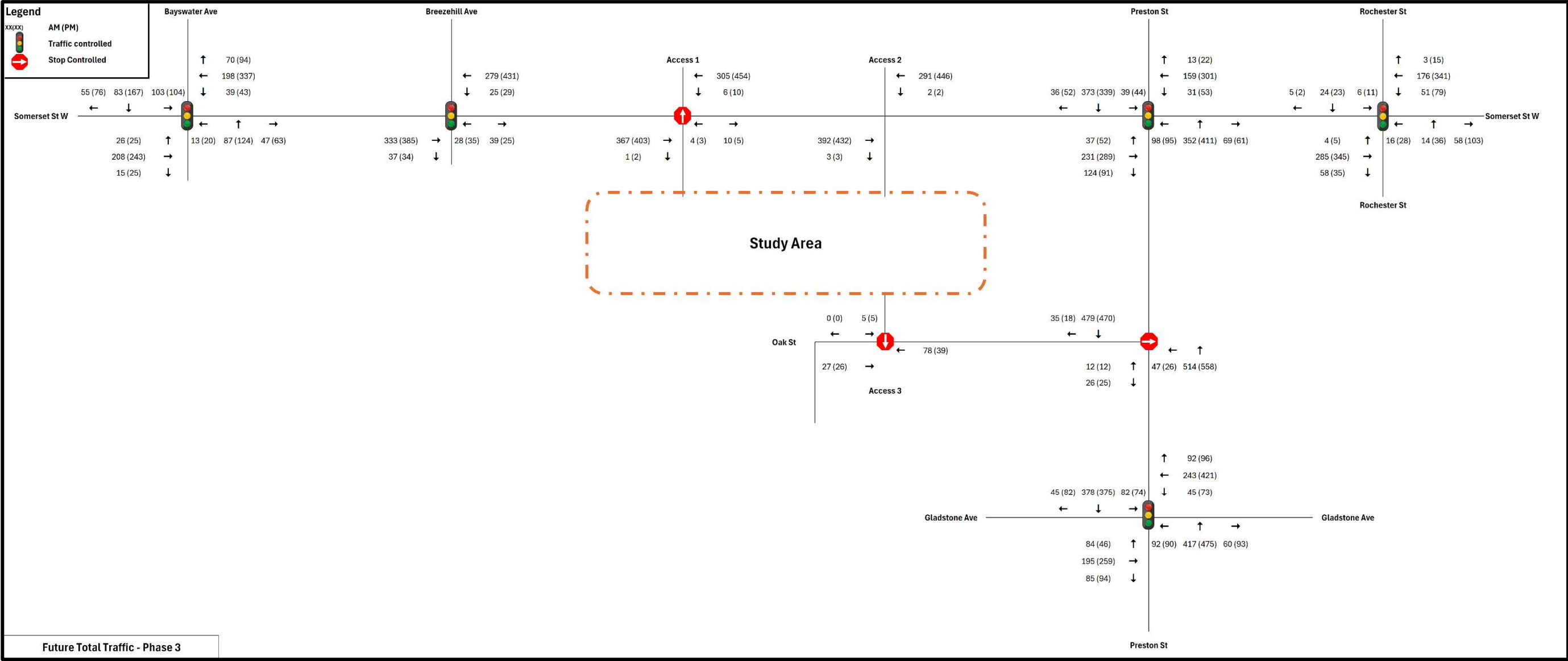


Figure 24: Future Total Traffic - Phase 3



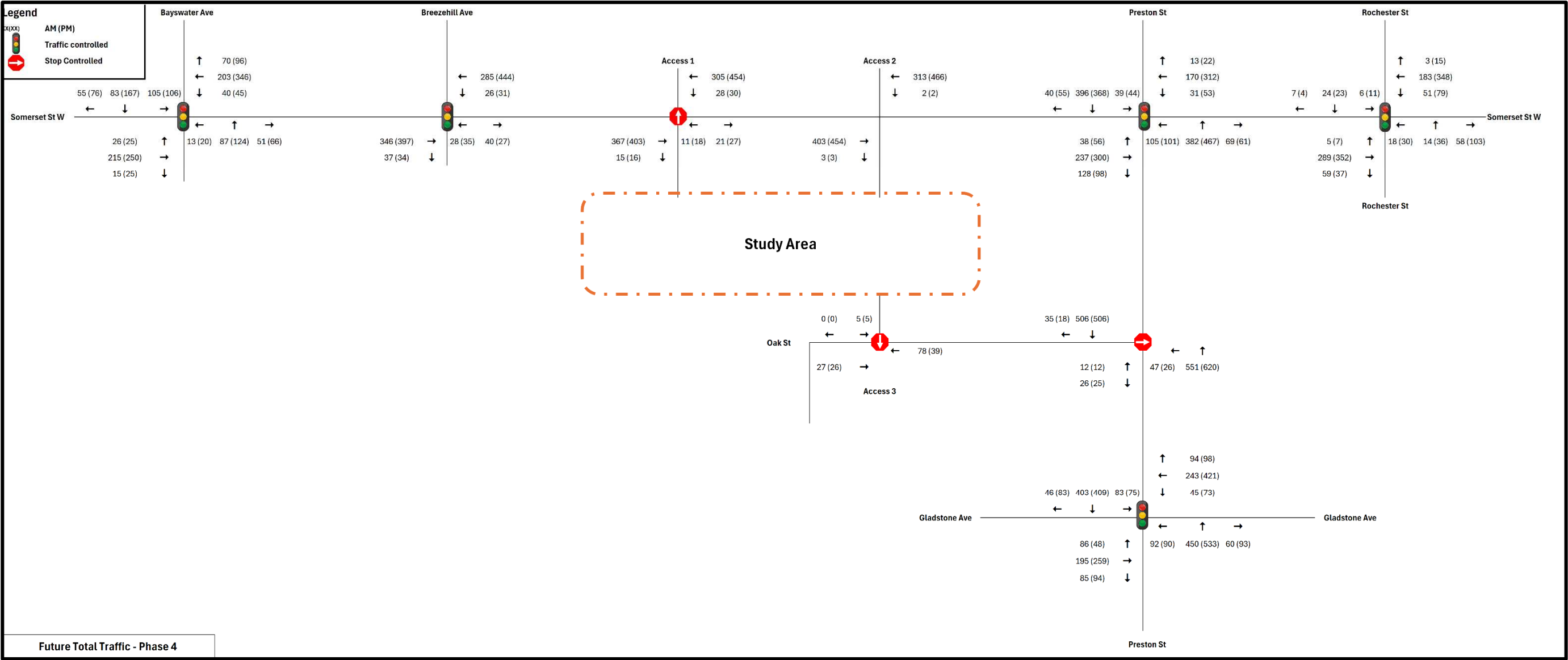


Figure 25: Future Total Traffic - Phase 4



3.7 Summary of Findings

- Transit network analysis highlights an anticipated increase in ridership, during the AM and PM peak hours.
- 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 Pedestrian Level of Service (PLOS) fails to meet the desired target at all signalized study intersections.
 - » The Bike Level of Service (BLOS) fails to meet the desired target at all signalized study intersections.
 - » The Transit Level of Service (TLOS) fails to meet the desired target at Somerset Street West and Preston Street, Preston Street and Gladstone Avenue.
 - » The Truck Level of Service (TkLOS) fails to meet the desired target at intersections along Somerset Street West at Bayswater Avenue, Preston Street and Gladstone Avenue, Somerset Street West and Preston Street, Somerset Street West and Rochester Street.
 - » The eastbound movement at Preston Street and Gladstone Avenue operates overcapacity during the AM peak hour.
 - » All other study intersection movements are currently operating acceptably at peak hours, maintaining an acceptable level of service.
- Future Conditions: Phase 1 – Phase 4
 - » The Pedestrian Level of Service (PLOS) fails to meet the desired target at intersections along Somerset Street West at Bayswater Avenue, Preston Street and Gladstone Avenue, Somerset Street West and Preston Street, Somerset Street West and Rochester Street.
 - » The Bike Level of Service (BLOS) fails to meet the desired target at intersections along Somerset Street West at Bayswater Avenue, Preston Street and Gladstone Avenue, Somerset Street West and Preston Street, Somerset Street West and Rochester Street.
 - » The Transit Level of Service (TLOS) fails to meet the desired target at Somerset Street West and Preston Street, Preston Street and Gladstone Avenue.
 - » The Truck Level of Service (TkLOS) fails to meet the desired target at intersections along Somerset Street West at Bayswater Avenue, Preston Street and Gladstone Avenue, Somerset Street West and Preston Street, Somerset Street West and Rochester Street.
 - » With small signal timing adjustments, all study intersections are anticipated to operate acceptably at peak hours, maintaining an acceptable level of service for each phase of the development.



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.
- 300 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. It is noted that Schedule N of the West Downtown Core Secondary Plan recommends the inclusion of bike lanes on Somerset Street West, therefore when those facilities are provided, east-west cycling connectivity to the site will be significantly improved.
- 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 Preston Street and Gladstone Avenue. Should any movement experience operational concerns over time as traffic volumes in the area increase, consider optimizing the intersection's signal timings to provide additional needed capacity. If required, convert the westbound left-turn movement from a permissive to a protected/permitted phase to improve operations for the eastbound movement. This change would help clear opposing westbound traffic before the eastbound signal turns green, creating longer and more consistent gaps for eastbound left-turning vehicles.
- Given the projected significant free-flowing volumes in the north-south direction on Preston Street (1,051 two-way trips in the AM peak hour and 1,126 in the PM peak hour), unrestricted left-turn movements into and out of Oak Street may result in operational and safety concerns. As such, a right-in/right-out access configuration is recommended to minimize conflict points and maintain traffic flow along Preston Street.

Phase 1 (Elementary School)

- Use of the existing westernmost Access 2 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 two outbound lanes within the driveway, and no auxiliary turn lanes on Somerset Street West, as consistent with existing conditions.
- Access 3 on Oak Street, approximately 100 metres west of Preston Street.



- » This access will function as the exit point for the school buses only.
- » Auxiliary turn lanes are not proposed at this access intersection, with two outbound lanes within the driveway, and no auxiliary turn lanes on Oak Street as consistent with existing conditions.

Phase 2 (Ottawa Community Housing)

- Access 1 on Somerset Street West, approximately 190 metres west of the existing signal at Preston Street, and approximately 250 metres east of the future signal at Breezehill Avenue.
 - » This access will function as the general vehicular entry/exit point for the future residential development and the future recreation and cultural facility.
 - » Auxiliary turn lanes are not recommended 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.

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

930-1010 Somerset

3 Strategy Report

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 Ottawa Community 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 Access 2 on Somerset St W (two other accesses at adjacent Plan Rec Centre property). Access 1 on Somerset St W and Access 2 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?	✓	

930-1010 Somerset

3 Strategy Report

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 Traffic Count and Signal Timing Plans

Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

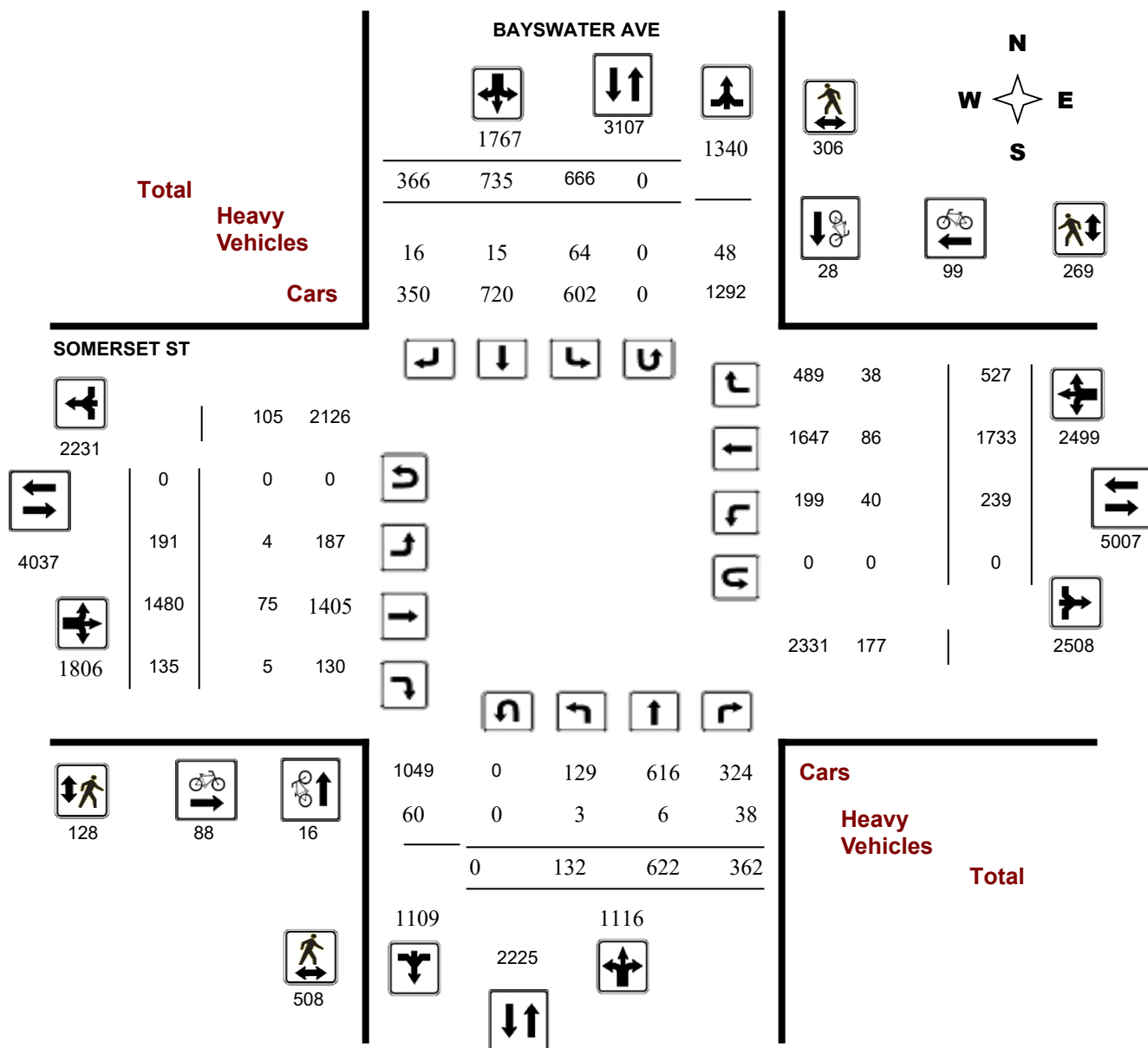
WO No:

40520

Device:

Miovision

Full Study Diagram



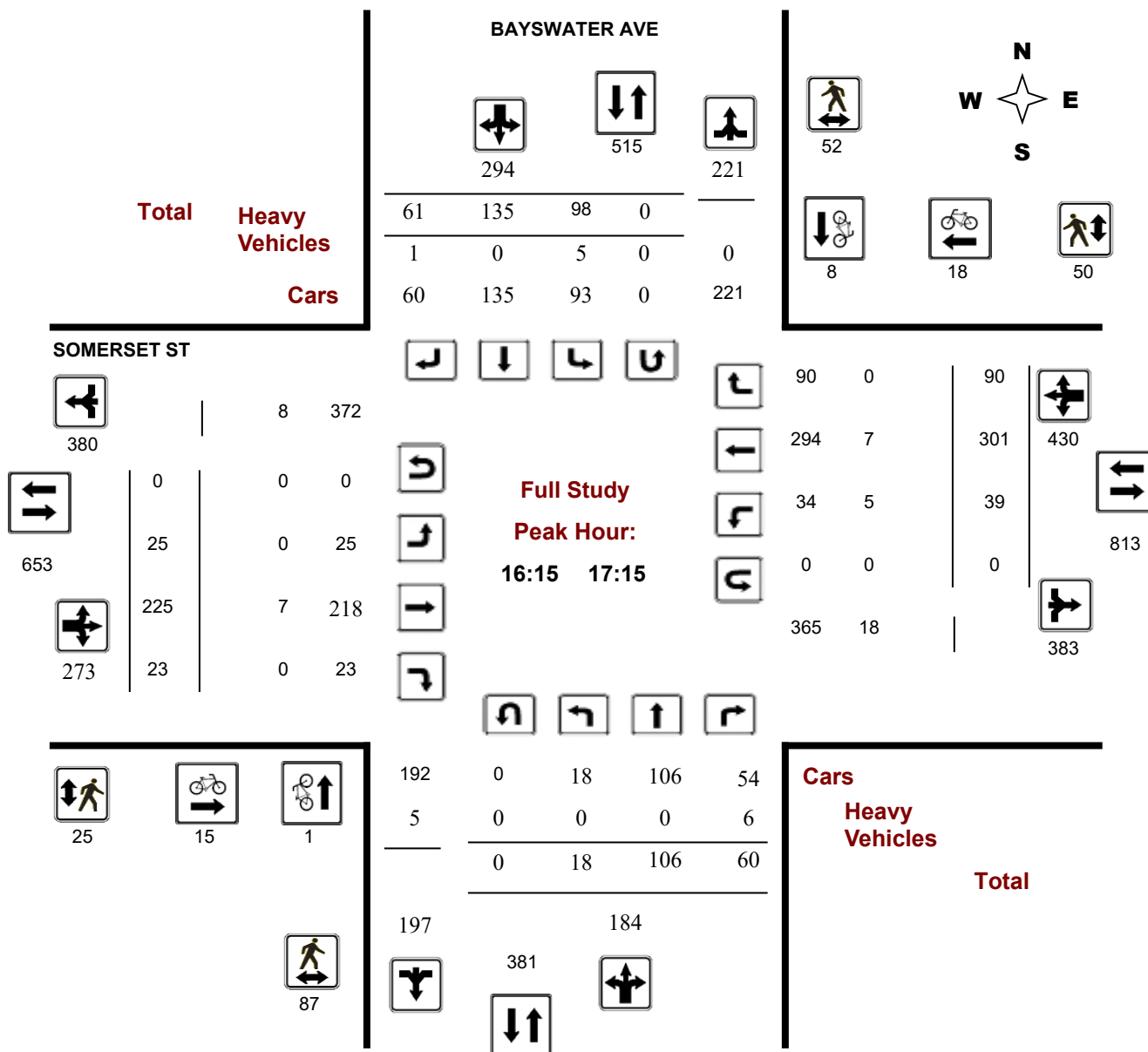
Survey Date: Tuesday, August 23, 2022

WO No: 40520

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram



Turning Movement Count - Peak Hour Diagram

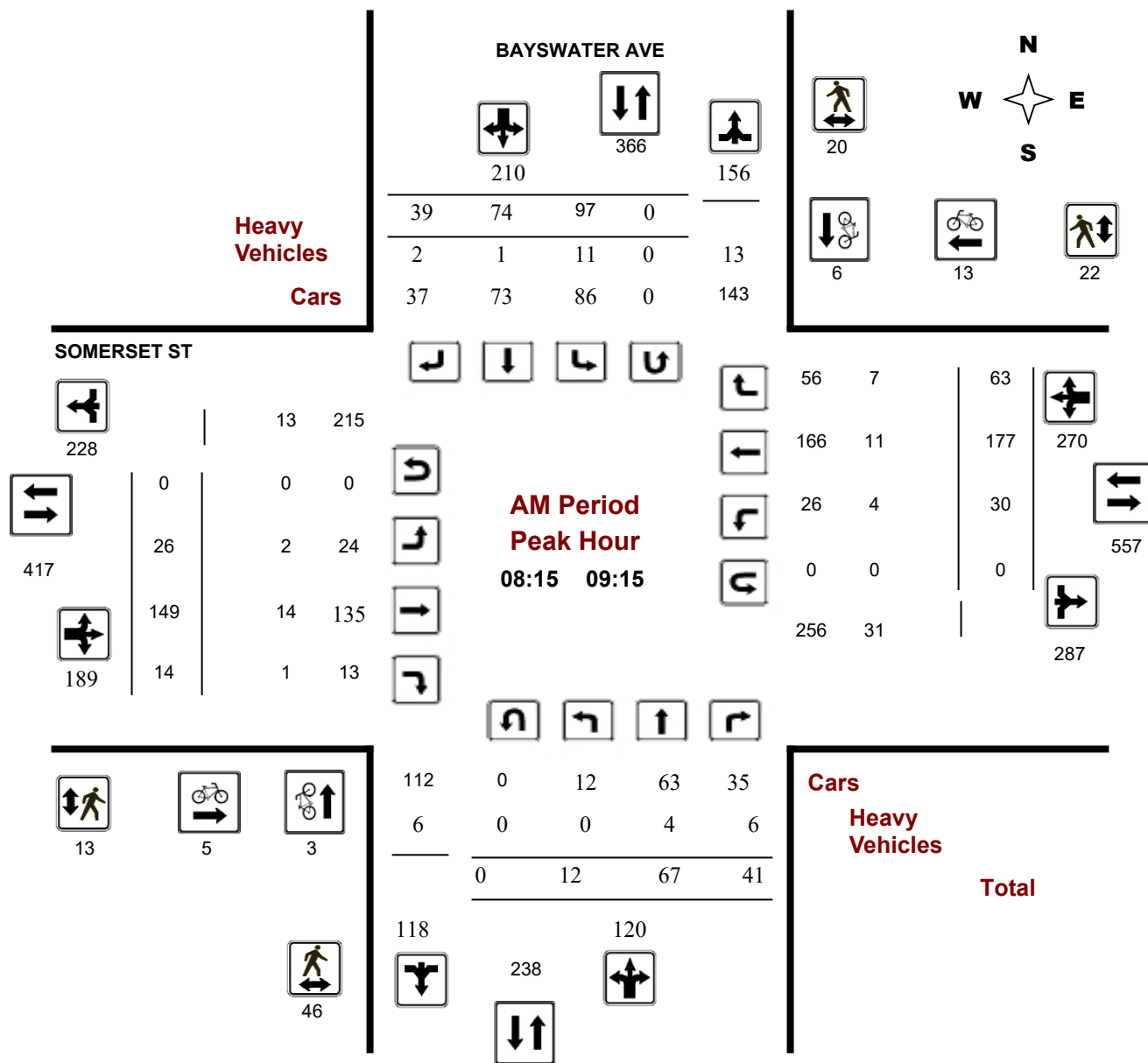
BAYSWATER AVE @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

WO No: 40520

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

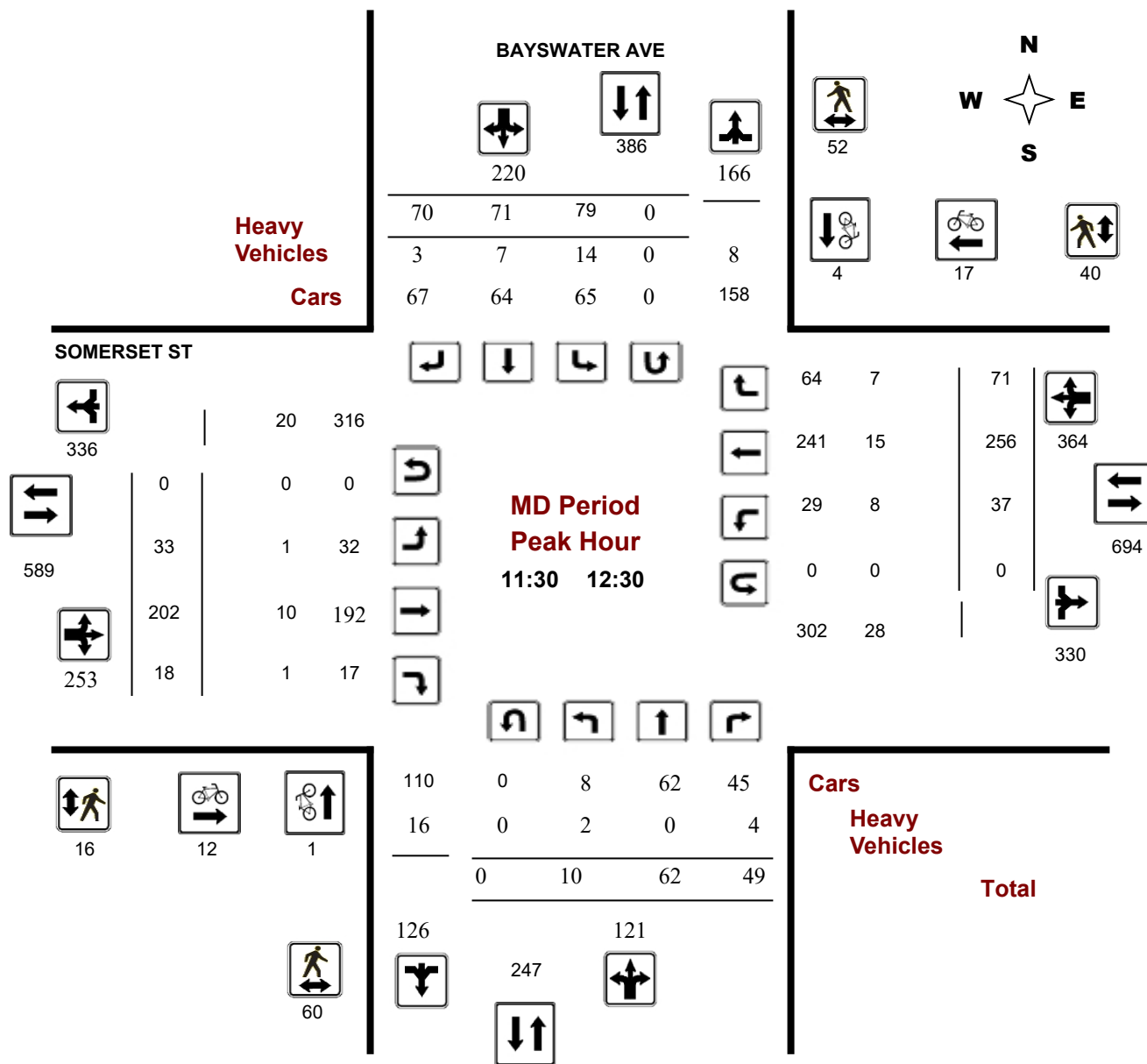
BAYSWATER AVE @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

WO No: 40520

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

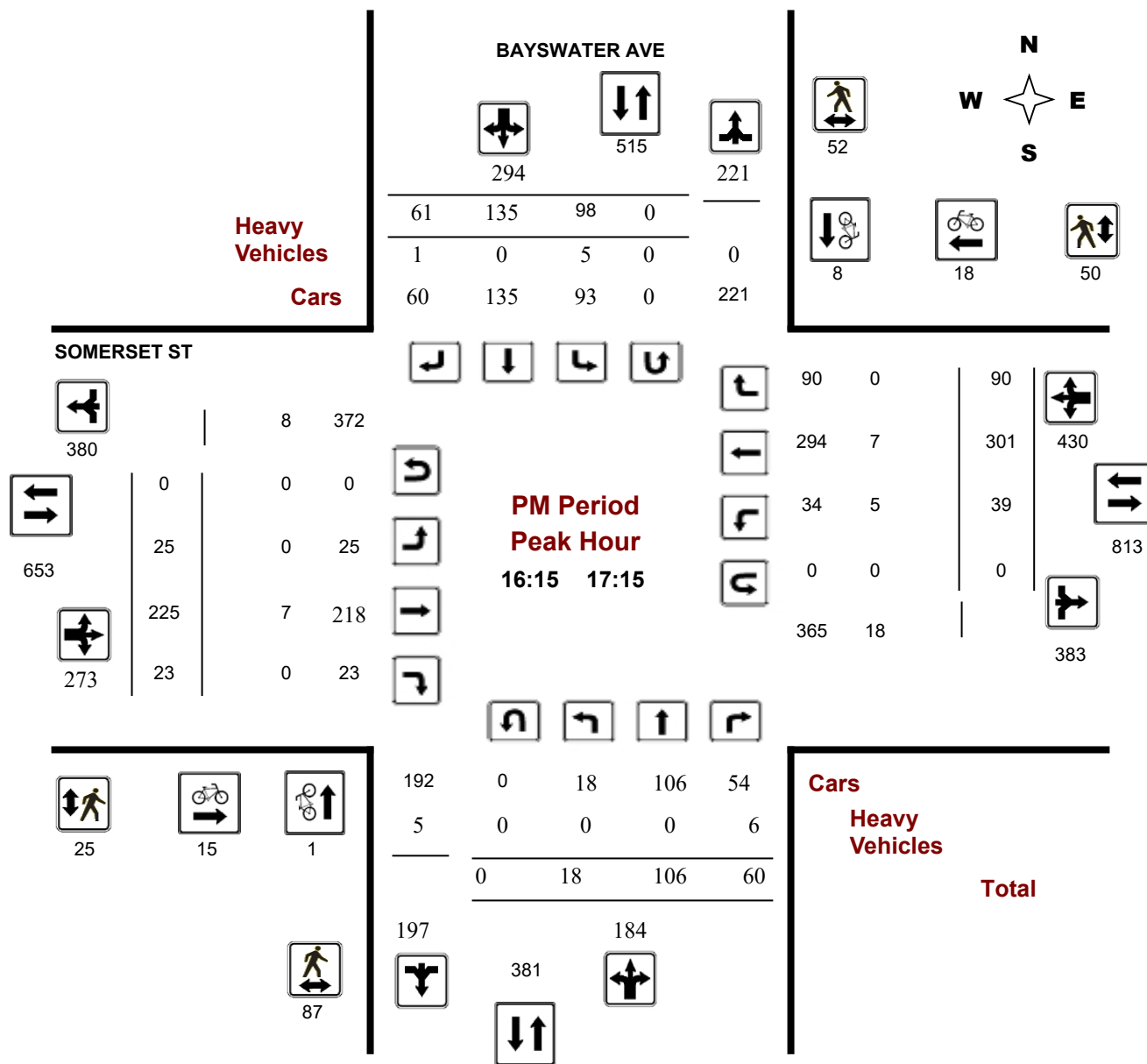
BAYSWATER AVE @ SOMERSET ST

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

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

AADT Factor

.90

BAYSWATER AVE

SOMERSET ST

Northbound										Southbound										Eastbound										Westbound										STR TOT	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																								
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

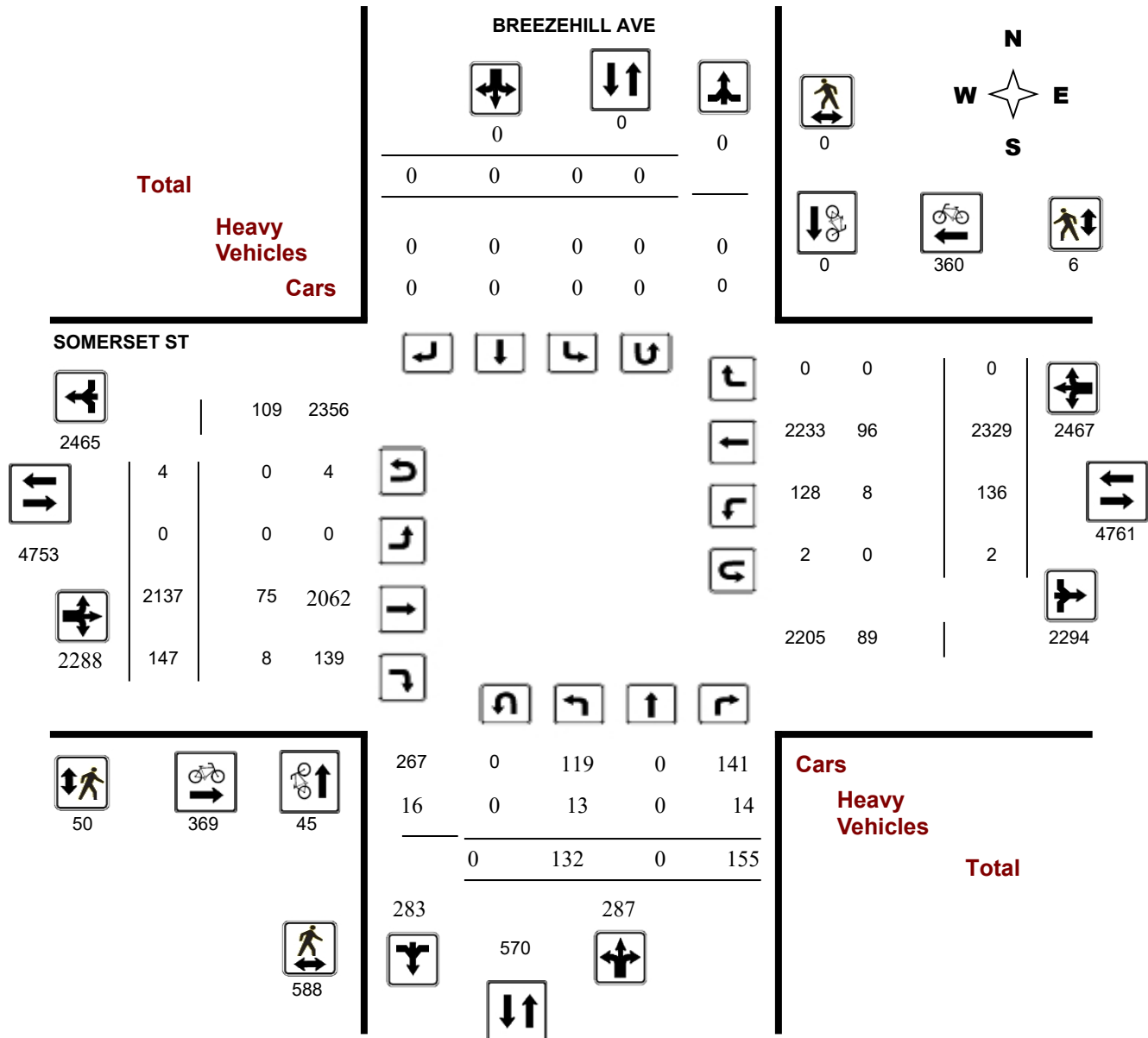
Survey Date: Thursday, August 13, 2015

Start Time: 07:00

WO No: 35301

Device: Miovision

Full Study Diagram



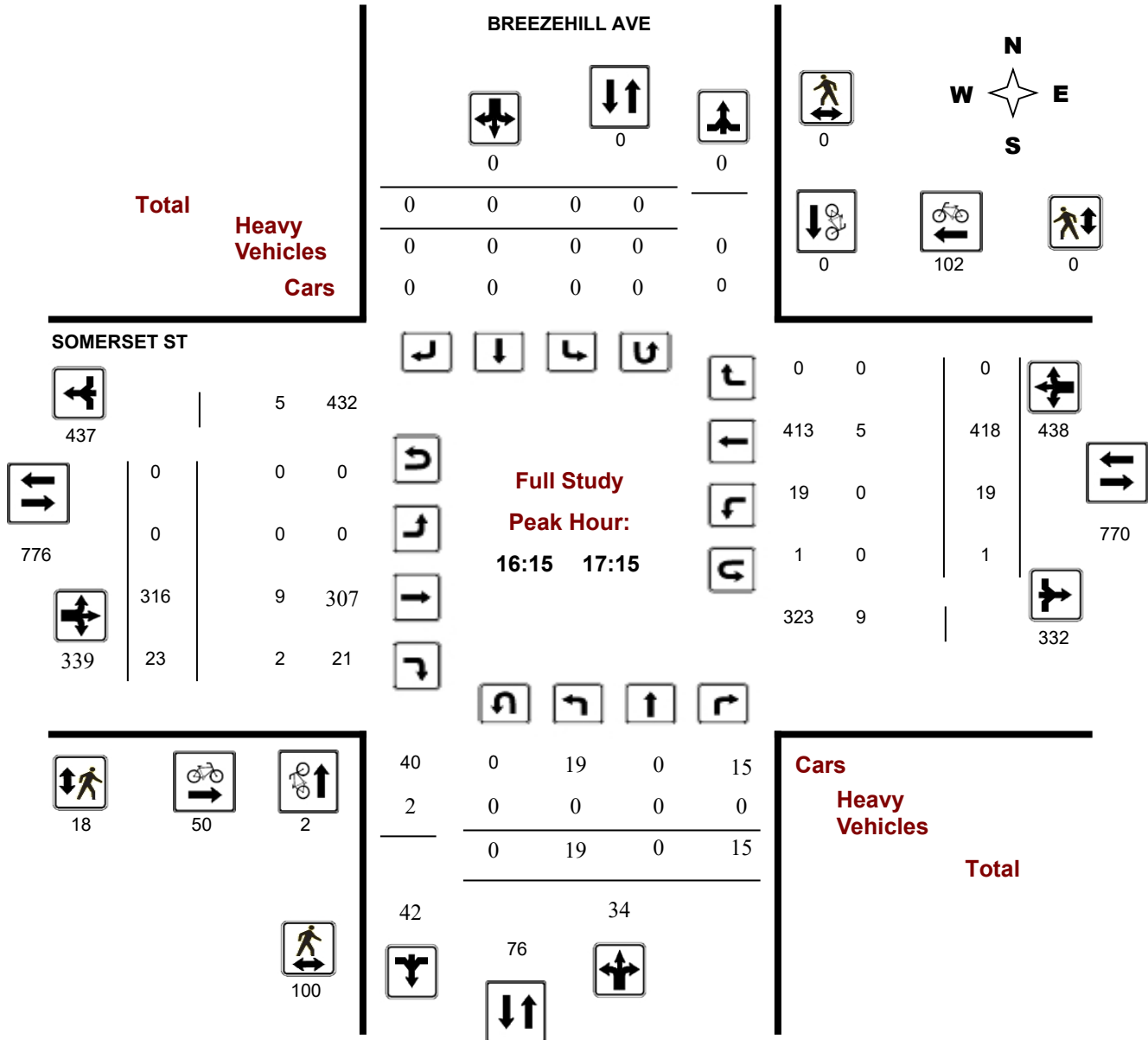
Survey Date: Thursday, August 13, 2015

WO No: 35301

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram



Turning Movement Count - Study Results

BREEZEHILL AVE @ SOMERSET ST

Survey Date: Thursday, August 13, 2015

Start Time: 07:00

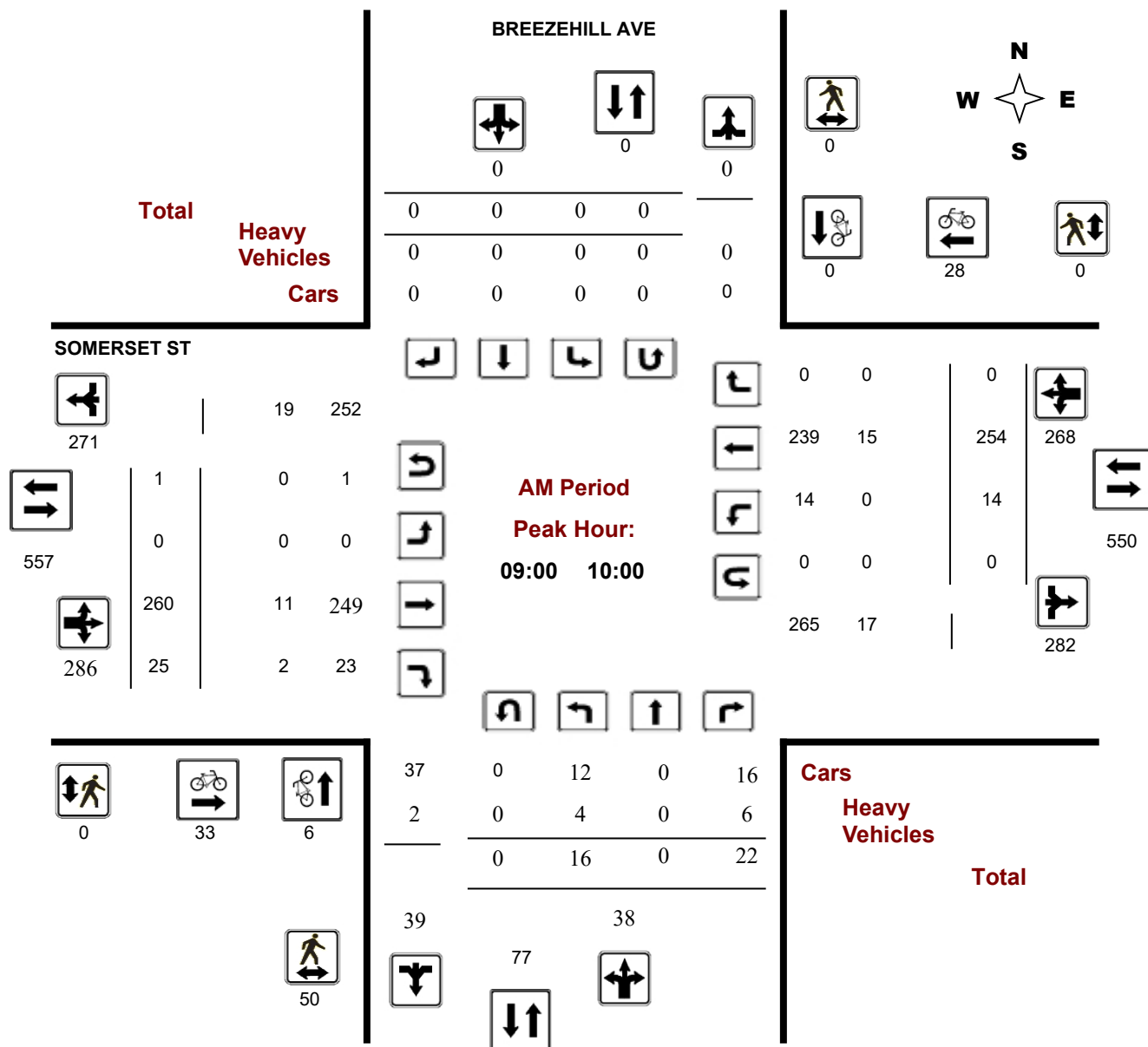
WO No:

35301

Device:

Miovision

AM Period Peak Hour Diagram



Turning Movement Count - Study Results

BREEZEHILL AVE @ SOMERSET ST

Survey Date: Thursday, August 13, 2015

Start Time: 07:00

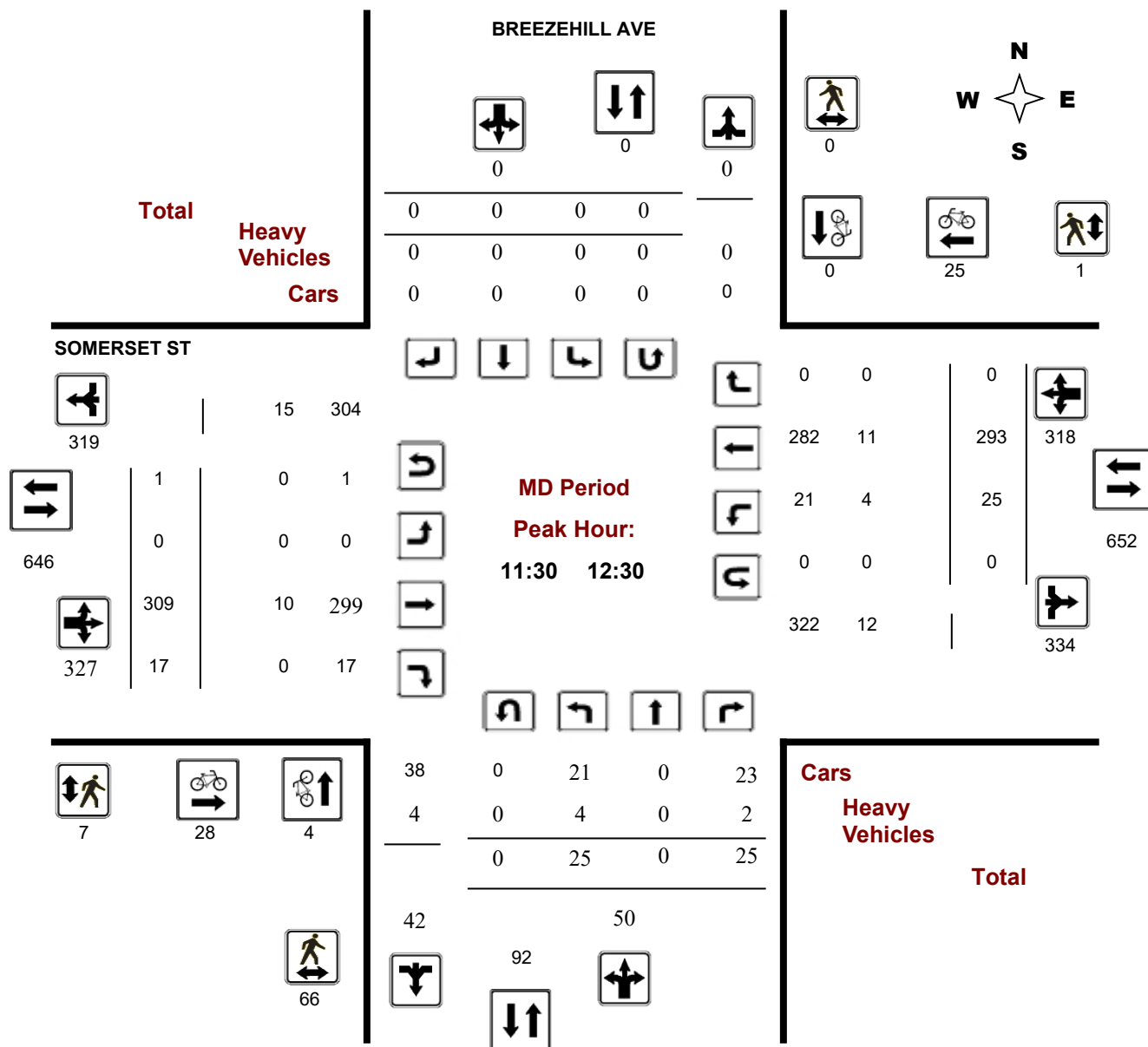
WO No:

35301

Device:

Miovision

MD Period Peak Hour Diagram



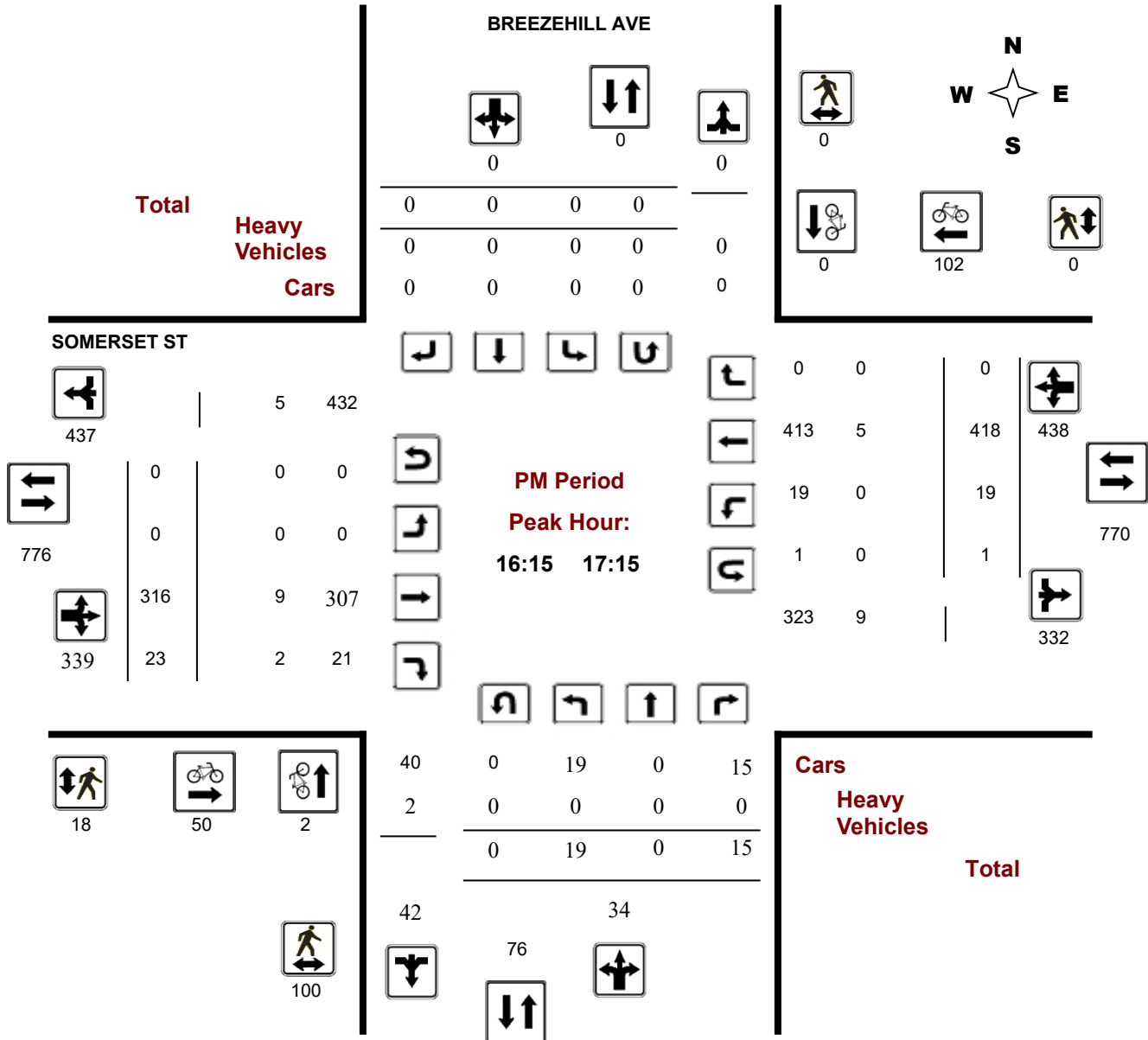
Survey Date: Thursday, August 13, 2015

WO No: 35301

Start Time: 07:00

Device: Miovision

PM Period Peak Hour Diagram





Transportation Services - Traffic Services

Turning Movement Count - Study Results

BREEZEHILL AVE @ SOMERSET ST

Survey Date: Thursday, August 13, 2015

WO No: 35301

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Thursday, August 13, 2015

Total Observed U-Turns

Northbound: 0 Southbound: 0
Eastbound: 4 Westbound: 2

AADT Factor

.90

BREEZEHILL AVE

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	6	0	15	21		0	0	0	0	21	0	171	13	184		10	145	0	155	339	360
08:00 09:00	13	0	24	37		0	0	0	0	37	0	275	17	292		15	188	0	203	495	532
09:00 10:00	16	0	22	38		0	0	0	0	38	0	260	25	285		14	254	0	268	553	591
11:30 12:30	25	0	25	50		0	0	0	0	50	0	309	17	326		25	293	0	318	644	694
12:30 13:30	16	0	15	31		0	0	0	0	31	0	265	26	291		15	288	0	303	594	625
15:00 16:00	25	0	18	43		0	0	0	0	43	0	250	15	265		16	331	0	347	612	655
16:00 17:00	13	0	19	32		0	0	0	0	32	0	311	21	332		22	422	0	444	776	808
17:00 18:00	18	0	17	35		0	0	0	0	35	0	296	13	309		19	408	0	427	736	771
Sub Total	132	0	155	287		0	0	0	0	287	0	2137	147	2284		136	2329	0	2465	4749	5036
U Turns				0					0	0				4					2	6	6
Total	132	0	155	287		0	0	0	0	287	0	2137	147	2288		136	2329	0	2467	4755	5042
EQ 12Hr	183	0	215	399		0	0	0	0	399	0	2970	204	3180		189	3237	0	3429	6609	7008

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

1.39

AVG 12Hr	165	0	194	359		0	0	0	0	359	0	2673	184	2862		170	2913	0	3086	5948	6307
-----------------	-----	---	-----	-----	--	---	---	---	---	-----	---	------	-----	------	--	-----	------	---	------	------	------

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

.90

AVG 24Hr	216	0	254	470		0	0	0	0	470	0	3502	241	3749		223	3816	0	4043	7792	8262
-----------------	-----	---	-----	-----	--	---	---	---	---	-----	---	------	-----	------	--	-----	------	---	------	------	------

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

BREEZEHILL AVE @ SOMERSET ST

Survey Date: Thursday, August 13, 2015

WO No: 35301

Start Time: 07:00

Device: Miovision

Full Study 15 Minute Increments

BREEZEHILL 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	2	0	2	4	0	0	0	0	4	0	27	5	32	3	21	0	24	56	60
07:15 07:30	0	0	6	6	0	0	0	0	6	0	29	3	32	2	35	0	37	69	75
07:30 07:45	2	0	3	5	0	0	0	0	5	0	53	2	55	1	35	0	36	91	96
17:45 18:00	2	0	6	8	0	0	0	0	8	0	76	2	78	3	93	0	96	174	182
07:45 08:00	2	0	4	6	0	0	0	0	6	0	62	3	65	4	54	0	58	123	129
08:00 08:15	3	0	6	9	0	0	0	0	9	0	65	5	70	4	56	0	60	130	139
08:15 08:30	4	0	5	9	0	0	0	0	9	0	92	3	95	4	42	0	46	141	150
08:30 08:45	3	0	4	7	0	0	0	0	7	0	54	5	59	3	40	0	43	102	109
08:45 09:00	3	0	9	12	0	0	0	0	12	0	64	4	68	4	50	0	54	122	134
09:00 09:15	3	0	6	9	0	0	0	0	9	0	63	8	71	5	68	0	73	144	153
09:15 09:30	5	0	4	9	0	0	0	0	9	0	62	4	66	5	53	0	58	124	133
09:30 09:45	6	0	7	13	0	0	0	0	13	0	76	3	79	2	66	0	68	147	160
09:45 10:00	2	0	5	7	0	0	0	0	7	0	59	10	70	2	67	0	69	139	146
11:30 11:45	5	0	2	7	0	0	0	0	7	0	81	2	83	3	74	0	77	160	167
11:45 12:00	9	0	3	12	0	0	0	0	12	0	81	3	84	5	69	0	74	158	170
12:00 12:15	7	0	12	19	0	0	0	0	19	0	78	8	86	12	80	0	92	178	197
12:15 12:30	4	0	8	12	0	0	0	0	12	0	69	4	74	5	70	0	75	149	161
12:30 12:45	6	0	3	9	0	0	0	0	9	0	71	5	76	2	64	0	66	142	151
12:45 13:00	1	0	4	5	0	0	0	0	5	0	80	9	89	5	72	0	77	166	171
13:00 13:15	4	0	3	7	0	0	0	0	7	0	65	7	72	2	66	0	68	140	147
13:15 13:30	5	0	5	10	0	0	0	0	10	0	49	5	54	6	86	0	92	146	156
15:00 15:15	6	0	2	8	0	0	0	0	8	0	65	5	70	2	74	0	76	146	154
15:15 15:30	7	0	6	13	0	0	0	0	13	0	66	2	68	5	89	0	94	162	175
15:30 15:45	8	0	8	16	0	0	0	0	16	0	58	4	62	3	93	0	96	158	174
15:45 16:00	4	0	2	6	0	0	0	0	6	0	61	4	66	6	75	0	81	147	153
16:00 16:15	2	0	7	9	0	0	0	0	9	0	73	3	76	5	96	0	101	177	186
16:15 16:30	3	0	5	8	0	0	0	0	8	0	87	7	94	7	108	0	115	209	217
16:30 16:45	5	0	3	8	0	0	0	0	8	0	65	8	73	4	104	0	109	182	190
16:45 17:00	3	0	4	7	0	0	0	0	7	0	86	3	89	6	114	0	120	209	216
17:00 17:15	8	0	3	11	0	0	0	0	11	0	78	5	83	2	92	0	94	177	188
17:15 17:30	4	0	3	7	0	0	0	0	7	0	78	3	81	7	113	0	121	202	209
17:30 17:45	4	0	5	9	0	0	0	0	9	0	64	3	68	7	110	0	117	185	194
Total:	132	0	155	287	0	0	0	0	287	0	2137	147	2288	136	2329	0	2467	4755	5,042

Note: U-Turns are included in Totals, cyclist volume is not included in totals. For cyclist volumes refer to Cyclist Volume report.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BREEZEHILL AVE @ SOMERSET ST

Survey Date: Thursday, August 13, 2015

WO No: 35301

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

BREEZEHILL AVE

SOMERSET ST

Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00 07:15	0	0	0	3	5	8	8
07:15 07:30	1	0	1	9	3	12	13
07:30 07:45	0	0	0	15	5	20	20
17:45 18:00	1	0	1	15	16	31	32
07:45 08:00	5	0	5	11	11	22	27
08:00 08:15	4	0	4	19	8	27	31
08:15 08:30	4	0	4	25	10	35	39
08:30 08:45	4	0	4	37	11	48	52
08:45 09:00	5	0	5	18	10	28	33
09:00 09:15	4	0	4	11	10	21	25
09:15 09:30	1	0	1	12	8	20	21
09:30 09:45	1	0	1	3	6	9	10
09:45 10:00	0	0	0	7	4	11	11
11:30 11:45	1	0	1	9	11	20	21
11:45 12:00	2	0	2	4	3	7	9
12:00 12:15	1	0	1	8	6	14	15
12:15 12:30	0	0	0	7	5	12	12
12:30 12:45	0	0	0	3	6	9	9
12:45 13:00	1	0	1	5	6	11	12
13:00 13:15	1	0	1	7	10	17	18
13:15 13:30	0	0	0	6	8	14	14
15:00 15:15	1	0	1	12	4	16	17
15:15 15:30	0	0	0	12	9	21	21
15:30 15:45	0	0	0	10	13	23	23
15:45 16:00	2	0	2	7	8	15	17
16:00 16:15	1	0	1	11	13	24	25
16:15 16:30	0	0	0	13	23	36	36
16:30 16:45	2	0	2	15	17	32	34
16:45 17:00	0	0	0	11	26	37	37
17:00 17:15	0	0	0	11	36	47	47
17:15 17:30	0	0	0	18	28	46	46
17:30 17:45	3	0	3	15	21	36	39
Total	45	0	45	369	360	729	774



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BREEZEHILL AVE @ SOMERSET ST

Survey Date: Thursday, August 13, 2015

WO No: 35301

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

BREEZEHILL 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	8	0	8	0	0	0	8
07:15 07:30	8	0	8	0	1	1	9
07:30 07:45	14	0	14	1	0	1	15
17:45 18:00	25	0	25	0	0	0	25
07:45 08:00	15	0	15	2	1	3	18
08:00 08:15	10	0	10	1	1	2	12
08:15 08:30	25	0	25	0	0	0	25
08:30 08:45	14	0	14	3	0	3	17
08:45 09:00	10	0	10	0	0	0	10
09:00 09:15	13	0	13	0	0	0	13
09:15 09:30	12	0	12	0	0	0	12
09:30 09:45	16	0	16	0	0	0	16
09:45 10:00	9	0	9	0	0	0	9
11:30 11:45	18	0	18	2	0	2	20
11:45 12:00	8	0	8	3	0	3	11
12:00 12:15	21	0	21	2	0	2	23
12:15 12:30	19	0	19	0	1	1	20
12:30 12:45	21	0	21	0	0	0	21
12:45 13:00	16	0	16	0	0	0	16
13:00 13:15	16	0	16	0	0	0	16
13:15 13:30	18	0	18	0	1	1	19
15:00 15:15	19	0	19	2	0	2	21
15:15 15:30	26	0	26	1	0	1	27
15:30 15:45	21	0	21	1	0	1	22
15:45 16:00	21	0	21	0	0	0	21
16:00 16:15	13	0	13	2	0	2	15
16:15 16:30	20	0	20	6	0	6	26
16:30 16:45	24	0	24	3	0	3	27
16:45 17:00	30	0	30	6	0	6	36
17:00 17:15	26	0	26	3	0	3	29
17:15 17:30	37	0	37	5	1	6	43
17:30 17:45	35	0	35	7	0	7	42
Total	588	0	588	50	6	56	644



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BREEZEHILL AVE @ SOMERSET ST

Survey Date: Thursday, August 13, 2015

WO No: 35301

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

BREEZEHILL 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	0	0	0	0	0	0	0	0	1	0	1	1	2	0	3	4	4
07:15 07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	6	6	6
07:30 07:45	1	0	1	2	0	0	0	0	2	0	1	0	1	0	2	0	2	3	5
17:45 18:00	0	0	0	0	0	0	0	0	0	0	3	0	3	0	4	0	4	7	7
07:45 08:00	1	0	0	1	0	0	0	0	1	0	5	1	6	0	3	0	3	9	10
08:00 08:15	0	0	1	1	0	0	0	0	1	0	1	0	1	0	5	0	5	6	7
08:15 08:30	1	0	0	1	0	0	0	0	1	0	5	0	5	0	3	0	3	8	9
08:30 08:45	0	0	0	0	0	0	0	0	0	0	4	0	4	0	3	0	3	7	7
08:45 09:00	0	0	1	1	0	0	0	0	1	0	2	0	2	1	4	0	5	7	8
09:00 09:15	1	0	1	2	0	0	0	0	2	0	2	1	3	0	4	0	4	7	9
09:15 09:30	0	0	2	2	0	0	0	0	2	0	4	1	5	0	1	0	1	6	8
09:30 09:45	2	0	2	4	0	0	0	0	4	0	2	0	2	0	5	0	5	7	11
09:45 10:00	1	0	1	2	0	0	0	0	2	0	3	0	3	0	5	0	5	8	10
11:30 11:45	1	0	0	1	0	0	0	0	1	0	4	0	4	0	3	0	3	7	8
11:45 12:00	2	0	0	2	0	0	0	0	2	0	4	0	4	1	3	0	4	8	10
12:00 12:15	0	0	1	1	0	0	0	0	1	0	1	0	1	3	3	0	6	7	8
12:15 12:30	1	0	1	2	0	0	0	0	2	0	1	0	1	0	2	0	2	3	5
12:30 12:45	0	0	0	0	0	0	0	0	0	0	2	1	3	0	2	0	2	5	5
12:45 13:00	0	0	0	0	0	0	0	0	0	0	1	2	3	0	3	0	3	6	6
13:00 13:15	1	0	0	1	0	0	0	0	1	0	3	0	3	1	2	0	3	6	7
13:15 13:30	0	0	0	0	0	0	0	0	0	0	1	0	1	0	6	0	6	7	7
15:00 15:15	1	0	2	3	0	0	0	0	3	0	3	0	3	0	3	0	3	6	9
15:15 15:30	0	0	0	0	0	0	0	0	0	0	2	0	2	0	4	0	4	6	6
15:30 15:45	0	0	1	1	0	0	0	0	1	0	2	0	2	0	4	0	4	6	7
15:45 16:00	0	0	0	0	0	0	0	0	0	0	4	0	4	0	4	0	4	8	8
16:00 16:15	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3	0	3	4	4
16:15 16:30	0	0	0	0	0	0	0	0	0	0	3	0	3	0	2	0	2	5	5
16:30 16:45	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2
16:45 17:00	0	0	0	0	0	0	0	0	0	0	1	1	2	0	2	0	2	4	4
17:00 17:15	0	0	0	0	0	0	0	0	0	0	3	1	4	0	1	0	1	5	5
17:15 17:30	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3	3
17:30 17:45	0	0	0	0	0	0	0	0	0	0	3	0	3	0	1	0	1	4	4
Total: None	13	0	14	27	0	0	0	0	27	0	75	8	83	8	96	0	104	187	214



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BREEZEHILL AVE @ SOMERSET ST

Survey Date: Thursday, August 13, 2015

WO No: 35301

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

BREEZEHILL 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
17:45	18:00	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	1	0	1
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	1	0	1
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	1	0	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	1	1
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	1	1
17:30	17:45	0	0	1	0	1
Total		0	0	4	2	6

Turning Movement Count - Study Results

GLADSTONE AVE @ PRESTON ST

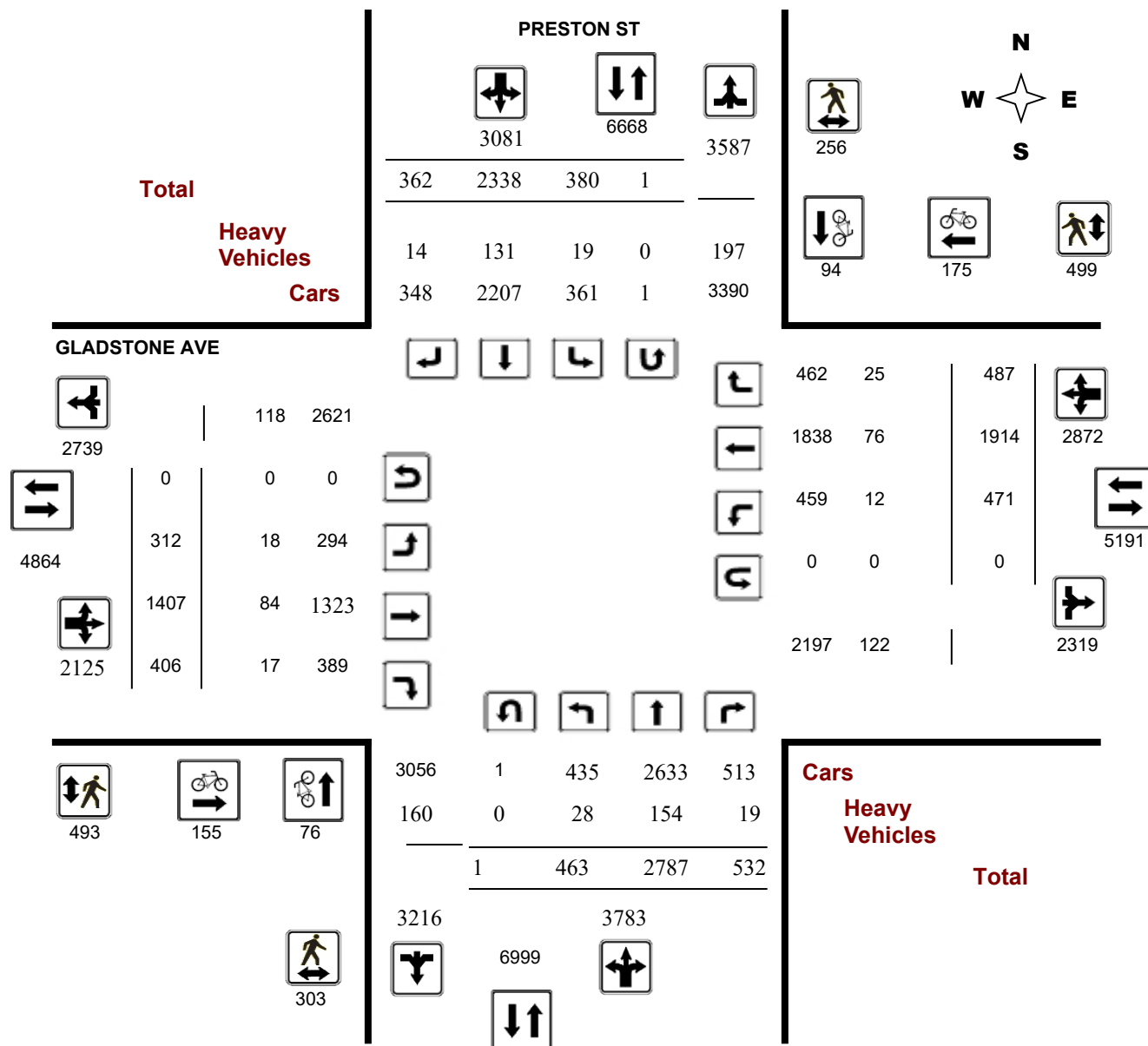
Survey Date: Thursday, July 04, 2024

Start Time: 07:00

WO No: 41759

Device: Miovision

Full Study Diagram



Survey Date: Thursday, July 04, 2024

Start Time: 07:00

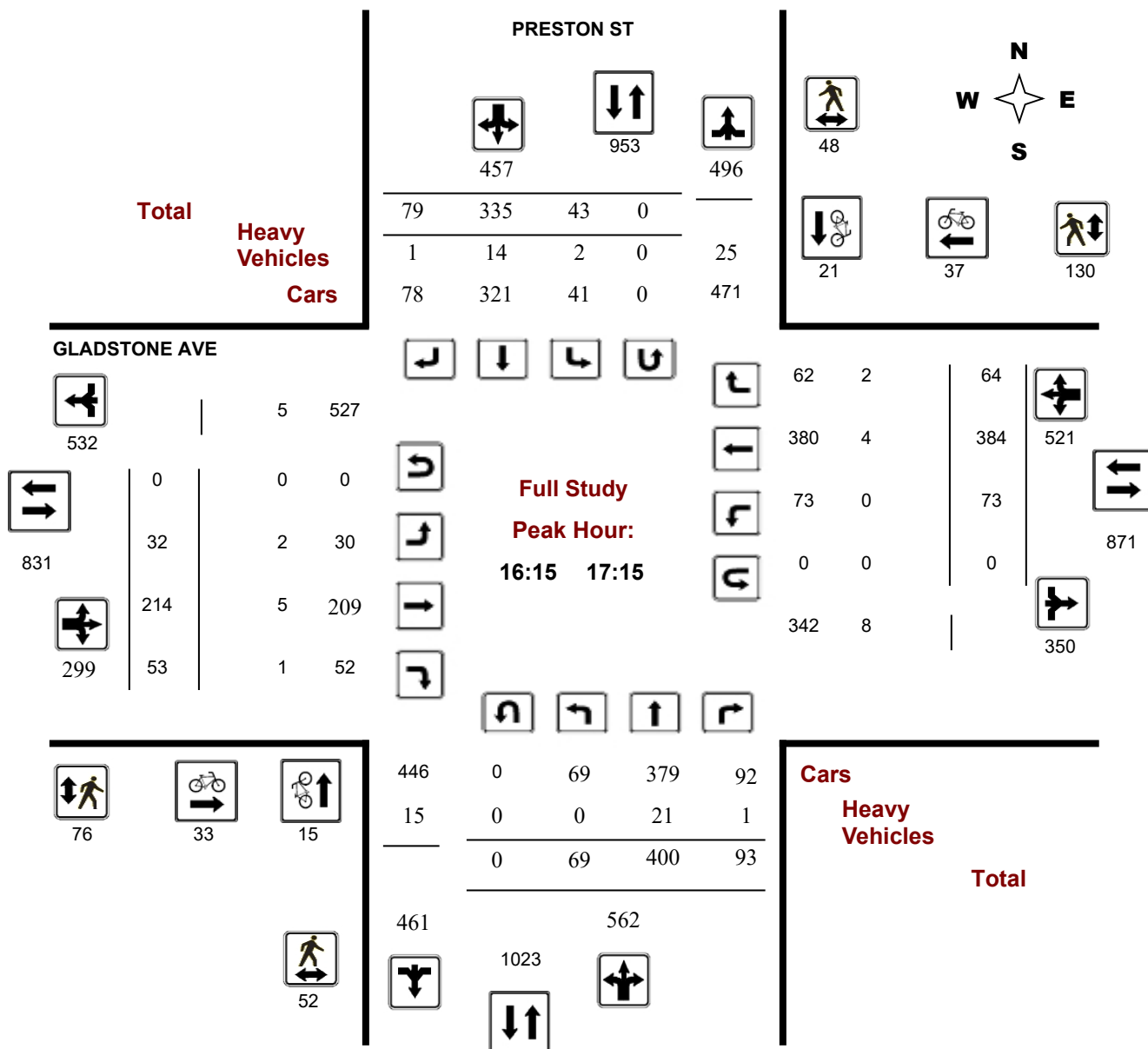
WO No:

41759

Device:

Miovision

Full Study Peak Hour Diagram



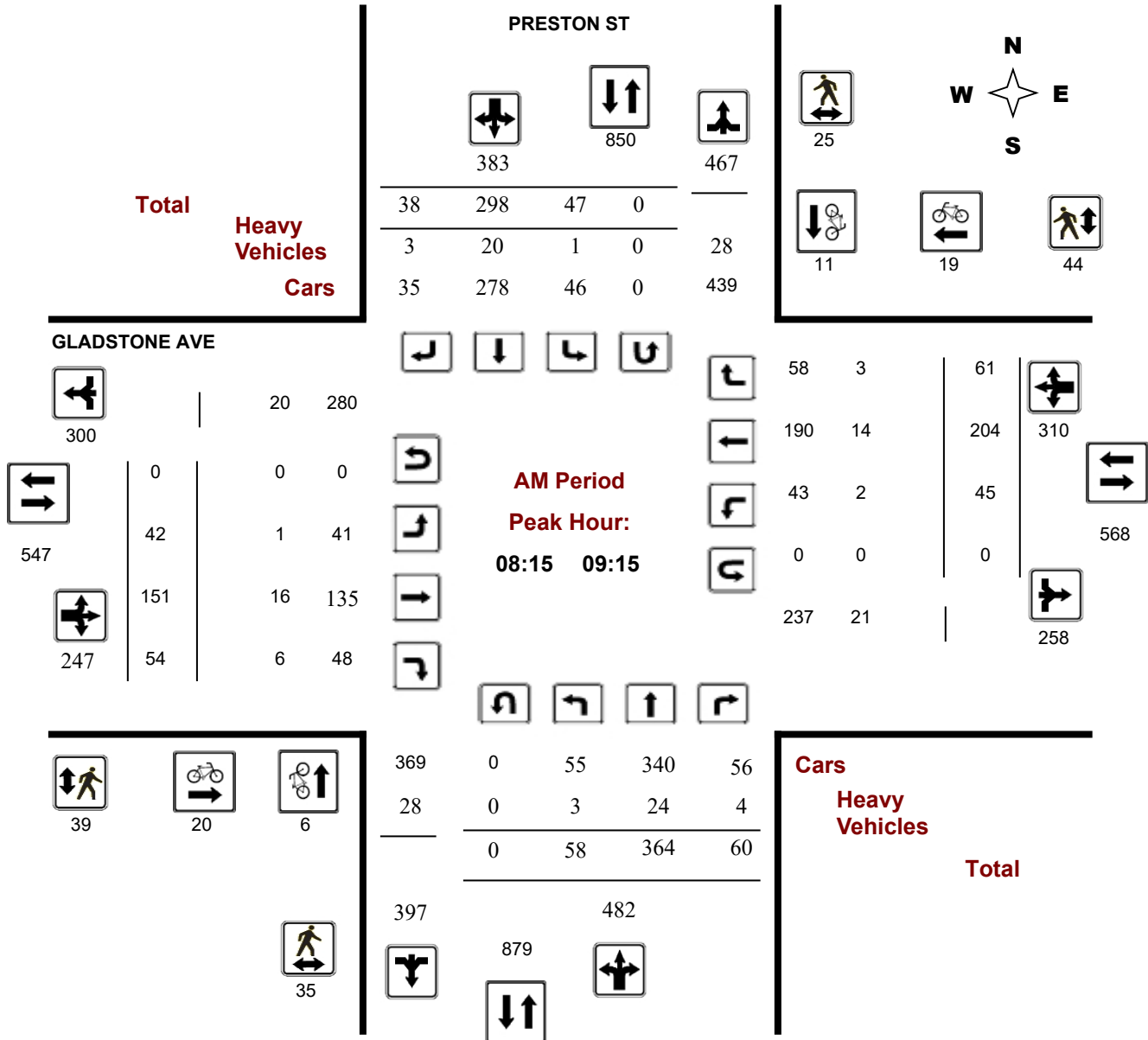
Survey Date: Thursday, July 04, 2024

WO No: 41759

Start Time: 07:00

Device: Miovision

AM Period Peak Hour Diagram



Turning Movement Count - Study Results

GLADSTONE AVE @ PRESTON ST

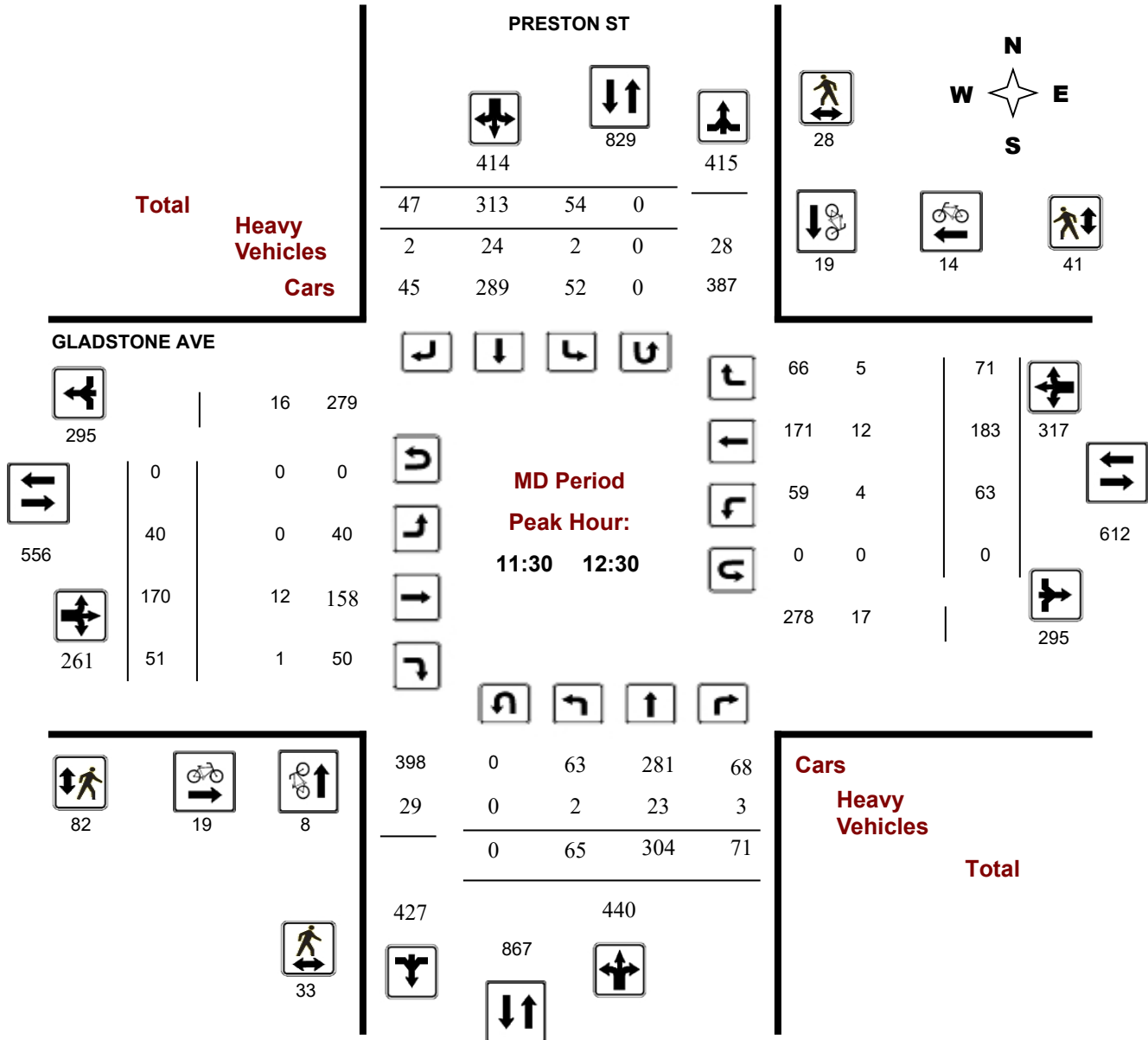
Survey Date: Thursday, July 04, 2024

WO No: 41759

Start Time: 07:00

Device: Miovision

MD Period Peak Hour Diagram



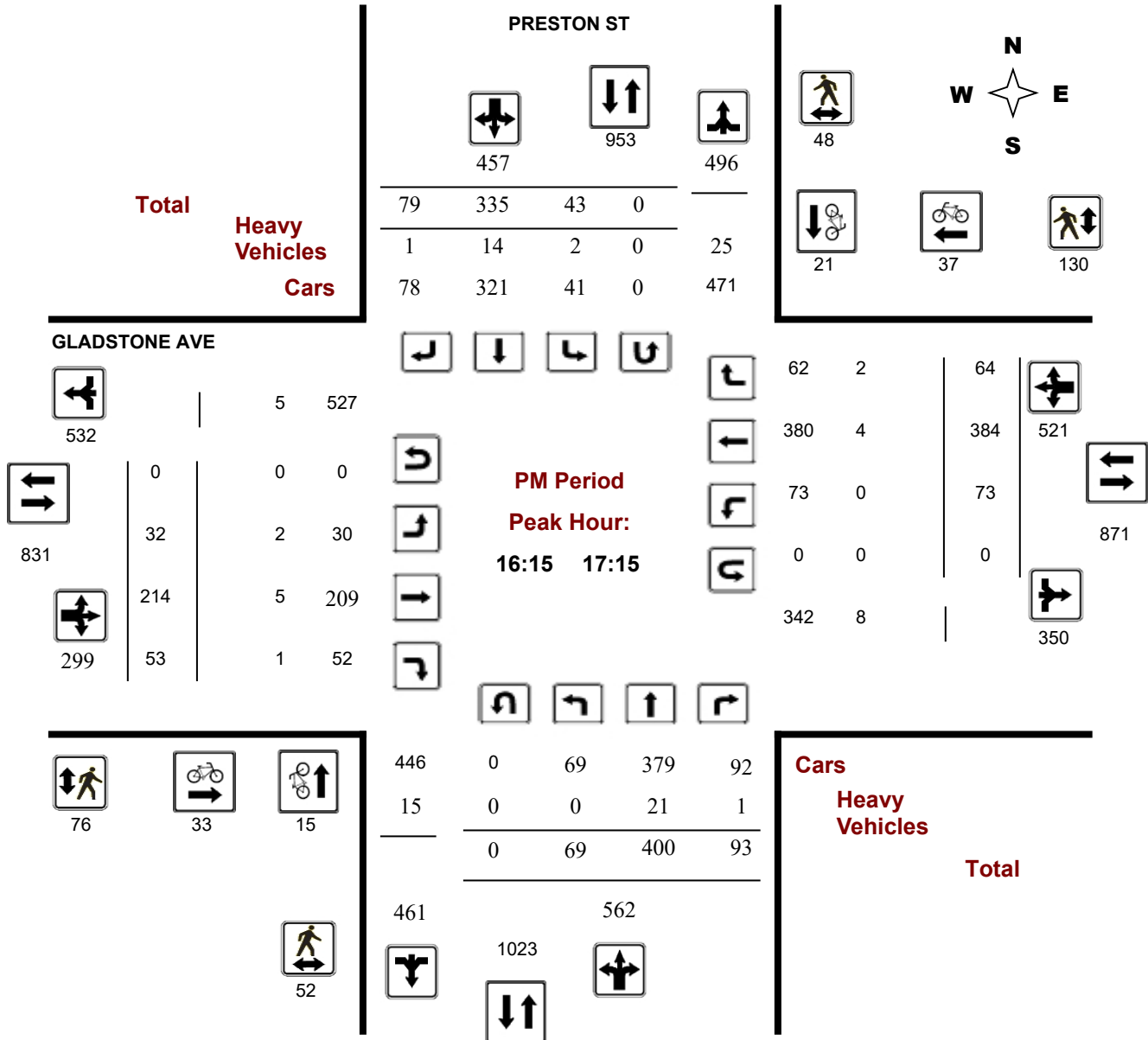
Survey Date: Thursday, July 04, 2024

WO No: 41759

Start Time: 07:00

Device: Miovision

PM Period Peak Hour Diagram





Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ PRESTON ST

Survey Date: Thursday, July 04, 2024

WO No: 41759

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Thursday, July 04, 2024

Total Observed U-Turns

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

AADT Factor

.90

PRESTON ST

GLADSTONE AVE

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	49	284	47	380		36	306	26	368	748	27	109	35	171		45	142	44	231	402	1150
08:00 09:00	57	370	58	485		47	295	49	391	876	37	160	51	248		42	196	56	294	542	1418
09:00 10:00	56	324	51	431		39	250	36	325	756	42	136	50	228		46	170	58	274	502	1258
11:30 12:30	65	304	71	440		54	313	47	414	854	40	170	51	261		63	183	71	317	578	1432
12:30 13:30	49	312	67	428		51	249	40	340	768	38	140	52	230		66	220	71	357	587	1355
15:00 16:00	52	448	72	572		56	313	56	425	997	47	215	56	318		64	249	55	368	686	1683
16:00 17:00	75	394	73	542		41	330	62	433	975	35	210	44	289		70	389	67	526	815	1790
17:00 18:00	60	351	93	504		56	282	46	384	888	46	267	67	380		75	365	65	505	885	1773
Sub Total	463	2787	532	3782		380	2338	362	3080	6862	312	1407	406	2125		471	1914	487	2872	4997	11859
U Turns				1					1	2				0					0	0	2
Total	463	2787	532	3783		380	2338	362	3081	6864	312	1407	406	2125		471	1914	487	2872	4997	11861
EQ 12Hr	644	3874	739	5258		528	3250	503	4283	9541	434	1956	564	2954		655	2660	677	3992	6946	16487

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

1.39

AVG 12Hr	580	3487	665	4732		475	3832	593	3855	8587	391	1760	508	2659		590	2394	609	3593	6251	14838
-----------------	-----	------	-----	------	--	-----	------	-----	------	------	-----	------	-----	------	--	-----	------	-----	------	------	-------

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

.90

AVG 24Hr	760	4568	871	6199		622	5020	777	5050	11249	512	2306	665	3483		773	3136	798	4707	8189	19438
-----------------	-----	------	-----	------	--	-----	------	-----	------	-------	-----	------	-----	------	--	-----	------	-----	------	------	-------

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

GLADSTONE AVE @ PRESTON ST

Survey Date: Thursday, July 04, 2024

WO No: 41759

Start Time: 07:00

Device: Miovision

Full Study 15 Minute Increments

PRESTON ST

GLADSTONE AVE

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	10	52	12	74	12	64	8	84	158	1	26	9	36	6	31	9	46	82	240
07:15	07:30	10	56	13	79	4	75	6	85	164	9	25	12	46	5	36	13	54	100	264
07:30	07:45	14	91	5	110	8	75	7	90	200	4	28	6	38	16	37	13	66	104	304
09:30	09:45	19	73	17	109	12	60	13	85	194	11	26	12	49	9	34	13	56	105	299
11:45	12:00	23	75	19	117	17	77	13	107	224	7	37	16	60	13	39	15	67	127	351
12:15	12:30	12	75	21	108	14	88	14	116	224	16	54	13	83	18	51	17	86	169	393
16:00	16:15	20	91	13	124	13	88	4	105	229	12	58	9	79	17	76	13	106	185	414
17:00	17:15	14	97	33	144	15	93	21	129	273	9	62	18	89	20	71	10	101	190	463
17:45	18:00	15	83	24	123	13	52	4	69	192	11	71	25	107	17	99	21	137	244	436
07:45	08:00	15	85	17	117	12	92	5	109	226	13	30	8	51	18	38	9	65	116	342
12:45	13:00	11	79	22	112	12	75	11	98	210	9	26	12	47	19	69	14	102	149	359
08:00	08:15	9	89	11	109	11	65	16	92	201	7	47	10	64	10	36	12	58	122	323
08:15	08:30	8	95	11	114	14	79	12	105	219	8	36	9	53	17	40	13	70	123	342
08:30	08:45	20	100	16	136	12	68	11	91	227	9	33	19	61	10	52	11	73	134	361
17:15	17:30	19	86	20	125	19	62	10	92	217	10	55	13	78	18	96	10	124	202	419
08:45	09:00	20	86	20	126	10	83	10	103	229	13	44	13	70	5	68	20	93	163	392
09:00	09:15	10	83	13	106	11	68	5	84	190	12	38	13	63	13	44	17	74	137	327
09:15	09:30	15	86	10	111	9	62	12	83	194	8	32	10	50	11	44	15	70	120	314
15:00	15:15	12	98	17	127	18	79	10	107	234	13	54	19	86	14	58	10	82	168	402
09:45	10:00	12	82	11	105	7	60	6	73	178	11	40	15	66	13	48	13	74	140	318
11:30	11:45	12	75	17	104	11	72	9	92	196	7	45	15	67	17	39	15	71	138	334
13:00	13:15	8	79	15	102	10	67	12	89	191	11	30	17	58	23	48	20	91	149	340
12:00	12:15	18	79	14	111	12	76	11	99	210	10	34	7	51	15	54	24	93	144	354
12:30	12:45	18	81	13	112	11	43	7	61	173	10	38	11	59	11	47	17	75	134	307
16:45	17:00	23	105	24	152	9	70	22	101	253	10	50	12	72	17	110	16	143	215	468
13:15	13:30	12	73	17	102	18	64	10	92	194	8	46	12	66	13	56	20	89	155	349
15:15	15:30	9	120	19	148	16	68	10	94	242	10	52	7	69	18	59	19	96	165	407
15:30	15:45	15	117	21	153	9	79	16	104	257	11	54	15	80	18	73	14	105	185	442
15:45	16:00	16	113	15	144	13	87	20	120	264	13	55	15	83	14	59	12	85	168	432
16:15	16:30	13	95	20	128	5	92	12	109	237	6	49	9	64	13	87	19	119	183	420
17:30	17:45	12	85	16	113	9	75	11	95	208	16	79	11	106	20	99	24	143	249	457
16:30	16:45	19	103	16	138	14	80	24	118	256	7	53	14	74	23	116	19	158	232	488
Total:		463	2787	532	3783	380	2338	362	3081	6864	312	1407	406	2125	471	1914	487	2872	4997	11,861

Note: U-Turns are included in Totals, cyclist volume is not included in totals. For cyclist volumes refer to Cyclist Volume report.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ PRESTON ST

Survey Date: Thursday, July 04, 2024

WO No: 41759

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

			PRESTON ST			GLADSTONE AVE			Grand Total
Time Period			Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00	07:15		1	2	3	7	7	14	17
07:15	07:30		3	1	4	1	2	3	7
07:30	07:45		3	1	4	4	10	14	18
09:30	09:45		1	0	1	1	3	4	5
11:45	12:00		3	4	7	6	3	9	16
12:15	12:30		2	1	3	6	7	13	16
16:00	16:15		7	5	12	5	14	19	31
17:00	17:15		4	4	8	8	10	18	26
17:45	18:00		2	0	2	7	7	14	16
07:45	08:00		2	0	2	6	6	12	14
12:45	13:00		1	4	5	4	3	7	12
08:00	08:15		0	4	4	6	6	12	16
08:15	08:30		1	1	2	6	2	8	10
08:30	08:45		4	6	10	7	6	13	23
17:15	17:30		3	1	4	4	7	11	15
08:45	09:00		0	3	3	3	7	10	13
09:00	09:15		1	1	2	4	4	8	10
09:15	09:30		0	2	2	3	4	7	9
15:00	15:15		5	1	6	3	3	6	12
09:45	10:00		3	1	4	5	5	10	14
11:30	11:45		1	6	7	6	3	9	16
13:00	13:15		1	1	2	1	3	4	6
12:00	12:15		2	8	10	1	1	2	12
12:30	12:45		4	4	8	1	5	6	14
16:45	17:00		4	5	9	9	8	17	26
13:15	13:30		0	3	3	3	1	4	7
15:15	15:30		4	5	9	5	5	10	19
15:30	15:45		1	1	2	5	4	9	11
15:45	16:00		2	2	4	4	4	8	12
16:15	16:30		4	3	7	7	15	22	29
17:30	17:45		4	5	9	8	6	14	23
16:30	16:45		3	9	12	9	4	13	25
Total			76	94	170	155	175	330	500



Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ PRESTON ST

Survey Date: Thursday, July 04, 2024

WO No: 41759

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

PRESTON ST

GLADSTONE AVE

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	7	1	8	6	6	12	20
07:15 07:30	0	4	4	3	3	6	10
07:30 07:45	15	4	19	12	9	21	40
09:30 09:45	5	6	11	6	8	14	25
11:45 12:00	11	5	16	14	14	28	44
12:15 12:30	6	8	14	37	12	49	63
16:00 16:15	11	11	22	12	31	43	65
17:00 17:15	21	15	36	19	49	68	104
17:45 18:00	8	8	16	18	23	41	57
07:45 08:00	5	10	15	15	13	28	43
12:45 13:00	10	4	14	17	15	32	46
08:00 08:15	5	6	11	7	13	20	31
08:15 08:30	7	8	15	11	5	16	31
08:30 08:45	9	5	14	10	14	24	38
17:15 17:30	19	14	33	26	29	55	88
08:45 09:00	12	9	21	11	19	30	51
09:00 09:15	7	3	10	7	6	13	23
09:15 09:30	8	3	11	3	4	7	18
15:00 15:15	8	8	16	19	15	34	50
09:45 10:00	12	3	15	10	10	20	35
11:30 11:45	5	10	15	17	9	26	41
13:00 13:15	5	15	20	19	12	31	51
12:00 12:15	11	5	16	14	6	20	36
12:30 12:45	11	6	17	23	13	36	53
16:45 17:00	8	15	23	27	21	48	71
13:15 13:30	7	9	16	34	18	52	68
15:15 15:30	10	7	17	15	12	27	44
15:30 15:45	10	4	14	9	17	26	40
15:45 16:00	9	14	23	16	14	30	53
16:15 16:30	7	11	18	16	36	52	70
17:30 17:45	18	18	36	26	19	45	81
16:30 16:45	16	7	23	14	24	38	61
Total	303	256	559	493	499	992	1551



Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ PRESTON ST

Survey Date: Thursday, July 04, 2024

WO No: 41759

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

PRESTON ST

GLADSTONE AVE

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	4	1	5	0	5	1	6	11	0	3	1	4	0	4	0	4	8	19
07:15	07:30	2	4	0	6	0	3	1	4	10	0	2	1	3	0	4	2	6	9	19
07:30	07:45	2	7	0	9	1	6	1	8	17	0	3	0	3	3	1	0	4	7	24
09:30	09:45	2	7	2	11	0	4	0	4	15	3	4	0	7	0	3	0	3	10	25
11:45	12:00	0	4	0	4	0	4	1	5	9	0	1	1	2	1	4	1	6	8	17
12:15	12:30	0	7	1	8	0	7	1	8	16	0	5	0	5	1	3	1	5	10	26
16:00	16:15	1	3	0	4	0	3	0	3	7	1	2	0	3	0	4	0	4	7	14
17:00	17:15	0	6	0	6	2	5	1	8	14	0	1	0	1	0	2	0	2	3	17
17:45	18:00	0	2	0	2	1	3	0	4	6	0	2	0	2	0	1	0	1	3	9
07:45	08:00	2	4	2	8	0	2	0	2	10	5	4	0	9	1	0	1	2	11	21
12:45	13:00	2	3	0	5	1	6	1	8	13	0	4	0	4	1	3	2	6	10	23
08:00	08:15	0	7	2	9	2	3	2	7	16	2	3	1	6	0	4	1	5	11	27
08:15	08:30	1	11	1	13	1	2	2	5	18	0	5	2	7	1	2	2	5	12	30
08:30	08:45	0	3	3	6	0	6	1	7	13	1	2	1	4	1	2	0	3	7	20
17:15	17:30	0	1	0	1	2	0	0	2	3	0	1	1	2	0	2	1	3	5	8
08:45	09:00	1	4	0	5	0	9	0	9	14	0	3	1	4	0	5	1	6	10	24
09:00	09:15	1	6	0	7	0	3	0	3	10	0	6	2	8	0	5	0	5	13	23
09:15	09:30	1	2	0	3	0	9	0	9	12	2	3	1	6	0	3	2	5	11	23
15:00	15:15	0	4	0	4	1	5	1	7	11	0	2	1	3	0	3	0	3	6	17
09:45	10:00	5	5	0	10	1	5	1	7	17	1	4	2	7	1	3	1	5	12	29
11:30	11:45	2	7	2	11	2	6	0	8	19	0	4	0	4	1	2	1	4	8	27
13:00	13:15	2	6	1	9	1	3	0	4	13	0	4	0	4	0	2	2	4	8	21
12:00	12:15	0	5	0	5	0	7	0	7	12	0	2	0	2	1	3	2	6	8	20
12:30	12:45	2	4	0	6	1	2	0	3	9	1	2	1	4	0	3	0	3	7	16
16:45	17:00	0	3	0	3	0	4	0	4	7	1	2	1	4	0	1	2	3	7	14
13:15	13:30	0	5	1	6	1	4	0	5	11	0	1	0	1	0	1	0	1	2	13
15:15	15:30	0	5	1	6	1	1	0	2	8	0	1	0	1	0	1	2	3	4	12
15:30	15:45	2	6	0	8	1	4	0	5	13	0	3	0	3	0	2	1	3	6	19
15:45	16:00	0	3	1	4	0	3	0	3	7	0	2	0	2	0	1	0	1	3	10
16:15	16:30	0	6	1	7	0	3	0	3	10	1	1	0	2	0	1	0	1	3	13
17:30	17:45	0	4	0	4	0	2	0	2	6	0	1	0	1	0	1	0	1	2	8
16:30	16:45	0	6	0	6	0	2	0	2	8	0	1	0	1	0	0	0	0	1	9
Total:	None	28	154	19	201	19	131	14	164	365	18	84	17	119	12	76	25	113	232	597



Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ PRESTON ST

Survey Date: Thursday, July 04, 2024

WO No: 41759

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

PRESTON ST

GLADSTONE AVE

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
09:30	09:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:15	12:30	0	0	0	0	0
16:00	16:15	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:45	18:00	1	0	0	0	1
07:45	08:00	0	0	0	0	0
12:45	13:00	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
17:15	17:30	0	1	0	0	1
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
15:00	15:15	0	0	0	0	0
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
13:00	13:15	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:30	12:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
13:15	13:30	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
16:15	16:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
16:30	16:45	0	0	0	0	0
Total		1	1	0	0	2

Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

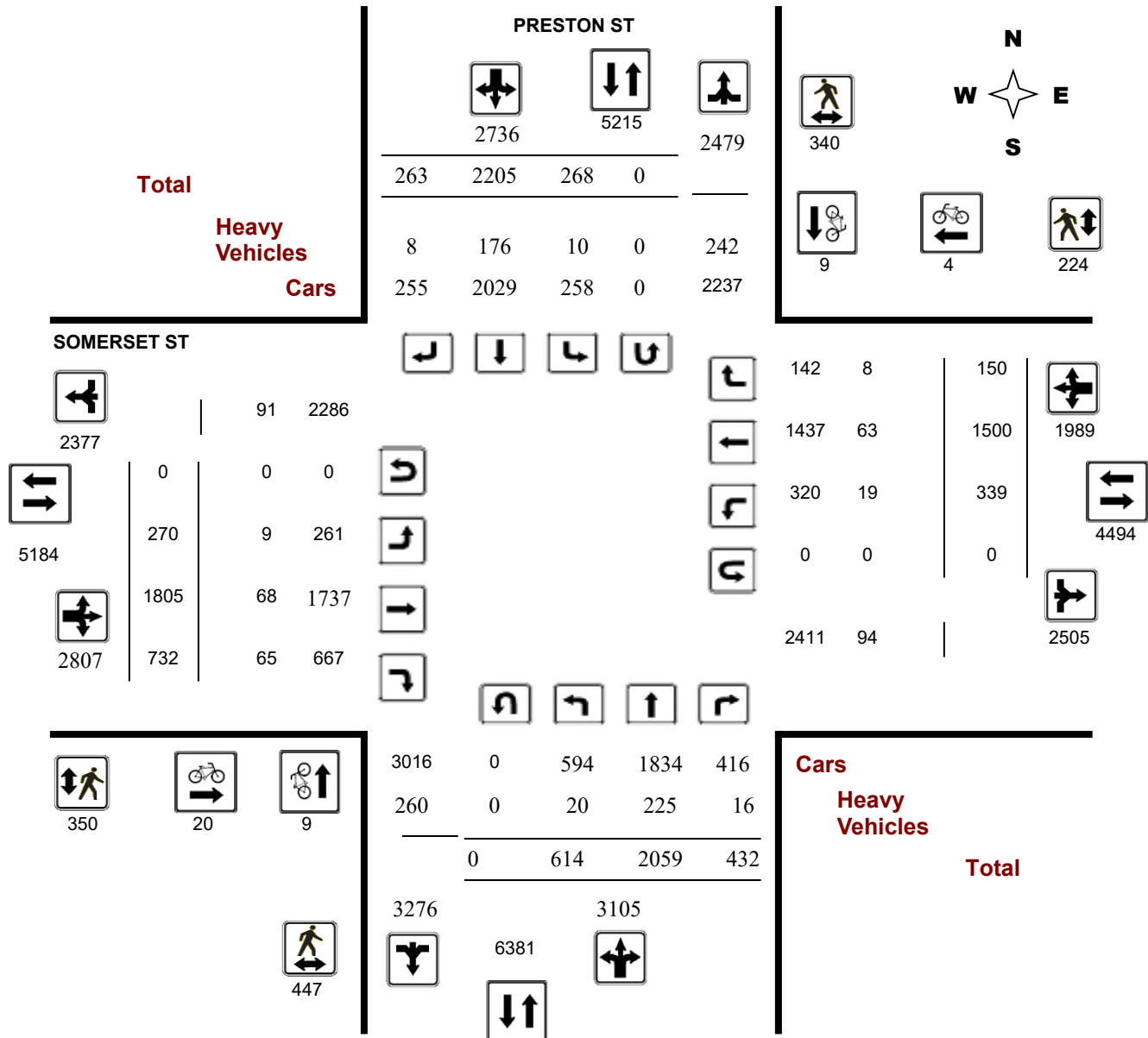
Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

Full Study Diagram



Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

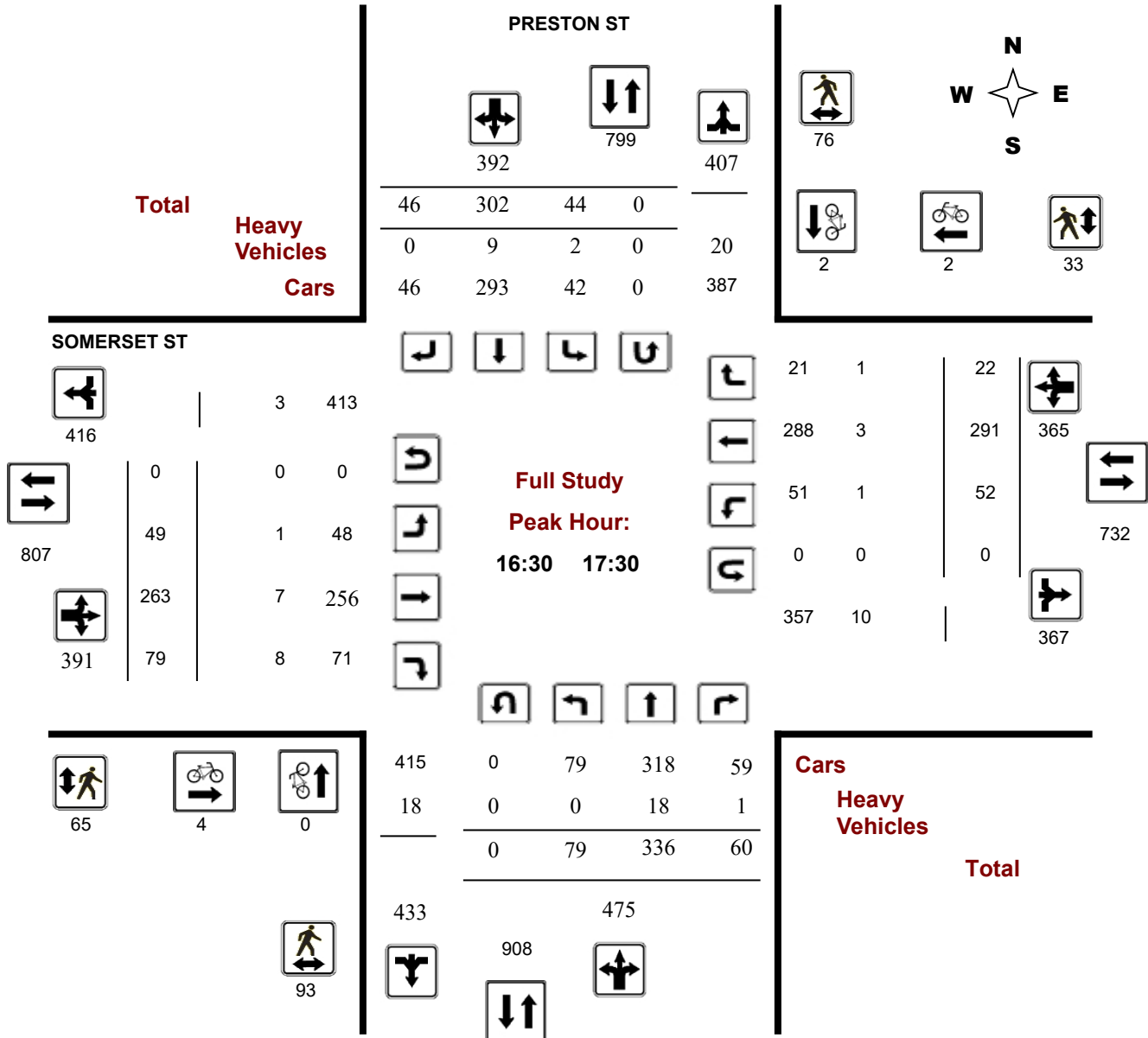
Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram



Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

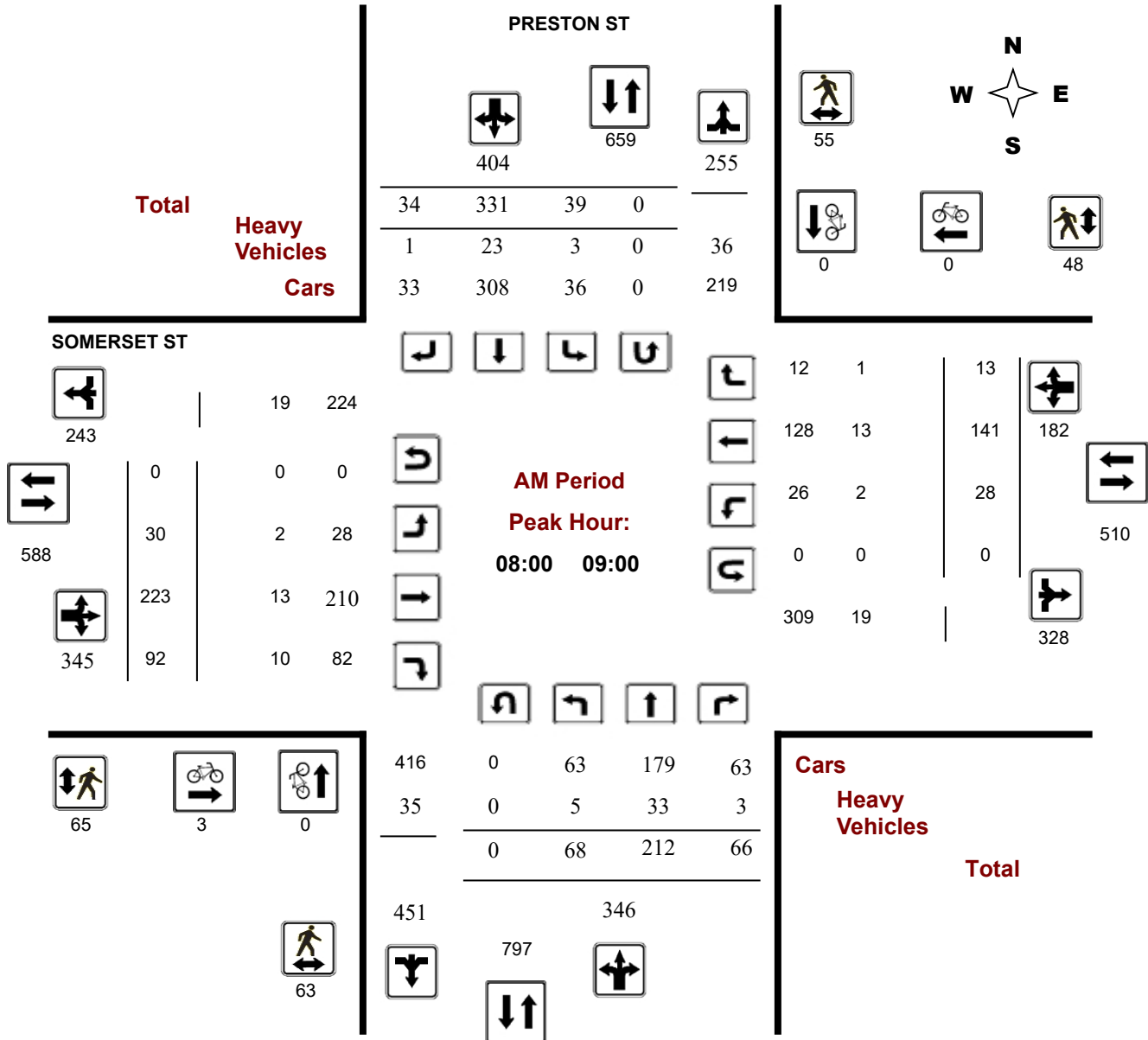
Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

AM Period Peak Hour Diagram



Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

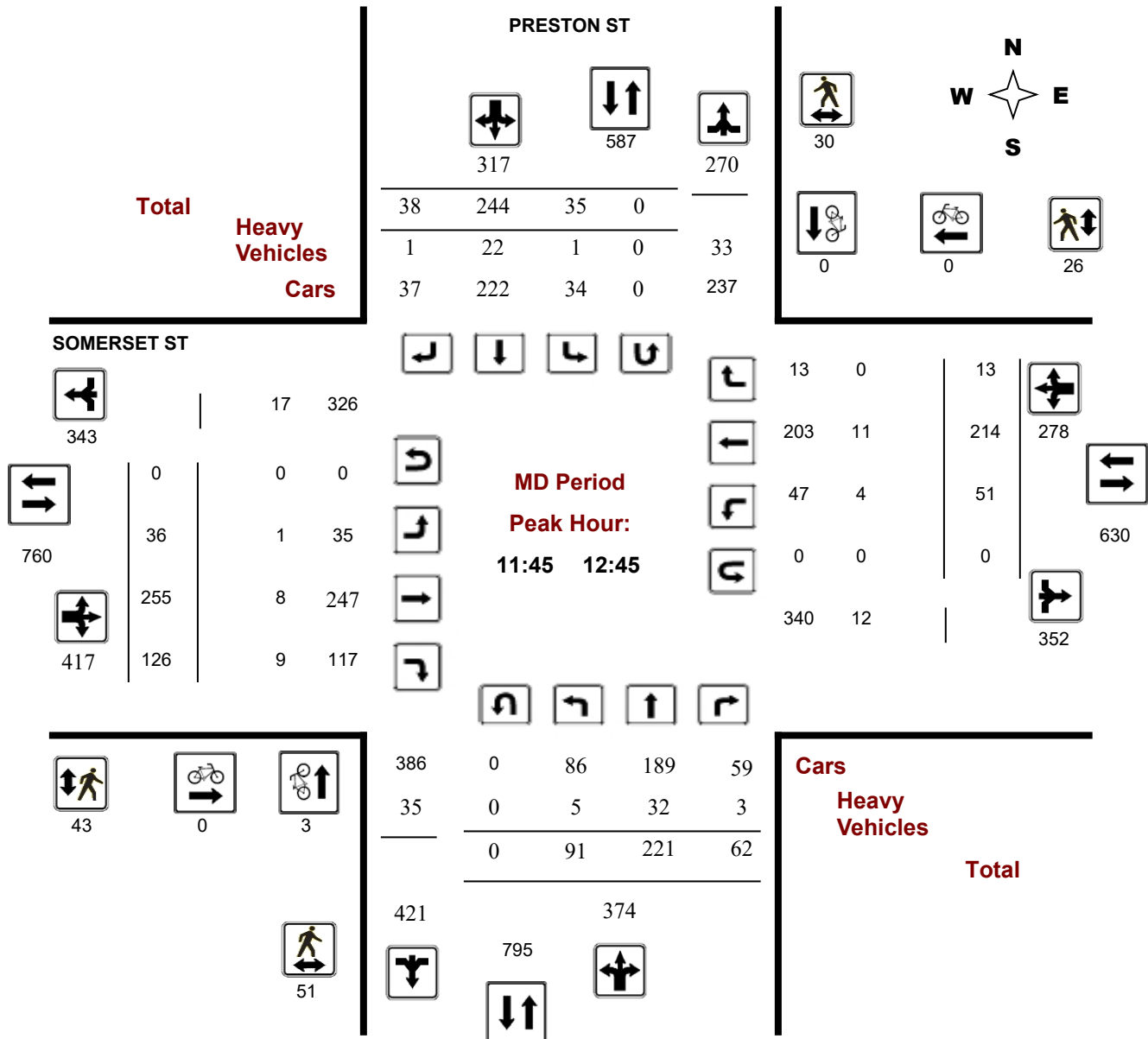
Survey Date: Tuesday, December 19, 2023

WO No: 41404

Start Time: 07:00

Device: Miovision

MD Period Peak Hour Diagram



Turning Movement Count - Study Results

PRESTON ST @ SOMERSET ST

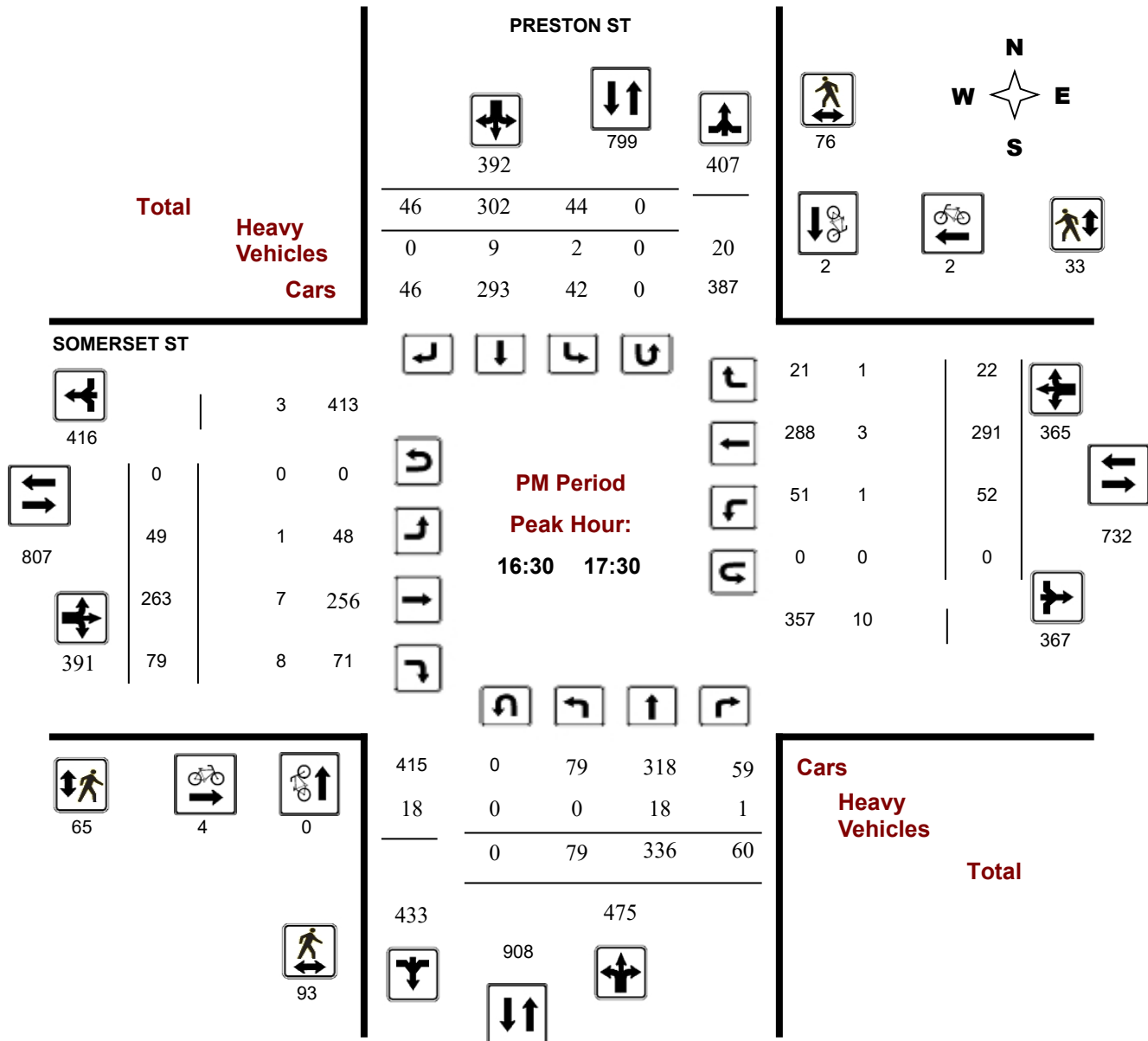
Survey Date: Tuesday, December 19, 2023

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

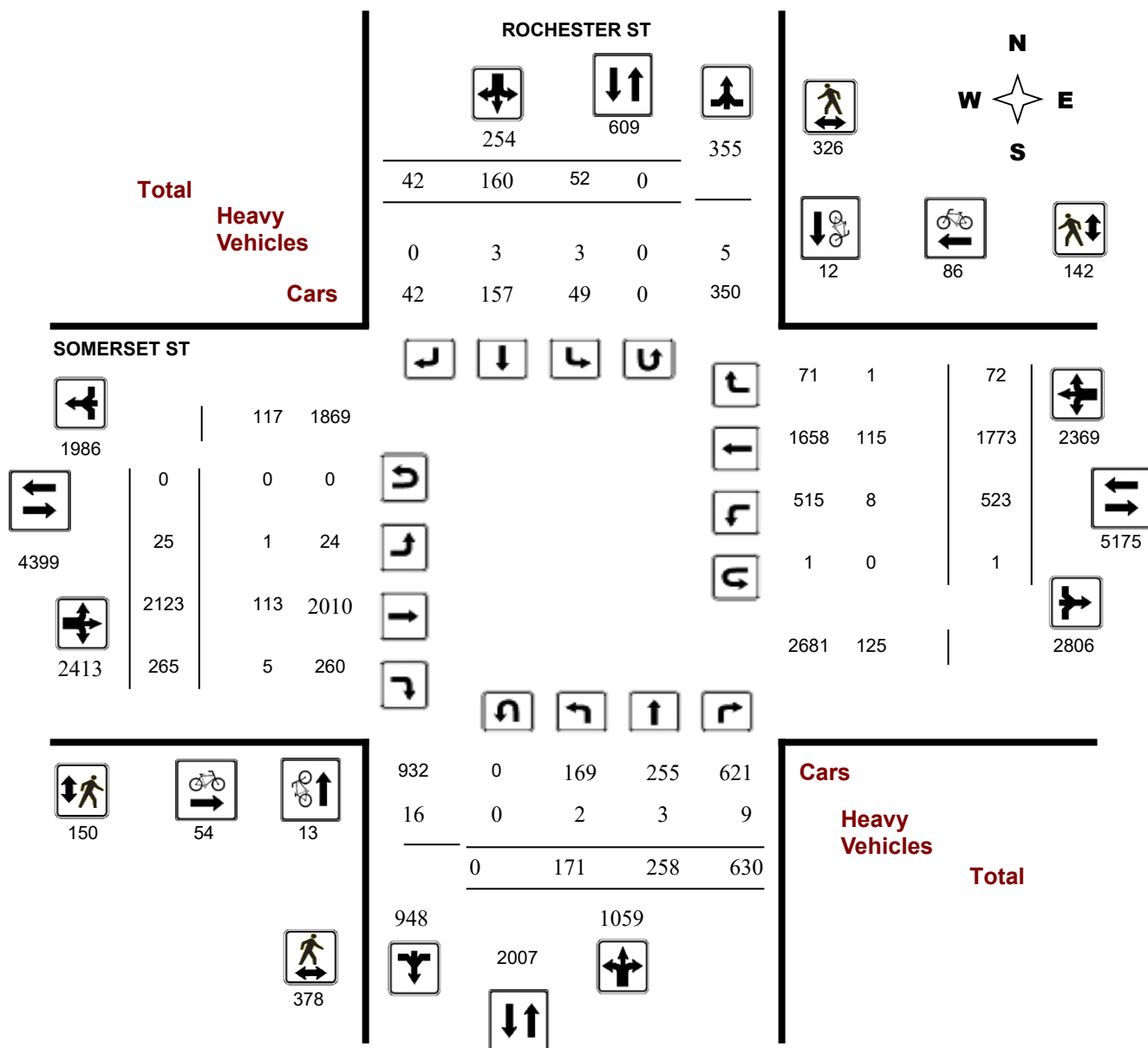
Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

WO No: 40516

Device: Miovision

Full Study Diagram



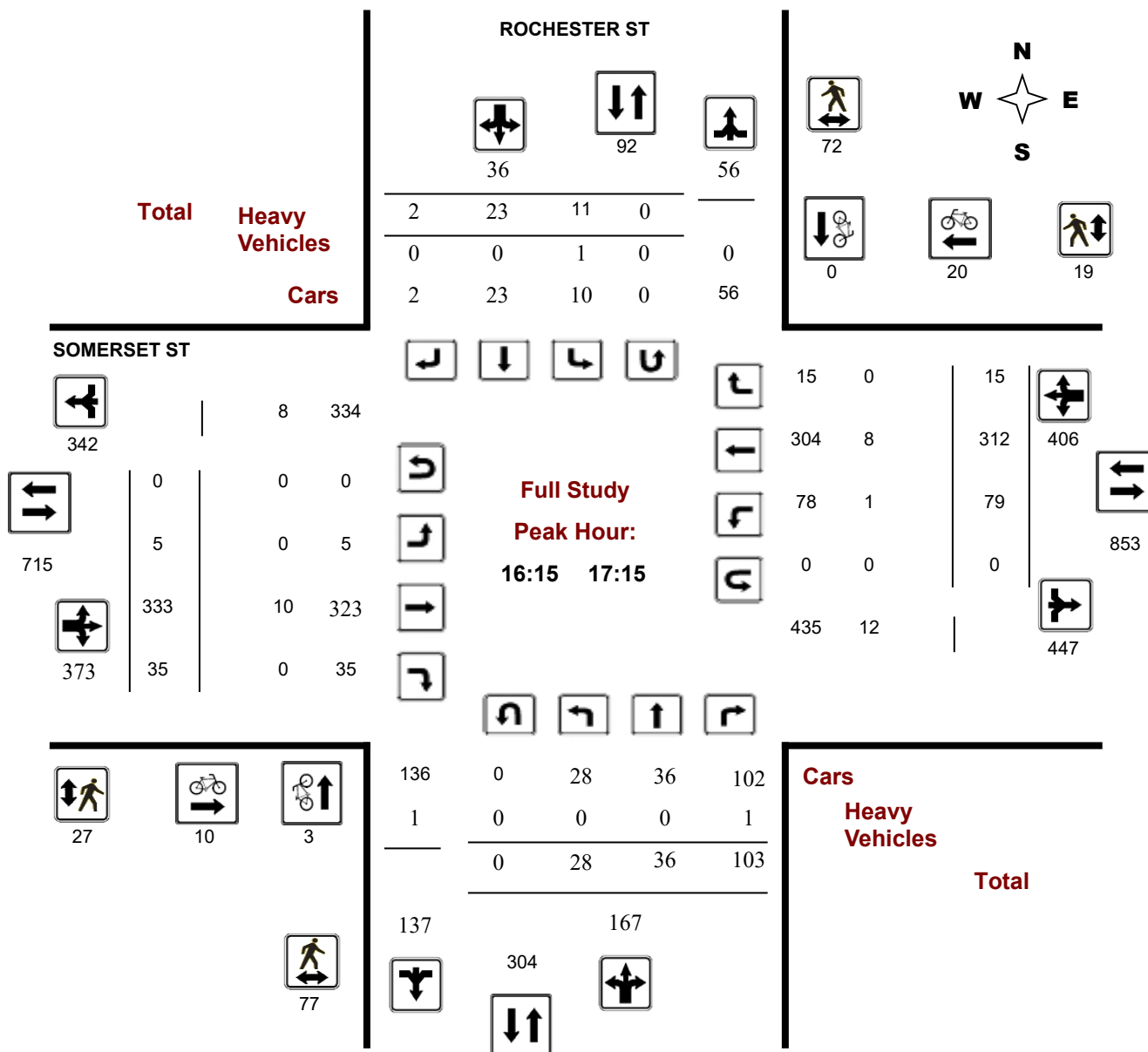
Survey Date: Tuesday, August 23, 2022

WO No: 40516

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram



Turning Movement Count - Peak Hour Diagram

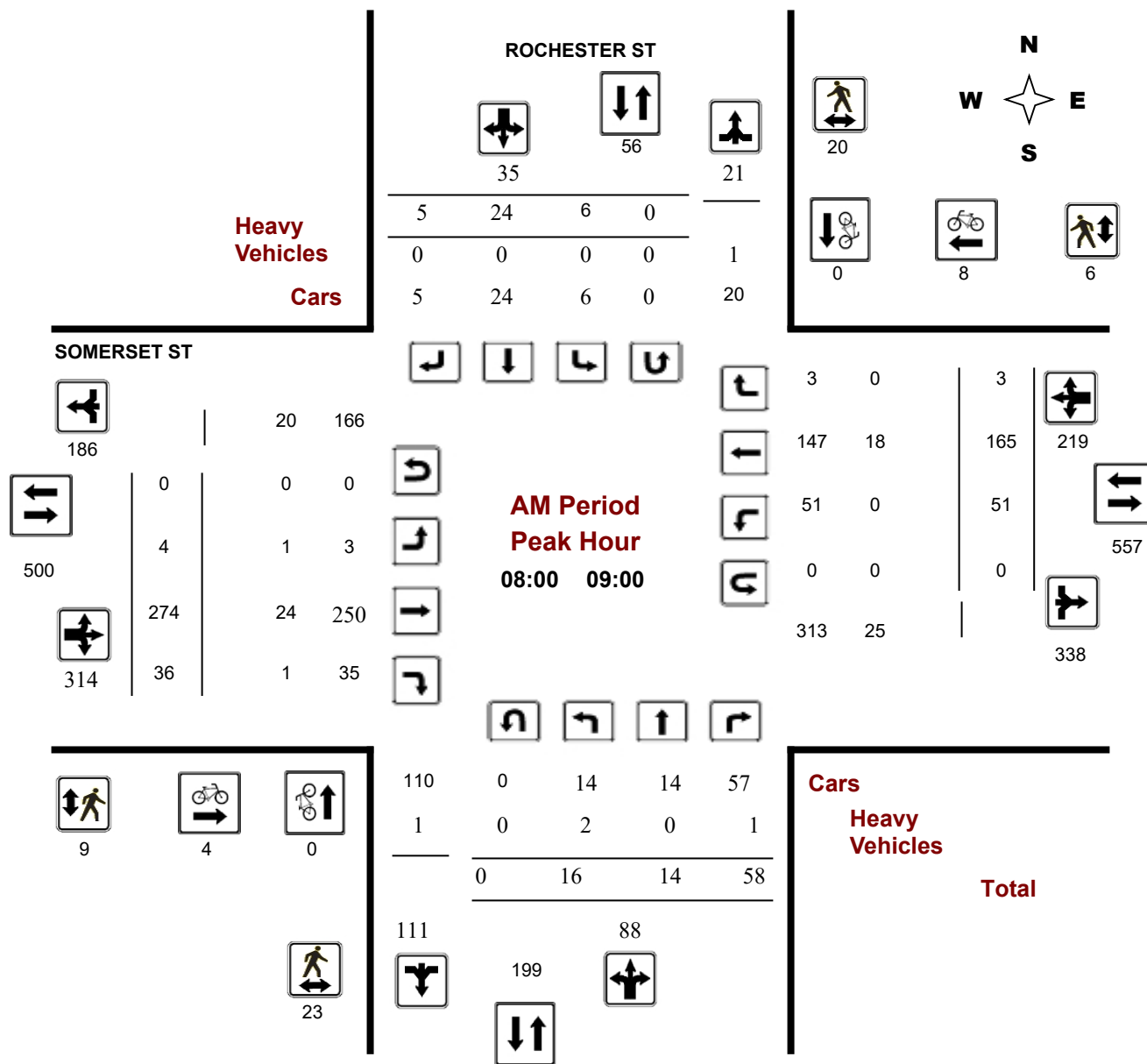
ROCHESTER ST @ SOMERSET ST

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

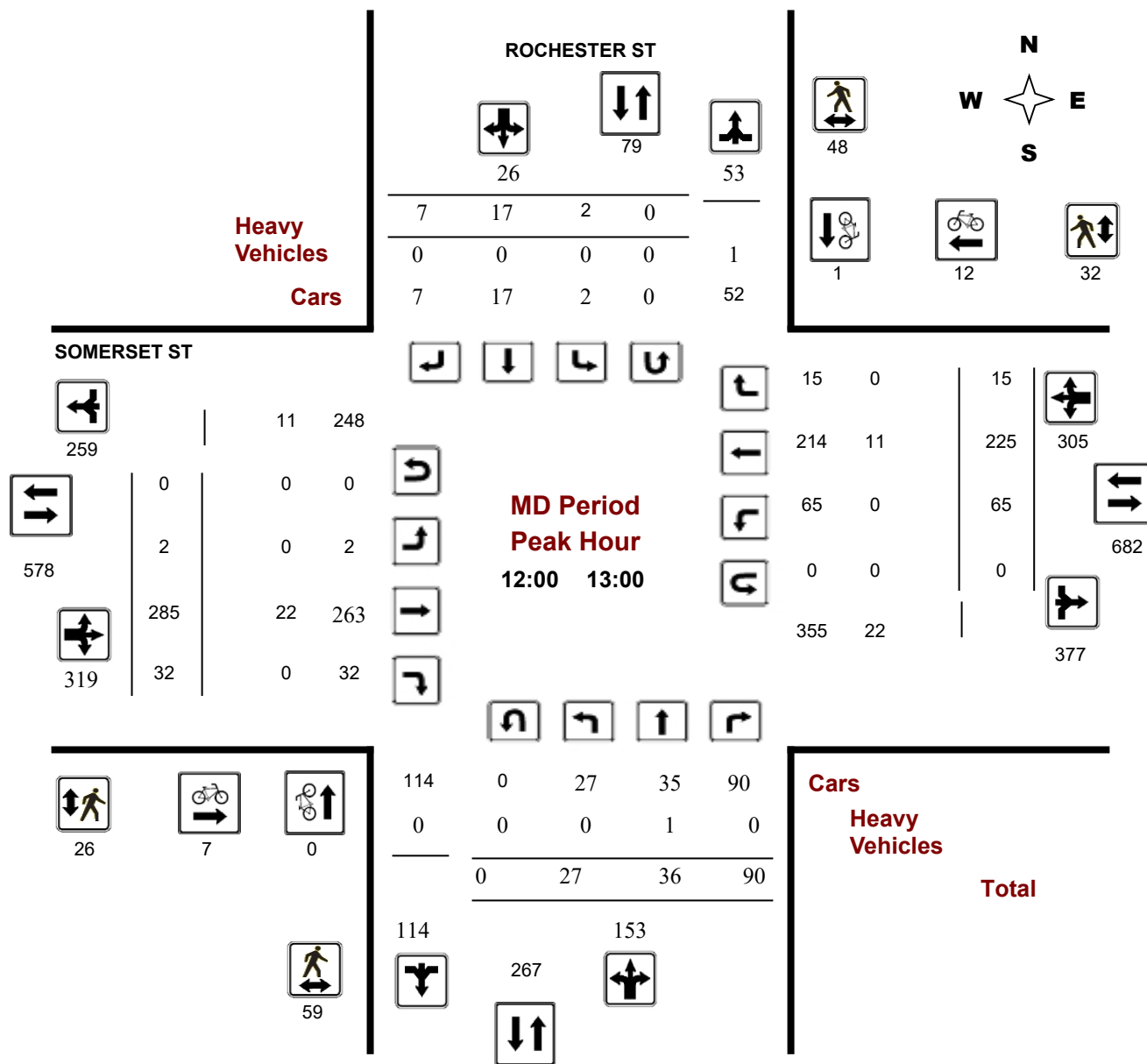
ROCHESTER ST @ SOMERSET ST

Survey Date: Tuesday, August 23, 2022

Start Time: 07:00

WO No: 40516

Device: Miovision



Turning Movement Count - Peak Hour Diagram

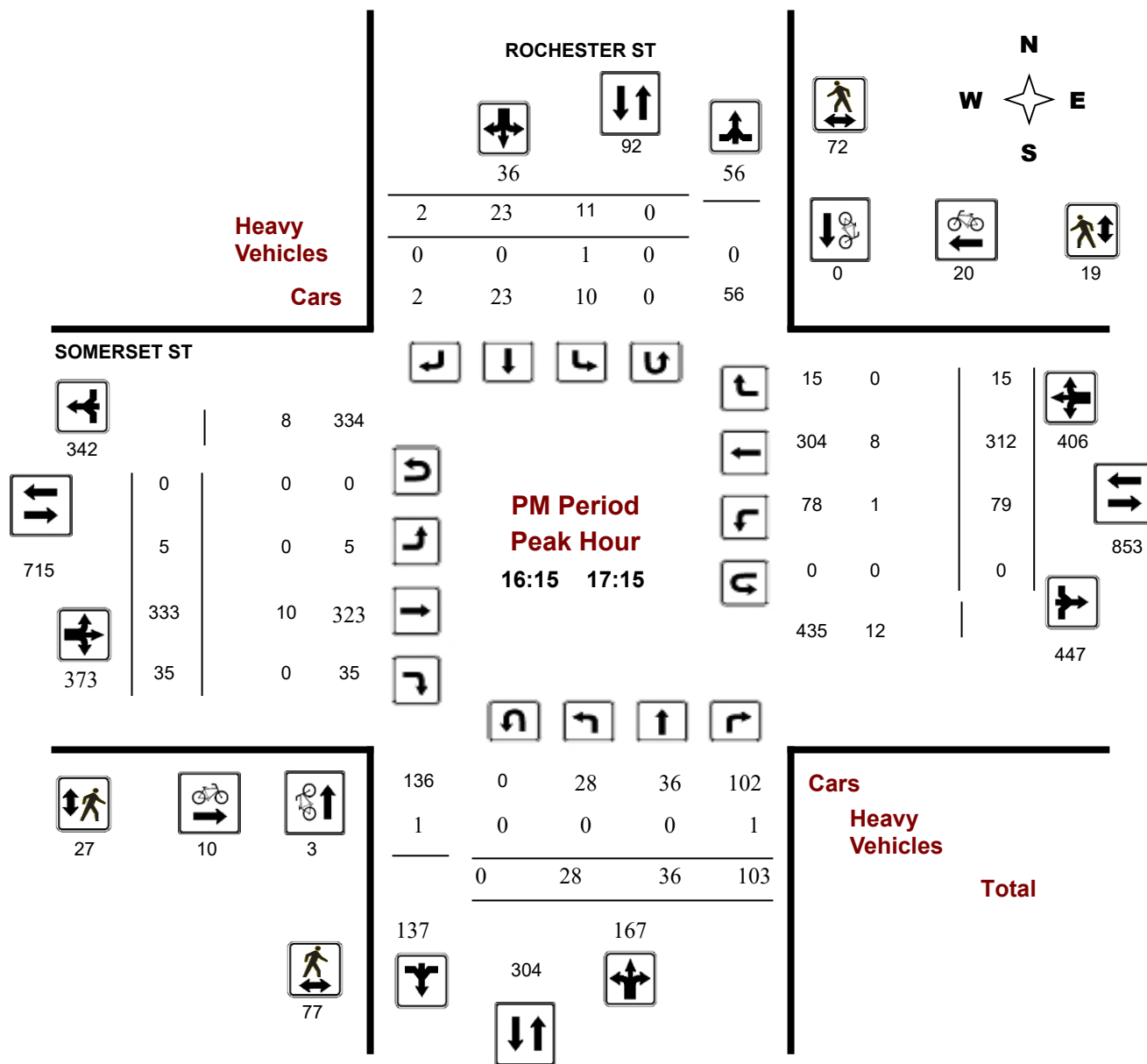
ROCHESTER ST @ SOMERSET ST

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

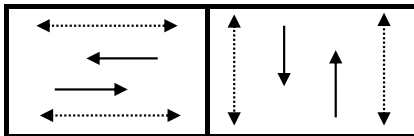
Intersection:	<i>Main:</i> Somerset	<i>Side:</i> Bayswater
Controller:	MS 3200	TSD: 5018
Author:	Nathan Cook	Date: 26-May-2025

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

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

Saturday

Time	Plan
0:15	4
6:30	2
9:00	5
18:30	2
22:30	4

Sunday

Time	Plan
0:15	4
6:30	2
9:00	5
18:00	2
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

Cost is \$62.38 (\$55.20 + HST)

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

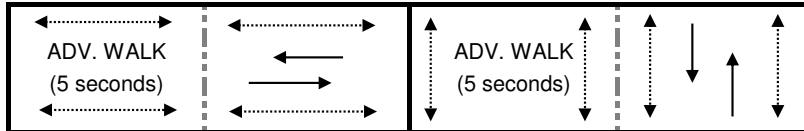
Intersection:	<i>Main:</i> Somerset	<i>Side:</i> Preston
Controller:	ATC3	TSD: 5079
Author:	Nathan Cook	Date: 26-May-2025

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: All



Notes: 1) The Right Turn on red is prohibited for all movements weekdays between 7:00-19:00

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

Cost is \$62.38 (\$55.20 + HST)

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

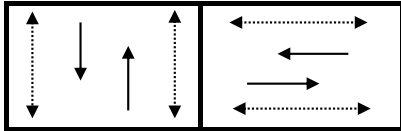
Intersection:	<i>Main:</i> Preston	<i>Side:</i> Gladstone
Controller:	ATC3	TSD: 5258
Author:	Nathan Cook	Date: 26-May-2025

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	70	70	55	60			
Offset	37	44	40	32	24			
NB Thru	45	36	37	28	36	7	11	3.3+2.4
SB Thru	45	36	37	28	36	7	11	3.3+2.4
EB Thru	25	34	33	27	24	8	8	3.0+3.5
WB Thru	25	34	33	27	24	8	8	3.0+3.5

Phasing Sequence[‡]

Plan: All



Notes: 1) The SB and EB Right Turn movements are prohibited on red

Schedule

Weekday

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

Weekend

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

Cost is \$62.38 (\$55.20 + HST)

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

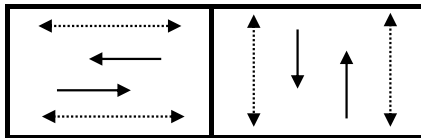
Intersection:	<i>Main:</i> Somerset	<i>Side:</i> Rochester
Controller:	MS 3200	TSD: 5439
Author:	Nathan Cook	Date: 26-May-2025

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	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
22:30	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

Cost is \$62.38 (\$55.20 + HST)

Appendix C Collision Data



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2018 To: December 31, 2022

Location: BREEZEHILL AVE @ SOMERSET ST

Traffic Control: Stop sign

Total Collisions: 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2022-Jan-26, Wed,08:36	Clear	Rear end	P.D. only	Slush	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	

Location: PRESTON ST @ SOMERSET ST

Traffic Control: Traffic signal

Total Collisions: 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Jun-19, Tue,16:36	Clear	Sideswipe	P.D. only	Dry	North	Overtaking	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2018-Aug-17, Fri,16:29	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Oct-25, Thu,16:59	Clear	Turning movement	P.D. only	Dry	North	Turning right	Unknown	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Nov-27, Wed,16:40	Clear	SMV other	Non-fatal injury	Dry	East	Turning left	Pick-up truck	Pedestrian	1
2019-Dec-26, Thu,18:37	Freezing Rain	SMV other	Non-fatal injury	Ice	South	Going ahead	Municipal transit bus	Pedestrian	1
2020-Jul-02, Thu,22:02	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-Jan-02, Sat,21:01	Clear	Rear end	Non-fatal injury	Wet	South	Unknown	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2021-May-16, Sun,19:32	Clear	Angle	Non-fatal injury	Dry	North	Turning right	Pick-up truck	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	
2022-Jun-27, Mon,12:38	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2022-Jul-09, Sat,14:40	Clear	Turning movement	P.D. only	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Motorcycle	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2018 To: December 31, 2022

Location: PRESTON ST @ SOMERSET ST

Traffic Control: Traffic signal

Total Collisions: 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2022-Dec-15, Thu,17:30	Clear	Turning movement	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	

Location: SOMERSET ST btwn BREEZEHILL AVE & PRESTON ST

Traffic Control: No control

Total Collisions: 8

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Jan-17, Wed,18:10	Clear	Angle	P.D. only	Wet	South	Reversing	Unknown	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jun-30, Sat,10:02	Clear	Turning movement	Non-fatal injury	Dry	East	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Aug-09, Thu,18:26	Clear	SMV other	P.D. only	Dry	South	Turning left	Bus (other)	Building or wall	0
2018-Aug-22, Wed,14:20	Clear	Sideswipe	Non-fatal injury	Dry	West	Stopped	Automobile, station wagon	Cyclist	0
					West	Going ahead	Bicycle	Other motor vehicle	
2019-Jul-24, Wed,17:28	Clear	Turning movement	Non-fatal injury	Dry	West	Turning right	Automobile, station wagon	Cyclist	0
					West	Going ahead	Bicycle	Other motor vehicle	
2019-Sep-12, Thu,11:15	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-Oct-06, Wed,11:54	Clear	Turning movement	Non-fatal injury	Dry	West	Going ahead	Bicycle	Other motor vehicle	0
					West	Turning right	Delivery van	Cyclist	
2021-Oct-18, Mon,18:05	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	

Appendix D TDM Check-list

Introduction

The City of Ottawa's *Transportation Impact Assessment (TIA) Guidelines* (specifically Module 4.1—Development Design) requires proponents of qualifying developments to use the City's **TDM-Supportive Development Design and Infrastructure Checklist** to assess the opportunity to implement design elements that are supportive of sustainable modes. The goal of this assessment is to ensure that the development provides safe and efficient access for all users, while creating an environment that encourages walking, cycling and transit use.

The remaining sections of this document are:

- Using the Checklist
- Glossary
- TDM-Supportive Development Design and Infrastructure Checklist: Non-Residential Developments
- TDM-Supportive Development Design and Infrastructure Checklist: Residential Developments

Readers are encouraged to contact the City of Ottawa's TDM Officer for any guidance and assistance they require to complete this checklist.

Using the Checklist

This **TDM-Supportive Development Design and Infrastructure Checklist** document includes two actual checklists, one for non-residential developments (office, institutional, retail or industrial) and one for residential developments (multi-family or condominium only; subdivisions are exempt). Readers may download the applicable checklist in electronic format and complete it electronically, or print it out and complete it by hand. As an alternative, they may create a freestanding document that lists the design and infrastructure measures being proposed and provides additional detail on them.

Each measure in the checklist is numbered for easy reference. Each measure is also flagged as:

- **REQUIRED** —The Official Plan or Zoning By-law provides related guidance that must be followed.
- **BASIC** —The measure is generally feasible and effective, and in most cases would benefit the development and its users.
- **BETTER** —The measure could maximize support for users of sustainable modes, and optimize development performance.

Glossary

This glossary defines and describes the following measures that are identified in the **TDM-Supportive Development Design and Infrastructure Checklist**:

Walking & cycling: Routes

- Building location & access points
- Facilities for walking & cycling
- Amenities for walking & cycling

Walking & cycling: End-of-trip facilities

- Bicycle parking
- Secure bicycle parking
- Shower & change facilities
- Bicycle repair station

Transit

- Walking routes to transit
- Customer amenities

Ridesharing

- Pick-up & drop-off facilities
- Carpool parking

Carsharing & bikesharing

- Carshare parking spaces
- Bikeshare station location

Parking

- Number of parking spaces
- Separate long-term & short-term parking areas

Other

- On-site amenities to minimize off-site trips

In addition to specific references made in this glossary, readers should consult the City of Ottawa's design and planning guidelines for a variety of different land uses and contexts, available on the City's website at www.ottawa.ca. Readers may also find the following resources to be helpful:

- *Promoting Sustainable Transportation through Site Design*, Institute of Transportation Engineers, 2004 (www.cite7.org/wpdm-package/iterp-promoting-sustainable-transportation)
- *Bicycle End-of-Trip Facilities: A Guide for Canadian Municipalities and Employers*, Transport Canada, 2010 (www.fcm.ca/Documents/tools/GMF/Transport_Canada/BikeEndofTrip_EN.pdf)

► ***Walking & cycling: Routes***

Building location & access points. Correctly positioning buildings and their entrances can help make walking convenient, comfortable and safe. Minimizing travel distances and maximizing visibility are key.

Facilities for walking & cycling. The Official Plan gives clear direction on the provision and design of walking and cycling facilities for both access and circulation. On larger, busier sites (e.g. multi-building campuses) the inclusion of sidewalks, pathways, marked crossings, stop signs and traffic calming features can create a safer and more supportive environment for active transportation.

Amenities for walking & cycling. Lighting, landscaping, benches and wayfinding can make walking and cycling safer and more secure, comfortable and accessible.

► ***Walking & cycling: End-of-trip facilities***

Bicycle parking. The Official Plan and Zoning By-law both address the need for adequate bicycle parking at developments. Weather protection and theft prevention are major concerns for commuters who spend hundreds or thousands of dollars on a quality bicycle. Bicycle racks should have a design that enables secure locking while preventing damage to wheels. They should be located within sight of busy areas such as main building entrances or staffed parking kiosks.

Secure bicycle parking. Ottawa's Zoning By-law requires a secure area for bicycles at office or residential developments having more than 50 bicycle parking spaces. Lockable outdoor bike cages or indoor storage rooms that limit access to registered users are ideal.

Shower & change facilities. Longer-distance cyclists, joggers and even pedestrians can need a place to shower and change at work; the lack of such facilities is a major barrier to active commuting. Lockers and drying racks provide a place to store gear away from workspaces, and showers and grooming stations allow commuters to make themselves presentable for the office.

Bicycle repair station. Cycling commuters can experience maintenance issues that make the homeward trip difficult or impossible. A small supply of tools (e.g. air pump, Allen keys, wrenches) and supplies (e.g. inner tube patches, chain lubricant) in the workplace can help.

► ***Transit***

Customer amenities. Larger developments that feature an on-site transit stop can make transit use more attractive by providing shelters, lighting and benches. Even better, they could integrate the passenger waiting area into a building entrance.

► **Ridesharing**

Pick-up & drop-off facilities. Having a safe place to load or unload passengers (for carpools as well as taxis and ride-hailing services) without obstructing pedestrians, cyclists or other vehicles can help make carpooling work.

Carpool parking. At destinations with large parking lots (or lots that regularly fill to capacity), signed priority carpool parking spaces can be an effective ridesharing incentive. Priority spaces are frequently abused by non-carpoolers, so a system to provide registered users with vehicle identification tags is recommended.

► **Carsharing & bikesharing**

Carshare parking spaces. For developments where carsharing could be an attractive option for employees, visitors or residents, ensuring an attractive location for future carshare parking spaces can avoid challenges associated with future retrofits.

Bikeshare station location. For developments where bikesharing could be an attractive option for employees, visitor or residents, ensuring an attractive location for a future bikeshare station can avoid challenges associated with future retrofits.

► **Parking**

Number of parking spaces. Parking capacity is an important variable in development design, as it can either support or subvert the mode share targets set during the transportation impact analysis (TIA). While the Zoning By-law establishes any minimum and/or maximum requirements for parking capacity, it also allows a reduction in any minimum to reflect the existence of on-site shower, change and locker rooms provided for cyclists.

Separate long-term & short-term parking areas. Because access to unused parking spaces can be a powerful incentive to drive, developments can better manage their parking supply and travel behaviours by separating long-term from short-term parking through the use of landscaping, gated controls or signs. Doing so makes it difficult for long-term parkers (e.g. commuters) to park in short-term areas (e.g. for visitors) as long as enforcement occurs; it also protects long-term parking capacity for its intended users.

► **Other**

On-site amenities to minimize off-site trips. Developments that offer facilities to limit employees' need for a car during their commute (e.g. to drop off children at daycare) or during their workday (e.g. to hit the gym) can free employees to make the commuting decision that otherwise works best for them.

TDM-Supportive Development Design and Infrastructure Checklist: *Non-Residential Developments (office, institutional, retail or industrial)*

Legend	
REQUIRED	The Official Plan or Zoning By-law provides related guidance that must be followed
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
1. WALKING & CYCLING: ROUTES		
1.1 Building location & access points		
BASIC	1.1.1 Locate building close to the street, and do not locate parking areas between the street and building entrances	☒ All parking spaces for the 930-1010 Somerset St development is anticipated to be located underground
BASIC	1.1.2 Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	☒ Closest transit stop is located on Somerset Street West/Preston Street approximately 200m away from the residential development and Preston Street/Oak Street approximately 105m away from the school, accessible via Oak St
BASIC	1.1.3 Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	☒
1.2 Facilities for walking & cycling		
REQUIRED	1.2.1 Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations (<i>see Official Plan policy 4.3.3</i>)	☒ Corso Italia Station is 500m away from the school. The Trillium Pathway and the future Oak Street extension (part of the future Gladstone Village development) will provide a direct/convenient route between the school and the station. City Centre Avenue Underpass will provide a convenient walking/cycling route to Bayview Station, approximately 650 away from the residential development.
REQUIRED	1.2.2 Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible (<i>see Official Plan policy 4.3.12</i>)	☒ The location of the subject site provides adequate direct active transportation connections to the adjacent streets as well as transit stops in proximity.

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3 Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks (<i>see Official Plan policy 4.3.10</i>)	☒ The location of the subject site provides adequate direct active transportation connections to the adjacent streets as well as transit stops in proximity.
REQUIRED	1.2.4 Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps (<i>see Official Plan policy 4.3.10</i>)	☒
REQUIRED	1.2.5 Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians (<i>see Official Plan policy 4.3.11</i>)	☒ There is a shared cycle lane east-west on Somerset St W. Cycling connection will be provided from Somerset St W to the school. Furthermore, an active transportation route will link the Trillium Pathway to the 1010 Somerset St development, located north of the school.
BASIC	1.2.6 Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	☒ Somerset Street West provides a direct access to the bus stops at Somerset/Preston (~200m). Oak Street provides direct access to the bus stop at Preston St at Oak St. (~100m)
BASIC	1.2.7 Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	☒
BASIC	1.2.8 Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility	☐
1.3 Amenities for walking & cycling		
BASIC	1.3.1 Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails	☒
BASIC	1.3.2 Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious)	☒

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
2. WALKING & CYCLING: END-OF-TRIP FACILITIES		
2.1 Bicycle parking		
REQUIRED	2.1.1 Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible (<i>see Official Plan policy 4.3.6</i>)	☒
REQUIRED	2.1.2 Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas (<i>see Zoning By-law Section 111</i>)	☒ 363 bicycle parking will be provided for the full development per the Corso Italia Secondary Plan parking provisions.
REQUIRED	2.1.3 Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored (<i>see Zoning By-law Section 111</i>)	☒
BASIC	2.1.4 Provide bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met), plus the expected peak number of customer/visitor cyclists	☐
BETTER	2.1.5 Provide bicycle parking spaces equivalent to the expected number of commuter and customer/visitor cyclists, plus an additional buffer (e.g. 25 percent extra) to encourage other cyclists and ensure adequate capacity in peak cycling season	☐
2.2 Secure bicycle parking		
REQUIRED	2.2.1 Where more than 50 bicycle parking spaces are provided for a single office building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers (<i>see Zoning By-law Section 111</i>)	☒ As the number of bicycle parking space is greater than 50, 25% of the spaces will be provided in a secure area such as a bike locker.
BETTER	2.2.2 Provide secure bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met)	☐
2.3 Shower & change facilities		
BASIC	2.3.1 Provide shower and change facilities for the use of active commuters	☐
BETTER	2.3.2 In addition to shower and change facilities, provide dedicated lockers, grooming stations, drying racks and laundry facilities for the use of active commuters	☐
2.4 Bicycle repair station		
BETTER	2.4.1 Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☒

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
3. TRANSIT		
3.1 Customer amenities		
BASIC	3.1.1 Provide shelters, lighting and benches at any on-site transit stops	☐
BASIC	3.1.2 Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☐
BETTER	3.1.3 Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐
4. RIDESHARING		
4.1 Pick-up & drop-off facilities		
BASIC	4.1.1 Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☒
4.2 Carpool parking		
BASIC	4.2.1 Provide signed parking spaces for carpools in a priority location close to a major building entrance, sufficient in number to accommodate the mode share target for carpools	☐
BETTER	4.2.2 At large developments, provide spaces for carpools in a separate, access-controlled parking area to simplify enforcement	☐
5. CARSHARING & BIKESHARING		
5.1 Carshare parking spaces		
BETTER	5.1.1 Provide carshare parking spaces in permitted non-residential zones, occupying either required or provided parking spaces (<i>see Zoning By-law Section 94</i>)	☐
5.2 Bikeshare station location		
BETTER	5.2.1 Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☐

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
6. PARKING		
6.1 Number of parking spaces		
REQUIRED	6.1.1 Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☒
BASIC	6.1.2 Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☒
BASIC	6.1.3 Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly (<i>see Zoning By-law Section 104</i>)	☒ Shared parking will be provided for the proposed recreation center and the elementary school (930-1010 Somerset St development)
BETTER	6.1.4 Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking (<i>see Zoning By-law Section 111</i>)	☐
6.2 Separate long-term & short-term parking areas		
BETTER	6.2.1 Separate short-term and long-term parking areas using signage or physical barriers, to permit access controls and simplify enforcement (i.e. to discourage employees from parking in visitor spaces, and vice versa)	☒
7. OTHER		
7.1 On-site amenities to minimize off-site trips		
BETTER	7.1.1 Provide on-site amenities to minimize mid-day or mid-commute errands	☒

TDM-Supportive Development Design and Infrastructure Checklist: *Residential Developments (multi-family or condominium)*

Legend	
REQUIRED	The Official Plan or Zoning By-law provides related guidance that must be followed
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
1. WALKING & CYCLING: ROUTES		
1.1 Building location & access points		
BASIC	1.1.1 Locate building close to the street, and do not locate parking areas between the street and building entrances	☒ All parking spaces for the 930-1010 Somerset St development is anticipated to be located underground
BASIC	1.1.2 Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	☒ Closest transit stop is located on Somerset Street West/Preston Street approximately 200m away from the residential development and Preston Street/Oak Street approximately 105m away from the school, accessible via Oak St
BASIC	1.1.3 Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	☒
1.2 Facilities for walking & cycling		
REQUIRED	1.2.1 Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations (<i>see Official Plan policy 4.3.3</i>)	☒ Corso Italia Station is 500m away from the school. The Trillium Pathway and the future Oak Street extension (part of the future Gladstone Village development) will provide a direct/convenient route between the school and the station. City Centre Avenue Underpass will provide a convenient walking/cycling route to Bayview Station, approximately 650 away from the residential development.
REQUIRED	1.2.2 Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible (<i>see Official Plan policy 4.3.12</i>)	☒ The location of the subject site provides adequate direct active transportation connections to the adjacent streets as well as transit stops in proximity.

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3 Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks (<i>see Official Plan policy 4.3.10</i>)	☒ The location of the subject site provides adequate direct active transportation connections to the adjacent streets as well as transit stops in proximity.
REQUIRED	1.2.4 Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps (<i>see Official Plan policy 4.3.10</i>)	☐
REQUIRED	1.2.5 Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians (<i>see Official Plan policy 4.3.11</i>)	☒ There is a shared cycle lane east-west on Somerset St W. Cycling connection will be provided from Somerset St W to the school. Furthermore, an active transportation route will link the Trillium Pathway to the 1010 Somerset St development, located north of the school.
BASIC	1.2.6 Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	☒ Somerset Street West provides a direct access to the bus stops at Somerset/Preston (~200m). Oak Street provides direct access to the bus stop at Preston St at Oak St. (~100m)
BASIC	1.2.7 Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	☒
BASIC	1.2.8 Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility	☐
1.3 Amenities for walking & cycling		
BASIC	1.3.1 Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails	☒
BASIC	1.3.2 Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious)	☒

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
2. WALKING & CYCLING: END-OF-TRIP FACILITIES		
2.1 Bicycle parking		
REQUIRED	2.1.1 Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible (<i>see Official Plan policy 4.3.6</i>)	☒
REQUIRED	2.1.2 Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas (<i>see Zoning By-law Section 111</i>)	☒ 363 bicycle parking will be provided for the full development per the Corso Italia Secondary Plan parking provisions.
REQUIRED	2.1.3 Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored (<i>see Zoning By-law Section 111</i>)	☒
BASIC	2.1.4 Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists	☒ 215 bicycle parking will be provided for the residential development per the Corso Italia Secondary Plan parking provisions.
2.2 Secure bicycle parking		
REQUIRED	2.2.1 Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers (<i>see Zoning By-law Section 111</i>)	☐
BETTER	2.2.2 Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	☒ As the number of bicycle parking space is greater than 50, 25% of the spaces will be provided in a secure area such as a bike locker.
2.3 Bicycle repair station		
BETTER	2.3.1 Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☐
3. TRANSIT		
3.1 Customer amenities		
BASIC	3.1.1 Provide shelters, lighting and benches at any on-site transit stops	☐
BASIC	3.1.2 Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☐
BETTER	3.1.3 Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☒

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
4. RIDESHARING		
4.1 Pick-up & drop-off facilities		
BASIC	4.1.1 Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☐
5. CARSHARING & BIKESHARING		
5.1 Carshare parking spaces		
BETTER	5.1.1 Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses (see <i>Zoning By-law Section 94</i>)	☐
5.2 Bikeshare station location		
BETTER	5.2.1 Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☐
6. PARKING		
6.1 Number of parking spaces		
REQUIRED	6.1.1 Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☒
BASIC	6.1.2 Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☒
BASIC	6.1.3 Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly (see <i>Zoning By-law Section 104</i>)	☒ Shared parking will be provided for the proposed recreation center and the elementary school (930-1010 Somerset St development)
BETTER	6.1.4 Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking (see <i>Zoning By-law Section 111</i>)	☐
6.2 Separate long-term & short-term parking areas		
BETTER	6.2.1 Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa)	☒

Appendix E MMLOS Guidelines Excerpts

Multi-Modal Level of Service - Intersections Form

Consultant
Scenario
Comments

STANTEC

2024 Existing

Project
Date

1010 Somerset St

17-Jun-25

INTERSECTIONS		Somerset St W and Bayswater Ave				Somerset St W and Preston St				Somerset St W and Rochester St				Somerset St W and Gladstone Ave			
Crossing Side		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	5	4	4	4	5	5	5	4	4	4	3	3	4	4	3	3
	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	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	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	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	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No
	Right Turn Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	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	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement
	PETSI Score	41	57	57	57	46	46	46	62	57	57	74	74	57	57	74	74
	Ped. Exposure to Traffic LoS	E	D	D	D	D	D	D	C	D	D	C	C	D	D	C	C
	Cycle Length	75	75	75	75	90	90	90	90	80	80	80	80	70	70	70	70
	Effective Walk Time	23	23	25	25	21	21	19	19	18	18	21	21	18	18	16	16
	Average Pedestrian Delay	18	18	17	17	26	26	28	28	24	24	22	22	19	19	21	21
	Pedestrian Delay LoS	B	B	B	B	C	C	C	C	C	C	C	C	B	B	C	C
	Level of Service	E	D	D	D	D	D	D	C	D	D	C	C	D	D	C	C
		E				D				D				D			
Approach From		NORTH	SOUTH	EAST	WEST	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	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	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Left Turn Approach	One lane crossed	No lane crossed	No lane crossed	No lane crossed	One lane crossed	One lane crossed	One lane crossed	One lane crossed	No lane crossed	No lane crossed	No lane crossed	No lane crossed	One lane crossed	One lane crossed	One lane crossed	No lane crossed
	Operating Speed	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h
	Left Turning Cyclist	D	B	C	C	D	D	E	E	B	B	C	C	D	D	E	C
Level of Service	D	B	D	D	D	D	D	E	E	B	B	C	C	D	D	E	C
	D				E				C				E				
Transit	Average Signal Delay	≤ 20 sec	≤ 20 sec	≤ 30 sec	≤ 40 sec	≤ 30 sec	≤ 20 sec			≤ 20 sec	≤ 20 sec	≤ 30 sec	≤ 30 sec	≤ 20 sec	≤ 20 sec	≤ 20 sec	> 40 sec
	Level of Service	C	C	D	E	D	C	-	-	C	C	D	D	C	C	C	F
		E				D				D				F			
Truck	Effective Corner Radius	< 10 m	< 10 m			< 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	1	1
	Level of Service	F	F	-	-	F	F	F	F	-	-	F	F	F	F	F	F
		F				F				F				F			
Auto	Volume to Capacity Ratio	0.61 - 0.70				0.61 - 0.70				0.61 - 0.70				0.71 - 0.80			
	Level of Service	B				B				B				C			

Multi-Modal Level of Service - Intersections Form

Consultant

Scenario

Comments

STANTEC

Phase 1

Project

Date

1010 Somerset St

17-Jun-25

INTERSECTIONS		Somerset St W and Bayswater Ave				Somerset St W and Preston St				Somerset St W and Rochester St				Somerset St W and Gladstone Ave			
Crossing Side		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	5	4	4	4	5	5	5	4	4	4	3	3	4	4	3	3
	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	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	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	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	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No
	Right Turn Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	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	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement
	PETSI Score	41	57	57	57	46	46	46	62	57	57	74	74	57	57	74	74
	Ped. Exposure to Traffic LoS	E	D	D	D	D	D	D	C	D	D	C	C	D	D	C	C
	Cycle Length	75	75	75	75	90	90	90	90	80	80	80	80	70	70	70	70
	Effective Walk Time	23	23	25	25	21	21	19	19	18	18	21	21	18	18	16	16
	Average Pedestrian Delay	18	18	17	17	26	26	28	28	24	24	22	22	19	19	21	21
	Pedestrian Delay LoS	B	B	B	B	C	C	C	C	C	C	C	C	B	B	C	C
	Level of Service	E	D	D	D	D	D	D	D	C	D	D	C	C	D	D	C
E				D				D				D					
Approach From		NORTH	SOUTH	EAST	WEST	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	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	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Left Turn Approach	One lane crossed	No lane crossed	No lane crossed	No lane crossed	One lane crossed	One lane crossed	One lane crossed	One lane crossed	No lane crossed	No lane crossed	No lane crossed	No lane crossed	One lane crossed	One lane crossed	One lane crossed	No lane crossed
	Operating Speed	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h
	Left Turning Cyclist	D	B	C	C	D	D	E	E	B	B	C	C	D	D	E	C
Level of Service	D	B	D	D	D	D	D	E	E	B	B	C	C	D	D	E	C
	D				E				C				E				
Transit	Average Signal Delay	≤ 20 sec	≤ 20 sec	≤ 40 sec	≤ 40 sec	≤ 30 sec	≤ 20 sec			≤ 20 sec	≤ 20 sec	≤ 30 sec	≤ 30 sec	≤ 20 sec	≤ 20 sec	≤ 30 sec	> 40 sec
	Level of Service	C	C	E	E	D	C	-	-	C	C	D	D	C	C	D	F
		E				D				D				F			
Truck	Effective Corner Radius	< 10 m	< 10 m			< 10 m	< 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	1	1	1
	Level of Service	F	F	-	-	F	F	F	F	-	-	F	F	F	F	F	F
		F				F				F				F			
Auto	Volume to Capacity Ratio	0.61 - 0.70				0.61 - 0.70				0.61 - 0.70				0.71 - 0.80			
	Level of Service	B				B				B				C			

Multi-Modal Level of Service - Intersections Form

Consultant
Scenario
Comments

STANTEC

Phase 2

Project
Date

1010 Somerset St

17-Jun-25

INTERSECTIONS		Somerset St W and Bayswater Ave				Somerset St W and Preston St				Somerset St W and Rochester St				Somerset St W and Gladstone Ave			
Crossing Side		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	5	4	4	4	5	5	5	4	4	4	3	3	4	4	3	3
	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	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	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	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	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No
	Right Turn Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	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	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement
	PETSI Score	41	57	57	57	46	46	46	62	57	57	74	74	57	57	74	74
	Ped. Exposure to Traffic LoS	E	D	D	D	D	D	D	C	D	D	C	C	D	D	C	C
	Cycle Length	75	75	75	75	90	90	90	90	80	80	80	80	70	70	70	70
	Effective Walk Time	23	23	25	25	21	21	19	19	18	18	21	21	18	18	16	16
	Average Pedestrian Delay	18	18	17	17	26	26	28	28	24	24	22	22	19	19	21	21
	Pedestrian Delay LoS	B	B	B	B	C	C	C	C	C	C	C	C	B	B	C	C
Level of Service	E	D	D	D	D	D	D	C	D	D	C	C	D	D	C	C	
	E				D				D				D				
Approach From		NORTH	SOUTH	EAST	WEST	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	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	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Left Turn Approach	One lane crossed	No lane crossed	No lane crossed	No lane crossed	One lane crossed	One lane crossed	One lane crossed	One lane crossed	No lane crossed	No lane crossed	No lane crossed	No lane crossed	One lane crossed	One lane crossed	One lane crossed	No lane crossed
	Operating Speed	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h
	Left Turning Cyclist	D	B	C	C	D	D	E	E	B	B	C	C	D	D	E	C
Level of Service	D	B	D	D	D	D	E	E	B	B	C	C	D	D	E	C	
	D				E				C				E				
Transit	Average Signal Delay	≤ 20 sec	≤ 20 sec	≤ 30 sec	≤ 40 sec	≤ 30 sec	≤ 20 sec			≤ 20 sec	≤ 20 sec	≤ 30 sec	≤ 30 sec	≤ 20 sec	≤ 20 sec	≤ 30 sec	> 40 sec
	Level of Service	C	C	D	E	D	C	-	-	C	C	D	D	C	C	D	F
		E				D				D				F			
Truck	Effective Corner Radius	< 10 m	< 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	1
	Level of Service	F	F	-	-	F	F	F	F	-	-	F	F	F	F	F	F
		F				F				F				F			
Auto	Volume to Capacity Ratio	0.61 - 0.70				0.61 - 0.70				0.61 - 0.70				0.71 - 0.80			
	Level of Service	B				B				B				C			

Multi-Modal Level of Service - Intersections Form

Consultant

Scenario

Comments

STANTEC

Phase 3

Project

Date

1010 Somerset St

17-Jun-25

INTERSECTIONS		Somerset St W and Bayswater Ave				Somerset St W and Preston St				Somerset St W and Rochester St				Somerset St W and Gladstone Ave			
Crossing Side		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	5	4	4	4	5	5	5	4	4	4	3	3	4	4	3	3
	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	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	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	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	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No
	Right Turn Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	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	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement
	PETSI Score	41	57	57	57	46	46	46	62	57	57	74	74	57	57	74	74
	Ped. Exposure to Traffic LoS	E	D	D	D	D	D	D	C	D	D	C	C	D	D	C	C
	Cycle Length	75	75	75	75	90	90	90	90	80	80	80	80	70	70	70	70
	Effective Walk Time	23	23	25	25	21	21	19	19	18	18	21	21	18	18	16	16
	Average Pedestrian Delay	18	18	17	17	26	26	28	28	24	24	22	22	19	19	21	21
	Pedestrian Delay LoS	B	B	B	B	C	C	C	C	C	C	C	C	B	B	C	C
Level of Service	E	D	D	D	D	D	D	D	C	D	D	C	C	D	D	C	C
	E				D				D				D				
Approach From		NORTH	SOUTH	EAST	WEST	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	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	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Left Turn Approach	One lane crossed	No lane crossed	No lane crossed	No lane crossed	One lane crossed	One lane crossed	One lane crossed	One lane crossed	No lane crossed	No lane crossed	No lane crossed	No lane crossed	One lane crossed	One lane crossed	One lane crossed	No lane crossed
	Operating Speed	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h
	Left Turning Cyclist	D	B	C	C	D	D	E	E	B	B	C	C	D	D	E	C
Level of Service	D	B	D	D	D	D	D	E	E	B	B	C	C	D	D	E	C
	D				E				C				E				
Transit	Average Signal Delay	≤ 20 sec	≤ 20 sec	≤ 30 sec	≤ 40 sec	≤ 30 sec	≤ 20 sec			≤ 20 sec	≤ 20 sec	≤ 30 sec	≤ 30 sec	≤ 20 sec	≤ 20 sec	≤ 30 sec	> 40 sec
	Level of Service	C	C	D	E	D	C	-	-	C	C	D	D	C	C	D	F
		E				D				D				F			
Truck	Effective Corner Radius	< 10 m	< 10 m			< 10 m	< 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	1	1	1
	Level of Service	F	F	-	-	F	F	F	F	-	-	F	F	F	F	F	F
		F				F				F				F			
Auto	Volume to Capacity Ratio	0.61 - 0.70				0.61 - 0.70				0.61 - 0.70				0.71 - 0.80			
	Level of Service	B				B				B				C			

Multi-Modal Level of Service - Intersections Form

Consultant

Scenario

Comments

STANTEC

Phase 4

Project

Date

1010 Somerset St

17-Jun-25

INTERSECTIONS		Somerset St W and Bayswater Ave				Somerset St W and Preston St				Somerset St W and Rochester St				Somerset St W and Gladstone Ave				
Crossing Side		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	
Pedestrian	Lanes	5	4	4	4	5	5	5	4	4	4	3	3	4	4	3	3	
	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	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	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	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	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	
	Ped Signal Leading Interval?	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	
	Right Turn Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	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	5-10m	5-10m	5-10m	5-10m	
	Crosswalk Type	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	Textured/coloured pavement	
	PETSI Score	41	57	57	57	46	46	46	62	57	57	74	74	57	57	74	74	
	Ped. Exposure to Traffic LoS	E	D	D	D	D	D	D	C	D	D	C	C	D	D	C	C	
	Cycle Length	75	75	75	75	90	90	90	90	80	80	80	80	70	70	70	70	
	Effective Walk Time	23	23	25	25	21	21	19	19	18	18	21	21	18	18	16	16	
	Average Pedestrian Delay	18	18	17	17	26	26	28	28	24	24	22	22	19	19	21	21	
	Pedestrian Delay LoS	B	B	B	B	C	C	C	C	C	C	C	C	B	B	C	C	
	Level of Service	E	D	D	D	D	D	D	D	C	D	D	C	C	D	D	C	C
		E				D				D				D				
Approach From		NORTH	SOUTH	EAST	WEST	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	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	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	
	Left Turn Approach	One lane crossed	No lane crossed	No lane crossed	No lane crossed	One lane crossed	One lane crossed	One lane crossed	One lane crossed	No lane crossed	No lane crossed	No lane crossed	No lane crossed	One lane crossed	One lane crossed	One lane crossed	No lane crossed	
	Operating Speed	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	
	Left Turning Cyclist	D	B	C	C	D	D	E	E	B	B	C	C	D	D	E	C	
Level of Service	D	B	D	D	D	D	D	E	E	B	B	C	C	D	D	E	C	
	D				E				C				E					
Transit	Average Signal Delay	≤ 20 sec	≤ 20 sec	≤ 30 sec	≤ 40 sec	≤ 30 sec	≤ 20 sec			≤ 20 sec	≤ 20 sec	≤ 30 sec	≤ 30 sec	≤ 20 sec	≤ 20 sec	≤ 30 sec	> 40 sec	
	Level of Service	C	C	D	E	D	C	-	-	C	C	D	D	C	C	D	F	
		E				D				D				F				
Truck	Effective Corner Radius	< 10 m	< 10 m			< 10 m	< 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	1	1	1	
	Level of Service	F	F	-	-	F	F	F	F	-	-	F	F	F	F	F	F	
		F				F				F				F				
Auto	Volume to Capacity Ratio	0.61 - 0.70				0.61 - 0.70				0.61 - 0.70				0.71 - 0.80				
	Level of Service	B				B				B				C				

Multi-Modal Level of Service - Segments Form

Consultant	STANTEC	Project	1010 Somerset St
Scenario		Date	17-Jun-25
Comments			

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	E	Mixed Traffic	Mixed Traffic		Mixed Traffic
	Number of Travel Lanes		2-3 lanes total	2-3 lanes total		≤ 2 (no centreline)
	Operating Speed		≥ 50 to 60 km/h	≥ 50 to 60 km/h		≥ 50 to 60 km/h
	# of Lanes & Operating Speed LoS		E	E		D
	Bike Lane (+ Parking Lane) Width					
	Bike Lane Width LoS		-	-		-
	Bike Lane Blockages					
	Blockage LoS		-	-		-
	Level of Service		E	E		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
Auto	Level of Service	Not Applicable				

Appendix F Signal Warrant Analysis

Justification 7 - Projected Volumes

Intersection: Somerset Street West / Access 1

Count Date: 06162025

[Return to Justifications 1 - 6](#)

INPUT

PRIOR TO START - FILL OUT GEOMETRY INPUTS IN THE INPUT DATA SPREADSHEET - STEPS A to D

a.- Both Intersection Roads Exist?

b.- What kind of count estimate available?

Proceed to c2

c1.- 8-Hour Count Estimate

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

c2.- Peak Hour Estimate

Peak Hour	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM Peak Hour	0	367	15	11	0	21	28	305	0	0	0	0	50
PM Peak Hour	0	403	16	18	0	27	30	454	0	0	0	0	100
AHV	0	193	8	7	0	12	15	190	0	0	0	0	38
	Main Street AHV Sum			Minor Street AHV Sum									
	405			19									

c3.- AADT Estimate - can leave movements without data blank. If midblock reading, can assign demand to through movement.

AADT	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
	0	0	0	0	0	0	0	0	0	0	0	0	0
AHV	Main Street AHV Sum			Minor Street AHV Sum									
	0			0									

d. Justification 7 Result

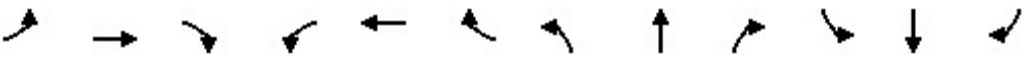
Justification	Description	Minimum Requirement 1 Lane Highways		Minimum Requirement 2 or more lanes		Compliance		Case?
		Free Flow	Restr. Flow	Free Flow	Restr. Flow	Numerical	%	
1. Minimum Vehicular Volume	A. Vehicle volume, all approaches (average hour)	-	720	-	-	424	58.9	Case 3 - Warrant is Unlikely
	B. Vehicle volume, along minor streets (average hour)	-	255	-	-	19	7.5	
2. Delay to cross Traffic	A. Vehicle volume, major street (average hour)	-	720	-	-	405	56.2	
	B. Combined vehicle and pedestrian volume crossing	-	75	-	-	45	59.7	

Appendix G Synchro Analysis Results

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	184	14	30	177	63	12	67	41	97	74	39
Future Volume (vph)	26	184	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
Ped Bike Factor		1.00	0.91		0.99	0.94		0.98		0.97	0.98	
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	1650	0	1644	1726	0
Flt Permitted		0.933			0.924			0.951		0.660		
Satd. Flow (perm)	0	1642	1393	0	1649	1385	0	1577	0	1112	1726	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			107.9			476.9				104.6
Travel Time (s)		20.3			12.9			57.2				12.6
Confl. Peds. (#/hr)	20		46	46		20	13		22	22		13
Confl. Bikes (#/hr)			5			13			3			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	202	20	32	203	76	24	76	52	104	93	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	230	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		
Detector Phase	4	4	4	8	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		5.0	5.0	
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?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		15.7	15.7		15.7	15.7		43.2		43.2	43.2	
Actuated g/C Ratio		0.22	0.22		0.22	0.22		0.62		0.62	0.62	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.62	0.06		0.64	0.21		0.15		0.15	0.14	
Control Delay		31.3	3.0		31.6	6.5		5.5		7.9	4.9	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		31.3	3.0		31.6	6.5		5.5		7.9	4.9	
LOS		C	A		C	A		A		A	A	
Approach Delay		29.0			25.5			5.5			6.1	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		27.6	0.0		28.3	0.0		4.9		4.9	4.4	
Queue Length 95th (m)		41.4	0.9		40.5	6.7		14.7		14.5	12.0	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		691	610		694	627		990		686	1088	
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		0.33	0.03		0.34	0.12		0.15		0.15	0.14	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 19 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 18.1

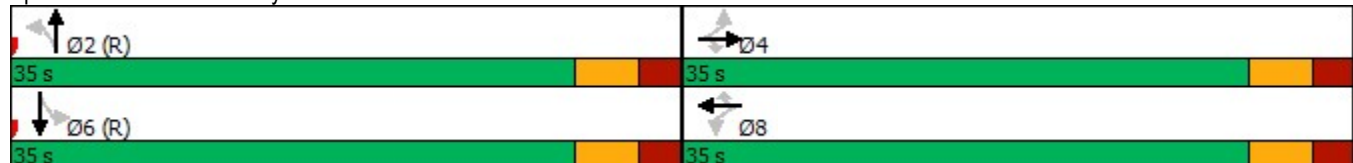
Intersection LOS: B

Intersection Capacity Utilization 66.1%

ICU Level of Service C

Analysis Period (min) 15

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



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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	223	92	28	151	13	68	302	66	39	331	34
Future Volume (vph)	30	223	92	28	151	13	68	302	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
Ped Bike Factor	0.90	0.95		0.93	0.98		0.94	0.98		0.96	0.98	
Frt		0.951			0.981			0.973			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1604	0	1706	1698	0	1706	1604	0	1690	1741	0
Flt Permitted	0.597			0.336			0.461			0.458		
Satd. Flow (perm)	965	1604	0	559	1698	0	782	1604	0	782	1741	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		433.0			189.8			173.9			224.6	
Travel Time (s)		52.0			22.8			20.9			27.0	
Confl. Peds. (#/hr)	55		63	63		55	65		48	48		65
Confl. Bikes (#/hr)			3									
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	162	24	100	347	76	60	372	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	356	0	44	186	0	100	423	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)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	
Total Split (%)	47.8%	47.8%		47.8%	47.8%		41.1%	41.1%		41.1%	41.1%	
Maximum Green (s)	37.4	37.4		37.4	37.4		31.3	31.3		31.3	31.3	
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	None	None		None	None		C-Max	C-Max		C-Max	C-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)	26.2	26.2		26.2	26.2		52.5	52.5		52.5	52.5	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.58	0.58		0.58	0.58	

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

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
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				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.17	0.76		0.27	0.38		0.22	0.45		0.13	0.41	
Control Delay	22.4	39.2		26.2	26.1		12.8	14.3		11.9	13.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.4	39.2		26.2	26.1		12.8	14.3		11.9	13.5	
LOS	C	D		C	C		B	B		B	B	
Approach Delay		37.2			26.1			14.0			13.3	
Approach LOS		D			C			B			B	
Queue Length 50th (m)	6.2	55.6		5.8	25.4		7.7	38.6		4.4	37.2	
Queue Length 95th (m)	8.4	73.7		8.4	36.5		14.6	73.2		9.0	72.0	
Internal Link Dist (m)		409.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	401	666		232	705		455	935		455	1015	
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	0.53		0.19	0.26		0.22	0.45		0.13	0.41	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 21.2

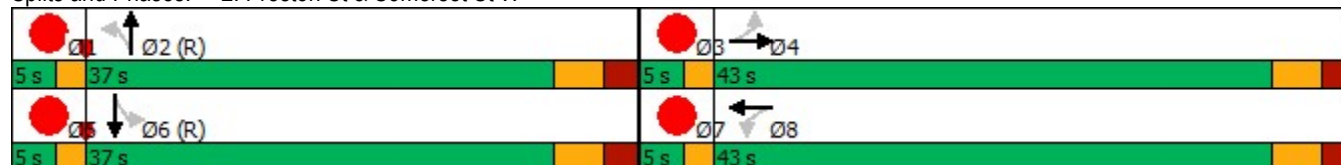
Intersection LOS: C

Intersection Capacity Utilization 63.9%

ICU Level of Service B

Analysis Period (min) 15

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



Lane Group	Ø1	Ø3	Ø5	Ø7
v/c Ratio				
Control Delay				
Queue Delay				
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

06/17/2025

												
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
Ped Bike Factor		0.99			0.99			0.98			0.99	
Frt		0.977			0.998			0.922			0.979	
Flt Protected		0.999			0.988			0.991			0.989	
Satd. Flow (prot)	0	1712	0	0	1750	0	0	1663	0	0	1849	0
Flt Permitted		0.993			0.743			0.957			0.948	
Satd. Flow (perm)	0	1701	0	0	1309	0	0	1601	0	0	1768	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	
Confl. Peds. (#/hr)	20		23	23		20	9		6	6		9
Confl. Bikes (#/hr)			4			8						
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		
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)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.0	26.0		26.0	26.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	48.9	48.9		48.9	48.9		20.6	20.6		20.6	20.6	
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?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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)		26.0			26.0			43.5			43.5	
Actuated g/C Ratio		0.32			0.32			0.54			0.54	
v/c Ratio		0.72			0.61			0.15			0.05	
Control Delay		28.8			27.5			6.4			10.5	
Queue Delay		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		28.8			27.5			6.4			10.5	
LOS		C			C			A			B	
Approach Delay		28.8			27.5			6.4			10.5	
Approach LOS		C			C			A			B	
Queue Length 50th (m)		50.8			32.5			3.8			2.9	
Queue Length 95th (m)		57.1			41.7			3.4			8.3	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												
Base Capacity (vph)		1049			800			905			965	
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			0.33			0.15			0.05	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 72 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 23.8

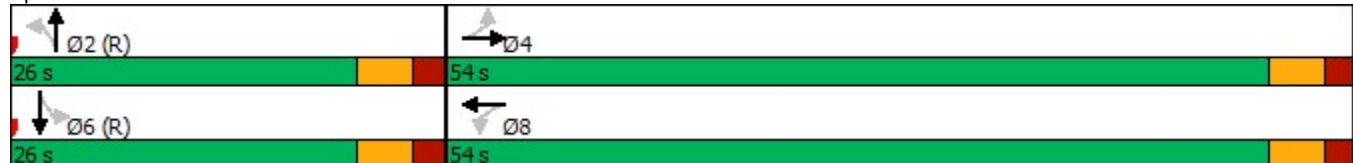
Intersection LOS: C

Intersection Capacity Utilization 61.1%

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

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	3	3	2	440	435	2
Future Volume (vph)	3	3	2	440	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			278.7	173.9	
Travel Time (s)	12.3			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	3	2	478	473	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	480	475	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 34.7% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	3	2	440	435	2
Future Volume (Veh/h)	3	3	2	440	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	478	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)				279	174	
pX, platoon unblocked	0.95	0.95	0.95			
vC, conflicting volume	956	474	475			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	924	414	416			
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)	282	603	1081			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	6	480	475			
Volume Left	3	2	0			
Volume Right	3	0	2			
cSH	384	1081	1700			
Volume to Capacity	0.02	0.00	0.28			
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			34.7%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Breezehill Avenue & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	309	25	14	254	16	22
Future Volume (vph)	309	25	14	254	16	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
Ped Bike Factor						
Frt	0.986				0.927	
Flt Protected				0.997	0.977	
Satd. Flow (prot)	1814	0	0	1908	1411	0
Flt Permitted				0.997	0.977	
Satd. Flow (perm)	1814	0	0	1908	1411	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			433.0	125.6	
Travel Time (s)	12.9			52.0	15.1	
Confl. Peds. (#/hr)		50	50			
Confl. Bikes (#/hr)		33				6
Peak Hour Factor	0.86	0.63	0.70	0.93	0.67	0.79
Heavy Vehicles (%)	4%	8%	6%	0%	19%	27%
Adj. Flow (vph)	359	40	20	273	24	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	399	0	0	293	52	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.8%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

8: Breezehill Avenue & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↰	↘	↗
Traffic Volume (veh/h)	309	25	14	254	16	22
Future Volume (Veh/h)	309	25	14	254	16	22
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.63	0.70	0.93	0.67	0.79
Hourly flow rate (vph)	359	40	20	273	24	28
Pedestrians					50	
Lane Width (m)					3.7	
Walking Speed (m/s)					3.5	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	108					
pX, platoon unblocked			0.92		0.92	0.92
vC, conflicting volume			449		742	429
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			364		680	342
tC, single (s)			4.2		6.6	6.5
tC, 2 stage (s)						
tF (s)			2.3		3.7	3.5
p0 queue free %			98		93	95
cM capacity (veh/h)			1069		350	590
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	399	293	52			
Volume Left	0	20	24			
Volume Right	40	0	28			
cSH	1700	1069	448			
Volume to Capacity	0.23	0.02	0.12			
Queue Length 95th (m)	0.0	0.4	3.0			
Control Delay (s)	0.0	0.8	14.1			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.8	14.1			
Approach LOS			B			
Intersection Summary						
Average Delay		1.3				
Intersection Capacity Utilization		34.8%	ICU Level of Service	A		
Analysis Period (min)		15				

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔		↔	↔	
Traffic Volume (vph)	42	151	54	45	204	61	58	364	60	47	333	38
Future Volume (vph)	42	151	54	45	204	61	58	364	60	47	333	38
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
Ped Bike Factor		0.97		0.96	0.98		0.96	0.98		0.96	0.99	
Frt		0.966			0.966			0.975			0.983	
Flt Protected		0.992		0.950			0.950			0.950		
Satd. Flow (prot)	0	1631	0	1755	1703	0	1738	1719	0	1789	1743	0
Flt Permitted		0.647		0.484			0.471			0.421		
Satd. Flow (perm)	0	1059	0	859	1703	0	829	1719	0	763	1743	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			21			23			15	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	25		35	35		25	39		44	44		39
Confl. Bikes (#/hr)			20			19			6			11
Peak Hour Factor	0.81	0.86	0.71	0.66	0.75	0.76	0.72	0.91	0.75	0.84	0.90	0.79
Heavy Vehicles (%)	2%	11%	11%	4%	7%	5%	5%	7%	7%	2%	7%	8%
Adj. Flow (vph)	52	176	76	68	272	80	81	400	80	56	370	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	304	0	68	352	0	81	480	0	56	418	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)	22.5	22.5		22.5	22.5		23.7	23.7		23.7	23.7	
Total Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (%)	35.7%	35.7%		35.7%	35.7%		64.3%	64.3%		64.3%	64.3%	
Maximum Green (s)	18.5	18.5		18.5	18.5		39.3	39.3		39.3	39.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		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	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.5		18.5	18.5		39.3	39.3		39.3	39.3	
Actuated g/C Ratio		0.26		0.26	0.26		0.56	0.56		0.56	0.56	
v/c Ratio		1.03		0.30	0.76		0.17	0.49		0.13	0.42	
Control Delay		87.5		25.0	34.8		8.7	11.0		8.3	10.1	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		87.5		25.0	34.8		8.7	11.0		8.3	10.1	
LOS		F		C	C		A	B		A	B	
Approach Delay		87.5			33.2			10.6			9.9	
Approach LOS		F			C			B			A	
Queue Length 50th (m)		~39.0		7.1	39.8		4.7	32.7		3.2	27.4	
Queue Length 95th (m)		#79.7		12.0	52.2		8.4	54.1		7.5	45.4	
Internal Link Dist (m)		84.8			94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)		296		227	465		465	975		428	985	
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		1.03		0.30	0.76		0.17	0.49		0.13	0.42	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 35 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 29.1

Intersection LOS: C

Intersection Capacity Utilization 77.0%

ICU Level of Service D

Analysis Period (min) 15

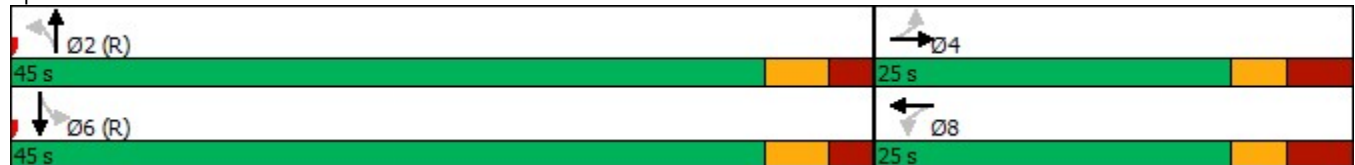
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

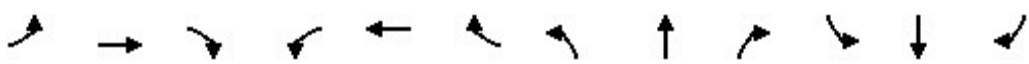
Splits and Phases: 9: Preston St & Gladstone Avenue



Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	184	14	30	177	63	12	67	41	97	74	39
Future Volume (vph)	26	184	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
Ped Bike Factor		0.99	0.84		0.99	0.89		0.97		0.93	0.98	
Frt			0.850			0.850		0.959			0.946	
Flt Protected		0.993			0.993			0.994		0.950		
Satd. Flow (prot)	0	1752	1526	0	1783	1471	0	1642	0	1644	1732	0
Flt Permitted		0.890			0.919			0.971		0.665		
Satd. Flow (perm)	0	1559	1284	0	1627	1310	0	1598	0	1076	1732	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			72		35			44	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			57.2			12.6	
Confl. Peds. (#/hr)	52		87	87		52	25		50	50		25
Confl. Bikes (#/hr)			15			18			1			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%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	33	196	19	37	219	72	16	84	44	123	88	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	229	19	0	256	72	0	144	0	123	137	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		
Detector Phase	4	4	4	8	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		5.0	5.0	
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?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		17.7	17.7		17.7	17.7		46.2		46.2	46.2	
Actuated g/C Ratio		0.24	0.24		0.24	0.24		0.62		0.62	0.62	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.62	0.06		0.67	0.20		0.14		0.19	0.13	
Control Delay		32.4	3.2		33.9	6.6		6.2		8.7	5.7	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		32.4	3.2		33.9	6.6		6.2		8.7	5.7	
LOS		C	A		C	A		A		A	A	
Approach Delay		30.2			27.9			6.2			7.1	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		29.4	0.0		33.2	0.0		5.5		6.5	4.6	
Queue Length 95th (m)		43.3	1.1		41.9	7.4		13.9		15.5	13.2	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			75.0				60.0		
Base Capacity (vph)		717	611		748	641		998		663	1084	
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		0.34	0.11		0.14		0.19	0.13	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 63 (84%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 19.8

Intersection LOS: B

Intersection Capacity Utilization 72.1%

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	223	92	28	151	13	68	302	66	39	331	34
Future Volume (vph)	30	223	92	28	151	13	68	302	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
Ped Bike Factor	0.87	0.93		0.91	0.98		0.95	0.99		0.97	0.98	
Frt		0.951			0.987			0.975			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1571	0	1706	1713	0	1706	1617	0	1690	1745	0
Flt Permitted	0.613			0.324			0.456			0.445		
Satd. Flow (perm)	957	1571	0	527	1713	0	774	1617	0	771	1745	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		433.0			189.8			173.9			224.6	
Travel Time (s)		52.0			22.8			20.9			27.0	
Confl. Peds. (#/hr)	76		93	93		76	65		33	33		65
Confl. Bikes (#/hr)			4			2						2
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 (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	39	265	130	32	172	16	100	355	70	49	368	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	395	0	32	188	0	100	425	0	49	412	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)	41.0	41.0		41.0	41.0		34.0	34.0		34.0	34.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	35.4	35.4		35.4	35.4		28.3	28.3		28.3	28.3	
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	None	None		None	None		C-Max	C-Max		C-Max	C-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)	27.4	27.4		27.4	27.4		46.3	46.3		46.3	46.3	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.54	0.54		0.54	0.54	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
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				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.13	0.78		0.19	0.34		0.24	0.48		0.12	0.43	
Control Delay	18.4	36.4		20.6	22.1		14.5	16.2		13.1	15.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.4	36.4		20.6	22.1		14.5	16.2		13.1	15.1	
LOS	B	D		C	C		B	B		B	B	
Approach Delay		34.8			21.9			15.8			14.9	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	4.4	57.1		3.7	22.8		8.0	40.3		3.7	37.7	
Queue Length 95th (m)	8.1	68.2		8.6	32.2		15.2	73.0		9.9	73.6	
Internal Link Dist (m)		409.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	400	657		220	717		421	880		419	949	
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	0.60		0.15	0.26		0.24	0.48		0.12	0.43	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 32 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 21.4

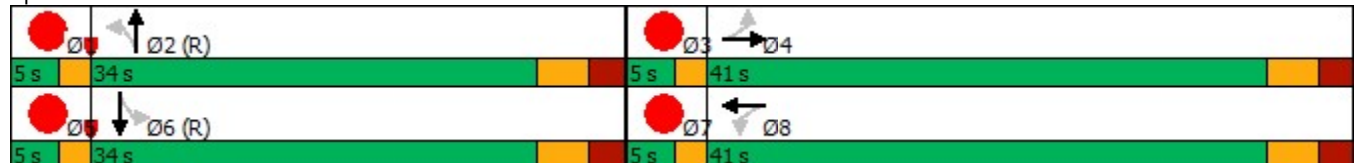
Intersection LOS: C

Intersection Capacity Utilization 63.7%

ICU Level of Service B

Analysis Period (min) 15

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



Lane Group	Ø1	Ø3	Ø5	Ø7
v/c Ratio				
Control Delay				
Queue Delay				
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

06/17/2025



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
Ped Bike Factor		0.96			0.98			0.95			0.97	
Frt		0.973			0.998			0.916			0.953	
Flt Protected		0.999			0.989			0.990			0.992	
Satd. Flow (prot)	0	1656	0	0	1747	0	0	1613	0	0	1769	0
Flt Permitted		0.995			0.797			0.954			0.969	
Satd. Flow (perm)	0	1647	0	0	1384	0	0	1539	0	0	1720	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			2			73			20	
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	
Confl. Peds. (#/hr)	72		77	77		72	27		19	19		27
Confl. Bikes (#/hr)			100			20			3			
Peak Hour Factor	0.63	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	6	304	79	54	176	4	23	22	73	9	29	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	389	0	0	234	0	0	118	0	0	58	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)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	51.0	51.0		51.0	51.0		24.0	24.0		24.0	24.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	45.9	45.9		45.9	45.9		18.6	18.6		18.6	18.6	
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?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		23.9			23.9			40.6			40.6	
Actuated g/C Ratio		0.32			0.32			0.54			0.54	
v/c Ratio		0.71			0.53			0.14			0.06	
Control Delay		27.0			23.7			6.0			8.6	
Queue Delay		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		27.0			23.7			6.0			8.6	
LOS		C			C			A			A	
Approach Delay		27.0			23.7			6.0			8.6	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		43.9			26.5			2.8			2.3	
Queue Length 95th (m)		57.1			36.5			7.1			8.6	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												
Base Capacity (vph)		1020			847			865			939	
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		0.38			0.28			0.14			0.06	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 61 (81%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 21.6

Intersection LOS: C

Intersection Capacity Utilization 64.0%

ICU Level of Service C

Analysis Period (min) 15

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

 Ø2 (R)	 Ø4
24 s	51 s
 Ø6 (R)	 Ø8
24 s	51 s

Lanes, Volumes, Timings

4: Preston St & Oak St

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	3	3	2	440	435	2
Future Volume (vph)	3	3	2	440	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			278.7	173.9	
Travel Time (s)	12.3			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	3	2	478	473	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	480	475	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 34.7% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	3	2	440	435	2
Future Volume (Veh/h)	3	3	2	440	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	478	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)				279	174	
pX, platoon unblocked	0.94	0.94	0.94			
vC, conflicting volume	956	474	475			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	919	405	406			
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)	281	605	1080			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	6	480	475			
Volume Left	3	2	0			
Volume Right	3	0	2			
cSH	384	1080	1700			
Volume to Capacity	0.02	0.00	0.28			
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		34.7%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
8: Breezehill Avenue & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	309	25	14	254	16	22
Future Volume (vph)	309	25	14	254	16	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
Ped Bike Factor						
Frt	0.984				0.909	
Flt Protected				0.997	0.984	
Satd. Flow (prot)	1822	0	0	1858	1300	0
Flt Permitted				0.997	0.984	
Satd. Flow (perm)	1822	0	0	1858	1300	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			433.0	125.6	
Travel Time (s)	12.9			52.0	15.1	
Confl. Peds. (#/hr)		100	100			
Confl. Bikes (#/hr)		50				2
Peak Hour Factor	1.00	0.58	0.95	1.00	0.79	0.54
Heavy Vehicles (%)	3%	9%	5%	3%	16%	40%
Adj. Flow (vph)	309	43	15	254	20	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	352	0	0	269	61	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.8%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

8: Breezehill Avenue & Somerset St W

06/17/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	309	25	14	254	16	22
Future Volume (Veh/h)	309	25	14	254	16	22
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	0.58	0.95	1.00	0.79	0.54
Hourly flow rate (vph)	309	43	15	254	20	41
Pedestrians					100	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.1	
Percent Blockage					10	
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	108					
pX, platoon unblocked			0.93		0.93	0.93
vC, conflicting volume			452		714	430
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			378		659	355
tC, single (s)			4.1		6.6	6.6
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.7
p0 queue free %			98		94	92
cM capacity (veh/h)			981		338	515
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	352	269	61			
Volume Left	0	15	20			
Volume Right	43	0	41			
cSH	1700	981	440			
Volume to Capacity	0.21	0.02	0.14			
Queue Length 95th (m)	0.0	0.4	3.6			
Control Delay (s)	0.0	0.6	14.5			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.6	14.5			
Approach LOS			B			
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			34.8%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	151	54	45	204	61	58	364	60	47	333	38
Future Volume (vph)	42	151	54	45	204	61	58	364	60	47	333	38
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
Ped Bike Factor		0.94		0.94	0.96		0.92	0.96		0.88	0.98	
Frt		0.965			0.959			0.979			0.985	
Flt Protected		0.989		0.950			0.950			0.950		
Satd. Flow (prot)	0	1640	0	1772	1692	0	1755	1709	0	1789	1756	0
Flt Permitted		0.720		0.507			0.508			0.464		
Satd. Flow (perm)	0	1176	0	885	1692	0	866	1709	0	773	1756	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			31			15			11	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	48		52	52		48	76		130	130		76
Confl. Bikes (#/hr)			33			37			15			21
Peak Hour Factor	0.62	1.00	0.70	1.00	1.00	0.80	0.86	1.00	1.00	0.77	1.00	1.00
Heavy Vehicles (%)	3%	7%	11%	3%	4%	5%	4%	6%	4%	2%	6%	4%
Adj. Flow (vph)	68	151	77	45	204	76	67	364	60	61	333	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	296	0	45	280	0	67	424	0	61	371	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)	25.5	25.5		25.5	25.5		23.7	23.7		23.7	23.7	
Total Split (s)	33.0	33.0		33.0	33.0		37.0	37.0		37.0	37.0	
Total Split (%)	47.1%	47.1%		47.1%	47.1%		52.9%	52.9%		52.9%	52.9%	
Maximum Green (s)	26.5	26.5		26.5	26.5		31.3	31.3		31.3	31.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		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	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.8		18.8	18.8		39.0	39.0		39.0	39.0	
Actuated g/C Ratio		0.27		0.27	0.27		0.56	0.56		0.56	0.56	
v/c Ratio		0.88		0.19	0.59		0.14	0.44		0.14	0.38	
Control Delay		47.4		19.2	23.7		10.6	12.1		10.8	11.3	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings

9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		47.4		19.2	23.7		10.6	12.1		10.8	11.3	
LOS		D		B	C		B	B		B	B	
Approach Delay		47.4			23.1			11.9			11.2	
Approach LOS		D			C			B			B	
Queue Length 50th (m)		33.4		4.5	27.8		3.9	28.7		3.5	24.1	
Queue Length 95th (m)		53.5		10.2	41.9		11.6	61.7		9.6	52.0	
Internal Link Dist (m)		84.8			94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)		463		335	659		482	958		430	982	
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		0.64		0.13	0.42		0.14	0.44		0.14	0.38	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 40 (57%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 20.9

Intersection LOS: C

Intersection Capacity Utilization 78.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Preston St & Gladstone Avenue

			
Ø2 (R)			Ø4
37 s			33 s
			
Ø6 (R)			Ø8
37 s			33 s

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	195	15	32	184	67	13	87	41	100	83	55
Future Volume (vph)	26	195	15	32	184	67	13	87	41	100	83	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.91		0.99	0.94		0.98		0.97	0.98	
Frt			0.850			0.850		0.960			0.930	
Flt Protected		0.994			0.993			0.993		0.950		
Satd. Flow (prot)	0	1754	1526	0	1783	1471	0	1672	0	1644	1701	0
Flt Permitted		0.935			0.920			0.949		0.646		
Satd. Flow (perm)	0	1646	1393	0	1642	1385	0	1594	0	1090	1701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			81			37			77
Link Speed (k/h)		30			30			30				30
Link Distance (m)		169.1			107.9			476.9				104.6
Travel Time (s)		20.3			12.9			57.2				12.6
Confl. Peds. (#/hr)	20		46	46		20	13		22	22		13
Confl. Bikes (#/hr)			5			13			3			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	21	34	211	81	26	99	52	108	104	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	242	21	0	245	81	0	177	0	108	194	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	

AM Peak Hour 9:32 am 10/23/2024 Baseline

Synchro 11 Report
Page 1

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)		16.2	16.2		16.2	16.2		42.7		42.7	42.7	
Actuated g/C Ratio		0.23	0.23		0.23	0.23		0.61		0.61	0.61	
v/c Ratio		0.64	0.06		0.65	0.21		0.18		0.16	0.18	
Control Delay		31.2	3.1		28.7	7.8		6.4		8.3	5.1	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		31.2	3.1		28.7	7.8		6.4		8.3	5.1	
LOS		C	A		C	A		A		A	A	
Approach Delay		29.0			23.5			6.4			6.2	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		28.9	0.0		29.9	0.0		6.8		5.3	5.5	
Queue Length 95th (m)		42.9	1.1		43.1	9.0		18.4		15.5	14.3	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		693	610		691	630		987		665	1068	
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	0.13		0.18		0.16	0.18	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 19 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 17.1

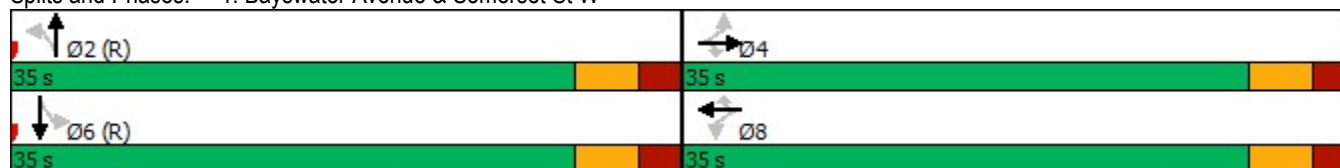
Intersection LOS: B

Intersection Capacity Utilization 81.0%

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	229	96	28	156	13	69	317	66	39	348	34
Future Volume (vph)	33	229	96	28	156	13	69	317	66	39	348	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
Ped Bike Factor	0.90	0.94		0.93	0.98		0.95	0.98		0.96	0.98	
Frt		0.950			0.981			0.974			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1601	0	1706	1699	0	1706	1606	0	1690	1744	0
Flt Permitted	0.591			0.330			0.443			0.442		
Satd. Flow (perm)	957	1601	0	551	1699	0	754	1606	0	756	1744	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		433.0			189.8			173.9			224.6	
Travel Time (s)		52.0			22.8			20.9			27.0	
Confl. Peds. (#/hr)	55		63	63		55	65		48	48		65
Confl. Bikes (#/hr)			3									
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	122	44	168	24	101	364	76	60	391	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	368	0	44	192	0	101	440	0	60	439	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	
Total Split (%)	47.8%	47.8%		47.8%	47.8%		41.1%	41.1%		41.1%	41.1%	
Maximum Green (s)	37.4	37.4		37.4	37.4		31.3	31.3		31.3	31.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-Max	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(m)				
Link Offset(m)				
Crosswalk Width(m)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (k/h)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
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
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

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)	27.0	27.0		27.0	27.0		51.7	51.7		51.7	51.7	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.57	0.57		0.57	0.57	
v/c Ratio	0.18	0.77		0.27	0.38		0.23	0.48		0.14	0.44	
Control Delay	22.0	38.7		25.5	25.5		13.6	15.2		12.5	14.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.0	38.7		25.5	25.5		13.6	15.2		12.5	14.3	
LOS	C	D		C	C		B	B		B	B	
Approach Delay		36.7			25.5			14.9			14.1	
Approach LOS		D			C			B			B	
Queue Length 50th (m)	6.6	57.3		5.7	26.0		8.0	41.7		4.5	40.3	
Queue Length 95th (m)	8.8	75.6		8.3	37.0		15.1	78.1		9.2	77.4	
Internal Link Dist (m)		409.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	397	665		228	706		433	922		434	1001	
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	0.13	0.55		0.19	0.27		0.23	0.48		0.14	0.44	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 21.5

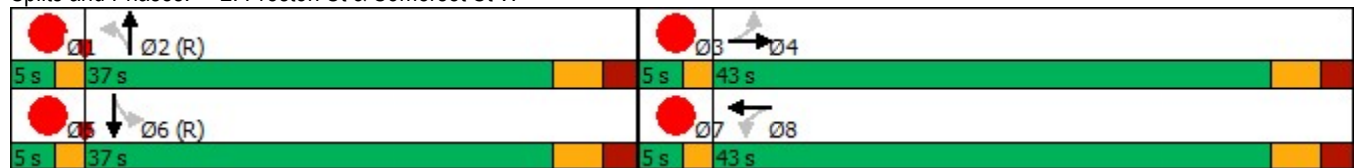
Intersection LOS: C

Intersection Capacity Utilization 67.1%

ICU Level of Service C

Analysis Period (min) 15

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



Lane Group	Ø1	Ø3	Ø5	Ø7
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)				
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

06/17/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	4	280	58	51	170	3	16	14	58	6	24	5
Future Volume (vph)	4	280	58	51	170	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
Ped Bike Factor		0.99			0.99			0.98			0.99	
Frt		0.977			0.998			0.922			0.979	
Flt Protected		0.999			0.988			0.991			0.989	
Satd. Flow (prot)	0	1712	0	0	1749	0	0	1663	0	0	1849	0
Flt Permitted		0.993			0.749			0.957			0.948	
Satd. Flow (perm)	0	1701	0	0	1319	0	0	1601	0	0	1768	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	
Confl. Peds. (#/hr)	20		23	23		20	9		6	6		9
Confl. Bikes (#/hr)			4			8						
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	198	4	24	32	76	12	32	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	416	0	0	266	0	0	132	0	0	52	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.0	26.0		26.0	26.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	48.9	48.9		48.9	48.9		20.6	20.6		20.6	20.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		26.4			26.4			43.1			43.1	
Actuated g/C Ratio		0.33			0.33			0.54			0.54	
v/c Ratio		0.72			0.61			0.15			0.05	
Control Delay		28.5			27.1			6.6			10.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		28.5			27.1			6.6			10.7	
LOS		C			C			A			B	
Approach Delay		28.5			27.1			6.6			10.7	
Approach LOS		C			C			A			B	
Queue Length 50th (m)		51.7			33.2			3.8			3.0	
Queue Length 95th (m)		57.3			42.1			3.4			8.4	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												
Base Capacity (vph)		1049			807			897			956	
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			0.33			0.15			0.05	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 72 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 23.7

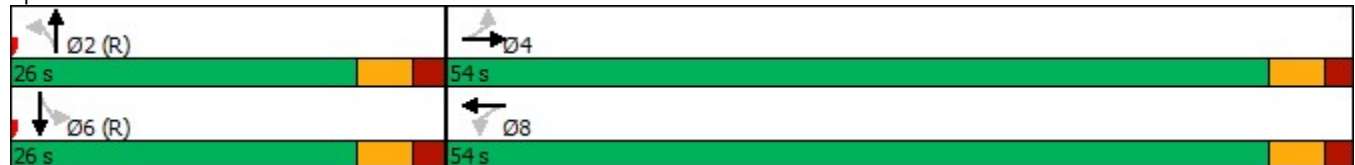
Intersection LOS: C

Intersection Capacity Utilization 61.5%

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

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	3	2	456	456	2
Future Volume (vph)	3	3	2	456	456	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)	84.6			278.7	173.9	
Travel Time (s)	10.2			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	3	2	496	496	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	498	498	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	35.6%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	3	2	456	456	2
Future Volume (Veh/h)	3	3	2	456	456	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	496	496	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)				279	174	
pX, platoon unblocked	0.93	0.93	0.93			
vC, conflicting volume	997	497	498			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	959	420	421			
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	99	100			
cM capacity (veh/h)	265	588	1057			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	6	498	498			
Volume Left	3	2	0			
Volume Right	3	0	2			
cSH	365	1057	1700			
Volume to Capacity	0.02	0.00	0.29			
Queue Length 95th (m)	0.4	0.0	0.0			
Control Delay (s)	15.0	0.1	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.0	0.1	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		35.6%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↱	↰	
Traffic Volume (vph)	311	37	19	255	28	33
Future Volume (vph)	311	37	19	255	28	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.95		0.98	
Frt	0.981				0.932	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	1783	0	1722	1921	1399	0
Flt Permitted			0.483		0.976	
Satd. Flow (perm)	1783	0	832	1921	1399	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	24				42	
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			433.0	125.6	
Travel Time (s)	12.9			52.0	15.1	
Confl. Peds. (#/hr)		50	50			
Confl. Bikes (#/hr)		33				6
Peak Hour Factor	0.86	0.63	0.70	0.93	0.67	0.79
Heavy Vehicles (%)	4%	8%	6%	0%	19%	27%
Adj. Flow (vph)	362	59	27	274	42	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	421	0	27	274	84	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		9	15		15	9
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	22.5		22.5	22.5	9.5	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	45.5		45.5	45.5	15.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			11.0	11.0		
Pedestrian Calls (#/hr)			0	0		

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Act Effect Green (s)	45.5		45.5	45.5	15.5	
Actuated g/C Ratio	0.65		0.65	0.65	0.22	
v/c Ratio	0.36		0.05	0.22	0.25	
Control Delay	14.3		4.8	5.5	15.4	
Queue Delay	0.7		0.0	0.0	0.0	
Total Delay	15.1		4.8	5.5	15.4	
LOS	B		A	A	B	
Approach Delay	15.1			5.5	15.4	
Approach LOS	B			A	B	
Queue Length 50th (m)	45.1		1.1	12.5	4.5	
Queue Length 95th (m)	51.9		2.6	21.2	9.5	
Internal Link Dist (m)	83.9			409.0	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1167		540	1248	342	
Starvation Cap Reductn	435		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.58		0.05	0.22	0.25	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Pretimed

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 11.5

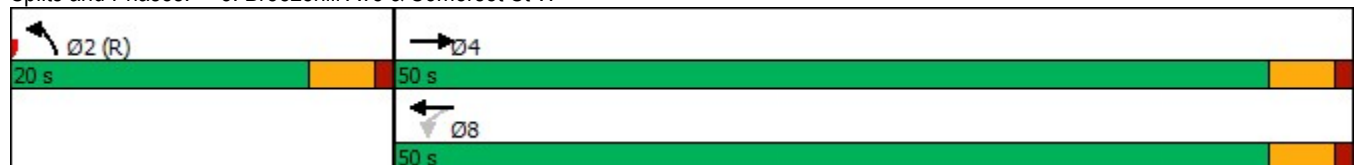
Intersection LOS: B

Intersection Capacity Utilization 30.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W



Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	160	66	45	226	61	86	377	60	47	347	45
Future Volume (vph)	45	160	66	45	226	61	86	377	60	47	347	45
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
Ped Bike Factor		0.97		0.95	0.98		0.97	0.98		0.97	0.99	
Frt		0.963			0.969			0.976			0.981	
Flt Protected		0.992		0.950			0.950			0.950		
Satd. Flow (prot)	0	1626	0	1755	1715	0	1738	1721	0	1789	1735	0
Flt Permitted		0.680		0.478			0.435			0.392		
Satd. Flow (perm)	0	1109	0	843	1715	0	773	1721	0	719	1735	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			31			13			10	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	25		35	35		25	39		44	44		39
Confl. Bikes (#/hr)			20			19			6			11
Peak Hour Factor	0.81	0.86	0.71	0.66	0.75	0.76	0.72	0.91	0.75	0.84	0.90	0.79
Heavy Vehicles (%)	2%	11%	11%	4%	7%	5%	5%	7%	7%	2%	7%	8%
Adj. Flow (vph)	56	186	93	68	301	80	119	414	80	56	386	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	335	0	68	381	0	119	494	0	56	443	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		23.7	23.7		23.7	23.7	
Total Split (s)	46.0	46.0		46.0	46.0		24.0	24.0		24.0	24.0	
Total Split (%)	65.7%	65.7%		65.7%	65.7%		34.3%	34.3%		34.3%	34.3%	
Maximum Green (s)	39.5	39.5		39.5	39.5		18.3	18.3		18.3	18.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		21.1		21.1	21.1		36.7	36.7		36.7	36.7	
Actuated g/C Ratio		0.30		0.30	0.30		0.52	0.52		0.52	0.52	
v/c Ratio		0.92		0.27	0.71		0.29	0.54		0.15	0.48	
Control Delay		49.8		18.9	26.4		14.6	15.7		12.8	14.5	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		49.8		18.9	26.4		14.6	15.7		12.8	14.5	
LOS		D		B	C		B	B		B	B	
Approach Delay		49.8			25.3			15.4			14.3	
Approach LOS		D			C			B			B	
Queue Length 50th (m)		37.1		6.8	40.6		8.0	38.3		3.5	33.0	
Queue Length 95th (m)		52.6		9.0	41.1		17.9	84.3		11.2	73.0	
Internal Link Dist (m)		84.8			94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)		645		475	981		405	908		377	914	
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		0.52		0.14	0.39		0.29	0.54		0.15	0.48	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 35 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 23.5

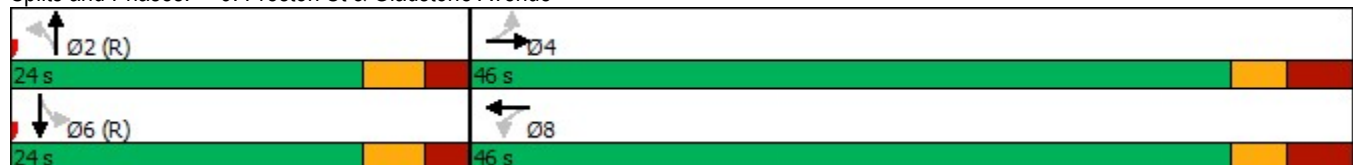
Intersection LOS: C

Intersection Capacity Utilization 80.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Preston St & Gladstone Avenue



Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	233	25	41	330	93	20	124	62	103	167	76
Future Volume (vph)	25	233	25	41	330	93	20	124	62	103	167	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.84		0.99	0.89		0.97		0.95	0.98	
Frt			0.850			0.850		0.964			0.952	
Flt Protected		0.994			0.994			0.995		0.950		
Satd. Flow (prot)	0	1754	1526	0	1788	1471	0	1664	0	1644	1749	0
Flt Permitted		0.835			0.932			0.948		0.614		
Satd. Flow (perm)	0	1467	1284	0	1661	1310	0	1581	0	1007	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			107		29			38	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			57.2			12.6	
Confl. Peds. (#/hr)	52		87	87		52	25		50	50		25
Confl. Bikes (#/hr)			15			18			1			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%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	32	248	35	51	407	107	27	155	66	130	199	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	280	35	0	458	107	0	248	0	130	294	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
Page 1

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)		27.0	27.0		27.0	27.0		36.9		36.9	36.9	
Actuated g/C Ratio		0.36	0.36		0.36	0.36		0.49		0.49	0.49	
v/c Ratio		0.53	0.07		0.77	0.20		0.31		0.26	0.33	
Control Delay		21.6	4.5		29.4	3.8		13.1		15.3	13.0	
Queue Delay		0.0	0.0		0.6	0.0		0.0		0.0	0.0	
Total Delay		21.6	4.5		30.0	3.8		13.1		15.3	13.0	
LOS		C	A		C	A		B		B	B	
Approach Delay		19.7			25.1			13.1			13.7	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		30.1	0.0		55.0	0.0		17.7		10.4	20.9	
Queue Length 95th (m)		43.5	2.6		63.1	7.0		33.0		21.5	40.2	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		674	611		764	660		791		494	878	
Starvation Cap Reductn		0	0		90	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		0.42	0.06		0.68	0.16		0.31		0.26	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 63 (84%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 19.0

Intersection LOS: B

Intersection Capacity Utilization 89.7%

ICU Level of Service E

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	288	81	52	298	22	82	361	60	44	308	48
Future Volume (vph)	50	288	81	52	298	22	82	361	60	44	308	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
Ped Bike Factor	0.92	0.94		0.92	0.99		0.94	0.99		0.98	0.98	
Frt		0.963			0.989			0.980			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1627	0	1706	1719	0	1706	1625	0	1690	1723	0
Flt Permitted	0.392			0.285			0.448			0.375		
Satd. Flow (perm)	645	1627	0	472	1719	0	759	1625	0	653	1723	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		433.0			189.8			173.9			224.6	
Travel Time (s)		52.0			22.8			20.9			27.0	
Confl. Peds. (#/hr)	76		93	93		76	65		33	33		65
Confl. Bikes (#/hr)			4			2						2
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 (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	65	343	114	60	339	28	121	425	64	56	342	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	457	0	60	367	0	121	489	0	56	404	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	41.0	41.0		41.0	41.0		34.0	34.0		34.0	34.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	35.4	35.4		35.4	35.4		28.3	28.3		28.3	28.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-Max	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
Page 3

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(m)				
Link Offset(m)				
Crosswalk Width(m)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (k/h)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
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
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

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

	↖	→	↘	↙	←	↖	↙	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)	30.3	30.3		30.3	30.3		43.4	43.4		43.4	43.4	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.51	0.51		0.51	0.51	
v/c Ratio	0.28	0.79		0.36	0.60		0.31	0.59		0.17	0.46	
Control Delay	20.4	34.0		24.1	25.6		17.7	20.5		16.0	17.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.4	34.0		24.1	25.6		17.7	20.5		16.0	17.4	
LOS	C	C		C	C		B	C		B	B	
Approach Delay		32.3			25.4			20.0			17.2	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	7.4	64.7		7.0	47.5		11.0	53.3		4.7	40.2	
Queue Length 95th (m)	11.8	74.1		14.0	59.1		19.7	94.4		12.1	78.1	
Internal Link Dist (m)		409.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	274	693		201	732		387	829		333	879	
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	0.66		0.30	0.50		0.31	0.59		0.17	0.46	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 32 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 23.7

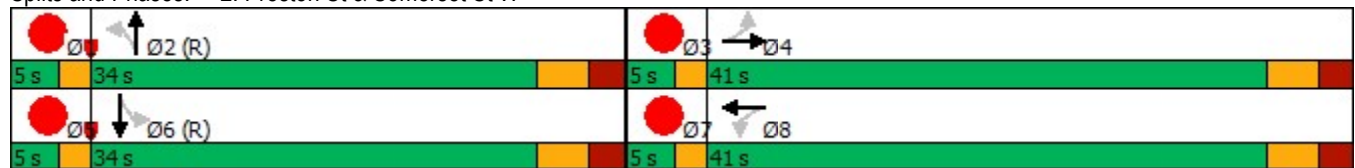
Intersection LOS: C

Intersection Capacity Utilization 71.6%

ICU Level of Service C

Analysis Period (min) 15

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



Lane Group	Ø1	Ø3	Ø5	Ø7
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)				
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	343	35	79	337	15	28	36	103	11	23	2
Future Volume (vph)	5	343	35	79	337	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
Ped Bike Factor		0.98			0.98			0.95			0.98	
Frt		0.985			0.994			0.923			0.979	
Flt Protected		0.999			0.991			0.991			0.985	
Satd. Flow (prot)	0	1701	0	0	1732	0	0	1637	0	0	1831	0
Flt Permitted		0.991			0.840			0.948			0.904	
Satd. Flow (perm)	0	1685	0	0	1450	0	0	1551	0	0	1668	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			6			86			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	
Confl. Peds. (#/hr)	72		77	77		72	27		19	19		27
Confl. Bikes (#/hr)			100			20			3			
Peak Hour Factor	0.63	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	381	48	84	359	20	40	56	129	16	28	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	437	0	0	463	0	0	225	0	0	52	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	51.0	51.0		51.0	51.0		24.0	24.0		24.0	24.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	45.9	45.9		45.9	45.9		18.6	18.6		18.6	18.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		31.9			31.9			32.6			32.6	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
v/c Ratio		0.60			0.75			0.31			0.07	
Control Delay		18.5			24.8			12.2			15.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.5			24.8			12.2			15.0	
LOS		B			C			B			B	
Approach Delay		18.5			24.8			12.2			15.0	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		44.3			52.4			11.8			3.5	
Queue Length 95th (m)		50.3			61.3			18.9			11.0	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												
Base Capacity (vph)		1037			889			723			730	
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			0.52			0.31			0.07	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 61 (81%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 19.6

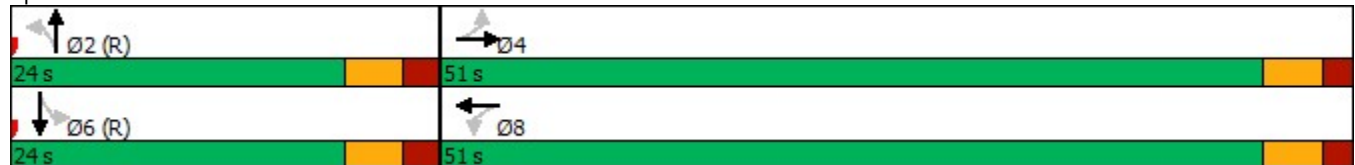
Intersection LOS: B

Intersection Capacity Utilization 72.1%

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

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	3	2	503	443	3
Future Volume (vph)	3	3	2	503	443	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)	84.6			278.7	173.9	
Travel Time (s)	10.2			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	3	2	547	482	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	549	485	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.1% ICU Level of Service A

Analysis Period (min) 15

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	3	2	503	443	3
Future Volume (Veh/h)	3	3	2	503	443	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	547	482	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)				279	174	
pX, platoon unblocked	0.96	0.93	0.93			
vC, conflicting volume	1034	484	485			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	867	409	410			
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	99	100			
cM capacity (veh/h)	311	599	1070			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	6	549	485			
Volume Left	3	2	0			
Volume Right	3	0	3			
cSH	409	1070	1700			
Volume to Capacity	0.01	0.00	0.29			
Queue Length 95th (m)	0.3	0.0	0.0			
Control Delay (s)	13.9	0.1	0.0			
Lane LOS	B	A				
Approach Delay (s)	13.9	0.1	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			38.1%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	373	34	28	421	35	24
Future Volume (vph)	373	34	28	421	35	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.90		0.99	
Frt	0.982				0.932	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	1787	0	1738	1865	1349	0
Flt Permitted			0.475		0.976	
Satd. Flow (perm)	1787	0	785	1865	1349	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	23				44	
Link Speed (k/h)	30			30	48	
Link Distance (m)	107.9			433.0	125.6	
Travel Time (s)	12.9			52.0	9.4	
Confl. Peds. (#/hr)		100	100			
Confl. Bikes (#/hr)		50				2
Peak Hour Factor	1.00	0.58	0.95	1.00	0.79	0.54
Heavy Vehicles (%)	3%	9%	5%	3%	16%	40%
Adj. Flow (vph)	373	59	29	421	44	44
Shared Lane Traffic (%)						
Lane Group Flow (vph)	432	0	29	421	88	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	22.5		22.5	22.5	9.5	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	45.5		45.5	45.5	15.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			11.0	11.0		
Pedestrian Calls (#/hr)			0	0		

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
Page 11

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Act Effect Green (s)	45.5		45.5	45.5	15.5	
Actuated g/C Ratio	0.65		0.65	0.65	0.22	
v/c Ratio	0.37		0.06	0.35	0.27	
Control Delay	6.4		4.8	6.5	15.6	
Queue Delay	0.7		0.0	0.0	0.0	
Total Delay	7.1		4.8	6.5	15.6	
LOS	A		A	A	B	
Approach Delay	7.1			6.4	15.6	
Approach LOS	A			A	B	
Queue Length 50th (m)	20.7		1.2	21.3	4.7	
Queue Length 95th (m)	34.4		3.7	34.3	12.6	
Internal Link Dist (m)	83.9			409.0	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1169		510	1212	332	
Starvation Cap Reductn	429		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.58		0.06	0.35	0.27	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Pretimed

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 7.6

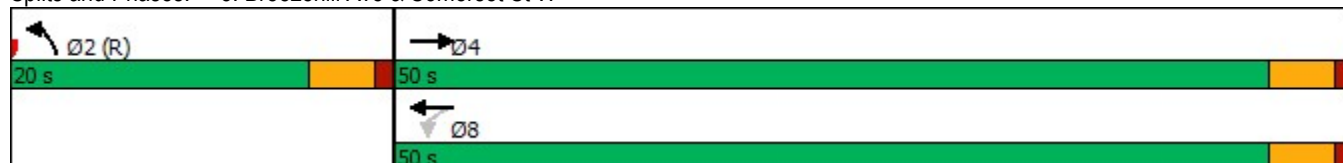
Intersection LOS: A

Intersection Capacity Utilization 34.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W



Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	236	83	73	394	64	81	421	93	43	340	82
Future Volume (vph)	39	236	83	73	394	64	81	421	93	43	340	82
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
Ped Bike Factor		0.95		0.95	0.97		0.93	0.95		0.91	0.97	
Frt		0.962			0.975			0.973			0.971	
Flt Protected		0.993		0.950			0.950			0.950		
Satd. Flow (prot)	0	1629	0	1772	1751	0	1755	1681	0	1789	1705	0
Flt Permitted		0.670		0.448			0.419			0.331		
Satd. Flow (perm)	0	1093	0	796	1751	0	721	1681	0	567	1705	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			17			21			22	
Link Speed (k/h)		48			48			30			48	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		8.2			8.9			7.6			20.9	
Confl. Peds. (#/hr)	48		52	52		48	76		130	130		76
Confl. Bikes (#/hr)			33			37			15			21
Peak Hour Factor	0.62	1.00	0.70	1.00	1.00	0.80	0.86	1.00	1.00	0.77	1.00	1.00
Heavy Vehicles (%)	3%	7%	11%	3%	4%	5%	4%	6%	4%	2%	6%	4%
Adj. Flow (vph)	63	236	119	73	394	80	94	421	93	56	340	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	418	0	73	474	0	94	514	0	56	422	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5		25.5	25.5		23.7	23.7		23.7	23.7	
Total Split (s)	33.0	33.0		33.0	33.0		37.0	37.0		37.0	37.0	
Total Split (%)	47.1%	47.1%		47.1%	47.1%		52.9%	52.9%		52.9%	52.9%	
Maximum Green (s)	26.5	26.5		26.5	26.5		31.3	31.3		31.3	31.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
Page 13

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		26.0		26.0	26.0		31.8	31.8		31.8	31.8	
Actuated g/C Ratio		0.37		0.37	0.37		0.45	0.45		0.45	0.45	
v/c Ratio		0.98		0.25	0.72		0.29	0.66		0.22	0.54	
Control Delay		62.8		17.7	25.3		15.4	19.6		14.7	16.3	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		62.8		17.7	25.3		15.4	19.6		14.7	16.3	
LOS		E		B	C		B	B		B	B	
Approach Delay		62.8			24.3			18.9			16.1	
Approach LOS		E			C			B			B	
Queue Length 50th (m)		48.7		6.4	49.3		7.5	48.7		4.3	36.3	
Queue Length 95th (m)		#103.1		15.5	81.0		16.5	80.4		9.6	60.9	
Internal Link Dist (m)		84.8			94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)		434		301	673		328	776		257	787	
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		0.96		0.24	0.70		0.29	0.66		0.22	0.54	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 40 (57%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 28.6

Intersection LOS: C

Intersection Capacity Utilization 99.3%

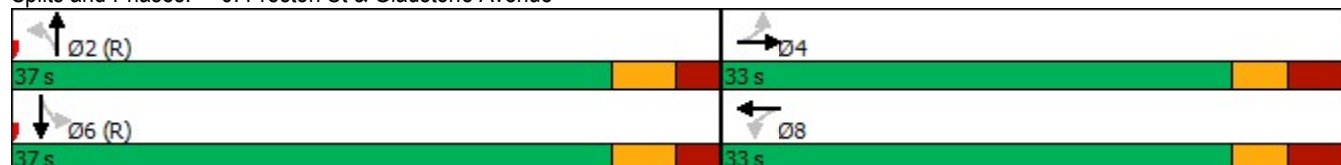
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue



Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	198	15	32	189	67	13	87	41	100	83	55
Future Volume (vph)	26	198	15	32	189	67	13	87	41	100	83	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.91		0.99	0.94		0.98		0.97	0.98	
Frt			0.850			0.850		0.960			0.930	
Flt Protected		0.994			0.993			0.993		0.950		
Satd. Flow (prot)	0	1754	1526	0	1784	1471	0	1672	0	1644	1701	0
Flt Permitted		0.936			0.920			0.949		0.646		
Satd. Flow (perm)	0	1648	1393	0	1643	1385	0	1594	0	1090	1701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			81		37			77	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			57.2			12.6	
Confl. Peds. (#/hr)	20		46	46		20	13		22	22		13
Confl. Bikes (#/hr)			5			13			3			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	21	34	217	81	26	99	52	108	104	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	246	21	0	251	81	0	177	0	108	194	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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		16.4	16.4		16.4	16.4		42.5		42.5	42.5	
Actuated g/C Ratio		0.23	0.23		0.23	0.23		0.61		0.61	0.61	
v/c Ratio		0.64	0.06		0.65	0.21		0.18		0.16	0.18	
Control Delay		30.9	3.1		28.6	7.7		6.5		8.4	5.2	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		30.9	3.1		28.6	7.7		6.5		8.4	5.2	
LOS		C	A		C	A		A		A	A	
Approach Delay		28.7			23.5			6.5			6.3	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		29.4	0.0		30.6	0.0		6.8		5.3	5.6	
Queue Length 95th (m)		43.3	1.0		43.9	9.1		18.6		15.6	14.5	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		694	610		692	630		982		661	1062	
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		0.36	0.13		0.18		0.16	0.18	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 19 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 17.2

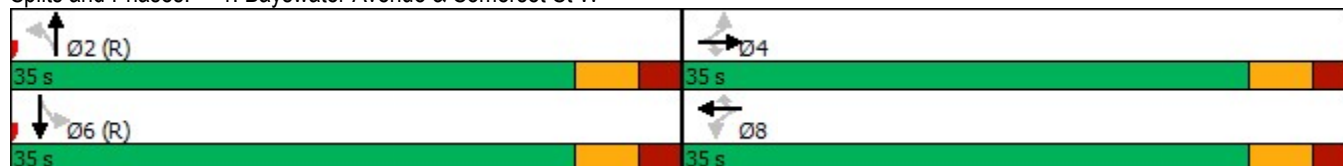
Intersection LOS: B

Intersection Capacity Utilization 81.2%

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	229	99	28	156	13	74	349	66	39	370	34
Future Volume (vph)	33	229	99	28	156	13	74	349	66	39	370	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
Ped Bike Factor	0.90	0.94		0.93	0.98		0.95	0.98		0.97	0.98	
Frt		0.949			0.981			0.976			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1597	0	1706	1699	0	1706	1610	0	1690	1745	0
Flt Permitted	0.593			0.329			0.422			0.412		
Satd. Flow (perm)	960	1597	0	549	1699	0	722	1610	0	708	1745	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		433.0			189.8			173.9			224.6	
Travel Time (s)		52.0			22.8			20.9			27.0	
Confl. Peds. (#/hr)	55		63	63		55	65		48	48		65
Confl. Bikes (#/hr)			3									
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	125	44	168	24	109	401	76	60	416	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	371	0	44	192	0	109	477	0	60	464	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	
Total Split (%)	47.8%	47.8%		47.8%	47.8%		41.1%	41.1%		41.1%	41.1%	
Maximum Green (s)	37.4	37.4		37.4	37.4		31.3	31.3		31.3	31.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-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)	27.3	27.3		27.3	27.3		51.4	51.4		51.4	51.4	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.57	0.57		0.57	0.57	
v/c Ratio	0.18	0.77		0.27	0.37		0.26	0.52		0.15	0.47	
Control Delay	21.8	38.6		25.3	25.2		14.3	16.1		12.9	14.9	
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

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
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 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
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	21.8	38.6		25.3	25.2		14.3	16.1		12.9	14.9	
LOS	C	D		C	C		B	B		B	B	
Approach Delay		36.6			25.2			15.8			14.7	
Approach LOS		D			C			B			B	
Queue Length 50th (m)	6.6	57.7		5.7	25.9		8.9	47.0		4.6	43.8	
Queue Length 95th (m)	8.8	76.0		8.3	36.8		16.5	87.3		9.3	83.3	
Internal Link Dist (m)		409.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	398	663		228	706		412	920		404	997	
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	0.13	0.56		0.19	0.27		0.26	0.52		0.15	0.47	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 21.7

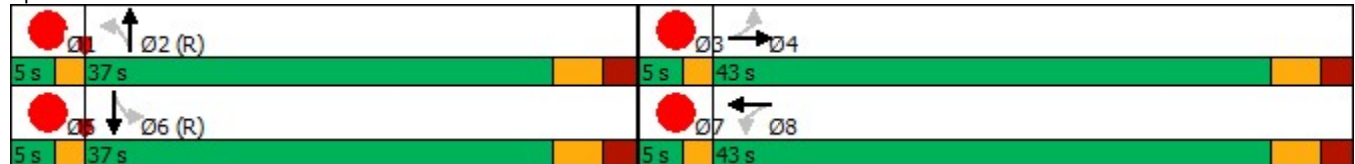
Intersection LOS: C

Intersection Capacity Utilization 68.7%

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	280	58	51	170	3	16	14	58	6	24	5
Future Volume (vph)	4	280	58	51	170	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
Ped Bike Factor		0.99			0.99			0.98			0.99	
Frt		0.977			0.998			0.922			0.979	
Flt Protected		0.999			0.988			0.991			0.989	
Satd. Flow (prot)	0	1712	0	0	1749	0	0	1663	0	0	1849	0
Flt Permitted		0.993			0.749			0.957			0.948	
Satd. Flow (perm)	0	1701	0	0	1319	0	0	1601	0	0	1768	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	
Confl. Peds. (#/hr)	20		23	23		20	9		6	6		9
Confl. Bikes (#/hr)			4			8						
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	198	4	24	32	76	12	32	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	416	0	0	266	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 Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.0	26.0		26.0	26.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	48.9	48.9		48.9	48.9		20.6	20.6		20.6	20.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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)		26.4			26.4			43.1			43.1	
Actuated g/C Ratio		0.33			0.33			0.54			0.54	
v/c Ratio		0.72			0.61			0.15			0.05	
Control Delay		28.5			27.1			6.6			10.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		28.5			27.1			6.6			10.7	
LOS		C			C			A			B	
Approach Delay		28.5			27.1			6.6			10.7	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			A			B		
Queue Length 50th (m)	51.7			33.2			3.8			3.0		
Queue Length 95th (m)	57.3			42.1			3.4			8.4		
Internal Link Dist (m)	165.8			96.0			251.9			215.0		
Turn Bay Length (m)												
Base Capacity (vph)	1049			807			897			956		
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			0.33			0.15			0.05		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 72 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 23.7

Intersection LOS: C

Intersection Capacity Utilization 61.5%

ICU Level of Service B

Analysis Period (min) 15

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

 Ø2 (R)	 Ø4
26 s	54 s
 Ø6 (R)	 Ø8
26 s	54 s

Lanes, Volumes, Timings

4: Preston St & Oak St

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	21	13	484	475	8
Future Volume (vph)	12	21	13	484	475	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			0.999		
Satd. Flow (prot)	1690	0	0	1882	1880	0
Flt Permitted	0.982			0.999		
Satd. Flow (perm)	1690	0	0	1882	1880	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	84.6			278.7	173.9	
Travel Time (s)	10.2			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	23	14	526	516	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	540	525	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 45.9% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	21	13	484	475	8
Future Volume (Veh/h)	12	21	13	484	475	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	526	516	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)				279	174	
pX, platoon unblocked	0.92	0.91	0.91			
vC, conflicting volume	1074	520	525			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	989	424	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 %	95	96	99			
cM capacity (veh/h)	248	573	1029			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	36	540	525			
Volume Left	13	14	0			
Volume Right	23	0	9			
cSH	389	1029	1700			
Volume to Capacity	0.09	0.01	0.31			
Queue Length 95th (m)	2.3	0.3	0.0			
Control Delay (s)	15.2	0.4	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.2	0.4	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization		45.9%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	
Traffic Volume (vph)	314	37	19	260	28	33
Future Volume (vph)	314	37	19	260	28	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.95		0.98	
Frt	0.981				0.932	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	1783	0	1722	1921	1399	0
Flt Permitted			0.480		0.976	
Satd. Flow (perm)	1783	0	827	1921	1399	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	24				42	
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			433.0	125.6	
Travel Time (s)	12.9			52.0	15.1	
Confl. Peds. (#/hr)		50	50			
Confl. Bikes (#/hr)		33				6
Peak Hour Factor	0.86	0.63	0.70	0.93	0.67	0.79
Heavy Vehicles (%)	4%	8%	6%	0%	19%	27%
Adj. Flow (vph)	365	59	27	280	42	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	424	0	27	280	84	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	22.5		22.5	22.5	9.5	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	45.5		45.5	45.5	15.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			11.0	11.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	45.5		45.5	45.5	15.5	
Actuated g/C Ratio	0.65		0.65	0.65	0.22	
v/c Ratio	0.36		0.05	0.22	0.25	
Control Delay	14.4		4.8	5.6	15.4	
Queue Delay	0.7		0.0	0.0	0.0	
Total Delay	15.2		4.8	5.6	15.4	
LOS	B		A	A	B	
Approach Delay	15.2			5.5	15.4	

Lanes, Volumes, Timings

8: Breezehill Ave & Somerset St W

06/17/2025



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	B			A	B	
Queue Length 50th (m)	45.5		1.1	12.8	4.5	
Queue Length 95th (m)	51.2		2.6	21.6	9.5	
Internal Link Dist (m)	83.9			409.0	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1167		537	1248	342	
Starvation Cap Reductn	435		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.58		0.05	0.22	0.25	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Pretimed

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 11.5

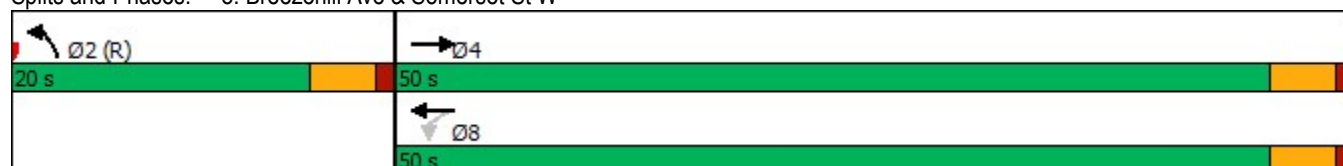
Intersection LOS: B

Intersection Capacity Utilization 30.9%

ICU Level of Service A

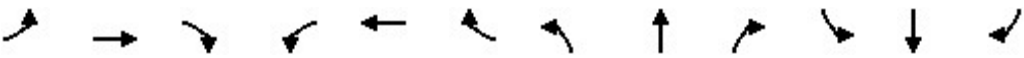
Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W



Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔		↔	↔	
Traffic Volume (vph)	45	183	75	45	243	78	92	406	60	79	372	45
Future Volume (vph)	45	183	75	45	243	78	92	406	60	79	372	45
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
Ped Bike Factor		0.97		0.96	0.98		0.97	0.98		0.98	0.99	
Frt		0.962			0.964			0.977			0.982	
Flt Protected		0.993		0.950			0.950			0.950		
Satd. Flow (prot)	0	1623	0	1755	1703	0	1738	1724	0	1789	1738	0
Flt Permitted		0.681		0.458			0.396			0.348		
Satd. Flow (perm)	0	1108	0	811	1703	0	706	1724	0	640	1738	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			38			12			10	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	25		35	35		25	39		44	44		39
Confl. Bikes (#/hr)			20			19			6			11
Peak Hour Factor	0.81	0.86	0.71	0.66	0.75	0.76	0.72	0.91	0.75	0.84	0.90	0.79
Heavy Vehicles (%)	2%	11%	11%	4%	7%	5%	5%	7%	7%	2%	7%	8%
Adj. Flow (vph)	56	213	106	68	324	103	128	446	80	94	413	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	375	0	68	427	0	128	526	0	94	470	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		23.7	23.7		23.7	23.7	
Total Split (s)	46.0	46.0		46.0	46.0		24.0	24.0		24.0	24.0	
Total Split (%)	65.7%	65.7%		65.7%	65.7%		34.3%	34.3%		34.3%	34.3%	
Maximum Green (s)	39.5	39.5		39.5	39.5		18.3	18.3		18.3	18.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		23.2		23.2	23.2		34.6	34.6		34.6	34.6	
Actuated g/C Ratio		0.33		0.33	0.33		0.49	0.49		0.49	0.49	
v/c Ratio		0.94		0.25	0.72		0.37	0.61		0.30	0.54	
Control Delay		51.8		16.9	25.1		18.1	19.6		17.2	17.6	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.8		16.9	25.1		18.1	19.6		17.2	17.6	
LOS		D		B	C		B	B		B	B	
Approach Delay		51.8			24.0			19.3			17.5	

Lanes, Volumes, Timings

9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			B			B		
Queue Length 50th (m)	42.2			6.5	44.4		9.6	45.3		6.8	38.6	
Queue Length 95th (m)	57.5			8.3	42.8		21.1	#112.7		19.9	#93.9	
Internal Link Dist (m)	84.8				94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)	645			457	977		349	858		316	864	
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	0.58			0.15	0.44		0.37	0.61		0.30	0.54	

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

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 25.8

Intersection LOS: C

Intersection Capacity Utilization 85.7%

ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue

							
Ø2 (R)				Ø4			Ø8
24 s				46 s			
Ø6 (R)							
24 s							

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	237	25	41	334	93	20	124	62	103	167	76
Future Volume (vph)	25	237	25	41	334	93	20	124	62	103	167	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.84		0.99	0.89		0.97		0.95	0.98	
Frt			0.850			0.850		0.964			0.952	
Flt Protected		0.994			0.995			0.995		0.950		
Satd. Flow (prot)	0	1754	1526	0	1790	1471	0	1664	0	1644	1749	0
Flt Permitted		0.833			0.932			0.948		0.614		
Satd. Flow (perm)	0	1464	1284	0	1661	1310	0	1581	0	1007	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			107			29			38
Link Speed (k/h)		30			30			30				30
Link Distance (m)		169.1			107.9			476.9				104.6
Travel Time (s)		20.3			12.9			57.2				12.6
Confl. Peds. (#/hr)	52		87	87		52	25		50	50		25
Confl. Bikes (#/hr)			15			18			1			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%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	32	252	35	51	412	107	27	155	66	130	199	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	284	35	0	463	107	0	248	0	130	294	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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		27.2	27.2		27.2	27.2		36.7		36.7	36.7	
Actuated g/C Ratio		0.36	0.36		0.36	0.36		0.49		0.49	0.49	
v/c Ratio		0.54	0.07		0.77	0.20		0.31		0.26	0.34	
Control Delay		21.7	4.5		29.5	3.8		13.2		15.4	13.0	
Queue Delay		0.0	0.0		0.7	0.0		0.0		0.0	0.0	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		21.7	4.5		30.2	3.8		13.2		15.4	13.0	
LOS		C	A		C	A		B		B	B	
Approach Delay		19.8			25.2			13.2			13.8	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		30.6	0.0		55.6	0.0		17.8		10.4	21.0	
Queue Length 95th (m)		44.1	2.6		63.8	7.0		33.0		21.5	40.2	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		673	611		764	660		788		492	875	
Starvation Cap Reductn		0	0		93	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		0.42	0.06		0.69	0.16		0.31		0.26	0.34	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 63 (84%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 19.1

Intersection LOS: B

Intersection Capacity Utilization 89.8%

ICU Level of Service E

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	288	85	52	298	22	86	411	60	44	339	48
Future Volume (vph)	50	288	85	52	298	22	86	411	60	44	339	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
Ped Bike Factor	0.92	0.94		0.92	0.99		0.95	0.99		0.98	0.98	
Frt		0.961			0.989			0.982			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1620	0	1706	1719	0	1706	1628	0	1690	1729	0
Flt Permitted	0.396			0.283			0.415			0.324		
Satd. Flow (perm)	652	1620	0	469	1719	0	708	1628	0	567	1729	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		433.0			189.8			173.9			224.6	
Travel Time (s)		52.0			22.8			20.9			27.0	
Confl. Peds. (#/hr)	76		93	93		76	65		33	33		65
Confl. Bikes (#/hr)			4			2						2
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 (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	65	343	120	60	339	28	126	484	64	56	377	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	463	0	60	367	0	126	548	0	56	439	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	41.0	41.0		41.0	41.0		34.0	34.0		34.0	34.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	35.4	35.4		35.4	35.4		28.3	28.3		28.3	28.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-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)	30.7	30.7		30.7	30.7		43.0	43.0		43.0	43.0	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.51	0.51		0.51	0.51	
v/c Ratio	0.28	0.79		0.36	0.59		0.35	0.67		0.20	0.50	
Control Delay	19.9	33.8		23.6	25.0		19.2	23.5		17.1	18.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
Page 3

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
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 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
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

06/17/2025

	↗	→	↘	↙	←	↖	↗	↑	↘	↙	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.9	33.8		23.6	25.0		19.2	23.5		17.1	18.5	
LOS	B	C		C	C		B	C		B	B	
Approach Delay		32.1			24.8			22.7			18.3	
Approach LOS		C			C			C			B	
Queue Length 50th (m)	7.3	65.5		7.0	47.2		11.8	63.6		4.8	45.3	
Queue Length 95th (m)	11.5	74.2		13.8	58.1		21.1	#123.2		12.7	88.0	
Internal Link Dist (m)		409.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	279	693		200	735		357	822		286	873	
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	0.23	0.67		0.30	0.50		0.35	0.67		0.20	0.50	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 32 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 24.4

Intersection LOS: C

Intersection Capacity Utilization 74.5%

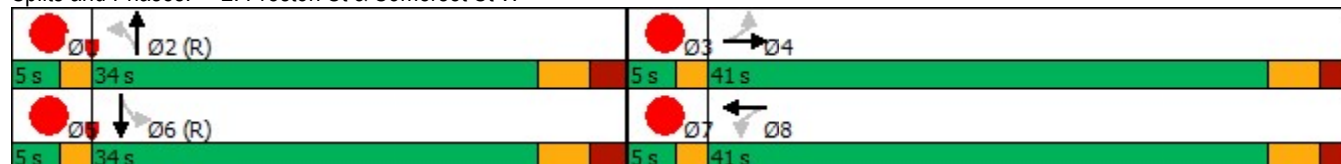
ICU Level of Service D

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
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	343	35	79	337	15	28	36	103	11	23	2
Future Volume (vph)	5	343	35	79	337	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
Ped Bike Factor		0.98			0.98			0.95			0.98	
Frt		0.985			0.994			0.923			0.979	
Flt Protected		0.999			0.991			0.991			0.985	
Satd. Flow (prot)	0	1701	0	0	1732	0	0	1637	0	0	1831	0
Flt Permitted		0.991			0.840			0.948			0.904	
Satd. Flow (perm)	0	1685	0	0	1450	0	0	1551	0	0	1668	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			6			86			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	
Confl. Peds. (#/hr)	72		77	77		72	27		19	19		27
Confl. Bikes (#/hr)			100			20			3			
Peak Hour Factor	0.63	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	381	48	84	359	20	40	56	129	16	28	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	437	0	0	463	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 Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	51.0	51.0		51.0	51.0		24.0	24.0		24.0	24.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	45.9	45.9		45.9	45.9		18.6	18.6		18.6	18.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		31.9			31.9			32.6			32.6	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
v/c Ratio		0.60			0.75			0.31			0.07	
Control Delay		18.5			24.8			12.2			15.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.5			24.8			12.2			15.0	
LOS		B			C			B			B	
Approach Delay		18.5			24.8			12.2			15.0	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			C			B			B	
Queue Length 50th (m)		44.3			52.4			11.8			3.5	
Queue Length 95th (m)		50.3			61.3			18.9			11.0	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												
Base Capacity (vph)		1037			889			723			730	
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			0.52			0.31			0.07	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 61 (81%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 19.6

Intersection LOS: B

Intersection Capacity Utilization 72.1%

ICU Level of Service C

Analysis Period (min) 15

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

	Ø2 (R)			Ø4
24 s			51 s	
	Ø6 (R)			Ø8
24 s			51 s	

Lanes, Volumes, Timings

4: Preston St & Oak St

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	20	20	548	468	13
Future Volume (vph)	12	20	20	548	468	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)	30			30	30	
Link Distance (m)	84.6			278.7	173.9	
Travel Time (s)	10.2			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	22	22	596	509	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	0	618	523	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 55.0% ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	20	20	548	468	13
Future Volume (Veh/h)	12	20	20	548	468	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	596	509	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)				279	174	
pX, platoon unblocked	0.91	0.90	0.90			
vC, conflicting volume	1156	516	523			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	886	411	419			
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	98			
cM capacity (veh/h)	281	579	1030			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	35	618	523			
Volume Left	13	22	0			
Volume Right	22	0	14			
cSH	416	1030	1700			
Volume to Capacity	0.08	0.02	0.31			
Queue Length 95th (m)	2.1	0.5	0.0			
Control Delay (s)	14.5	0.6	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.5	0.6	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		0.7				
Intersection Capacity Utilization		55.0%		ICU Level of Service		B
Analysis Period (min)		15				

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↱	↘↗	
Traffic Volume (vph)	377	34	28	425	35	24
Future Volume (vph)	377	34	28	425	35	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.90		0.99	
Frt	0.982				0.932	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	1787	0	1738	1865	1349	0
Flt Permitted			0.472		0.976	
Satd. Flow (perm)	1787	0	780	1865	1349	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	23				44	
Link Speed (k/h)	30			30	48	
Link Distance (m)	107.9			433.0	125.6	
Travel Time (s)	12.9			52.0	9.4	
Confl. Peds. (#/hr)		100	100			
Confl. Bikes (#/hr)		50				2
Peak Hour Factor	1.00	0.58	0.95	1.00	0.79	0.54
Heavy Vehicles (%)	3%	9%	5%	3%	16%	40%
Adj. Flow (vph)	377	59	29	425	44	44
Shared Lane Traffic (%)						
Lane Group Flow (vph)	436	0	29	425	88	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	22.5		22.5	22.5	9.5	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	45.5		45.5	45.5	15.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			11.0	11.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	45.5		45.5	45.5	15.5	
Actuated g/C Ratio	0.65		0.65	0.65	0.22	
v/c Ratio	0.37		0.06	0.35	0.27	
Control Delay	6.4		4.9	6.5	15.6	
Queue Delay	0.8		0.0	0.0	0.0	
Total Delay	7.2		4.9	6.5	15.6	
LOS	A		A	A	B	
Approach Delay	7.2			6.4	15.6	

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	A			A	B	
Queue Length 50th (m)	21.0		1.2	21.6	4.7	
Queue Length 95th (m)	34.8		3.7	34.7	12.6	
Internal Link Dist (m)	83.9			409.0	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1169		507	1212	332	
Starvation Cap Reductn	427		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.59		0.06	0.35	0.27	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Pretimed

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 7.6

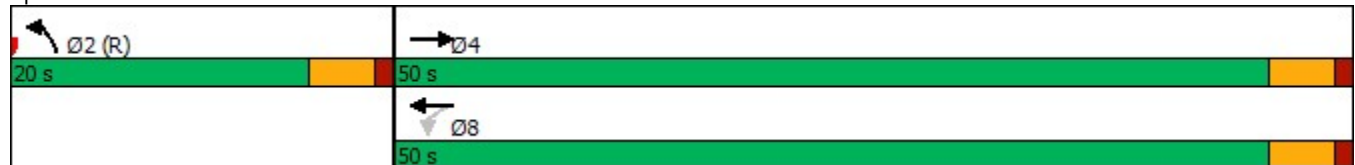
Intersection LOS: A

Intersection Capacity Utilization 34.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W



Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔		↔	↔	
Traffic Volume (vph)	39	257	92	73	421	90	90	472	93	72	370	82
Future Volume (vph)	39	257	92	73	421	90	90	472	93	72	370	82
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
Ped Bike Factor		0.95		0.95	0.97		0.94	0.95		0.93	0.97	
Frt		0.961			0.968			0.975			0.973	
Flt Protected		0.993		0.950			0.950			0.950		
Satd. Flow (prot)	0	1626	0	1772	1727	0	1755	1691	0	1789	1711	0
Flt Permitted		0.657		0.441			0.368			0.256		
Satd. Flow (perm)	0	1071	0	785	1727	0	638	1691	0	447	1711	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			24			17			19	
Link Speed (k/h)		48			48			30			48	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		8.2			8.9			7.6			20.9	
Confl. Peds. (#/hr)	48		52	52		48	76		130	130		76
Confl. Bikes (#/hr)			33			37			15			21
Peak Hour Factor	0.62	1.00	0.70	1.00	1.00	0.80	0.86	1.00	1.00	0.77	1.00	1.00
Heavy Vehicles (%)	3%	7%	11%	3%	4%	5%	4%	6%	4%	2%	6%	4%
Adj. Flow (vph)	63	257	131	73	421	113	105	472	93	94	370	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	451	0	73	534	0	105	565	0	94	452	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5		25.5	25.5		23.7	23.7		23.7	23.7	
Total Split (s)	36.0	36.0		36.0	36.0		34.0	34.0		34.0	34.0	
Total Split (%)	51.4%	51.4%		51.4%	51.4%		48.6%	48.6%		48.6%	48.6%	
Maximum Green (s)	29.5	29.5		29.5	29.5		28.3	28.3		28.3	28.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		28.3		28.3	28.3		29.5	29.5		29.5	29.5	
Actuated g/C Ratio		0.40		0.40	0.40		0.42	0.42		0.42	0.42	
v/c Ratio		0.99		0.23	0.75		0.39	0.78		0.50	0.62	
Control Delay		62.3		15.4	24.4		20.4	27.5		27.5	20.2	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		62.3		15.4	24.4		20.4	27.5		27.5	20.2	
LOS		E		B	C		C	C		C	C	
Approach Delay		62.3			23.3			26.4			21.5	

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			C			C			C		
Queue Length 50th (m)	51.5			5.9	53.4		9.5	61.7		9.0	44.1	
Queue Length 95th (m)	#108.7			14.3	87.8		21.0	#114.6		18.8	73.1	
Internal Link Dist (m)	84.8				94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)	472			330	741		268	721		187	731	
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	0.96			0.22	0.72		0.39	0.78		0.50	0.62	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 40 (57%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 31.5

Intersection LOS: C

Intersection Capacity Utilization 104.5%

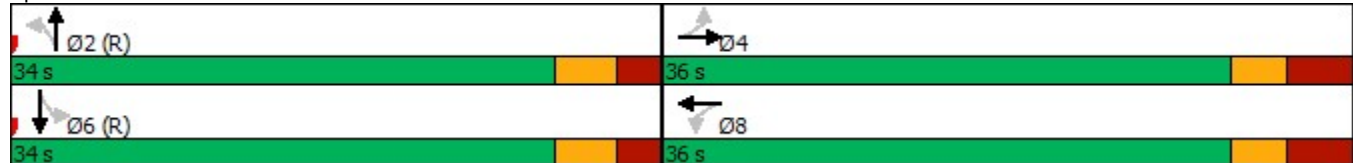
ICU Level of Service G

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue



Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	198	15	32	189	67	13	87	41	100	83	55
Future Volume (vph)	26	198	15	32	189	67	13	87	41	100	83	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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			0.930	
Flt Protected		0.994			0.993			0.993		0.950		
Satd. Flow (prot)	0	1754	1526	0	1784	1471	0	1699	0	1644	1737	0
Flt Permitted		0.948			0.936			0.943		0.679		
Satd. Flow (perm)	0	1673	1526	0	1681	1471	0	1614	0	1175	1737	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			81		37			77	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			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	218	21	34	217	81	26	99	52	108	104	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	246	21	0	251	81	0	177	0	108	194	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	
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		0.25		0.22	0.25	
Control Delay		15.5	2.2		15.2	6.8		11.5		14.5	8.9	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		15.5	2.2		15.2	6.8		11.5		14.5	8.9	
LOS		B	A		B	A		B		B	A	
Approach Delay		14.5			13.1			11.5			10.9	
Approach LOS		B			B			B			B	
Queue Length 50th (m)		21.0	0.0		24.0	0.1		11.2		8.7	9.2	
Queue Length 95th (m)		36.8	0.9		41.6	9.3		22.4		18.5	17.4	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		705	666		708	666		699		493	774	
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		0.25		0.22	0.25	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 19 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 12.6

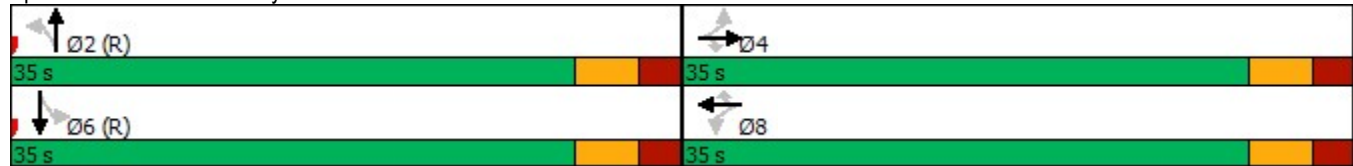
Intersection LOS: B

Intersection Capacity Utilization 57.6%

ICU Level of Service B

Analysis Period (min) 15

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



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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	229	99	28	156	13	74	349	66	39	370	34
Future Volume (vph)	33	229	99	28	156	13	74	349	66	39	370	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			0.981			0.976			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1693	0	1706	1731	0	1706	1641	0	1690	1774	0
Flt Permitted	0.625			0.424			0.263			0.248		
Satd. Flow (perm)	1122	1693	0	761	1731	0	472	1641	0	441	1774	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		433.0			189.8			173.9			224.6	
Travel Time (s)		52.0			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	125	44	168	24	109	401	76	60	416	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	371	0	44	192	0	109	477	0	60	464	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)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	
Total Split (%)	47.8%	47.8%		47.8%	47.8%		41.1%	41.1%		41.1%	41.1%	
Maximum Green (s)	37.4	37.4		37.4	37.4		31.3	31.3		31.3	31.3	
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	
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)	37.4	37.4		37.4	37.4		31.3	31.3		31.3	31.3	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.35	0.35		0.35	0.35	
v/c Ratio	0.11	0.53		0.14	0.27		0.66	0.84		0.39	0.75	
Control Delay	17.0	23.1		17.9	18.6		47.6	42.0		31.6	35.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.0	23.1		17.9	18.6		47.6	42.0		31.6	35.2	
LOS	B	C		B	B		D	D		C	D	
Approach Delay		22.3			18.4			43.1			34.8	
Approach LOS		C			B			D			C	
Queue Length 50th (m)	5.4	46.7		4.6	21.3		15.8	74.9		7.7	69.9	
Queue Length 95th (m)	8.5	72.7		7.8	36.1		24.0	#118.7		12.9	104.1	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

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 (%)	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
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)				
Queue Length 95th (m)				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)	409.0			165.8			149.9			200.6		
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	466	703		316	719		164	570		153	616	
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	0.53		0.14	0.27		0.66	0.84		0.39	0.75	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 32.4

Intersection LOS: C

Intersection Capacity Utilization 67.6%

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

		Ø2 (R)			Ø3		Ø4
5 s	37 s		5 s	43 s			
		Ø5			Ø7		Ø8
5 s	37 s		5 s	43 s			

Lane Group	Ø1	Ø3	Ø5	Ø7
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	280	58	51	170	3	16	14	58	6	24	5
Future Volume (vph)	4	280	58	51	170	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			0.839			0.947			0.932	
Satd. Flow (perm)	0	1723	0	0	1487	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	337	71	64	198	4	24	32	76	12	32	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	416	0	0	266	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)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.0	26.0		26.0	26.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	48.9	48.9		48.9	48.9		20.6	20.6		20.6	20.6	
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	
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 Effect Green (s)		48.9			48.9			20.6			20.6	
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			8.4			13.1			20.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.8			8.4			13.1			20.8	
LOS		A			A			B			C	
Approach Delay		8.8			8.4			13.1			20.8	
Approach LOS		A			A			B			C	
Queue Length 50th (m)		27.0			17.0			6.6			5.1	
Queue Length 95th (m)		38.5			27.3			4.4			10.8	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												
Base Capacity (vph)		1062			909			473			457	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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

Actuated Cycle Length: 80

Offset: 72 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 10.0

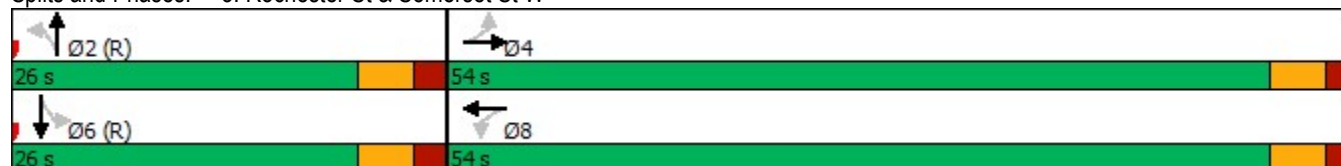
Intersection LOS: B

Intersection Capacity Utilization 50.5%

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

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	21	13	484	475	8
Future Volume (vph)	12	21	13	484	475	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			0.999		
Satd. Flow (prot)	1690	0	0	1882	1880	0
Flt Permitted	0.982			0.999		
Satd. Flow (perm)	1690	0	0	1882	1880	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	84.6			278.7	173.9	
Travel Time (s)	10.2			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	23	14	526	516	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	540	525	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 45.9% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	21	13	484	475	8
Future Volume (Veh/h)	12	21	13	484	475	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	526	516	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)				279	174	
pX, platoon unblocked	0.83	0.82	0.82			
vC, conflicting volume	1074	520	525			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	938	309	314			
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)	241	601	1025			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	36	540	525			
Volume Left	13	14	0			
Volume Right	23	0	9			
cSH	390	1025	1700			
Volume to Capacity	0.09	0.01	0.31			
Queue Length 95th (m)	2.3	0.3	0.0			
Control Delay (s)	15.2	0.4	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.2	0.4	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		0.7				
Intersection Capacity Utilization		45.9%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	
Traffic Volume (vph)	314	37	19	260	28	33
Future Volume (vph)	314	37	19	260	28	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.986				0.926	
Flt Protected			0.950		0.978	
Satd. Flow (prot)	1857	0	1789	1883	1706	0
Flt Permitted			0.511		0.978	
Satd. Flow (perm)	1857	0	962	1883	1706	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	17				36	
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			433.0	125.6	
Travel Time (s)	12.9			52.0	15.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	341	40	21	283	30	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	381	0	21	283	66	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	22.5		22.5	22.5	9.5	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	45.5		45.5	45.5	15.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			11.0	11.0		
Pedestrian Calls (#/hr)			0	0		
Act Effect Green (s)	45.5		45.5	45.5	15.5	
Actuated g/C Ratio	0.65		0.65	0.65	0.22	
v/c Ratio	0.31		0.03	0.23	0.16	
Control Delay	11.5		4.6	5.6	13.7	
Queue Delay	0.5		0.0	0.0	0.0	
Total Delay	12.0		4.6	5.6	13.7	
LOS	B		A	A	B	
Approach Delay	12.0			5.6	13.7	
Approach LOS	B			A	B	
Queue Length 50th (m)	30.0		0.9	13.1	3.1	
Queue Length 95th (m)	46.2		2.9	22.0	12.1	
Internal Link Dist (m)	83.9			409.0	101.6	

Lanes, Volumes, Timings
 8: Breezehill Ave & Somerset St W

06/17/2025

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1213		625	1223	405	
Starvation Cap Reductn	438		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.49		0.03	0.23	0.16	
Intersection Summary						
Area Type:	Other					
Cycle Length: 70						
Actuated Cycle Length: 70						
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green						
Control Type: Pretimed						
Maximum v/c Ratio: 0.31						
Intersection Signal Delay: 9.5				Intersection LOS: A		
Intersection Capacity Utilization 30.4%				ICU Level of Service A		
Analysis Period (min) 15						

Splits and Phases: 8: Breezehill Ave & Somerset St W



Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	183	75	45	243	78	92	406	60	79	372	45
Future Volume (vph)	45	183	75	45	243	78	92	406	60	79	372	45
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
Fr't		0.956			0.963			0.981			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1801	0	1789	1814	0	1789	1848	0	1789	1853	0
Flt Permitted	0.376			0.491			0.442			0.401		
Satd. Flow (perm)	708	1801	0	925	1814	0	832	1848	0	755	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			23			17			14	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	199	82	49	264	85	100	441	65	86	404	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	281	0	49	349	0	100	506	0	86	453	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)	22.5	22.5		22.5	22.5		23.7	23.7		23.7	23.7	
Total Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (%)	35.7%	35.7%		35.7%	35.7%		64.3%	64.3%		64.3%	64.3%	
Maximum Green (s)	18.5	18.5		18.5	18.5		39.3	39.3		39.3	39.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)	6.5	6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	18.5	18.5		18.5	18.5		39.3	39.3		39.3	39.3	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.56	0.56		0.56	0.56	
v/c Ratio	0.26	0.57		0.20	0.70		0.21	0.48		0.20	0.43	
Control Delay	24.8	25.1		22.6	30.9		9.2	10.9		9.2	10.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.8	25.1		22.6	30.9		9.2	10.9		9.2	10.2	
LOS	C	C		C	C		A	B		A	B	
Approach Delay		25.0			29.8			10.6			10.0	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	5.1	28.3		5.0	38.4		5.9	34.9		5.1	30.1	
Queue Length 95th (m)	13.8	50.3		13.1	#68.3		13.4	56.3		12.0	49.0	
Internal Link Dist (m)		84.8			94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)	187	497		244	496		467	1044		423	1046	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	

Lanes, Volumes, Timings

9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	0.26	0.57		0.20	0.70		0.21	0.48		0.20	0.43	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 35 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 17.1

Intersection LOS: B

Intersection Capacity Utilization 71.4%

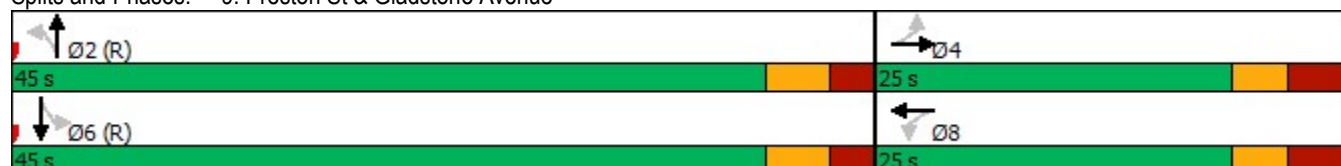
ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue



Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	237	25	41	334	93	20	124	62	103	167	76
Future Volume (vph)	25	237	25	41	334	93	20	124	62	103	167	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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		0.959			0.944	
Flt Protected		0.995			0.995			0.992		0.950		
Satd. Flow (prot)	0	1755	1526	0	1791	1471	0	1696	0	1644	1769	0
Flt Permitted		0.941			0.942			0.907		0.575		
Satd. Flow (perm)	0	1660	1526	0	1696	1471	0	1550	0	995	1769	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			112		34			47	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			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	260	36	44	384	112	40	141	78	111	209	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	287	36	0	428	112	0	259	0	111	334	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	
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 Effect 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	0.05		0.55	0.15		0.41		0.28	0.46	
Control Delay		15.0	4.2		18.0	3.2		16.7		18.2	16.9	
Queue Delay		0.0	0.0		1.4	0.0		0.0		0.0	0.0	
Total Delay		15.0	4.2		19.3	3.2		16.7		18.2	16.9	
LOS		B	A		B	A		B		B	B	
Approach Delay		13.8			16.0			16.7			17.2	
Approach LOS		B			B			B			B	
Queue Length 50th (m)		25.3	0.0		41.7	0.0		22.1		10.5	28.9	
Queue Length 95th (m)		42.6	2.6		63.9	6.3		39.1		22.0	42.2	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		763	722		780	737		628		390	722	
Starvation Cap Reductn		0	0		180	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	0.05		0.71	0.15		0.41		0.28	0.46	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 63 (84%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 16.0

Intersection LOS: B

Intersection Capacity Utilization 77.0%

ICU Level of Service D

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	288	85	52	298	22	86	411	60	44	339	48
Future Volume (vph)	50	288	85	52	298	22	86	411	60	44	339	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			0.983			0.981			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1721	0	1706	1734	0	1706	1645	0	1690	1764	0
Flt Permitted	0.440			0.380			0.270			0.157		
Satd. Flow (perm)	790	1721	0	682	1734	0	485	1645	0	279	1764	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		433.0			189.8			173.9			224.6	
Travel Time (s)		52.0			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)	79	310	108	81	320	41	126	472	69	68	381	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	418	0	81	361	0	126	541	0	68	449	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)	41.0	41.0		41.0	41.0		34.0	34.0		34.0	34.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	35.4	35.4		35.4	35.4		28.3	28.3		28.3	28.3	
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	
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)	35.4	35.4		35.4	35.4		28.3	28.3		28.3	28.3	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.33	0.33		0.33	0.33	
v/c Ratio	0.24	0.58		0.29	0.50		0.78	0.99		0.74	0.76	
Control Delay	18.6	23.2		19.9	21.3		60.4	66.3		72.5	35.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.6	23.2		19.9	21.3		60.4	66.3		72.5	35.7	
LOS	B	C		B	C		E	E		E	D	
Approach Delay		22.5			21.0			65.2			40.5	
Approach LOS		C			C			E			D	
Queue Length 50th (m)	8.1	50.9		8.5	42.0		18.2	86.3		9.6	64.5	
Queue Length 95th (m)	11.8	79.1		12.5	66.2		#29.5	#141.4		#18.7	#101.6	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

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 (%)	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
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)				
Queue Length 95th (m)				

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

	↖	→	↘	↙	←	↖	↙	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		409.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	329	716		284	722		161	547		92	587	
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	0.58		0.29	0.50		0.78	0.99		0.74	0.76	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 32 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 40.0

Intersection LOS: D

Intersection Capacity Utilization 72.8%

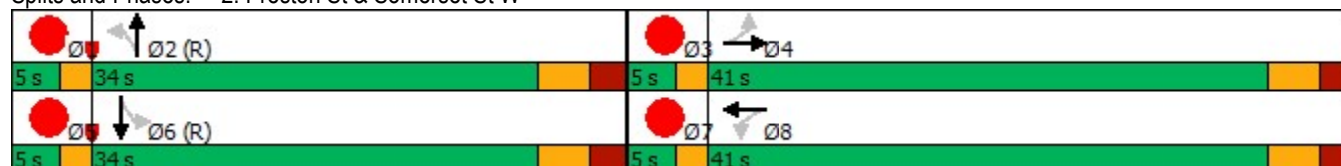
ICU Level of Service C

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
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

06/17/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	5	343	35	79	337	15	28	36	103	11	23	2
Future Volume (vph)	5	343	35	79	337	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		0.988			0.995			0.929			0.993	
Flt Protected		0.999			0.990			0.992			0.981	
Satd. Flow (prot)	0	1743	0	0	1745	0	0	1716	0	0	1871	0
Flt Permitted		0.989			0.837			0.942			0.856	
Satd. Flow (perm)	0	1726	0	0	1475	0	0	1630	0	0	1633	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			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	413	43	99	392	20	42	82	136	22	31	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	466	0	0	511	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)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	51.0	51.0		51.0	51.0		24.0	24.0		24.0	24.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	45.9	45.9		45.9	45.9		18.6	18.6		18.6	18.6	
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	
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 Effect Green (s)		45.9			45.9			18.6			18.6	
Actuated g/C Ratio		0.61			0.61			0.25			0.25	
v/c Ratio		0.44			0.57			0.57			0.14	
Control Delay		9.1			11.6			23.5			22.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.1			11.6			23.5			22.2	
LOS		A			B			C			C	
Approach Delay		9.1			11.6			23.5			22.2	
Approach LOS		A			B			C			C	
Queue Length 50th (m)		30.1			37.7			23.0			5.8	
Queue Length 95th (m)		42.7			58.0			14.4			11.7	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												
Base Capacity (vph)		1061			904			456			407	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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			0.57			0.14	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 61 (81%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 13.5

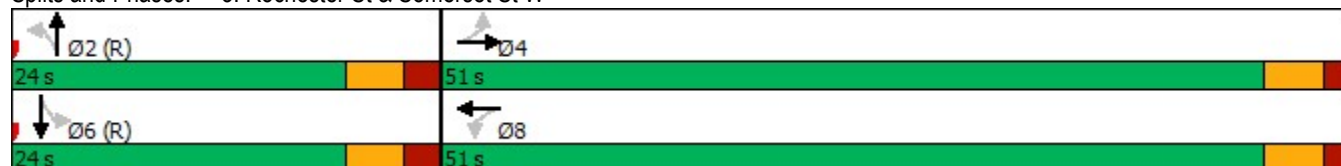
Intersection LOS: B

Intersection Capacity Utilization 67.6%

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

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	20	20	548	468	13
Future Volume (vph)	12	20	20	548	468	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)	30			30	30	
Link Distance (m)	84.6			278.7	173.9	
Travel Time (s)	10.2			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	22	22	596	509	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	0	618	523	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 55.0% ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	20	20	548	468	13
Future Volume (Veh/h)	12	20	20	548	468	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	596	509	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)				279	174	
pX, platoon unblocked	0.91	0.84	0.84			
vC, conflicting volume	1156	516	523			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	734	331	340			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	96	98			
cM capacity (veh/h)	346	598	1027			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	35	618	523			
Volume Left	13	22	0			
Volume Right	22	0	14			
cSH	471	1027	1700			
Volume to Capacity	0.07	0.02	0.31			
Queue Length 95th (m)	1.8	0.5	0.0			
Control Delay (s)	13.3	0.6	0.0			
Lane LOS	B	A				
Approach Delay (s)	13.3	0.6	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		0.7				
Intersection Capacity Utilization		55.0%		ICU Level of Service		B
Analysis Period (min)		15				

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	377	34	28	425	35	24
Future Volume (vph)	377	34	28	425	35	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989				0.945	
Flt Protected			0.950		0.971	
Satd. Flow (prot)	1863	0	1789	1883	1728	0
Flt Permitted			0.464		0.971	
Satd. Flow (perm)	1863	0	874	1883	1728	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13				26	
Link Speed (k/h)	30			30	48	
Link Distance (m)	107.9			433.0	125.6	
Travel Time (s)	12.9			52.0	9.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	410	37	30	462	38	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	447	0	30	462	64	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	22.5		22.5	22.5	9.5	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	45.5		45.5	45.5	15.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			11.0	11.0		
Pedestrian Calls (#/hr)			0	0		
Act Effect Green (s)	45.5		45.5	45.5	15.5	
Actuated g/C Ratio	0.65		0.65	0.65	0.22	
v/c Ratio	0.37		0.05	0.38	0.16	
Control Delay	6.5		4.8	6.8	16.1	
Queue Delay	0.8		0.0	0.0	0.0	
Total Delay	7.3		4.8	6.8	16.1	
LOS	A		A	A	B	
Approach Delay	7.3			6.7	16.1	
Approach LOS	A			A	B	
Queue Length 50th (m)	22.1		1.2	24.0	4.0	
Queue Length 95th (m)	35.9		3.7	38.3	12.7	
Internal Link Dist (m)	83.9			409.0	101.6	

Lanes, Volumes, Timings

8: Breezehill Ave & Somerset St W

06/17/2025



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1215		568	1223	402	
Starvation Cap Reductn	466		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.60		0.05	0.38	0.16	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Pretimed

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 7.5

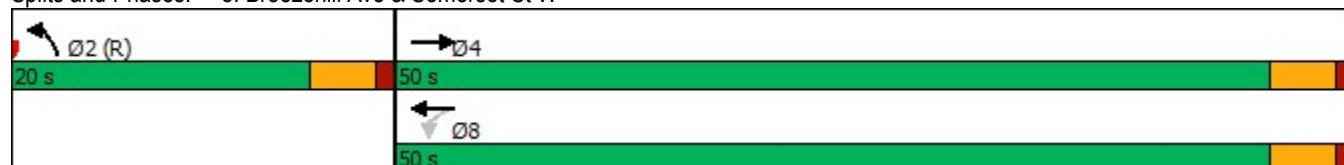
Intersection LOS: A

Intersection Capacity Utilization 34.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W



Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	257	92	73	421	90	90	472	93	72	370	82
Future Volume (vph)	39	257	92	73	421	90	90	472	93	72	370	82
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
Fr't	0.960			0.974			0.975			0.973		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1808	0	1789	1834	0	1789	1836	0	1789	1833	0
Flt Permitted	0.233			0.433			0.348			0.234		
Satd. Flow (perm)	439	1808	0	816	1834	0	655	1836	0	441	1833	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			18			18			21	
Link Speed (k/h)		48			48			30			48	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		8.2			8.9			7.6			20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	279	100	79	458	98	98	513	101	78	402	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	379	0	79	556	0	98	614	0	78	491	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)	25.5	25.5		25.5	25.5		23.7	23.7		23.7	23.7	
Total Split (s)	33.0	33.0		33.0	33.0		37.0	37.0		37.0	37.0	
Total Split (%)	47.1%	47.1%		47.1%	47.1%		52.9%	52.9%		52.9%	52.9%	
Maximum Green (s)	26.5	26.5		26.5	26.5		31.3	31.3		31.3	31.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)	6.5	6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	26.5	26.5		26.5	26.5		31.3	31.3		31.3	31.3	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.45	0.45		0.45	0.45	
v/c Ratio	0.25	0.54		0.26	0.79		0.34	0.74		0.40	0.59	
Control Delay	20.0	19.0		17.8	28.7		16.7	22.2		20.6	17.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.0	19.0		17.8	28.7		16.7	22.2		20.6	17.5	
LOS	B	B		B	C		B	C		C	B	
Approach Delay		19.1			27.4			21.4			17.9	
Approach LOS		B			C			C			B	
Queue Length 50th (m)	3.7	34.5		6.9	60.9		8.0	61.5		6.6	43.9	
Queue Length 95th (m)	11.1	58.3		16.5	#109.8		19.0	98.8		18.1	71.4	
Internal Link Dist (m)		84.8			94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)	166	703		308	705		292	830		197	831	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
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Lanes, Volumes, Timings

9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.25	0.54		0.26	0.79		0.34	0.74		0.40	0.59	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 40 (57%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 21.8

Intersection LOS: C

Intersection Capacity Utilization 86.8%

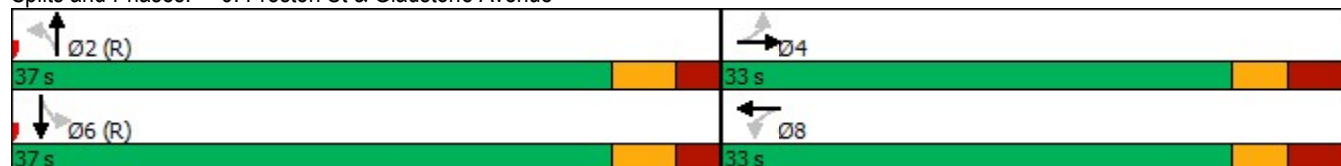
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue



Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	198	15	32	189	67	13	87	41	100	83	55
Future Volume (vph)	26	198	15	32	189	67	13	87	41	100	83	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.91		0.99	0.94		0.98		0.97	0.98	
Frt			0.850			0.850		0.960			0.930	
Flt Protected		0.994			0.993			0.993		0.950		
Satd. Flow (prot)	0	1754	1526	0	1784	1471	0	1672	0	1644	1701	0
Flt Permitted		0.936			0.920			0.949		0.646		
Satd. Flow (perm)	0	1648	1393	0	1643	1385	0	1594	0	1090	1701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			81		37			77	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			57.2			12.6	
Confl. Peds. (#/hr)	20		46	46		20	13		22	22		13
Confl. Bikes (#/hr)			5			13			3			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	21	34	217	81	26	99	52	108	104	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	246	21	0	251	81	0	177	0	108	194	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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		16.4	16.4		16.4	16.4		42.5		42.5	42.5	
Actuated g/C Ratio		0.23	0.23		0.23	0.23		0.61		0.61	0.61	
v/c Ratio		0.64	0.06		0.65	0.21		0.18		0.16	0.18	
Control Delay		30.9	3.1		28.6	7.7		6.5		8.4	5.2	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		30.9	3.1		28.6	7.7		6.5		8.4	5.2	
LOS		C	A		C	A		A		A	A	
Approach Delay		28.7			23.5			6.5			6.3	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		29.4	0.0		30.6	0.0		6.8		5.3	5.6	
Queue Length 95th (m)		43.3	1.0		43.9	9.1		18.6		15.6	14.5	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		694	610		692	630		982		661	1062	
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		0.36	0.13		0.18		0.16	0.18	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 19 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 17.2

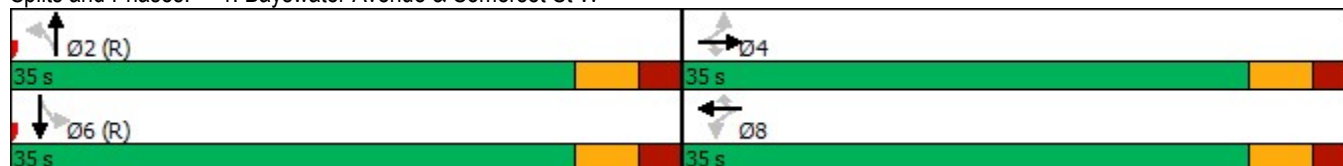
Intersection LOS: B

Intersection Capacity Utilization 81.2%

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	229	99	28	156	13	74	379	66	39	393	34
Future Volume (vph)	33	229	99	28	156	13	74	379	66	39	393	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
Ped Bike Factor	0.90	0.94		0.93	0.98		0.96	0.98		0.97	0.98	
Frt		0.949			0.981			0.978			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1597	0	1706	1699	0	1706	1613	0	1690	1748	0
Flt Permitted	0.593			0.329			0.402			0.386		
Satd. Flow (perm)	960	1597	0	549	1699	0	691	1613	0	666	1748	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		433.0			189.8			173.9			224.6	
Travel Time (s)		52.0			22.8			20.9			27.0	
Confl. Peds. (#/hr)	55		63	63		55	65		48	48		65
Confl. Bikes (#/hr)			3									
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	125	44	168	24	109	436	76	60	442	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	371	0	44	192	0	109	512	0	60	490	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	
Total Split (%)	47.8%	47.8%		47.8%	47.8%		41.1%	41.1%		41.1%	41.1%	
Maximum Green (s)	37.4	37.4		37.4	37.4		31.3	31.3		31.3	31.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-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)	27.3	27.3		27.3	27.3		51.4	51.4		51.4	51.4	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.57	0.57		0.57	0.57	
v/c Ratio	0.18	0.77		0.27	0.37		0.28	0.56		0.16	0.49	
Control Delay	21.8	38.6		25.3	25.2		14.6	16.9		13.1	15.3	
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

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
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 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
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	21.8	38.6		25.3	25.2		14.6	16.9		13.1	15.3	
LOS	C	D		C	C		B	B		B	B	
Approach Delay		36.6			25.2			16.5			15.1	
Approach LOS		D			C			B			B	
Queue Length 50th (m)	6.6	57.7		5.7	25.9		9.0	52.0		4.6	47.2	
Queue Length 95th (m)	8.8	76.0		8.3	36.8		16.7	96.1		9.4	89.4	
Internal Link Dist (m)		409.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	398	663		228	706		395	922		380	998	
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	0.13	0.56		0.19	0.27		0.28	0.56		0.16	0.49	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 21.8

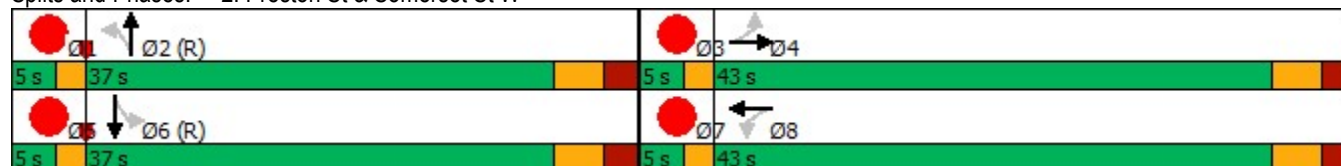
Intersection LOS: C

Intersection Capacity Utilization 70.3%

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

06/17/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	4	280	58	51	170	3	16	14	58	6	24	5
Future Volume (vph)	4	280	58	51	170	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
Ped Bike Factor		0.99			0.99			0.98			0.99	
Frt		0.977			0.998			0.922			0.979	
Flt Protected		0.999			0.988			0.991			0.989	
Satd. Flow (prot)	0	1712	0	0	1749	0	0	1663	0	0	1849	0
Flt Permitted		0.993			0.749			0.957			0.948	
Satd. Flow (perm)	0	1701	0	0	1319	0	0	1601	0	0	1768	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	
Confl. Peds. (#/hr)	20		23	23		20	9		6	6		9
Confl. Bikes (#/hr)			4			8						
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	198	4	24	32	76	12	32	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	416	0	0	266	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 Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.0	26.0		26.0	26.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	48.9	48.9		48.9	48.9		20.6	20.6		20.6	20.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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)		26.4			26.4			43.1			43.1	
Actuated g/C Ratio		0.33			0.33			0.54			0.54	
v/c Ratio		0.72			0.61			0.15			0.05	
Control Delay		28.5			27.1			6.6			10.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		28.5			27.1			6.6			10.7	
LOS		C			C			A			B	
Approach Delay		28.5			27.1			6.6			10.7	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			A			B		
Queue Length 50th (m)	51.7			33.2			3.8			3.0		
Queue Length 95th (m)	57.3			42.1			3.4			8.4		
Internal Link Dist (m)	165.8			96.0			251.9			215.0		
Turn Bay Length (m)												
Base Capacity (vph)	1049			807			897			956		
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			0.33			0.15			0.05		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 72 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 23.7

Intersection LOS: C

Intersection Capacity Utilization 61.5%

ICU Level of Service B

Analysis Period (min) 15

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

 Ø2 (R)	 Ø4
26 s	54 s
 Ø6 (R)	 Ø8
26 s	54 s

Lanes, Volumes, Timings

4: Preston St & Oak St

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	21	13	514	498	8
Future Volume (vph)	12	21	13	514	498	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			0.999		
Satd. Flow (prot)	1690	0	0	1882	1880	0
Flt Permitted	0.982			0.999		
Satd. Flow (perm)	1690	0	0	1882	1880	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	84.6			278.7	173.9	
Travel Time (s)	10.2			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	23	14	559	541	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	573	550	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 47.5% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	21	13	514	498	8
Future Volume (Veh/h)	12	21	13	514	498	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	559	541	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)				279	174	
pX, platoon unblocked	0.92	0.89	0.89			
vC, conflicting volume	1132	546	550			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	952	431	436			
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)	262	557	1003			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	36	573	550			
Volume Left	13	14	0			
Volume Right	23	0	9			
cSH	396	1003	1700			
Volume to Capacity	0.09	0.01	0.32			
Queue Length 95th (m)	2.3	0.3	0.0			
Control Delay (s)	15.0	0.4	0.0			
Lane LOS	B	A				
Approach Delay (s)	15.0	0.4	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		0.7				
Intersection Capacity Utilization		47.5%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	314	37	19	260	28	33
Future Volume (vph)	314	37	19	260	28	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.95		0.98	
Frt	0.981				0.932	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	1783	0	1722	1921	1399	0
Flt Permitted			0.480		0.976	
Satd. Flow (perm)	1783	0	827	1921	1399	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	24				42	
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			433.0	125.6	
Travel Time (s)	12.9			52.0	15.1	
Confl. Peds. (#/hr)		50	50			
Confl. Bikes (#/hr)		33				6
Peak Hour Factor	0.86	0.63	0.70	0.93	0.67	0.79
Heavy Vehicles (%)	4%	8%	6%	0%	19%	27%
Adj. Flow (vph)	365	59	27	280	42	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	424	0	27	280	84	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	22.5		22.5	22.5	9.5	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	45.5		45.5	45.5	15.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			11.0	11.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	45.5		45.5	45.5	15.5	
Actuated g/C Ratio	0.65		0.65	0.65	0.22	
v/c Ratio	0.36		0.05	0.22	0.25	
Control Delay	14.4		4.8	5.6	15.4	
Queue Delay	0.7		0.0	0.0	0.0	
Total Delay	15.2		4.8	5.6	15.4	
LOS	B		A	A	B	
Approach Delay	15.2			5.5	15.4	

Lanes, Volumes, Timings

8: Breezehill Ave & Somerset St W

06/17/2025



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	B			A	B	
Queue Length 50th (m)	45.5		1.1	12.8	4.5	
Queue Length 95th (m)	51.2		2.6	21.6	9.5	
Internal Link Dist (m)	83.9			409.0	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1167		537	1248	342	
Starvation Cap Reductn	435		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.58		0.05	0.22	0.25	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Pretimed

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 11.5

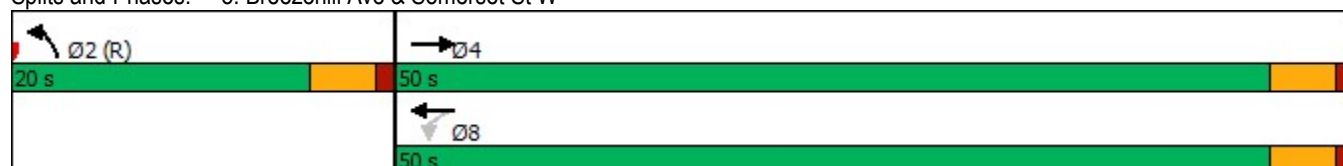
Intersection LOS: B

Intersection Capacity Utilization 30.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W



Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	183	75	45	243	78	92	436	60	79	395	45
Future Volume (vph)	45	183	75	45	243	78	92	436	60	79	395	45
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
Ped Bike Factor		0.97		0.96	0.98		0.98	0.98		0.98	0.99	
Frt		0.962			0.964			0.979			0.983	
Flt Protected		0.993		0.950			0.950			0.950		
Satd. Flow (prot)	0	1623	0	1755	1703	0	1738	1730	0	1789	1741	0
Flt Permitted		0.681		0.458			0.374			0.320		
Satd. Flow (perm)	0	1108	0	811	1703	0	668	1730	0	591	1741	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			38			12			9	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	25		35	35		25	39		44	44		39
Confl. Bikes (#/hr)			20			19			6			11
Peak Hour Factor	0.81	0.86	0.71	0.66	0.75	0.76	0.72	0.91	0.75	0.84	0.90	0.79
Heavy Vehicles (%)	2%	11%	11%	4%	7%	5%	5%	7%	7%	2%	7%	8%
Adj. Flow (vph)	56	213	106	68	324	103	128	479	80	94	439	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	375	0	68	427	0	128	559	0	94	496	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		23.7	23.7		23.7	23.7	
Total Split (s)	46.0	46.0		46.0	46.0		24.0	24.0		24.0	24.0	
Total Split (%)	65.7%	65.7%		65.7%	65.7%		34.3%	34.3%		34.3%	34.3%	
Maximum Green (s)	39.5	39.5		39.5	39.5		18.3	18.3		18.3	18.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		23.2		23.2	23.2		34.6	34.6		34.6	34.6	
Actuated g/C Ratio		0.33		0.33	0.33		0.49	0.49		0.49	0.49	
v/c Ratio		0.94		0.25	0.72		0.39	0.65		0.32	0.57	
Control Delay		51.8		16.9	25.1		18.8	20.7		18.1	18.5	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.8		16.9	25.1		18.8	20.7		18.1	18.5	
LOS		D		B	C		B	C		B	B	
Approach Delay		51.8			24.0			20.4			18.4	

Lanes, Volumes, Timings

9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			C			B		
Queue Length 50th (m)	42.2			6.5	44.4		9.7	49.4		6.9	41.7	
Queue Length 95th (m)	57.5			8.3	42.8		21.6	#123.0		20.5	#102.6	
Internal Link Dist (m)	84.8				94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)	645			457	977		330	861		292	865	
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	0.58			0.15	0.44		0.39	0.65		0.32	0.57	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 35 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 26.2

Intersection LOS: C

Intersection Capacity Utilization 87.3%

ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue

	Ø2 (R)			Ø4
24 s			46 s	
	Ø6 (R)			Ø8
24 s			46 s	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	237	25	41	334	93	20	124	62	103	167	76
Future Volume (vph)	25	237	25	41	334	93	20	124	62	103	167	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.84		0.99	0.89		0.97		0.95	0.98	
Frt			0.850			0.850		0.964			0.952	
Flt Protected		0.994			0.995			0.995		0.950		
Satd. Flow (prot)	0	1754	1526	0	1790	1471	0	1664	0	1644	1749	0
Flt Permitted		0.833			0.932			0.948		0.614		
Satd. Flow (perm)	0	1464	1284	0	1661	1310	0	1581	0	1007	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			107			29			38
Link Speed (k/h)		30			30			30				30
Link Distance (m)		169.1			107.9			476.9				104.6
Travel Time (s)		20.3			12.9			57.2				12.6
Confl. Peds. (#/hr)	52		87	87		52	25		50	50		25
Confl. Bikes (#/hr)			15			18			1			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%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	32	252	35	51	412	107	27	155	66	130	199	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	284	35	0	463	107	0	248	0	130	294	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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		27.2	27.2		27.2	27.2		36.7		36.7	36.7	
Actuated g/C Ratio		0.36	0.36		0.36	0.36		0.49		0.49	0.49	
v/c Ratio		0.54	0.07		0.77	0.20		0.31		0.26	0.34	
Control Delay		21.7	4.5		29.5	3.8		13.2		15.4	13.0	
Queue Delay		0.0	0.0		0.7	0.0		0.0		0.0	0.0	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		21.7	4.5		30.2	3.8		13.2		15.4	13.0	
LOS		C	A		C	A		B		B	B	
Approach Delay		19.8			25.2			13.2			13.8	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		30.6	0.0		55.6	0.0		17.8		10.4	21.0	
Queue Length 95th (m)		44.1	2.6		63.8	7.0		33.0		21.5	40.2	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		673	611		764	660		788		492	875	
Starvation Cap Reductn		0	0		93	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		0.42	0.06		0.69	0.16		0.31		0.26	0.34	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 63 (84%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 19.1

Intersection LOS: B

Intersection Capacity Utilization 89.8%

ICU Level of Service E

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	288	85	52	298	22	86	467	60	44	368	48
Future Volume (vph)	50	288	85	52	298	22	86	467	60	44	368	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
Ped Bike Factor	0.92	0.94		0.92	0.99		0.96	0.99			0.98	
Frt		0.961			0.989			0.984			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1620	0	1706	1719	0	1706	1631	0	1690	1733	0
Flt Permitted	0.396			0.283			0.388			0.272		
Satd. Flow (perm)	652	1620	0	469	1719	0	665	1631	0	484	1733	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		433.0			189.8			173.9			224.6	
Travel Time (s)		52.0			22.8			20.9			27.0	
Confl. Peds. (#/hr)	76		93	93		76	65		33	33		65
Confl. Bikes (#/hr)			4			2						2
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 (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	65	343	120	60	339	28	126	549	64	56	409	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	463	0	60	367	0	126	613	0	56	471	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	41.0	41.0		41.0	41.0		34.0	34.0		34.0	34.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	35.4	35.4		35.4	35.4		28.3	28.3		28.3	28.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-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)	30.7	30.7		30.7	30.7		43.0	43.0		43.0	43.0	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.51	0.51		0.51	0.51	
v/c Ratio	0.28	0.79		0.36	0.59		0.38	0.74		0.23	0.54	
Control Delay	19.9	33.8		23.6	25.0		20.0	26.6		18.4	19.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
Page 3

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
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 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
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.9	33.8		23.6	25.0		20.0	26.6		18.4	19.2	
LOS	B	C		C	C		B	C		B	B	
Approach Delay		32.1			24.8			25.4			19.1	
Approach LOS		C			C			C			B	
Queue Length 50th (m)	7.3	65.5		7.0	47.2		12.0	75.5		4.9	49.8	
Queue Length 95th (m)	11.5	74.2		13.8	58.1		21.5	#146.0		13.3	96.3	
Internal Link Dist (m)		409.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	279	693		200	735		336	824		244	875	
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	0.23	0.67		0.30	0.50		0.38	0.74		0.23	0.54	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 32 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 25.4

Intersection LOS: C

Intersection Capacity Utilization 77.4%

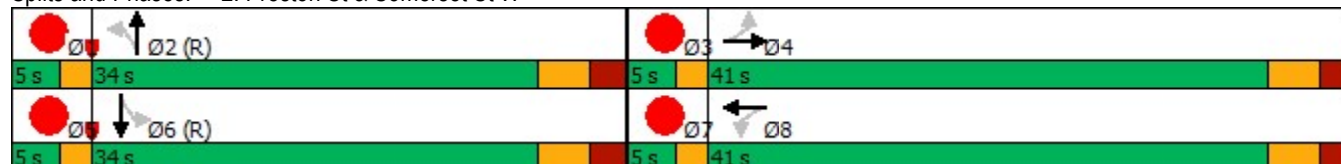
ICU Level of Service D

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
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	343	35	79	337	15	28	36	103	11	23	2
Future Volume (vph)	5	343	35	79	337	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
Ped Bike Factor		0.98			0.98			0.95			0.98	
Frt		0.985			0.994			0.923			0.979	
Flt Protected		0.999			0.991			0.991			0.985	
Satd. Flow (prot)	0	1701	0	0	1732	0	0	1637	0	0	1831	0
Flt Permitted		0.991			0.840			0.948			0.904	
Satd. Flow (perm)	0	1685	0	0	1450	0	0	1551	0	0	1668	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			6			86			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	
Confl. Peds. (#/hr)	72		77	77		72	27		19	19		27
Confl. Bikes (#/hr)			100			20			3			
Peak Hour Factor	0.63	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	381	48	84	359	20	40	56	129	16	28	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	437	0	0	463	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 Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	51.0	51.0		51.0	51.0		24.0	24.0		24.0	24.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	45.9	45.9		45.9	45.9		18.6	18.6		18.6	18.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		31.9			31.9			32.6			32.6	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
v/c Ratio		0.60			0.75			0.31			0.07	
Control Delay		18.5			24.8			12.2			15.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.5			24.8			12.2			15.0	
LOS		B			C			B			B	
Approach Delay		18.5			24.8			12.2			15.0	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			B			B		
Queue Length 50th (m)	44.3			52.4			11.8			3.5		
Queue Length 95th (m)	50.3			61.3			18.9			11.0		
Internal Link Dist (m)	165.8			96.0			251.9			215.0		
Turn Bay Length (m)												
Base Capacity (vph)	1037			889			723			730		
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			0.52			0.31			0.07		

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 61 (81%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 19.6

Intersection LOS: B

Intersection Capacity Utilization 72.1%

ICU Level of Service C

Analysis Period (min) 15

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

				
Ø2 (R)			Ø4	
24 s			51 s	
				
Ø6 (R)			Ø8	
24 s			51 s	

Lanes, Volumes, Timings

4: Preston St & Oak St

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	20	20	604	497	13
Future Volume (vph)	12	20	20	604	497	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				0.997	
Flt Protected	0.982			0.998		
Satd. Flow (prot)	1692	0	0	1880	1878	0
Flt Permitted	0.982			0.998		
Satd. Flow (perm)	1692	0	0	1880	1878	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	84.6			278.7	173.9	
Travel Time (s)	10.2			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	22	22	657	540	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	0	679	554	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 57.9% ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	20	20	604	497	13
Future Volume (Veh/h)	12	20	20	604	497	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	657	540	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)				279	174	
pX, platoon unblocked	0.85	0.88	0.88			
vC, conflicting volume	1248	547	554			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	882	416	424			
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	98			
cM capacity (veh/h)	262	560	998			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	35	679	554			
Volume Left	13	22	0			
Volume Right	22	0	14			
cSH	394	998	1700			
Volume to Capacity	0.09	0.02	0.33			
Queue Length 95th (m)	2.2	0.5	0.0			
Control Delay (s)	15.0	0.6	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.0	0.6	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		0.7				
Intersection Capacity Utilization		57.9%		ICU Level of Service		B
Analysis Period (min)		15				

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↱	↘↗	
Traffic Volume (vph)	377	34	28	425	35	24
Future Volume (vph)	377	34	28	425	35	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.90		0.99	
Frt	0.982				0.932	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	1787	0	1738	1865	1349	0
Flt Permitted			0.472		0.976	
Satd. Flow (perm)	1787	0	780	1865	1349	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	23				44	
Link Speed (k/h)	30			30	48	
Link Distance (m)	107.9			433.0	125.6	
Travel Time (s)	12.9			52.0	9.4	
Confl. Peds. (#/hr)		100	100			
Confl. Bikes (#/hr)		50				2
Peak Hour Factor	1.00	0.58	0.95	1.00	0.79	0.54
Heavy Vehicles (%)	3%	9%	5%	3%	16%	40%
Adj. Flow (vph)	377	59	29	425	44	44
Shared Lane Traffic (%)						
Lane Group Flow (vph)	436	0	29	425	88	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Split (s)	22.5		22.5	22.5	9.5	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	45.5		45.5	45.5	15.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			11.0	11.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	45.5		45.5	45.5	15.5	
Actuated g/C Ratio	0.65		0.65	0.65	0.22	
v/c Ratio	0.37		0.06	0.35	0.27	
Control Delay	6.4		4.9	6.5	15.6	
Queue Delay	0.8		0.0	0.0	0.0	
Total Delay	7.2		4.9	6.5	15.6	
LOS	A		A	A	B	
Approach Delay	7.2			6.4	15.6	

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	A			A	B	
Queue Length 50th (m)	21.0		1.2	21.6	4.7	
Queue Length 95th (m)	34.8		3.7	34.7	12.6	
Internal Link Dist (m)	83.9			409.0	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1169		507	1212	332	
Starvation Cap Reductn	427		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.59		0.06	0.35	0.27	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Pretimed

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 7.6

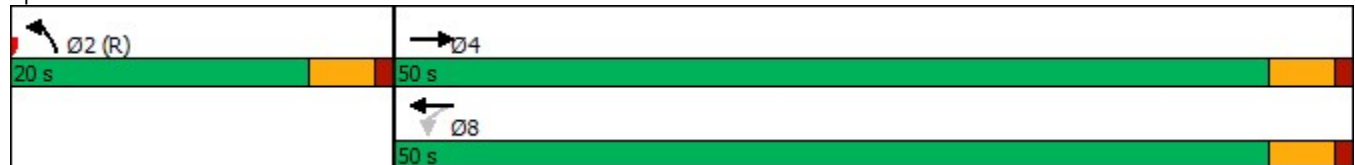
Intersection LOS: A

Intersection Capacity Utilization 34.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W



Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	257	92	73	421	90	90	528	93	72	399	82
Future Volume (vph)	39	257	92	73	421	90	90	528	93	72	399	82
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
Ped Bike Factor		0.95		0.95	0.97		0.94	0.96		0.94	0.97	
Frt		0.961			0.968			0.978			0.974	
Flt Protected		0.993		0.950			0.950			0.950		
Satd. Flow (prot)	0	1626	0	1772	1727	0	1755	1704	0	1789	1716	0
Flt Permitted		0.657		0.441			0.338			0.202		
Satd. Flow (perm)	0	1071	0	785	1727	0	590	1704	0	358	1716	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			24			15			18	
Link Speed (k/h)		48			48			30			48	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		8.2			8.9			7.6			20.9	
Confl. Peds. (#/hr)	48		52	52		48	76		130	130		76
Confl. Bikes (#/hr)			33			37			15			21
Peak Hour Factor	0.62	1.00	0.70	1.00	1.00	0.80	0.86	1.00	1.00	0.77	1.00	1.00
Heavy Vehicles (%)	3%	7%	11%	3%	4%	5%	4%	6%	4%	2%	6%	4%
Adj. Flow (vph)	63	257	131	73	421	113	105	528	93	94	399	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	451	0	73	534	0	105	621	0	94	481	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5		25.5	25.5		23.7	23.7		23.7	23.7	
Total Split (s)	36.0	36.0		36.0	36.0		34.0	34.0		34.0	34.0	
Total Split (%)	51.4%	51.4%		51.4%	51.4%		48.6%	48.6%		48.6%	48.6%	
Maximum Green (s)	29.5	29.5		29.5	29.5		28.3	28.3		28.3	28.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		28.3		28.3	28.3		29.5	29.5		29.5	29.5	
Actuated g/C Ratio		0.40		0.40	0.40		0.42	0.42		0.42	0.42	
v/c Ratio		0.99		0.23	0.75		0.42	0.86		0.63	0.66	
Control Delay		62.3		15.4	24.4		21.8	33.0		40.2	21.4	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		62.3		15.4	24.4		21.8	33.0		40.2	21.4	
LOS		E		B	C		C	C		D	C	
Approach Delay		62.3			23.3			31.4			24.4	

Lanes, Volumes, Timings

9: Preston St & Gladstone Avenue

06/17/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Approach LOS	E			C			C			C		
Queue Length 50th (m)	51.5			5.9	53.4		9.6	71.6		9.6	48.2	
Queue Length 95th (m)	#108.7			14.3	87.8		21.8	#132.2		#24.4	79.5	
Internal Link Dist (m)	84.8				94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)	472			330	741		248	725		150	732	
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	0.96			0.22	0.72		0.42	0.86		0.63	0.66	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 40 (57%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 33.5

Intersection LOS: C

Intersection Capacity Utilization 107.3%

ICU Level of Service G

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue

Ø2 (R) 34 s Ø6 (R) 34 s	Ø4 36 s Ø8 36 s
---	---

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	204	15	39	190	70	13	87	47	103	83	55
Future Volume (vph)	26	204	15	39	190	70	13	87	47	103	83	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.91		0.99	0.94		0.98		0.98	0.98	
Frt			0.850			0.850		0.957			0.930	
Flt Protected		0.994			0.992			0.993		0.950		
Satd. Flow (prot)	0	1754	1526	0	1779	1471	0	1660	0	1644	1701	0
Flt Permitted		0.937			0.872			0.950		0.641		
Satd. Flow (perm)	0	1650	1393	0	1553	1385	0	1585	0	1082	1701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			84		42			77	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			57.2			12.6	
Confl. Peds. (#/hr)	20		46	46		20	13		22	22		13
Confl. Bikes (#/hr)			5			13			3			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	224	21	41	218	84	26	99	59	111	104	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	252	21	0	259	84	0	184	0	111	194	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	

AM Peak Hour 9:32 am 10/23/2024 Baseline

Synchro 11 Report
Page 1

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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 Effect Green (s)		16.9	16.9		16.9	16.9		42.0		42.0	42.0	
Actuated g/C Ratio		0.24	0.24		0.24	0.24		0.60		0.60	0.60	
v/c Ratio		0.63	0.06		0.69	0.21		0.19		0.17	0.18	
Control Delay		30.1	2.9		29.6	10.9		6.7		8.8	5.4	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		30.1	2.9		29.6	10.9		6.7		8.8	5.4	
LOS		C	A		C	B		A		A	A	
Approach Delay		28.0			25.0			6.7			6.6	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		29.8	0.0		36.4	2.7		7.1		5.7	5.8	
Queue Length 95th (m)		43.5	1.0		51.5	12.7		19.4		16.4	14.8	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		695	610		654	632		967		648	1050	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		12		8	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.36	0.03		0.40	0.13		0.19		0.17	0.18	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 19 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 17.6

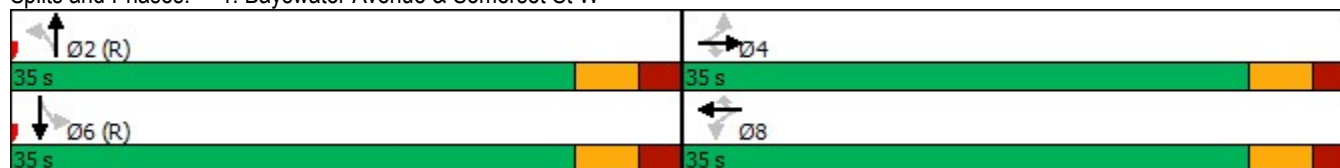
Intersection LOS: B

Intersection Capacity Utilization 86.0%

ICU Level of Service E

Analysis Period (min) 15

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



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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	229	117	31	158	13	90	321	69	39	351	34
Future Volume (vph)	33	229	117	31	158	13	90	321	69	39	351	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
Ped Bike Factor	0.90	0.94		0.93	0.98		0.95	0.98		0.96	0.98	
Frt		0.944			0.981			0.974			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1575	0	1706	1699	0	1706	1606	0	1690	1744	0
Flt Permitted	0.596			0.316			0.432			0.428		
Satd. Flow (perm)	966	1575	0	530	1699	0	736	1606	0	733	1744	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		140.0			189.8			173.9			224.6	
Travel Time (s)		16.8			22.8			20.9			27.0	
Confl. Peds. (#/hr)	55		63	63		55	65		48	48		65
Confl. Bikes (#/hr)			3									
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	148	48	170	24	132	369	79	60	394	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	394	0	48	194	0	132	448	0	60	442	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	
Total Split (%)	47.8%	47.8%		47.8%	47.8%		41.1%	41.1%		41.1%	41.1%	
Maximum Green (s)	37.4	37.4		37.4	37.4		31.3	31.3		31.3	31.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-Max	

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(m)				
Link Offset(m)				
Crosswalk Width(m)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (k/h)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
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
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

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)	28.7	28.7		28.7	28.7		50.0	50.0		50.0	50.0	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.56	0.56		0.56	0.56	
v/c Ratio	0.17	0.78		0.28	0.36		0.32	0.50		0.15	0.46	
Control Delay	20.6	38.6		24.9	23.9		16.0	16.7		13.6	15.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.6	38.6		24.9	23.9		16.0	16.7		13.6	15.6	
LOS	C	D		C	C		B	B		B	B	
Approach Delay		36.5			24.1			16.5			15.3	
Approach LOS		D			C			B			B	
Queue Length 50th (m)	6.4	61.0		6.1	25.4		11.7	45.0		4.7	42.9	
Queue Length 95th (m)	8.5	80.2		8.8	36.2		20.3	83.0		9.6	81.0	
Internal Link Dist (m)		116.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	402	656		221	708		409	892		407	968	
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	0.13	0.60		0.22	0.27		0.32	0.50		0.15	0.46	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 22.2

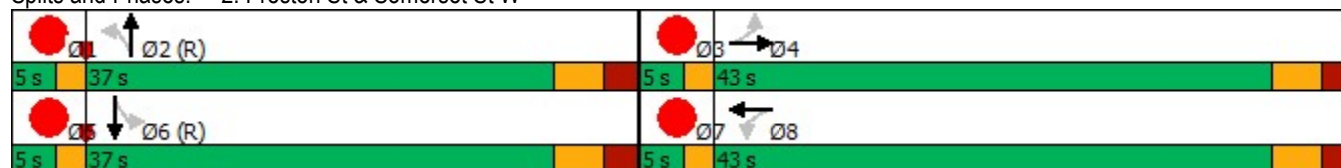
Intersection LOS: C

Intersection Capacity Utilization 67.5%

ICU Level of Service C

Analysis Period (min) 15

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



Lane Group	Ø1	Ø3	Ø5	Ø7
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)				
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

06/17/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	4	283	58	51	175	3	16	14	58	6	24	5
Future Volume (vph)	4	283	58	51	175	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
Ped Bike Factor		0.99			0.99			0.98			0.99	
Frt		0.977			0.998			0.922			0.979	
Flt Protected		0.999			0.988			0.991			0.989	
Satd. Flow (prot)	0	1712	0	0	1748	0	0	1663	0	0	1849	0
Flt Permitted		0.993			0.752			0.957			0.948	
Satd. Flow (perm)	0	1701	0	0	1324	0	0	1601	0	0	1768	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	
Confl. Peds. (#/hr)	20		23	23		20	9		6	6		9
Confl. Bikes (#/hr)			4			8						
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	341	71	64	203	4	24	32	76	12	32	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	420	0	0	271	0	0	132	0	0	52	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.0	26.0		26.0	26.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	48.9	48.9		48.9	48.9		20.6	20.6		20.6	20.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		26.6			26.6			42.9			42.9	
Actuated g/C Ratio		0.33			0.33			0.54			0.54	
v/c Ratio		0.72			0.61			0.15			0.05	
Control Delay		28.5			27.1			6.7			10.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		28.5			27.1			6.7			10.8	
LOS		C			C			A			B	
Approach Delay		28.5			27.1			6.7			10.8	
Approach LOS		C			C			A			B	
Queue Length 50th (m)		52.2			33.8			3.8			3.0	
Queue Length 95th (m)		57.5			42.6			3.4			8.5	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												
Base Capacity (vph)		1049			810			893			951	
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			0.33			0.15			0.05	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 72 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 23.7

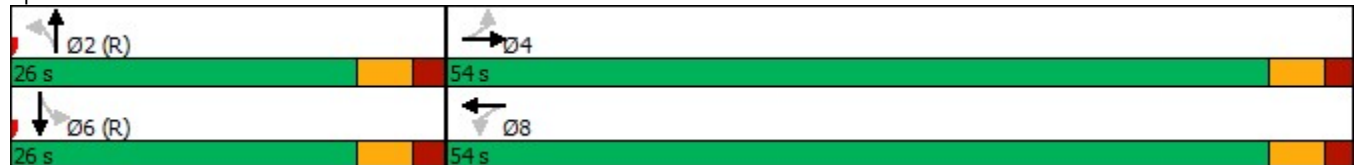
Intersection LOS: C

Intersection Capacity Utilization 61.8%

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

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	8	36	483	456	29
Future Volume (vph)	3	8	36	483	456	29
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	0.899				0.992	
Flt Protected	0.988			0.997		
Satd. Flow (prot)	1673	0	0	1878	1868	0
Flt Permitted	0.988			0.997		
Satd. Flow (perm)	1673	0	0	1878	1868	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	139.4			278.7	173.9	
Travel Time (s)	16.7			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	9	39	525	496	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	564	528	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 65.1% ICU Level of Service C

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	8	36	483	456	29
Future Volume (Veh/h)	3	8	36	483	456	29
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	9	39	525	496	32
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)				279	174	
pX, platoon unblocked	0.94	0.92	0.92			
vC, conflicting volume	1115	512	528			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1007	425	442			
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	98	96			
cM capacity (veh/h)	240	578	1027			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	12	564	528			
Volume Left	3	39	0			
Volume Right	9	0	32			
cSH	428	1027	1700			
Volume to Capacity	0.03	0.04	0.31			
Queue Length 95th (m)	0.7	0.9	0.0			
Control Delay (s)	13.7	1.0	0.0			
Lane LOS	B	A				
Approach Delay (s)	13.7	1.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		0.7				
Intersection Capacity Utilization		65.1%		ICU Level of Service		C
Analysis Period (min)		15				

Lanes, Volumes, Timings
5: Access 1 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	364	0	0	300	0	0
Future Volume (vph)	364	0	0	300	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
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	149.7			143.4	124.6	
Travel Time (s)	18.0			17.2	15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	396	0	0	326	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	396	0	0	326	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		9	15		15	9
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

5: Access 1 & Somerset St W

06/17/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	364	0	0	300	0	0
Future Volume (Veh/h)	364	0	0	300	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	326	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)	150		283			
pX, platoon unblocked			0.85		0.85	0.85
vC, conflicting volume			396		722	396
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			201		585	201
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)			1165		402	714
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	396	326	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1165	1700			
Volume to Capacity	0.23	0.00	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			22.5%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Access 2 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	379	3	2	280	0	0
Future Volume (vph)	379	3	2	280	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
Frt	0.999					
Flt Protected						
Satd. Flow (prot)	1882	0	0	1883	0	0
Flt Permitted						
Satd. Flow (perm)	1882	0	0	1883	0	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	143.4			140.0	177.3	
Travel Time (s)	17.2			16.8	21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	412	3	2	304	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	415	0	0	306	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	23.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Access 2 & Somerset St W

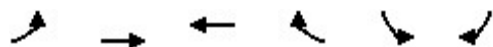
06/17/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱		
Traffic Volume (veh/h)	379	3	2	280	0	0
Future Volume (Veh/h)	379	3	2	280	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)	412	3	2	304	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)	293			140		
pX, platoon unblocked			0.95		0.95	0.95
vC, conflicting volume			415		722	414
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			359		676	357
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)			1141		398	653
Direction, Lane #	EB 1	WB 1				
Volume Total	415	306				
Volume Left	0	2				
Volume Right	3	0				
cSH	1700	1141				
Volume to Capacity	0.24	0.00				
Queue Length 95th (m)	0.0	0.0				
Control Delay (s)	0.0	0.1				
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		23.5%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

7: Oak St & Access 2

06/17/2025

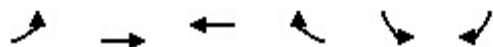


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↔	
Traffic Volume (vph)	0	0	61	0	5	0
Future Volume (vph)	0	0	61	0	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	1883	1883	0	1789	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1883	1883	0	1789	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		53.2	139.4		177.3	
Travel Time (s)		6.4	16.7		21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	66	0	5	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	66	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15			9	15	9
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 & Access 2

06/17/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	0	61	0	5	0
Future Volume (Veh/h)	0	0	61	0	5	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	66	0	5	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				66	66
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	66				66	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				99	100
cM capacity (veh/h)	1536				939	998
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	66	5			
Volume Left	0	0	5			
Volume Right	0	0	0			
cSH	1700	1700	939			
Volume to Capacity	0.00	0.04	0.01			
Queue Length 95th (m)	0.0	0.0	0.1			
Control Delay (s)	0.0	0.0	8.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.9			
Approach LOS			A			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↲	↴	
Traffic Volume (vph)	329	37	25	270	28	39
Future Volume (vph)	329	37	25	270	28	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.96		0.98	
Frt	0.982				0.927	
Flt Protected			0.950		0.977	
Satd. Flow (prot)	1786	0	1722	1921	1388	0
Flt Permitted			0.306		0.977	
Satd. Flow (perm)	1786	0	533	1921	1388	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	22				49	
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			149.7	125.6	
Travel Time (s)	12.9			18.0	15.1	
Confl. Peds. (#/hr)		50	50			
Confl. Bikes (#/hr)		33				6
Peak Hour Factor	0.86	0.63	0.70	0.93	0.67	0.79
Heavy Vehicles (%)	4%	8%	6%	0%	19%	27%
Adj. Flow (vph)	383	59	36	290	42	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	442	0	36	290	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		9	15		15	9
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	10.4		28.4	28.4	9.6	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	44.6		44.6	44.6	15.4	
Yellow Time (s)	3.7		3.7	3.7	3.3	
All-Red Time (s)	1.7		1.7	1.7	1.3	
Total Lost Time (s)	5.4		5.4	5.4	4.6	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.2		3.2	3.2	3.2	
Recall Mode	None		None	None	C-Max	

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			16.0	16.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	24.1		24.1	24.1	35.9	
Actuated g/C Ratio	0.34		0.34	0.34	0.51	
v/c Ratio	0.70		0.20	0.44	0.12	
Control Delay	25.2		16.0	18.6	7.4	
Queue Delay	0.1		0.0	0.0	0.0	
Total Delay	25.2		16.0	18.6	7.4	
LOS	C		B	B	A	
Approach Delay	25.2			18.3	7.4	
Approach LOS	C			B	A	
Queue Length 50th (m)	56.4		3.3	29.1	2.6	
Queue Length 95th (m)	64.8		5.6	36.6	7.5	
Internal Link Dist (m)	83.9			125.7	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1145		339	1223	736	
Starvation Cap Reductn	83		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.42		0.11	0.24	0.12	

Intersection Summary

Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 20.7	Intersection LOS: C
Intersection Capacity Utilization 33.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Breezehill Ave & Somerset St W

 Ø2 (L) 20 s	 Ø4 50 s
	 Ø8 50 s

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	172	76	45	226	74	86	386	60	47	352	45
Future Volume (vph)	84	172	76	45	226	74	86	386	60	47	352	45
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
Ped Bike Factor		0.96		0.96	0.98		0.97	0.98		0.97	0.99	
Frt		0.965			0.963			0.976			0.981	
Flt Protected		0.988		0.950			0.950			0.950		
Satd. Flow (prot)	0	1638	0	1755	1701	0	1738	1721	0	1789	1735	0
Flt Permitted		0.639		0.477			0.385			0.331		
Satd. Flow (perm)	0	1051	0	847	1701	0	685	1721	0	608	1735	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			38			13			10	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	25		35	35		25	39		44	44		39
Confl. Bikes (#/hr)			20			19			6			11
Peak Hour Factor	0.81	0.86	0.71	0.66	0.75	0.76	0.72	0.91	0.75	0.84	0.90	0.79
Heavy Vehicles (%)	2%	11%	11%	4%	7%	5%	5%	7%	7%	2%	7%	8%
Adj. Flow (vph)	104	200	107	68	301	97	119	424	80	56	391	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	411	0	68	398	0	119	504	0	56	448	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		23.7	23.7		23.7	23.7	
Total Split (s)	46.0	46.0		46.0	46.0		24.0	24.0		24.0	24.0	
Total Split (%)	65.7%	65.7%		65.7%	65.7%		34.3%	34.3%		34.3%	34.3%	
Maximum Green (s)	39.5	39.5		39.5	39.5		18.3	18.3		18.3	18.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		26.9		26.9	26.9		30.9	30.9		30.9	30.9	
Actuated g/C Ratio		0.38		0.38	0.38		0.44	0.44		0.44	0.44	
v/c Ratio		0.96		0.21	0.59		0.39	0.66		0.21	0.58	
Control Delay		52.1		13.2	17.8		23.2	24.4		19.0	22.2	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		52.1		13.2	17.8		23.2	24.4		19.0	22.2	
LOS		D		B	B		C	C		B	C	
Approach Delay		52.1			17.1			24.2			21.8	
Approach LOS		D			B			C			C	
Queue Length 50th (m)		46.4		5.8	36.0		10.1	48.6		4.3	41.3	
Queue Length 95th (m)		60.5		7.0	33.2		22.4	#122.6		14.0	#104.3	
Internal Link Dist (m)		84.8			94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)		611		477	976		302	766		268	771	
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		0.67		0.14	0.41		0.39	0.66		0.21	0.58	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 35 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 27.7

Intersection LOS: C

Intersection Capacity Utilization 84.9%

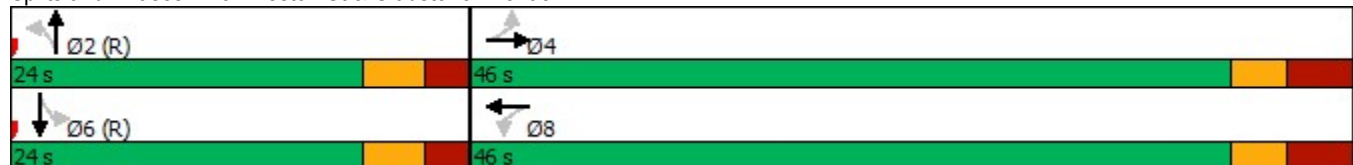
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue



Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	237	25	43	331	94	20	124	63	104	167	76
Future Volume (vph)	25	237	25	43	331	94	20	124	63	104	167	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.84		0.99	0.89		0.97		0.95	0.98	
Frt			0.850			0.850		0.964			0.952	
Flt Protected		0.994			0.994			0.995		0.950		
Satd. Flow (prot)	0	1754	1526	0	1788	1471	0	1663	0	1644	1749	0
Flt Permitted		0.835			0.929			0.948		0.613		
Satd. Flow (perm)	0	1468	1284	0	1655	1310	0	1581	0	1006	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			108			29			38
Link Speed (k/h)		30			30			30				30
Link Distance (m)		169.1			107.9			476.9				104.6
Travel Time (s)		20.3			12.9			57.2				12.6
Confl. Peds. (#/hr)	52		87	87		52	25		50	50		25
Confl. Bikes (#/hr)			15			18			1			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%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	32	252	35	53	409	108	27	155	67	132	199	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	284	35	0	462	108	0	249	0	132	294	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
Page 1

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)		27.2	27.2		27.2	27.2		36.7		36.7	36.7	
Actuated g/C Ratio		0.36	0.36		0.36	0.36		0.49		0.49	0.49	
v/c Ratio		0.53	0.07		0.77	0.20		0.32		0.27	0.34	
Control Delay		21.6	4.5		29.5	3.7		13.2		15.5	13.1	
Queue Delay		0.0	0.0		0.7	0.0		0.0		0.0	0.0	
Total Delay		21.6	4.5		30.2	3.7		13.2		15.5	13.1	
LOS		C	A		C	A		B		B	B	
Approach Delay		19.7			25.2			13.2			13.8	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		30.4	0.0		55.4	0.0		17.9		10.7	21.0	
Queue Length 95th (m)		44.1	2.6		63.9	7.0		33.1		22.0	40.2	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		675	611		761	660		787		492	874	
Starvation Cap Reductn		0	0		91	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		0.42	0.06		0.69	0.16		0.32		0.27	0.34	

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

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 19.1

Intersection LOS: B

Intersection Capacity Utilization 90.2%

ICU Level of Service E

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	288	85	53	301	22	86	361	61	44	308	48
Future Volume (vph)	50	288	85	53	301	22	86	361	61	44	308	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
Ped Bike Factor	0.92	0.94		0.92	0.99		0.94	0.99		0.98	0.98	
Frt		0.961			0.989			0.980			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1620	0	1706	1719	0	1706	1625	0	1690	1723	0
Flt Permitted	0.392			0.283			0.446			0.372		
Satd. Flow (perm)	646	1620	0	469	1719	0	756	1625	0	648	1723	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		140.0			189.8			173.9			224.6	
Travel Time (s)		16.8			22.8			20.9			27.0	
Confl. Peds. (#/hr)	76		93	93		76	65		33	33		65
Confl. Bikes (#/hr)			4			2						2
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 (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	65	343	120	61	342	28	126	425	65	56	342	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	463	0	61	370	0	126	490	0	56	404	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	41.0	41.0		41.0	41.0		34.0	34.0		34.0	34.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	35.4	35.4		35.4	35.4		28.3	28.3		28.3	28.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-Max	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
Page 3

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(m)				
Link Offset(m)				
Crosswalk Width(m)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (k/h)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
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
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

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)	30.7	30.7		30.7	30.7		43.0	43.0		43.0	43.0	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.51	0.51		0.51	0.51	
v/c Ratio	0.28	0.79		0.36	0.60		0.33	0.60		0.17	0.46	
Control Delay	20.0	33.8		23.8	25.2		18.4	21.2		16.4	17.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.0	33.8		23.8	25.2		18.4	21.2		16.4	17.8	
LOS	B	C		C	C		B	C		B	B	
Approach Delay		32.1			25.0			20.6			17.6	
Approach LOS		C			C			C			B	
Queue Length 50th (m)	7.3	65.5		7.1	47.7		11.6	54.0		4.7	40.6	
Queue Length 95th (m)	11.5	74.2		14.0	58.6		20.7	96.2		12.4	79.4	
Internal Link Dist (m)		116.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	277	693		200	735		382	821		327	870	
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	0.23	0.67		0.30	0.50		0.33	0.60		0.17	0.46	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 32 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 23.8

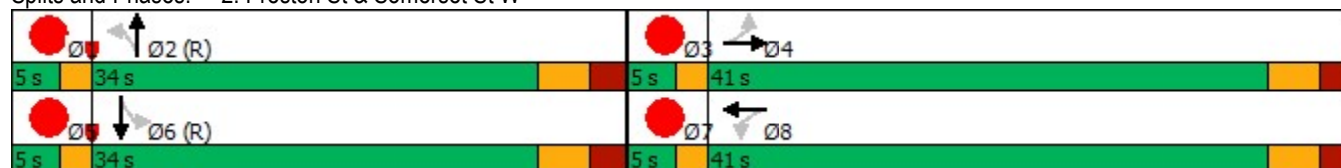
Intersection LOS: C

Intersection Capacity Utilization 71.9%

ICU Level of Service C

Analysis Period (min) 15

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



Lane Group	Ø1	Ø3	Ø5	Ø7
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)				
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	344	35	79	340	15	28	36	103	11	23	2
Future Volume (vph)	5	344	35	79	340	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
Ped Bike Factor		0.98			0.98			0.95			0.98	
Frt		0.985			0.994			0.923			0.979	
Flt Protected		0.999			0.991			0.991			0.985	
Satd. Flow (prot)	0	1701	0	0	1732	0	0	1637	0	0	1831	0
Flt Permitted		0.991			0.841			0.948			0.904	
Satd. Flow (perm)	0	1685	0	0	1452	0	0	1551	0	0	1668	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			6			86			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	
Confl. Peds. (#/hr)	72		77	77		72	27		19	19		27
Confl. Bikes (#/hr)			100			20			3			
Peak Hour Factor	0.63	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	382	48	84	362	20	40	56	129	16	28	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	438	0	0	466	0	0	225	0	0	52	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	51.0	51.0		51.0	51.0		24.0	24.0		24.0	24.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	45.9	45.9		45.9	45.9		18.6	18.6		18.6	18.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		32.0			32.0			32.5			32.5	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
v/c Ratio		0.60			0.75			0.31			0.07	
Control Delay		18.4			24.7			12.3			15.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.4			24.7			12.3			15.1	
LOS		B			C			B			B	
Approach Delay		18.4			24.7			12.3			15.1	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		44.3			52.7			11.8			3.5	
Queue Length 95th (m)		50.2			61.7			18.9			11.0	
Internal Link Dist (m)		165.8			96.0			251.9			215.0	
Turn Bay Length (m)												
Base Capacity (vph)		1037			890			721			728	
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			0.52			0.31			0.07	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 61 (81%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 19.6

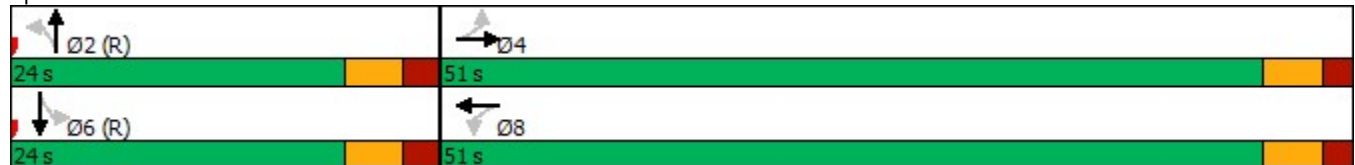
Intersection LOS: B

Intersection Capacity Utilization 72.3%

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

06/17/2025

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	8	8	508	443	8
Future Volume (vph)	3	8	8	508	443	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	0.899				0.998	
Flt Protected	0.988			0.999		
Satd. Flow (prot)	1673	0	0	1882	1880	0
Flt Permitted	0.988			0.999		
Satd. Flow (perm)	1673	0	0	1882	1880	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	139.4			278.7	173.9	
Travel Time (s)	16.7			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	9	9	552	482	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	561	491	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	43.1%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	8	8	508	443	8
Future Volume (Veh/h)	3	8	8	508	443	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)	3	9	9	552	482	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)				279	174	
pX, platoon unblocked	0.96	0.93	0.93			
vC, conflicting volume	1056	486	491			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	874	410	415			
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	98	99			
cM capacity (veh/h)	305	596	1064			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	12	561	491			
Volume Left	3	9	0			
Volume Right	9	0	9			
cSH	481	1064	1700			
Volume to Capacity	0.02	0.01	0.29			
Queue Length 95th (m)	0.6	0.2	0.0			
Control Delay (s)	12.7	0.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.7	0.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		0.3				
Intersection Capacity Utilization		43.1%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
5: Access 1 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	399	0	0	450	0	0
Future Volume (vph)	399	0	0	450	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
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	149.7			143.4	124.6	
Travel Time (s)	18.0			17.2	15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	434	0	0	489	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	434	0	0	489	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	27.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

5: Access 1 & Somerset St W

06/17/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	399	0	0	450	0	0
Future Volume (Veh/h)	399	0	0	450	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)	434	0	0	489	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)	150			283		
pX, platoon unblocked			0.83		0.85	0.83
vC, conflicting volume			434		923	434
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			211		712	211
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)			1124		338	686
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	434	489	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1124	1700			
Volume to Capacity	0.26	0.00	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			27.0%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Access 2 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	423	3	2	432	0	0
Future Volume (vph)	423	3	2	432	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
Frt	0.999					
Flt Protected						
Satd. Flow (prot)	1882	0	0	1883	0	0
Flt Permitted						
Satd. Flow (perm)	1882	0	0	1883	0	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	143.4			140.0	177.3	
Travel Time (s)	17.2			16.8	21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	460	3	2	470	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	463	0	0	472	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 27.7%	ICU Level of Service A					
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis

6: Access 2 & Somerset St W

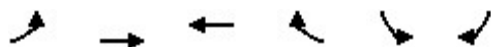
06/17/2025

	→	↘	↙	←	↖	↗				
Movement	EBT	EBR	WBL	WBT	NBL	NBR				
Lane Configurations	↰			↱						
Traffic Volume (veh/h)	423	3	2	432	0	0				
Future Volume (Veh/h)	423	3	2	432	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)	460	3	2	470	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)	293		140							
pX, platoon unblocked			0.91		0.92	0.91				
vC, conflicting volume			463		936	462				
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol			356		660	354				
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)			1090		394	625				
Direction, Lane #	EB 1	WB 1								
Volume Total	463	472								
Volume Left	0	2								
Volume Right	3	0								
cSH	1700	1090								
Volume to Capacity	0.27	0.00								
Queue Length 95th (m)	0.0	0.0								
Control Delay (s)	0.0	0.1								
Lane LOS			A							
Approach Delay (s)	0.0	0.1								
Approach LOS										
Intersection Summary										
Average Delay			0.0							
Intersection Capacity Utilization			27.7%		ICU Level of Service	A				
Analysis Period (min)			15							

Lanes, Volumes, Timings

7: Oak St & Access 2

06/17/2025

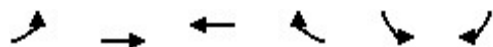


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (vph)	0	0	11	0	5	0
Future Volume (vph)	0	0	11	0	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	1883	1883	0	1789	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1883	1883	0	1789	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		53.2	139.4		177.3	
Travel Time (s)		6.4	16.7		21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	12	0	5	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	12	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15			9	15	9
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 & Access 2

06/17/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	0	11	0	5	0
Future Volume (Veh/h)	0	0	11	0	5	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	12	0	5	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				12	12
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	12				12	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				1008	1069
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	12	5			
Volume Left	0	0	5			
Volume Right	0	0	0			
cSH	1700	1700	1008			
Volume to Capacity	0.00	0.01	0.00			
Queue Length 95th (m)	0.0	0.0	0.1			
Control Delay (s)	0.0	0.0	8.6			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↲	↴	
Traffic Volume (vph)	379	34	29	424	35	25
Future Volume (vph)	379	34	29	424	35	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.92		0.99	
Frt	0.982				0.931	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	1787	0	1738	1865	1345	0
Flt Permitted			0.308		0.976	
Satd. Flow (perm)	1787	0	520	1865	1345	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	22				46	
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			149.7	125.6	
Travel Time (s)	12.9			18.0	15.1	
Confl. Peds. (#/hr)		100	100			
Confl. Bikes (#/hr)		50				2
Peak Hour Factor	1.00	0.58	0.95	1.00	0.79	0.54
Heavy Vehicles (%)	3%	9%	5%	3%	16%	40%
Adj. Flow (vph)	379	59	31	424	44	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	438	0	31	424	90	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		9	15		15	9
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	10.4		28.4	28.4	9.6	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	44.6		44.6	44.6	15.4	
Yellow Time (s)	3.7		3.7	3.7	3.3	
All-Red Time (s)	1.7		1.7	1.7	1.3	
Total Lost Time (s)	5.4		5.4	5.4	4.6	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.2		3.2	3.2	3.2	
Recall Mode	None		None	None	C-Max	

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			16.0	16.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	23.9		23.9	23.9	36.1	
Actuated g/C Ratio	0.34		0.34	0.34	0.52	
v/c Ratio	0.70		0.18	0.67	0.13	
Control Delay	24.3		15.6	24.0	7.6	
Queue Delay	0.1		0.0	0.0	0.0	
Total Delay	24.4		15.6	24.0	7.6	
LOS	C		B	C	A	
Approach Delay	24.4			23.5	7.6	
Approach LOS	C			C	A	
Queue Length 50th (m)	46.7		2.8	46.9	2.7	
Queue Length 95th (m)	58.0		6.7	56.8	9.9	
Internal Link Dist (m)	83.9			125.7	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1146		331	1188	716	
Starvation Cap Reductn	80		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.41		0.09	0.36	0.13	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 22.4

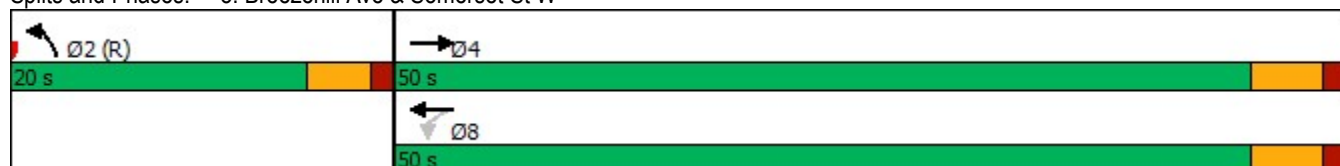
Intersection LOS: C

Intersection Capacity Utilization 36.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W



Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	238	85	73	394	66	81	422	93	43	346	82
Future Volume (vph)	46	238	85	73	394	66	81	422	93	43	346	82
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
Ped Bike Factor		0.95		0.95	0.97		0.93	0.95		0.91	0.97	
Frt		0.962			0.974			0.973			0.971	
Flt Protected		0.992		0.950			0.950			0.950		
Satd. Flow (prot)	0	1631	0	1772	1748	0	1755	1681	0	1789	1705	0
Flt Permitted		0.660		0.452			0.401			0.315		
Satd. Flow (perm)	0	1078	0	804	1748	0	692	1681	0	541	1705	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			18			20			21	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	48		52	52		48	76		130	130		76
Confl. Bikes (#/hr)			33			37			15			21
Peak Hour Factor	0.62	1.00	0.70	1.00	1.00	0.80	0.86	1.00	1.00	0.77	1.00	1.00
Heavy Vehicles (%)	3%	7%	11%	3%	4%	5%	4%	6%	4%	2%	6%	4%
Adj. Flow (vph)	74	238	121	73	394	83	94	422	93	56	346	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	433	0	73	477	0	94	515	0	56	428	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5		25.5	25.5		23.7	23.7		23.7	23.7	
Total Split (s)	34.5	34.5		34.0	34.0		35.5	35.5		35.5	35.5	
Total Split (%)	49.3%	49.3%		48.6%	48.6%		50.7%	50.7%		50.7%	50.7%	
Maximum Green (s)	28.0	28.0		27.5	27.5		29.8	29.8		29.8	29.8	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
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Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		27.4		27.4	27.4		30.4	30.4		30.4	30.4	
Actuated g/C Ratio		0.39		0.39	0.39		0.43	0.43		0.43	0.43	
v/c Ratio		0.98		0.23	0.69		0.31	0.69		0.24	0.57	
Control Delay		61.2		16.4	23.0		17.1	21.7		16.3	18.0	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		61.2		16.4	23.0		17.1	21.7		16.3	18.0	
LOS		E		B	C		B	C		B	B	
Approach Delay		61.2			22.1			21.0			17.8	
Approach LOS		E			C			C			B	
Queue Length 50th (m)		50.2		6.1	47.7		7.9	51.2		4.5	38.9	
Queue Length 95th (m)		#105.6		14.8	78.6		17.4	84.9		10.1	65.0	
Internal Link Dist (m)		84.8			94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)		451		321	710		300	742		235	752	
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		0.96		0.23	0.67		0.31	0.69		0.24	0.57	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 40 (57%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 28.9

Intersection LOS: C

Intersection Capacity Utilization 100.1%

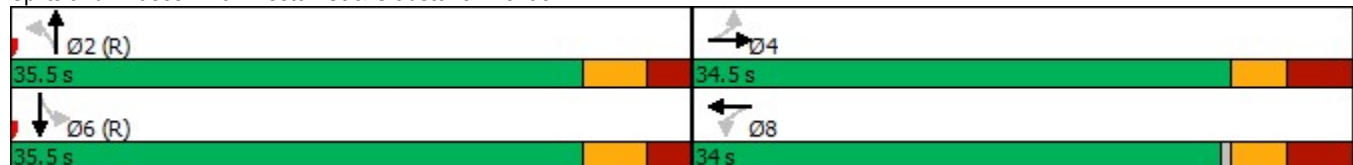
ICU Level of Service G

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue



Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶	↷		↶	↷		↶↷		↶	↷	
Traffic Volume (vph)	26	208	15	39	196	70	13	87	47	103	83	55
Future Volume (vph)	26	208	15	39	196	70	13	87	47	103	83	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.91		0.99	0.94		0.98		0.98	0.98	
Frt			0.850			0.850		0.957			0.930	
Flt Protected		0.995			0.992			0.993		0.950		
Satd. Flow (prot)	0	1755	1526	0	1780	1471	0	1660	0	1644	1701	0
Flt Permitted		0.938			0.874			0.950		0.641		
Satd. Flow (perm)	0	1651	1393	0	1557	1385	0	1585	0	1082	1701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			84		42			77	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			57.2			12.6	
Confl. Peds. (#/hr)	20		46	46		20	13		22	22		13
Confl. Bikes (#/hr)			5			13			3			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	229	21	41	225	84	26	99	59	111	104	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	257	21	0	266	84	0	184	0	111	194	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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		17.2	17.2		17.2	17.2		41.7		41.7	41.7	
Actuated g/C Ratio		0.25	0.25		0.25	0.25		0.60		0.60	0.60	
v/c Ratio		0.63	0.06		0.70	0.21		0.19		0.17	0.19	
Control Delay		29.9	2.9		29.6	10.9		6.8		8.9	5.5	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		29.9	2.9		29.6	10.9		6.8		9.0	5.5	
LOS		C	A		C	B		A		A	A	
Approach Delay		27.9			25.1			6.8			6.8	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		30.4	0.0		37.6	2.7		7.2		5.7	5.8	
Queue Length 95th (m)		44.1	1.0		52.3	12.8		19.6		16.6	14.9	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		695	610		656	632		961		644	1044	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		18		12	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.37	0.03		0.41	0.13		0.20		0.18	0.19	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 19 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 17.8

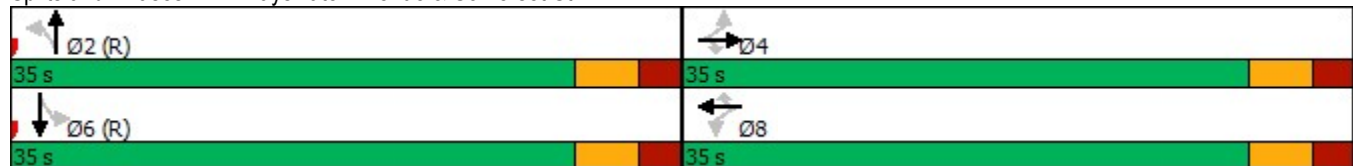
Intersection LOS: B

Intersection Capacity Utilization 86.2%

ICU Level of Service E

Analysis Period (min) 15

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



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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	230	122	31	159	13	96	352	69	39	373	34
Future Volume (vph)	35	230	122	31	159	13	96	352	69	39	373	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
Ped Bike Factor	0.90	0.94		0.94	0.98		0.95	0.98		0.97	0.98	
Frt		0.942			0.982			0.976			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1568	0	1706	1701	0	1706	1609	0	1690	1747	0
Flt Permitted	0.596			0.312			0.411			0.397		
Satd. Flow (perm)	966	1568	0	524	1701	0	703	1609	0	683	1747	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		140.0			189.8			173.9			224.6	
Travel Time (s)		16.8			22.8			20.9			27.0	
Confl. Peds. (#/hr)	55		63	63		55	65		48	48		65
Confl. Bikes (#/hr)			3									
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	247	154	48	171	24	141	405	79	60	419	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	401	0	48	195	0	141	484	0	60	467	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	
Total Split (%)	47.8%	47.8%		47.8%	47.8%		41.1%	41.1%		41.1%	41.1%	
Maximum Green (s)	37.4	37.4		37.4	37.4		31.3	31.3		31.3	31.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-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)	29.1	29.1		29.1	29.1		49.6	49.6		49.6	49.6	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.55	0.55		0.55	0.55	
v/c Ratio	0.18	0.79		0.28	0.35		0.36	0.55		0.16	0.49	
Control Delay	20.5	38.6		24.6	23.6		17.3	17.8		14.2	16.3	
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

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
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 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
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	20.5	38.6		24.6	23.6		17.3	17.8		14.2	16.3	
LOS	C	D		C	C		B	B		B	B	
Approach Delay		36.4			23.8			17.7			16.1	
Approach LOS		D			C			B			B	
Queue Length 50th (m)	6.9	62.0		6.1	25.4		13.0	51.0		4.8	46.8	
Queue Length 95th (m)	8.9	81.3		8.7	36.0		22.3	92.9		9.8	87.7	
Internal Link Dist (m)		116.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	403	654		218	709		387	886		376	962	
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	0.14	0.61		0.22	0.28		0.36	0.55		0.16	0.49	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 22.7

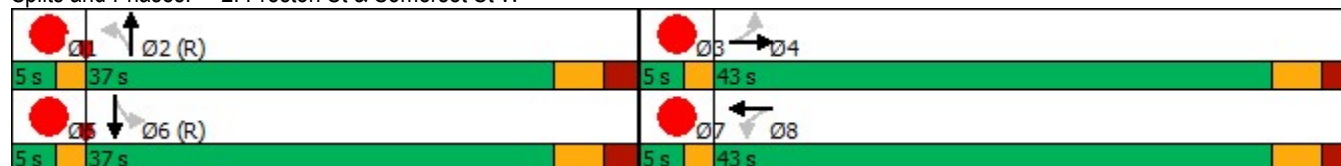
Intersection LOS: C

Intersection Capacity Utilization 70.8%

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	284	58	51	176	3	16	14	58	6	24	5
Future Volume (vph)	4	284	58	51	176	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
Ped Bike Factor		0.99			0.99			0.98			0.99	
Frt		0.977			0.998			0.922			0.979	
Flt Protected		0.999			0.988			0.991			0.989	
Satd. Flow (prot)	0	1712	0	0	1748	0	0	1663	0	0	1849	0
Flt Permitted		0.993			0.754			0.957			0.948	
Satd. Flow (perm)	0	1701	0	0	1327	0	0	1601	0	0	1768	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			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	
Confl. Peds. (#/hr)	20		23	23		20	9		6	6		9
Confl. Bikes (#/hr)			4			8						
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	342	71	64	205	4	24	32	76	12	32	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	421	0	0	273	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 Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.0	26.0		26.0	26.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	48.9	48.9		48.9	48.9		20.6	20.6		20.6	20.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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)		26.7			26.7			42.8			42.8	
Actuated g/C Ratio		0.33			0.33			0.54			0.54	
v/c Ratio		0.72			0.61			0.15			0.05	
Control Delay		28.5			27.0			6.7			10.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		28.5			27.0			6.7			10.8	
LOS		C			C			A			B	
Approach Delay		28.5			27.0			6.7			10.8	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			A			B		
Queue Length 50th (m)	52.4			34.0			3.8			3.0		
Queue Length 95th (m)	57.8			42.7			3.4			8.5		
Internal Link Dist (m)	165.8			96.0			251.9			215.0		
Turn Bay Length (m)												
Base Capacity (vph)	1048			811			891			949		
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			0.34			0.15			0.05		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 72 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 23.7

Intersection LOS: C

Intersection Capacity Utilization 61.9%

ICU Level of Service B

Analysis Period (min) 15

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

 Ø2 (R)	 Ø4
26 s	54 s
 Ø6 (R)	 Ø8
26 s	54 s

Lanes, Volumes, Timings

4: Preston St & Oak St

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	26	47	512	477	35
Future Volume (vph)	12	26	47	512	477	35
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	0.908				0.991	
Flt Protected	0.984			0.996		
Satd. Flow (prot)	1683	0	0	1876	1866	0
Flt Permitted	0.984			0.996		
Satd. Flow (perm)	1683	0	0	1876	1866	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	139.4			278.7	173.9	
Travel Time (s)	16.7			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	28	51	557	518	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	0	608	556	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 70.1% ICU Level of Service C

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	26	47	512	477	35
Future Volume (Veh/h)	12	26	47	512	477	35
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	28	51	557	518	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)				279	174	
pX, platoon unblocked	0.94	0.90	0.90			
vC, conflicting volume	1196	537	556			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	981	431	452			
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	95	95			
cM capacity (veh/h)	247	562	999			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	41	608	556			
Volume Left	13	51	0			
Volume Right	28	0	38			
cSH	401	999	1700			
Volume to Capacity	0.10	0.05	0.33			
Queue Length 95th (m)	2.6	1.2	0.0			
Control Delay (s)	15.0	1.4	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.0	1.4	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		1.2				
Intersection Capacity Utilization		70.1%		ICU Level of Service		C
Analysis Period (min)		15				

Lanes, Volumes, Timings
5: Access 1 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	367	1	2	305	2	5
Future Volume (vph)	367	1	2	305	2	5
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					0.904	
Flt Protected					0.986	
Satd. Flow (prot)	1883	0	0	1883	1679	0
Flt Permitted					0.986	
Satd. Flow (perm)	1883	0	0	1883	1679	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	149.7			143.4	124.6	
Travel Time (s)	18.0			17.2	15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	399	1	2	332	2	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	400	0	0	334	7	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

5: Access 1 & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (veh/h)	367	1	2	305	2	5
Future Volume (Veh/h)	367	1	2	305	2	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	399	1	2	332	2	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	150			283		
pX, platoon unblocked			0.85		0.85	0.85
vC, conflicting volume			400		736	400
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			201		597	201
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	99
cM capacity (veh/h)			1161		394	712
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	400	334	7			
Volume Left	0	2	2			
Volume Right	1	0	5			
cSH	1700	1161	578			
Volume to Capacity	0.24	0.00	0.01			
Queue Length 95th (m)	0.0	0.0	0.3			
Control Delay (s)	0.0	0.1	11.3			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.1	11.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			29.4%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Access 2 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	387	3	2	287	0	0
Future Volume (vph)	387	3	2	287	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
Frt	0.999					
Flt Protected						
Satd. Flow (prot)	1882	0	0	1883	0	0
Flt Permitted						
Satd. Flow (perm)	1882	0	0	1883	0	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	143.4			140.0	177.3	
Travel Time (s)	17.2			16.8	21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	421	3	2	312	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	424	0	0	314	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: Access 2 & Somerset St W

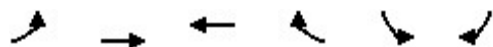
06/17/2025

	→	↘	↙	←	↖	↗				
Movement	EBT	EBR	WBL	WBT	NBL	NBR				
Lane Configurations	↰			↱						
Traffic Volume (veh/h)	387	3	2	287	0	0				
Future Volume (Veh/h)	387	3	2	287	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)	421	3	2	312	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)	293		140							
pX, platoon unblocked			0.95		0.95	0.95				
vC, conflicting volume			424		738	422				
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol			365		692	363				
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)			1132		388	646				
Direction, Lane #	EB 1	WB 1								
Volume Total	424	314								
Volume Left	0	2								
Volume Right	3	0								
cSH	1700	1132								
Volume to Capacity	0.25	0.00								
Queue Length 95th (m)	0.0	0.0								
Control Delay (s)	0.0	0.1								
Lane LOS			A							
Approach Delay (s)	0.0	0.1								
Approach LOS										
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 & Access 2

06/17/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (vph)	0	27	78	0	5	0
Future Volume (vph)	0	27	78	0	5	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					0.950	
Satd. Flow (prot)	0	1883	1883	0	1789	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1883	1883	0	1789	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		53.2	139.4		177.3	
Travel Time (s)		6.4	16.7		21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	29	85	0	5	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	29	85	0	5	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

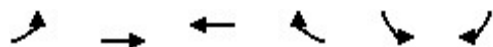
Intersection Capacity Utilization 14.1% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Access 2

06/17/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	27	78	0	5	0
Future Volume (Veh/h)	0	27	78	0	5	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	29	85	0	5	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				114	85
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	85				114	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				99	100
cM capacity (veh/h)	1512				882	974
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	29	85	5			
Volume Left	0	0	5			
Volume Right	0	0	0			
cSH	1700	1700	882			
Volume to Capacity	0.02	0.05	0.01			
Queue Length 95th (m)	0.0	0.0	0.1			
Control Delay (s)	0.0	0.0	9.1			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			14.1%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	333	37	25	277	28	39
Future Volume (vph)	333	37	25	277	28	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.96		0.98	
Frt	0.982				0.927	
Flt Protected			0.950		0.977	
Satd. Flow (prot)	1786	0	1722	1921	1388	0
Flt Permitted			0.303		0.977	
Satd. Flow (perm)	1786	0	528	1921	1388	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	22				49	
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			149.7	125.6	
Travel Time (s)	12.9			18.0	15.1	
Confl. Peds. (#/hr)		50	50			
Confl. Bikes (#/hr)		33				6
Peak Hour Factor	0.86	0.63	0.70	0.93	0.67	0.79
Heavy Vehicles (%)	4%	8%	6%	0%	19%	27%
Adj. Flow (vph)	387	59	36	298	42	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	446	0	36	298	91	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	10.4		28.4	28.4	9.6	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	44.6		44.6	44.6	15.4	
Yellow Time (s)	3.7		3.7	3.7	3.3	
All-Red Time (s)	1.7		1.7	1.7	1.3	
Total Lost Time (s)	5.4		5.4	5.4	4.6	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.2		3.2	3.2	3.2	
Recall Mode	None		None	None	C-Max	
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			16.0	16.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	24.2		24.2	24.2	35.8	
Actuated g/C Ratio	0.35		0.35	0.35	0.51	
v/c Ratio	0.71		0.20	0.45	0.12	
Control Delay	25.1		15.8	18.6	7.5	
Queue Delay	0.1		0.0	0.0	0.0	

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	25.2		15.8	18.6	7.5	
LOS	C		B	B	A	
Approach Delay	25.2			18.3	7.5	
Approach LOS	C			B	A	
Queue Length 50th (m)	57.2		3.3	29.8	2.6	
Queue Length 95th (m)	65.7		5.5	37.5	7.5	
Internal Link Dist (m)	83.9			125.7	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1145		336	1223	733	
Starvation Cap Reductn	86		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.42		0.11	0.24	0.12	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 20.7

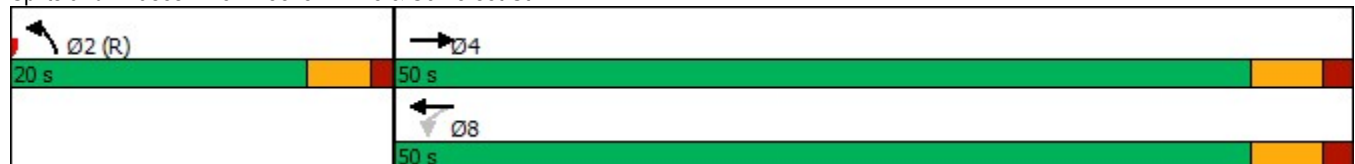
Intersection LOS: C

Intersection Capacity Utilization 33.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W



Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	195	85	45	243	92	92	415	60	80	378	45
Future Volume (vph)	84	195	85	45	243	92	92	415	60	80	378	45
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
Ped Bike Factor		0.97		0.96	0.98		0.97	0.98		0.98	0.99	
Frt		0.964			0.959			0.978			0.982	
Flt Protected		0.989		0.950			0.950			0.950		
Satd. Flow (prot)	0	1634	0	1755	1690	0	1738	1727	0	1789	1738	0
Flt Permitted		0.636		0.460			0.335			0.275		
Satd. Flow (perm)	0	1044	0	820	1690	0	598	1727	0	506	1738	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			44			12			9	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	25		35	35		25	39		44	44		39
Confl. Bikes (#/hr)			20			19			6			11
Peak Hour Factor	0.81	0.86	0.71	0.66	0.75	0.76	0.72	0.91	0.75	0.84	0.90	0.79
Heavy Vehicles (%)	2%	11%	11%	4%	7%	5%	5%	7%	7%	2%	7%	8%
Adj. Flow (vph)	104	227	120	68	324	121	128	456	80	95	420	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	451	0	68	445	0	128	536	0	95	477	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		23.7	23.7		23.7	23.7	
Total Split (s)	46.0	46.0		46.0	46.0		24.0	24.0		24.0	24.0	
Total Split (%)	65.7%	65.7%		65.7%	65.7%		34.3%	34.3%		34.3%	34.3%	
Maximum Green (s)	39.5	39.5		39.5	39.5		18.3	18.3		18.3	18.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		29.0		29.0	29.0		28.8	28.8		28.8	28.8	
Actuated g/C Ratio		0.41		0.41	0.41		0.41	0.41		0.41	0.41	
v/c Ratio		0.99		0.20	0.61		0.52	0.75		0.46	0.66	
Control Delay		57.2		11.9	17.1		31.5	29.8		30.9	26.2	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		57.2		11.9	17.1		31.5	29.8		30.9	26.2	
LOS		E		B	B		C	C		C	C	
Approach Delay		57.2			16.4			30.1			27.0	

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			B			C			C		
Queue Length 50th (m)		51.4		5.4	38.9		12.3	57.1		8.8	48.5	
Queue Length 95th (m)		#70.3		6.7	35.6		#30.0	#138.0		#30.1	#119.2	
Internal Link Dist (m)		84.8			94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)		607		462	972		246	718		208	721	
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		0.74		0.15	0.46		0.52	0.75		0.46	0.66	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 35 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 31.7

Intersection LOS: C

Intersection Capacity Utilization 90.5%

ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue



Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	242	25	43	335	94	20	124	63	104	167	76
Future Volume (vph)	25	242	25	43	335	94	20	124	63	104	167	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.84		0.99	0.89		0.97		0.95	0.98	
Frt			0.850			0.850		0.964			0.952	
Flt Protected		0.994			0.994			0.995		0.950		
Satd. Flow (prot)	0	1754	1526	0	1788	1471	0	1663	0	1644	1749	0
Flt Permitted		0.834			0.929			0.948		0.612		
Satd. Flow (perm)	0	1466	1284	0	1655	1310	0	1581	0	1004	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			108		29			38	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			57.2			12.6	
Confl. Peds. (#/hr)	52		87	87		52	25		50	50		25
Confl. Bikes (#/hr)			15			18			1			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%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	32	257	35	53	414	108	27	155	67	132	199	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	289	35	0	467	108	0	249	0	132	294	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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		27.4	27.4		27.4	27.4		36.5		36.5	36.5	
Actuated g/C Ratio		0.37	0.37		0.37	0.37		0.49		0.49	0.49	
v/c Ratio		0.54	0.07		0.77	0.20		0.32		0.27	0.34	
Control Delay		21.7	4.4		29.6	3.7		13.3		15.6	13.2	
Queue Delay		0.0	0.0		0.7	0.0		0.0		0.0	0.0	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
Page 1

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		21.7	4.4		30.3	3.7		13.3		15.6	13.2	
LOS		C	A		C	A		B		B	B	
Approach Delay		19.8			25.3			13.3			13.9	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		30.9	0.0		56.0	0.0		18.1		10.7	21.2	
Queue Length 95th (m)		45.1	2.6		64.7	7.0		33.1		22.0	40.2	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		674	611		761	660		784		488	871	
Starvation Cap Reductn		0	0		93	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		0.43	0.06		0.70	0.16		0.32		0.27	0.34	

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

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 19.2

Intersection LOS: B

Intersection Capacity Utilization 90.3%

ICU Level of Service E

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	289	91	53	301	22	93	411	61	44	339	50
Future Volume (vph)	51	289	91	53	301	22	93	411	61	44	339	50
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
Ped Bike Factor	0.92	0.94		0.93	0.99		0.95	0.99		0.98	0.98	
Frt		0.959			0.989			0.982			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1611	0	1706	1719	0	1706	1628	0	1690	1726	0
Flt Permitted	0.397			0.279			0.410			0.319		
Satd. Flow (perm)	654	1611	0	464	1719	0	700	1628	0	558	1726	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		140.0			189.8			173.9			224.6	
Travel Time (s)		16.8			22.8			20.9			27.0	
Confl. Peds. (#/hr)	76		93	93		76	65		33	33		65
Confl. Bikes (#/hr)			4			2						2
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 (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	66	344	128	61	342	28	137	484	65	56	377	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	472	0	61	370	0	137	549	0	56	442	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	41.0	41.0		41.0	41.0		34.0	34.0		34.0	34.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	35.4	35.4		35.4	35.4		28.3	28.3		28.3	28.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-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)	31.2	31.2		31.2	31.2		42.5	42.5		42.5	42.5	
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.50	0.50		0.50	0.50	
v/c Ratio	0.28	0.80		0.36	0.59		0.39	0.67		0.20	0.51	
Control Delay	19.6	34.1		23.6	24.7		20.3	23.9		17.5	18.9	
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

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
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 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
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.6	34.1		23.6	24.7		20.3	23.9		17.5	18.9	
LOS	B	C		C	C		C	C		B	B	
Approach Delay		32.3			24.5			23.2			18.7	
Approach LOS		C			C			C			B	
Queue Length 50th (m)	7.3	66.7		7.0	47.1		13.3	64.7		4.9	46.4	
Queue Length 95th (m)	11.8	76.4		14.1	58.6		23.1	#123.6		12.8	88.7	
Internal Link Dist (m)		116.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	280	689		198	735		350	814		279	863	
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	0.69		0.31	0.50		0.39	0.67		0.20	0.51	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 32 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 24.7

Intersection LOS: C

Intersection Capacity Utilization 75.0%

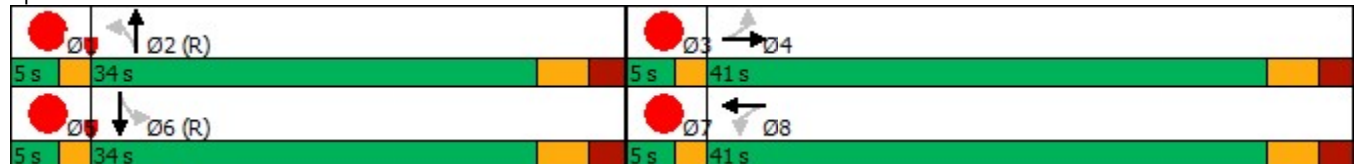
ICU Level of Service D

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
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

06/17/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	5	345	35	79	341	15	28	36	103	11	23	2
Future Volume (vph)	5	345	35	79	341	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
Ped Bike Factor		0.98			0.98			0.95			0.98	
Frt		0.985			0.994			0.923			0.979	
Flt Protected		0.999			0.991			0.991			0.985	
Satd. Flow (prot)	0	1701	0	0	1732	0	0	1637	0	0	1831	0
Flt Permitted		0.991			0.841			0.948			0.904	
Satd. Flow (perm)	0	1685	0	0	1452	0	0	1551	0	0	1668	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			6			86			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	
Confl. Peds. (#/hr)	72		77	77		72	27		19	19		27
Confl. Bikes (#/hr)			100			20			3			
Peak Hour Factor	0.63	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	383	48	84	363	20	40	56	129	16	28	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	439	0	0	467	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 Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	51.0	51.0		51.0	51.0		24.0	24.0		24.0	24.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	45.9	45.9		45.9	45.9		18.6	18.6		18.6	18.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		32.0			32.0			32.5			32.5	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
v/c Ratio		0.60			0.75			0.31			0.07	
Control Delay		18.4			24.7			12.3			15.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.4			24.7			12.3			15.1	
LOS		B			C			B			B	
Approach Delay		18.4			24.7			12.3			15.1	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			B			B		
Queue Length 50th (m)	44.3			52.8			11.9			3.5		
Queue Length 95th (m)	50.4			61.8			18.9			11.0		
Internal Link Dist (m)	165.8			96.0			251.9			215.0		
Turn Bay Length (m)												
Base Capacity (vph)	1037			890			720			727		
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			0.52			0.31			0.07		

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 61 (81%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 19.6

Intersection LOS: B

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

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

	Ø2 (R)		Ø4
24 s		51 s	
	Ø6 (R)		Ø8
24 s		51 s	

Lanes, Volumes, Timings

4: Preston St & Oak St

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	25	26	556	470	18
Future Volume (vph)	12	25	26	556	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	0.909				0.995	
Flt Protected	0.984			0.998		
Satd. Flow (prot)	1685	0	0	1880	1874	0
Flt Permitted	0.984			0.998		
Satd. Flow (perm)	1685	0	0	1880	1874	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	139.4			278.7	173.9	
Travel Time (s)	16.7			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	27	28	604	511	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	0	0	632	531	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 60.4% ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	25	26	556	470	18
Future Volume (Veh/h)	12	25	26	556	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)	13	27	28	604	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)				279	174	
pX, platoon unblocked	0.90	0.90	0.90			
vC, conflicting volume	1181	521	531			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	902	415	426			
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	95	97			
cM capacity (veh/h)	271	575	1022			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	40	632	531			
Volume Left	13	28	0			
Volume Right	27	0	20			
cSH	421	1022	1700			
Volume to Capacity	0.09	0.03	0.31			
Queue Length 95th (m)	2.4	0.6	0.0			
Control Delay (s)	14.4	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.4	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		0.9				
Intersection Capacity Utilization		60.4%		ICU Level of Service		B
Analysis Period (min)		15				

Lanes, Volumes, Timings
5: Access 1 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	403	1	6	454	1	4
Future Volume (vph)	403	1	6	454	1	4
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					0.892	
Flt Protected				0.999	0.990	
Satd. Flow (prot)	1883	0	0	1882	1663	0
Flt Permitted				0.999	0.990	
Satd. Flow (perm)	1883	0	0	1882	1663	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	149.7			143.4	124.6	
Travel Time (s)	18.0			17.2	15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	438	1	7	493	1	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	439	0	0	500	5	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	38.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

5: Access 1 & Somerset St W

06/17/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	403	1	6	454	1	4
Future Volume (Veh/h)	403	1	6	454	1	4
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)	438	1	7	493	1	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	150			283		
pX, platoon unblocked			0.82		0.84	0.82
vC, conflicting volume			439		946	438
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			212		746	211
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	99
cM capacity (veh/h)			1119		318	683
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	439	500	5			
Volume Left	0	7	1			
Volume Right	1	0	4			
cSH	1700	1119	556			
Volume to Capacity	0.26	0.01	0.01			
Queue Length 95th (m)	0.0	0.1	0.2			
Control Delay (s)	0.0	0.2	11.5			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.2	11.5			
Approach LOS			B			
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			38.7%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Access 2 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	431	3	2	442	0	0
Future Volume (vph)	431	3	2	442	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
Frt	0.999					
Flt Protected						
Satd. Flow (prot)	1882	0	0	1883	0	0
Flt Permitted						
Satd. Flow (perm)	1882	0	0	1883	0	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	143.4			140.0	177.3	
Travel Time (s)	17.2			16.8	21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	468	3	2	480	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	471	0	0	482	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	28.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Access 2 & Somerset St W

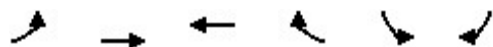
06/17/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	431	3	2	442	0	0
Future Volume (Veh/h)	431	3	2	442	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)	468	3	2	480	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)	293			140		
pX, platoon unblocked				0.90	0.93	0.90
vC, conflicting volume				471	954	470
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol				360	676	358
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)				1082	388	619
Direction, Lane #	EB 1	WB 1				
Volume Total	471	482				
Volume Left	0	2				
Volume Right	3	0				
cSH	1700	1082				
Volume to Capacity	0.28	0.00				
Queue Length 95th (m)	0.0	0.0				
Control Delay (s)	0.0	0.1				
Lane LOS			A			
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay				0.0		
Intersection Capacity Utilization				28.2%	ICU Level of Service	A
Analysis Period (min)				15		

Lanes, Volumes, Timings

7: Oak St & Access 2

06/17/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (vph)	0	26	39	0	5	0
Future Volume (vph)	0	26	39	0	5	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					0.950	
Satd. Flow (prot)	0	1883	1883	0	1789	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1883	1883	0	1789	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		53.2	139.4		177.3	
Travel Time (s)		6.4	16.7		21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	28	42	0	5	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	28	42	0	5	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

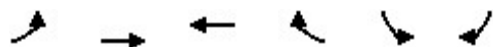
Intersection Capacity Utilization 13.3% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Access 2

06/17/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	26	39	0	5	0
Future Volume (Veh/h)	0	26	39	0	5	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	28	42	0	5	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				70	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	42				70	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				99	100
cM capacity (veh/h)	1567				934	1029
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	28	42	5			
Volume Left	0	0	5			
Volume Right	0	0	0			
cSH	1700	1700	934			
Volume to Capacity	0.02	0.02	0.01			
Queue Length 95th (m)	0.0	0.0	0.1			
Control Delay (s)	0.0	0.0	8.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.9			
Approach LOS			A			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	
Traffic Volume (vph)	384	34	29	429	35	25
Future Volume (vph)	384	34	29	429	35	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.92		0.99	
Frt	0.982				0.931	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	1788	0	1738	1865	1345	0
Flt Permitted			0.305		0.976	
Satd. Flow (perm)	1788	0	515	1865	1345	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	22				46	
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			149.7	125.6	
Travel Time (s)	12.9			18.0	15.1	
Confl. Peds. (#/hr)		100	100			
Confl. Bikes (#/hr)		50				2
Peak Hour Factor	1.00	0.58	0.95	1.00	0.79	0.54
Heavy Vehicles (%)	3%	9%	5%	3%	16%	40%
Adj. Flow (vph)	384	59	31	429	44	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	443	0	31	429	90	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	10.4		28.4	28.4	9.6	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	44.6		44.6	44.6	15.4	
Yellow Time (s)	3.7		3.7	3.7	3.3	
All-Red Time (s)	1.7		1.7	1.7	1.3	
Total Lost Time (s)	5.4		5.4	5.4	4.6	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.2		3.2	3.2	3.2	
Recall Mode	None		None	None	C-Max	
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			16.0	16.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	24.1		24.1	24.1	35.9	
Actuated g/C Ratio	0.34		0.34	0.34	0.51	
v/c Ratio	0.71		0.18	0.67	0.13	
Control Delay	24.3		15.5	24.0	7.7	
Queue Delay	0.1		0.0	0.0	0.0	

Lanes, Volumes, Timings 8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	24.3		15.5	24.0	7.7	
LOS	C		B	C	A	
Approach Delay	24.3			23.4	7.7	
Approach LOS	C			C	A	
Queue Length 50th (m)	47.1		2.8	47.3	2.7	
Queue Length 95th (m)	58.3		6.7	57.3	10.0	
Internal Link Dist (m)	83.9			125.7	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1147		328	1188	712	
Starvation Cap Reductn	85		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.42		0.09	0.36	0.13	

Intersection Summary

Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 22.4	Intersection LOS: C
Intersection Capacity Utilization 36.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Breezehill Ave & Somerset St W

 Ø2 (R) 20 s	 Ø4 50 s
	 Ø8 50 s

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	259	94	73	421	94	90	475	93	73	376	82
Future Volume (vph)	46	259	94	73	421	94	90	475	93	73	376	82
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
Ped Bike Factor		0.95		0.96	0.97		0.94	0.95		0.93	0.97	
Frt		0.961			0.967			0.975			0.973	
Flt Protected		0.992		0.950			0.950			0.950		
Satd. Flow (prot)	0	1627	0	1772	1724	0	1755	1692	0	1789	1712	0
Flt Permitted		0.647		0.444			0.345			0.231		
Satd. Flow (perm)	0	1056	0	791	1724	0	600	1692	0	405	1712	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			26			16			18	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	48		52	52		48	76		130	130		76
Confl. Bikes (#/hr)			33			37			15			21
Peak Hour Factor	0.62	1.00	0.70	1.00	1.00	0.80	0.86	1.00	1.00	0.77	1.00	1.00
Heavy Vehicles (%)	3%	7%	11%	3%	4%	5%	4%	6%	4%	2%	6%	4%
Adj. Flow (vph)	74	259	134	73	421	118	105	475	93	95	376	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	467	0	73	539	0	105	568	0	95	458	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5		25.5	25.5		23.7	23.7		23.7	23.7	
Total Split (s)	37.1	37.1		37.1	37.1		32.9	32.9		32.9	32.9	
Total Split (%)	53.0%	53.0%		53.0%	53.0%		47.0%	47.0%		47.0%	47.0%	
Maximum Green (s)	30.6	30.6		30.6	30.6		27.2	27.2		27.2	27.2	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		29.8		29.8	29.8		28.0	28.0		28.0	28.0	
Actuated g/C Ratio		0.43		0.43	0.43		0.40	0.40		0.40	0.40	
v/c Ratio		0.99		0.22	0.72		0.44	0.83		0.59	0.66	
Control Delay		61.1		14.4	22.1		23.1	31.7		36.2	22.3	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		61.1		14.4	22.1		23.1	31.7		36.2	22.3	
LOS		E		B	C		C	C		D	C	
Approach Delay		61.1			21.1			30.3			24.7	

Lanes, Volumes, Timings

9: Preston St & Gladstone Avenue

06/17/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Approach LOS	E			C			C			C		
Queue Length 50th (m)	53.6			5.7	52.2		9.9	64.3		9.7	46.4	
Queue Length 95th (m)	#112.3			13.8	86.0		22.3	#119.4		#22.0	76.7	
Internal Link Dist (m)	84.8				94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)	482			345	768		239	685		161	694	
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	0.97			0.21	0.70		0.44	0.83		0.59	0.66	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 40 (57%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 32.8

Intersection LOS: C

Intersection Capacity Utilization 107.7%

ICU Level of Service G

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue

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Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	208	15	39	198	70	13	87	47	103	83	55
Future Volume (vph)	26	208	15	39	198	70	13	87	47	103	83	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.91		0.99	0.94		0.98		0.98	0.98	
Frt			0.850			0.850		0.957			0.930	
Flt Protected		0.995			0.992			0.993		0.950		
Satd. Flow (prot)	0	1755	1526	0	1780	1471	0	1660	0	1644	1701	0
Flt Permitted		0.937			0.879			0.950		0.641		
Satd. Flow (perm)	0	1650	1393	0	1567	1385	0	1585	0	1082	1701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			84		42			77	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			57.2			12.6	
Confl. Peds. (#/hr)	20		46	46		20	13		22	22		13
Confl. Bikes (#/hr)			5			13			3			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	229	21	41	228	84	26	99	59	111	104	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	257	21	0	269	84	0	184	0	111	194	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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		17.3	17.3		17.3	17.3		41.6		41.6	41.6	
Actuated g/C Ratio		0.25	0.25		0.25	0.25		0.59		0.59	0.59	
v/c Ratio		0.63	0.06		0.70	0.21		0.19		0.17	0.19	
Control Delay		29.6	2.9		29.5	10.8		6.8		9.0	5.5	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		29.6	2.9		29.5	10.8		6.9		9.0	5.5	
LOS		C	A		C	B		A		A	A	
Approach Delay		27.6			25.0			6.9			6.8	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		30.2	0.0		37.8	2.8		7.2		5.8	5.9	
Queue Length 95th (m)		44.0	1.0		53.1	12.8		19.6		16.6	15.0	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		695	610		660	632		958		642	1041	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		18		12	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.37	0.03		0.41	0.13		0.20		0.18	0.19	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 19 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 17.7

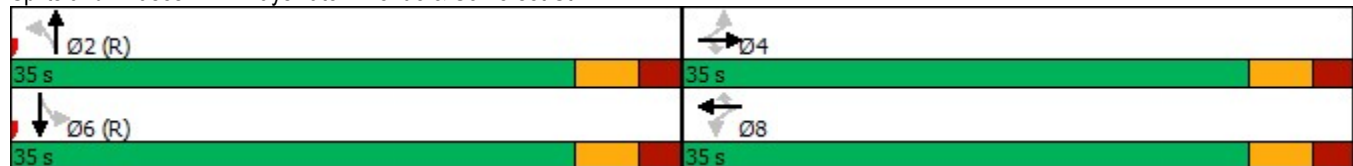
Intersection LOS: B

Intersection Capacity Utilization 86.2%

ICU Level of Service E

Analysis Period (min) 15

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



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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	231	124	31	159	13	98	352	69	39	373	36
Future Volume (vph)	37	231	124	31	159	13	98	352	69	39	373	36
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
Ped Bike Factor	0.90	0.93		0.94	0.98		0.95	0.98		0.97	0.98	
Frt		0.942			0.982			0.976			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1567	0	1706	1701	0	1706	1609	0	1690	1744	0
Flt Permitted	0.597			0.312			0.406			0.395		
Satd. Flow (perm)	968	1567	0	525	1701	0	695	1609	0	680	1744	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		140.0			189.8			173.9			224.6	
Travel Time (s)		16.8			22.8			20.9			27.0	
Confl. Peds. (#/hr)	55		63	63		55	65		48	48		65
Confl. Bikes (#/hr)			3									
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)	59	248	157	48	171	24	144	405	79	60	419	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	405	0	48	195	0	144	484	0	60	470	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	
Total Split (%)	47.8%	47.8%		47.8%	47.8%		41.1%	41.1%		41.1%	41.1%	
Maximum Green (s)	37.4	37.4		37.4	37.4		31.3	31.3		31.3	31.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-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)	29.5	29.5		29.5	29.5		49.2	49.2		49.2	49.2	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.55	0.55		0.55	0.55	
v/c Ratio	0.19	0.79		0.28	0.35		0.38	0.55		0.16	0.49	
Control Delay	20.5	38.3		24.3	23.3		17.9	18.1		14.3	16.6	
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

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
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 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
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	20.5	38.3		24.3	23.3		17.9	18.1		14.3	16.6	
LOS	C	D		C	C		B	B		B	B	
Approach Delay		36.0			23.5			18.0			16.4	
Approach LOS		D			C			B			B	
Queue Length 50th (m)	7.2	62.6		6.1	25.3		13.4	51.3		4.9	47.6	
Queue Length 95th (m)	9.3	82.3		8.7	36.0		22.9	93.1		9.8	88.5	
Internal Link Dist (m)		116.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	404	654		219	710		380	879		371	953	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.15	0.62		0.22	0.27		0.38	0.55		0.16	0.49	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 22.7

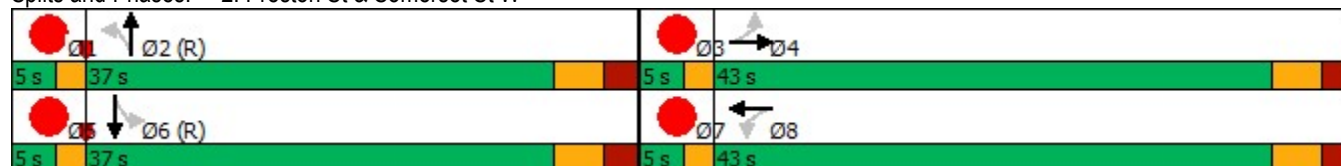
Intersection LOS: C

Intersection Capacity Utilization 72.0%

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

06/17/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	4	285	58	51	176	3	16	14	58	6	24	5
Future Volume (vph)	4	285	58	51	176	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
Ped Bike Factor		0.99			0.99			0.98			0.99	
Frt		0.977			0.998			0.922			0.979	
Flt Protected		0.999			0.988			0.991			0.989	
Satd. Flow (prot)	0	1712	0	0	1748	0	0	1663	0	0	1849	0
Flt Permitted		0.993			0.755			0.957			0.948	
Satd. Flow (perm)	0	1701	0	0	1329	0	0	1601	0	0	1768	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			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	
Confl. Peds. (#/hr)	20		23	23		20	9		6	6		9
Confl. Bikes (#/hr)			4			8						
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	343	71	64	205	4	24	32	76	12	32	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	422	0	0	273	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 Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.0	26.0		26.0	26.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	48.9	48.9		48.9	48.9		20.6	20.6		20.6	20.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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)		26.8			26.8			42.7			42.7	
Actuated g/C Ratio		0.34			0.34			0.53			0.53	
v/c Ratio		0.72			0.61			0.15			0.05	
Control Delay		28.4			26.8			6.7			10.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		28.4			26.8			6.7			10.9	
LOS		C			C			A			B	
Approach Delay		28.4			26.8			6.7			10.9	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			A			B		
Queue Length 50th (m)	52.4			33.9			3.9			3.0		
Queue Length 95th (m)	57.7			42.5			3.5			8.5		
Internal Link Dist (m)	165.8			96.0			251.9			215.0		
Turn Bay Length (m)												
Base Capacity (vph)	1048			813			890			948		
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			0.34			0.15			0.05		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 72 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 23.6

Intersection LOS: C

Intersection Capacity Utilization 61.9%

ICU Level of Service B

Analysis Period (min) 15

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

	Ø2 (R)		Ø4
26 s		54 s	
	Ø6 (R)		Ø8
26 s		54 s	

Lanes, Volumes, Timings

4: Preston St & Oak St

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	26	47	514	479	35
Future Volume (vph)	12	26	47	514	479	35
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	0.908				0.991	
Flt Protected	0.984			0.996		
Satd. Flow (prot)	1683	0	0	1876	1866	0
Flt Permitted	0.984			0.996		
Satd. Flow (perm)	1683	0	0	1876	1866	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	139.4			278.7	173.9	
Travel Time (s)	16.7			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	28	51	559	521	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	0	610	559	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 70.3% ICU Level of Service C

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	26	47	514	479	35
Future Volume (Veh/h)	12	26	47	514	479	35
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	28	51	559	521	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)				279	174	
pX, platoon unblocked	0.94	0.90	0.90			
vC, conflicting volume	1201	540	559			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	979	432	453			
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	95	95			
cM capacity (veh/h)	248	560	995			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	41	610	559			
Volume Left	13	51	0			
Volume Right	28	0	38			
cSH	400	995	1700			
Volume to Capacity	0.10	0.05	0.33			
Queue Length 95th (m)	2.6	1.2	0.0			
Control Delay (s)	15.0	1.4	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.0	1.4	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		1.2				
Intersection Capacity Utilization		70.3%		ICU Level of Service		C
Analysis Period (min)		15				

Lanes, Volumes, Timings
5: Access 1 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	367	1	6	305	4	10
Future Volume (vph)	367	1	6	305	4	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
Frt					0.901	
Flt Protected				0.999	0.987	
Satd. Flow (prot)	1883	0	0	1882	1675	0
Flt Permitted				0.999	0.987	
Satd. Flow (perm)	1883	0	0	1882	1675	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	149.7			143.4	124.6	
Travel Time (s)	18.0			17.2	15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	399	1	7	332	4	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	400	0	0	339	15	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	30.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

5: Access 1 & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (veh/h)	367	1	6	305	4	10
Future Volume (Veh/h)	367	1	6	305	4	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)	399	1	7	332	4	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)	150		283			
pX, platoon unblocked			0.85		0.85	0.85
vC, conflicting volume			400		746	400
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			201		609	201
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		99	98
cM capacity (veh/h)			1161		386	712
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	400	339	15			
Volume Left	0	7	4			
Volume Right	1	0	11			
cSH	1700	1161	581			
Volume to Capacity	0.24	0.01	0.03			
Queue Length 95th (m)	0.0	0.1	0.6			
Control Delay (s)	0.0	0.2	11.4			
Lane LOS			A	B		
Approach Delay (s)	0.0	0.2	11.4			
Approach LOS			B			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			30.9%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Access 2 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	392	3	2	291	0	0
Future Volume (vph)	392	3	2	291	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
Frt	0.999					
Flt Protected						
Satd. Flow (prot)	1882	0	0	1883	0	0
Flt Permitted						
Satd. Flow (perm)	1882	0	0	1883	0	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	143.4			140.0	177.3	
Travel Time (s)	17.2			16.8	21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	426	3	2	316	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	429	0	0	318	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: Access 2 & Somerset St W

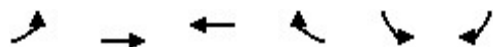
06/17/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱		
Traffic Volume (veh/h)	392	3	2	291	0	0
Future Volume (Veh/h)	392	3	2	291	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)	426	3	2	316	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)	293			140		
pX, platoon unblocked			0.95		0.95	0.95
vC, conflicting volume			429		748	428
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			370		705	368
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)			1126		381	642
Direction, Lane #	EB 1	WB 1				
Volume Total	429	318				
Volume Left	0	2				
Volume Right	3	0				
cSH	1700	1126				
Volume to Capacity	0.25	0.00				
Queue Length 95th (m)	0.0	0.0				
Control Delay (s)	0.0	0.1				
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		24.1%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

7: Oak St & Access 2

06/17/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (vph)	0	27	78	0	5	0
Future Volume (vph)	0	27	78	0	5	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					0.950	
Satd. Flow (prot)	0	1883	1883	0	1789	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1883	1883	0	1789	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		53.2	139.4		177.3	
Travel Time (s)		6.4	16.7		21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	29	85	0	5	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	29	85	0	5	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

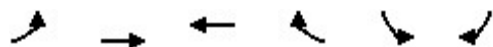
Intersection Capacity Utilization 14.1% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Access 2

06/17/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	27	78	0	5	0
Future Volume (Veh/h)	0	27	78	0	5	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	29	85	0	5	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				114	85
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	85				114	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				99	100
cM capacity (veh/h)	1512				882	974
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	29	85	5			
Volume Left	0	0	5			
Volume Right	0	0	0			
cSH	1700	1700	882			
Volume to Capacity	0.02	0.05	0.01			
Queue Length 95th (m)	0.0	0.0	0.1			
Control Delay (s)	0.0	0.0	9.1			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			14.1%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↲	↴	
Traffic Volume (vph)	333	37	25	279	28	39
Future Volume (vph)	333	37	25	279	28	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.96		0.98	
Frt	0.982				0.927	
Flt Protected			0.950		0.977	
Satd. Flow (prot)	1786	0	1722	1921	1388	0
Flt Permitted			0.303		0.977	
Satd. Flow (perm)	1786	0	528	1921	1388	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	22				49	
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			149.7	125.6	
Travel Time (s)	12.9			18.0	15.1	
Confl. Peds. (#/hr)		50	50			
Confl. Bikes (#/hr)		33				6
Peak Hour Factor	0.86	0.63	0.70	0.93	0.67	0.79
Heavy Vehicles (%)	4%	8%	6%	0%	19%	27%
Adj. Flow (vph)	387	59	36	300	42	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	446	0	36	300	91	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	10.4		28.4	28.4	9.6	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	44.6		44.6	44.6	15.4	
Yellow Time (s)	3.7		3.7	3.7	3.3	
All-Red Time (s)	1.7		1.7	1.7	1.3	
Total Lost Time (s)	5.4		5.4	5.4	4.6	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.2		3.2	3.2	3.2	
Recall Mode	None		None	None	C-Max	
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			16.0	16.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	24.2		24.2	24.2	35.8	
Actuated g/C Ratio	0.35		0.35	0.35	0.51	
v/c Ratio	0.71		0.20	0.45	0.12	
Control Delay	25.1		15.8	18.6	7.5	
Queue Delay	0.1		0.0	0.0	0.0	

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	25.2		15.8	18.6	7.5	
LOS	C		B	B	A	
Approach Delay	25.2			18.3	7.5	
Approach LOS	C			B	A	
Queue Length 50th (m)	57.1		3.3	30.1	2.6	
Queue Length 95th (m)	64.3		5.5	37.7	7.5	
Internal Link Dist (m)	83.9			125.7	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1145		336	1223	733	
Starvation Cap Reductn	85		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.42		0.11	0.25	0.12	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 20.7

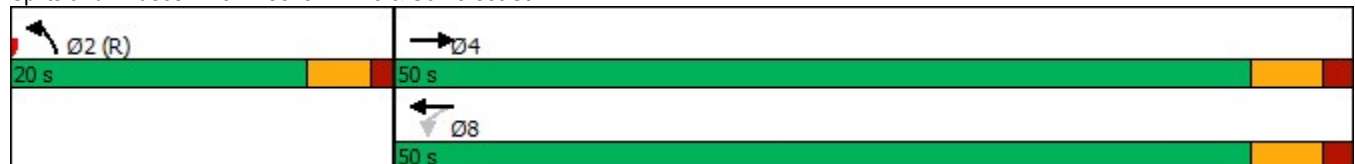
Intersection LOS: C

Intersection Capacity Utilization 33.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W



Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	195	85	45	243	92	92	417	60	82	378	45
Future Volume (vph)	84	195	85	45	243	92	92	417	60	82	378	45
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
Ped Bike Factor		0.97		0.96	0.98		0.97	0.98		0.98	0.99	
Frt		0.964			0.959			0.978			0.982	
Flt Protected		0.989		0.950			0.950			0.950		
Satd. Flow (prot)	0	1634	0	1755	1690	0	1738	1727	0	1789	1738	0
Flt Permitted		0.636		0.460			0.335			0.273		
Satd. Flow (perm)	0	1044	0	820	1690	0	598	1727	0	503	1738	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			44			12			9	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	25		35	35		25	39		44	44		39
Confl. Bikes (#/hr)			20			19			6			11
Peak Hour Factor	0.81	0.86	0.71	0.66	0.75	0.76	0.72	0.91	0.75	0.84	0.90	0.79
Heavy Vehicles (%)	2%	11%	11%	4%	7%	5%	5%	7%	7%	2%	7%	8%
Adj. Flow (vph)	104	227	120	68	324	121	128	458	80	98	420	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	451	0	68	445	0	128	538	0	98	477	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		23.7	23.7		23.7	23.7	
Total Split (s)	46.0	46.0		46.0	46.0		24.0	24.0		24.0	24.0	
Total Split (%)	65.7%	65.7%		65.7%	65.7%		34.3%	34.3%		34.3%	34.3%	
Maximum Green (s)	39.5	39.5		39.5	39.5		18.3	18.3		18.3	18.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		29.0		29.0	29.0		28.8	28.8		28.8	28.8	
Actuated g/C Ratio		0.41		0.41	0.41		0.41	0.41		0.41	0.41	
v/c Ratio		0.99		0.20	0.61		0.52	0.75		0.47	0.66	
Control Delay		57.2		11.9	17.1		31.5	29.9		31.6	26.2	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		57.2		11.9	17.1		31.5	29.9		31.6	26.2	
LOS		E		B	B		C	C		C	C	
Approach Delay		57.2			16.4			30.2			27.2	

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			B			C			C		
Queue Length 50th (m)	51.4			5.4	38.9		12.3	57.4		9.2	48.5	
Queue Length 95th (m)	#70.3			6.7	35.6		#30.0	#138.8		#31.6	#119.2	
Internal Link Dist (m)	84.8				94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)	607			462	972		246	718		207	721	
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	0.74			0.15	0.46		0.52	0.75		0.47	0.66	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 35 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 31.7

Intersection LOS: C

Intersection Capacity Utilization 90.7%

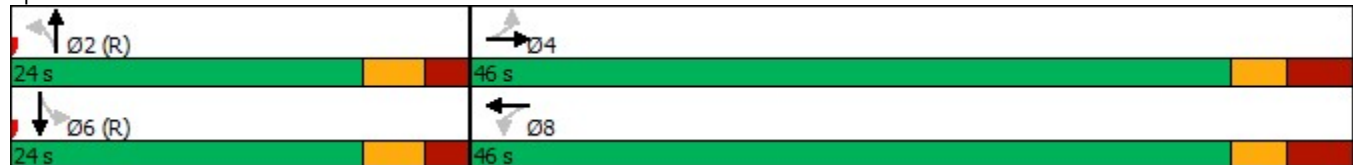
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue



Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	243	25	43	337	94	20	124	63	104	167	76
Future Volume (vph)	25	243	25	43	337	94	20	124	63	104	167	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.84		0.99	0.89		0.97		0.95	0.98	
Frt			0.850			0.850		0.964			0.952	
Flt Protected		0.995			0.994			0.995		0.950		
Satd. Flow (prot)	0	1755	1526	0	1788	1471	0	1663	0	1644	1749	0
Flt Permitted		0.831			0.929			0.948		0.612		
Satd. Flow (perm)	0	1461	1284	0	1656	1310	0	1581	0	1004	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			108		29			38	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			57.2			12.6	
Confl. Peds. (#/hr)	52		87	87		52	25		50	50		25
Confl. Bikes (#/hr)			15			18			1			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%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	32	259	35	53	416	108	27	155	67	132	199	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	291	35	0	469	108	0	249	0	132	294	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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		27.4	27.4		27.4	27.4		36.5		36.5	36.5	
Actuated g/C Ratio		0.37	0.37		0.37	0.37		0.49		0.49	0.49	
v/c Ratio		0.54	0.07		0.78	0.20		0.32		0.27	0.34	
Control Delay		21.8	4.4		29.7	3.7		13.4		15.6	13.2	
Queue Delay		0.0	0.0		0.7	0.0		0.0		0.0	0.0	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
Page 1

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		21.8	4.4		30.4	3.7		13.4		15.6	13.2	
LOS		C	A		C	A		B		B	B	
Approach Delay		19.9			25.4			13.4			13.9	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		31.3	0.0		56.2	0.0		18.1		10.7	21.2	
Queue Length 95th (m)		45.4	2.6		65.1	7.0		33.1		22.0	40.2	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		672	611		761	660		783		488	870	
Starvation Cap Reductn		0	0		93	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		0.43	0.06		0.70	0.16		0.32		0.27	0.34	

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

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 19.3

Intersection LOS: B

Intersection Capacity Utilization 90.3%

ICU Level of Service E

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	289	91	53	301	22	95	411	61	44	339	52
Future Volume (vph)	52	289	91	53	301	22	95	411	61	44	339	52
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
Ped Bike Factor	0.92	0.94		0.93	0.99		0.95	0.99		0.98	0.98	
Frt		0.959			0.989			0.982			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1611	0	1706	1719	0	1706	1628	0	1690	1724	0
Flt Permitted	0.397			0.279			0.407			0.319		
Satd. Flow (perm)	654	1611	0	464	1719	0	695	1628	0	558	1724	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		140.0			189.8			173.9			224.6	
Travel Time (s)		16.8			22.8			20.9			27.0	
Confl. Peds. (#/hr)	76		93	93		76	65		33	33		65
Confl. Bikes (#/hr)			4			2						2
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 (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	68	344	128	61	342	28	140	484	65	56	377	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	472	0	61	370	0	140	549	0	56	445	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	41.0	41.0		41.0	41.0		34.0	34.0		34.0	34.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	35.4	35.4		35.4	35.4		28.3	28.3		28.3	28.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-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)	31.2	31.2		31.2	31.2		42.5	42.5		42.5	42.5	
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.50	0.50		0.50	0.50	
v/c Ratio	0.28	0.80		0.36	0.59		0.40	0.67		0.20	0.52	
Control Delay	19.8	34.1		23.6	24.7		20.6	23.9		17.5	19.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
Page 3

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
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 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
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.8	34.1		23.6	24.7		20.6	23.9		17.5	19.0	
LOS	B	C		C	C		C	C		B	B	
Approach Delay		32.3			24.5			23.3			18.8	
Approach LOS		C			C			C			B	
Queue Length 50th (m)	7.6	66.7		7.0	47.1		13.7	64.7		4.9	46.8	
Queue Length 95th (m)	12.0	76.4		14.1	58.6		23.8	#123.6		12.8	89.7	
Internal Link Dist (m)		116.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	280	689		198	735		347	814		279	862	
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	0.69		0.31	0.50		0.40	0.67		0.20	0.52	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 32 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 24.7

Intersection LOS: C

Intersection Capacity Utilization 75.0%

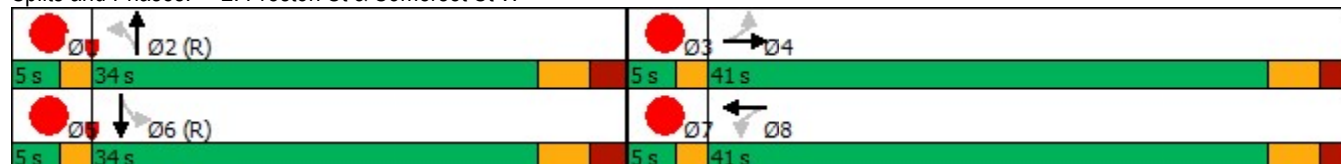
ICU Level of Service D

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
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

06/17/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	5	345	35	79	341	15	28	36	103	11	23	2
Future Volume (vph)	5	345	35	79	341	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
Ped Bike Factor		0.98			0.98			0.95			0.98	
Frt		0.985			0.994			0.923			0.979	
Flt Protected		0.999			0.991			0.991			0.985	
Satd. Flow (prot)	0	1701	0	0	1732	0	0	1637	0	0	1831	0
Flt Permitted		0.991			0.841			0.948			0.904	
Satd. Flow (perm)	0	1685	0	0	1452	0	0	1551	0	0	1668	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			6			86			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	
Confl. Peds. (#/hr)	72		77	77		72	27		19	19		27
Confl. Bikes (#/hr)			100			20			3			
Peak Hour Factor	0.63	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	8	383	48	84	363	20	40	56	129	16	28	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	439	0	0	467	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 Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	51.0	51.0		51.0	51.0		24.0	24.0		24.0	24.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	45.9	45.9		45.9	45.9		18.6	18.6		18.6	18.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		32.0			32.0			32.5			32.5	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
v/c Ratio		0.60			0.75			0.31			0.07	
Control Delay		18.4			24.7			12.3			15.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.4			24.7			12.3			15.1	
LOS		B			C			B			B	
Approach Delay		18.4			24.7			12.3			15.1	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			B			B		
Queue Length 50th (m)	44.3			52.8			11.9			3.5		
Queue Length 95th (m)	50.4			61.8			18.9			11.0		
Internal Link Dist (m)	165.8			96.0			251.9			215.0		
Turn Bay Length (m)												
Base Capacity (vph)	1037			890			720			727		
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			0.52			0.31			0.07		

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 61 (81%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 19.6

Intersection LOS: B

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

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

	Ø2 (R)		Ø4
24 s		51 s	
	Ø6 (R)		Ø8
24 s		51 s	

Lanes, Volumes, Timings

4: Preston St & Oak St

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	12	25	26	558	470	18
Future Volume (vph)	12	25	26	558	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	0.909				0.995	
Flt Protected	0.984			0.998		
Satd. Flow (prot)	1685	0	0	1880	1874	0
Flt Permitted	0.984			0.998		
Satd. Flow (perm)	1685	0	0	1880	1874	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	139.4			278.7	173.9	
Travel Time (s)	16.7			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	27	28	607	511	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	0	0	635	531	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 60.5% ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	25	26	558	470	18
Future Volume (Veh/h)	12	25	26	558	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)	13	27	28	607	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)				279	174	
pX, platoon unblocked	0.90	0.90	0.90			
vC, conflicting volume	1184	521	531			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	904	415	426			
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	95	97			
cM capacity (veh/h)	269	575	1023			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	40	635	531			
Volume Left	13	28	0			
Volume Right	27	0	20			
cSH	420	1023	1700			
Volume to Capacity	0.10	0.03	0.31			
Queue Length 95th (m)	2.4	0.6	0.0			
Control Delay (s)	14.5	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.5	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization		60.5%		ICU Level of Service		B
Analysis Period (min)		15				

Lanes, Volumes, Timings
5: Access 1 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	403	2	10	454	3	5
Future Volume (vph)	403	2	10	454	3	5
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	0.999				0.916	
Flt Protected				0.999	0.982	
Satd. Flow (prot)	1882	0	0	1882	1694	0
Flt Permitted				0.999	0.982	
Satd. Flow (perm)	1882	0	0	1882	1694	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	149.7			143.4	124.6	
Travel Time (s)	18.0			17.2	15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	438	2	11	493	3	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	440	0	0	504	8	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	41.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

5: Access 1 & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (veh/h)	403	2	10	454	3	5
Future Volume (Veh/h)	403	2	10	454	3	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	438	2	11	493	3	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	150		283			
pX, platoon unblocked			0.82		0.84	0.82
vC, conflicting volume			440		954	439
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			212		756	211
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		99	99
cM capacity (veh/h)			1118		313	683
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	440	504	8			
Volume Left	0	11	3			
Volume Right	2	0	5			
cSH	1700	1118	473			
Volume to Capacity	0.26	0.01	0.02			
Queue Length 95th (m)	0.0	0.2	0.4			
Control Delay (s)	0.0	0.3	12.7			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.3	12.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			41.9%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Access 2 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	432	3	2	446	0	0
Future Volume (vph)	432	3	2	446	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
Frt	0.999					
Flt Protected						
Satd. Flow (prot)	1882	0	0	1883	0	0
Flt Permitted						
Satd. Flow (perm)	1882	0	0	1883	0	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	143.4			140.0	177.3	
Travel Time (s)	17.2			16.8	21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	470	3	2	485	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	473	0	0	487	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	28.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

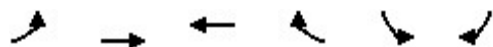
6: Access 2 & Somerset St W

06/17/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	432	3	2	446	0	0
Future Volume (Veh/h)	432	3	2	446	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)	470	3	2	485	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)	293			140		
pX, platoon unblocked			0.90		0.93	0.90
vC, conflicting volume			473		960	472
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			362		683	361
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)			1080		384	617
Direction, Lane #	EB 1	WB 1				
Volume Total	473	487				
Volume Left	0	2				
Volume Right	3	0				
cSH	1700	1080				
Volume to Capacity	0.28	0.00				
Queue Length 95th (m)	0.0	0.0				
Control Delay (s)	0.0	0.1				
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		28.4%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
7: Oak St & Access 2

06/17/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (vph)	0	26	39	0	5	0
Future Volume (vph)	0	26	39	0	5	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					0.950	
Satd. Flow (prot)	0	1883	1883	0	1789	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1883	1883	0	1789	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		53.2	139.4		177.3	
Travel Time (s)		6.4	16.7		21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	28	42	0	5	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	28	42	0	5	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

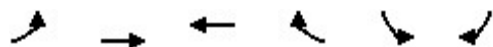
Intersection Capacity Utilization 13.3% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Access 2

06/17/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	26	39	0	5	0
Future Volume (Veh/h)	0	26	39	0	5	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	28	42	0	5	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				70	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	42				70	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				99	100
cM capacity (veh/h)	1567				934	1029
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	28	42	5			
Volume Left	0	0	5			
Volume Right	0	0	0			
cSH	1700	1700	934			
Volume to Capacity	0.02	0.02	0.01			
Queue Length 95th (m)	0.0	0.0	0.1			
Control Delay (s)	0.0	0.0	8.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.9			
Approach LOS			A			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↲	↴	↵
Traffic Volume (vph)	385	34	29	431	35	25
Future Volume (vph)	385	34	29	431	35	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.92		0.99	
Frt	0.982				0.931	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	1788	0	1738	1865	1345	0
Flt Permitted			0.304		0.976	
Satd. Flow (perm)	1788	0	513	1865	1345	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	22				46	
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			149.7	125.6	
Travel Time (s)	12.9			18.0	15.1	
Confl. Peds. (#/hr)		100	100			
Confl. Bikes (#/hr)		50				2
Peak Hour Factor	1.00	0.58	0.95	1.00	0.79	0.54
Heavy Vehicles (%)	3%	9%	5%	3%	16%	40%
Adj. Flow (vph)	385	59	31	431	44	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	444	0	31	431	90	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	10.4		28.4	28.4	9.6	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	44.6		44.6	44.6	15.4	
Yellow Time (s)	3.7		3.7	3.7	3.3	
All-Red Time (s)	1.7		1.7	1.7	1.3	
Total Lost Time (s)	5.4		5.4	5.4	4.6	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.2		3.2	3.2	3.2	
Recall Mode	None		None	None	C-Max	
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			16.0	16.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	24.1		24.1	24.1	35.9	
Actuated g/C Ratio	0.34		0.34	0.34	0.51	
v/c Ratio	0.71		0.18	0.67	0.13	
Control Delay	24.3		15.4	24.0	7.7	
Queue Delay	0.1		0.0	0.0	0.0	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
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Lanes, Volumes, Timings

8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	24.3		15.4	24.0	7.7	
LOS	C		B	C	A	
Approach Delay	24.3			23.4	7.7	
Approach LOS	C			C	A	
Queue Length 50th (m)	47.2		2.8	47.4	2.7	
Queue Length 95th (m)	58.3		6.7	57.3	10.0	
Internal Link Dist (m)	83.9			125.7	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1147		326	1188	712	
Starvation Cap Reductn	88		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.42		0.10	0.36	0.13	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 22.4

Intersection LOS: C

Intersection Capacity Utilization 36.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W

↖ Ø2 (R)	→ Ø4
20 s	50 s
	↖ Ø8
	50 s

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	259	94	73	421	96	90	475	93	74	375	82
Future Volume (vph)	46	259	94	73	421	96	90	475	93	74	375	82
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
Ped Bike Factor		0.95		0.96	0.97		0.94	0.95		0.93	0.97	
Frt		0.961			0.967			0.975			0.973	
Flt Protected		0.992		0.950			0.950			0.950		
Satd. Flow (prot)	0	1627	0	1772	1723	0	1755	1692	0	1789	1712	0
Flt Permitted		0.647		0.445			0.345			0.229		
Satd. Flow (perm)	0	1056	0	793	1723	0	600	1692	0	401	1712	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			26			16			18	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	48		52	52		48	76		130	130		76
Confl. Bikes (#/hr)			33			37			15			21
Peak Hour Factor	0.62	1.00	0.70	1.00	1.00	0.80	0.86	1.00	1.00	0.77	1.00	1.00
Heavy Vehicles (%)	3%	7%	11%	3%	4%	5%	4%	6%	4%	2%	6%	4%
Adj. Flow (vph)	74	259	134	73	421	120	105	475	93	96	375	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	467	0	73	541	0	105	568	0	96	457	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5		25.5	25.5		23.7	23.7		23.7	23.7	
Total Split (s)	37.1	37.1		37.1	37.1		32.9	32.9		32.9	32.9	
Total Split (%)	53.0%	53.0%		53.0%	53.0%		47.0%	47.0%		47.0%	47.0%	
Maximum Green (s)	30.6	30.6		30.6	30.6		27.2	27.2		27.2	27.2	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		29.9		29.9	29.9		27.9	27.9		27.9	27.9	
Actuated g/C Ratio		0.43		0.43	0.43		0.40	0.40		0.40	0.40	
v/c Ratio		0.99		0.22	0.72		0.44	0.83		0.60	0.66	
Control Delay		61.0		14.4	22.2		23.1	31.7		37.4	22.3	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		61.0		14.4	22.2		23.1	31.7		37.4	22.3	
LOS		E		B	C		C	C		D	C	
Approach Delay		61.0			21.3			30.4			24.9	

Lanes, Volumes, Timings

9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			C			C			C		
Queue Length 50th (m)	53.6			5.7	52.5		9.9	64.3		9.8	46.2	
Queue Length 95th (m)	#112.3			13.8	86.6		22.3	#119.4		#23.7	76.6	
Internal Link Dist (m)	84.8				94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)	482			346	767		239	685		159	694	
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	0.97			0.21	0.71		0.44	0.83		0.60	0.66	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 40 (57%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 32.8

Intersection LOS: C

Intersection Capacity Utilization 107.8%

ICU Level of Service G

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue

			
Ø2 (R)	Ø4	Ø6 (R)	Ø8
32.9 s	37.1 s	32.9 s	37.1 s

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	215	15	40	203	70	13	87	51	105	83	55
Future Volume (vph)	26	215	15	40	203	70	13	87	51	105	83	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.91		0.99	0.94		0.98		0.98	0.98	
Frt			0.850			0.850		0.954			0.930	
Flt Protected		0.995			0.992			0.993		0.950		
Satd. Flow (prot)	0	1755	1526	0	1780	1471	0	1649	0	1644	1701	0
Flt Permitted		0.939			0.866			0.951		0.638		
Satd. Flow (perm)	0	1653	1393	0	1543	1385	0	1576	0	1077	1701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			84		46			77	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			57.2			12.6	
Confl. Peds. (#/hr)	20		46	46		20	13		22	22		13
Confl. Bikes (#/hr)			5			13			3			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	236	21	43	233	84	26	99	65	113	104	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	264	21	0	276	84	0	190	0	113	194	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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		17.7	17.7		17.7	17.7		41.2		41.2	41.2	
Actuated g/C Ratio		0.25	0.25		0.25	0.25		0.59		0.59	0.59	
v/c Ratio		0.63	0.05		0.71	0.20		0.20		0.18	0.19	
Control Delay		29.4	2.8		30.1	10.6		6.9		9.3	5.7	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		29.4	2.8		30.1	10.6		6.9		9.3	5.7	
LOS		C	A		C	B		A		A	A	
Approach Delay		27.4			25.5			6.9			7.0	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		31.0	0.0		38.9	2.7		7.5		6.0	6.0	
Queue Length 95th (m)		44.8	1.0		54.0	12.5		20.4		17.0	15.2	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		696	610		650	632		947		634	1033	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		38		26	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.38	0.03		0.42	0.13		0.21		0.19	0.19	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 19 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 17.9

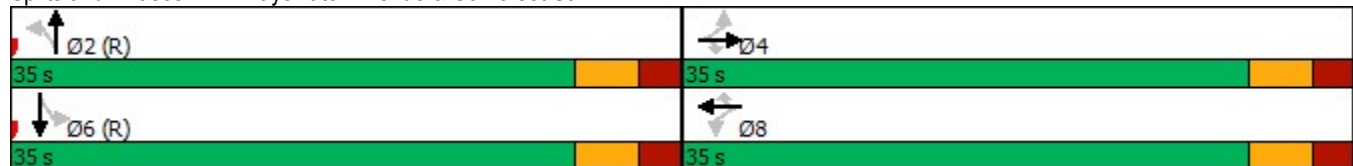
Intersection LOS: B

Intersection Capacity Utilization 87.8%

ICU Level of Service E

Analysis Period (min) 15

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



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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	237	128	31	170	13	105	382	69	39	396	40
Future Volume (vph)	38	237	128	31	170	13	105	382	69	39	396	40
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
Ped Bike Factor	0.91	0.93		0.94	0.98		0.96	0.98		0.97	0.98	
Frt		0.942			0.983			0.977			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1567	0	1706	1705	0	1706	1612	0	1690	1741	0
Flt Permitted	0.583			0.305			0.378			0.364		
Satd. Flow (perm)	948	1567	0	514	1705	0	651	1612	0	629	1741	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		140.0			189.8			173.9			224.6	
Travel Time (s)		16.8			22.8			20.9			27.0	
Confl. Peds. (#/hr)	55		63	63		55	65		48	48		65
Confl. Bikes (#/hr)			3									
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)	60	255	162	48	183	24	154	439	79	60	445	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	417	0	48	207	0	154	518	0	60	501	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	
Total Split (%)	47.8%	47.8%		47.8%	47.8%		41.1%	41.1%		41.1%	41.1%	
Maximum Green (s)	37.4	37.4		37.4	37.4		31.3	31.3		31.3	31.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-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)	30.2	30.2		30.2	30.2		48.5	48.5		48.5	48.5	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.54	0.54		0.54	0.54	
v/c Ratio	0.19	0.79		0.28	0.36		0.44	0.60		0.18	0.53	
Control Delay	20.1	38.0		23.8	23.0		20.3	19.7		15.2	17.9	
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

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
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 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
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	20.1	38.0		23.8	23.0		20.3	19.7		15.2	17.9	
LOS	C	D		C	C		C	B		B	B	
Approach Delay		35.7			23.2			19.8			17.6	
Approach LOS		D			C			B			B	
Queue Length 50th (m)	7.3	64.4		6.0	26.7		15.2	57.6		5.0	53.0	
Queue Length 95th (m)	9.3	83.7		8.6	37.3		25.6	104.5		10.2	98.4	
Internal Link Dist (m)		116.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	397	658		215	715		350	869		339	939	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.15	0.63		0.22	0.29		0.44	0.60		0.18	0.53	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 23.5

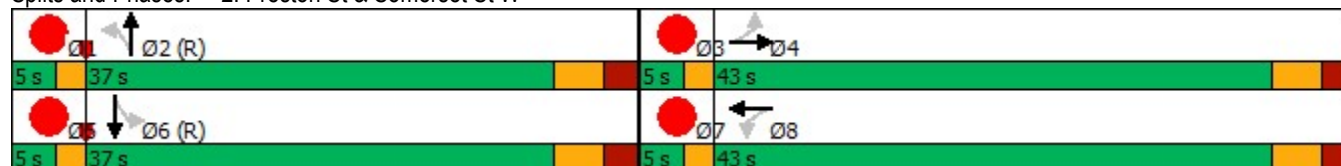
Intersection LOS: C

Intersection Capacity Utilization 74.4%

ICU Level of Service D

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	289	59	51	183	3	18	14	58	6	24	7
Future Volume (vph)	5	289	59	51	183	3	18	14	58	6	24	7
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
Ped Bike Factor		0.99			0.99			0.98			0.99	
Frt		0.977			0.998			0.924			0.973	
Flt Protected		0.999			0.989			0.990			0.989	
Satd. Flow (prot)	0	1711	0	0	1749	0	0	1663	0	0	1834	0
Flt Permitted		0.991			0.766			0.950			0.950	
Satd. Flow (perm)	0	1697	0	0	1348	0	0	1590	0	0	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			2			76			11	
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	
Confl. Peds. (#/hr)	20		23	23		20	9		6	6		9
Confl. Bikes (#/hr)			4			8						
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	348	72	64	213	4	27	32	76	12	32	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	430	0	0	281	0	0	135	0	0	55	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	54.0	54.0		54.0	54.0		26.0	26.0		26.0	26.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	48.9	48.9		48.9	48.9		20.6	20.6		20.6	20.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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)		27.5			27.5			42.0			42.0	
Actuated g/C Ratio		0.34			0.34			0.52			0.52	
v/c Ratio		0.72			0.61			0.15			0.06	
Control Delay		27.7			25.9			7.1			11.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		27.7			25.9			7.1			11.0	
LOS		C			C			A			B	
Approach Delay		27.7			25.9			7.1			11.0	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			A			B		
Queue Length 50th (m)	53.2			34.6			4.1			3.1		
Queue Length 95th (m)	57.6			42.5			3.7			8.8		
Internal Link Dist (m)	165.8			96.0			251.9			215.0		
Turn Bay Length (m)												
Base Capacity (vph)	1046			824			871			928		
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			0.34			0.15			0.06		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 72 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 23.0

Intersection LOS: C

Intersection Capacity Utilization 62.4%

ICU Level of Service B

Analysis Period (min) 15

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

 Ø2 (R)	 Ø4
26 s	54 s
 Ø6 (R)	 Ø8
26 s	54 s

Lanes, Volumes, Timings

4: Preston St & Oak St

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	26	47	551	506	35
Future Volume (vph)	12	26	47	551	506	35
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	0.908				0.991	
Flt Protected	0.984			0.996		
Satd. Flow (prot)	1683	0	0	1876	1866	0
Flt Permitted	0.984			0.996		
Satd. Flow (perm)	1683	0	0	1876	1866	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	139.4			278.7	173.9	
Travel Time (s)	16.7			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	28	51	599	550	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	0	650	588	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 73.7% ICU Level of Service D

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	26	47	551	506	35
Future Volume (Veh/h)	12	26	47	551	506	35
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	28	51	599	550	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)				279	174	
pX, platoon unblocked	0.93	0.88	0.88			
vC, conflicting volume	1270	569	588			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	955	439	460			
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	95	95			
cM capacity (veh/h)	252	542	966			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	41	650	588			
Volume Left	13	51	0			
Volume Right	28	0	38			
cSH	397	966	1700			
Volume to Capacity	0.10	0.05	0.35			
Queue Length 95th (m)	2.6	1.3	0.0			
Control Delay (s)	15.1	1.4	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.1	1.4	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		1.2				
Intersection Capacity Utilization		73.7%		ICU Level of Service		D
Analysis Period (min)		15				

Lanes, Volumes, Timings
5: Access 1 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	367	15	28	305	11	21
Future Volume (vph)	367	15	28	305	11	21
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	0.995				0.911	
Flt Protected				0.996	0.983	
Satd. Flow (prot)	1874	0	0	1876	1687	0
Flt Permitted				0.996	0.983	
Satd. Flow (perm)	1874	0	0	1876	1687	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	149.7			143.4	124.6	
Travel Time (s)	18.0			17.2	15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	399	16	30	332	12	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	415	0	0	362	35	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

5: Access 1 & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (veh/h)	367	15	28	305	11	21
Future Volume (Veh/h)	367	15	28	305	11	21
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)	399	16	30	332	12	23
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	150		283			
pX, platoon unblocked			0.84		0.84	0.84
vC, conflicting volume			415		799	407
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			207		664	197
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	97
cM capacity (veh/h)			1145		348	708
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	415	362	35			
Volume Left	0	30	12			
Volume Right	16	0	23			
cSH	1700	1145	522			
Volume to Capacity	0.24	0.03	0.07			
Queue Length 95th (m)	0.0	0.6	1.6			
Control Delay (s)	0.0	0.9	12.4			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.9	12.4			
Approach LOS			B			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			49.3%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Access 2 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	403	3	2	313	0	0
Future Volume (vph)	403	3	2	313	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
Frt	0.999					
Flt Protected						
Satd. Flow (prot)	1882	0	0	1883	0	0
Flt Permitted						
Satd. Flow (perm)	1882	0	0	1883	0	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	143.4			140.0	177.3	
Travel Time (s)	17.2			16.8	21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	438	3	2	340	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	441	0	0	342	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	24.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Access 2 & Somerset St W

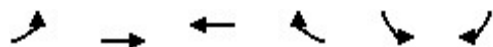
06/17/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱		
Traffic Volume (veh/h)	403	3	2	313	0	0
Future Volume (Veh/h)	403	3	2	313	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)	438	3	2	340	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)	293			140		
pX, platoon unblocked			0.96		0.96	0.96
vC, conflicting volume			441		784	440
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			396		734	394
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		373	628
Direction, Lane #	EB 1	WB 1				
Volume Total	441	342				
Volume Left	0	2				
Volume Right	3	0				
cSH	1700	1115				
Volume to Capacity	0.26	0.00				
Queue Length 95th (m)	0.0	0.0				
Control Delay (s)	0.0	0.1				
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		24.7%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

7: Oak St & Access 2

06/17/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (vph)	0	27	78	0	5	0
Future Volume (vph)	0	27	78	0	5	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					0.950	
Satd. Flow (prot)	0	1883	1883	0	1789	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1883	1883	0	1789	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		53.2	139.4		177.3	
Travel Time (s)		6.4	16.7		21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	29	85	0	5	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	29	85	0	5	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

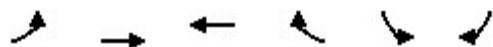
Intersection Capacity Utilization 14.1% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Access 2

06/17/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	27	78	0	5	0
Future Volume (Veh/h)	0	27	78	0	5	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	29	85	0	5	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				114	85
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	85				114	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				99	100
cM capacity (veh/h)	1512				882	974
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	29	85	5			
Volume Left	0	0	5			
Volume Right	0	0	0			
cSH	1700	1700	882			
Volume to Capacity	0.02	0.05	0.01			
Queue Length 95th (m)	0.0	0.0	0.1			
Control Delay (s)	0.0	0.0	9.1			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			14.1%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	
Traffic Volume (vph)	346	37	26	285	28	40
Future Volume (vph)	346	37	26	285	28	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.96		0.98	
Frt	0.983				0.926	
Flt Protected			0.950		0.978	
Satd. Flow (prot)	1789	0	1722	1921	1387	0
Flt Permitted			0.297		0.978	
Satd. Flow (perm)	1789	0	518	1921	1387	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	21				51	
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			149.7	125.6	
Travel Time (s)	12.9			18.0	15.1	
Confl. Peds. (#/hr)		50	50			
Confl. Bikes (#/hr)		33				6
Peak Hour Factor	0.86	0.63	0.70	0.93	0.67	0.79
Heavy Vehicles (%)	4%	8%	6%	0%	19%	27%
Adj. Flow (vph)	402	59	37	306	42	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	461	0	37	306	93	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	10.4		28.4	28.4	9.6	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	44.6		44.6	44.6	15.4	
Yellow Time (s)	3.7		3.7	3.7	3.3	
All-Red Time (s)	1.7		1.7	1.7	1.3	
Total Lost Time (s)	5.4		5.4	5.4	4.6	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.2		3.2	3.2	3.2	
Recall Mode	None		None	None	C-Max	
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			16.0	16.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	25.0		25.0	25.0	35.0	
Actuated g/C Ratio	0.36		0.36	0.36	0.50	
v/c Ratio	0.71		0.20	0.45	0.13	
Control Delay	24.8		15.5	18.1	7.6	
Queue Delay	0.1		0.0	0.0	0.0	

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	24.9		15.5	18.1	7.6	
LOS	C		B	B	A	
Approach Delay	24.9			17.8	7.6	
Approach LOS	C			B	A	
Queue Length 50th (m)	59.2		3.3	30.2	2.6	
Queue Length 95th (m)	64.3		5.5	37.2	7.7	
Internal Link Dist (m)	83.9			125.7	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1147		330	1223	719	
Starvation Cap Reductn	98		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.44		0.11	0.25	0.13	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 20.4

Intersection LOS: C

Intersection Capacity Utilization 34.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W

↖ Ø2 (R)	→ Ø4
20 s	50 s
	↖ Ø8
	50 s

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔		↔	↔	
Traffic Volume (vph)	86	195	85	45	243	94	92	450	60	83	403	46
Future Volume (vph)	86	195	85	45	243	94	92	450	60	83	403	46
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
Ped Bike Factor		0.97		0.96	0.98		0.98	0.98			0.99	
Frt		0.964			0.958			0.979			0.983	
Flt Protected		0.988		0.950			0.950			0.950		
Satd. Flow (prot)	0	1633	0	1755	1688	0	1738	1730	0	1789	1741	0
Flt Permitted		0.630		0.460			0.302			0.233		
Satd. Flow (perm)	0	1035	0	820	1688	0	540	1730	0	439	1741	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			45			11			9	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	25		35	35		25	39		44	44		39
Confl. Bikes (#/hr)			20			19			6			11
Peak Hour Factor	0.81	0.86	0.71	0.66	0.75	0.76	0.72	0.91	0.75	0.84	0.90	0.79
Heavy Vehicles (%)	2%	11%	11%	4%	7%	5%	5%	7%	7%	2%	7%	8%
Adj. Flow (vph)	106	227	120	68	324	124	128	495	80	99	448	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	453	0	68	448	0	128	575	0	99	506	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		23.7	23.7		23.7	23.7	
Total Split (s)	46.0	46.0		46.0	46.0		24.0	24.0		24.0	24.0	
Total Split (%)	65.7%	65.7%		65.7%	65.7%		34.3%	34.3%		34.3%	34.3%	
Maximum Green (s)	39.5	39.5		39.5	39.5		18.3	18.3		18.3	18.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		29.2		29.2	29.2		28.6	28.6		28.6	28.6	
Actuated g/C Ratio		0.42		0.42	0.42		0.41	0.41		0.41	0.41	
v/c Ratio		0.99		0.20	0.61		0.58	0.81		0.55	0.71	
Control Delay		58.8		11.7	16.9		35.9	33.5		37.7	28.1	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		58.8		11.7	16.9		35.9	33.5		37.7	28.1	
LOS		E		B	B		D	C		D	C	
Approach Delay		58.8			16.2			33.9			29.6	

Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			B			C			C		
Queue Length 50th (m)		51.8		5.4	38.8		12.8	64.2		9.7	53.2	
Queue Length 95th (m)		#71.9		6.6	35.5		#32.4	#151.4		#34.2	#129.0	
Internal Link Dist (m)		84.8			94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)		602		462	972		221	714		179	717	
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		0.75		0.15	0.46		0.58	0.81		0.55	0.71	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 35 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 33.7

Intersection LOS: C

Intersection Capacity Utilization 92.7%

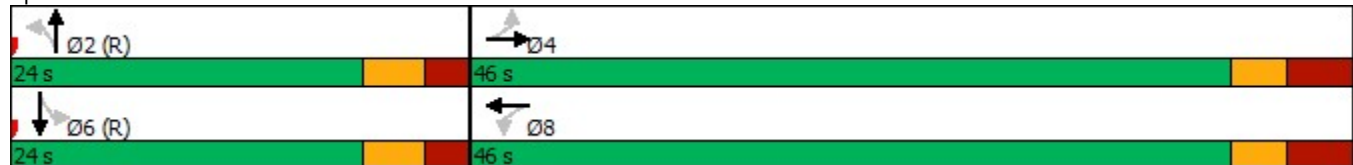
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue



Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	250	25	45	346	96	20	124	66	106	167	76
Future Volume (vph)	25	250	25	45	346	96	20	124	66	106	167	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		8.0	0.0		50.0	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
Ped Bike Factor		1.00	0.84		0.99	0.89		0.97		0.95	0.98	
Frt			0.850			0.850		0.962			0.952	
Flt Protected		0.995			0.994			0.995		0.950		
Satd. Flow (prot)	0	1755	1526	0	1788	1471	0	1657	0	1644	1749	0
Flt Permitted		0.829			0.925			0.948		0.607		
Satd. Flow (perm)	0	1457	1284	0	1648	1310	0	1575	0	996	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38			110		30			38	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		169.1			107.9			476.9			104.6	
Travel Time (s)		20.3			12.9			57.2			12.6	
Confl. Peds. (#/hr)	52		87	87		52	25		50	50		25
Confl. Bikes (#/hr)			15			18			1			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%	9%	7%	13%	6%	11%	0%	6%	15%	11%	1%	5%
Adj. Flow (vph)	32	266	35	56	427	110	27	155	70	134	199	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	298	35	0	483	110	0	252	0	134	294	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 Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
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	
Total Lost Time (s)		5.5	5.5		5.5	5.5		5.6		5.6	5.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		28.0	28.0		28.0	28.0		35.9		35.9	35.9	
Actuated g/C Ratio		0.37	0.37		0.37	0.37		0.48		0.48	0.48	
v/c Ratio		0.55	0.07		0.78	0.20		0.33		0.28	0.34	
Control Delay		21.5	4.4		29.8	3.6		13.7		16.1	13.5	
Queue Delay		0.0	0.0		0.9	0.0		0.0		0.0	0.0	

Lanes, Volumes, Timings

1: Bayswater Avenue & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		21.5	4.4		30.7	3.6		13.7		16.1	13.5	
LOS		C	A		C	A		B		B	B	
Approach Delay		19.7			25.7			13.7			14.3	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		31.7	0.0		57.7	0.0		18.6		11.2	21.6	
Queue Length 95th (m)		46.8	2.6		67.8	7.0		33.4		22.2	40.2	
Internal Link Dist (m)		145.1			83.9			452.9			80.6	
Turn Bay Length (m)			8.0			50.0				60.0		
Base Capacity (vph)		670	611		758	662		768		476	856	
Starvation Cap Reductn		0	0		96	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		0.44	0.06		0.73	0.17		0.33		0.28	0.34	

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

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 19.5

Intersection LOS: B

Intersection Capacity Utilization 91.4%

ICU Level of Service F

Analysis Period (min) 15

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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	300	98	53	312	22	101	467	61	44	368	55
Future Volume (vph)	56	300	98	53	312	22	101	467	61	44	368	55
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
Ped Bike Factor	0.92	0.94		0.93	0.99		0.96	0.99			0.98	
Frt		0.958			0.989			0.984			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1706	1605	0	1706	1720	0	1706	1631	0	1690	1726	0
Flt Permitted	0.390			0.265			0.371			0.258		
Satd. Flow (perm)	645	1605	0	443	1720	0	637	1631	0	459	1726	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		140.0			189.8			173.9			224.6	
Travel Time (s)		16.8			22.8			20.9			27.0	
Confl. Peds. (#/hr)	76		93	93		76	65		33	33		65
Confl. Bikes (#/hr)			4			2						2
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 (%)	7%	6%	11%	7%	9%	8%	7%	16%	5%	8%	7%	3%
Adj. Flow (vph)	73	357	138	61	355	28	149	549	65	56	409	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	495	0	61	383	0	149	614	0	56	480	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
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)	41.0	41.0		41.0	41.0		34.0	34.0		34.0	34.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	35.4	35.4		35.4	35.4		28.3	28.3		28.3	28.3	
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	
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	None	None		None	None		C-Max	C-Max		C-Max	C-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)	32.1	32.1		32.1	32.1		41.6	41.6		41.6	41.6	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.49	0.49		0.49	0.49	
v/c Ratio	0.30	0.82		0.37	0.59		0.48	0.77		0.25	0.57	
Control Delay	19.9	34.7		23.6	24.2		23.9	28.6		19.6	20.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

PM Peak Hour 5:24 pm 11/15/2024

Synchro 11 Report
Page 3

Lanes, Volumes, Timings

2: Preston St & Somerset St W

06/17/2025

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				
Ped Bike 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)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
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 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
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.9	34.7		23.6	24.2		23.9	28.6		19.6	20.6	
LOS	B	C		C	C		C	C		B	C	
Approach Delay		32.8			24.1			27.7			20.5	
Approach LOS		C			C			C			C	
Queue Length 50th (m)	8.0	69.8		6.9	48.0		15.7	79.4		5.2	53.7	
Queue Length 95th (m)	12.8	81.5		14.4	61.1		26.1	#146.3		13.5	99.2	
Internal Link Dist (m)		116.0			165.8			149.9			200.6	
Turn Bay Length (m)	19.0			28.0			32.0			27.0		
Base Capacity (vph)	277	690		190	740		311	798		224	844	
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	0.26	0.72		0.32	0.52		0.48	0.77		0.25	0.57	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 32 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 26.6

Intersection LOS: C

Intersection Capacity Utilization 79.0%

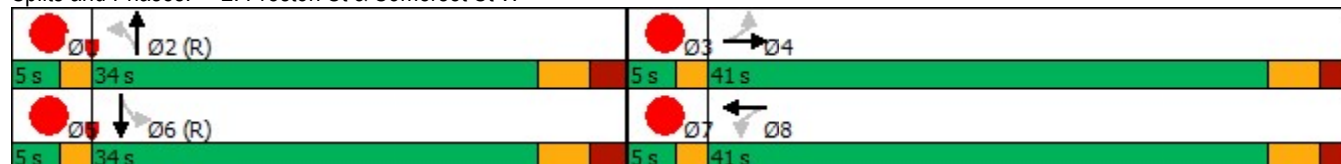
ICU Level of Service D

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
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

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	352	37	79	348	15	30	36	103	11	23	4
Future Volume (vph)	7	352	37	79	348	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
Ped Bike Factor		0.98			0.98			0.95			0.97	
Frt		0.985			0.994			0.924			0.964	
Flt Protected		0.999			0.991			0.991			0.987	
Satd. Flow (prot)	0	1698	0	0	1731	0	0	1638	0	0	1791	0
Flt Permitted		0.987			0.841			0.942			0.914	
Satd. Flow (perm)	0	1676	0	0	1452	0	0	1541	0	0	1648	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			5			83			16	
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	
Confl. Peds. (#/hr)	72		77	77		72	27		19	19		27
Confl. Bikes (#/hr)			100			20			3			
Peak Hour Factor	0.63	0.90	0.73	0.94	0.94	0.75	0.70	0.64	0.80	0.69	0.82	0.25
Heavy Vehicles (%)	25%	9%	3%	0%	11%	0%	13%	0%	2%	0%	0%	0%
Adj. Flow (vph)	11	391	51	84	370	20	43	56	129	16	28	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	453	0	0	474	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 Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.1	26.1		26.1	26.1		23.4	23.4		23.4	23.4	
Total Split (s)	51.0	51.0		51.0	51.0		24.0	24.0		24.0	24.0	
Total Split (%)	68.0%	68.0%		68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	
Maximum Green (s)	45.9	45.9		45.9	45.9		18.6	18.6		18.6	18.6	
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	
Total Lost Time (s)		5.1			5.1			5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
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 Effect Green (s)		32.5			32.5			32.0			32.0	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
v/c Ratio		0.62			0.75			0.32			0.08	
Control Delay		18.5			24.5			12.9			14.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.5			24.5			12.9			14.1	
LOS		B			C			B			B	
Approach Delay		18.5			24.5			12.9			14.1	

Lanes, Volumes, Timings

3: Rochester St & Somerset St W

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			B			B		
Queue Length 50th (m)	45.7			53.2			12.6			3.6		
Queue Length 95th (m)	51.7			62.3			19.8			11.4		
Internal Link Dist (m)	165.8			96.0			251.9			215.0		
Turn Bay Length (m)												
Base Capacity (vph)	1031			890			705			712		
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			0.53			0.32			0.08		

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 61 (81%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 19.5

Intersection LOS: B

Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

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

	Ø2 (R)		Ø4
24 s		51 s	
	Ø6 (R)		Ø8
24 s		51 s	

Lanes, Volumes, Timings

4: Preston St & Oak St

06/17/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	12	25	26	620	506	18
Future Volume (vph)	12	25	26	620	506	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	0.909				0.995	
Flt Protected	0.984			0.998		
Satd. Flow (prot)	1685	0	0	1880	1874	0
Flt Permitted	0.984			0.998		
Satd. Flow (perm)	1685	0	0	1880	1874	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	139.4			278.7	173.9	
Travel Time (s)	16.7			33.4	20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	27	28	674	550	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	0	0	702	570	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 63.7% ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Preston St & Oak St

06/17/2025

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	25	26	620	506	18
Future Volume (Veh/h)	12	25	26	620	506	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)	13	27	28	674	550	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)				279	174	
pX, platoon unblocked	0.84	0.87	0.87			
vC, conflicting volume	1290	560	570			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	911	424	435			
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	95	97			
cM capacity (veh/h)	248	550	982			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	40	702	570			
Volume Left	13	28	0			
Volume Right	27	0	20			
cSH	395	982	1700			
Volume to Capacity	0.10	0.03	0.34			
Queue Length 95th (m)	2.6	0.7	0.0			
Control Delay (s)	15.1	0.7	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.1	0.7	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		0.9				
Intersection Capacity Utilization		63.7%		ICU Level of Service		B
Analysis Period (min)		15				

Lanes, Volumes, Timings
5: Access 1 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	403	16	30	454	18	27
Future Volume (vph)	403	16	30	454	18	27
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	0.995				0.920	
Flt Protected				0.997	0.980	
Satd. Flow (prot)	1874	0	0	1878	1698	0
Flt Permitted				0.997	0.980	
Satd. Flow (perm)	1874	0	0	1878	1698	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	149.7			143.4	124.6	
Travel Time (s)	18.0			17.2	15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	438	17	33	493	20	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	455	0	0	526	49	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	58.5%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

5: Access 1 & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (veh/h)	403	16	30	454	18	27
Future Volume (Veh/h)	403	16	30	454	18	27
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)	438	17	33	493	20	29
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	150		283			
pX, platoon unblocked			0.82		0.84	0.82
vC, conflicting volume			455		1006	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			219		793	209
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		93	96
cM capacity (veh/h)			1102		291	678
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	455	526	49			
Volume Left	0	33	20			
Volume Right	17	0	29			
cSH	1700	1102	439			
Volume to Capacity	0.27	0.03	0.11			
Queue Length 95th (m)	0.0	0.7	2.8			
Control Delay (s)	0.0	0.9	14.2			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.9	14.2			
Approach LOS			B			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			58.5%	ICU Level of Service		B
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Access 2 & Somerset St W

06/17/2025

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	454	3	2	466	0	0
Future Volume (vph)	454	3	2	466	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
Frt	0.999					
Flt Protected						
Satd. Flow (prot)	1882	0	0	1883	0	0
Flt Permitted						
Satd. Flow (perm)	1882	0	0	1883	0	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	143.4			140.0	177.3	
Travel Time (s)	17.2			16.8	21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	493	3	2	507	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	496	0	0	509	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

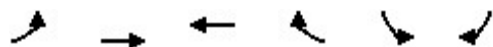
6: Access 2 & Somerset St W

06/17/2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	454	3	2	466	0	0
Future Volume (Veh/h)	454	3	2	466	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)	493	3	2	507	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)	293			140		
pX, platoon unblocked				0.91	0.92	0.91
vC, conflicting volume				496	1006	494
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol				397	743	396
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)				1057	351	595
Direction, Lane #	EB 1	WB 1				
Volume Total	496	509				
Volume Left	0	2				
Volume Right	3	0				
cSH	1700	1057				
Volume to Capacity	0.29	0.00				
Queue Length 95th (m)	0.0	0.0				
Control Delay (s)	0.0	0.1				
Lane LOS			A			
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay				0.0		
Intersection Capacity Utilization				29.4%	ICU Level of Service	A
Analysis Period (min)				15		

Lanes, Volumes, Timings
7: Oak St & Access 2

06/17/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑↑	
Traffic Volume (vph)	0	26	39	0	5	0
Future Volume (vph)	0	26	39	0	5	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					0.950	
Satd. Flow (prot)	0	1883	1883	0	1789	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1883	1883	0	1789	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		53.2	139.4		177.3	
Travel Time (s)		6.4	16.7		21.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	28	42	0	5	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	28	42	0	5	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

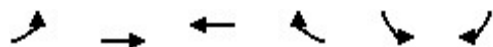
Intersection Capacity Utilization 13.3% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

7: Oak St & Access 2

06/17/2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Traffic Volume (veh/h)	0	26	39	0	5	0
Future Volume (Veh/h)	0	26	39	0	5	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	28	42	0	5	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				70	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	42				70	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				99	100
cM capacity (veh/h)	1567				934	1029
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	28	42	5			
Volume Left	0	0	5			
Volume Right	0	0	0			
cSH	1700	1700	934			
Volume to Capacity	0.02	0.02	0.01			
Queue Length 95th (m)	0.0	0.0	0.1			
Control Delay (s)	0.0	0.0	8.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.9			
Approach LOS			A			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↲	↴	
Traffic Volume (vph)	397	34	31	444	35	27
Future Volume (vph)	397	34	31	444	35	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			7.5		0.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98		0.92		0.99	
Frt	0.983				0.928	
Flt Protected			0.950		0.977	
Satd. Flow (prot)	1791	0	1738	1865	1336	0
Flt Permitted			0.298		0.977	
Satd. Flow (perm)	1791	0	504	1865	1336	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	21				50	
Link Speed (k/h)	30			30	30	
Link Distance (m)	107.9			149.7	125.6	
Travel Time (s)	12.9			18.0	15.1	
Confl. Peds. (#/hr)		100	100			
Confl. Bikes (#/hr)		50				2
Peak Hour Factor	1.00	0.58	0.95	1.00	0.79	0.54
Heavy Vehicles (%)	3%	9%	5%	3%	16%	40%
Adj. Flow (vph)	397	59	33	444	44	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	456	0	33	444	94	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	10.4		28.4	28.4	9.6	
Total Split (s)	50.0		50.0	50.0	20.0	
Total Split (%)	71.4%		71.4%	71.4%	28.6%	
Maximum Green (s)	44.6		44.6	44.6	15.4	
Yellow Time (s)	3.7		3.7	3.7	3.3	
All-Red Time (s)	1.7		1.7	1.7	1.3	
Total Lost Time (s)	5.4		5.4	5.4	4.6	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.2		3.2	3.2	3.2	
Recall Mode	None		None	None	C-Max	
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			16.0	16.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	24.7		24.7	24.7	35.3	
Actuated g/C Ratio	0.35		0.35	0.35	0.50	
v/c Ratio	0.71		0.19	0.68	0.13	
Control Delay	24.0		15.4	23.7	7.7	
Queue Delay	0.1		0.0	0.0	0.0	

Lanes, Volumes, Timings
8: Breezehill Ave & Somerset St W

06/17/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	24.0		15.4	23.7	7.7	
LOS	C		B	C	A	
Approach Delay	24.0			23.1	7.7	
Approach LOS	C			C	A	
Queue Length 50th (m)	48.4		3.0	48.7	2.8	
Queue Length 95th (m)	58.9		6.9	58.2	10.2	
Internal Link Dist (m)	83.9			125.7	101.6	
Turn Bay Length (m)			50.0			
Base Capacity (vph)	1148		321	1188	698	
Starvation Cap Reductn	98		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.43		0.10	0.37	0.13	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

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

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 22.1

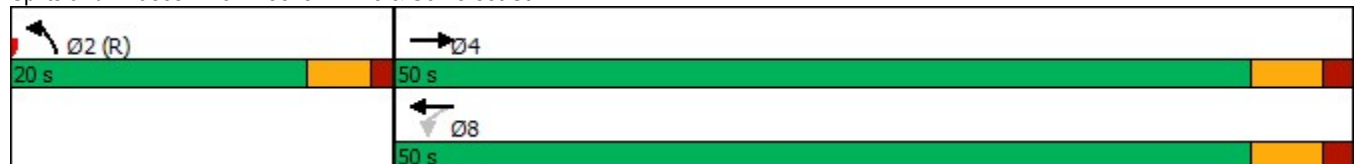
Intersection LOS: C

Intersection Capacity Utilization 38.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Breezehill Ave & Somerset St W



Lanes, Volumes, Timings
9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	259	94	73	421	98	90	533	93	75	409	83
Future Volume (vph)	48	259	94	73	421	98	90	533	93	75	409	83
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
Ped Bike Factor		0.95		0.95	0.97		0.95	0.96		0.95	0.97	
Frt		0.962			0.966			0.978			0.975	
Flt Protected		0.992		0.950			0.950			0.950		
Satd. Flow (prot)	0	1630	0	1772	1720	0	1755	1704	0	1789	1718	0
Flt Permitted		0.642		0.446			0.303			0.164		
Satd. Flow (perm)	0	1049	0	794	1720	0	530	1704	0	292	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			27			14			17	
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		108.8			118.2			63.4			278.7	
Travel Time (s)		13.1			14.2			7.6			33.4	
Confl. Peds. (#/hr)	48		52	52		48	76		130	130		76
Confl. Bikes (#/hr)			33			37			15			21
Peak Hour Factor	0.62	1.00	0.70	1.00	1.00	0.80	0.86	1.00	1.00	0.77	1.00	1.00
Heavy Vehicles (%)	3%	7%	11%	3%	4%	5%	4%	6%	4%	2%	6%	4%
Adj. Flow (vph)	77	259	134	73	421	123	105	533	93	97	409	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	470	0	73	544	0	105	626	0	97	492	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5		25.5	25.5		23.7	23.7		23.7	23.7	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	54.3%	54.3%		54.3%	54.3%		45.7%	45.7%		45.7%	45.7%	
Maximum Green (s)	31.5	31.5		31.5	31.5		26.3	26.3		26.3	26.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.4	2.4		2.4	2.4	
Total Lost Time (s)		6.5		6.5	6.5		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		30.3		30.3	30.3		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.43		0.43	0.43		0.39	0.39		0.39	0.39	
v/c Ratio		0.99		0.21	0.72		0.50	0.92		0.85	0.72	
Control Delay		60.1		13.7	21.5		27.5	43.6		80.1	25.4	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		60.1		13.7	21.5		27.5	43.6		80.1	25.4	
LOS		E		B	C		C	D		F	C	
Approach Delay		60.1			20.5			41.3			34.4	

Lanes, Volumes, Timings

9: Preston St & Gladstone Avenue

06/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			C			D			C		
Queue Length 50th (m)	53.0			5.5	51.4		10.4	76.8		11.6	52.7	
Queue Length 95th (m)	#111.8			13.4	84.9		24.4	#140.9		#30.4	#96.5	
Internal Link Dist (m)	84.8				94.2			39.4			254.7	
Turn Bay Length (m)												
Base Capacity (vph)	492			357	788		208	677		114	685	
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	0.96			0.20	0.69		0.50	0.92		0.85	0.72	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 40 (57%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 38.0

Intersection LOS: D

Intersection Capacity Utilization 111.0%

ICU Level of Service H

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Preston St & Gladstone Avenue

			
Ø2 (R)			Ø4
32 s			38 s
			
Ø6 (R)			Ø8
32 s			38 s



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