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LANSDOWNE 2.0 EVENT CENTRE (PHASE 1)

**Transportation Impact Assessment Report
Step 4 – Strategy Report**

07/08/2024



DOCUMENT CONTROL ISSUE SHEET

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Appendix A - Turning Movement Count Data

Appendix B - Intersection Collision Data

Appendix C - TDM CheckList

Appendix D - Synchro Summary Sheets

1. SCREENING

1.1 Summary of Development

Table 1.1: Summary of Development

Municipal Address	1015 Bank Street, Ottawa, K1S 3W7
Description of Location	TD Place at Lansdowne, situated at the southeast quadrant of the intersection of Bank Street and Holmwood Avenue.
Land Use Classification	Mixed-Use Sports & Entertainment District (High-rise residential, retail, office, outdoor stadium, indoor arena and event centre)
Development Size (m ²) [sq-ft] {unites}	<p>Phase 1:</p> <p>Indoor Multi-Purpose Event Centre: 5,500 seats (6,500 spectators)</p> <p>Phase 2:</p> <p>New North Stadium Stands: 11,200 seats (12,100 spectators)</p> <p>Phase 3:</p> <p>Office: 2,323 m² [25,000 sq-ft] (net increase of 1324 m² or 14,240 sq-ft)</p> <p>Retail: 4,611 m² [49,635 sq-ft] (net increase of 802 m² or 8,635 sq-ft)</p> <p>Residential: 770 new dwelling units</p>
Number of Accesses and Locations	<p>Four existing site access locations:</p> <ol style="list-style-type: none"> 1. Bank Street / Exhibition Way 2. Bank Street / Marché Way 3. Queen Elizabeth Driveway / Princess Patricia Way 4. Holmwood Parking Garage Ramp (Private, Residents Only Access)
Phase of Development	<p>Phase 1 - Event Center (2028) <i>Existing Land Use</i></p> <p>Phase 2 - North Stadium Stands + Retail Podium (2029/2030) <i>Existing Land Use</i></p> <p>Phase 3 – Residential Towers (2031)</p>
Buildout Year	2032 to 2036

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

1.2 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.

Table 1.2: Trip Generation Trigger

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.**

1.3 Location Triggers

Table 1.3: Trip Generation Triggers

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

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

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

1.4 Safety Triggers

Table 1.4: Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 km/hr or greater?		x
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?		x
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)?		x
Is the proposed driveway within auxiliary lanes of an intersection?		x
Does the proposed driveway make use of an existing median break that serves an existing site?		x
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?		x
Does the development include a drive-thru facility?		x

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

1.5 Summary

Table 1.5: 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?		x

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).

2. SCOPING

2.1 Existing and Planned Conditions

PROPOSED DEVELOPMENT

The City of Ottawa is proceeding with a Site Plan Control application for a new multi-purpose event centre at Lansdowne Park.

Lansdowne Park is located within the Glebe neighbourhood of Ottawa, Ontario and is bounded by Bank Street to the west, Holmwood Avenue to the north, and Queen Elizabeth Driveway along the Rideau Canal to the east and south.

The new event centre replaces the existing TD Place Arena (previously known as the Ottawa Civic Centre) with a multi-purpose venue with a seated capacity of 5,500 seats (total spectator capacity of 6,500 including standing-only).

This Site Plan Application for the new event centre represents the first phase of development for the Lansdowne 2.0 project, which seeks to demolish the existing functionally obsolete north stadium stands and arena complex at Lansdowne Park and build a new world-class event centre.

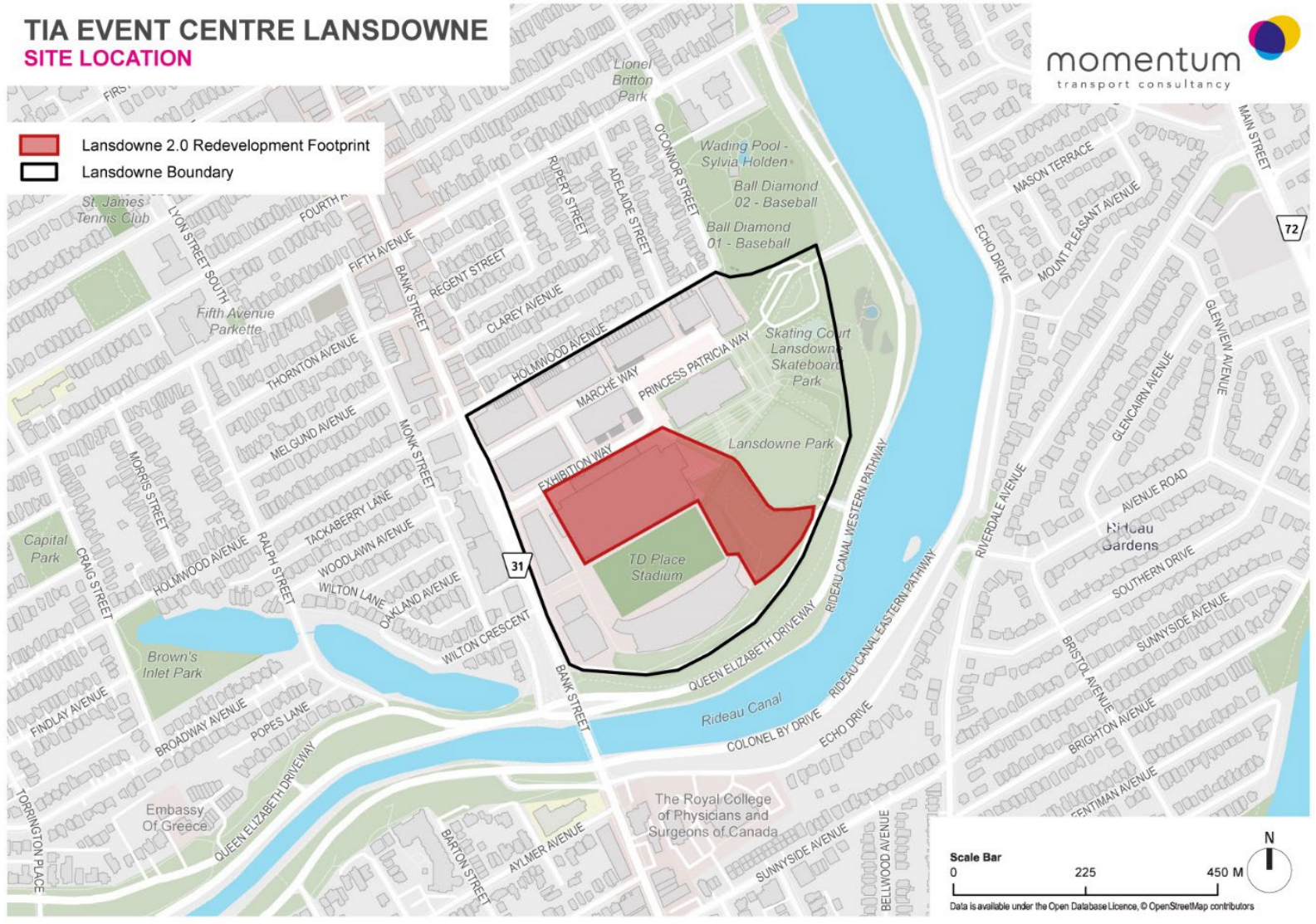
The Lansdowne 2.0 redevelopment plan features a new multi-purpose event centre, new north stadium stands, as well as additional residential housing, destination retail, and office space.

Lansdowne Park currently consists of:

- TD Place Stadium: a 24,000-seat outdoor stadium that is home to the Canadian Football League's (CFL) Ottawa RedBlacks and Canadian Premier League's (CPL) Ottawa Atlético;
- TD Place Arena: a 9,800-seat indoor multipurpose venue and arena (formerly known as the Ottawa Civic Centre) home to the Ontario Hockey League's (OHL) Ottawa 67's, the Canadian Elite Basketball League's (CEBL) Ottawa BlackJacks, and the Professional Women's Hockey League's (PWHL) Ottawa team;
- 280 residential units within two condominium towers and townhomes;
- Approximately 360,000 ft² of destination-based commercial retail and office space; and
- An 18-acre urban park that includes the historic Aberdeen Pavilion exhibition hall and Horticulture Building.
- 1,380 space underground parking garage for public and residential use.

Figure 2.1 illustrates the site location and Lansdowne 2.0 redevelopment footprint.

Figure 2.1: Site Location



This Transportation Impact Assessment (TIA) is submitted in support of the Site Plan Application for Phase 1 of the Lansdowne 2.0 redevelopment plan.

The proposed improvements include the construction of a new 5,550 seat (6,500 attendee) multi-purpose event centre and associated public realm improvements at the Great Lawn south of the Aberdeen Pavilion. Other improvements include the provision of a dedicated layby for media and broadcast trucks south of the new event centre.

Spectator access to the new event centre will be provided at the North Main Entrance facing the Aberdeen Pavilion and Exhibition Way.

Additional gateway entrances are provided at the South Entrance (Patio) and East Entrance (Terrace) which will be used for evacuation egress, and when required for events with expanded capacity inclusive of additional floor seating and standing-only tickets (i.e. 6,500 attendees).

All event centre entrance locations connect to multi-use pathways within Lansdowne with connections to existing external pathways located on Queen Elizabeth Driveway and sidewalks on Bank Street and Holmwood Drive.

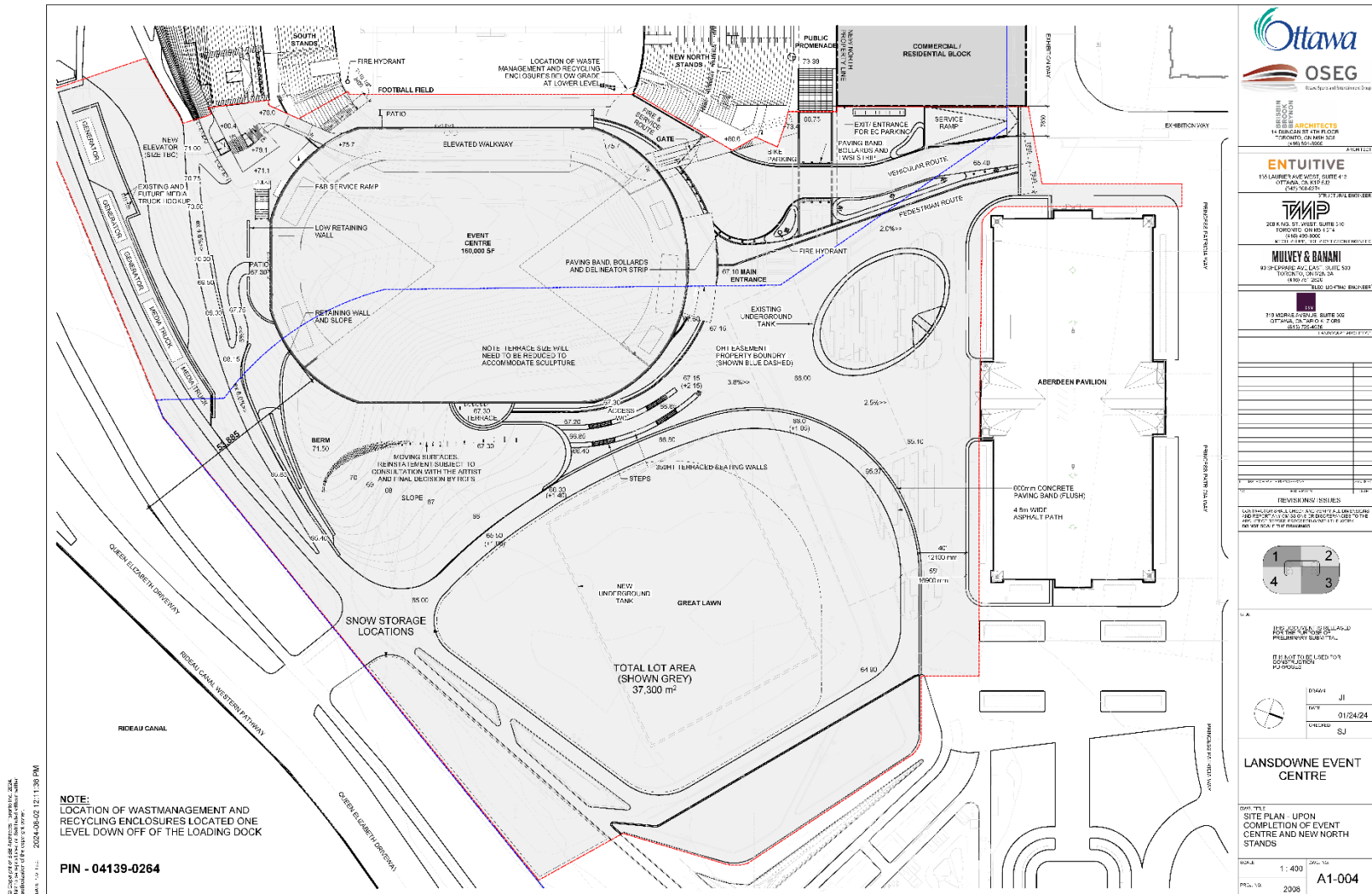
Similar to the current vehicle access and circulation arrangements at Lansdowne, vehicular access is restricted to Bank Street at Exhibition Way and Marche Way, as well as Queen Elizabeth Driveway at Princess Patricia Way.

Limited special use access is also provided at Queen Elizabeth Driveway and the Great Lawn to facilitate emergency vehicle access and limited special use by shuttle buses when permitted.

Truck deliveries and the load-in / load-out of shows and concerts at the new event centre will be facilitated at the existing service ramp located on Exhibition Way. The new event centre will feature a 15.4m wide entrance at Exhibition Way to provide access to the new event centre and Great Lawn, including a limited use vehicle route to allow for AODA pick-up and drop-off by ParaTranspo for patrons with mobility needs.

Figure 2.2 illustrates the proposed Site Plan for the new event centre at Lansdowne.

Figure 2.2: Lansdowne 2.0 Event Centre Site Plan



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SCALE: 1:400

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PROJECT NO.: A1-004

The Lansdowne 2.0 redevelopment plan is anticipated to occur over three phases:

Phase 1:

Phase 1 consists of building a new 5,500 seat (up to 6,500 spectators) multipurpose event centre that will be home to the OHL's Ottawa 67's, the CEBL's Ottawa BlackJacks, the PWHL Ottawa, and other indoor events such as shows and concerts.

Other improvements include landscaping and public realm improvements at the Great Lawn located south of the Aberdeen Pavilion to accommodate the new event centre and allow for additional programming opportunities at Lansdowne Park.

As this phase of Lansdowne 2.0 replaces the programming provided at the existing 9,800 seat TD Place Arena, it is not expected to generate additional transportation demands to Lansdowne.

Phase 1 is anticipated to be completed in 2028.

Phase 2:

Phase 2 consists of replacing the existing functionally obsolete north stadium stands and arena complex at TD Place Stadium with a new 11,200 seat (12,100 spectator) north stand structure. This new facility replaces the existing north stadium stands, which currently has a capacity of 14,028 spectators, and would result in a reduction of approximately 2,000 spectator capacity at TD Place Stadium. This venue will continue to be the home of the CFL's Ottawa RedBlacks and the CPL's Ottawa Atlético.

This phase of Lansdowne 2.0 replaces existing programming currently provided at TD Place Stadium. As a result, it is not expected to generate additional transportation demands to Lansdowne.

Phase 2 is anticipated to be completed between 2030 and 2031.

Phase 3:

Phase 3 consists of replacing the existing 41,000 ft² of commercial retail and box office annex to the Stadium on Exhibition Way with 49,635 ft² of new podium-level commercial retail space. This represents a net increase of 8,635 ft² of commercial retail space from what is currently provided today.

In addition, this phase includes the construction of two new residential towers with a total of 770 new dwelling units. Additional underground parking space will be constructed by extending the existing facility to accommodate an additional 386 parking spaces to service the new residential units and additional retail space, resulting in a total of 1,766 underground parking spaces at Lansdowne. Underground parking will continue be accessed at existing access ramps located on Exhibition Way, and Princess Patricia Way near Queen Elizabeth Driveway.

Phase is anticipated to be completed between 2032 and 2036.

Figure 2.3 illustrates a rendering of the Lansdowne 2.0 redevelopment concept.

Figure 2.3: Lansdowne 2.0 Redevelopment Concept



The site currently carries three different zoning designations. The western portion of the proposed site is zoned L2C S258-A S258-B and as outlined in the City of Ottawa's Zoning By-Law, the purpose of the L2 – Major Leisure Facility Zone is to:

- Accommodate major, urban City-wide sports, recreational and cultural facilities addressed under the Major Urban Facilities policies of the Official Plan.
- Permit a broad range and intensity of leisure, recreational, cultural and related uses; and
- Allow a moderate density and scale of development.

The eastern portion of the proposed site is zoned O1S S258-A and as outlined in the City of Ottawa's Zoning By-Law, the purpose of the O1- Parks and Open Space Zone is to:

- Permit parks, open space and related and compatible uses to locate in areas designated as General Urban Area, General Rural Area, Major Open Space, Mixed Use Centre, Village, Greenbelt Rural and Central Area as well as in Major Recreational Pathway areas and along River Corridors as identified in the Official Plan, and
- Ensure that the range of permitted uses and applicable regulations is in keeping with the low scale, low intensity open space nature of these lands.

Following the Lansdowne 2.0 Zoning By-Law Amendment (ZBA) application and subsequent changes made in November 2023, the parcel east of TD Place Stadium was zoned as L2C[2915]-h S258-A, S258-B, S487 to permit a broad range and intensity of leisure, recreational, cultural and related uses including sports arenas.

Figure 2.4 illustrates the existing site zoning at Lansdowne.

EXISTING CONDITIONS

2.1.1 Roads and Traffic Control

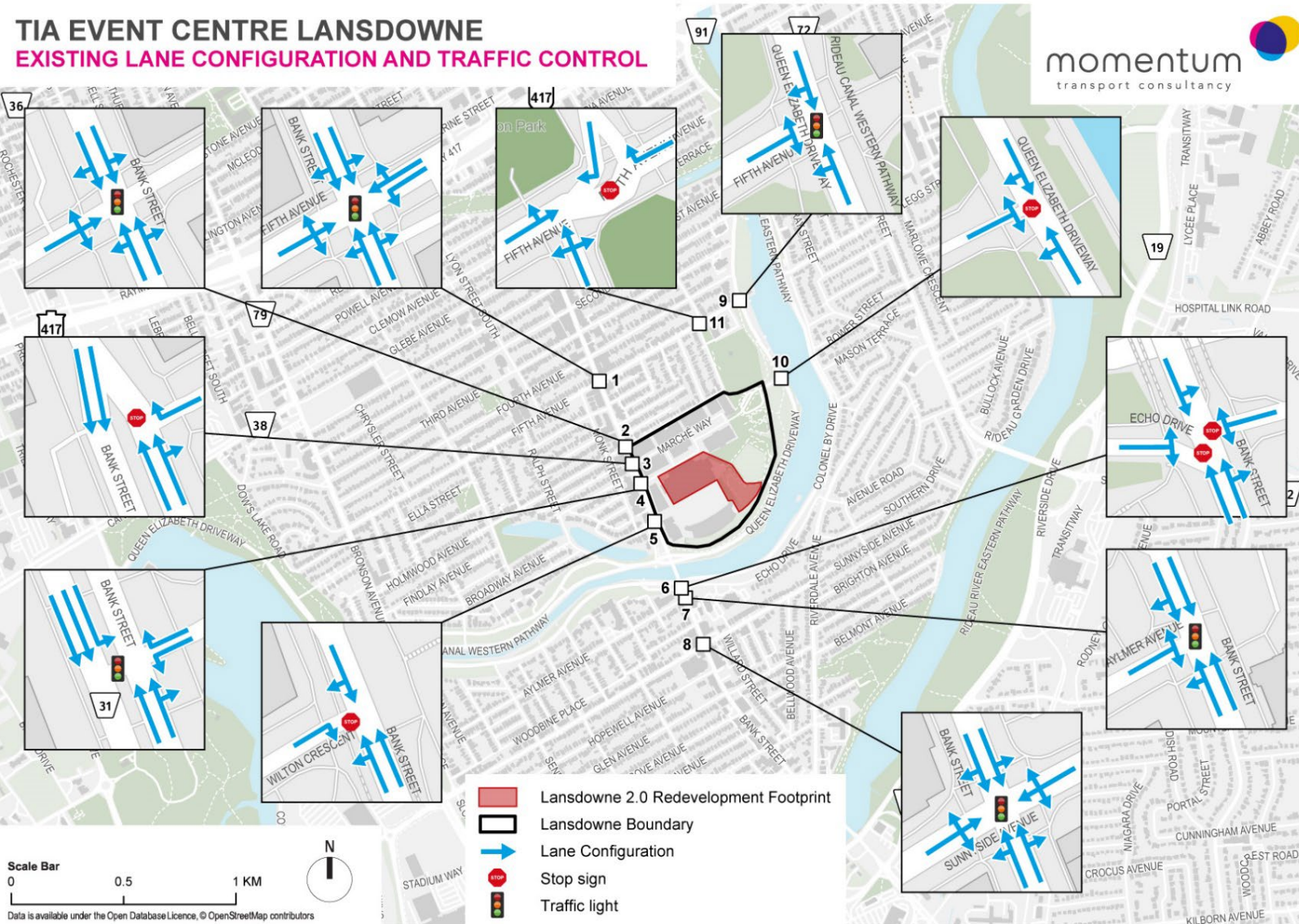
The roadways and intersections under consideration in the study area are described below:

- **Bank Street:** Bank Street is a four-lane arterial roadway with a posted speed limit of 40 km/h. The street is under the jurisdiction of the City of Ottawa. Sidewalks are provided on both sides of Bank Street. The roadway is designated as a Local Cycling Route as per the City of Ottawa's Bike Plan and is also designated as a truck route. Bank Street currently provides two access connections to Lansdowne with a signalized, full access movement at Exhibition Way, and an unsignalized right-in/right-out only access at Marché Way. On-Street parking is permitted north of Holmwood Avenue. On-street parking on Bank Street across the frontage of the subject site is prohibited at all times. As part of the Bank Street Canal Bridge Rehabilitation Project, 1.5m cycle tracks have been implemented on both sides of the Bank Street Bridge between Exhibition Way and Aylmer Avenue in conjunction with a 3-lane cross-section (2 northbound lanes, 1 southbound lane). Other than the newly installed cycling lanes on the Bank Street Bridge, there is a northbound bike lane on Bank Street across the frontage of the site.
- **Queen Elizabeth Driveway:** Queen Elizabeth Driveway is a two-lane scenic parkway that runs along the Rideau Canal and has a posted speed limit of 40 km/h. The parkway is a federal roadway under the jurisdiction of the National Capital Commission (NCC). In the vicinity of Lansdowne, the parkway features multi-use pathways on both sides. Queen Elizabeth Driveway is designated as a Major Pathway as per the City of Ottawa Bike Plan. The parkway currently provides two access connections to Lansdowne with an unsignalized, full-movements intersection at Princess Patricia Way, as well as a restricted special-use access located on the south side at the Great Lawn. On-street parking on Queen Elizabeth Driveway is prohibited at all times.
- **Fifth Avenue:** Fifth Avenue is a two-lane collector roadway with a posted speed limit of 40 km/h east of Bank Street, and a posted speed limit of 30km/h west of the Bank Street. There are existing sidewalks along both sides of the roadway. The south side of Fifth Avenue features an on-street cycling lane. The roadway is designated as a Local Route per the City of Ottawa Bike Plan. On-street parking on Fifth Avenue in the vicinity of the subject site is permitted on the northside of the roadway.
- **Holmwood Avenue:** Holmwood Avenue is a two-lane local road with a default speed limit of 30 km/h. East of the intersection with Bank Street, Holmwood Avenue is a one-way street providing access in the eastbound direction. The road features a cycling lane on the northside. West of the Bank Street intersection, Holmwood Avenue is a two-way street. On-street parking on Holmwood Avenue in the vicinity of the subject site is permitted on the southside of the roadway. Holmwood Avenue also includes access to the underground parking garage at Lansdowne what is restricted for residential uses only, and occasionally provides limited exit from the site during major events at Lansdowne.
- **Exhibition Way:** Exhibition Way is a two-way private roadway that functions as the primary access point to Lansdowne and TD Place. The intersection with Bank Street is signalized with an auxiliary left turn lane in the southbound direction. There are existing sidewalks along both sides of the roadway. There are auxiliary left and right turn lanes in the west bound direction. Designated on-street parking spaces are provided with varying time limits.

- **Marché Way:** Marché Way is a two-way private roadway that functions as the secondary access point to Lansdowne and TD Place. The intersection with Bank Street is unsignalized and functions as a right-in/right-out only access connection. There are existing sidewalks along both sides of the roadway. Designated on-street parking spaces are provided with varying time limits.
- **Wilton Crescent:** Wilton Crescent is a two-lane local roadway with a posted speed limit of 30 km/h. Left turn movements from Wilton Crescent to Bank Street are prohibited at all times. The intersection with Bank Street is stop controlled along Wilton Crescent. There are existing sidewalks along both sides of the roadway. Across the frontage of the subject site, Wilton Crescent is designated as a local route as per the City of Ottawa Bike Plan. On-street parking is permitted on the northside of the roadway at specific times.
- **Echo Drive:** Echo Drive is a one-lane local roadway with a default speed limit of 40 km/h. Through and left turns off Echo Drive are prohibited. Echo Drive is a one-way road stop controlled along Echo Drive. The roadway has a sidewalk on the northside. Echo Drive is designated as a local route as per the City of Ottawa's ultimate Cycling Plan.
- **Aylmer Avenue:** Aylmer Avenue is a two-lane local roadway with a posted speed limit of 30 km/h. Sidewalks are provided along both sides of Aylmer Avenue. On-street parking is permitted on the northside of the roadway.
- **Sunnyside Avenue:** Sunnyside Avenue is a two-lane collector roadway with a posted speed limit of 30 km/h. The roadway west of the intersection with Bank Street is designated as local route as per the City of Ottawa Bike Plan. On-street parking is permitted on the southside of the roadway west of the intersection with Bank Street.
- **O'Connor Street:** O'Connor Street is a two-lane local roadway with a posted speed limit of 30 km/h. The roadway is designated as a local route as per the City of Ottawa Bike Plan. South of Fifth Avenue, O'Connor Street is a one-way local road with a dedicated bike lane on the northside, and on-street parking permitted on the southside of the roadway. North of Fifth Avenue, O'Connor Street is a two-way local road with on-street parking permitted on the eastside.

Figure 2.5 illustrates the existing lane configuration and traffic control

Figure 2.5: Existing Lane Configuration and Traffic Control



2.1.2 Walking and Cycling

The study area is adequately connected to pedestrian facilities with sidewalks along all study area roadways.

All study area corridors are currently designated as Suggested Cycling routes as per the City of Ottawa Bike Plan. Queen Elizabeth Driveway, which is under the jurisdiction of the NCC, features off-street multi-use pathways.

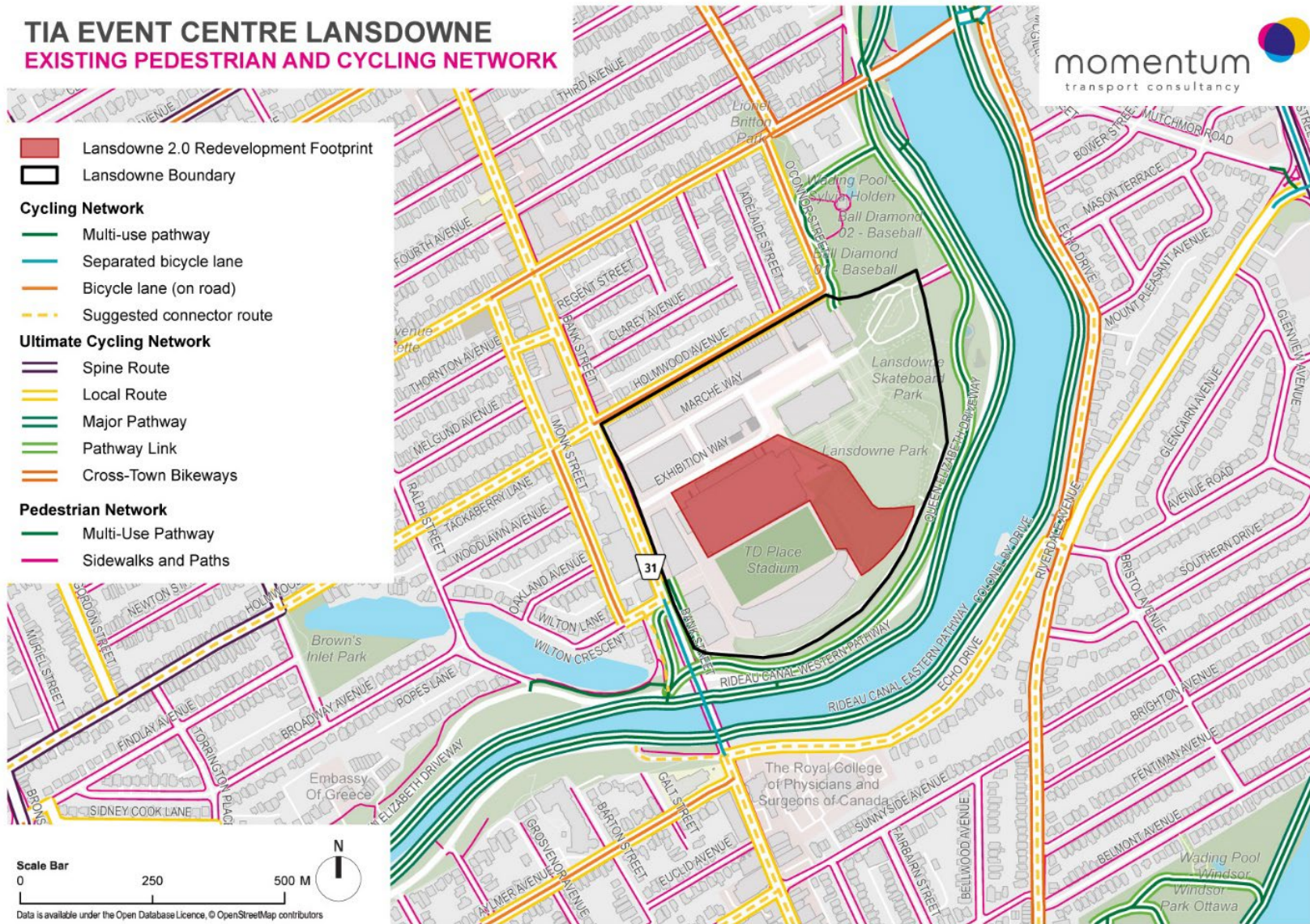
There are currently dedicated bike lanes on Fifth Avenue (east of Bank Street), Aylmer Avenue, and Holmwood Avenue (east of the Bank Street) which forms a connection to the O'Connor Street bike lanes and cycle tracks.

The Flora Footbridge connection, which was opened in June 2019, provides a cycling and walking connection on both sides of the Rideau Canal at Fifth Avenue / Clegg Street. 1.5m cycle tracks have been implemented on both sides of the Bank Street Bridge between Exhibition Way and Aylmer Avenue.

Under the Ultimate Cycling Network, all study area roadways are envisioned as Local Cycling Routes that form connections to nearby Spine Routes including O'Conner Street and Glebe Avenue, as well as multi-use pathways along Queen Elizabeth Driveway.

Figure 2.6 illustrates existing and planned pedestrian and cycling facilities within the vicinity of Lansdowne.

Figure 2.6: Existing Pedestrian and Cycling Network



2.1.3 Transit

OC Transpo transit service is currently provided at Lansdowne through OC Transpo bus routes 6 and 7.

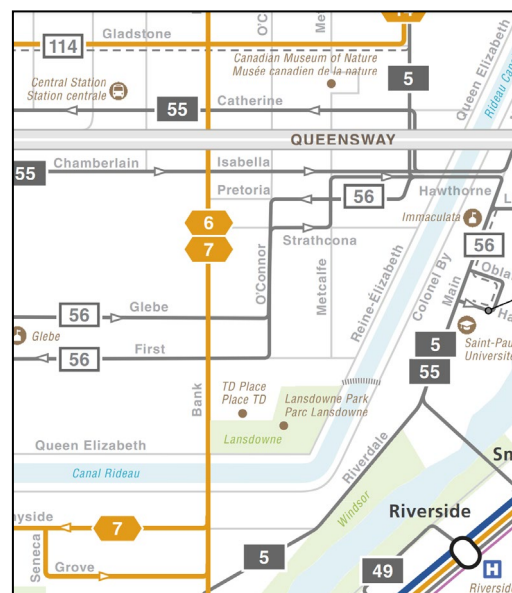
Route 6 is a Frequent Route that runs 7 days per week in all time periods between Greenboro and Rockcliffe. It runs with 15-minute headways or less during the weekday peak periods and 15-minute or less headways during the weekend peak periods.

Route 7 is a Frequent Route that runs 7 days per week in all time periods between Carleton University and St. Laurent. It runs with 15-minute headways or less during both peak periods during weekdays and 15-minutes or less headways during the weekend peak.

Bus stops are provided at the intersection of Bank Street and Exhibition Way.

Figure 2.7 illustrates transit routes in the vicinity of Lansdowne.

Figure 2.7: Study Area Transit Route and Stops

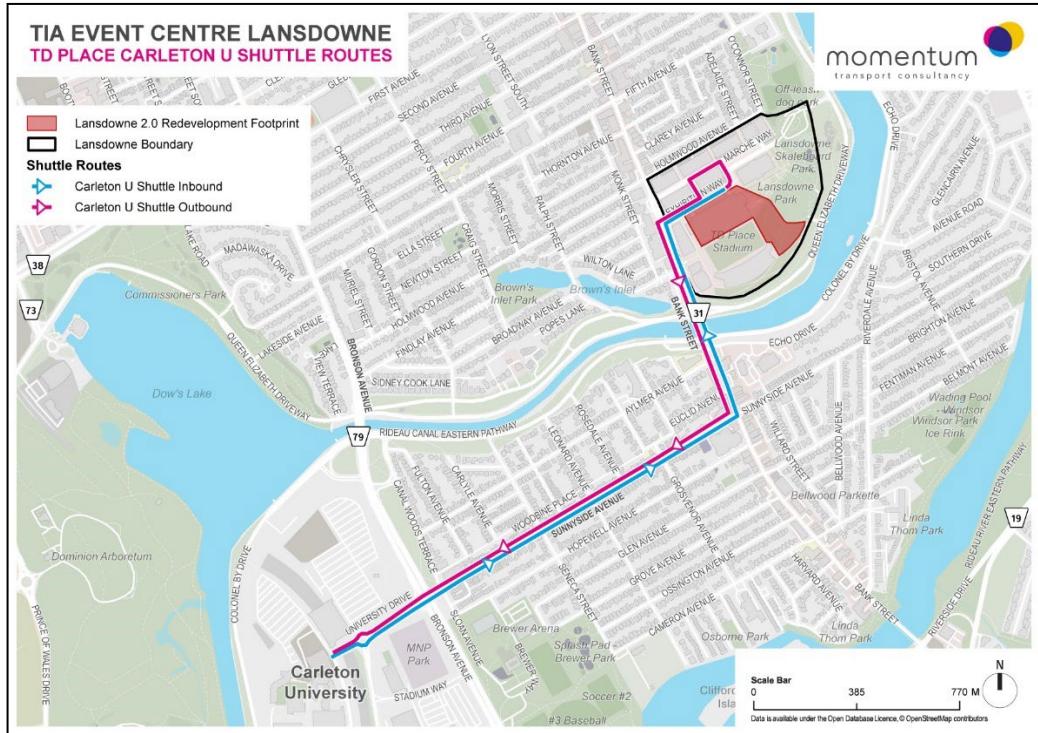


Enhanced transit services are provided to support special events at Lansdowne and TD Place. This includes the provision of free transit to ticketholders for all events held at Lansdowne through an innovative program that is the first of its kind for large venues. The cost of transit service is free of charge for event goers and is borne by the Ottawa Sports and Entertainment Group (OSEG) for any service enhancements provided for events with 5,000 or more attendees. Transit service for special events includes providing supplemental trips on OC Transpo routes 6 and 7 for minor events with attendance levels of 10,000 or less.

For Ottawa 67's and PHLW Ottawa games, park & shuttle service is provided to ticket holders from Carleton University. Ticket holders can park at Carleton University starting 90 minutes before the start of Ottawa 67's and PHLW Ottawa games with services provided until 60 minutes post-games. The cost of parking and shuttle service is free to ticket holders and is borne by OSEG. Shuttle bus service is provided from Carleton University's P18 Parkade with service provided to Lansdowne provided through Sunnyside Avenue and Bank Street.

Figure 2.8 illustrates the Carleton U shuttle route for Ottawa 67's and PHLW Ottawa games.

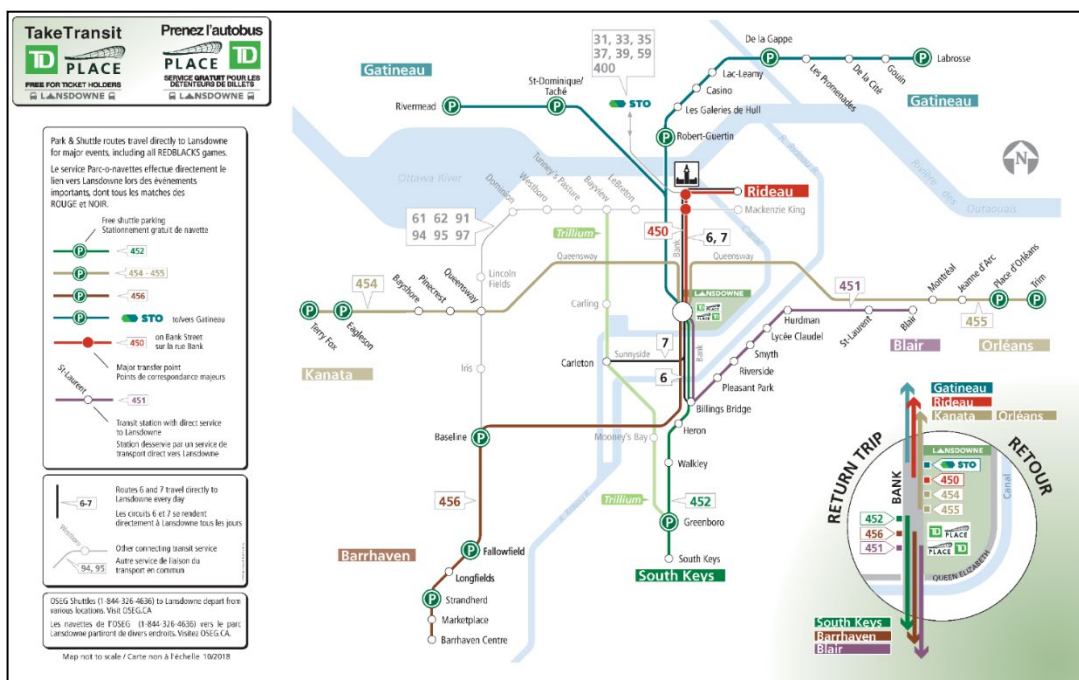
Figure 2.8: Carleton U Park & Shuttle Route (Ottawa 67's and PWHL Ottawa)



For major events, which include events with 10,000 or more attendees, dedicated Park & Shuttle services is provided with event day services provided from OC Transpo Park & Ride locations, as well as privately run shuttles operated by OSEG. Major event transit service typically starts two hours prior to the start of a ticketed event for ingress service, and two hours after the end of a ticketed event for egress service.

Figure 2.9 illustrates special event transit and shuttle services to TD Place.

Figure 2.9: Enhanced Transit and Shuttle Service to TD Place



2.1.4 Traffic Management Measures

Traffic management measures are deployed at Lansdowne to manage traffic flow for day-to-day operations as well as during special events. Under regular day-to-day operations, vehicle access to the site is permitted on both Bank Street and Queen Elizabeth Driveway. Internal vehicle circulation is permitted through the site on Exhibition Way, Marche Way, and Princess Patricia Way, with the exception of a portion of Princess Patricia Way near the Aberdeen Pavilion that is a pedestrian-only zone. Other internal circulation pathways including Frank Clare Lane and the Great Lawn which are restricted use-only for emergency vehicles, deliveries, and accessible transit service (i.e. ParaTranspo) when required.

For minor events, such as events at TD Place Arena, vehicle access is permitted on both Bank Street and Queen Elizabeth Driveway. Depending on programming activities at TD Place and Lansdowne Park, traffic management measures to reduce vehicular through traffic on Exhibition Way are deployed to re-route internal traffic circulation to Marche Way, where pedestrian activity is lower.

For major events, traffic management measures include the deployment of traffic control devices and police point duty along Bank Street and Queen Elizabeth Driveway to help manage traffic flow and accommodate safe pedestrian crossings. Vehicle access to the site is restricted during major events at the stadium, such as football games, to minimize pedestrian and vehicle conflicts. Vehicle access from Bank Street is restricted at both Exhibition Way and Marche Way. Vehicle access is only permitted at the Queen Elizabeth Driveway access for underground parking garage and pick-ups / drop-offs at the shuttle loop. Vehicle circulation through the site is restricted. While access to Lansdowne is restricted during major events, existing retail patrons and residents continue to access the underground parking facility at Lansdowne from Queen Elizabeth Driveway, which will remain an important arterial road in the city's transportation network. In addition, residents are able to access underground parking through a residents-only underground garage ramp on Holmwood Avenue. In addition, on-street parking on Bank Street is temporarily prohibited during large events in order to support special event enhanced transit and shuttle service operations to TD Place.

Lansdowne is designated as a pedestrian-priority zone and features many pedestrian-only pathways and connections. This includes pathway connections from Queen Elizabeth Driveway, a stairway gate entrance on Bank Street by TD Place Gate 1, and several laneways connecting to Holmwood Avenue at the northern side of the district.

Existing site access and internal circulation areas during normal operations, minor events, and major events are illustrated in Figure 2.10 through Figure 2.12.

Figure 2.10: Existing Internal Site Circulation

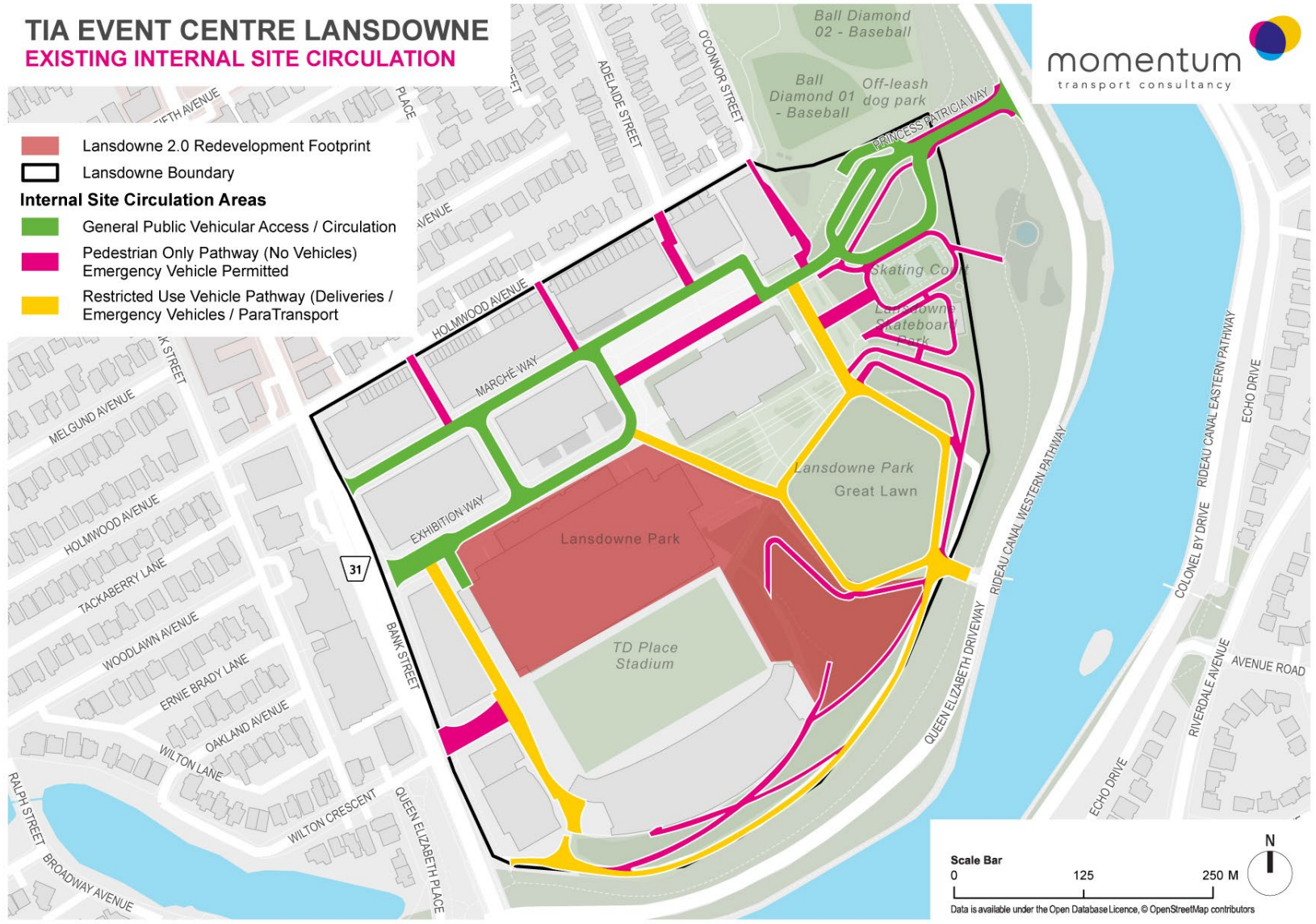


Figure 2.11: Existing Internal Site Circulation (Minor Events)

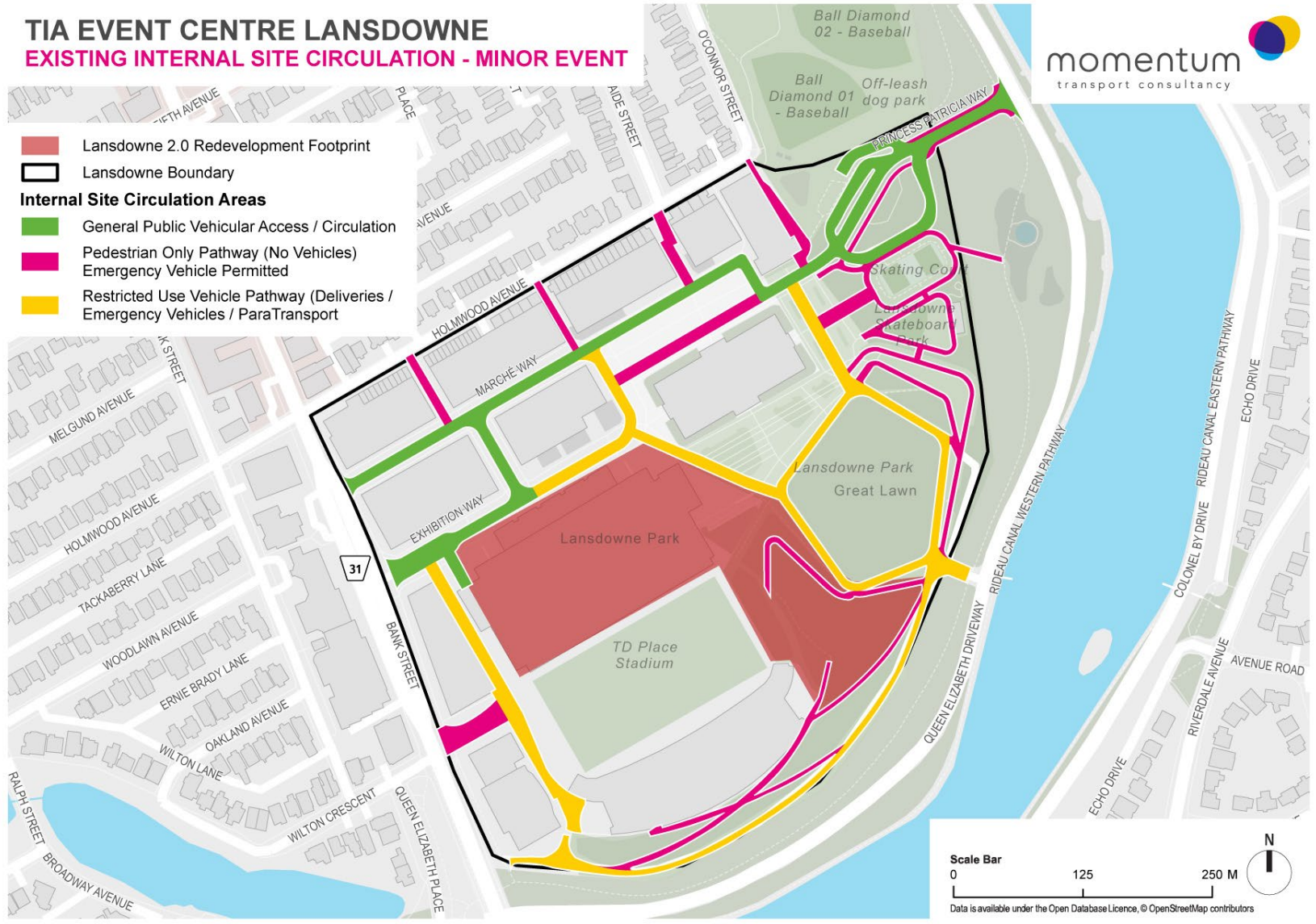
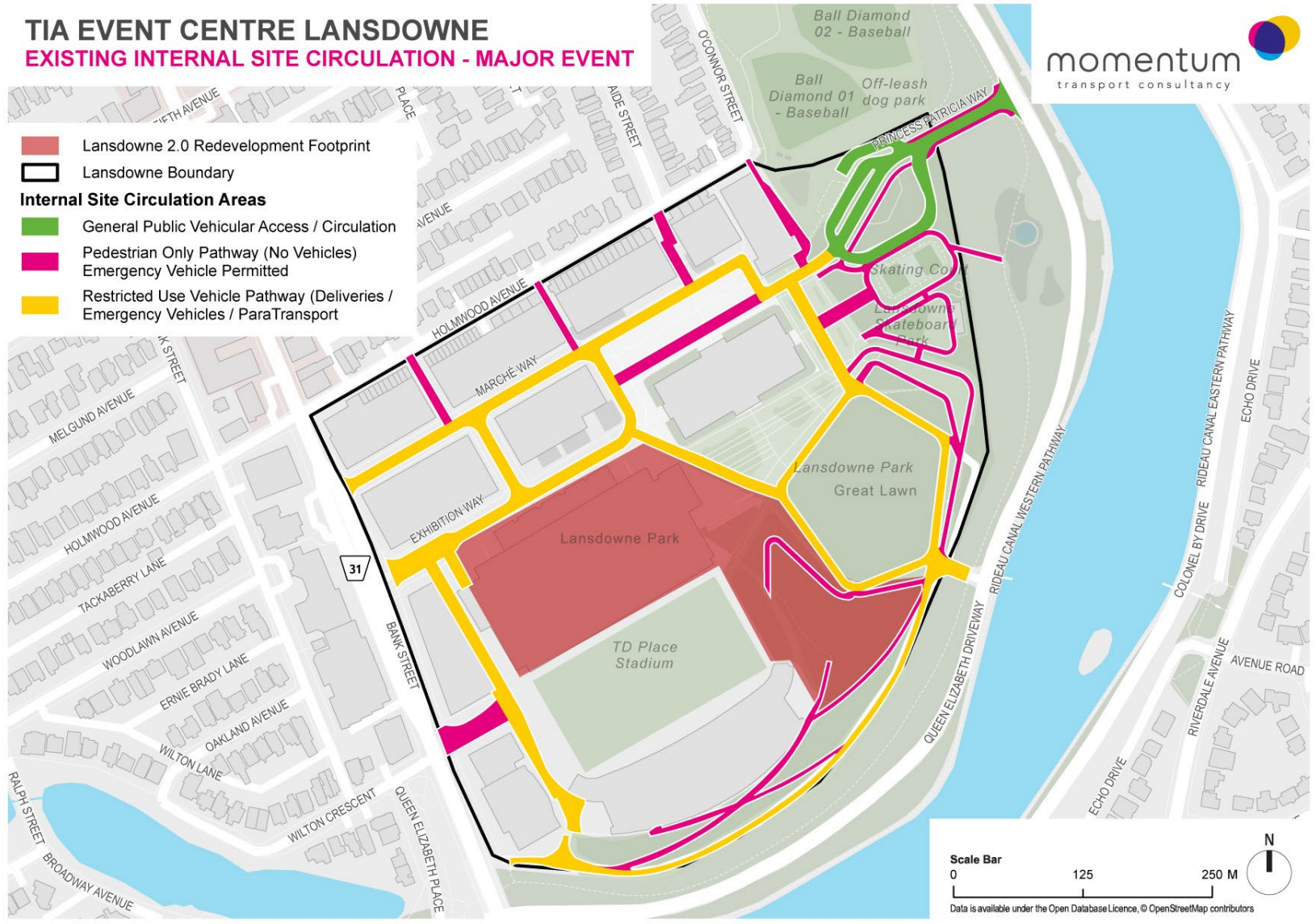


Figure 2.12: Existing Internal Site Circulation (Major Events)



2.1.5 Traffic Volumes

Recently collected intersection traffic data were obtained from the City of Ottawa. This included traffic data captured for regular weekdays (AM and PM peak periods), a weekday minor event at TD Place Arena, a weekday major event at TD Place Stadium, as well as the Saturday and Sunday weekend mid-day peaks with concurrent programming and events at TD Place and Lansdowne Park. Traffic data was obtained for the following periods:

Typical Weekday Period (AM/PM Peak):

- Tuesday, May 3rd, 2022 / Wednesday, May 11th, 2022 (Weekday AM and PM).

Weekend Saturday Peak Period (Mid-Day Peak):

- Saturday, May 7th, 2022 (Saturday Mid-Day), representative of multi-event activity at Lansdowne including an Atlético Ottawa soccer match at TD Place Stadium (6:00 pm kick-off) with an attendance of 3,555 spectators.

Weekend Sunday Peak Period:

- Sunday, June 9th, 2024 (Sunday Mid-Day), representative of multi-event activity at Lansdowne inclusive of the weekly Ottawa Farmer's Market, retail activity, and three back-to-back events at TD Place Arena for the Volleyball Nations League (VNL) featuring tournament games throughout the day (11:00 am, 2:30 pm, and 6:00 pm matches).

Minor Arena Event:

- Monday, May 9th, 2022 (Special Event Concert at the Arena at TD Place. Start time of 7:30 pm, End time of 10:30 pm.

Major Stadium Event:

- Friday, October 14th, 2022 (REDBLACKS Football Game at TD Place. Start time of 7:30pm, End time of approximately 10:30pm.

Intersection turning movement count summary data for the various time periods collected are illustrated in Figure 2.13 through Figure 2.27.

Turning movement count data is documented in **Appendix A**.

Figure 2.13: Existing Weekday AM and PM Traffic Volumes

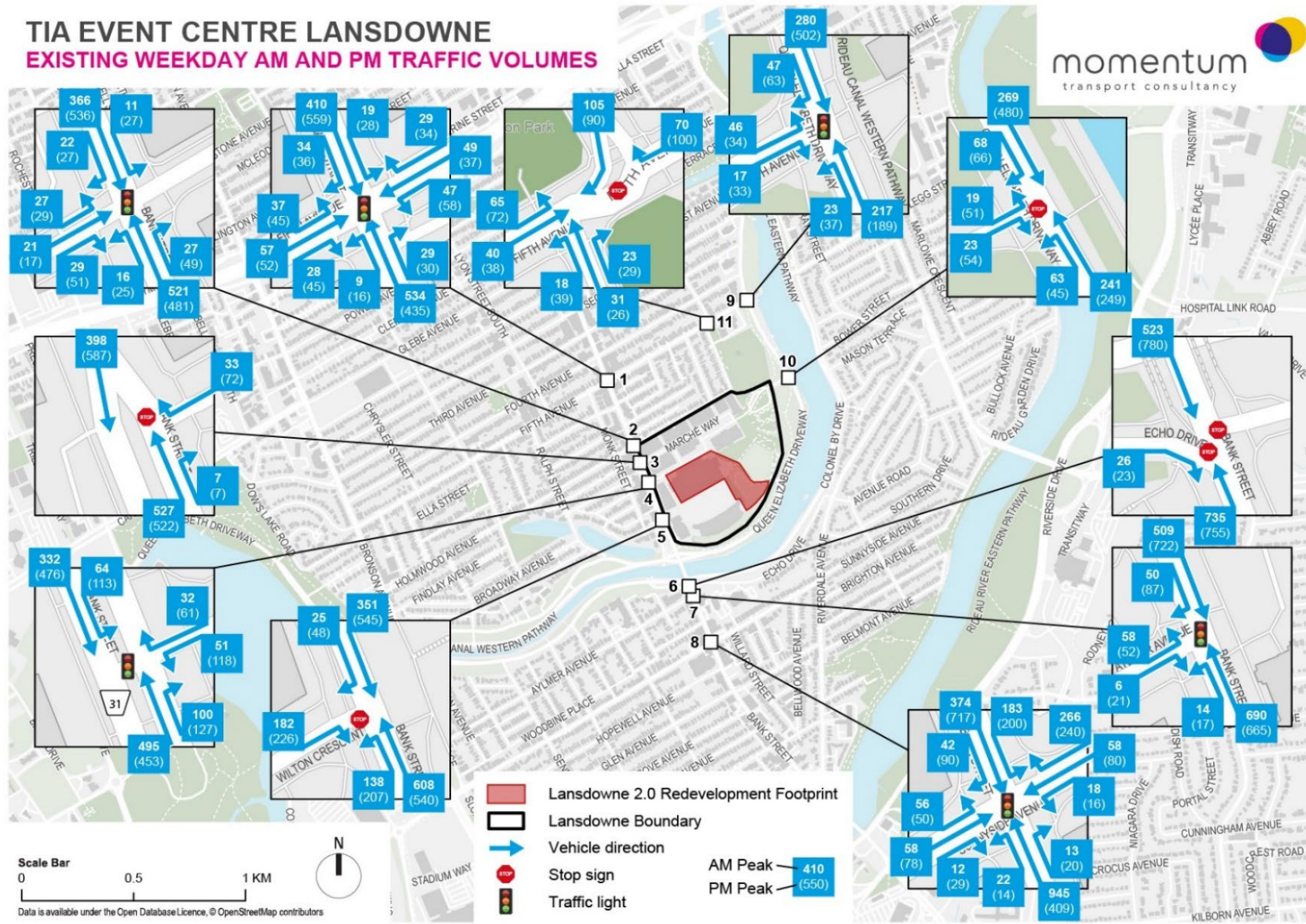


Figure 2.15: Existing Weekday/Weekend Pedestrian Volumes

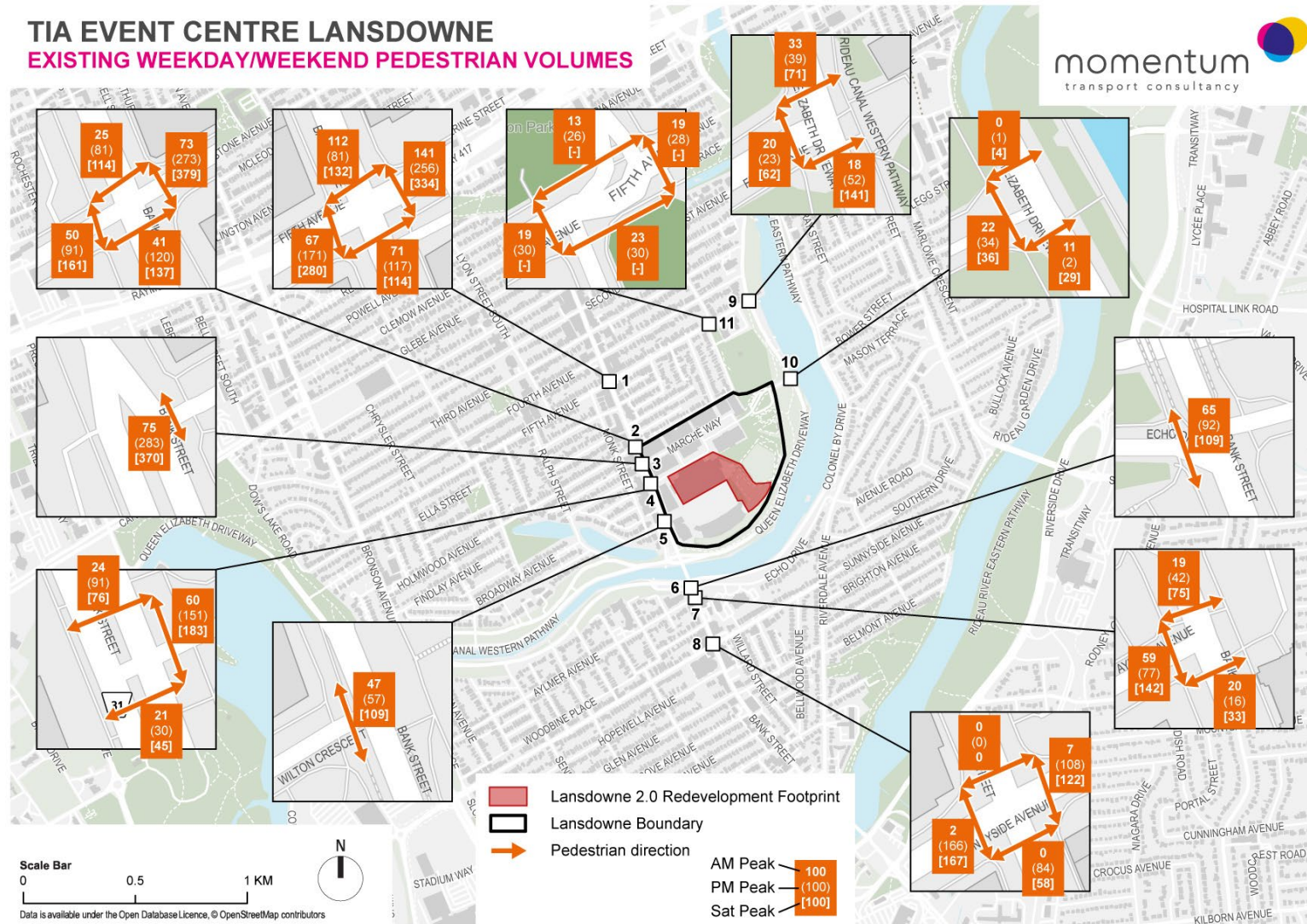


Figure 2.16: Existing Weekday/Weekend Bicycle Volumes

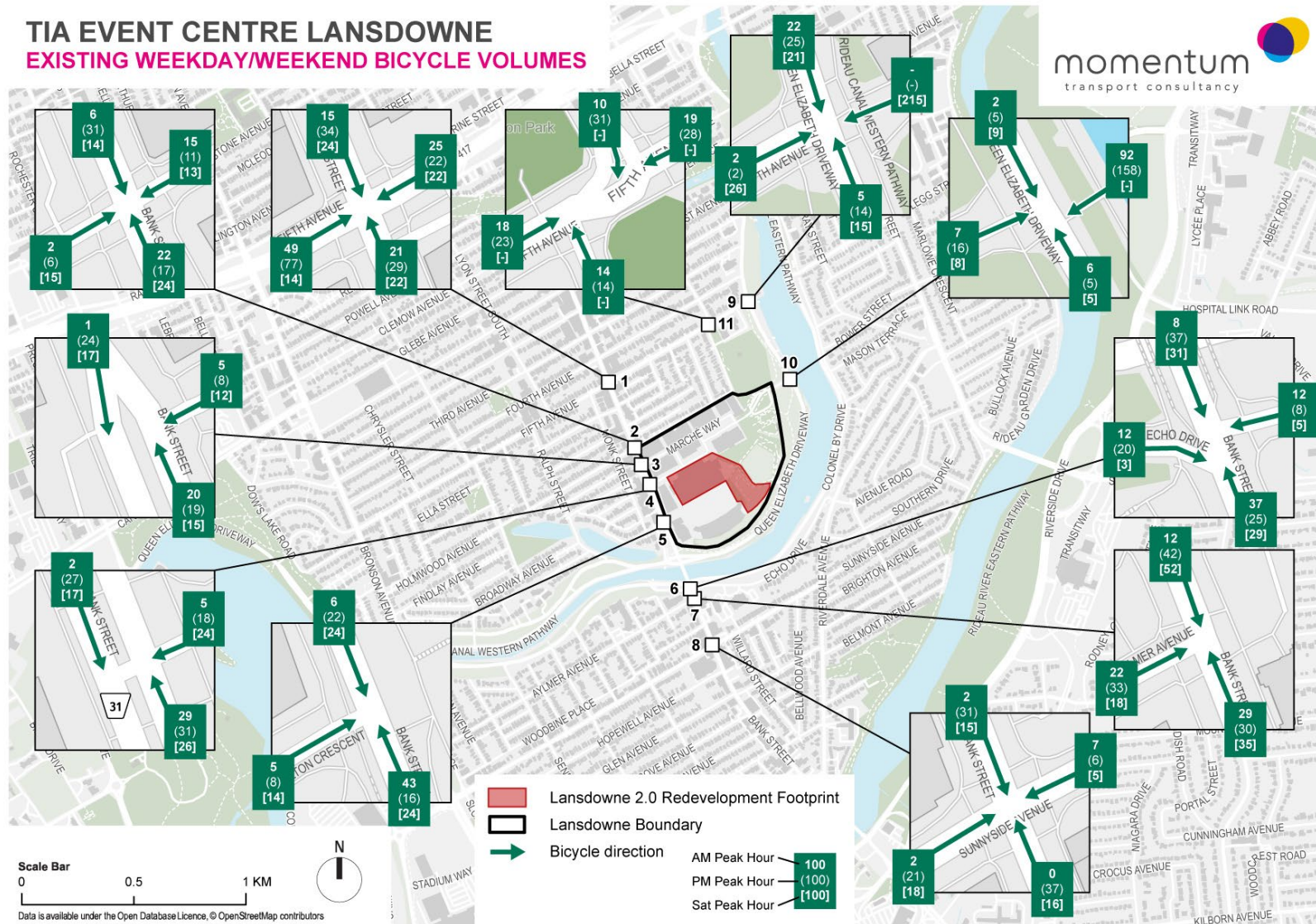


Figure 2.17: Existing Saturday PM Traffic Volumes

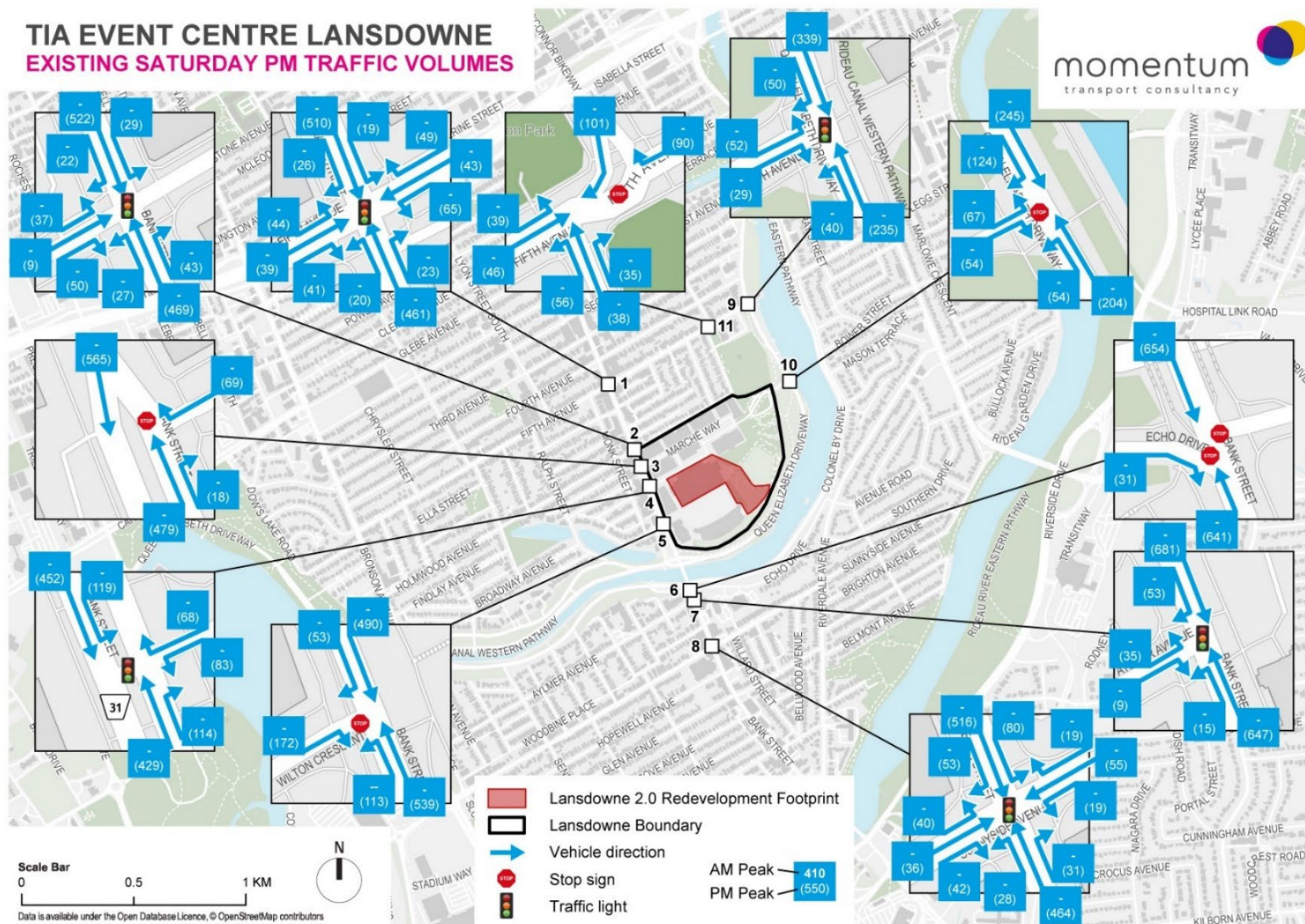


Figure 2.19: Existing Sunday PM Traffic Volumes

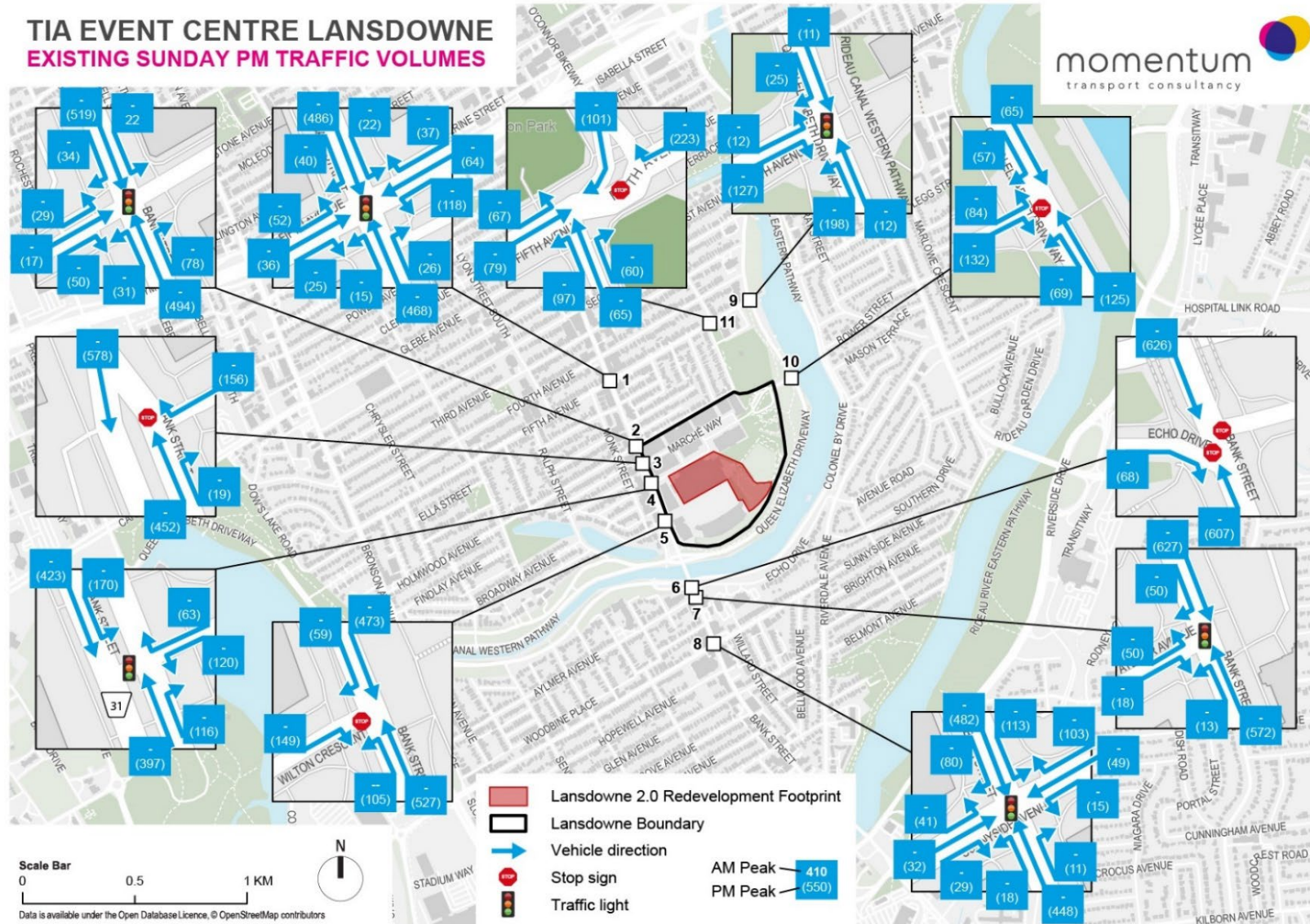


Figure 2.21: Existing Minor Event Traffic Volumes

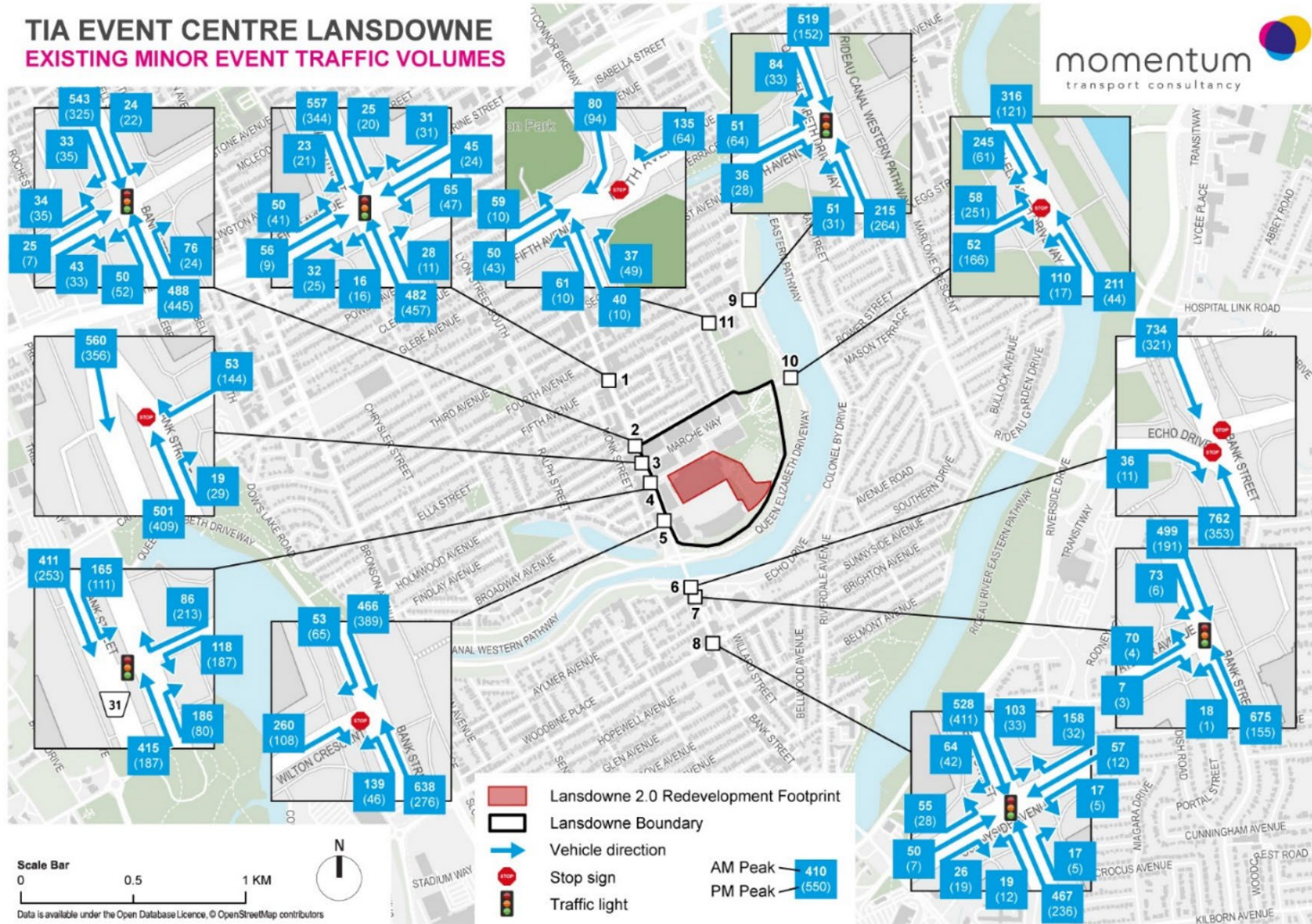


Figure 2.23: Existing Minor Event Pedestrian Volumes

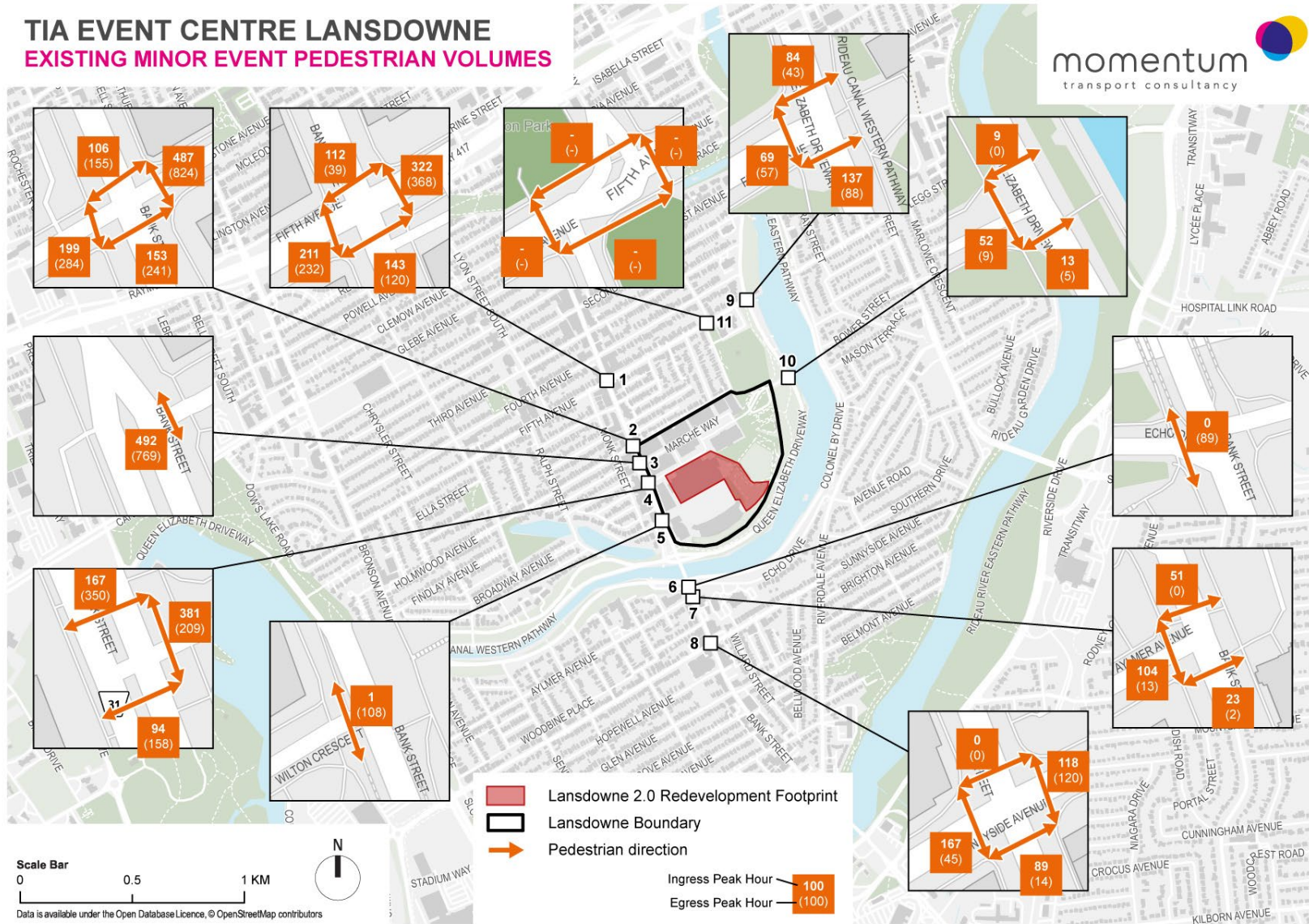


Figure 2.24: Existing Minor Event Bicycle Volumes

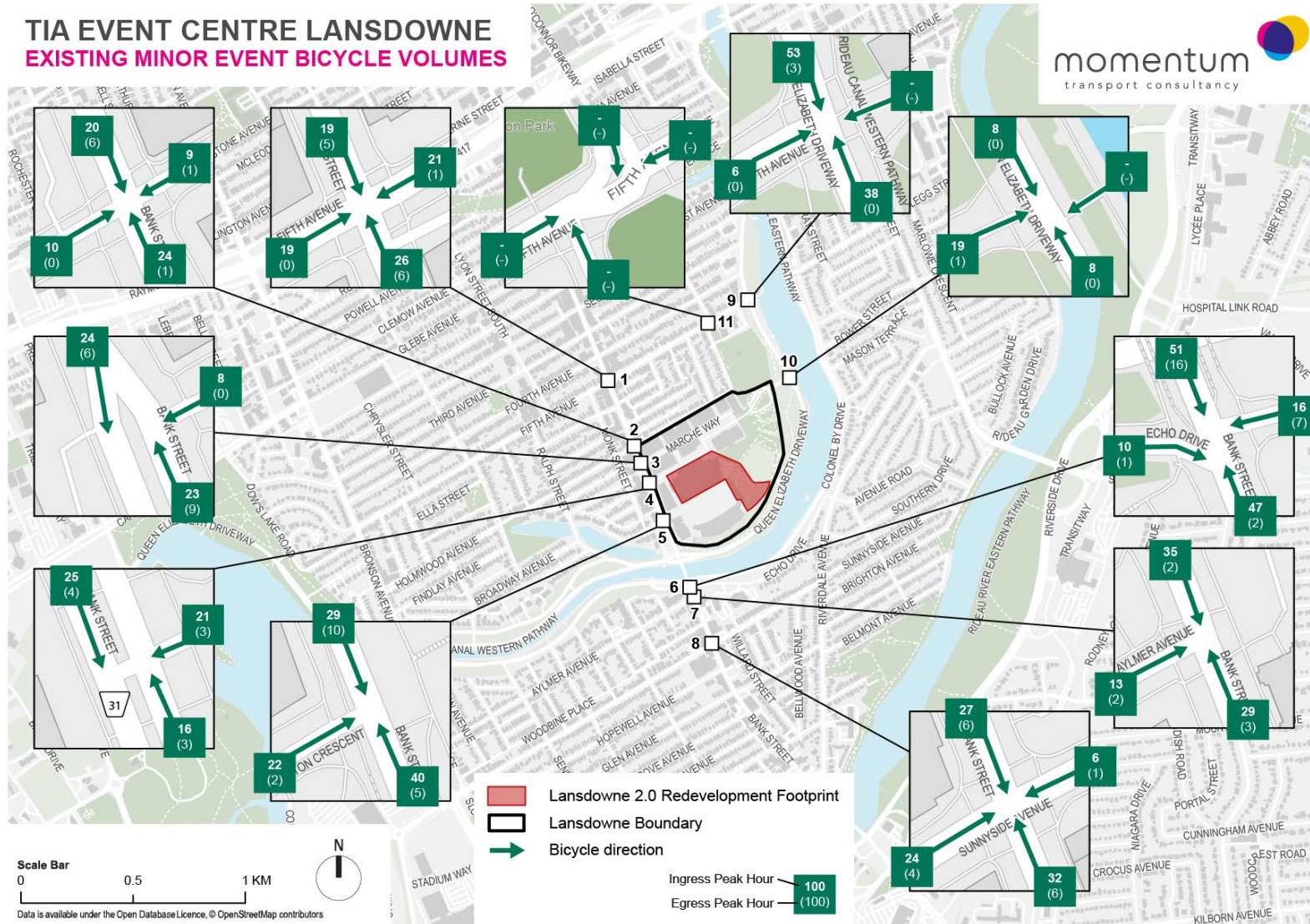


Figure 2.25: Existing Major Event Traffic Volumes

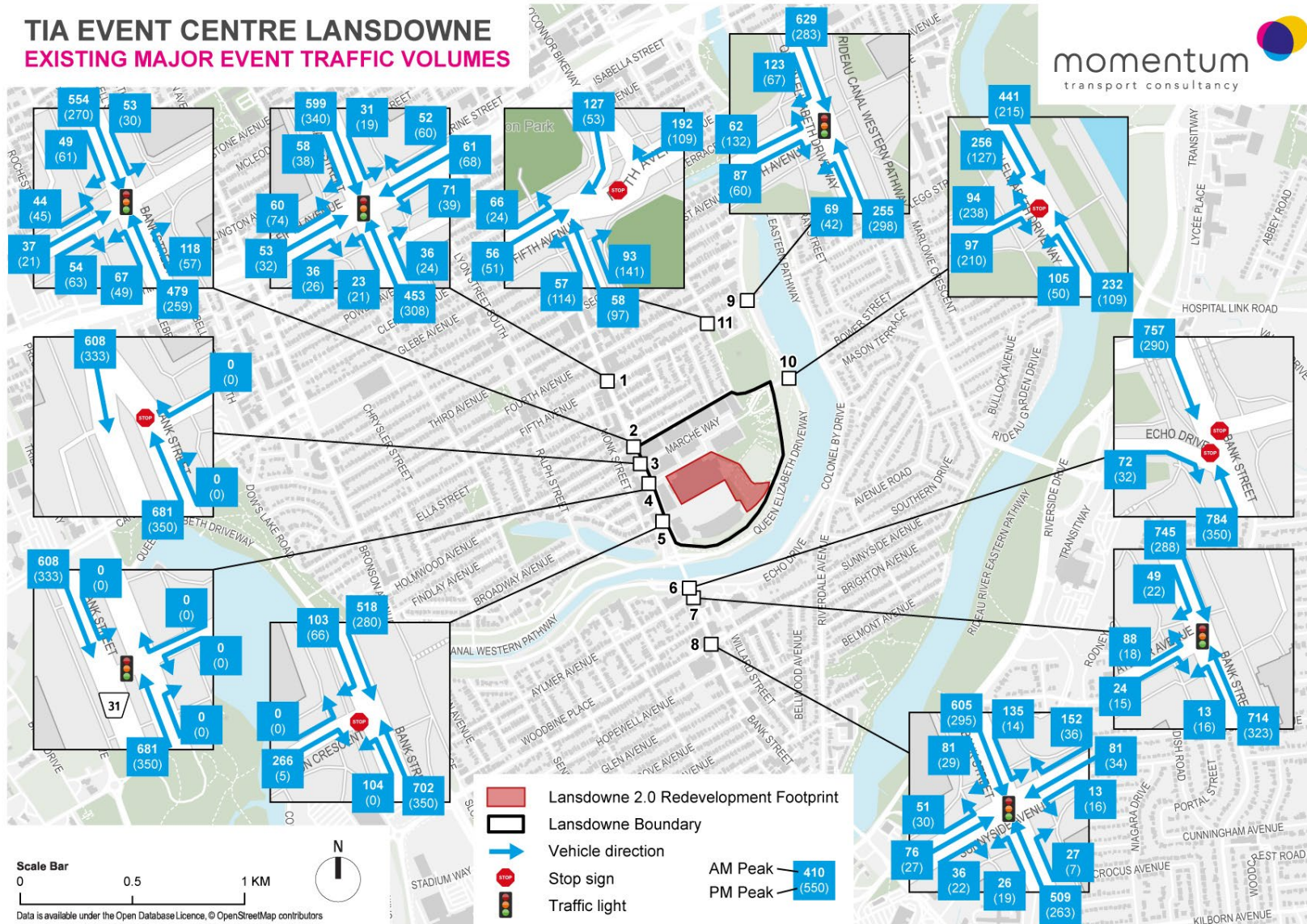


Figure 2.26: Existing Major Event Pedestrian Volumes

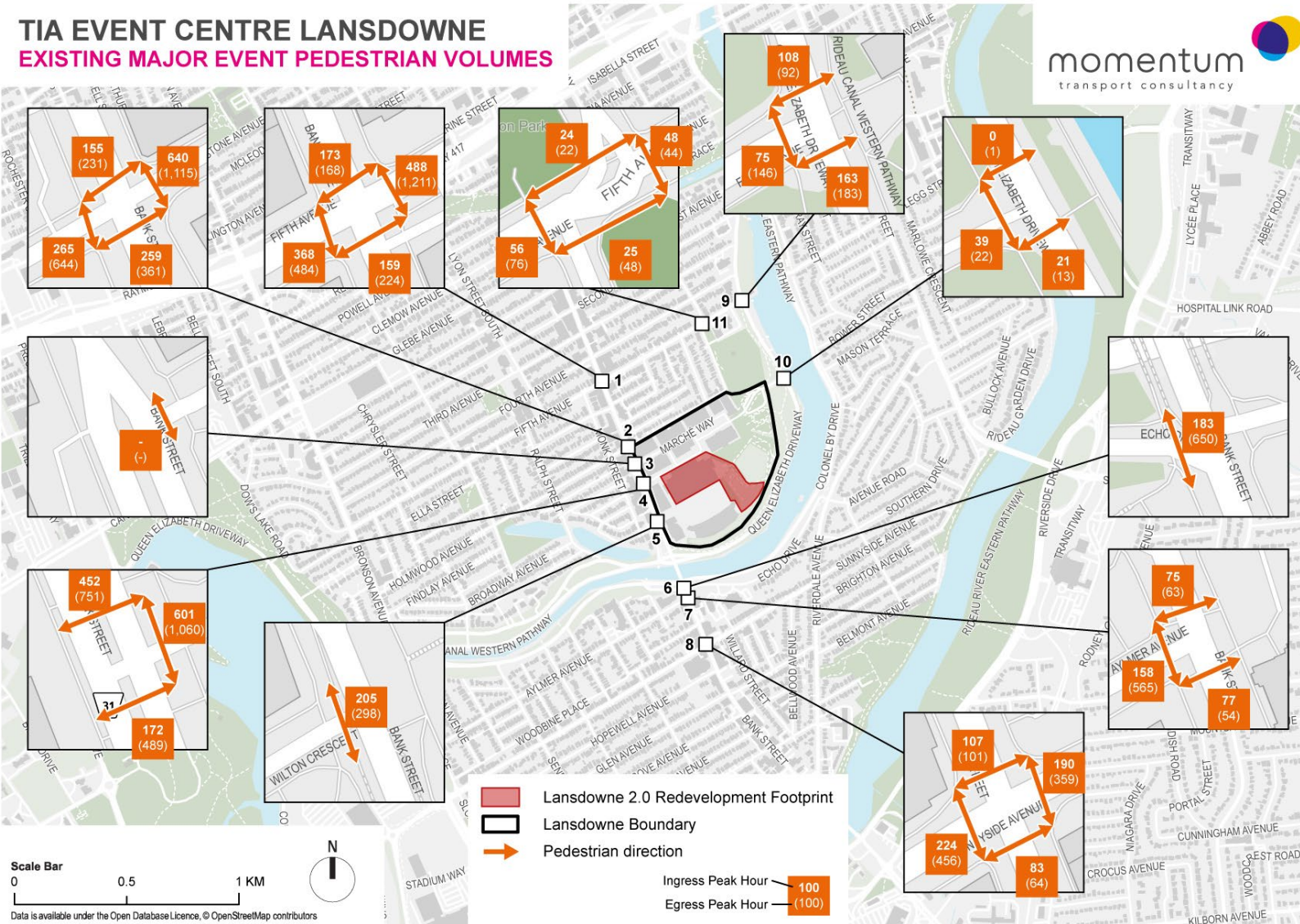
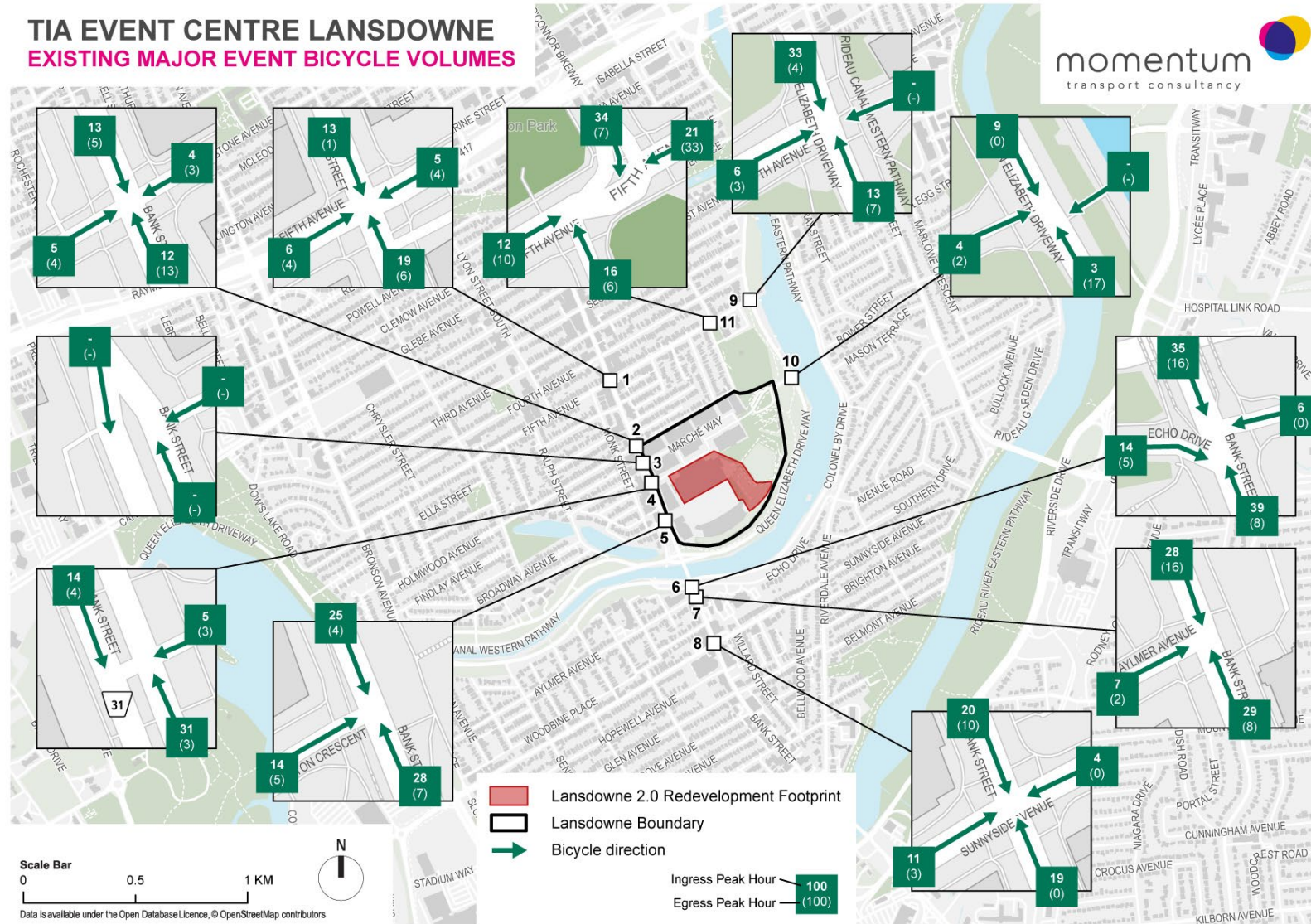


Figure 2.27: Existing Major Event Bicycle Volumes



2.1.6 Collision History

Collision data was provided by the City of Ottawa for the period January 2017 to December 2021 in the vicinity of Lansdowne and TD Place. The data was reviewed to determine if any intersections exhibited identifiable collision patterns.

Table 2.1 summarizes the collision class and impact types for study area intersections.

Table 2.1: Collision Summary

LOCATION	CLASS	IMPACT TYPE				
		Sideswipe	Angle / Turning	Rear End	Single Vehicle	Other
Bank Street at Exhibition Way	Property Damage	1		4	1	
	Non-Fatal Injury					
Bank St at Marche Way	Property Damage			1		
	Non-Fatal Injury				1	
Bank St at Fifth Ave	Property Damage	3	2	3	1	
	Non-Fatal Injury		3	1	2	
Bank St at Holmwood Ave	Property Damage	3	6	2		
	Non-Fatal Injury		1			
Bank St at Wilton Cres	Property Damage	2	3	3	1	
	Non-Fatal Injury	1	3	1		
Bank St at Echo Dr	Property Damage	1	2			1
	Non-Fatal Injury					
Bank St at Aylmer Ave	Property Damage	4	2	4		
	Non-Fatal Injury			1	1	
Bank St at Sunnyside Ave	Property Damage	7	5	1		
	Non-Fatal Injury		3	1	3	
Queen Elizabeth Dr at Fifth Ave	Property Damage			3		
	Non-Fatal Injury					
Queen Elizabeth Dr at Princess Patricia Way	Property Damage	1	2	1		
	Non-Fatal Injury		2			1
Fifth Avenue at O'Connor Street	Property Damage					2
	Non-Fatal Injury					
TOTAL	Property Damage	22	22	22	3	3
	Non-Fatal Injury	1	12	4	7	1

Based on the collision data summarized above, the majority of collisions are classified as Property Damage only (74%), suggesting that the majority of collisions occurred at low speeds. No intersection or signal timing modifications are recommended. Collision summary data can be found in **Appendix B**.

PLANNED CONDITIONS

2.1.7 Road Network Modifications

Table 2.2 identifies the City of Ottawa's Transportation Master Plan (TMP) projects located in the vicinity of the subject site, as well as projects that are anticipated to influence modal share characteristics in the future.

Table 2.2: City of Ottawa Transportation Master Plan Projects

Project	Description	TMP Phase
Bank Street	<p>Transit signal priority between Wellington Street and Highway 417. May also include parking lane conversion in the immediate vicinity of selected intersections</p> <p>Transit signal priority between Highway 417 and Billings Bridge Station, including limited installation of queue jump lanes (in one direction only) at selected intersections</p>	Affordable Network

The City of Ottawa is currently undertaking the *Bank Street Active Transportation and Transit Priority Feasibility Study* between Highway 417 to the Rideau Canal. The project, which is currently underway, seeks to identify options to improve transit service efficiency and reliability along the corridor, with improvements to the travel environment for walking and cycling. Recommendations to City of Ottawa Transportation Committee are expected to be provided in Spring 2025.

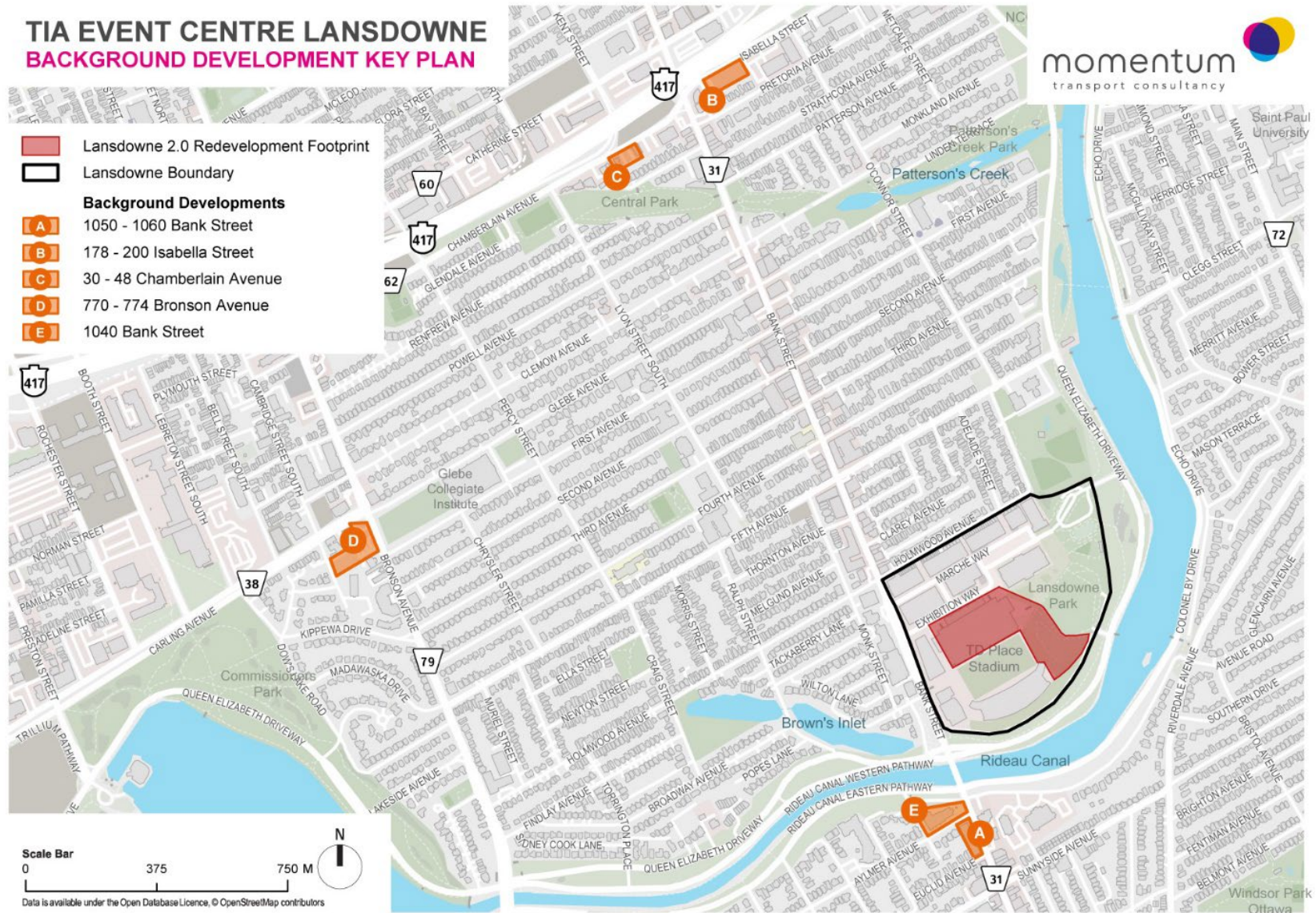
2.1.8 Future Background Developments

Several new developments are proposed in the vicinity of Lansdowne. The location of background developments are described in Table 2.3 and illustrated in Figure 2.28

Table 2.3: Background Developments

Plan Reference	Development	Location	Description
A	1050 – 1060 Bank Street	West side of Bank Street between Aylmer and Euclid Avenue in the south portion of Ottawa	6 storey residential apartment (44) units and 825m ² retail space (Buildout – 2024)
B	178 – 200 Isabella Street	South of Highway 417 between Bank Street and O'Connor Street	16 storey mixed-use building with 251 dwellings units and approximately 355 m ² of ground floor commercial space (Buildout – 2025)
C	30-48 Chamberlain Avenue	South of Chamberlain Avenue, west of Bank Street	150 apartment units and approximately 400 m ² of ground floor retail space (Buildout – 2024)
D	770 – 774 Bronson Avenue	Southwest corner of Bronson Avenue and Carling Avenue intersection	257 apartment dwelling unit and 71 student housing dwelling units (Buildout-2025)
E	1040 Bank Street	Northwest corner of Bank Street and Aylmer Avenue intersection	Redevelopment of the Southminster United Church including a six-storey condominium building adjacent to the church

Figure 2.28: Background Developments Key Plan



2.2 Study Area and Time Periods

STUDY AREA

2.2.1 The following study area intersections are proposed for analysis:

1. Bank Street at Fifth Avenue
2. Bank Street at Holmwood Avenue
3. Bank Street at Exhibition Way
4. Bank Street at Wilton Crescent
5. Bank Street at Echo Drive
6. Bank Street at Aylmer Avenue
7. Bank Street at Sunnyside Avenue
8. Queen Elizabeth Driveway at Princess Patricia Way
9. Queen Elizabeth Driveway at Fifth Avenue
10. Bank Street at Marché Way
11. Fifth Avenue at O'Connor Street

TIME PERIODS

2.2.2 The proposed scope of the transportation assessment includes the following analysis time periods:

- Weekday AM Peak Hour of roadway
- Weekday PM Peak Hour of roadway
- Saturday Mid-Day Peak Hour of roadway
- Sunday Mid-Day Peak Hour of roadway
- Weekday Minor and Major Events: Ingress and Egress Peak Hour

HORIZON YEARS

2.2.3 The proposed scope of the transportation assessment includes the following horizon years:

- **2024** – Existing Conditions;
- **2028** – Representing the anticipated completion and interim operating conditions of the during the construction of subsequent phases of Lansdowne 2.0 (i.e. – new North Stadium Stands and podium retail / residential towers).

2033 – Representing the anticipated full build-out of Lansdowne 2.0, inclusive of the new Event Centre, North Stadium Stands, podium retail, and residential towers.

2.3 Exemptions Review

Table 2.4 summarizes the Exemptions Review table from the City of Ottawa's 2017 *Transportation Impact Assessment Guidelines*.

Table 2.4: Exemptions Review

Module	Element	Exemption Considerations	Exempted?
Design Review Component			
4.1 Development Design	4.1.2 Circulation and Access	Only required for site plans	No
	4.1.3 New Street Networks	Only required for plans of subdivision	Yes
4.2 Parking	4.2.1 Parking Supply	Only required for site plans	No
	4.2.2 Spillover Parking	Only required for site plans where parking supply is 15% below unconstrained demand	Yes
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	No
4.6 Neighbourhood Traffic Management	4.6.1 Adjacent Neighbourhoods	Only required when the development relies on local or collector streets for access and total volumes exceed ATM capacity thresholds	Yes
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	Yes
4.9 Intersection Design	All Elements	Not required if site generation trigger is not met	No

3. FORECASTING

3.1 Development Generated Travel Demand

EXISTING TRIP GENERATION

Lansdowne is currently an active site featuring a variety of land uses including the Stadium at TD Place, the Arena at TD Place, 280 residential townhome and condo units, an 18-acre urban park, and approximately 360,000 ft² of commercial retail and office space.

The current vehicular trip generation characteristics of the site are captured through Turning Movement Count (TMC) data. Existing peak hour traffic volumes under Weekday AM, Weekday PM, and Weekend Saturday and Sunday peak hour conditions are summarized in Section 2.1.5.

FUTURE TRIP GENERATION AND MODE SHARES

Phase 1 of Lansdowne 2.0, which represents the construction of the new 5,500 seat multi-purpose Event Centre, is not expected to generate any additional transportation demands or new travel patterns as the activities and programming associated with this new facility are currently in place at the Arena at TD Place.

Phase 2 of Lansdowne 2.0, which includes the demolition of the old north stadium stands and the construction of a new one is not expected to generate any new transportation demands or changes in travel patterns.

Phase 3 of Lansdowne 2.0, which includes the construction of new podium level retail and additional high-rise residential units within two new towers are expected to generate additional transportation demands at Lansdowne.

As a result, development generated travel demands are forecasted for the ultimate build-out of Lansdowne 2.0 which is assumed to be achieved by the 2033-year horizon for this study.

The Institute of Transportation (ITE) Trip Generation Manual (11th Edition) was used to forecast the auto trip generation for the multifamily housing and shopping center land uses and the TRANS Trip Generation Manual was used to forecast the auto trip generation for the residential land use. Land use codes 222 – Multi-Unit High Rise Building, and 820 – Shopping Centre were thought to be the most representative of the proposed land uses.

Table 3.1 outlines the assumed land uses and the trip generation rates (ITE) for each land use.

Table 3.1: Lansdowne 2.0 Land Uses and Trip Generation Rates

Phase 1 – New Event Centre (2028)															
N/A	Indoor Arena / Multi-Purpose Event Centre	Person Trips	5,500 Seats	Existing Land Use at Lansdowne. No Additional New Trips Forecasted											
Phase 2 – New North Stadium Stands (2031)															
N/A	Football Stadium	Person Trips	25,000 Seats	Existing Land Use at Lansdowne. No Additional New Trips Forecasted											
Phase 3 – Full Buildout / Podium Retail + New Residential Units (2033)															
LUC	Land Use	Trip Type	Units / GFA (ksf)	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Weekend Peak Hour			Sunday Weekend Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
222	Multi-unit Residential (High-Rise)	Person Trips	770 units	16%	84%	0.76 / unit	64%	36%	0.58 / unit	56%	44%	0.74 / unit	51%	49%	0.85 / Unit
820	Shopping Center	Vehicle Trips	8.6 ksf	55%	45%	2.87 / ksf	50%	50%	4.09 / ksf	52%	48%	4.40 / ksf	49%	51%	2.35 / ksf
710	General Office	Person Trips	14.2 ksf	87%	13%	1.22 / ksf	21%	79%	1.28 / ksf	48%	52%	0.27 / ksf	36%	64%	0.17 / ksf

3.1.1 Trip Internalization

Trip Internalization refers to trips that are shared between two or more uses within the same site. This behaviour is typical for mixed-use developments that feature a variety of land uses that complement each other. When trip internalization occurs, a portion of the generated trips for each individual land use are drawn from other land uses within the same district, as opposed to new trips that are generated externally.

For new land uses proposed for Lansdowne 2.0, trip Internalization factors were applied to account for new site trips that are expected to be generated from within the site, or external trips that visit more than one land use within the subject development. Since these trips are contained within the district, accounting for each trip separately on the roadway network would result in double-counting trips. As a result, land uses with internal capture trips between one another ultimately had their net new trips adjusted consistent with acceptable industry standards.

For Lansdowne 2.0, a portion of the additional commercial retail land-uses are assumed to feature trip internalization with other land-uses and activities within the site include existing and future residential, office, and the existing retail land-uses.

Table 3.2 outlines the trip internalization rates assumed for the additional retail land uses assumed as part of the Lansdowne 2.0 development.

Trip internalization rates were developed based on the methodologies outlined in TRANS Trip Generation Manual and NCHRP Report 684 (Enhancing Internal Trip Capture Estimation for Mixed-Use Developments).

Table 3.2: Internal Capture Trips

LUC	Land Use	Trip Conversion	Weekday AM Peak			Weekday PM Peak			Weekend Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
820	Shopping Plaza	Internal Capture	15%			30%			15%		

Lansdowne 2.0 Additional Person Trips

New transportation demands associated with Lansdowne 2.0 additional development is outlined in Table 3.3.

Forecasted person trips for the proposed multi-unit residential towers, additional commercial retail, and general office spaces were derived using the ITE Trip Generation Manual.

The trip internalization factors outlined above were applied to the shopping plaza land use to capture internal trips.

Table 3.3: Lansdowne 2.0 Person Trips Generated by Land Use

LU C	Land Use	Trip Conversion	Weekday AM Peak			Weekday PM Peak			Saturday Peak Hour			Sunday Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
222	Multi-Unit Residential (High-Rise)	Person Trips	94	492	585	286	161	447	319	251	570	334	321	655
820	Shopping Plaza	Auto Trips (Peak Hour)	14	11	25	18	18	35	20	18	38	19	19	38
		Auto Trip to Person Trip Factor	1.28 persons per vehicle											
		Initial Person Trips	17	14	32	32	23	45	25	23	49	24	25	49
		Internalization Factor	15%			30%			15%			15%		
		Internalization Trip Reduction	-3	-2	-5	-7	-7	-14	-4	-4	-7	-4	-4	-7
		Person Trips	14	12	27	16	16	31	21	19	42	20	21	42
710	General Office	Person Trips	15	2	17	4	14	18	2	2	4	1	2	2
Lansdowne 2.0 New Person Trips (Peak Hour)			123	506	629	305	191	496	342	272	615	354	343	699

It is estimated that the Lansdowne 2.0 development is projected to result in a net increase of 629 person trips in the AM Peak Hour, 496 person trips in the PM Peak Hour, 615 trips during the Saturday Weekend Peak Hour, and 699 trips during the Sunday Weekend Peak Hour.

To reflect local travel characteristics, forecasted person trips were assigned and distributed to various travel modes (i.e., auto, passenger, transit, cycling and walking). Modal share percentages were adopted from the TRANS Trip Generation Manual.

The TRANS Trip Generation Manual provides trip generation and modal share rates for 26 geographic regions within Ottawa-Gatineau. For Lansdowne, the modal shares for the *Ottawa Inner Area (050)* were adopted for the High-Rise Multifamily Housing and Commercial land-uses.

The Lansdowne 2.0 assumed modal shares are summarized below in Table 3.4.

Table 3.4: Assumed Mode Share by Land Use

Mode	222 - Multiuse Family			820 - Commercial Retail			710 - Office
	AM	PM	Average	AM	PM	Average	
Auto	26%	25%	26%	39%	22%	31%	45%
Passenger	7%	9%	8%	2%	4%	3%	7%
Transit	28%	21%	25%	16%	12%	14%	29%
Cycling	5%	6%	6%	3%	4%	4%	8%
Walking	34%	39%	37%	40%	58%	49%	11%

Residential Trips – Mode Shares

Section 4.2 (Table 8) of the *TRANS Trip Generation Manual (October 2020)* was utilized to determine the residential mode share for high rise multi-family housing for the Ottawa Inner Area district. The mode shares for the district, which is based on blended AM and PM peak period rates, include a 26% auto mode share, a 25% transit mode share, and a combined 43% modal share for walking and cycling.

Commercial Trips – Mode Shares

Section 6.3 (Table 13) of the *TRANS Trip Generation Summary Manual (October 2020)* was utilized to determine the commercial retail mode share for the Ottawa Inner Area district. The mode shares for the district, which is based on blended AM and PM peak period rates, include a 31% auto mode share, a 14% transit mode share, and a combined 53% modal share for walking and cycling.

Table 3.5 outlines the adjusted future trip generation estimate for Lansdowne 2.0 by travel mode.

Table 3.5: Lansdowne 2.0 Future Trip Generation by Travel Mode

LUC	Land Use	Modal Share %		Weekday AM Peak Hour			Weekday PM Peak Hour			Weekend Saturday Peak Hour			Weekend Sunday Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
222	Multi – Unit (High-Rise)	Auto Driver	26%	24	125	149	73	41	114	81	64	145	85	82	167
		Passenger	8%	7	39	47	23	13	36	26	20	46	27	26	52
		Transit	25%	23	120	143	70	39	109	78	61	140	82	79	160
		Cycling	6%	5	27	32	16	9	25	18	14	31	18	18	36
		Walking	37%	34	179	214	104	59	163	116	92	208	122	117	239
820	Shopping Center	Auto Driver	31%	4	4	8	5	5	10	6	6	12	6	6	12
		Passenger	3%	0	0	1	0	0	1	1	1	1	1	1	1
		Transit	14%	2	2	4	2	2	4	3	3	6	3	3	6
		Cycling	4%	1	0	1	1	1	1	1	1	1	1	1	1
		Walking	49%	7	6	13	8	8	15	10	9	20	10	10	20
710	Office	Auto Driver	45%	7	1	8	2	6	8	1	1	2	0	1	1
		Passenger	7%	1	0	1	0	1	1	0	0	0	0	0	0
		Transit	29%	4	1	5	1	4	5	1	1	1	0	0	1
		Cycling	8%	1	0	1	0	1	1	0	0	0	0	0	0
		Walking	11%	2	0	2	0	2	2	0	0	0	0	0	0
Lansdowne 2.0 Additional Person Trips	Auto Driver		35	130	165	79	52	132	89	71	159	92	89	180	
	Passenger		9	40	49	24	14	38	26	21	47	27	26	54	
	Transit		29	123	152	73	46	119	82	65	146	85	82	167	
	Cycling		7	28	35	17	11	27	18	15	33	19	18	38	
	Walking		43	186	229	112	68	180	127	101	228	132	127	259	
	Total Person Trips (Peak Hour)		123	506	629	305	191	496	342	272	614	354	343	698	

The total additional number of trips generated by the Lansdowne 2.0 development are outlined above by mode, with a total of 505, 466, and 628 person trips forecasted for the Weekday AM, Weekday PM, and Weekend Saturday peak hours, respectively.

Out of the total trips forecasted, the additional auto trips forecasted as part of the Lansdowne 2.0 development are estimated to be 165, 132, and 159, and 189 vehicle trips in the Weekday AM, Weekday PM, Saturday, and Sunday peak hours

TRIP DISTRIBUTION

Cardinal trip distribution to and from Lansdowne was developed based on the 2011 TRANS Origin-Destination Survey for the Ottawa Inner Area region.

Based on the origin-destination data, trip distributions were estimated based on directions to the north, east, south and west. The data indicates that up to 32% of trips surveyed within the Ottawa Inner Area started and ended within the same district, and upwards of 10% of trips have an origin/destination to the Ottawa Centre region north of the district towards downtown Ottawa. The remaining trips were found to be distributed to other regions throughout Ottawa-Gatineau.

Table 3.6 outlines the trip distribution assumptions to/from Lansdowne based on the 2011 TRANS Origin-Destination Survey.

Table 3.6: Site Trip Directional Distribution

Direction	Trip Distribution
North	35%
East	21%
South	32%
West	13%
Total	100%

As Lansdowne is bound by two north-south corridors, namely Bank Street to the west, and Queen Elizabeth Driveway to the east, site trip distribution assumptions were refined in the north-south direction, representing localized trip distribution on Bank Street and Queen Elizabeth Driveway.

Table 3.7 outlines the assumed directional trip distributions based on access to nearby regional corridors including the Queensway (Highway 417) to the north, Bronson Avenue to the west, and Riverside Drive and Heron Road to the south.

Table 3.7: Refined Directional Trip Distribution Assumptions

Direction	Study Area Trip Distribution
North	50%
South	50%

TRIP ASSIGNMENT

Additional Lansdowne 2.0 site generated trips were assigned to the study area road network based on the assumed trip distribution assumptions. In addition, a review of existing traffic data was performed to estimate the traffic volume split between Bank Street, Holmwood Avenue, and Queen Elizabeth Driveway.

Currently, 65% of Lansdowne specific public traffic utilizes Bank Street for access to/from Lansdowne, with the remaining 35% utilizing QED.

Based on parking gate data provided by OSEG for the private residential Holmwood garage ramp, it is estimated that there are approximately 90 residential vehicles utilizing the Holmwood residential garage access per day.

It is assumed that the new residential tenants will also have access to the Holmwood garage ramp. As a result, a proportion of new residential based trips were assumed to utilize the private, restricted-use Holmwood garage ramp for access.

The following site access assumptions were adopted:

- **55%** of new site trips are assumed to access Lansdowne via Bank Street.
- **30%** of new site trips are assumed to access Lansdowne via Queen Elizabeth Driveway.
- **15%** of new site trips, specifically a proportion of additional residential trips, are assumed to access the underground private garage access via Holmwood Avenue.

Table 3.8 summarizes new Lansdowne 2.0 site generated vehicle trips and their respective assignment to Bank Street, Queen Elizabeth Driveway, and the private underground parking garage access ramp.

Table 3.8: Trip Assignment for Newly Generated Trips

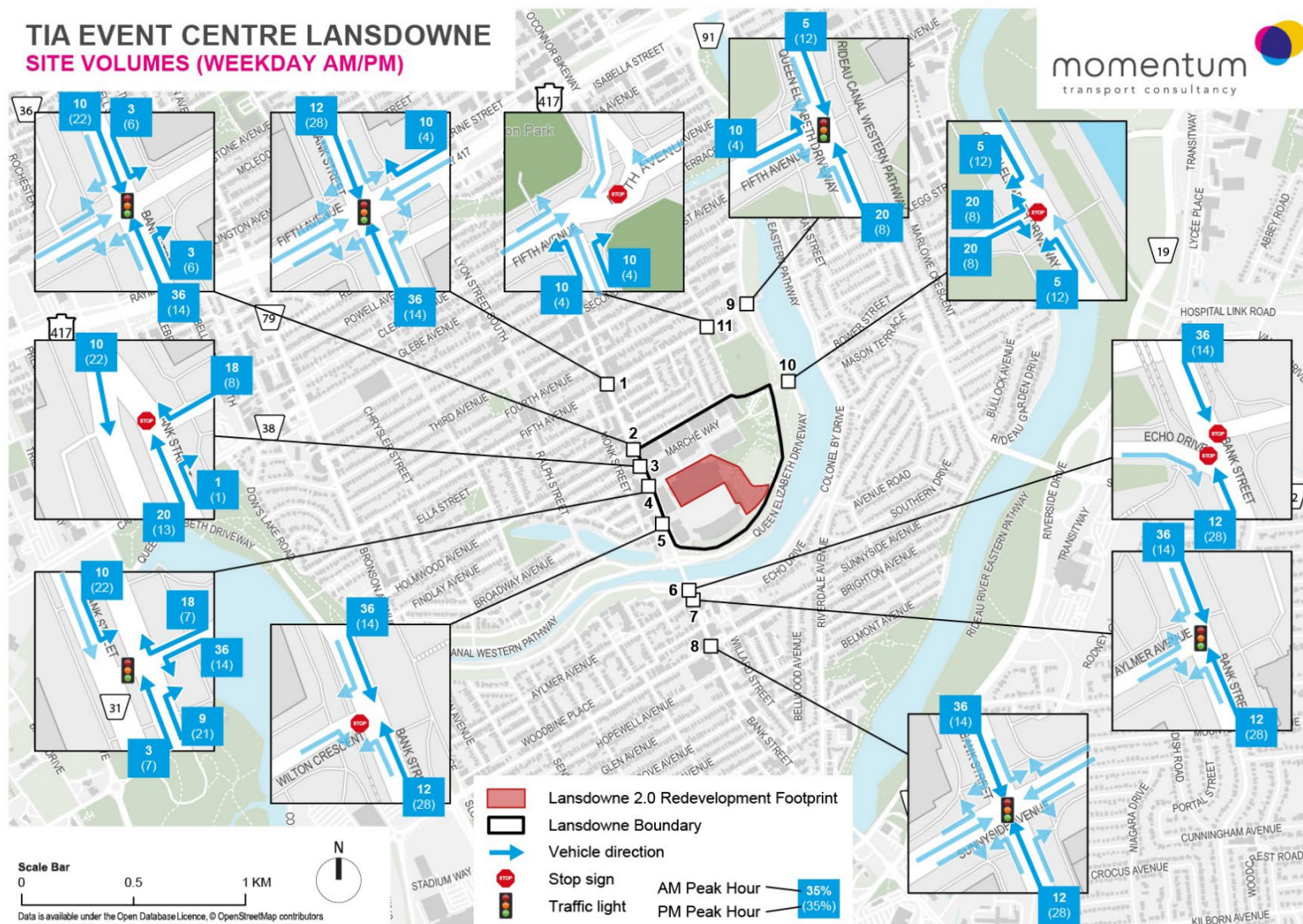
Access	Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday Peak Hour		Sunday Peak Hour	
	In	Out	In	Out	In	Out	In	Out
Bank Street	19	72	44	29	49	39	50	49
Queen Elizabeth Driveway	11	39	24	16	27	21	27	27
Holmwood Access*	5	20	12	8	13	11	14	13
Total New Vehicle Trips	35	130	79	52	89	71	92	89
	165		132		159		180	

* Holmwood Access: Lansdowne residents access to private, restricted-use garage access.

Figure 3.1 illustrates the assumed site trip assignment assumptions for Lansdowne 2.0 additional vehicle trips.

Lansdowne 2.0 additional site generated vehicle trips are illustrated in Figure 3.2 through Figure 3.4.

Figure 3.2: Lansdowne 2.0 Site Volumes (Weekday AM/PM Peak)



3.2 Background Network Travel Demand

TRANSPORTATION NETWORK PLANS

The only road infrastructure project that is identified in the City of Ottawa Transportation Master Plan within the vicinity of Lansdowne is the proposed Transit Priority Corridor improvements on Bank Street.

In May 2022, City of Ottawa Transportation Committee directed staff to undertake an Active Transportation and Transit Operations Feasibility Study project of Bank Street between the Rideau Canal to Highway 417. The study is currently underway with recommendations to City Council expected to be provided in Spring 2025.

BACKGROUND GROWTH

Based on data readily available for the City of Ottawa, the average annual growth rate for traffic volumes in the vicinity of Lansdowne ranges between -2% to +0.2%, indicating a general reduction or limited growth in vehicular traffic volume on Bank Street and the surrounding roadway network. As a result, a 0.5% annual background growth rate was applied to forecast future background growth in traffic volumes.

OTHER DEVELOPMENTS

As outlined in Section 2.1.8, a number of nearby developments near Lansdowne are currently under construction or scheduled to be constructed within the horizons of the study. The traffic volumes from these developments were obtained from their respective traffic studies, where available, and added to the transportation network as part of background traffic growth.

3.3 Demand Rationalization

The current peak hour traffic volumes along Bank Street are in the range of 500 – 800 vehicles per hour per direction. Similar volumes are exhibited on Queen Elizabeth Driveway with peak hour volumes in the range of 300 – 600 vehicles per hour per direction.

The traffic volumes forecasted under the 2033 future build-out year are projected to be in the range of 600 – 900 vehicles per hour per direction for Bank Street, and 350 – 700 vehicles per hour per direction for Queen Elizabeth Driveway.

As the projected volumes fall within a similar range to existing conditions and are likely to be supported by the transportation network, no demand rationalization was undertaken.

2028 TOTAL FUTURE TRAFFIC VOLUMES

The 2028 Total Future horizon year represents the completion of Phase 1 of the Lansdowne 2.0 redevelopment program with the opening of the new multi-purpose Event Centre.

As the new multi-purpose Event Centre will not generate new additional transportation demands to Lansdowne, no new site generated trips have been added. A 0.5% annual growth rate was applied to existing traffic demands to account for background development growth.

It is anticipated that the new Event Centre will operate in an interim condition during construction of subsequent phases of Lansdowne 2.0: namely construction of the new North Stadium Stands (Phase 2), and the new podium retail and two residential towers (Phase 3).

During Phase 2 and Phase 3 construction of Lansdowne 2.0, site access is expected to be generally unaffected with access provided at both Bank Street and Queen Elizabeth Driveway. Site circulation within Lansdowne will need to be verified during Phase 2 and Phase 3 based on constructability requirements and the construction footprint within Lansdowne, these details are expected to be addressed as part of the permitting and approvals of the subsequent Phase 2 and Phase 3.

While construction phasing details for Phase 2 and Phase 3 are still under development and will be addressed as part of subsequent approval phases, it is anticipated that during construction of Phase 2 and Phase 3, the underground parking garage ramp at Bank Street will be temporarily closed for public use to accommodate construction of the expanded underground parking garage for Lansdowne. The time and duration of impacts is still unknown.

To assess traffic operations during the operation of the new Event Centre, the 2028 horizon year was assumed to include the temporary closure of the Bank Street underground garage ramp. It is anticipated that access to Lansdowne from both Bank Street and Queen Elizabeth Driveway will be unaffected, with the temporary closure of the Bank Street garage ramp, public access to the underground parking garage will occur at the Princess Patricia Way underground garage ramp near Queen Elizabeth Driveway.

It is assumed that most of the traffic (assumption of **70%**) currently accessing the underground parking facilities at the Exhibition Way underground garage ramp will continue to access Lansdowne on Bank Street and will travel through the site towards the Princess Patricia Way garage access.

The remaining portion of traffic (assumption of **30%**) currently accessing the underground parking facility at the Exhibition Way ramp near Bank Street are assumed to alter their travel patterns by shifting to Queen Elizabeth Driveway as the route to travel to Lansdowne. This includes **15%** diverting from Bank Street to Queen Elizabeth Driveway via Fifth Avenue, and **15%** choosing to travel on Queen Elizabeth Driveway further upstream as part of their journey to Lansdowne.

Figure 3.5 through Figure 3.12 summarize projected 2028 traffic volumes inclusive of background development growth and assumed internal circulation adjustments during the temporary closure of the Exhibition Way underground parking garage access during Phase 2 and Phase 3 construction.

Figure 3.5: 2028 Total Future Traffic Volumes (Weekday AM / PM)

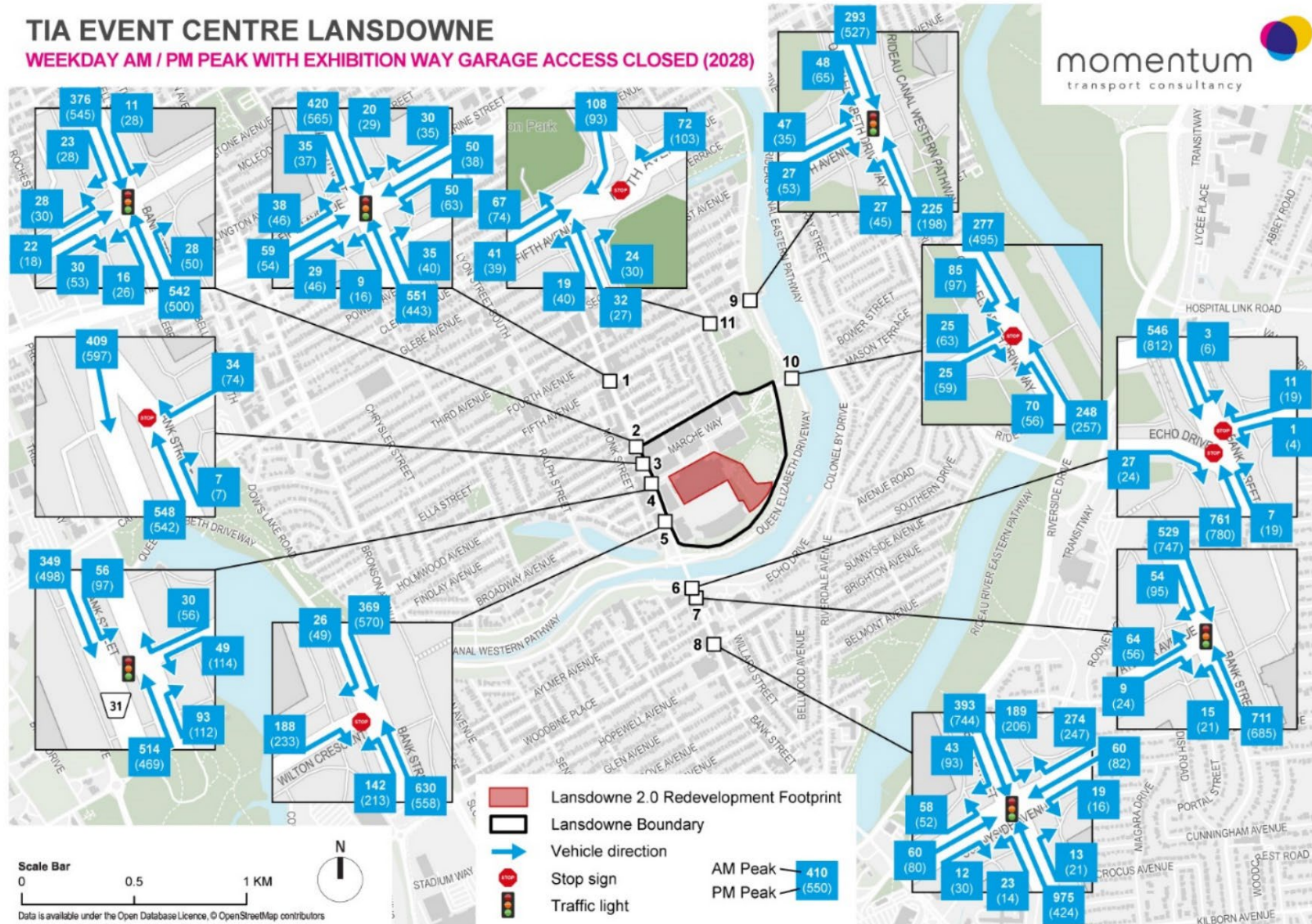


Figure 3.7: 2028 Total Future Traffic Volumes (Saturday PM)

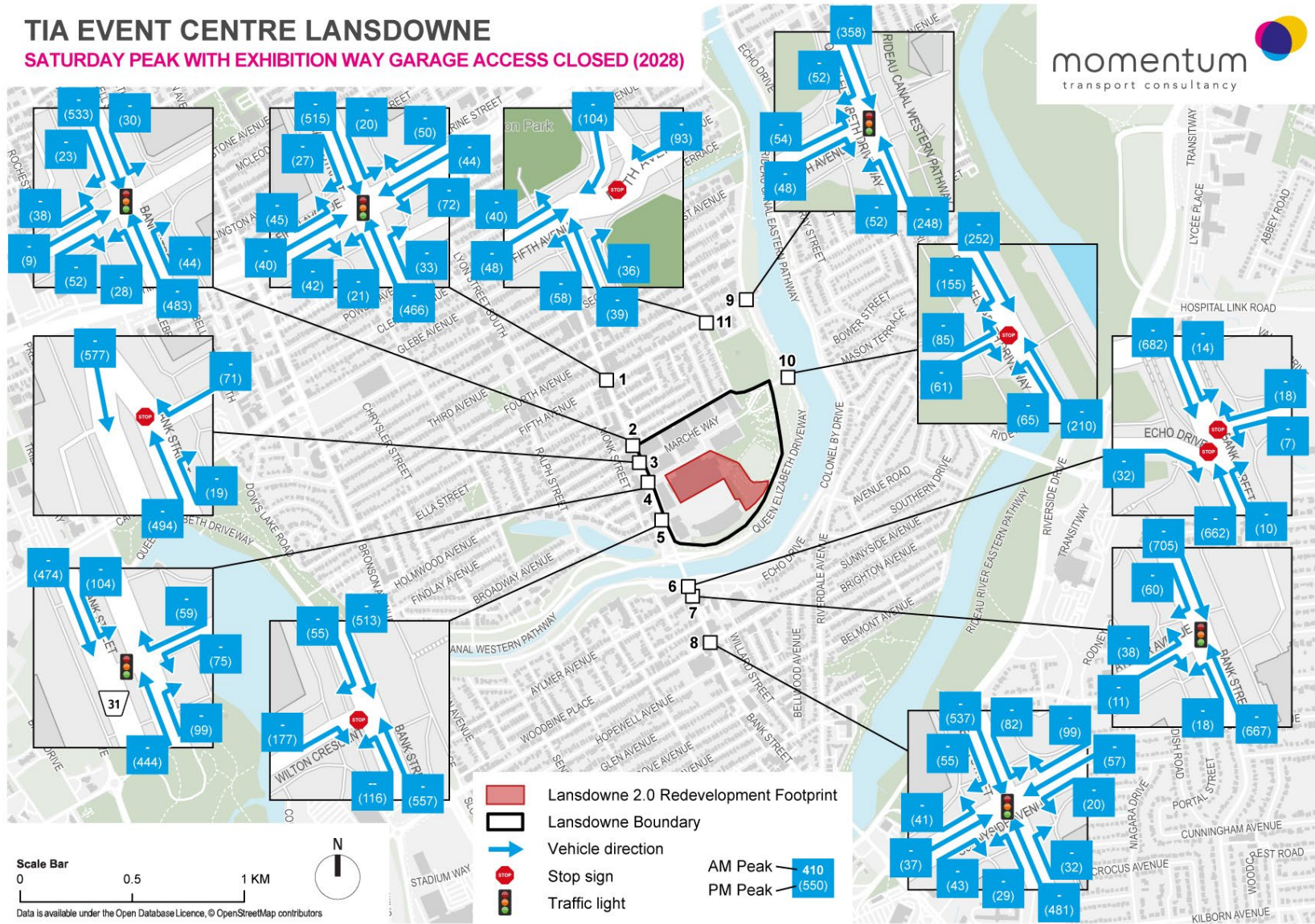


Figure 3.10: 2028 Total Future Traffic Volumes on-site (Sunday PM)

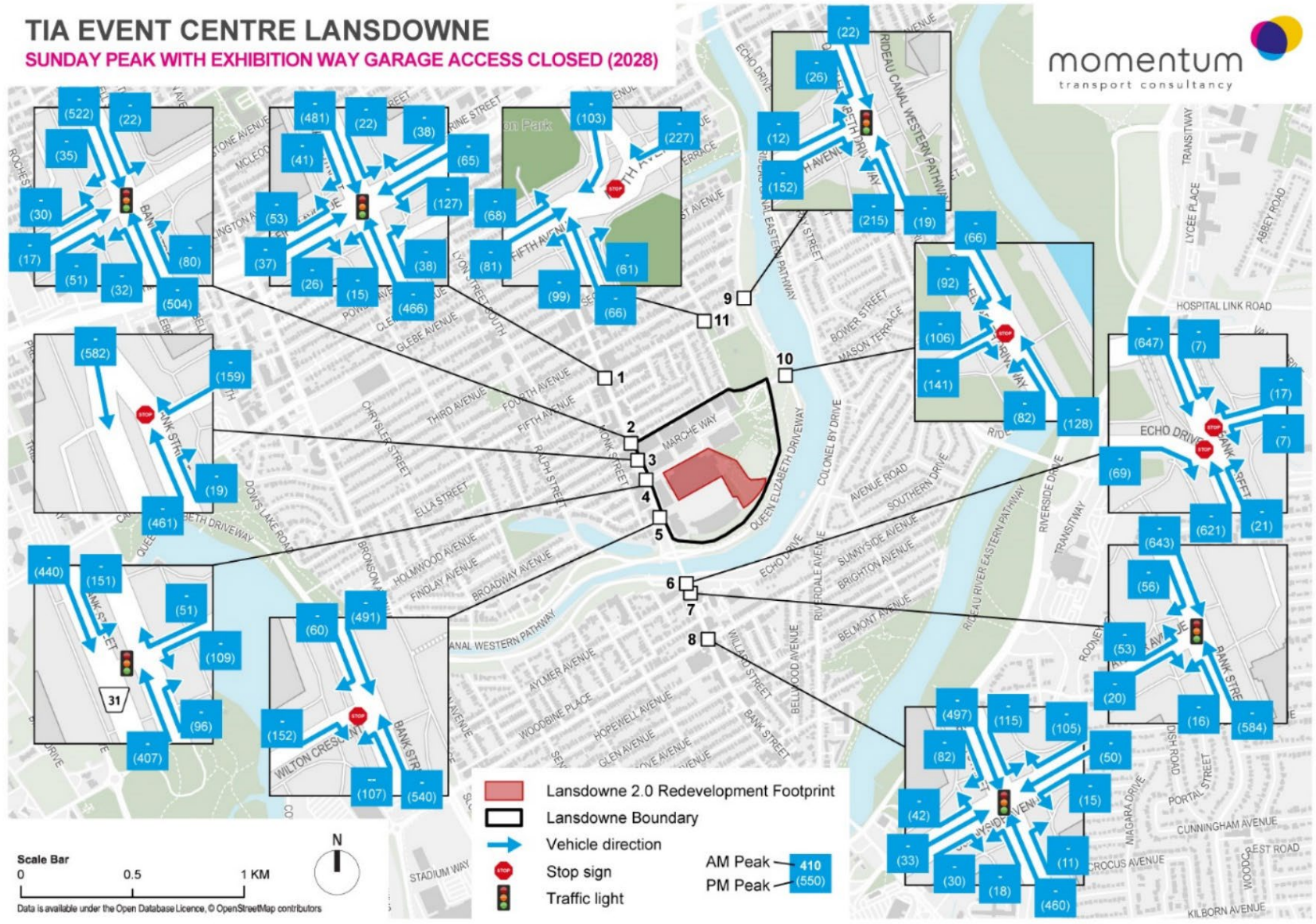
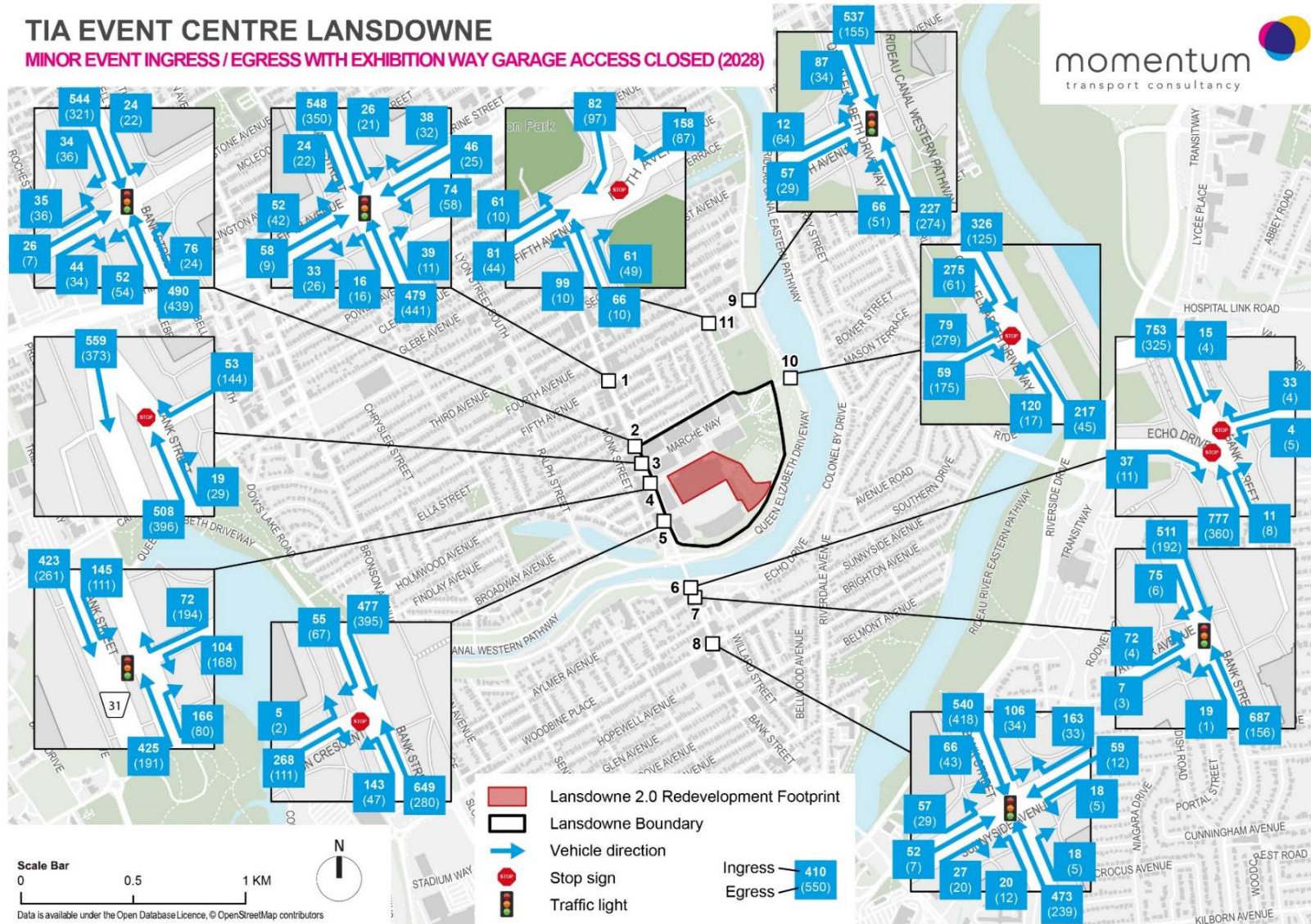


Figure 3.11: 2028 Total Future Traffic Volumes Minor Event



2033 TOTAL FUTURE TRAFFIC VOLUMES

The 2033 Total Future horizon year represents the full build-out of the Lansdowne 2.0 redevelopment project inclusive of the new Event Centre (Phase 1), North Stadium Stands (Phase 2), and additional retail podium and two residential towers (Phase 3).

2033 Total Future traffic volumes were developed by applying a 0.5% background growth rate, explicit background development volumes from nearby developments, as well as new additional site generated trips as outlined in Table 3.8 and Figure 3.1 through Figure 3.4.

Similar to 2028 conditions, 2033 Total Future traffic volumes were derived by applying an assumed background growth rate of 0.5% per year to existing traffic volumes. Additionally, explicit background development traffic, as well as the Lansdowne 2.0 site generated traffic volumes were added.

Figure 3.13 through Figure 3.17 summarize projected 2033 traffic volumes inclusive of background development growth and full-build out site generated traffic volumes for Lansdowne 2.0.

Figure 3.14: 2033 Total Future Traffic Volumes (Saturday PM)

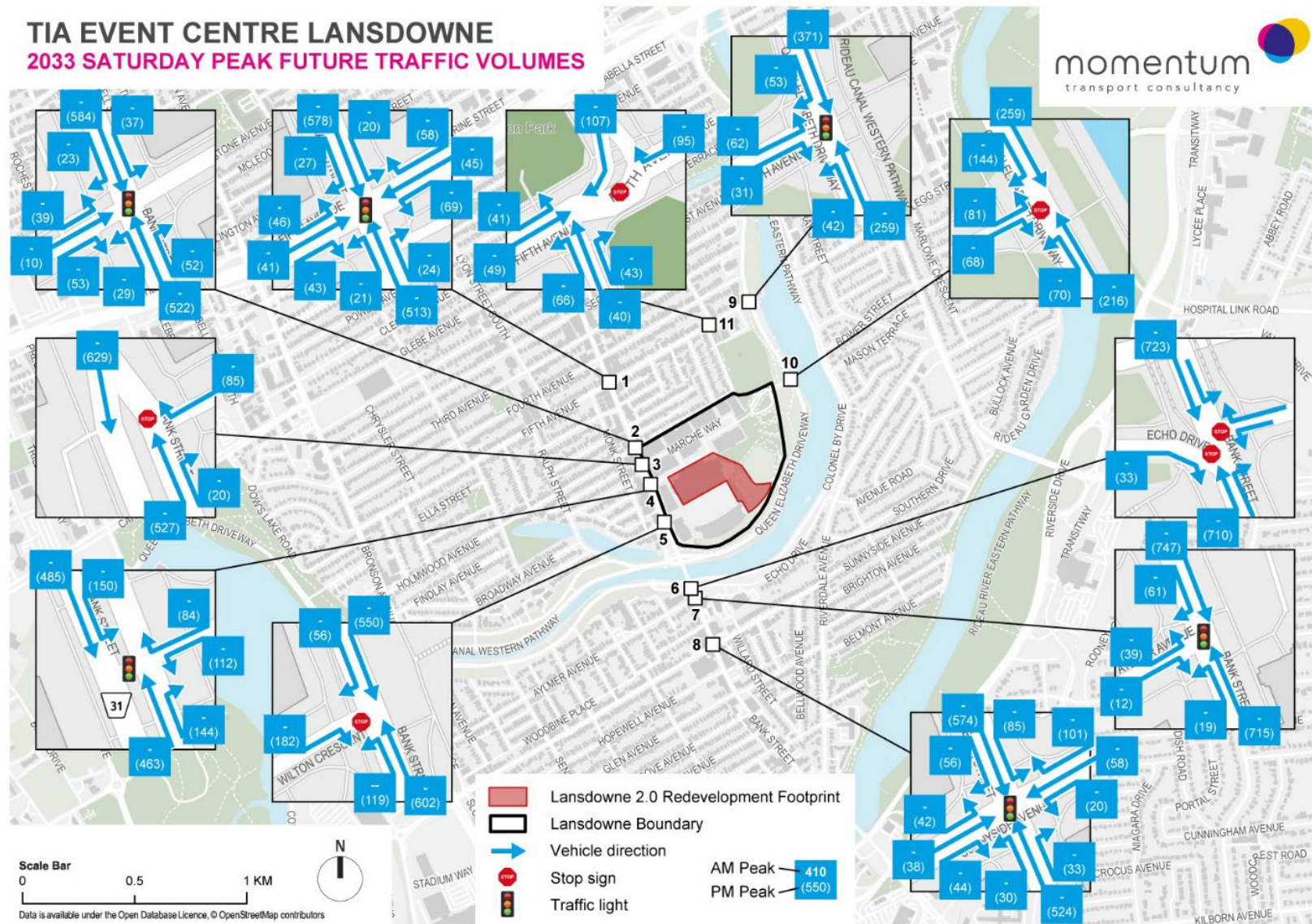


Figure 3.15: 2033 Total Future Traffic Volumes (Sunday PM)

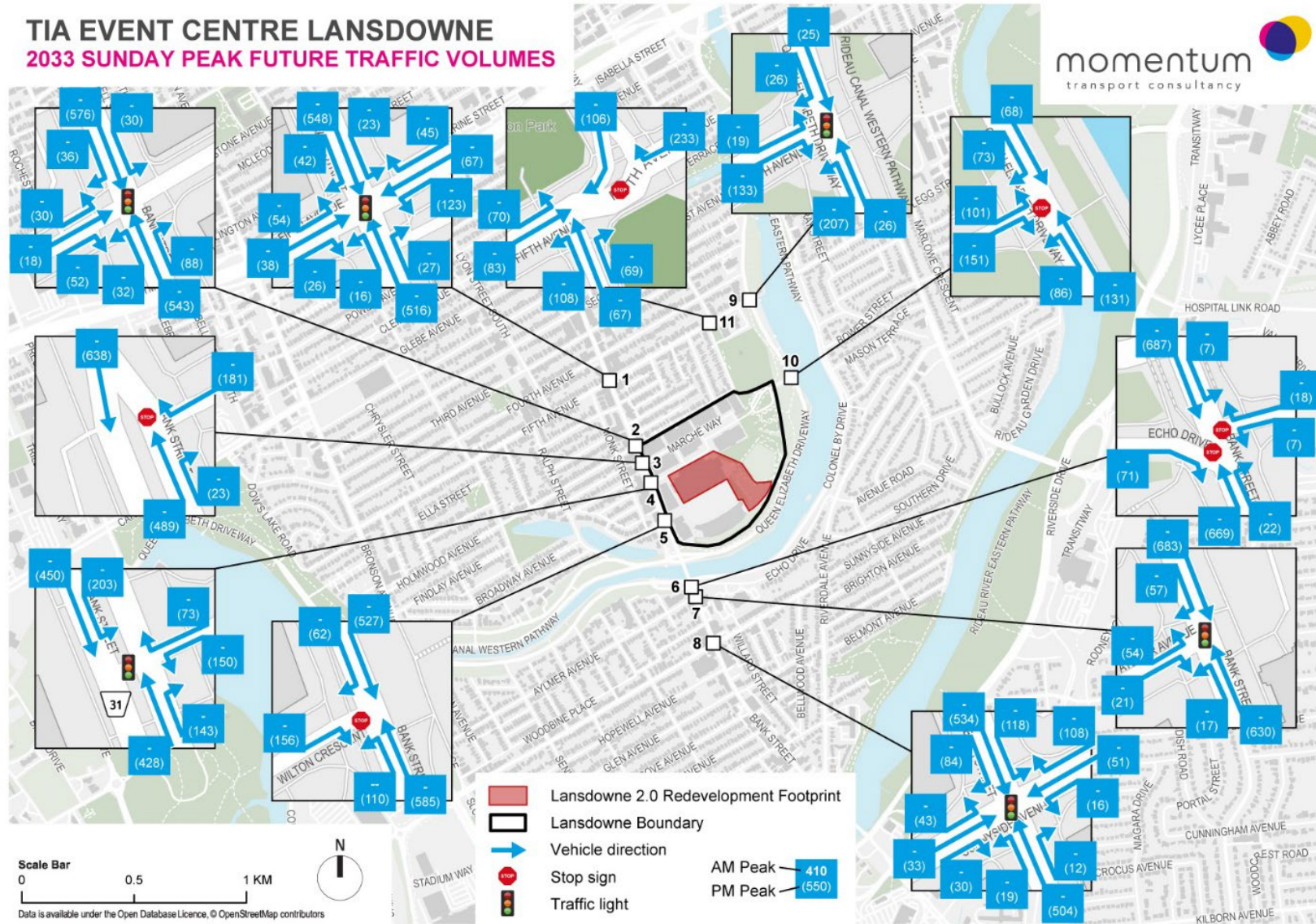


Figure 3.16: 2033 Total Future Traffic Volumes Minor Event (Ingress and Egress)

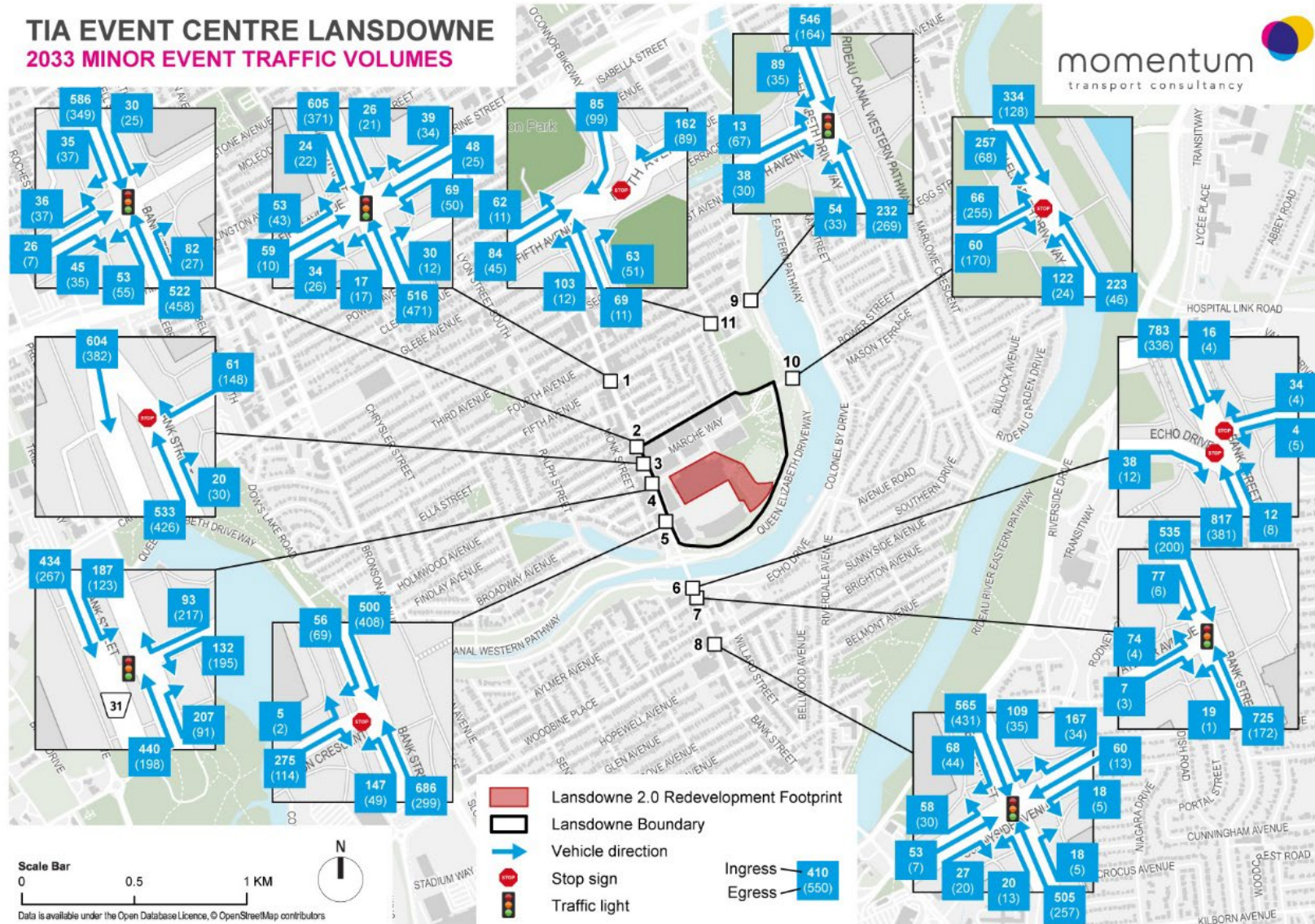
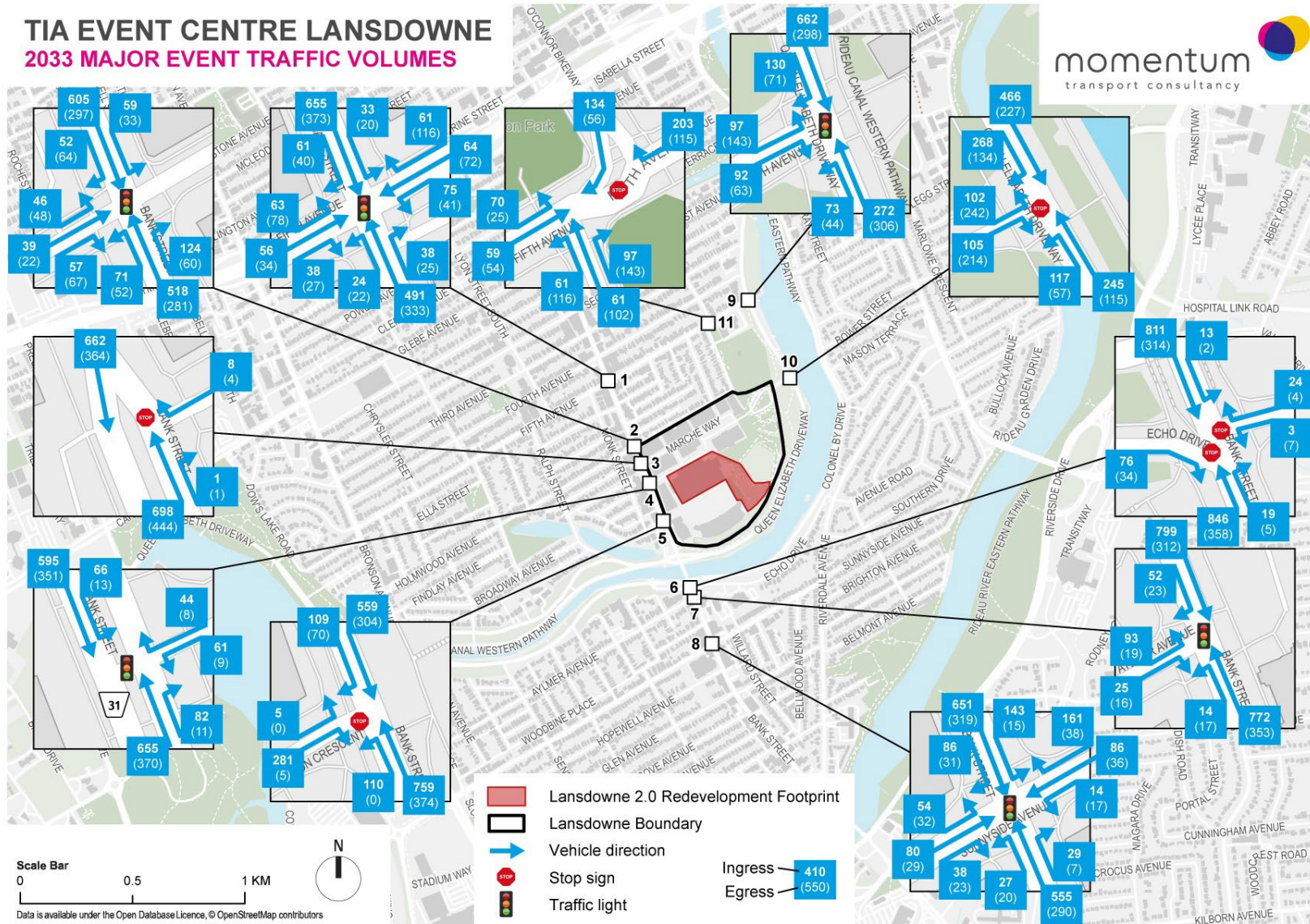


Figure 3.17: 2033 Total Future Traffic Volumes Major Event (Ingress and Egress)



4. STRATEGY REPORT

4.1 Development Design

DESIGN FOR SUSTAINABLE MODES

Bicycle facilities: Lansdowne is designed to accommodate cycling connectivity throughout the site. Many of the internal pathways, particularly Exhibition Way, Marche Way, and Princess Patricia Way, are designed as Pedestrian Priority Zones. Cycling access points to Lansdowne are provided at Bank Street at Exhibition Way and Marche Way, as well as three cycling connections to internal pathways on Holmwood Avenue. On the east and south side of Lansdowne, connections to the multi-use pathways on Queen Elizabeth Driveway are provided at numerous locations. Improved cycling crossing facilities are currently contemplated at the Queen Elizabeth Driveway and Princess Patricia Way site access intersection to Lansdowne. Surface bicycle parking is provided throughout the public realm at Lansdowne. In addition, for major events held on site, free valet bike parking storage is provided.

Pedestrian facilities: Lansdowne is designed to accommodate pedestrian movements throughout the site. Many of the internal pathways, particularly Exhibition Way, Marche Way, and Princess Patricia Way, are designed as Pedestrian Priority Zones. In recent years, the section of Princess Patricia Way between Exhibition Way and Marche Way (along the north side of the Aberdeen Pavilion) has been fully closed to vehicular traffic to better accommodate pedestrian flow. Pedestrian access points are currently to Lansdowne with pedestrian connections to Bank Street at Exhibition Way and Marche Way, as well as three pedestrian connections to sidewalks on Holmwood Avenue. On the east and south side of Lansdowne, pedestrian connections to the multi-use pathways on Queen Elizabeth Driveway are provided at numerous locations. Improved sidewalk and crossing facilities are currently contemplated at the Queen Elizabeth Driveway and Princess Patricia Way site access intersection to Lansdowne.

Parking areas: Lansdowne currently features an underground parking garage with a total of 1,380 spaces for public and residential use. As part of the Lansdowne 2.0 project, the underground parking garage is proposed to be expanded to include an additional 386 underground parking spaces dedicated to support the residential units and additional retail space, for a total of 1,766 parking spaces. Similar to today, access to the underground parking garage will be provided through two garage ramp entrances: one on Exhibition Way east of Bank Street, the other on Princess Patricia Way west of Queen Elizabeth Driveway. A residents-only private access to the underground garage is also available on Holmwood Avenue.

Transit facilities: Transit stops for OC Transpo routes 6 and 7 are currently serviced by stops located at the intersection of Bank Street and Exhibition Way. In addition, these bus stops accommodate 450-series enhanced transit service during Major Events held at Lansdowne. There are sidewalks along both sides of Bank Street as well as adequate pedestrian crosswalks to access the transit stops. The new multi-purpose event centre will be located within the 400 meter transit catchment area.

CIRCULATION AND ACCESS

Site access and circulation at Lansdowne is expected to continue to be provided at the existing site access intersections on Bank Street and Queen Elizabeth Driveway for general public access, as well as Holmwood Avenue at the restricted, residents-only underground garage access.

Site circulation is expected to be managed with similar traffic management measures deployed at Lansdowne today. This includes providing general public traffic access and circulation at designated roadways including Exhibition Way, Marche Way, and Princess Patricia Way.

Paved pathways located at the south of the site in and around the Great Lawn are expected to operate as a restricted / limit-use pathway for emergency vehicle access, deliveries, and designated shuttle services including accessible ParaTranspo service.

Traffic management measures during major events (i.e. stadium events with attendance levels of 15,000 or more) will continue to restrict vehicular access through Lansdowne with temporary vehicle restrictions placed at Bank Street access intersections. Vehicular access will continue to be restricted to the Queen Elizabeth Driveway intersection to provide access to the underground parking garage ramp at Princess Patricia Way, as well as for the shuttle loop for pick-up and drop-off activity. Vehicular circulation through the site will continue to be restricted during major events.

For minor events, particularly at the new event centre, traffic management measures will be required to restrict vehicular access to the new event centre main entrance area. This will require the deployment of traffic control devices at the intersection of Exhibition Way and the internal service road in order to divert inbound traffic from Bank Street to Marche Way. Permitted vehicles, including accessible ParaTranspo buses, will be permitted to travel on Exhibition Way to the designated accessible passenger pick-up and drop-off area.

Proposed site access and internal circulation schemes for regular operations, minor events, and major events after the completion of the Lansdowne 2.0 redevelopment program are illustrated in Figure 4.1 through Figure 4.3.

NEW STREET NETWORKS

Not applicable; exempted during screening and scoping.

Figure 4.1: Lansdowne 2.0 Internal Site Circulation Plan (Regular Operations)

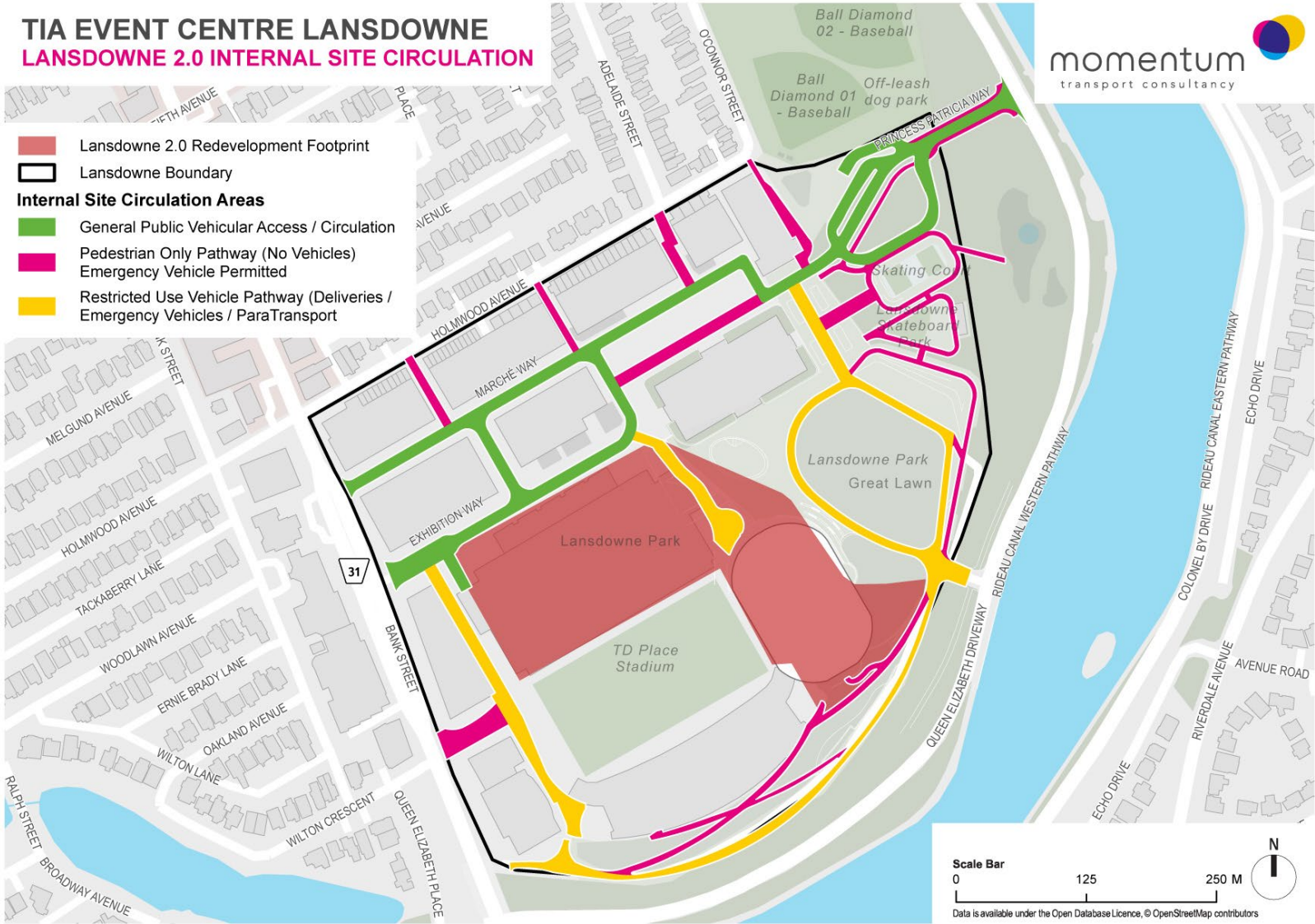


Figure 4.2: Lansdowne 2.0 Internal Site Circulation Plan (Minor Events)



Figure 4.3: Lansdowne 2.0 Internal Site Circulation Plan (Major Events)



4.2 Parking

PARKING SUPPLY

Auto Parking - Lansdowne currently features an underground parking garage with a total of 1,380 spaces for public and residential use. No additional parking spaces are proposed as part of the proposed site plan application for the new event centre (Phase 1).

As part of the overall Lansdowne 2.0 project, the underground parking garage is proposed to be expanded to include an additional 386 underground parking spaces dedicated to support the additional retail space and residential units, for a total of 1,766 parking spaces. These additional spaces are contemplated as part of subsequent phases of development.

Bicycle Parking - Lansdowne benefits from existing surface bicycle parking that supports current day to day activity as well as special events at Lansdowne. No additional parking spaces are proposed as part of the proposed site plan application for the new event centre (Phase 1).

As part of the overall Lansdowne 2.0 project, additional bicycle parking spaces are required to subsequent phases of development at Lansdowne, namely Phase 3 for the new retail podium and two residential towers. Based on the City of Ottawa Zoning By-Laws, the minimum bicycle parking requirement for the subject property is 0.5 spaces per dwelling unit. To offset the reduced parking requirements and to encourage alternative modes of transportation, the residential bicycle parking rate is proposed to be increased to 1 space per dwelling unit, for a total of 770 bicycle parking spaces. All other bicycle parking requirements for non-residential uses are not proposed to be changed and will comply with the applicable requirements of Section 111 of the Zoning By-law.

The total number and allocation of bicycle parking spaces will be finalized in subsequent phases of design development for Lansdowne 2.0.

SPILLOVER PARKING

Not applicable.

4.3 Boundary Street Design

DESIGN CONCEPT

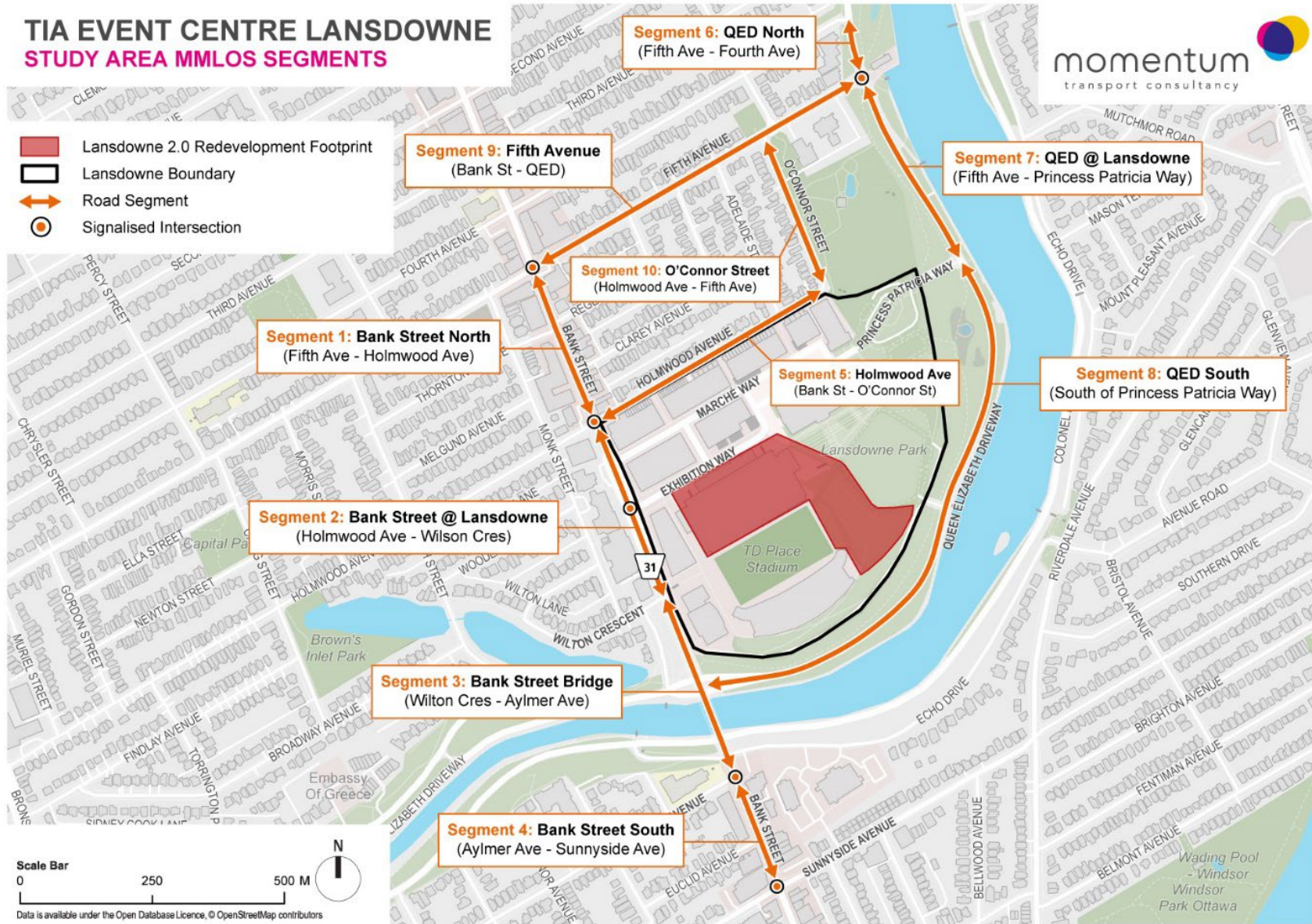
Lansdowne is located in a unique geographic location within the City of Ottawa as it interfaces with Bank Street - a traditional Mainstreet to the west, Holmwood Avenue – a local residential street to the north, and the Queen Elizabeth Driveway – a scenic parkway with regional multi-use pathways.

A Multimodal Level of Service (MMLoS) analysis was conducted for the following key roadway segments interfacing with Lansdowne:

- Segment 1 – Bank Street North (Fifth Avenue to Holmwood Avenue)
- Segment 2 – Bank Street at Lansdowne (Holmwood Avenue to Wilton Crescent)
- Segment 3 – Bank Street Bridge (Wilton Crescent to Aylmer Avenue)
- Segment 4 – Bank Street South (Aylmer Avenue to Sunnyside Avenue)
- Segment 5 – Holmwood Avenue (Bank Street to O'Connor Street)
- Segment 6 – QED North (Fifth Avenue to Fourth Avenue)
- Segment 7 – QED at Lansdowne (Fifth Avenue to Princess Patricia Way)
- Segment 8 – QED South (South of Princess Patricia Way)
- Segment 9 – Fifth Avenue (Bank Street to QED)
- Segment 10 – O'Connor Street (Holmwood Avenue to Fifth Avenue)

Figure 4.4 illustrates location of the MMLoS segments assessed.

Figure 4.4: Study Area MMLOS Segments



4.3.1 Multi-Modal Level of Service (MMLOS)

As per the City of Ottawa Official Plan (Schedule A), Lansdowne falls within the Inner Urban Transect Policy Area, with Bank Street identified as a Mainstreet Corridor. For the purposes of the MMLOS analysis, the following designations were adopted from the Multi-Modal Level of Service (MMLOS) Guidelines:

Bank Street is classified as an Arterial road with a Traditional Main Street designation.

The following MMLOS targets were assumed for Bank Street:

Pedestrian Level of Service (PLOS) target of B.

Bicycle Level of Service (BLOS) target of C based on a Local Route designation .

Transit Level of Service (TLOS) target of D.

Truck Level of Service (TkLOS) target of D.

Auto Level of Service (LOS) of D.

Holmwood Avenue is classified as a Local road with a General Urban Area designation.

The following MMLOS targets were assumed for Holmwood Avenue:

Pedestrian Level of Service (PLOS) target of C.

Bicycle Level of Service (BLOS) target of B based on a Local Route designation .

No Transit Level of Service (TLOS) target is defined.

No Truck Level of Service (TkLOS) target is defined.

Auto Level of Service (LOS) of D.

Queen Elizabeth Driveway is classified as an Arterial with a General Urban Area designation.

The following MMLOS targets were assumed for Queen Elizabeth Driveway:

Pedestrian Level of Service (PLOS) target of A

Bicycle Level of Service (BLOS) target of B based on a Local Route designation

No Transit Level of Service (TLOS) target is defined

No Truck Level of Service (TkLOS) was adopted as QED is not a truck route.

Auto Level of Service (LOS) of D

Fifth Avenue is classified as a Collector road with a General Urban Area designation.

The following MMLOS targets were assumed for Fifth Avenue:

Pedestrian Level of Service (PLOS) target of C

Bicycle Level of Service (BLOS) target of B based on a Local Route designation

No Transit Level of Service (TLOS) target is defined

No Truck Level of Service (TkLOS) target is defined

Auto Level of Service (LOS) of D

O'Connor Street is classified as a Local Road with a General Urban Area designation.

The following MMLOS targets were assumed for O'Connor Street:

Pedestrian Level of Service (PLOS) target of C

Bicycle Level of Service (BLOS) target of B based on a Local Route designation

No Transit Level of Service (TLOS) target is defined

No Truck Level of Service (TkLOS) target is defined

Auto Level of Service (LOS) of D

Table 4.1 summarizes the MMLOS targets and performance for roadway segments.

Table 4.1: MMLOS Targets and Results (Segments)

Segment		PLOS		BLOS		TLOS		TkLOS	
		Target	Actual	Target	Actual	Target	Actual	Target	Actual
1	Bank Street North (Fifth - Holmwood)	B	B	C	E	D	F	D	D
2	Bank Street @ Lansdowne (Holmwood - Wilton)	B	C	C	E	D	F	D	D
3	Bank Street Bridge (Wilton - Aylmer)	B	C	C	A	D	D	D	D
4	Bank Street South (Aylmer - Sunnyside)	B	C	C	E	D	F	D	A
5	Holmwood Ave (Bank - O'Connor)	C	A	B	B	N/A	N/A	N/A	N/A
6	QED North (Fifth - Fourth)	A	F	B	A	N/A	N/A	N/A	N/A
7	QED @ Lansdowne (Fifth - Princess Patricia Way)	A	B	B	A	N/A	N/A	N/A	N/A
8	QED South (South of Princess Patricia Way)	A	B	B	A	N/A	N/A	N/A	N/A
9	Fifth Ave (Bank - QED)	C	E	B	C	N/A	N/A	N/A	N/A
10	O'Connor St (Bank - QED)	C	E	B	A	N/A	N/A	N/A	N/A

Bank Street:

The PLOS target of B along Bank Street, across the frontage of Lansdowne, is currently being met on the east side of the road segment. On the west side of Bank Street, however, the target is not met due to the boulevard widths. As a whole segment, Bank Street, across the frontage of Lansdowne, does not meet the PLOS target.

The BLOS target of C along Bank Street, across the frontage of Lansdowne, is currently met in the northbound travel direction as there is a curbside bike lane. However, in the southbound travel direction there is no dedicated bicycling facility. As a whole segment, Bank Street, across the frontage of Lansdowne, does not meet the BLOS target.

This BLOS target of C is not currently being met north of Wilton Crescent and south of Aylmer Avenue due to the number of vehicle lanes and lack of bicycling facilities. The BLOS target of C is, however, met over the Bank Street Bridge, between Wilton Crescent and Aylmer Avenue, due to the recently installed bicycle facilities. In order to improve the BLOS on Bank Street, improved bicycling facilities would be required.

The TLOS target of D along Bank Street, across the frontage of Lansdowne, is currently not being met due to the mixed operating condition of transit along the corridor and resulting congestion related delays. To improve the TLOS along Bank Street, improved transit priority measures can be implemented to limit delays to transit along the corridor.

Holmwood Avenue:

The BLOS target of B along Holmwood Avenue is currently being met on the southside of the road segment. However, the north side has a BLOS C due to the narrow bicycle lane width. Therefore, as a whole segment, Holmwood Avenue does not meet the BLOS target of B.

Queen Elizabeth Driveway:

The PLOS target of A along Queen Elizabeth Driveway is met for the sections south of Fifth Avenue which utilizes the multi-use pathway. North of Fifth Avenue, however, the PLOS is F because of the lack of a proper sidewalk on the west side of the corridor. It was noted, however, that there is an alternative sidewalk that is adjacent to the recent development at the Northwest corner of the intersection.

The BLOS target of B along Queen Elizabeth Driveway is currently being met due to the provision of a multi-use pathways along the Rideau Canal. It is notable however that this facility is shared with other AT users which can impact the quality of the service in practice and may put some of the higher speed cyclists into the traffic lane, especially during busy times.

Fifth Avenue:

The PLOS target of C along Fifth Avenue is currently not being met due to the sidewalk width, lack of buffer from traffic, and vehicle operating speeds.

The BLOS target of B is currently met on Fifth Avenue between Bank Street and O'Connor Street. However, this target is not met between O'Connor Street and Queen Elizabeth Driveway due to the narrow bike lane widths. As a whole, Fifth Avenue does not currently meet the BLOS target of B.

O'Connor Street:

The PLOS target of C along O'Connor Street is currently not being met due to the sidewalk widths and lack of buffer from traffic. In order to meet the PLOS target, wider sidewalks and/or boulevard buffers are needed on both sides of O'Connor Street.

The BLOS target of B along O'Connor Street is currently being met as the segment scores an LOS A in both directions of travel. It is to be noted, however, that while the southbound bike lane is separated from vehicle traffic, it traverses several residential driveways. This presents potential conflicting movements that are not reflected in the segment's BLOS.

4.4 Access Intersection Design

ACCESS LOCATION

Access to Lansdowne will continue to be facilitated at three key locations: a primary all-movements access at the intersection of Bank Street / Exhibition Way, a secondary all-movements access at Queen Elizabeth Driveway and Princess Patricia Way, and a minor right-in/right-out only access on Bank Street and Marche Way.

INTERSECTION CONTROL

The primary Bank Street / Exhibition Way intersection access is signalized and accommodates all-movements. The secondary Queen Elizabeth Driveway / Princess Patricia Way intersection access is Stop-Controlled on the minor approach. The minor Bank Street / Marche Way intersection is a right-in/right-out only intersection with a Stop-Control on the minor approach.

4.5 Transportation Demand Management

The initial Lansdowne Redevelopment project featured a comprehensive Transportation Demand Management (TDM) strategy to address day-to-day and special event transportation requirements. The Transportation Demand Management Plan (October 2011) for Lansdowne outlined strategies for encouraging residents, employees, and visitors to Lansdowne to utilize transit and active transportation modes to reduce reliance on single occupant vehicles (SOV) and automobile use. The plan included recommendations for both day-to-day operations (residents, employees and retail patrons), as well as for special events with attendance levels of 10,000 patrons (arena events), 25,000 patrons (stadium events), and 40,000 plus patrons (unique, expanded stadium events).

A hallmark of the TDM plan for Lansdowne is the provision of free transit service to all ticketholders attending ticketed events at Lansdowne. This innovative TDM strategy, which is the first of its kind in North America for a large mixed-use entertainment district, provides free transit to all ticketed events starting 2 hours prior to the start of events and 2 hours after the end of events held at Lansdowne. The cost of any enhanced transit service provided for events with attendance levels of 5,000 or more are borne by OSEG.

The comprehensive TDM program implemented in 2014 as part of the original revitalization of Lansdowne Park will continue to play a critical role in supporting the transportation program for Lansdowne 2.0. This includes the provision of free transit for all ticketed events at Lansdowne.

TDM PROGRAM

The City of Ottawa's TDM-supportive design and infrastructure elements checklist was consulted to identify and incorporate TDM supportive measures into the design stage. An updated Transportation Demand Management Strategy for Lansdowne 2.0 was developed as part of the Lansdowne 2.0 Transportation Impact Assessment Study (Stantec – July 2023).

The TDM Checklist in support of the event centre (Phase 1) is included in Appendix C.

4.6 Neighbourhood Traffic Management

Not applicable; exempted during screening and scoping.

4.7 Transit

ROUTE CAPACITY

Service on Bank Street currently operates with headways of 12-minutes or less on both Routes 6 and 7.

As part of the TDM program for special events at Lansdowne. Ticketed events with attendance levels of 5,000 or less are accommodated with regularly scheduled bus service on Bank Street with no service enhancements.

For ticketed events with attendance levels between 5,000 and 10,000 attendees, service enhancements on bus Route 6 and 7 are provided to support additional transit ridership demands for events. enhanced service can range from 2 additional bus trips to 8 extra trips depending on depending on attendance levels. The cost of additional trips added to support events is bourn by OSEG.

It is anticipated that the current transit service enhancements provided for minor events (attendance levels of 10,000 or less) for Phase 1 (multi-purpose event centre) will be supported adequately through the current TDM program and transit service enhancements.

For the full-build out of Lansdowne 2.0 (i.e. Phase 3), transit modal shares of 25%, 14%, and 29% were assumed for the proposed multi-family residential, shopping center, and general office land-uses.

This is expected to result in a peak hour net increase in transit trips of 152 trips during the Weekday AM peak hour, 119 transit trips in the Weekday PM Peak hour, 146 transit trips in the Weekend Saturday peak hour, and 167 transit trips in the Weekend Sunday peak hour

Currently, OC Transpo Route 6 and Route 7 provide service along Bank Street with connections to key destinations in Ottawa. Service is provided on weekdays and weekends with an average headway of 12 minutes for each route in both directions. This translates to a total of 20 two-way transit trips on Bank Street at Lansdowne (5 trips per bus route, per direction).

The OC Transpo fleet is comprised of various bus types including 40' standard buses, higher capacity 60' articulated buses, and double-decker buses.

Depending on the fleet vehicle used, the passenger capacity across the fleet varies between 57 to 110 passengers per bus, depending on the bus type.

On average, the following capacities are provided:

Standard 40' buses: the total carrying capacity per bus ranges between 57 to 85 passengers (standing and seated). An assumed carrying capacity of 70 passengers is assumed for Standard 40' buses.

Articulated 60' buses: the total carrying capacity per bus is 110 passengers (standing and seated).

Double Decker buses: the total carrying capacity per bus ranges between 96 to 105 passengers (standing and seated). An assumed carrying capacity of 100 passengers per bus is assumed for Double Decker buses.

Based on the current 20 two-way transit trips along Bank Street, current transit passenger carrying capacity ranges between 1,400 passengers / hr to 2200 passengers per hour, depending on the fleet mix used.

For planning purposes, an average two-way transit carrying capacity of 1,870 passengers per hour is assumed.

OC Transpo currently utilizes all bus types on Routes 6 and 7 along Bank Street. OC Transpo plans vehicle fleet mix for each trip booking to match observed and projected ridership. Based on information provided by OC Transpo, the following passenger demands are to be assumed for current ridership by bus type:

Standard 40' Buses:

- 40 passengers per vehicle, averaged over an hour during off-peaks.
- 45 passengers per vehicle, averaged over an hour during peak periods.

Articulated 60' Buses:

- 60 passengers per vehicle, averaged over an hour during off-peaks.
- 70 passengers per vehicle, averaged over an hour during peak periods.

Double Decker Buses:

- 85 passengers per vehicle, averaged over an hour during off-peaks.
- 90 passengers per vehicle, averaged over an hour during peak periods.

Based on the transit ridership, current two-way transit demands along Bank Street range between 900 passengers / hr to 1,800 passengers per hour depending on the fleet mix used.

For planning purposes, an average two-way transit demand of 1,400 passengers / hr is assumed for current service along Bank Street on Routes 6 and 7.

It is anticipated that the current two-way transit demands generated by Lansdowne 2.0, which ranges between 119 to 167 passengers / hr, can be accommodated within the current scheduled services on Bank Street.

The provision for transit service requirements for the full-build out of Lansdowne 2.0 should be confirmed as part of subsequent studies in support of Phase 2 and Phase 3 of development.

4.8 Intersection Design

INTERSECTION CONTROL

The existing intersection control for Lansdowne will be maintained as part of the Lansdowne 2.0 redevelopment.

INTERSECTION DESIGN

An assessment of the study area intersections was undertaken to determine the operational characteristics under the various horizons identified in the Screening and Scoping report. Intersection operational analysis was performed with Synchro 12 software package and the MMLOS analysis was completed for all modes and compared against the City of Ottawa's MMLOS targets.

4.8.1 Existing Conditions

Intersection Capacity Analysis

Intersection operational analysis under Existing Conditions is summarized in this section.

Detailed Synchro level of service analysis results can be found in Appendix D.

Table 4.2: Existing Weekday AM and PM Peak Hour Conditions (Study Area Intersections)

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				AM	PM	AM	PM	AM	PM	AM	PM
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	C	D	0.36	0.65	21.9	35.1	27.2	31.7
		WB	Left	C	C	0.18	0.39	22.9	33.1	14.0	17.3
			Through / Right	B	B	0.21	0.29	15.9	17.7	16.0	14.4
		NB	Left / Through / Right	A	A	0.38	0.27	3.8	9.7	8.2	43.6
		SB	Left / Through / Right	A	A	0.32	0.36	8.5	6.1	25.6	34.0
		Overall Intersection		A	B	0.38	0.65	8.6	12.1	--	--
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	D	0.47	0.53	37.6	38.3	22.6	26.7
		NB	Left / Through / Right	A	A	0.29	0.30	2.6	1.9	10.8	9.0
		SB	Left / Through / Right	A	A	0.21	0.31	3.1	4.7	13.2	21.1
		Overall Intersection		A	A	0.47	0.53	5.4	6.1	--	--

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				AM	PM	AM	PM	AM	PM	AM	PM
Bank St & Exhibition Way	Signalized	WB	Left	C	D	0.27	0.50	32.5	35.1	17.2	30.8
			Right	B	D	0.20	0.28	13.3	10.5	7.5	9.4
		NB	Left / Through / Right	B	A	0.37	0.31	10.1	5.2	40.0	27.6
			SB	Left	A	A	0.14	0.28	8.5	4.8	11.6	6.5
		Through		A	A	0.16	0.23	6.7	3.1	22.7	9.6
		Overall Intersection		B	A	0.37	0.50	10.1	7.3	--	--
Bank St & Wilton Cr	Minor Stop	EB	Right	C	F	0.49	0.82	22.0	53.2	15.6	40.8
			NB	Left	B	B	0.20	0.36	10.7	13.6	5.7	13.7
		Through		A	A	--	--	1.8	3.3	5.7	13.7
		Overall Intersection		A	B	0.49	0.82	4.8	10.2	--	--
Bank St & Echo Dr	Minor Stop	EB	Right	B	C	0.06	0.07	12.5	16.1	1.2	1.2
			Overall Intersection		A	A	0.06	0.07	0.3	0.2	--
Bank St & Aylmer Ave	Signalized	EB	Left / Right	C	C	0.26	0.34	29.5	31.1	19.9	22.8
			NB	Left / Through	A	A	0.42	0.38	3.8	4.9	16.8	19.6
		SB		Through / Right	A	A	0.33	0.45	7.2	7.6	28.1	43.7
			Overall Intersection		A	A	0.42	0.45	6.5	7.5	--
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	C	D	0.43	0.65	26.8	42.2	32.6	53.6
			WB	Left / Through / Right	C	D	0.76	0.93	22.5	53.1	67.9	98.3
		NB		Left / Through / Right	B	A	0.69	0.29	16.4	9.2	80.8	28.0
			SB	Left / Through / Right	B	C	0.78	0.88	19.2	20.2	30.7	130.2
		Overall Intersection		A	B	0.10	0.32	1.6	2.6	--	--
QED & Princess Patricia Way	Minor Stop	NB	Left / Through	A	A	0.06	0.05	8.2	8.9	1.2	1.2
			EB	Left / Right	B	C	0.10	0.32	13.1	19.5	1.8	8.4
		Overall Intersection		A	B	0.10	0.32	1.6	2.6	--	--

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				AM	PM	AM	PM	AM	PM	AM	PM
Queen Elizabeth Dr & Fifth Ave	Signalized	EB	Left / Right	B	D	0.21	0.37	17.6	36.6	12.9	22.0
		NB	Left / Through	A	A	0.32	0.24	7.7	5.0	21.9	21.5
		SB	Through / Right	A	A	0.42	0.53	8.6	7.7	30.5	66.0
		Overall Intersection		A	A	0.42	0.53	9.2	9.2	--	--
Bank St & Marche Way	Minor Stop	WB	Left / Right	C	B	0.57	0.15	21.1	12.9	21.0	3.0
		Overall Intersection		A	A	0.57	0.15	4.6	0.8	--	--
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	A	A	0.14	0.15	7.9	8.0	--	--
		WB	Right	A	A	0.07	0.10	6.4	6.5	--	--
		NB	Left / Through / Right	A	A	0.09	0.12	7.5	7.7	--	--
		SB	Right	A	A	0.10	0.09	6.6	6.5	--	--
		Overall Intersection		A	A	0.14	0.15	7.1	7.2	--	--

Table 4.3: Existing Weekday AM and PM Peak Hour Conditions (Internal Lansdowne Intersections)

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				AM	PM	AM	PM	AM	PM	AM	PM
Garage Access at Exhibition Way	Two-Way Stop	WB	Left	A	A	0.0	0.01	0.0	0.1	0.0	0.1
			Through	A	A	--	0.01	0.7	0.4	--	0.1
		NB	Left / Right	B	C	0.05	0.14	12.9	15.6	0.2	3.6
		Overall Intersection		A	A	0.11	0.16	1.3	1.9	--	--
Exhibition Way and Service Roadway	All-Way Stop	EB	Left / Through	A	A	0.13	0.16	7.7	7.9	--	--
		WB	Through / Right	A	A	0.08	0.18	7.4	7.9	--	--
		SB	Left / Right	A	A	0.01	0.01	7.2	7.4	--	--
		Overall Intersection		A	A	0.14	0.18	7.6	7.9	--	--
Marché Way and Service Roadway	All-Way Stop	EB	Left / Through	A	A	0.00	0.01	6.7	6.6	--	--
		WB	Left / Through	A	A	0.15	0.01	7.7	7.1	--	--
		NB	Left / Right	A	A	0.01	0.01	7.1	6.8	--	--
		Overall Intersection		A	A	0.15	0.01	7.6	6.9	--	--

Marché Way and Exhibition Way	All-Way Stop	EB	Through / Right	A	A	0.00	0.01	6.9	7.0	--	--
		WB	Left / Through	A	A	0.15	0.19	8.1	8.5	--	--
		NB	Left / Right	A	A	0.14	0.14	7.8	7.4	--	--
		Overall Intersection		A	A	0.16	0.19	8.0	7.9	--	--
Garage Access at Princess Patricia Way	Two-Way Stop	EB	Left	A	A	0.00	0.00	0.00	0.00	0.1	0.1
			Through	A	A	0.00	0.00	1.0	0.7	0.1	0.1
		SB	Left / Right	A	A	0.01	0.07	9.3	9.5	0.3	1.7
		Overall Intersection		A	A	0.09	0.07	0.7	2.5	--	--

All study area intersections are currently operating with overall acceptable levels of service under the Weekday AM and PM peak hour conditions.

The intersection of Bank Street and Sunnyside Avenue is currently operating with specific movements at or close to theoretical capacity in the southbound approach (AM Peak) and westbound approach (PM Peak). The eastbound approach at intersection of Bank Street and Wilton Crescent is currently operating with a LOS F during the PM peak hour. The delays are associated with limited gaps in traffic in the southbound direction associated with the recently installed 3-lane cross-section of Bank Street.

No mitigation measures are recommended to improve intersection operations.

Table 4.4: Existing Weekend Saturday Peak Hour Conditions (Study Area Intersections)

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	C	0.63	34.2	28.1
		WB	Left	D	0.46	36.6	19.4
			Through / Right	B	0.39	18.5	17.0
		NB	Left / Through / Right	A	0.27	3.7	14.5
		SB	Left / Through / Right	A	0.29	5.1	28.2
		Overall Intersection		A	0.63	9.7	--
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	0.54	38.5	26.7
		NB	Left / Through / Right	A	0.29	2.2	9.2
		SB	Left / Through / Right	A	0.30	3.6	16.1
		Overall Intersection		A	0.54	5.7	--
Bank St & Exhibition Way	Signalized	WB	Left	C	0.39	33.9	23.9
			Right	B	0.33	11.8	10.4
		NB	Left / Through / Right	A	0.28	4.5	22.7
		SB	Left	A	0.28	6.9	16.5
			Through	A	0.21	4.5	22.2
		Overall Intersection		A	0.39	7.0	--
Bank St & Wilton Cr	Minor Stop	NB	Left	B	0.19	11.6	4.2
			Through	A	--	1.8	4.2
		EB	Right	D	0.58	29.9	20.4
Overall Intersection		B	0.58	5.1	--		
Bank St & Echo Dr	Minor Stop	EB	Right	B	0.08	14.3	1.8
		Overall Intersection		A	0.08	0.3	--
Bank St & Aylmer Ave	Signalized	EB	Left / Right	C	0.20	30.2	15.8
		NB	Left / Through	A	0.37	5.5	22.4
		SB	Through / Right	A	0.40	7.2	38.4
		Overall Intersection		A	0.40	7.1	--

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	E	0.75	59.8	37.5
		WB	Left / Through / Right	D	0.71	35.9	38.6
		NB	Left / Through / Right	A	0.31	6.6	32.6
		SB	Left / Through / Right	A	0.44	4.1	11.2
		Overall Intersection		B	0.75	13.2	--
QED & Princess Patricia Way	Minor Stop	NB	Left / Through	A	0.05	8.3	1.2
		EB	Left / Right	C	0.28	15.2	6.6
		Overall Intersection		A	0.28	3.0	--
QED & Fifth Ave	Signalized	EB	Left / Right	D	0.42	37.3	25.2
		NB	Left / Through	A	0.29	5.4	27.5
		SB	Through / Right	A	0.37	6.1	40.5
		Overall Intersection		A	0.42	9.2	--
Bank St & Marche Way	Minor Stop	WB	Left / Right	B	0.14	12.4	3.0
		Overall Intersection		A	0.14	0.8	--
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	A	0.11	7.9	--
		WB	Right	A	0.09	6.5	--
		NB	Left / Through / Right	A	0.16	7.9	--
		SB	Right	A	0.10	6.6	--
		Overall Intersection		A	0.16	7.2	--

Table 4.5: Existing Weekend Saturday Peak Hour Conditions (Internal Lansdowne Intersections)

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95th (m)
Garage Access at Exhibition Way	Two-Way Stop	WB	Left	A	0.00	8.4	0
			Through	A	--	0	--
		NB	Left / Right	C	0.18	15.3	0.7
		Overall Intersection		A	0.19	2.9	--
Exhibition Way and Service Roadway	All-Way Stop	EB	Left / Through	A	0.15	7.8	--
		WB	Through / Right	A	0.11	7.5	--
		SB	Left / Right	A	0.01	7.3	--
		Overall Intersection		A	0.15	7.7	--
Marché Way and Service Roadway	All-Way Stop	EB	Left / Through	A	0.02	7	--
		WB	Left / Through	A	0.09	7.4	--
		NB	Left / Right	A	0.01	7	--
		Overall Intersection		A	0.09	7.3	--
Marché Way and Exhibition Way	All-Way Stop	EB	Through / Right	A	0.02	7.3	--
		WB	Left / Through	A	0.12	8.1	--
		NB	Left / Right	A	0.15	8.1	--
		Overall Intersection		A	0.16	8.0	--
Garage Access at Princess Patricia Way	Two-Way Stop	EB	Left	A	0.00	7.6	0.1
			Through	A	--	0	0.1
		SB	Left / Right	B	0.13	10.1	3.5
		Overall Intersection		A	0.13	3.3	--

As illustrated above, all study area intersections are currently operating with overall acceptable levels of service under Weekend Saturday peak hour conditions.

Table 4.6: Existing Weekend Sunday Peak Hour Conditions (Study Area Intersections)

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	C	0.53	30.2	26.4
		WB	Left	D	0.65	41.7	30.7
			Through / Right	C	0.36	20.1	20.0
		NB	Left / Through / Right	A	0.30	7.9	51.3
		SB	Left / Through / Right	A	0.33	6.5	30.8
		Overall Intersection				B	0.65	12.9	--
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	0.53	38.2	26.7
		NB	Left / Through / Right	A	0.34	7.2	49.5
		SB	Left / Through / Right	A	0.30	8.2	44.3
		Overall Intersection				A	0.53	10.0	--
Bank St & Exhibition Way	Signalized	WB	Left	D	0.53	35.8	31.2
			Right	B	0.29	10.2	9.4
		NB	Left / Through / Right	B	0.36	11.3	37.9
		SB	Left	B	0.41	12.4	26.0
			Through	A	0.21	5.1	23.4
		Overall Intersection				B	0.53	11.6	--
Bank St & Wilton Cr	Minor Stop	NB	Left	B	0.18	11.4	5.1
			Through	A	--	1.7	5.1
		EB	Right	E	0.62	25.5	28.8
		Overall Intersection				A	0.62	4.6	--
Bank St & Echo Dr	Minor Stop	EB	Right	C	0.21	17.8	0.8
		Overall Intersection				A	0.41	1.1	--
Bank St & Aylmer Ave	Signalized	EB	Left / Right	D	0.40	35.7	21.9
		NB	Left / Through	A	0.27	2.4	14.3
		SB	Through / Right	A	0.31	3.4	26.2
		Overall Intersection				A	0.40	4.6	--

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	E	0.78	67.8	34.5
		WB	Left / Through / Right	C	0.70	32.8	35.5
		NB	Left / Through / Right	B	0.37	16.5	47.5
		SB	Left / Through / Right	A	0.49	4.7	11.3
		Overall Intersection		B	0.78	16.5	--
QED & Princess Patricia Way	Minor Stop	NB	Left / Through	A	0.05	7.6	0.2
		EB	Left / Right	B	0.31	11.9	1.4
		Overall Intersection		A	0.23	5.3	--
QED & Fifth Ave	Signalized	EB	Left / Right	D	0.61	40.6	37.4
		NB	Left / Through	A	0.29	7.3	27.9
		SB	Through / Right	A	0.04	5.6	5.7
		Overall Intersection		B	0.61	19.1	--
Bank St & Marche Way	Minor Stop	WB	Left / Right	B	0.30	14	1.3
		Overall Intersection		A	0.27	1.9	--
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	A	0.23	9.9	0.9
		WB	Right	A	0.30	9.4	1.3
		NB	Left / Through / Right	B	0.34	10.6	1.5
		SB	Right	A	0.14	8.5	0.5
		Overall Intersection		A	0.34	9.8	--

Table 4.7: Existing Weekend Saturday Peak Hour Conditions (Internal Lansdowne Intersections)

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95th (m)
Garage Access at Exhibition Way	Two-Way Stop	WB	Left	A	0.00	8.5	0
			Through	A	--	0	--
		NB	Left / Right	C	0.24	17.1	1
		Overall Intersection		A	0.25	3.2	--
Exhibition Way and Service Roadway	All-Way Stop	EB	Left / Through	A	0.18	8	0.7
		WB	Through / Right	A	0.13	7.7	0.5
		SB	Left / Right	A	0.01	7.4	0
		Overall Intersection		A	0.18	7.9	--
Marché Way and Service Roadway	All-Way Stop	EB	Left / Through	A	0.02	7.1	0.1
		WB	Left / Through	A	0.2	8	0.7
		NB	Left / Right	A	0.01	7.2	0
		Overall Intersection		A	0.20	7.9	--
Marché Way and Exhibition Way	All-Way Stop	EB	Through / Right	A	0.02	7.3	0.1
		WB	Left / Through	A	0.07	7.9	0.3
		NB	Left / Right	A	0.18	8.2	0.7
		Overall Intersection		A	0.19	8.0	--
Garage Access at Princess Patricia Way	Two-Way Stop	EB	Left	A	0.00	7.5	0
			Through	A	--	0	--
		SB	Left / Right	B	0.23	10.7	0.9
		Overall Intersection		A	0.23	5.3	--

As illustrated above, all study area intersections are currently operating with overall acceptable levels of service under Weekend Saturday peak hour conditions.

As illustrated above, all study area intersections are currently operating with overall acceptable levels of service on Weekend Sunday peak periods with concurrent events at Lansdowne.

The eastbound approach at intersection of Bank Street and Wilton Crescent is currently operating with a LOS E. The delays at this intersection are not directly attributed to event traffic held at Lansdowne and are associated with limited gaps in traffic in the southbound direction associated with the recently installed 3-lane cross-section of Bank Street.

No mitigation measure is recommended to improve intersection operations.

Table 4.8: Existing Minor Event (Arena at TD Place) Peak Hour Conditions

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	D	C	0.65	0.51	36.9	31.9	32.3	18.8
		WB	Left	C	C	0.42	0.34	33.3	34.4	18.8	15.5
			Through / Right	B	B	0.30	0.30	19.0	19.5	15.6	12.6
		NB	Left / Through / Right	B	A	0.30	0.24	10.0	6.0	49.8	34.2
		SB	Left / Through / Right	A	A	0.35	0.20	6.3	3.6	33.6	15.6
		Overall Intersection		B	A	0.65	0.51	12.6	9.0	--	--
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	D	0.54	0.47	38.1	37.7	27.8	22.3
		NB	Left / Through / Right	A	A	0.37	0.29	2.9	3.7	13.9	22.1
		SB	Left / Through / Right	A	A	0.32	0.20	4.8	4.4	20.2	24.4
		Overall Intersection		A	A	0.54	0.47	6.5	6.6	--	--
Bank St & Exhibition Way	Signalized	WB	Left	D	D	0.50	0.64	35.1	36.4	30.8	43.5
			Right	B	D	0.37	0.57	10.5	9.6	11.2	16.2
		NB	Left / Through / Right	A	A	0.33	0.17	4.9	4.9	26.6	12.4
		SB	Left	A	A	0.41	0.25	7.4	5.8	10.5	8.8
			Through	A	A	0.20	0.14	3.1	4.4	8.8	7.6
		Overall Intersection		A	B	0.50	0.64	7.6	11.6	--	--
Bank St & Wilton Cr	Minor Stop	EB	Right	F	C	0.85	0.32	52.8	18.8	45.6	7.8
		NB	Left	B	B	0.19	0.07	12.1	10.3	5.3	1.8
			Through	A	A	--	--	2.2	0.6	5.3	1.8
		Overall Intersection		B	A	0.85	0.32	10.5	2.9	--	--
Bank St & Echo Dr	Minor Stop	EB	Right	C	B	0.11	0.02	15.8	10.4	2.4	0.6
		Overall Intersection		A	A	0.11	0.02	0.4	0.2	--	--

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Bank St & Aylmer Ave	Signalized	EB	Left / Right	D	C	0.35	0.03	36.4	27.2	26.1	4.4
		NB	Left / Through	A	A	0.39	0.08	5.4	5.3	23.6	8.1
		SB	Through / Right	A	A	0.32	0.10	6.4	5.2	28.0	9.6
		Overall Intersection		A	A	0.39	0.10	7.6	5.7	--	--
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	D	D	0.73	0.48	52.2	44.4	#42.6	19.1
		WB	Left / Through / Right	C	C	0.76	0.33	32.6	20.8	49.7	11.9
		NB	Left / Through / Right	A	A	0.30	0.12	8.1	3.2	32.2	11.0
		SB	Left / Through / Right	A	A	0.53	0.24	7.5	3.5	23.4	21.2
		Overall Intersection		B	A	0.76	0.48	15.2	7.0	--	--
QED & Princess Patricia Way	Minor Stop	NB	Left / Through	A	A	0.13	0.01	9.3	7.6	2.4	0.0
		EB	Left / Right	C	C	0.36	0.59	21.6	16.1	9.6	24.0
		Overall Intersection		C	A	0.36	0.59	3.4	10.4	--	--
Queen Elizabeth Dr & Fifth Ave	Signalized	EB	Left / Right	C	C	0.38	0.39	28.6	28.7	22.4	23.4
		NB	Left / Through	A	A	0.34	0.32	6.8	6.5	27.9	29.4
		SB	Through / Right	B	A	0.63	0.20	10.7	5.6	78.2	18.0
		Overall Intersection		B	A	0.63	0.39	11.2	9.8	--	--
Bank St & Marche Way	Minor Stop	WB	Left / Right	B	B	0.11	0.27	12.3	13.4	2.4	6.6
		Overall Intersection		A	A	0.11	0.27	0.6	2.1	--	--
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	A	A	0.15	0.07	8.1	7.4	--	--
		WB	Right	A	A	0.13	0.06	6.7	6.4	--	--
		NB	Left / Through / Right	A	A	0.18	0.08	8.0	7.0	--	--
		SB	Right	A	A	0.08	0.09	6.5	6.5	--	--
		Overall Intersection		A	A	0.18	0.09	7.4	6.8	--	--

Table 4.9: Existing Minor Event (Arena at TD Place) Internal Lansdowne Intersections

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Garage Access at Exhibition Way	Two-Way Stop	WB	Left	A	A	0.00	--	8.8	0	0	0
			Through	A	A	--	0	0	0	--	0
		NB	Left / Right	C	C	0.29	0.43	19.8	24.7	1.2	2.1
		Overall Intersection		A	A	0.30	0.44	3.3	5.2	--	--
Exhibition Way and Service Roadway	All-Way Stop	EB	Left / Through	A	A	0.28	0.25	8.7	8.7	1.2	1
		WB	Through / Right	A	A	0.15	0.35	7.9	9.4	0.5	1.6
		SB	Left / Right	A	A	0.01	0.01	7.6	7.9	0	0
		Overall Intersection		A	A	0.29	0.36	8.4	9.1	--	--
Marché Way and Service Roadway	All-Way Stop	EB	Left / Through	A	A	0.02	0.03	7	7.2	0.1	0.1
		WB	Left / Through	A	A	0.06	0.18	7.3	7.9	0.2	0.7
		NB	Left / Right	A	A	0.01	0.01	7	7.2	0	0
		Overall Intersection		A	A	0.07	0.18	7.2	7.8	--	--
Marché Way and Exhibition Way	All-Way Stop	EB	Through / Right	A	A	0.03	0.03	7.8	7.6	0.1	0.1
		WB	Left / Through	A	A	0.23	0.11	9.2	8.2	0.9	0.4
		NB	Left / Right	A	A	0.31	0.25	9.7	8.5	1.4	1
		Overall Intersection		A	A	0.32	0.25	9.4	8.3	--	--
Garage Access at Princess Patricia Way	Two-Way Stop	EB	Left	A	A	0.00	0.00	8.1	7.4	0	0.00
			Through	A	A	--	0.00	0	0.00	--	0.00
		SB	Left / Right	B	B	0.14	0.47	11.3	13.2	0.5	19.6
		Overall Intersection		A	A	0.14	0.47	2.2	9.3	--	--

As illustrated above, all study area intersections are currently operating with overall acceptable levels of service during Minor Events held at the Arena at TD Place.

The eastbound approach at intersection of Bank Street and Wilton Crescent is currently operating with a LOS F. This occurs during the event Ingress period which overlaps with the regular PM peak period. The delays at this intersection are not directly attributed to event traffic held at Lansdowne and are associated with limited gaps in traffic in the southbound direction associated with the recently installed 3-lane cross-section of Bank Street. No mitigation measures are recommended to improve intersection operations.

Table 4.10: Existing Major Event (Stadium at TD Place) Peak Hour Conditions

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	D	D	0.67	0.65	35.8	36.0	34.5	31.8
		WB	Left	C	C	0.42	0.21	30.3	24.7	19.8	12.1
			Through / Right	B	B	0.40	0.45	17.4	19.3	20.3	23.1
		NB	Left / Through / Right	A	A	0.32	0.20	6.5	5.6	28.7	18.9
		SB	Left / Through / Right	A	A	0.42	0.23	7.4	5.6	41.4	21.1
		Overall Intersection		B	B	0.67	0.65	11.6	11.8	--	--
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	D	0.61	0.61	38.5	38.7	34.1	32.8
		NB	Left / Through / Right	A	A	0.48	0.25	7.1	5.0	38.8	17.4
		SB	Left / Through / Right	A	A	0.42	0.23	6.7	4.8	37.4	16.6
		Overall Intersection		A	B	0.61	0.61	9.8	10.0	--	--
Bank St & Exhibition Way	Signalized	WB	Left	<i>Movements Temporarily Restricted During Major Events</i>							
			Right								
		NB	Left / Through / Right	A	A	0.24	0.12	0.2	0.1	0.0	0.0
		SB	Left	<i>Movements Temporarily Restricted During Major Events</i>							
			Through	A	A	0.21	0.12	0.1	0.1	0.0	0.0
Overall Intersection		A	A	0.24	0.12	0.2	0.1	--	--		
Bank St & Wilton Cr	Minor Stop	EB	Right	F	B	0.97	0.01	81.9	13.2	60.0	0.0
		NB	Left	B	A	0.19	--	12.1	0.0	5.3	0.0
			Through	A	--	--	--	2.2	--	5.3	0.0
		Overall Intersection		C	A	0.97	0.01	14.2	0.1	--	--
Bank St & Echo Dr	Minor Stop	EB	Right	C	B	0.22	0.05	17.7	10.3	4.8	1.2
		Overall Intersection		A	A	0.22	0.05	0.8	0.5	--	--

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Bank St & Aylmer Ave	Signalized	EB	Left / Right	D	C	0.50	0.17	38.1	23.5	33.9	11.4
		NB	Left / Through	A	A	0.41	0.19	7.8	5.9	43.3	16.6
		SB	Through / Right	A	A	0.43	0.17	7.9	5.5	47.0	14.4
		Overall Intersection		A	A	0.50	0.19	9.9	6.6	--	--
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	E	D	0.84	0.53	64.5	42.8	62.2	24.9
		WB	Left / Through / Right	D	C	0.82	0.48	43.7	28.2	69.7	21.2
		NB	Left / Through / Right	A	A	0.36	0.15	7.8	4.1	31.4	13.6
		SB	Left / Through / Right	B	A	0.68	0.18	12.8	4.1	64.8	15.4
		Overall Intersection		C	B	0.84	0.53	20.2	10.6	--	--
QED & Princess Patricia Way	Minor Stop	NB	Left / Through	A	A	0.14	0.05	9.9	8.2	3.0	0.6
		EB	Left / Right	F	E	0.77	0.87	50.5	39.7	34.2	58.8
		Overall Intersection		D	C	0.77	0.87	8.7	19.2	--	--
Queen Elizabeth Dr & Fifth Ave	Signalized	EB	Left / Right	C	D	0.58	0.68	33.3	36.7	35.6	45.8
		NB	Left / Through	B	A	0.56	0.40	11.9	8.6	49.3	39.1
		SB	Through / Right	B	A	0.81	0.39	18.9	8.4	156.5	39.1
		Overall Intersection		B	B	0.81	0.68	18.8	14.6	--	--
Bank St & Marche Way	Minor Stop	WB	Left / Right	<i>Movements Temporarily Restricted During Major Events</i>							
		Overall Intersection									
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	A	A	0.17	0.11	8.5	8.5	--	--
		WB	Right	A	A	0.19	0.11	6.9	6.6	--	--
		NB	Left / Through / Right	A	B	0.26	0.43	8.4	10	--	--
		SB	Right	A	A	0.13	0.05	6.7	6.4	--	--
		Overall Intersection		A	B	0.26	0.43	7.7	8.8	--	--

As illustrated above, all study area intersections are currently operating with overall acceptable levels of service during Major Events held at the Stadium at TD Place.

The eastbound approach at intersection of Bank Street and Wilton Crescent is currently operating with a LOS F. This occurs during the event Ingress period which overlaps with the regular PM peak period. The delays at this intersection are not directly attributed to event traffic held at Lansdowne and are associated with limited gaps in traffic in the southbound direction associated with the recently installed 3-lane cross-section of Bank Street. No mitigation measures are recommended to improve intersection operations.

In addition, the eastbound approach at the Queen Elizabeth Drive and Princess Patricia Way intersection is shown to operate with an LOS rating of F and E for the Ingress and Egress periods, respectively. Although the analysis indicates that the movements are operating with delays, the performance of these intersections are adequately managed through the deployment of Ottawa Police Point duty as part of the traffic management measures for Major Events at Lansdowne.

No mitigation measures are recommended to improve intersection operations.

4.8.2 2028 Future Conditions

Intersection Capacity Analysis

Intersection operational analysis under Future 2028 Conditions are summarized in this section.

Detailed Synchro level of service analysis results can be found in Appendix D.

Table 4.11: 2028 Future Weekday AM and PM Peak Hour

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				AM	PM	AM	PM	AM	PM	AM	PM
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	C	C	0.37	0.44	22.2	22.5	28.4	31.7
		WB	Left	C	C	0.20	0.26	23.1	24.4	14.8	17.9
			Through / Right	B	B	0.21	0.20	15.9	14.1	16.4	14.3
		NB	Left / Through / Right	A	B	0.40	0.35	3.5	13.9	5.3	50.1
		SB	Left / Through / Right	A	A	0.33	0.44	8.6	9.8	26.4	37.5
		Overall Intersection		A	B	0.40	0.44	8.6	13.4	--	--

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				AM	PM	AM	PM	AM	PM	AM	PM
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	D	0.48	0.55	37.8	38.8	23.3	27.6
		NB	Left / Through / Right	A	A	0.30	0.33	2.2	1.9	4.4	9.1
		SB	Left / Through / Right	A	A	0.21	0.33	3.1	3.4	13.6	14.3
		Overall Intersection		A	A	0.48	0.55	5.2	5.5	--	--
Bank St & Exhibition Way	Signalized	WB	Left	C	D	0.26	0.51	32.4	35.4	16.5	30.2
			Right	B	B	0.19	0.27	13.5	10.6	7.1	9.0
		NB	Left / Through / Right	A	A	0.36	0.32	9.1	5.5	40.8	29.0
		SB	Left	A	A	0.13	0.25	8.1	4.7	10.5	5.8
			Through	A	A	0.16	0.24	6.6	3.1	23.7	10.2
Overall Intersection		A	A	0.36	0.51	9.4	7.3	--	--		
Bank St & Wilton Cr	Minor Stop	EB	Right	C	F	0.52	0.89	23.5	66.9	27.4	88.7
		NB	Left	B	B	0.21	0.38	10.9	14.4	6.1	15.2
			Through	A	A	--	--	1.9	3.8		
Overall Intersection		A	C	0.52	0.89	5.3	12.9	--	--		
Bank St & Echo Dr	Minor Stop	EB	Right	B	C	0.06	0.1	12.8	20.0	2.2	3.2
		Overall Intersection		A	A	0.36	0.53	0.3	0.3	--	--
Bank St & Aylmer Ave	Signalized	EB	Left / Right	C	C	0.30	0.37	29.6	31.5	21.8	24.2
		NB	Left / Through	A	A	0.44	0.41	3.5	4.3	m15.2	m14.2
		SB	Through / Right	A	A	0.35	0.48	7.4	8.0	29.5	47.8
		Overall Intersection		A	A	0.44	0.48	6.5	7.6	--	--
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	D	F	0.72	1.15	49.6	154.9	#47.3	#76.3
		WB	Left / Through / Right	D	F	0.89	1.10	38.8	104	#80.4	#111.2
		NB	Left / Through / Right	D	C	0.96	0.45	43.1	20.4	#128.8	45.7
		SB	Left / Through / Right	B	C	1.14dl	0.91	16.2	20.6	30.9	#99.6
		Overall Intersection		C	D	0.96	1.15	34.9	45.7	--	--

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				AM	PM	AM	PM	AM	PM	AM	PM
QED & Princess Patricia Way	Minor Stop	NB	Left	A	A	0.06	0.06	8.3	9.1	1.6	1.7
			Through	A		--		0			
		EB	Left / Right	B	C	0.12	0.42	14.1	23.7	3.1	15.2
		Overall Intersection		A	A	0.10	0.42	1.8	2.6	--	--
Queen Elizabeth Dr & Fifth Ave	Signalized	EB	Left / Right	C	C	0.23	0.34	23.8	31.8	19.2	26.3
		NB	Left / Through	C	B	0.50	0.44	21.3	15.0	48.5	42.6
		SB	Through / Right	C	C	0.64	0.77	24.5	23.2	67.2	119.7
		Overall Intersection		C	C	0.64	0.77	23.2	21.9	--	--
Bank St & Marche Way	Minor Stop	WB	Right	B	A	0.08	0.16	12.8	9.5	1.4	4.5
		Overall Intersection		A	A	0.08	0.16	0.4	0.9	--	--
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	A	A	0.15	0.16	8.4	8.6	0.5	0.6
		WB	Right	A	A	0.09	0.13	7.3	7.5	0.3	0.4
		NB	Left / Through / Right	A	A	0.10	0.13	7.9	8.2	0.3	0.5
		SB	Right	A	A	0.13	0.12	7.5	7.5	0.4	0.4
		Overall Intersection		A	A	0.15	0.16	7.8	8	--	--

Table 4.12: 2028 Future Weekday AM and PM Peak (Internal Lansdowne Intersections)

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				AM	PM	AM	PM	AM	PM	AM	PM
Exhibition Way and Service Roadway	All-Way Stop	EB	Left / Through	A	A	0.19	0.28	8.1	8.7	0.7	1.1
		WB	Through / Right	A	A	0.11	0.23	7.6	8.4	0.4	0.9
		SB	Left / Right	A	A	0.01	0.01	7.4	7.7	0	--
		Overall Intersection		A	A	0.20	0.53	7.9	8.5	--	--
Marché Way and Service Roadway	All-Way Stop	EB	Left / Through	A	A	0.00	0.01	6.7	6.6	--	--
		WB	Left / Through	A	A	0.15	0.01	7.7	7.1	0.6	--
		NB	Left / Right	A	A	0.01	0.01	7.1	6.8	--	--
		Overall Intersection		A	A	0.16	0.01	7.6	6.9	--	--
Marché Way and Exhibition Way	All-Way Stop	EB	Through / Right	A	A	0.00	0.01	7.1	7.4	--	--
		WB	Left / Through	A	A	0.17	0.21	8.4	9	0.6	0.8
		NB	Left / Right	A	A	0.21	0.29	8.2	8.5	0.8	1.3
		Overall Intersection		A	A	0.21	0.30	8.3	8.7	--	--

Garage Access at Princess Patricia Way	Two-Way Stop	EB	Left	A	A	0.04	0.07	7.7	7.8	1.0	1.8
			Through	A	A	--	--	0	--	--	--
		SB	Left / Right	A	B	0.03	0.17	9.8	11.4	0.6	4.6
		Overall Intersection			A	A	0.04	0.17	2.2	4.7	--

As illustrated in the tables above, all study area intersections are projected to continue to operate with overall acceptable levels of service under the 2028 Future Weekday AM and PM peak hour conditions.

The intersection of Bank Street and Sunnyside Avenue is projected to continue to operate with specific movements at or close to theoretical capacity in the southbound approach (AM Peak) and westbound approach (PM Peak).

In addition, the eastbound approach at intersection of Bank Street and Wilton Crescent is projected to continue to operate with a LOS F due to vehicle delays during the PM peak hour. The delays are associated with limited gaps in traffic in the southbound direction associated with the recently installed 3-lane cross-section of Bank Street.

With the temporary closure of the Exhibition Way garage ramp and assumed re-routed traffic, all internal study area intersections as Lansdowne are projected to operate acceptably with no delays or queues.

Table 4.13: 2028 Future Weekend Saturday Peak Hour (Study Area Intersections)

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	C	0.39	20.6	27.0
		WB	Left	C	0.28	24.7	19.9
			Through / Right	B	0.25	13.2	16.5
		NB	Left / Through / Right	B	0.36	12.9	51.0
		SB	Left / Through / Right	A	0.38	9.2	32.2
		Overall Intersection		B	0.39	12.7	--
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	0.55	38.8	27.2
		NB	Left / Through / Right	A	0.31	2.3	9.0
		SB	Left / Through / Right	A	0.32	3.9	22.0
		Overall Intersection		A	0.55	6.0	--
Bank St & Exhibition Way	Signalized	WB	Left	C	0.37	33.9	22.2
			Right	B	0.31	11.8	9.7
		NB	Left / Through / Right	A	0.29	4.5	23.3
		SB	Left	A	0.25	6.9	5.5
			Through	A	0.23	4.5	9.5
		Overall Intersection		A	0.37	5.9	--
Bank St & Wilton Cr	Minor Stop	NB	Left	B	0.20	11.9	6.0
			Through	A	--	2	--
		EB	Right	D	0.62	33.5	41.9
Overall Intersection		A	0.62	6.0	--		
Bank St & Echo Dr	Minor Stop	EB	Right	B	0.08	14.9	3.6
		Overall Intersection		A	0.08	0.4	--
Bank St & Aylmer Ave	Signalized	EB	Left / Right	C	0.23	30.2	16.7
		NB	Left / Through	A	0.39	5.8	28.1
		SB	Through / Right	A	0.42	7.4	41.0
		Overall Intersection		A	0.42	7.4	--

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	D	0.59	43.8	40.4
		WB	Left / Through / Right	C	0.63	31.3	42.9
		NB	Left / Through / Right	C	0.55	22.1	55.8
		SB	Left / Through / Right	A	0.53	4.6	9.7
		Overall Intersection		B	0.63	17.1	--
QED & Princess Patricia Way	Minor Stop	NB	Left	A	0.07	8.4	1.6
			Through	A	--	0	--
		EB	Left / Right	C	0.36	17.6	11.9
		Overall Intersection		A	0.36	3.8	--
QED & Fifth Ave	Signalized	EB	Left / Right	C	0.38	32.7	29.7
		NB	Left / Through	B	0.45	14.6	49.9
		SB	Through / Right	B	0.53	15.9	69.1
		Overall Intersection		B	0.53	17.5	--
Bank St & Marche Way	Minor Stop	WB	Right	B	0.14	12.4	3.0
		SB	Left	A	0.00	9.3	0
		Overall Intersection		A	0.14	0.9	--
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	A	0.18	8.4	--
		WB	Right	A	0.13	8.4	--
		NB	Left / Through / Right	A	0.12	7.6	--
		SB	Right	A	0.13	7.5	--
		Overall Intersection		A	0.18	8	--

Table 4.14: 2028 Future Weekend Saturday Peak Hour (Internal Lansdowne Intersections)

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95th (m)
Exhibition Way and Service Roadway	All-Way Stop	EB	Left / Through	A	0.27	8.6	--
		WB	Through / Right	A	0.18	8.1	--
		SB	Left / Right	A	0.01	7.6	--
		Overall Intersection		A	0.27	8.4	--
Marché Way and Service Roadway	All-Way Stop	EB	Left / Through	A	0.01	7	--
		WB	Left / Through	A	0.02	7	--
		NB	Left / Right	A	0.1	7.4	--
		Overall Intersection		A	--	7.3	--
Marché Way and Exhibition Way	All-Way Stop	EB	Through / Right	A	0.31	9.2	--
		WB	Left / Through	A	0.03	7.7	--
		NB	Left / Right	A	0.14	8.6	--
		Overall Intersection		A	--	9	--
Garage Access at Princess Patricia Way	Two-Way Stop	EB	Left	A	0.08	7.9	1.9
			Through	A	--	0	--
		SB	Left / Right	B	0.34	13.4	11.2
		Overall Intersection		A	0.34	6.2	--

As illustrated in the tables above, all study area intersections are projected to continue to operate with overall acceptable levels of service under the 2028 Future Weekend Saturday peak hour conditions.

With the temporary closure of the Exhibition Way garage ramp and assumed re-routed traffic, all internal study area intersections as Lansdowne are projected to operate acceptably with no delays or queues.

Table 4.15: 2028 Future Weekend Sunday Peak Hour (Study Area Intersections)

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	C	0.38	22.6	26.8
		WB	Left	C	0.48	29.3	33.0
			Through / Right	B	0.27	16.6	20.2
		NB	Left / Through / Right	B	0.36	10.4	48.2
		SB	Left / Through / Right	A	0.38	9.0	30.9
Overall Intersection				B	0.48	13.0	--
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	0.55	38.5	26.9
		NB	Left / Through / Right	A	0.36	2.4	11.1
		SB	Left / Through / Right	A	0.31	9.3	44.5
		Overall Intersection				A	0.55	8.2	--
Bank St & Exhibition Way	Signalized	WB	Left	D	0.55	37.9	28.9
			Right	B	0.27	11.0	8.5
		NB	Left / Through / Right	B	0.36	11.5	38.1
		SB	Left	A	0.38	8.4	11.1
			Through	A	0.22	4.2	12.3
Overall Intersection				B	0.55	10.8	--
Bank St & Wilton Cr	Minor Stop	NB	Left/Through	B	0.18	11.7	5.4
		EB	Right	D	0.52	27.5	32.4
		Overall Intersection				A	0.52	4.8	--
Bank St & Echo Dr	Minor Stop	EB	Right	C	0.23	18.6	8.3
		Overall Intersection				A	0.23	1	--
Bank St & Aylmer Ave	Signalized	EB	Left / Right	D	0.43	36.0	23.1
		NB	Left / Through	A	0.29	2.6	15.0
		SB	Through / Right	A	0.32	3.6	28.4
		Overall Intersection				A	0.43	4.9	--
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	E	0.77	65.0	34.8
		WB	Left / Through / Right	C	0.71	34.0	36.5
		NB	Left / Through / Right	B	0.39	17.0	48.7
		SB	Left / Through / Right	A	0.51	5.2	11.8
		Overall Intersection				B	0.77	16.8	--

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
QED & Princess Patricia Way	Minor Stop	NB	Left / Through	A	0.06	7.7	3.3
		EB	Left / Right	B	0.39	13.3	13.3
		Overall Intersection		A	0.39	6.4	--
QED & Fifth Ave	Signalized	EB	Left / Right	C	0.59	29.9	35.1
		NB	Left / Through	A	0.38	9.3	30.5
		SB	Through / Right	A	0.06	6.4	6.8
		Overall Intersection		A	0.59	16.6	--
Bank St & Marche Way	Minor Stop	WB	Left / Right	C	0.33	15.1	9.3
		Overall Intersection		A	0.33	2	--
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	A	0.244	10	--
		WB	Right	A	0.315	0.6	--
		NB	Left / Through / Right	B	0.351	10.7	--
		SB	Right	A	0.15	8.6	--
		Overall Intersection		A	--	9.9	--

Table 4.16: 2028 Future Weekend Sunday Peak Hour (Internal Lansdowne Intersections)

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
Exhibition Way and Service Roadway	All-Way Stop	EB	Left / Through	A	0.32	9.1	--
		WB	Through / Right	A	0.22	8.4	--
		SB	Left / Right	A	0.01	7.8	--
		Overall Intersection		A	0.32	8.8	--
Marché Way and Service Roadway	All-Way Stop	EB	Left / Through	A	0.01	7.2	--
		WB	Left / Through	A	0.02	7.1	--
		NB	Left / Right	A	0.21	8	--
		Overall Intersection		A	0.21	7.9	--
Marché Way and Exhibition Way	All-Way Stop	EB	Through / Right	A	0.4	9.6	--
		WB	Left / Through	A	0.03	7.8	--
		NB	Left / Right	A	0.1	8.4	--
		Overall Intersection		A	0.40	9.3	--

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95th (m)
Garage Access at Princess Patricia Way	Two-Way Stop	EB	Left	A	0.09	7.9	2.2
			Through	A	--	0	2.2
		SB	Left / Right	C	0.5	16.9	20.7
		Overall Intersection		A	0.5	8.9	--

As illustrated in the tables above, all study area intersections are projected to continue to operate with overall acceptable levels of service under the 2028 Future Weekend Sunday peak hour conditions.

With the temporary closure of the Exhibition Way garage ramp and assumed re-routed traffic, all internal study area intersections as Lansdowne are projected to operate acceptably with no delays or queues.

Table 4.17: 2028 Future Minor Event Peak Hour (Study Area Intersections)

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	C	B	0.45	0.25	24.4	17.5	32.8	16.9
			Left	C	C	0.30	0.22	25.1	23.6	20.5	16.6
		WB	Through / Right	B	B	0.28	0.16	12.7	12.7	17.4	11.6
			Left / Through / Right	B	B	0.37	0.31	13.5	11.4	53.4	39.7
		SB	Left / Through / Right	A	A	0.41	0.27	9.5	8.2	35.1	21.5
		Overall Intersection		B	B	0.45	0.31	13.5	11.4	--	--
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	D	0.56	0.48	38.5	38.1	28.3	22.9
			Left / Through / Right	A	A	0.38	0.29	3.0	3.8	13.0	22.0
		SB	Left / Through / Right	A	A	0.33	0.21	3.6	2.6	9.7	7.0
			Overall Intersection		A	A	0.56	0.48	6.1	6.1	--

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Bank St & Exhibition Way	Signalized	WB	Left	D	D	0.48	0.63	35.1	36.7	28.2	40.2
			Right	B	A	0.33	0.56	10.9	9.8	10.3	15.5
		NB	Left / Through / Right	A	A	0.33	0.18	5.0	4.8	27.1	12.5
		SB	Left	A	A	0.38	0.26	6.5	5.8	8.1	8.7
			Through	A	A	0.21	0.15	3.0	4.1	8.7	7.7
		Overall Intersection		A	B	0.48	0.63	7.2	11.0	--	--
Bank St & Wilton Cr	Minor Stop	EB	Right	F	C	0.89	0.33	62.1	19.4	93.9	13.3
		NB	Left	B	B	0.23	0.07	12	10.4	7.4	1.8
			Through	A	A	--	--	2.5	0.6	7.4	1.8
		Overall Intersection		C	A	0.89	0.33	12.7	3.2	--	--
Bank St & Echo Dr	Minor Stop	EB	Right	C	B	0.11	0.01	16.3	10.4	5.4	0.7
		Overall Intersection		A	A	0.11	0.01	0.4	0.2	--	--
Bank St & Aylmer Ave	Signalized	EB	Left / Right	D	C	0.36	0.03	36.7	27.2	26.6	4.4
		NB	Left / Through	A	A	0.40	0.09	5.0	4.0	20.7	5.0
		SB	Through / Right	A	A	0.34	0.11	6.5	5.3	29.5	9.7
		Overall Intersection		A	A	0.40	0.11	7.5	5.1	--	--
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	E	C	0.78	0.26	62.2	32.8	#58.0	20.1
		WB	Left / Through / Right	D	B	0.81	0.20	40.2	16.3	#67.2	12.4
		NB	Left / Through / Right	C	B	0.49	0.24	21.2	17.8	51.4	25.1
		SB	Left / Through / Right	A	A	0.59	0.33	7.5	7.1	18.1	19.4
		Overall Intersection		C	B	0.81	0.33	21.4	12.5	--	--
QED & Princess Patricia Way	Minor Stop	NB	Left / Through	A	A	0.14	0.01	9.5	7.7	4.6	2.2
		EB	Left / Right	D	C	0.51	0.65	29.3	17.9	29.8	37.1
		Overall Intersection		A	B	0.51	0.65	4.8	11.8	--	--
Queen Elizabeth Dr & Fifth Ave	Signalized	EB	Left / Right	C	C	0.41	0.35	33.4	31.8	31.3	27.5
		NB	Left / Through	C	B	0.67	0.45	23.0	14.6	65.8	53.2
		SB	Through / Right	C	B	0.82	0.25	26.1	11.8	#148.1	28.9
		Overall Intersection		C	B	0.82	0.45	26.0	16.3	--	--

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Bank St & Marche Way	Minor Stop	WB	Left / Right	B	B	0.11	0.28	13	14	3.0	9.9
		SB	Through	A		0.00		9.4			
		Overall Intersection		A	A	0.11	0.28	0.6	2.2	--	--
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	A	A	0.16	0.07	8.7	7.7	--	--
		WB	Right	A	A	0.17	0.07	7.9	7.1	--	--
		NB	Left / Through / Right	A	A	0.19	0.08	8.7	7.3	--	--
		SB	Right	A	A	0.10	0.11	7.7	7.1	--	--
		Overall Intersection		A	A	0.19	0.11	8.3	7.3	--	--

Table 4.18: 2028 Future Minor Event Peak Hour (Internal Lansdowne Intersections)

Intersection	Intersection Control	Approach/ Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Exhibition Way and Service Roadway	All-Way Stop	EB	Left / Through	B	A	0.42	0.27	10.1	9	--	--
		WB	Through / Right	A	B	0.25	0.48	8.7	10.9	--	--
		SB	Left / Right	A	A	0.01	0.01	8	8.2	--	--
		Overall Intersection		A	B	0.42	0.48	9.6	10.2	--	--
Marché Way and Service Roadway	All-Way Stop	EB	Left / Through	A	A	0.02	0.03	7	7.2	--	--
		WB	Left / Through	A	A	0.06	0.18	7.3	7.9	--	--
		NB	Left / Right	A	A	0.01	0.01	7	7.2	--	--
		Overall Intersection		A	A	0.06	0.18	7.2	7.8	--	--
Marché Way and Exhibition Way	All-Way Stop	EB	Through / Right	A	A	0.03	0.04	8.3	7.9	--	--
		WB	Left / Through	A	A	0.26	0.12	10	8.6	--	--
		NB	Left / Right	B	A	0.53	0.37	12.6	9.8	--	--
		Overall Intersection		B	A	0.53	0.37	11.7	9.4	--	--
Garage Access at Princess Patricia Way	Two-Way Stop	EB	Left	A	A	0.09	0.00	8.6	7.4	2.5	0
			Through	A	A	--	--	0	0	2.5	--
		SB	Left / Right	C	C	0.33	0.58	16.3	15.3	11.3	29.5
		Overall Intersection		A	B	0.33	0.58	4.8	11.3		

As illustrated above, all study area intersections are projected to operate acceptably under Future 2028 operating conditions with overall acceptable levels of service during Minor Events held at the Arena at TD Place.

The eastbound approach at intersection of Bank Street and Wilton Crescent is expected to operate with a LOS F. This occurs during the event Ingress period which overlaps with the regular PM peak period. The delays at this intersection are not directly attributed to event traffic held at Lansdowne and are associated with limited gaps in traffic in the southbound direction associated with the recently installed 3-lane cross-section of Bank Street. No mitigation measures are recommended to improve intersection operations.

With the temporary closure of the Exhibition Way garage ramp and assumed re-routed traffic, all internal study area intersections as Lansdowne are projected to operate acceptably with no delays or queues.

4.8.3 2033 Total Future Conditions

Intersection Capacity Analysis

Intersection operational analysis under Future 2033 Full Build-Out Conditions are summarized in this section.

Detailed Synchro level of service analysis results can be found in Appendix D.

Table 4.19: 2033 Future Weekday AM and PM Peak Hour

Intersection	Intersection Control	Approach/ Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				AM	PM	AM	PM	AM	PM	AM	PM
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	D	C	0.63	0.45	36.4	22.8	30.4	32.7
		WB	Left	C	C	0.35	0.25	31.8	24.3	15.6	17.5
			Through / Right	C	B	0.38	0.21	20.1	13.7	18.1	14.7
		NB	Left / Through / Right	A	B	0.36	0.37	1.6	15.1	5.1	53.9
		SB	Left / Through / Right	A	B	0.30	0.48	5.6	10.3	26.0	42.4
		Overall Intersection		A	B	0.63	0.48	8.4	14.0	--	--
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	D	0.48	0.56	37.7	38.8	23.5	27.8
		NB	Left / Through / Right	A	A	0.33	0.35	1.9	2.1	6.6	10.4
		SB	Left / Through / Right	A	A	0.23	0.37	3.2	3.4	15.1	16.1
		Overall Intersection		A	A	0.48	0.56	4.9	5.5	--	--
Bank St & Exhibition Way	Signalized	WB	Left	C	D	0.43	0.57	34.6	36.1	25.4	34.7
			Right	B	A	0.27	0.31	11.5	9.7	8.9	9.7
		NB	Left / Through / Right	B	A	0.42	0.40	11.3	6.8	48.8	34.8
		SB	Left	B	A	0.19	0.43	10.5	8.0	14.2	9.5
			Through	A	A	0.17	0.28	7.5	3.9	24.5	11.4
		Overall Intersection		B	A	0.43	0.57	11.9	8.8	--	--
Bank St & Wilton Cr	Minor Stop	NB	Left	B	C	0.22	0.41	11.3	15.1	6.7	16.9
			Through	A	A	--	--	2.2	4.3	6.7	16.9
		EB	Right	D	F	0.58	0.95	26.7	82.1	32.7	101
		Overall Intersection		D	D	0.58	0.95	5.7	15.1	--	--

Intersection	Intersection Control	Approach/ Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				AM	PM	AM	PM	AM	PM	AM	PM
Bank St & Echo Dr	Minor Stop	EB	Right	B	C	0.07	0.11	13.5	20.9	2.4	3.5
		Overall Intersection		A	A	0.07	0.11	0.3	0.3	--	--
Bank St & Aylmer Ave	Signalized	EB	Left / Right	C	C	0.30	0.38	29.7	31.6	22.1	24.5
		NB	Left / Through	A	A	0.46	0.44	4.1	4.7	M17.3	m17.4
		SB	Through / Right	A	A	0.37	0.50	7.6	8.2	32.6	51.0
		Overall Intersection		A	A	0.46	0.50	6.9	7.8	--	--
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	D	F	0.65	1.23	38.3	184.2	37.4	#79.2
		WB	Left / Through / Right	C	F	0.88	1.14	33.7	116.2	#76.1	#116.6
		NB	Left / Through / Right	B	C	0.69	0.48	15.4	21.0	91.0	50.2
		SB	Left / Through / Right	C	C	1.20dl	0.95	21.4	27.0	#87.9	#117.3
		Overall Intersection		C	D	0.88	1.23	21.6	53.0	--	--
QED & Princess Patricia Way	Minor Stop	NB	Left / Through	A	A	0.07	0.07	8.3	9.1	1.7	1.8
		EB	Left / Right	C	C	0.21	0.43	15	24.3	5.7	16.2
		Overall Intersection		A	A	0.21	0.43	2.4	3.5	--	--
Queen Elizabeth Dr & Fifth Ave	Signalized	EB	Left / Right	C	C	0.35	0.28	30.8	30.7	21.1	23.1
		NB	Left / Through	A	B	0.26	0.43	5.2	14.7	26.1	42.4
		SB	Through / Right	A	C	0.32	0.79	5.7	24.5	34.5	#129.4
		Overall Intersection		A	A	0.32	0.79	2.4	22.4	--	--
Bank St & Marche Way	Minor Stop	WB	Left / Right	B	B	0.12	0.19	13.5	14.1	2.1	5.4
		Overall Intersection		A	A	0.12	0.19	0.7	1	--	--
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	A	A	0.16	0.17	8.5	8.6	--	--
		WB	Right	A	A	0.09	0.13	7.4	7.6	--	--
		NB	Left / Through / Right	A	A	0.13	0.15	8	8.3	--	--
		SB	Right	A	A	0.13	0.12	7.5	7.6	--	--

Intersection	Intersection Control	Approach / Movement	LOS		V/C		Total Delay (s)		Queue 95 th (m)	
			AM	PM	AM	PM	AM	PM	AM	PM
		Overall Intersection	A	A	0.16	0.17	7.9	8	--	--

As illustrated above, all study area intersections are projected to continue to operate with overall acceptable levels of service under the 2033 Future Weekday AM and PM peak hour conditions.

The intersection of Bank Street and Sunnyside Avenue is projected to continue to operate with specific movements at or close to theoretical capacity in the southbound approach (AM Peak) and westbound approach (PM Peak).

In addition, the eastbound approach at intersection of Bank Street and Wilton Crescent is projected to continue to operate with a LOS F due to vehicle delays during the PM peak hour. The delays are associated with limited gaps in traffic in the southbound direction associated with the recently installed 3-lane cross-section of Bank Street.

No mitigation measure are recommended to improve intersection operations.

Table 4.20: 2033 Future Weekend Saturday Peak Hour (Study Area Intersections)

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	C	0.40	20.9	28.0
		WB	Left	C	0.27	24.6	19.2
			Through / Right	B	0.27	12.8	17.0
		NB	Left / Through / Right	B	0.39	14.3	56.9
		SB	Left / Through / Right	A	0.43	9.6	36.6
		Overall Intersection		B	0.43	13.3	--
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	0.56	38.9	27.7
		NB	Left / Through / Right	A	0.34	2.3	11.2
		SB	Left / Through / Right	A	0.36	3.9	28.4
		Overall Intersection		A	0.56	5.8	--

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
Bank St & Exhibition Way	Signalized	WB	Left	D	0.50	35.3	29.7
			Right	B	0.36	10.6	11.0
		NB	Left / Through / Right	A	0.34	5.4	29.8
			SB	Left	A	0.40	7.0	9.9
		Through		A	0.24	3.1	9.9
		Overall Intersection				A	0.50	7.4	--
Bank St & Wilton Cr	Minor Stop	NB	Left	B	0.19	12.3	6.5
			Through	A	--	2.3	6.5
		EB	Right	E	0.68	39	64.1
		Overall Intersection				A	0.68	6.7	--
Bank St & Echo Dr	Minor Stop	EB	Right	C	0.10	15.6	4.0
		Overall Intersection				A	0.10	0.4	--
Bank St & Aylmer Ave	Signalized	EB	Left / Right	C	0.24	30.0	17.3
		NB	Left / Through	A	0.42	6.6	35.6
		SB	Through / Right	A	0.45	7.7	44.2
		Overall Intersection				A	0.45	7.9	--
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	D	0.61	45.0	#43.8
		WB	Left / Through / Right	C	0.64	32.0	#44.2
		NB	Left / Through / Right	C	0.59	23.1	61.7
		SB	Left / Through / Right	A	0.57	4.9	10.3
		Overall Intersection				B	0.64	17.7	--
QED & Princess Patricia Way	Minor Stop	NB	Left / Through	A	0.07	8.4	1.7
		EB	Left / Right	C	0.37	17.8	12.3
		Overall Intersection				A	0.38	3.9	--
QED & Fifth Ave	Signalized	EB	Left / Right	C	0.35	31.9	27.5
		NB	Left / Through	B	0.43	14.4	49.4
		SB	Through / Right	B	0.55	16.3	72.1
		Overall Intersection				B	0.55	17.3	--

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
Bank St & Marche Way	Minor Stop	WB	Left / Right	B	0.188	13.8	5.9
		Overall Intersection		--	--	1	--
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	A	0.133	8.5	--
		WB	Right	A	0.12	7.7	--
		NB	Left / Through / Right	A	0.21	8.6	--
		SB	Right	A	0.13	7.6	--
		Overall Intersection		A	0.21	8.1	--

As illustrated above, all study area intersections are projected to continue to operate with acceptable levels of service under 2033 Future Weekend Saturday conditions.

Table 4.21: 2033 Future Weekend Sunday Peak Hour (Internal Lansdowne Intersections)

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	C	0.39	22.9	27.3
		WB	Left	C	0.47	29.0	32.2
			Through / Right	B	0.29	16.4	21.3
		NB	Left / Through / Right	A	0.38	10.0	46.7
		SB	Left / Through / Right	A	0.43	9.6	36.0
		Overall Intersection		B	0.47	12.8	--
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	0.55	38.6	27.3
		NB	Left / Through / Right	A	0.39	2.4	13.4
		SB	Left / Through / Right	B	0.35	10.2	53.0
		Overall Intersection		A	0.55	8.5	--
Bank St & Exhibition Way	Signalized	WB	Left	D	0.63	38.2	36.7
			Right	A	0.31	9.4	9.6
		NB	Left / Through / Right	B	0.48	14.3	47.5

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
		SB	Left	B	0.61	17.3	#25.1
			Through	A	0.25	4.6	12.6
		Overall Intersection			B	0.63	14.0
Bank St & Wilton Cr	Minor Stop	NB	Left	B	0.19	12	6.0
			Through	A	--	2.1	6.0
		EB	Right	D	0.56	30.8	38.1
		Overall Intersection			A	0.56	5.2
Bank St & Echo Dr	Minor Stop	EB	Right	C	0.25	19.8	9.4
		Overall Intersection			A	0.25	1.0
Bank St & Aylmer Ave	Signalized	EB	Left / Right	D	0.43	35.9	23.2
		NB	Left / Through	A	0.31	3.1	20.6
		SB	Through / Right	A	0.34	3.7	30.8
		Overall Intersection			A	0.43	5.1
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	E	0.78	65.8	34.9
		WB	Left / Through / Right	C	0.73	34.9	37.5
		NB	Left / Through / Right	B	0.43	17.7	54.1
		SB	Left / Through / Right	A	0.55	5.8	12.4
		Overall Intersection			B	0.78	17.3
QED & Princess Patricia Way	Minor Stop	NB	Left / Through	A	0.07	7.7	1.6
		EB	Left / Right	B	0.39	13.2	14.1
		Overall Intersection			A	0.39	6.5
QED & Fifth Ave	Signalized	EB	Left / Right	C	0.56	28.9	32.6
		NB	Left / Through	A	0.37	9.1	30.3
		SB	Through / Right	A	0.06	6.3	7.1
		Overall Intersection			B	0.56	15.7
Bank St & Marche Way	Minor Stop	WB	Left / Right	C	0.39	16.3	12.3
		Overall Intersection			A	0.39	2.3
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	B	0.26	10.3	--

Intersection	Intersection Control	Approach / Movement		LOS	V/C	Total Delay (s)	Queue 95 th (m)
		WB	Right	A	0.33	9.9	--
		NB	Left / Through / Right	B	0.39	11.3	--
		SB	Right	A	0.16	8.8	--
		Overall Intersection		B	0.39	10.3	--

As illustrated above, all study area intersections are projected to continue to operate with acceptable levels of service under 2033 Future Weekend Sunday conditions.

Table 4.22: 2033 Future Minor Event Peak Hour (Study Area Intersections)

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95 th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	D	C	0.67	0.52	37.5	32.2	33.9	19.6
			Left	C	C	0.44	0.36	33.2	35.0	19.6	16.3
		WB	Through / Right	B	B	0.40	0.32	15.9	19.2	18.1	13.1
			Left / Through / Right	B	A	0.33	0.25	11.1	6.4	56.1	37.3
		SB	Left / Through / Right	A	A	0.38	0.21	6.9	3.7	38.3	17.2
		Overall Intersection		B	A	0.67	0.52	13.1	9.2	--	--
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	D	0.55	0.48	38.2	37.9	28.8	23.3
			Left / Through / Right	A	A	0.40	0.30	3.0	3.8	15.2	23.1
		SB	Left / Through / Right	A	A	0.35	0.22	4.9	4.6	9.3	26.8
			Overall Intersection		A	A	0.55	0.48	6.5	6.8	--
Bank St & Exhibition Way	Signalized	WB	Left	D	D	0.54	0.66	35.5	36.6	33.6	45.0
			Right	B	D	0.38	0.58	10.1	9.4	11.3	16.1
		NB	Left / Through / Right	A	A	0.39	0.18	5.8	5.0	30.4	13.3
			SB	Left	B	A	0.54	0.28	12.3	6.3	19.0	10.0
		Through		A	A	0.23	0.15	3.6	4.4	9.4	8.1

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
		Overall Intersection		A	B	0.54	0.66	8.9	11.5	--	--
Bank St & Wilton Cr	Minor Stop	EB	Right	F	C	0.94	0.34	72.4	19.8	103.7	14.2
		NB	Left	B	B	0.25	0.08	12.2	10.4	7.8	1.9
			Through	A	A	--	--	2.7	0.7	7.8	1.9
		Overall Intersection		D	A	0.94	0.34	14.3	3.2	--	--
Bank St & Echo Dr	Minor Stop	EB	Right	C	B	0.121	0.02	16.8	10.5	5.7	0.7
		Overall Intersection		A	--	0.12	0.02	0.4	0.2	--	--
Bank St & Aylmer Ave	Signalized	EB	Left / Right	D	C	0.36	0.03	36.7	27.2	27.1	4.4
		NB	Left / Through	A	A	0.42	0.09	5.5	5.4	26.2	8.8
		SB	Through / Right	A	A	0.34	0.11	6.6	5.3	31.0	10.0
		Overall Intersection		A	A	0.42	0.11	7.8	5.7	--	--
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	D	D	0.71	0.50	48.8	45.9	#47.4	19.7
		WB	Left / Through / Right	C	B	0.76	0.33	33.3	19.9	#59.8	12.3
		NB	Left / Through / Right	A	A	0.34	0.14	8.9	3.7	35.2	12.1
		SB	Left / Through / Right	A	A	0.59	0.27	8.6	4.2	24.3	23.0
		Overall Intersection		B	A	0.76	0.50	15.6	7.6	--	--
QED & Princess Patricia Way	Minor Stop	NB	Left / Through	A	A	0.144	0.02	9.5	7.7	4.0	0.5
		EB	Left / Right	D	C	0.457	0.625	26.3	17.4	17.5	33.7
		Overall Intersection		--	--	--	--	4.2	10.9	--	--
Queen Elizabeth Dr & Fifth Ave	Signalized	EB	Left / Right	C	C	0.40	0.41	29.0	29.0	23.7	24.3
		NB	Left / Through	A	A	0.37	0.33	7.2	6.7	31.3	30.8
		SB	Through / Right	B	A	0.67	0.21	11.7	5.7	88.0	19.4
		Overall Intersection		B	A	0.67	0.41	12.0	10.0	--	--
Bank St & Marche Way	Minor Stop	WB	Left / Right	B	B	0.13	0.29	12.7	13.6	3.3	1.2
		Overall Intersection		A	A	0.13	0.29	0.7	2.1	--	--

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	A	A	0.172	0.076	8.8	7.8	--	--
		WB	Right	A	A	0.181	0.06	8	7.1	--	--
		NB	Left / Through / Right	A	A	0.213	0.008	8.9	7.3	--	--
		SB	Right	A	A	0.11	0.113	7.7	7.2	--	--
		Overall Intersection		A	A	--	--	8.4	7.3	--	--

As illustrated above, all study area intersections are projected to continue to operate with overall acceptable levels of service in the 2033 Future horizon year for Minor Events held at TD Place.

The eastbound approach at intersection of Bank Street and Wilton Crescent is projected to continue to operate with a LOS F due to vehicle delays incurred on the minor approach. This occurs during the Ingress period which overlaps with the regular PM peak period. The delays at this intersection are not directly attributed to event traffic held at Lansdowne and are associated with limited gaps in traffic in the southbound direction as a result of the recently installed 3-lane cross-section of Bank Street.

No mitigation measures are recommended to improve intersection operations.

Table 4.23: 2033 Future Major Event Peak Hour (Study Area Intersections)

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Bank St & Fifth Ave	Signalized	EB	Left / Through / Right	D	D	0.69	0.76	36.5	46.5	36.3	35.7
			Left	C	C	0.43	0.21	30.7	24.3	20.8	12.7
		WB	Through / Right	B	B	0.42	0.58	17.5	18.9	21.8	29.6
			Left / Through / Right	A	A	0.35	0.24	6.9	6.4	31.6	20.5
		SB	Left / Through / Right	A	A	0.47	0.27	8.0	6.5	46.8	23.3
		Overall Intersection	B	B	0.69	0.76	12.0	13.8	--	--	
Bank St & Holmwood Ave	Signalized	EB	Left / Through / Right	D	D	0.62	0.62	38.5	38.9	35.3	34.2
			Left / Through / Right	A	A	0.52	0.27	4.2	3.6	47.6	20.1
		SB	Left / Through / Right	A	A	0.47	0.25	7.5	5.2	43.7	19.1
			Overall Intersection	A	A	0.62	0.62	8.8	9.5	--	--
Bank St & Exhibition Way	Signalized	WB	Left	<i>Movements Temporarily Restricted During Major Events</i>							
			Right								
		NB	Left / Through / Right	A	C	0.36	0.15	4.9	2.4	31.8	13.7
			SB	Left	<i>Movements Temporarily Restricted During Major Events</i>						
		Through		A	A	0.28	0.14	3.8	1.8	18.7	10.1
Overall Intersection	A	A	0.36	0.15	5.8	2.6	--	--			
Bank St & Wilton Cr	Minor Stop	EB	Right	F	B	1.09	0.01	119	13.5	131.7	0.4
			NB	Left	B	A	0.21	0	12.6	0	6.4	0.0
		Through		A	--	--	--	2.6	0	6.4	0.0
		Overall Intersection	E	A	1.09	0.01	20.5	0.1	--	--	
Bank St & Echo Dr	Minor Stop	EB	Right	C	B	0.25	0.06	19.4	10.5	13.2	1.8
			Overall Intersection	A	A	0.25	0.06	0.9	0.5	--	--

Intersection	Intersection Control	Approach / Movement		LOS		V/C		Total Delay (s)		Queue 95th (m)	
				Ingress	Egress	Ingress	Egress	Ingress	Egress	Ingress	Egress
Bank St & Aylmer Ave	Signalized	EB	Left / Right	D	C	0.52	0.17	38.8	23.5	35.4	11.9
		NB	Left / Through	A	A	0.44	0.21	8.2	6.0	48.3	18.2
		SB	Through / Right	A	A	0.46	0.18	8.2	5.6	51.7	15.7
		Overall Intersection		B	A	0.52	0.21	10.3	6.6	--	--
Bank St & Sunnyside Ave	Signalized	EB	Left / Through / Right	E	D	0.88	0.56	72.0	43.6	#67.4	26.7
		WB	Left / Through / Right	D	C	0.86	0.48	49.0	28.4	#78.0	22.2
		NB	Left / Through / Right	A	A	0.39	0.16	8.3	4.4	34.7	15.4
		SB	Left / Through / Right	B	A	0.76	0.19	15.4	4.3	#67.4	17.3
		Overall Intersection		C	B	0.88	0.56	22.8	10.8	--	--
QED & Princess Patricia Way	Minor Stop	NB	Left / Through	B	A	0.16	0.05	10.2	8.3	4.9	1.3
		EB	Left / Right	F	E	0.93	0.93	82.4	50.0	75.2	86.8
		Overall Intersection		C	C	0.93	0.93	14	23.5	--	--
Queen Elizabeth Dr & Fifth Ave	Signalized	EB	Left / Right	D	D	0.68	0.72	36.9	39	#45.2	#53.5
		NB	Left / Through	B	A	0.69	0.41	17.9	8.9	#70.0	40.7
		SB	Through / Right	C	A	0.87	0.41	23.7	8.7	#169.4	42.0
		Overall Intersection		C	B	0.87	0.72	24.1	15.5	--	--
Bank St & Marche Way	Minor Stop	WB	Left / Right	<i>Movements Temporarily Restricted During Major Events</i>							
		Overall Intersection									
Fifth Ave & O'Connor St	All-Way Stop	EB	Left / Through	B	A	0.21	0.13	10.1	9	--	--
		WB	Right	A	A	0.28	0.16	9.7	8.4	--	--
		NB	Left / Through / Right	A	B	0.26	0.49	9.2	11.4	--	--
		SB	Right	A	A	0.19	0.08	8.6	7.7	--	--
		Overall Intersection		A	B	0.28	0.49	9.5	8.8	--	--

As illustrated above, all study area intersections are projected to continue to operate with overall acceptable levels of service during the 2033 Future horizon year for Major Events held at TD Place.

The eastbound approach at intersection of Bank Street and Wilton Crescent is projected to continue to operate with a LOS F due to vehicle delays incurred on the minor approach. This occurs during the event Ingress period which overlaps with the regular PM peak period. The delays at this intersection are not directly attributed to event traffic held at Lansdowne and are associated with limited gaps in traffic in the southbound direction due to the recently installed 3-lane cross-section of Bank Street.

In addition, the eastbound approach at the Queen Elizabeth Drive and Princess Patricia Way intersection is shown to operate with an LOS rating of E for the Ingress periods. Although the analysis indicates that the movements are operating with delays, the performance of these intersections are expected to continue to be adequately managed through the deployment of Ottawa Police Point duty as part of the traffic management measures for Major Events at Lansdowne.

No mitigation measures are recommended to improve intersection operations.

5. SUMMARY AND CONCLUSIONS

This Transportation Impact Assessment (TIA) was prepared in support of a Site Plan Application (SPA) for the proposed multi-purpose Event Centre at Lansdowne Park located in the Glebe community of Ottawa, Ontario.

The proposed multi-purpose Event Centre represents Phase 1 of the Lansdowne 2.0 plan which seeks to replace existing city-owned infrastructure while adding additional density to the site. The overall Lansdowne 2.0 proposed plan includes the following phases of development:

Phase 1 (*Anticipated completion of 2028*) consists of building a new 5,500 seat (up to 6,500 spectators) multipurpose event centre that will be home to the OHL's Ottawa 67's, the CEBL's Ottawa BlackJacks, the PWHL Ottawa, and other indoor events such as shows and concerts. As this phase of Lansdowne 2.0 replaces the programming provided at the existing 9,800 seat TD Place Arena, it is not expected to generate additional transportation demands to Lansdowne.

Phase 2 (*Anticipated completion between 2030 and 2031*) consists of replacing the existing functionally obsolete north stadium stands and arena complex at TD Place Stadium with a new 11,200 seat (12,100 spectator) north stand structure. This new facility replaces the existing north stadium stands, which currently has a capacity of 14,028 spectators, and would result in a reduction of approximately 2,000 spectator capacity at TD Place Stadium. This venue will continue to be the home of the CFL's Ottawa RedBlacks and the CPL's Ottawa Atlético. As this phase of Lansdowne 2.0 replaces existing programming currently provided at TD Place Stadium, it is not expected to generate additional transportation demands to Lansdowne.

Phase 3 (*Anticipated completion between 2032 and 2036*) represents the full build-out of Lansdowne 2.0 and consists of replacing the existing 41,000 ft² of commercial retail and box office annex to the Stadium on Exhibition Way with 49,635 ft² of new podium-level commercial retail space. This represents a net increase of 8,635 ft² of commercial retail space from what is currently provided today. In addition, this phase includes the construction of two new residential towers with a total of 770 new dwelling units. Additional underground parking space will be constructed by extending the existing facility to accommodate an additional 386 parking spaces to service the new residential units and additional retail space, resulting in a total of 1,766 underground parking spaces at Lansdowne.

Under Phase 1, no additional trip generation demands are forecasted as the proposed multi-purpose event centre replaces the existing programming at the Arena at TD Place. It is anticipated that internal circulation and access within Lansdowne will be altered in an interim operating condition in 2028 during the construction of subsequent phases of Lansdowne 2.0.

The full build-out of Lansdowne 2.0 development is anticipated to generate between 130 and 180 net new auto trips (two-way) during the Weekday AM, Weekday PM, and Weekend Saturday and Sunday peak periods.

An analysis of study area intersections was completed under Existing Conditions, the interim 2028 Future Conditions (i.e. the completion of the new event centre and construction of subsequent phases of Lansdowne 2.0, as well as the 2033 Future Conditions (Full Build-Out of Lansdowne 2.0).

All study area intersections were shown to operate acceptably with similar levels of services currently observed today.

In conclusion, the analysis found that the anticipated Phase 1 of Lansdowne 2.0 will result in minimal impact to the overall traffic operations in the area. From a transportation standpoint, the proposed multi-purpose Event Centre can be accommodated by the future transportation network with the continued adoption of the existing comprehensive Transportation Demand Management strategy.

APPENDIX A - TURNING MOVEMENT COUNT DATA



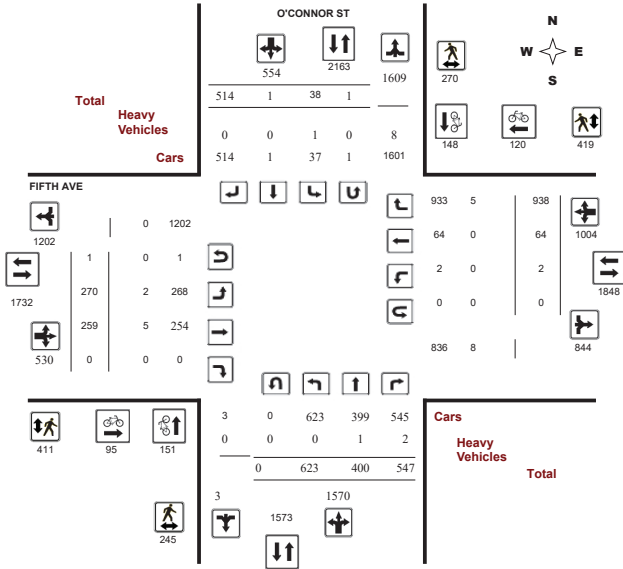
Transportation Services - Traffic Services

Turning Movement Count - Study Results FIFTH AVE @ O'CONNOR ST

Survey Date: Friday, August 05, 2022
Start Time: 16:00

WO No: 40983
Device: Miovision

Full Study Diagram



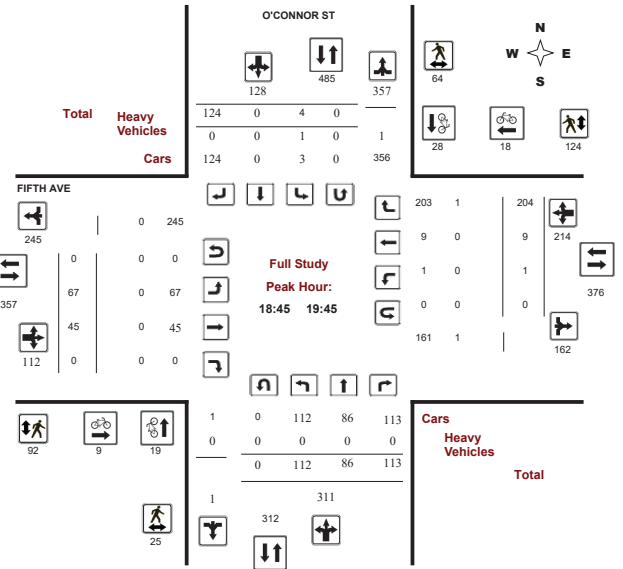
Transportation Services - Traffic Services

Turning Movement Count - Study Results FIFTH AVE @ O'CONNOR ST

Survey Date: Friday, August 05, 2022
Start Time: 16:00

WO No: 40983
Device: Miovision

Full Study Peak Hour Diagram



Transportation Services - Traffic Services

Turning Movement Count - Study Results FIFTH AVE @ O'CONNOR ST

Survey Date: Friday, August 05, 2022
Start Time: 16:00

WO No: 40983
Device: Miovision

Full Study 15 Minute Increments

Time Period	Northbound				Southbound				Eastbound				Westbound				Grand Total			
	LT	ST	RT	N TOT	LT	ST	RT	S TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT				
16:00	16:15	8	4	8	20	10	0	35	45	65	13	7	0	20	0	1	23	24	44	109
16:15	16:30	12	11	9	32	2	0	29	29	60	7	10	0	17	0	0	30	30	47	107
16:30	16:45	18	10	8	36	1	0	21	22	58	18	10	0	28	0	0	28	28	56	114
16:45	17:00	15	11	7	33	3	0	27	31	64	10	6	0	16	0	0	35	35	51	115
17:00	17:15	9	9	10	28	2	0	13	15	43	11	18	0	29	0	4	26	32	61	104
17:15	17:30	19	13	22	54	6	0	17	23	77	6	13	0	19	0	1	27	28	47	124
17:30	17:45	30	15	32	77	1	0	24	25	102	8	12	0	3	39	42	62	62	164	
17:45	18:00	24	17	19	60	3	0	27	30	90	10	8	0	16	0	6	52	58	74	164
18:00	18:15	36	14	27	77	0	0	28	28	105	18	7	0	25	0	9	51	60	85	190
18:15	18:30	14	18	33	65	0	0	20	20	85	14	17	0	31	1	9	46	56	87	172
18:30	18:45	25	25	19	69	0	0	20	20	89	11	17	0	28	0	1	34	35	63	152
18:45	19:00	34	21	22	77	1	0	42	43	120	19	7	0	26	0	0	30	30	56	176
19:00	19:15	34	21	27	82	1	0	34	35	117	19	12	0	31	1	4	53	58	89	206
19:15	19:30	23	20	28	71	1	0	29	30	101	15	12	0	27	0	4	60	64	91	192
19:30	19:45	21	24	36	81	1	0	19	20	101	14	14	0	28	0	1	61	62	90	191
19:45	20:00	25	19	22	66	0	0	13	13	79	11	13	0	24	0	1	28	29	53	132
20:00	20:15	23	12	13	48	1	0	15	16	64	7	6	0	13	0	1	23	24	37	101
20:15	20:30	36	8	19	63	0	0	12	12	75	4	7	0	11	0	1	12	13	24	99
20:30	20:45	34	9	10	53	1	0	8	9	62	6	6	0	12	0	0	17	17	29	91
20:45	21:00	11	7	13	31	0	0	11	11	42	4	6	0	10	0	2	24	26	36	78
21:00	21:15	22	9	15	46	1	0	7	8	54	5	11	0	16	0	2	21	23	39	93
21:15	21:30	15	6	12	33	0	1	8	9	42	5	3	0	9	0	4	19	23	32	74
21:30	21:45	19	10	9	38	0	0	8	8	46	4	3	0	7	0	3	14	17	24	70
21:45	22:00	15	9	16	40	0	0	9	9	49	2	6	0	8	0	1	25	26	34	83
22:00	22:15	19	11	20	50	0	0	7	7	57	5	10	0	15	0	1	33	34	49	106
22:15	22:30	22	25	35	82	2	0	7	9	91	9	7	0	16	0	0	21	21	37	128
22:30	22:45	20	16	23	59	1	0	12	13	72	5	5	0	10	0	0	38	38	48	120
22:45	23:00	9	8	12	29	0	0	6	6	35	1	4	0	5	0	0	26	26	31	66
23:00	23:15	13	8	8	29	0	0	5	5	34	2	3	0	5	0	2	15	17	22	56
23:15	23:30	5	4	5	14	0	0	1	1	15	4	0	0	4	0	1	8	9	13	28
23:30	23:45	5	3	3	11	0	0	2	2	13	1	1	0	2	0	1	8	9	11	24
23:45	00:00	8	3	5	16	0	0	1	1	17	2	0	0	2	0	1	9	10	12	29
Total:		623	400	547	1570	38	1	514	554	2124	270	259	0	530	2	64	938	1004	1534	3,658

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results FIFTH AVE @ O'CONNOR ST

Survey Date: Friday, August 05, 2022
Start Time: 16:00

WO No: 40983
Device: Miovision

Full Study Cyclist Volume

Time Period	Northbound			Southbound			Street Total	Eastbound			Westbound			Street Total	Grand Total
	LT	ST	RT	LT	ST	RT		LT	ST	RT	LT	ST	RT		
16:00	16:15	3	6	9	4	6	10	19							
16:15	16:30	3	2	5	7	3	10	15							
16:30	16:45	4	4	8	5	7	12	20							
16:45	17:00	4	7	11	4	4	8	19							
17:00	17:15	5	4	9	9	7	16	25							
17:15	17:30	9	12	21	6	3	9	30							
17:30	17:45	2	5	7	0	8	8	15							
17:45	18:00	2	13	15	3	4	7	22							
18:00	18:15	4	4	8	2	6	8	16							
18:15	18:30	2	6	8	1	6	7	15							
18:30	18:45	5	9	14	5	5	10	24							
18:45	19:00	4	4	8	0	9	9	17							
19:00	19:15	7	8	15	4	0	4	19							
19:15	19:30	4	8	12	4	5	9	21							
19:30	19:45	4	8	12	1	4	5	17							
19:45	20:00	2	5	7	1	5	6	13							
20:00	20:15	1	2	3	1	1	2	5							
20:15	20:30	5	2	7	1	3	4	11							
20:30	20:45	0	8	8	1	4	5	13							
20:45	21:00	0	0	0	4	5	9	9							
21:00	21:15	0	3	3	2	3	5	8							
21:15	21:30	5	3	8	8	5	13	21							
21:30	21:45	3	5	8	2	4	6	14							
21:45	22:00	10	6	16	4	2	6	22							
22:00	22:15	22	5	27	7	4	11	38							
22:15	22:30	18	2	20	4	1	5	25							
22:30	22:45	5	0	5	3	3	6	11							
22:45	23:00	10	6	16	0	0	16	16							
23:00	23:15	1	0	1	1	2	3	4							
23:15	23:30	3	0	3	0	1	1	4							
23:30	23:45	0	1	1	0	0	0	1							
23:45	00:00	4	0	4	1	0	1	5							
Total		151	148	299	95	120	215	514							



Transportation Services - Traffic Services

Turning Movement Count - Study Results
FIFTH AVE @ O'CONNOR ST

Survey Date: Friday, August 05, 2022
Start Time: 16:00

WO No: 40983
Device: Miovision

Full Study Pedestrian Volume

Table with columns: Time Period, NB Approach, SB Approach, Total, EB Approach, WB Approach, Grand Total. Rows show pedestrian volume data for various time intervals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results
FIFTH AVE @ O'CONNOR ST

Survey Date: Friday, August 05, 2022
Start Time: 16:00

WO No: 40983
Device: Miovision

Full Study Heavy Vehicles

Table with columns: Time Period, Northbound, Southbound, Eastbound, Westbound, Grand Total. Rows show heavy vehicle volume data for various time intervals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results
FIFTH AVE @ O'CONNOR ST

Survey Date: Friday, August 05, 2022
Start Time: 16:00

WO No: 40983
Device: Miovision

Full Study 15 Minute U-Turn Total

Table with columns: Time Period, Northbound U-Turn Total, Southbound U-Turn Total, Eastbound U-Turn Total, Westbound U-Turn Total, Total. Rows show 15-minute U-turn volume data.

5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC

Tue May 3, 2022
Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 947989, Location: 45.399403, -75.68617

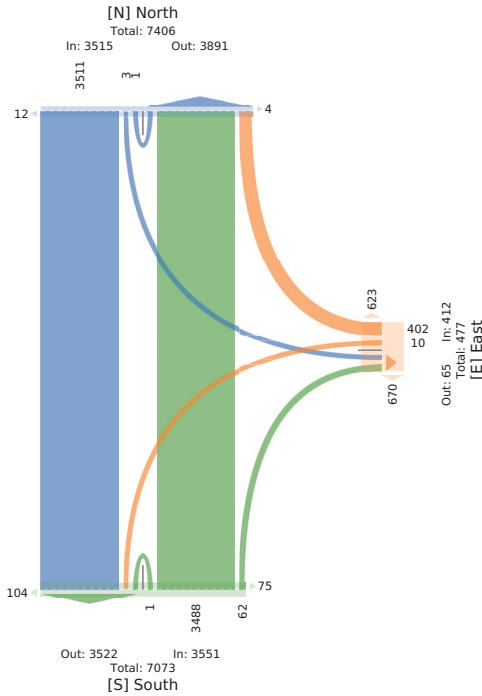


Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

Table with columns: Leg Direction, Time, North Southbound, East Westbound, South Northbound, Int. Rows show detailed traffic count and percentage data for various vehicle types and directions.

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 947989, Location: 45.399403, -75.68617



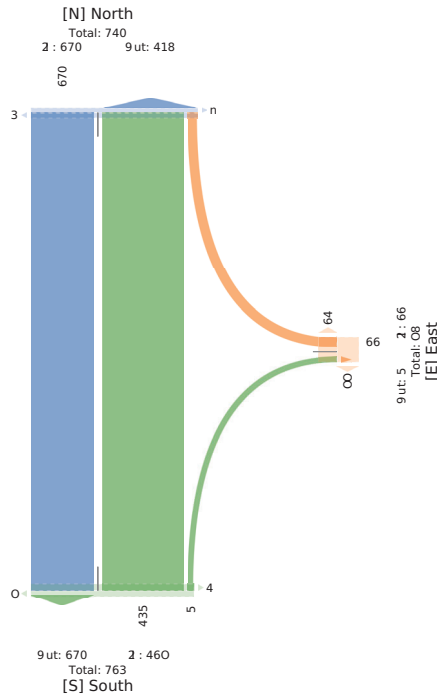
5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 947989, Location: 45.399403, -75.68617



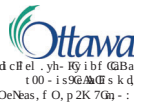
9eP kReQs	0d0 EduQ_dusi				Ja-C Se-Cdusi				EduQ 0d0_dusi				uC			
	T	9	W	FNN	leU	B	9	W	FNN	leU	B	T		W	FNN	leU
20220403g30FM	(3	0	0	(3	5	50	0	0	50	51	2	540	0	513	2	218
g14FM	521	0	0	521	0	(	0	0	(	24	2	540	0	54	1	212
000FM	(1	0	0	(1	0	D	0	0	D	25	0	52	0	52	2	230
(54FM	gD	0	0	gD	2	D	0	0	D	5	2	505	0	503	5	50
T00:	3g	0	0	3g	3	33	0	0	33	11	D	41D	0	431	(	(64
* FNNdr)	500*	0*	0*	h	h	500*	0*	0*	h	h	57*	(g1*	0*	h	h	h
* T00:	152*	0*	0*	152*	h	37*	0*	0*	37*	h	07*	418*	0*	443*	h	h
1c %	0200	h	h	0200	h	0200	h	h	0200	h	0204	023D	h	0231	h	0225
9P)Gasi Mdd0ryre:	3D	0	0	3D	h	2D	0	0	2D	h	4	11	0	1gl	h	888
* 9P)Gasi Mdd0ryre:	(12*	0*	0*	(12*	h	g5*	0*	0*	g5*	h	131*	(0*	0*	(08*	h	(20*
c eaHy	20	0	0	20	h	4	0	0	4	h	0	30	0	30	h	44
* c eaHy	40*	0*	0*	40*	h	542*	0*	0*	542*	h	0*	47*	0*	47*	h	417
v kyre-ds Bdai	5	0	0	5	h	5	0	0	5	h	2	5g	0	20	h	22
* v kyre-ds Bdai	03*	0*	0*	03*	h	30*	0*	0*	30*	h	2g*	31*	0*	37*	h	29*
1eie-G0s:	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h
* 1eie-G0s:	h	h	h	h	500*	h	h	h	h	11*	h	h	h	h	500*	h
v kyre-ds Ad-Ra1:	h	h	h	h	0	h	h	h	h	1	h	h	h	h	h	0
* v kyre-ds Ad-Ra1:	h	h	h	h	0*	h	h	h	h	45*	h	h	h	h	h	0*

1eie-G0s-asi v kyre-ds Ad-Ra1:79t9eCBrB)P)C(T)u, w, WHTus

5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Tue May 3, 2022
 AM Peak (8:30 AM - 9:30 AM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 947989, Location: 45.399403, -75.68617



5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 947989, Location: 45.399403, -75.68617



1eP kReQs	0d0 EduQ_dusi				Ja-C Se-Cdusi				EduQ 0d0_dusi				uC			
	T	1	W	NN	leU	v	1	W	NN	leU	v	T		W	NN	leU
20220703t280LM	t0D	0	0	t0D	0	t3	t	0	t1	73	7	10m	0	t11	5	237
t2H7LM	t25	0	0	t25	0	(D	0	0	(D	1m	3	11m	0	t22	0	257
t180LM	t1m	0	0	t1m	0	15	0	0	15	3	3	12D	0	t30	1	257
(h7LM	t11	0	0	t11	0	13	0	0	13	1m	1	10m	0	t10	m	230
T1GA	155	0	0	155	0	7m	1	0	50	142	12	151	0	115	1m	1002
* NN1ao)	100*	0*	0*	(	h	m8*	18*	0*	(	h	29*	m3*	0*	(((
* T1GA	158*	0*	0*	158*	h	78*	08*	0*	58*	h	18*	158*	0*	118*	((
Lr %	0882	(	(	0882	(	0854	0870	(	0842	(	0870	0882	(	0882	(	0843
1P)Gasi Mi Gdya09	121	0	0	121	(	72	t	0	73	(	11	13t	0	112	(	m11
* 1P)Gasi Mi Gdya09	m8*	0*	0*	m8*	(	448*	t00*	0*	448*	(	m8*	m8*	0*	m8*	(	m8*
r eacy	3t	0	0	3t	(	D	0	0	D	(	0	20	0	20	(	74
* r eacy	58*	0*	0*	58*	(	t18*	0*	0*	t18*	(	0*	18*	0*	18*	(	78*
H0yo09is vial	t1	0	0	t1	(	0	0	0	0	(	t	13	0	t1	(	27
* H0yo09is vial	28*	0*	0*	28*	(	0*	0*	0*	0*	(	48*	28*	0*	28*	(	28*
1eie-G0s:	(	(	(	(	0	(	(	(	(	14	(	(	(	(	(	1m
* 1eie-G0s:	(	(	(	(	0	(	(	(	(	m8*	(	(	(	(	(	t00*
H0yo09is-d98Aa	(	(	(	(	0	(	(	(	(	1	(	(	(	(	(	0
* H0yo09is-d98Aa	(	(	(	(	0*	(	(	(	(	08*	(	(	(	(	(	0*

1eie-G0s-asi H0yo09is vial 1eie-G0s-d98Aa:81h1eCvhw)P)C(T)u, w, WHTus

5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC

Tue May 3, 2022
 MAP Pay kea(8.2-30 km 9: -30 km)
 l Cs GilleB ghtLanP Mddrgr@L, c eaHy, kePelroAn, v Ayr@LdN BdaP, v Ayr@LdN
 s adLRa(C)
 l CMdHewentL
 n - D47BD i drat@n- 4. 6DD403, 97. 651: 7



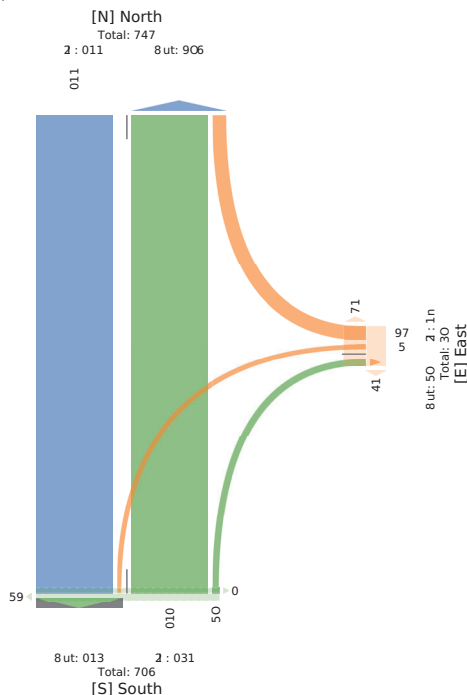
kaHReP by-s Ay d'OnaRa
 00 s dntreGat@n 1 q
 Nepean, ON, K2G . J1 s 1

5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC

Tue May 3, 2022
 FM Feal Ing h FM6(: Ae-a9Feal 1 Pu-)
 9CClasses li drs aHv MPP-BYBES, 1 eaAyr, FevesedhH, RdyBES PHwPav, RdyBES PH
 C-Psk ad 6
) 9MPAemeHts
 IDg4n7484, i PHatPHgnh344n03, (7h5 8. t 7



F-PAvev byGdy Bf : ank a
 100 CPfks@nPHD,
 OeNaH : O, p 2K hG, C)



Time	OP-α OP-β				Asc S esdβ				Eβur OP-α β				HE			
	T	W	U	NN	W	T	U	NN	W	T	U	NN		FeV		
2022(0h03 ng hFM	13t	0	0	13t	0	14	t	0	20	.4	0	tn3	0	tn3	n	24n
ng0FM	1.1	0	0	1.1	1	1.3	0	0	1.3	.7	t	11.7	0	11.8	h	242
ng1FM	1.1h	0	0	1.1h	0	1.8	t	0	1.4	.84	t	1.3h	0	1.3h	1n	244
ng2FM	1.1h	0	0	1.1h	1	2.2	3	0	2h	.1	h	1.28	1	1.3h	1.2	30
TPe	h87	1	0	h80	2	72	h	0	77	2h.	7	h22	t	h30	3h	114h
*) NNh	448*	02*	0*		(	433*	.9*	0*	(	1	15*	483*	05*	((
* TPe	n43*	08*	0*	n42*	(	5*	08*	0*	5*	(	05*	n35*	09*	n3*	((
Fl %	0948	(	(	0948	(	097.	0947	(	0920	(	0930	098.	0910	0900	(	09k.h
1 drs aHv MPP-BYBES	h4	0	0	h4	(	.h	h	0	70	(	7	n4	t	n44	(	1118
* 1 drs aHv MPP-BYBES	433*	0*	0*	433*	(	405*	100*	0*	405*	(	100*	4n3*	100*	4n2*	(	435*
1 eaAyr	t h	0	0	t h	(	2	0	0	2	(	0	1.2	0	1.2	(	24
* 1 eaAyr	25*	0*	0*	25*	(	23*	0*	0*	25*	(	0*	23*	0*	23*	(	23*
RdyBES PHwPav	23	t	0	2h	(	h	0	0	h	(	0	14	0	14	(	n8
* RdyBES PHwPav	35*	t	00*	n3*	(	.9*	0*	0*	.9*	(	0*	35*	0*	35*	(	n3*
FevesedhH	(	(	(	(	(	(	(	(	(	(	(	(	(	(	(	3h
* FevesedhH	(	(	(	100*	(	(	(	(	448*	(	(	(	(	(	(	100*
RdyBES PHC-Psk ad	(	(	(	(	(	(	(	(	(	(	(	(	(	(	(	0
* RdyBES PHC-Psk ad	(	(	(	0*	(	(	(	(	130*	(	(	(	(	(	(	0*

FevesedhHv RdyBES PHC-Psk ad Si gi efc, wgwdr, TgTr-u, WgW(Tu-H

5566814 - COVID - BANK ST @ HOLMWOOD AVE - M... - TMC

Tue May 3, 2022
 AM AeaP (8 - AM 9-8 - AM) 9l CesaL.AeaP i gus
 h llr lamen ldr c h avB MghsRyRen, i eaCy, AeBnklaVn, wdyRen gv mgarB wdyRen gv
 t sgnrl aP)
 h llMgCDeviti
 47 85(. 565, dgRahgv8(- B55(03, 9 - b6b: .



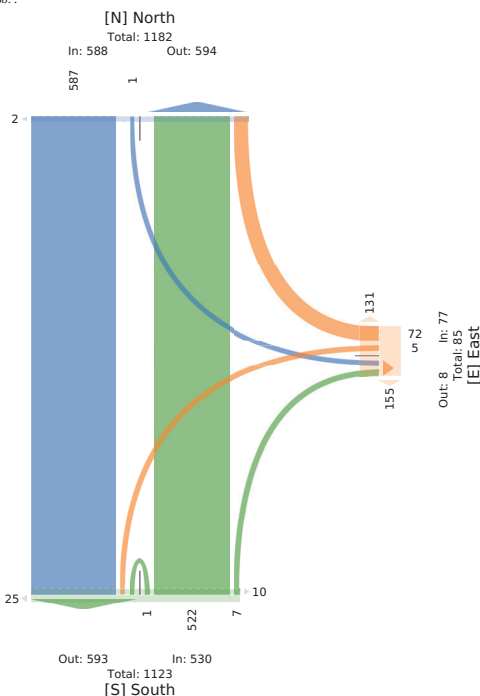
AegChBfY8t d'gci Hh a
 .00 t gyndHahgv 7 s,
 Nepean, 1 N, K2G - J5, t h

5566814 - COVID - BANK ST @ HOLMWOOD AVE - M... - TMC

Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 947992, Location: 48589.96, -783.6863



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 8J9, CA



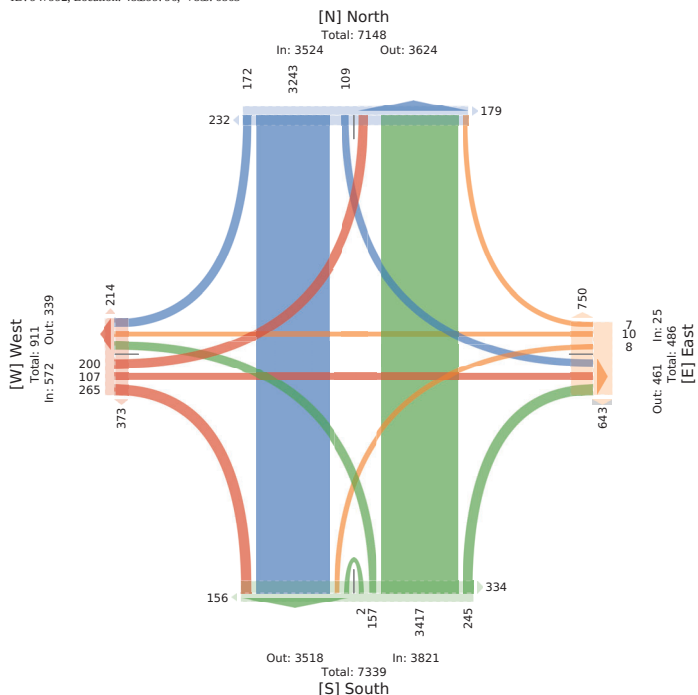
Leg Direction	North Southbound				East Westbound				South Northbound				West Eastbound				Tot								
	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U		App	Pre*						
2022-08-03 6:00AM	9	108	3	0	117	8	0	0	0	0	1	2	99	7	0	10.	6	11	0	7	0	1.	12	243	
7:00AM	10	260	3	0	273	11	0	1	1	0	2	46	6	259	0	313	21	32	2	20	0	84	23	542	
8:00AM	20	331	11	0	362	30	2	3	0	0	8	2	23	496	10	0	829	42	26	19	22	0	67	81	963
9:00AM	10	169	2	0	1.1	18	0	2	0	0	2	41	10	227	11	1	249	1.	14	12	0	34	29	466	
11:00AM	10	219	0	0	237	28	1	0	1	0	2	108	12	227	9	0	24.	24	16	4	9	0	29	27	816
12:00PM	19	436	1	0	473	73	2	2	0	0	4	223	32	437	18	0	4.4	79	27	13	3.	0	7.	106	1039
1:00PM	26	416	13	0	488	41	1	0	1	0	2	208	30	484	29	0	813	80	3.	18	21	0	74	16	1044
3:00PM	12	266	10	0	2.	29	0	0	1	0	1	132	21	242	12	0	278	40	17	10	18	0	42	8	696
4:00PM	28	821	24	0	870	77	0	1	3	0	4	268	81	468	30	0	846	112	47	19	32	0	9.	57	121.
8:00PM	31	820	17	0	86.	9.	1	1	1	0	3	273	8.	471	26	1	886	9.	37	17	24	0	7.	102	1208
Total	172	3243	109	0	3824	411	7	10	0	0	28	1393	248	3417	187	2	3.21	490	268	107	200	0	872	8.7	7942
% Approach	43%	423%	33%	0%	-	-	2.3%	403%	923%	0%	-	-	63%	95%	43%	03%	-	-	463%	1.7%	383%	0%	-	-	-
% Total	22%	483%	15%	0%	448%	-	0%	0%	0%	0%	0%	0%	33%	433%	23%	0%	4.9%	-	30%	13%	28%	0%	72%	-	-
Lights and Motorcycles	164	3027	108	0	3296	-	2	0	0	0	2	-	227	3164	144	2	3837	-	244	-	191	0	823	-	788
% Lights and Motorcycles	96%	93%	96%	0%	933%	-	2.3%	0%	0%	0%	.3%	-	92%	923%	91%	0%	923%	-	92%	1%	96%	0%	91%	-	923%
Heavy	3	147	2	0	182	-	0	0	1	0	1	-	17%	4	0	1.1	-	-	12	2	3	0	43	-	387
% Heavy	17%	43%	15%	0%	43%	-	0%	0%	12%	0%	43%	-	58%	62%	28%	0%	43%	-	48%	2%	43%	0%	43%	-	23%
Bicycles on Road	8	69	2	0	76	-	8	10	7	0	22	-	17	77	9	0	103	-	35%	183%	03%	0%	43%	-	23%
% Bicycles on Road	23%	23%	15%	0%	23%	-	71%	100%	78%	0%	.3%	-	63%	25%	85%	0%	25%	-	35%	183%	03%	0%	43%	-	23%
Pedestrians	-	-	-	-	3.6	-	-	-	-	-	-	-	1364	-	-	-	-	-	4.0	-	-	-	-	-	877
% Pedestrians	-	-	-	-	933%	-	-	-	-	-	-	-	93%	-	-	-	-	-	9.3%	-	-	-	-	-	9.3%
Bicycles on Crosswalk	-	-	-	-	28	-	-	-	-	-	-	-	29	-	-	-	-	-	10	-	-	-	-	-	10
% Bicycles on Crosswalk	-	-	-	-	63%	-	-	-	-	-	-	-	23%	-	-	-	-	-	23%	-	-	-	-	-	15%

* Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

5566814 - COVID - BANK ST @ HOLMWOOD AVE - M... - TMC
 Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 947992, Location: 48599.96, -785.6863



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 8J9, CA



5566814 - COVID - BANK ST @ HOLMWOOD AVE - M... - TMC
 Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 947992, Location: 48599.96, -785.6863



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 8J9, CA

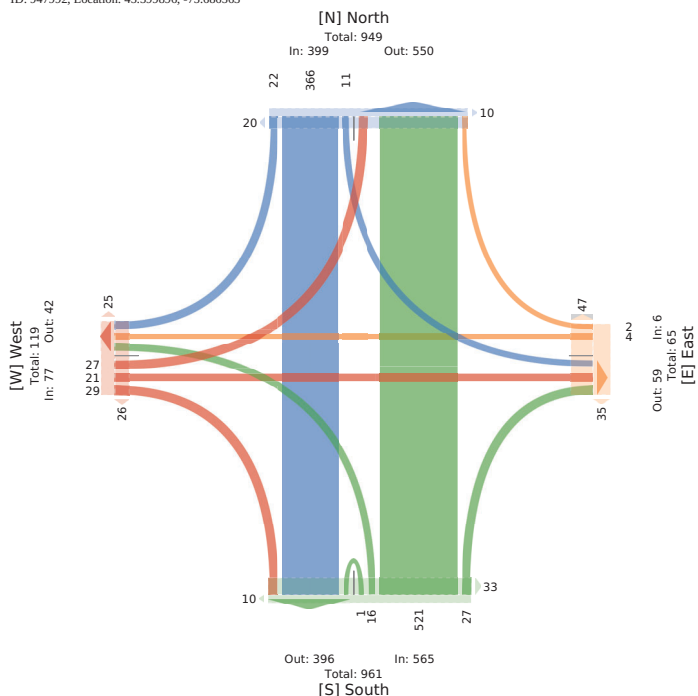
Step	[N] North										[S] South										[W] West										[E] East														
	In					Out					In					Out					In					Out					In					Out									
20220403 03:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
gfl 4F M	g	ff	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(40F M)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(44F M)	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	22	388	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* [F] [N] [S] [E]	42*	12*	23*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*
* [F] [N] [S] [E]	23*	347*	12*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*
[C] [N] [S] [E]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 [F] [N] [S] [E]	21	311	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* [F] [N] [S] [E]	42*	12*	23*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*					
* [F] [N] [S] [E]	23*	347*	12*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*					
[C] [N] [S] [E]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
9 [F] [N] [S] [E]	21	311	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					

1 [C] [N] [S] [E] [F] [N] [S] [E] [C] [N] [S] [E] [F] [N] [S] [E] [C] [N] [S] [E] [F] [N] [S] [E]

5566814 - COVID - BANK ST @ HOLMWOOD AVE - M... - TMC
 Tue May 3, 2022
 AM Peak (8:30 AM - 9:30 AM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 947992, Location: 45.399896, -75.686563



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, f N, K2G 5J9, CA



5566814 - COVID - BANK ST @ HOLMWOOD AVE - M... - TMC
 Tue May 3, 2022
 MB 1 ay Lean g 2180 LM (t 180 LM6
 : A - A999 g [F] [N] [S] [E] [C] [N] [S] [E] [F] [N] [S] [E] [C] [N] [S] [E] [F] [N] [S] [E]
 - d 999aA6
 : AMI ceReS
 vk hnt Dm2, 11 ceE sh 473m8m5, (D47585453



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, f O, P 2K 4Gn -

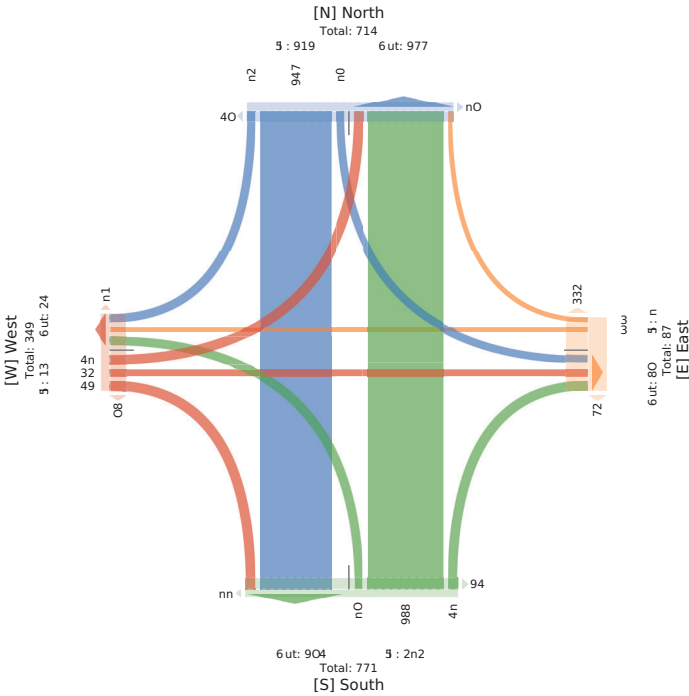
Step	[N] North										[S] South										[W] West										[E] East														
	In					Out					In					Out					In					Out					In					Out									
20220403 03:30 PM	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(2H 4LM)	t	123	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1800LM)	m	100	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(18 4LM)	D	111	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	24	13m	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* [F] [N] [S] [E]	42*	12*	23*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*
* [F] [N] [S] [E]	23*	347*	12*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*
[C] [N] [S] [E]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 [F] [N] [S] [E]	24	3m	1m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* [F] [N] [S] [E]	42*	12*	23*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*					
* [F] [N] [S] [E]	23*	347*	12*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*					
[C] [N] [S] [E]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
1 [F] [N] [S] [E]	24	3m	1m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					

1 [C] [N] [S] [E] [F] [N] [S] [E] [C] [N] [S] [E] [F] [N] [S] [E] [C] [N] [S] [E] [F] [N] [S] [E]

5566814 - COVID - BANK ST @ HOLMWOOD AVE - M... - TMC
 Tue May 3, 2022
 M/P Pay kea (8.2-30 km 9: -30 km)
 l C3 GilleL B ghtLanP Mtdrory @L, c eaHy, kePeLoanL, v Ayr@Ldn BdaP, v Ayr@Ldn
 s oLLRa(C)
 l CMLdHewentL
 n - D47D2, i drat@n- 45.3DD6D1, 975.161513



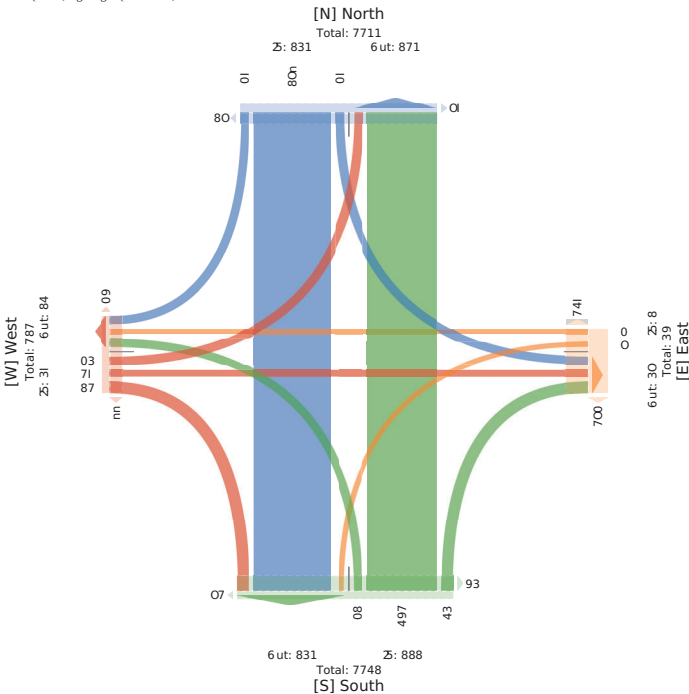
5566814 - COVID - BANK ST @ HOLMWOOD AVE - M... - TMC
 Tue May 3, 2022
 FM Feal Ingh FM (hg h FM6 : Ae-a9Feal 1 Pu-
) 9C Sasses l dr c aM MPD-B)Bs, 1 eaAy, FevesedhH, RdyBhs PhwPav, RdyBhs PH
 C-Pssk a9 B
) 9MPAemeHs
 lDg467442, l PkbaPjnhB4454. , (7h8 5. h. 3



5566814 - COVID - BANK ST @ HOLMWOOD AVE - M... - TMC
 Tue May 3, 2022
 AM AeaP (8 - AM 9-8 - AM) 9l CesaLLAeaP i gus
 h lLr lamen ldr c h avB MghsRyRen, i eaCy, AeLbenkAvn, wdyRen gy mgarB wdyRen gy
 t sgml aP)
 h lLMgGcDeviat
 47 85(, 552, dgRahgv8(- 65515b, 9 - 6b1b-b3



5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on
 Crosswalk)
 All Movements
 ID: 947024, Location: 48359. . . 2. - 83578408



Time	Northbound					Southbound					Westbound					Eastbound										
	h	t	i	w	nn	h	t	i	w	nn	h	t	i	w	nn	h	t	i	w	nn	h	t	i	w	nn	
2022-08-03 06:00AM	5	16	7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ngbFM	7	133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ngbFM	7	162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phw	27	13	27	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* NNPhw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* Trwh	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F1 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
i dr ca aM MPD-B)Bs	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* i dr ca aM MPD-B)Bs	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 eaAy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 1 eaAy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RdyBhs PhwPav	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* RdyBhs PhwPav	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FevesedhH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* FevesedhH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RdyBhs PHC-Pssk a9 B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* RdyBhs PHC-Pssk a9 B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FevesedhH aM RdyBhs PHC-Pssk a9 B i g efc, wgwdr c, TgTr-u, WgW(T-U)

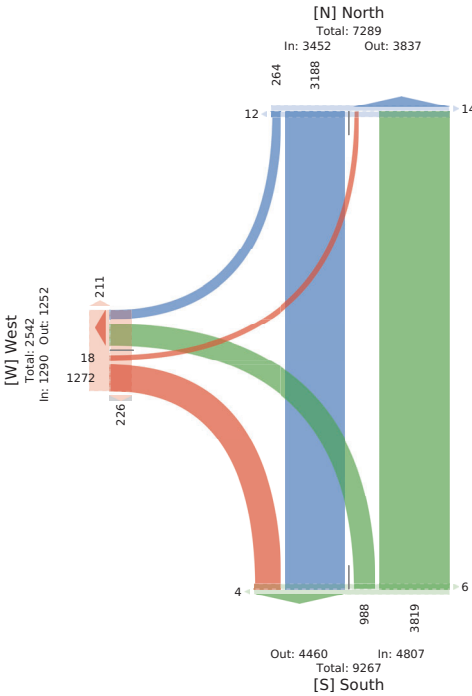
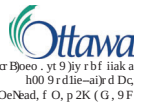
Leg Direction	Northbound					Southbound					Westbound					Eastbound						
	R	T	U	App	Ped*	R	T	U	App	Ped*	R	T	U	App	Ped*	R	T	U	App	Ped*	Int	
2022-08-03 6:00AM	2	7	0	70	1	114	26	0	140	0	3	1	0	37	13	287						
7:00AM	1	237	0	288	3	30	101	0	487	0	112	1	0	113	20	1228						
9:00AM	8	1	0	172	2	284	89	0	313	4	66	3	0	69	17	864						
11:00AM	20	207	0	227	2	236	48	0	271	0	6	1	0	67	28	81						
12:00PM	36	410	0	446	6	467	104	0	82	2	181	2	0	183	60	1111						
1:00PM	36	430	0	466	4	496	92	0	877	1	14	3	0	180	69	1204						
3:00PM	31	272	0	313	3	267	9	0	34	1	77	0	0	77	39	47						
4:00PM	43	83	0	870	1	889	209	0	67	0	231	3	0	234	66	1872						
8:00PM	47	814	0	862	2	846	146	0	692	2	17	3	0	190	78	1444						
Total	264	3177	0	3482	26	3719	977	0	470	10	12	2	0	1290	43	9849						
% Approach	5%	92%	0%	-	-	9%	20%	0%	-	-	97%	1%	0%	-	-	-						
% Total	25%	33%	0%	36%	-	40%	10%	0%	80%	-	13%	0%	0%	13%	-	-						
Lights and Motorcycles	282	2929	0	3171	-	3813	988	0	4467	-	1226	17	0	1244	-	7793						
% Lights and Motorcycles	96%	91%	0%	92%	-	92%	96%	0%	92%	-	96%	100%	0%	96%	-	93%						
Heavy	8	18	0	162	-	166	11	0	1	-	4	0	0	4	-	343						
% Heavy	3%	4%	0%	4%	-	4%	1%	0%	3%	-	0%	0%	0%	0%	-	3%						
Bicycles on Road	-	102	0	109	-	140	22	0	162	-	42	0	0	42	-	313						
% Bicycles on Road	2%	3%	0%	3%	-	3%	2%	0%	3%	-	3%	0%	0%	3%	-	3%						
Pedestrians	-	-	-	-	21	-	-	-	-	10	-	-	-	-	420	-	-					
% Pedestrians	-	-	-	-	70%	-	-	-	-	100%	-	-	-	-	96%	-	-					
Bicycles on Crosswalk	-	-	-	-	8	-	-	-	-	0	-	-	-	-	1	-	-					
% Bicycles on Crosswalk	-	-	-	-	19%	-	-	-	-	0%	-	-	-	-	3%	-	-					

*Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 947024, Location: 4859... 2, -, 8578408



5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Tue May 3, 2022
 FM 1 eal.rgh(FM 6: th(F MA
 F - 9 -a1le rP(C)S11 ado Mr r cHHe1, v eaBy, l eoe1c1ad1, R)HHe1 rd wrao, R)HHe1 rd
 9 r 1lk a-LA
 F - Mr Bmed1
 ID: 4g024, Pr(Hi)rdt 4(7: 8882, 8B(75g(40(



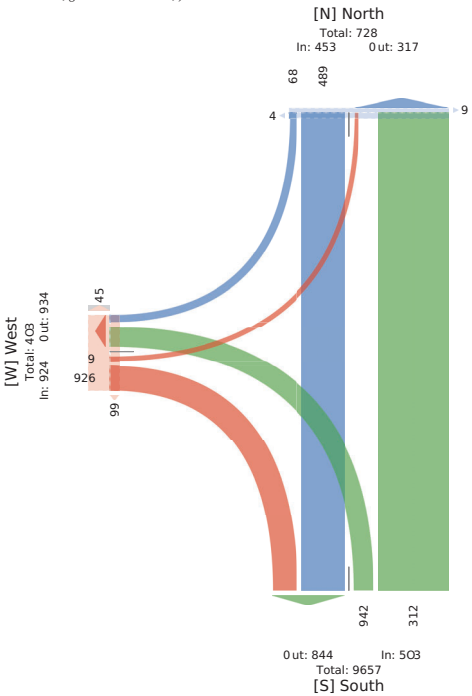
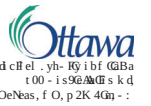
Pec. DyeHrd	Ords Jruis. rudo					Jruis Ords. rudo					E ell Sall. rudo				
	w	T	W	FNN	l eol.	T	P	W	FNN	l eol.	w	P	W	FNN	l eol.
20220403 gthFM	8	5	0	82	0	b23	2	0	h2	0	4h	0	0	4h	h3
g30FM	h0	h	0	g	2	h(	34	0	hg	0	h	0	0	h	hg
g4FM	(	h0	0	h	0	hg	38	0	222	0	4	0	0	4	h
g05M	3	h0	0	h04	2	h4	38	0	hg3	0	35	h	0	38	h
Tria	2	3	h	0	385	4	50g	h3g	0	845	0	hg2	h	0	hg3
* FNNa18	55*	37*	0*	0*	6	6	gh3*	hg1*	0*	6	4	::1*	01*	0*	6
* Tria	h7*	257*	0*	2g2*	6	6	455*	h075*	0*	87*	4	h37*	07*	0*	h47*
lv%	072	078.5	6	0785	6	6	0788	07852	6	0782	4	07824	02(0	6	0782
P(C)S11 ado Mr r cHHe1	24	330	0	3(4	6	6	3h	h2:	0	550	6	h88	h	0	h8g
* P(C)S11 ado Mr r cHHe1	:50*	:47*	0*	:47*	6	6	g89*	:37*	0*	gg4*	6	:87*	h00*	0*	:87*
* v ealy	h	h8	0*	hg	6	6	4h	2	0	43	4	h	0	0	h
* v ealy	47*	43*	0*	47*	6	6	58*	h7*	0*	4*	4	07*	0*	0*	07*
R)HHe1 rd wrao	0	4	0	4	6	6	35	8	0	43	4	4	0	0	4
* R)HHe1 rd wrao	0*	h*	0*	h*	6	6	(7*	(h*	0*	4*	4	27*	0*	0*	27*
* l eoe1c1ad1	6	6	6	6	2	6	6	6	6	6	6	6	6	6	6
* l eoe1c1ad1	6	6	6	6	07*	6	6	6	6	6	6	6	6	6	6
R)HHe1 rd 9 r 1lk a-L	6	6	6	6	2	6	6	6	6	6	6	6	6	6	6
* R)HHe1 rd 9 r 1lk a-L	6	6	6	6	07*	6	6	6	6	6	6	6	6	6	6

l eoe1c1ad1 ado R)HHe1 rd 9 r 1lk a-L7P(Pe1, wt w(Csi, Tr Tscu, W WGTud

5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Tue May 3, 2022
 AM Peak (8: -9 AM) 1: -9 AM
 Ass Lsai1e (g1nd aor Mcd:Hvysel, Bealy, Per eidhioi, whyysel co mcar, whyysel co LH111 askC
 Ass McReDeod
 47: 158025, gcvadro: 59.316662, j69.189509



5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Tue May 3, 2022
 MB 1ay Lean g 2180 LM (t180 LM6
 : Av A99:9 gl IP)Qasl Mi G dyoA9, r eacy, Lel e9D1as1, H1yoA91s vial, H1yoA91s
 : d 99BaA6
 : AMi ceRes0
 vk hmi D21, l i oaE sh143n8882, (845D4104



lep kRoEs	Oid Jruis. lusi					Jruis Oid. lusi					E e9C S9C lusi				
	v	T	W	NN	LeL	T	l	W	NN	LeL	v	l	W	NN	LeL
20220403 t280LM	D	n2	0	100	0	t22	34	0	t48	2	34	2	0	38	18
t284LM	D	t12	0	120	4	t23	28	0	t40	0	15	0	0	15	36.5
t80LM	4	t14	0	120	1	t35	23	0	t4m	0	40	1	0	4	14
th4LM	D	t03	0	t11	1	t20	24	0	t14	0	3i	1	0	34	20
T1QA	2m	122	0	14	8	40	t10	0	5t1	2	154	1	0	t5m	5i
* ; NN(ae)	57*	n85*	0*	0*	(	(	127*	t10*	0*	(	(	n85*	21*	0*	(
* T1QA	27*	312*	0*	355*	(	(	107*	D9*	0*	1n8*	(	134*	07*	0*	137*
Lr %	0705	0708	(	0780	(	(	0701	0715	(	0764	(	0711	0700	(	0718
1P)Qasl Mi G dyoA9	2D	3D4	0	t13	(	151	t10	0	481	(	156	1	0	t54	(
* 1P)Qasl Mi G dyoA9	n85*	m2*	0*	m5*	(	(	n85*	t00*	0*	n87*	(	n85*	t00*	0*	n85*
r eacy	t	24	0	25	(	21	0	0	21	(	t	0	0	t	4
* r eacy	31*	42*	0*	47*	(	17*	0*	0*	37*	(	05*	0*	0*	05*	(
H1yoA91s vial	0	t2	0	t2	(	13	0	0	t3	(	3	0	0	3	(
* H1yoA91s vial	0*	21*	0*	28*	(	25*	0*	0*	21*	(	t7*	0*	0*	t7*	(
* Lel e9D1as1	(	(	(	(	5	(	(	(	(	2	(	(	(	(	58
* Lel e9D1as1	(	(	(	(	4	D87*	(	(	(	100*	(	(	(	(	m87*
H1yoA91s - d 99BaA6	(	(	(	(	1	(	(	(	(	0	(	(	(	(	1
* H1yoA91s - d 99BaA6	(	(	(	(	175*	(	(	(	(	0*	(	(	(	(	72*

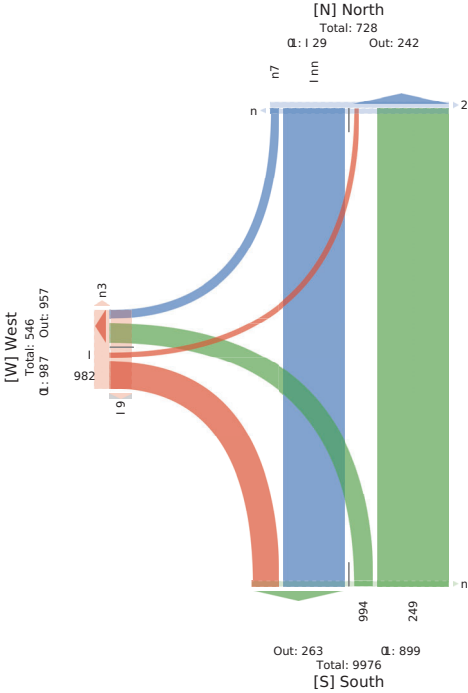
l e9D1as1 H1yoA91s - d 99BaA671 h1 eC v h v IP)C ThT) di, WhW(Tud

5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC

Tue May 3, 2022
 M/Pay keaf (8.2-30 km 9: -30 kM)
 l (CS GilleB AhtLanP MtdrYr@L, c eaHy, kePelroAn, v AYr@Ldn BdaP, v AYr@Ldn
 s allLRa(C)
 l (CMdHwentL
 n - D47024, i drat@n- 45.3D662, 955.175405

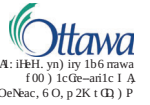


kaHReP by-s Ay dl OtaRa
 00 s dntreG@n l q
 Nepean, ON, K2G 5J1 s l



5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC

Tue May 3, 2022
 FM Feal 3igt FM hgngt FM (h6: eA-- Feal 9 luA
 P -) -a(Cs idorCacHM1rAYv-C 9 ea: y, FeHGAcC Biyyv-C1c R1aH Biyyv-C1c
) A(Gwa-l (C)
 P - M1: ek ecrC
 n nlg402g, s lvanl cngt 3D882, lbt 754 g0t



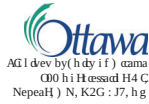
F@: ihH, yn) iy 1b6 mawa
 (00) l cG@-antC l C
 OeNac, 6 O, p 2K t (C) P

Lk e	O1A0					J1um					E eG				
	R	T	W	PNN	FeH	T	s	W	PNN	FeH	R	s	W	PNN	FeH
20220503 3gg FM	f5	fg2	0	ft4	0	fg0	35	0	f85	0	l3	0	0	l3	f3
g0FM	14	f3f	0	fgD	0	ffD	18	0	f85	0	g8	2	0	gD	15
g4FM	ff	f33	0	fgg	0	fg0	82	0	222	0	80	f	0	8f	11
g0FM	3	f3D	0	fg2	0	fgf	g2	0	f43	0	15	0	0	15	f5
T1m	g4	fg	0	tD	0	fg0	208	0	8g0	0	225	3	0	22D	50
* PNNLavo	4T*	DT*	0*	h	h	825*	288*	0*	h	h	D8*	f3*	0*	h	h
T1m	3T*	3g8*	0*	382*	h	3g8*	f32*	0*	g85*	h	fg8*	02*	0*	fg5*	h
P9*	0563	07qD	h	0T88	h	0T13	0832	h	078D	h	08f3	0788	h	07f2	h
s idorCacHM1rAYv-C	g5	t0D	0	ttt	h	t0D	203	0	8f2	h	22f	3	0	22g	h
* s idorCacHM1rAYv-C	D7*	D8*	0*	D85*	h	Dg5*	DdT*	0*	D7*	h	D8*	f00*	0*	D8*	h
9 ea: y	f	ft	0	f5	h	f8	2	0	fD	h	0	0	0	0	h
9 ea: y	2T*	2T*	0*	2B*	h	3T*	f70*	0*	2T*	h	0*	0*	0*	0*	h
Biyyv-C1c R1aH	f	2f	0	22	h	fg	2	0	f5	h	t	0	0	t	h
* Biyyv-C1c R1aH	2T*	3T*	0*	3B*	h	25*	f70*	0*	2T*	h	22*	0*	0*	22*	h
* FeHGAcC	h	h	h	h	0	h	h	h	h	0	h	h	h	h	0
Biyyv-C1c A(Gwa-l	h	h	h	h	0	h	h	h	h	0	h	h	h	h	0
* Biyyv-C1c A(Gwa-l	h	h	h	h	0	h	h	h	h	0	h	h	h	h	0

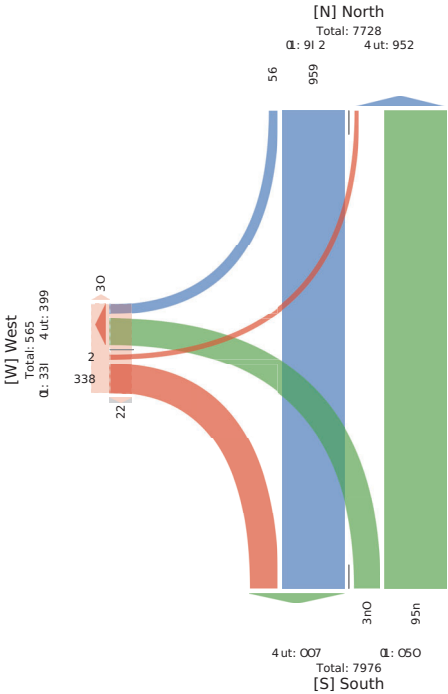
FeHGAcCacHBiyyv-C1c) A(Gwa-l 7s ns ebr, RnRidor, TnToAn, WnWHtUk

5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC

Tue May 3, 2022
 AM AeaP k3(8: AM - 8(8: AM9-) l eGAs AeaP L i uC
 g ss h s att e lndr a aH Mi G B y Bet, L ea l y, AevetG@H, R d y Bet i Hwi av, R d y Bet i H
 h G t t mas P9
 g ss Mi l e f eHt
 D (785028, ni Bnd H 8: .376662, -6: .15: 80:



AG l dev by (h y l l) s ana
 000 h i H e ss ad H4 C
 Nepean H) N, K2G : J7, h g



5566814 - COVID - BANK ST @ ECHO DR - MAY 03... - TMC

Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on
 Crosswalk)
 All Movements
 ID: 947081, Location: 485987.9, - 85/74334



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 8J9, CA

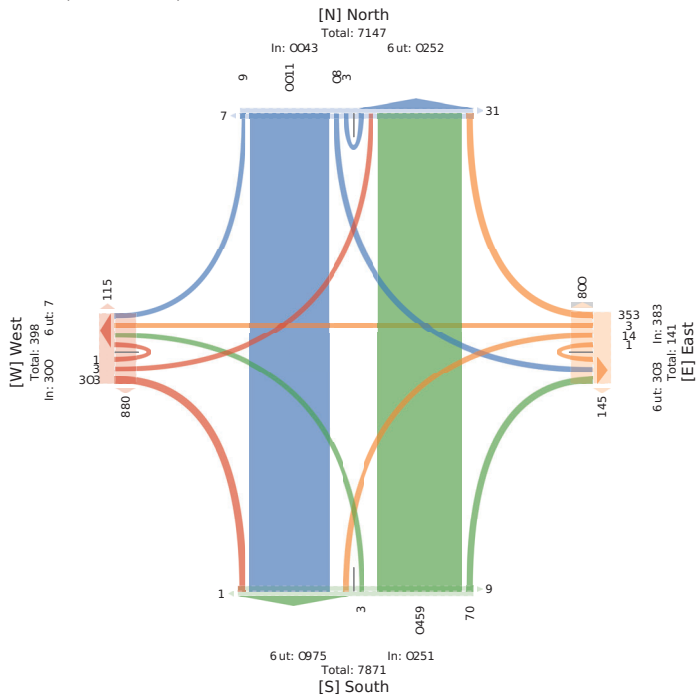
Leg Direction	North					East					South					West				
	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App
2022-08-03 6:00AM	0	118	0	0	118	0	1	0	0	1	0	140	0	0	140	0	1	0	0	1
7:00AM	0	484	2	0	486	4	9	0	0	9	43	6	694	0	60	0	17	0	0	17
9:00AM	0	242	4	0	246	0	4	0	1	8	14	4	30	0	311	1	4	0	0	4
11:00AM	0	267	4	0	271	2	8	0	0	8	20	3	277	0	291	0	7	0	0	7
12:00PM	0	880	7	0	887	1	9	1	9	1	20	13	862	1	8	6	16	0	1	1
1:00PM	0	8	2	10	8	0	28	0	1	33	97	26	84	0	8	3	14	0	0	14
3:00PM	1	3	1	2	3	4	9	0	1	10	71	326	0	0	333	0	11	0	0	11
4:00PM	2	70	6	0	77	1	17	0	4	0	22	127	17	88	0	0	23	0	0	23
8:00PM	2	690	6	1	699	10	13	0	4	0	1	130	11	673	0	0	694	1	32	0
Total	8	4422	43	1	44	21	101	1	2	2	131	96	4	08	1	4702	141	0	1	2
% Approach	0%	97%	1%	0%	0%	0%	0%	0%	0%	0%	0%	23%	97%	0%	0%	0%	0%	0%	0%	15%
% Total	0%	46%	0%	0%	46%	1%	0%	0%	0%	1%	1%	13%	48%	0%	0%	0%	13%	0%	0%	13%
Lights and Motorcycles	1	4137	40	1	4178	0	0	26	2	27	0	67	43	0	444	0	138	0	1	137
% Lights and Motorcycles	20%	93%	93%	100%	93%	0%	0%	96%	100%	45%	0%	0%	93%	0%	0%	0%	85%	0%	100%	98%
Heavy	0	162	0	0	162	1	1	0	0	1	1	1	170	1	0	1	1	0	0	1
% Heavy	0%	35%	0%	0%	35%	100%	0%	0%	0%	0%	100%	35%	100%	0%	0%	0%	0%	0%	0%	65%
Bicycles on Road	4	122	3	0	129	30	1	1	0	32	2	2	146	0	1	3	8	0	0	8
% Bicycles on Road	70%	25%	50%	0%	25%	25%	100%	35%	0%	24%	27%	33%	0%	0%	30%	0%	0%	0%	0%	33%
Pedestrians	-	-	-	-	-	19	-	-	-	-	644	-	-	-	6	-	-	-	-	471
% Pedestrians	-	-	-	-	-	90%	-	-	-	-	97%	-	-	-	78%	-	-	-	-	76%
Bicycles on Crosswalk	-	-	-	-	-	2	-	-	-	-	10	-	-	-	1	-	-	-	-	8
% Bicycles on Crosswalk	-	-	-	-	-	98%	-	-	-	-	13%	-	-	-	145%	-	-	-	-	138%

Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

5566814 - COVID - BANK ST @ ECHO DR - MAY 03... - TMC
 Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 947081, Location: 485987.9, - 8574334



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 8J9, CA



5566814 - COVID - BANK ST @ ECHO DR - MAY 03... - TMC
 Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
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Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 8J9, CA

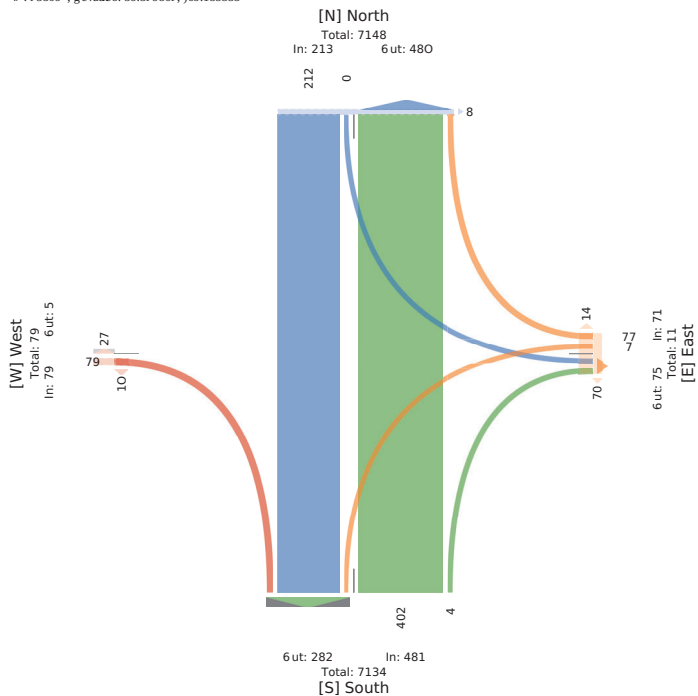
Pec	Ords					Jali					Erus					S eli								
	DyeHyd	Erus.rudo	Jali	S eli.rudo	Erus	S eli	Jali	Erus	S eli	Jali	Erus	S eli	Jali	Erus	S eli	Jali	Erus	S eli						
Time	w	T	P	W	FNN	l	w	T	P	W	FNN	l	w	T	P	W	FNN	l						
20220403gh(FM)	0	h04	0	0	h04	h	4	0	0	0	4	h2	2	h4	0	0	h5	0	4	0	0	4	2	25g
g30FM	0	h20	h	0	h2h	3	4	0	0	0	4	h0	3	h4	0	0	h8	0	4	0	0	4	2	30g
g4FM	0	h1	0	0	h1	0	0	0	0	0	0	h0	h	2h	0	0	h5	0	8	0	0	8	h	30g
g0FM	0	h42	2	0	h44	0	3	0	h	0	4	h	h	h2	0	0	h3	0	2	0	0	2	h	33g
Tria	0	(2	3	0	(2g	4	h	0	h	0	h2	40	0	h	0	0	h4	0	h	0	0	h	0	h3h
* FNraH	0	2	0	0	0	6	4	h	0	0	0	6	6	0	0	0	0	6	h	0	0	0	6	6
* Tria	0	40	0	0	40	6	0	0	0	0	0	6	0	0	0	0	6	h	0	0	0	0	6	6
1 v %	6	0	2	4	0	2	6	0	2	0	6	0	2	6	0	2	6	0	2	6	0	2	6	0
PK11ado Mir r H e l	0	00	3	0	03	6	2	0	h	0	3	6	h	55h	0	0	55	6	h	0	0	0	h	6
* PK11ado Mir r H e l	0	(2	h00	0	(2	6	h	0	0	0	2	0	h	4	0	0	2	h	0	0	0	0	h	6
v eaBy	0	hg	0	0	hg	6	0	0	0	0	0	6	0	43	0	0	43	6	0	0	0	0	6	5h
* R H e l r d w a o	0	8	0	0	8	6	0	0	0	0	0	6	0	5	h	0	0	5	h	0	0	0	6	4
* R H e l r d w a o	0	h3	0	0	h3	6	h	0	0	0	6	h	3	h	0	0	6	h	0	0	0	0	6	4
* l e e l i c j a d l	6	6	6	6	6	3	6	6	6	6	6	3	6	6	6	6	6	6	6	6	6	6	6	6
R H e l r d 9 r l k a L	6	6	6	6	6	h	6	6	6	6	6	3	6	6	6	6	6	6	6	6	6	6	6	h2
* R H e l r d 9 r l k a L	6	6	6	6	6	7	6	6	6	6	6	7	6	6	6	6	6	6	6	6	6	6	6	h2

l e e l i c j a d l a d o R H e l r d 9 r l k a L P e h , w t w C s i , T t T s c u , W W G I u d

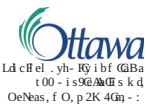
5566814 - COVID - BANK ST @ ECHO DR - MAY 03... - TMC
 Tue May 3, 2022
 AM Peak (8: -9 AM) 1: -9 AM
 Ass Lsaii e (gt nd aor McdHyvsei, Bealy, Per eid hoi, whyvsei co mcar, whyvsei co LHiii askC
 Ass McReDeod
 47: 15809-, gcvadro: 59.319861,)69.185335



PH r r e r by: L h i c i O d h i a
 - 00 L c o i s s a d o 7 H
 Nepean, ON, K2G 9J1, LA



5566814 - COVID - BANK ST @ ECHO DR - MAY 03... - TMC
 Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 947081, Location: 485987.9, - 8574334



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 8J9, CA

lep	Oid					Jaoc					Eru					S eC									
	kRoE s	Ei u	i u s l	Jaoc	S eC i u s l	Eru	S eC	Jaoc	Eru	S eC	Jaoc	Eru	S eC	Jaoc	Eru	S eC	Jaoc	Eru	S eC						
TR e	v	T	1	W	NN	LeL	v	T	1	W	NN	LeL	v	T	1	W	NN	LeL	v	T	1	W	NN	LeL	wC
202204031280LM	0	124	2	0	128	0	3	0	0	0	3	14	1	114	0	0	11	0	1	0	0	0	1	20	21g
1284LM	0	141	1	0	144	0	2	1	1	0	1	24	2	145	0	0	140	0	3	0	0	0	3	14	32g
180LM	0	150	4	0	153	0	4	0	1	0	m	25	D	118	0	0	144	0	2	0	0	0	2	11	30g
1h4LM	0	130	2	0	110	0	m	0	1	0	10	20	D	130	0	0	130	3	3	0	0	0	3	22	2m
Ti G4	0	40	10	0	40	0	1	m	1	5	0	25	m	22	40	0	0	500	3	12	0	0	0	12	8h
* N d a o	0	n3	1	0	0	0	(	0	3	1	0	0	0	(	3	h	0	0	0	0	0	0	0	0	0
* Ti G4	0	18	1	0	19	0	(	1	2	1	0	0	0	(	1	2	1	0	0	0	0	0	0	0	0
L r %	0	0	1	0	0	0	(	0	1	0	0	0	0	(	0	1	0	0	0	0	0	0	0	0	0
1 P y @ a s l M i G d y o a 9	0	41	1	0	44	0	1	8	0	5	0	23	1	18	43	0	0	445	1	12	0	0	0	12	1114
* 1 P y @ a s l M i G d y o a 9	0	n8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* e a c y	0	1	0	0	1	0	(	0	0	0	0	0	(	0	0	0	0	0	0	0	0	0	0	0	0
* H i y o a 9 i s v i a l	0	11	0	0	11	0	(	2	1	0	0	3	(	4	15	0	0	2	(	0	0	0	0	0	0
* H i y o a 9 i s v i a l	0	21	0	0	21	0	(	0	2	0	0	0	(	2	2	0	0	0	(	0	0	0	0	0	0
L e l e f d i s 9	(((((((((((((((((((((((((
* L e l e f d i s 9	(((((((((((((((((((((((((
H i y o a 9 i s - d 9 B a h	(((((((((((((((((((((((((
* H i y o a 9 i s - d 9 B a h	(((((((((((((((((((((((((

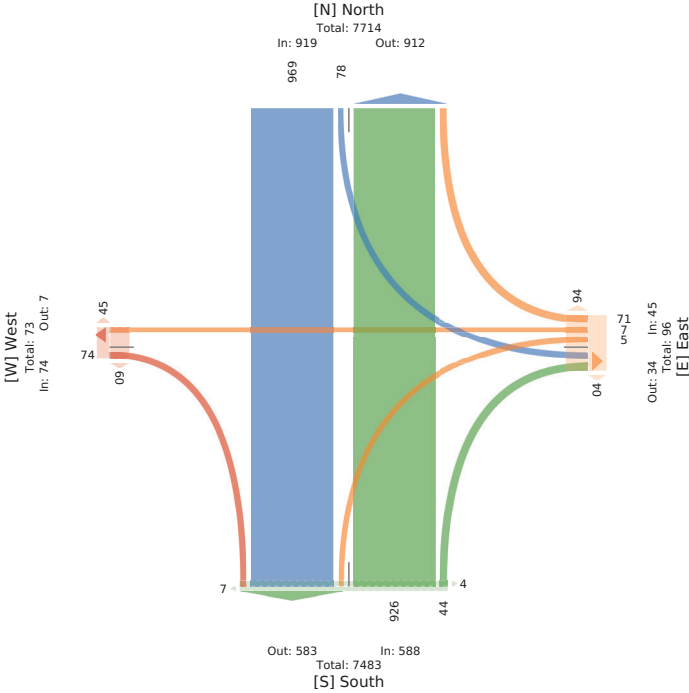
L e l e f d i s 9 a s l H i y o a 9 i s - d 9 B a h 7 1 h e C v h v P C h T T d i , W h W T u d

5566814 - COVID - BANK ST @ ECHO DR - MAY 03... - TMC

Tue May 3, 2022
 M: Pay kea (8.2-30 km 9: -30 km)
 l (S G) l k e B g h t L a n P M d d r y r @ L, c e a h y, k e P e l t o a n L, v A y r @ L d n B d a P, v A y r @ L d n
 s a l l R a A (C)
 i (C M L) e m e r c h
 n - D 4705: . i d r a t @ n - 45.3 D 576 D 955.174334

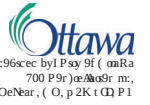


ka l H R P b y s A y d i O n t a r a
 00 s d n l e g a t a n 1 q
 Nepean, ON, K2G 5J1 S 1



5566814 - COVID - BANK ST @ ECHO DR - MAY 03... - TMC

Tue May 3, 2022
 FM Feal In FM gt FMhg (6 e a A Feal - 9 u:
 1 A P A) e l C s d q a r c M 9 0 : H (H) , - e a 6 y, F e c e o s a r) , v s t H (H) 9 r B 9 a c, v s t H (H) 9 r
 P : 9) R a A h
 1 A M 9 e w e r d
 k m l D n 4 0 t 7, C 9 H a 0 9 r l n t B D 4 5 D g 5 t 8 4 n 3 3 n



P: 96 c e c b y l P e y 9 i (m R a
 700 P 9) e a 9 a 9 e m e,
 O e A r n , (O, p 2 k t C D) P 1

Cat	Esbud					Jajo					Esbud					Sajo						
	B	T	C	W	1 NN	B	T	C	W	1 NN	B	T	C	W	1 NN	B	T	C	W	1 NN		
2022-08-03 n00FM	0	755	0	0	742	0	0	0	0	0	2	74n	0	0	74	0	0	0	0	0		
n07FM	0	713	0	0	713	7	5	0	7	0	4	32	3	202	0	0	206	0	3	0	0	
n08FM	7	204	0	0	200	0	2	0	0	0	2	3n	755	0	0	743	0	0	0	0		
n09FM	7	71D	7	0	207	0	1	0	2	0	5	23	5	712	0	0	71D	0	1	0	0	
TSA	2	540	0	0	544	7	74	0	n	0	22	724	74	541	0	0	553	0	23	0	0	
* 1 N 9 a h	08*	1130*	08*	0*	0*	g	478*	0*	748*	0*	g	28*	135*	0*	0*	g	700*	0*	0*	0*		
* TSA	08*	043*	08*	0*	n07*	g	72*	0*	02*	0*	g	78*	0*	02*	0*	g	n49*	0*	0*	0*		
F-%	g	08D2	08t0	g	08D4	g	08t0	g	0800	g	0604	g	08t0	g	08E7	g	g	083D	g	g		
Ci d q a r c M 9 0 : H (H)	0	530	0	0	534	g	73	0	n	0	75	g	71	57	0	0	537	g	23	0	0	
* M 9 0 : H (H)	0*	138*	438*	0*	138*	g	52*	0*	700*	0*	g	538*	g	438*	138*	0*	0*	g	700*	0*	0*	700*
* e a 6 y	0	7	0	0	7	g	0	0	0	0	0	g	0	75	0	0	75	g	0	0	0	
* e a 6 y	0*	28*	0*	0*	28*	g	0*	0*	0*	0*	g	0*	28*	0*	0*	g	28*	0*	0*	0*		
v s t H (H) 9 r B 9 a c	2	3n	7	0	35	g	1	0	0	0	1	g	3	22	0	0	2n	g	0	0	0	
* v s t H (H) 9 r B 9 a c	700*	n4*	7.8*	0*	n4*	g	258*	0*	0*	0*	g	228*	g	7.8*	28*	0*	0*	g	0*	0*	0*	0*
F e c e o s a r)	g	g	g	g	g	7	g	g	g	g	721	g	g	g	g	g	g	g	g	g		
* F e c e o s a r)	g	g	g	g	g	700*	g	g	g	g	156*	g	g	g	g	g	g	g	g	g		
v s t H (H) 9 r P : 9) R a A	g	g	g	g	g	0	g	g	g	g	3	g	g	g	g	g	g	g	g	g		
* v s t H (H) 9 r P : 9) R a A	g	g	g	g	g	0*	g	g	g	g	28*	g	g	g	g	g	g	g	g	g		

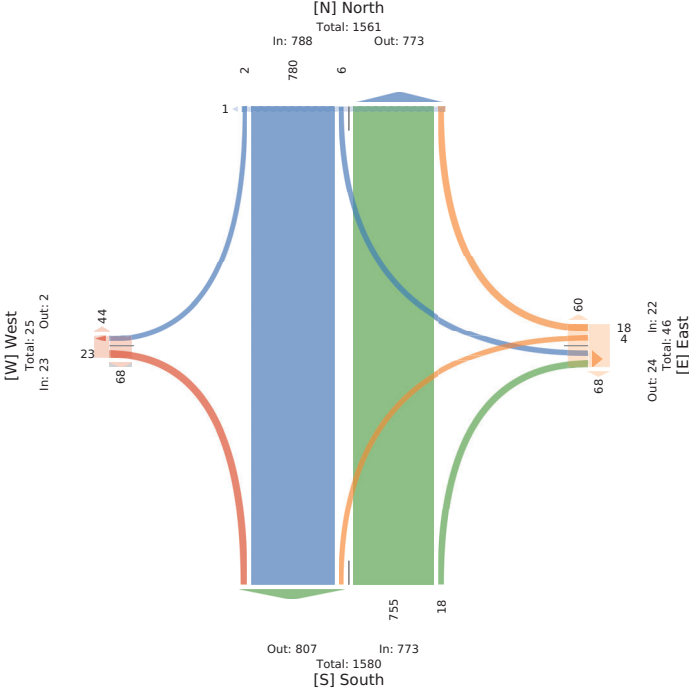
F e c e o s a r) a r c v s t H (H) 9 r P : 9) R a A 8 C i C e f q B l B s i d q T l T d u, W W g f u r

5566814 - COVID - BANK ST @ ECHO DR - MAY 03... - TMC

Tue May 3, 2022
 AM A e a P (AM 8: AM- 89) e l a C e a P s L u l
 i (C g G h h e h k n o t h a C H M L L i v y v e h s e a y) , A e h h r l m c h, B a y y e h L c R l a H B a y y e h L c
 g l l h w a P -
 i (C M L) e m e r c h
 I D 47 (50: . i L v a n L c 4 : 0 7 : 517, 81: 6 5 : 33)



A l D r h H F y 4 y g L O 0 m a v a
 00 g L c h e G a n c D l,
 Nepean, 9 N, K2G : J7, g i



5566814 - COVID - BANK ST @ AYLME R AVE - MAY... - TMC

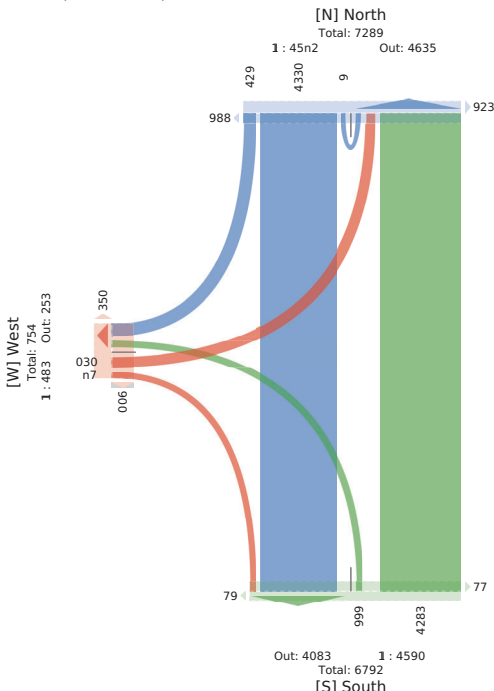
Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on
 Crosswalk)
 All Movements
 ID: 947085, Location: 48.3986, -58.674156



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 8J9, CA

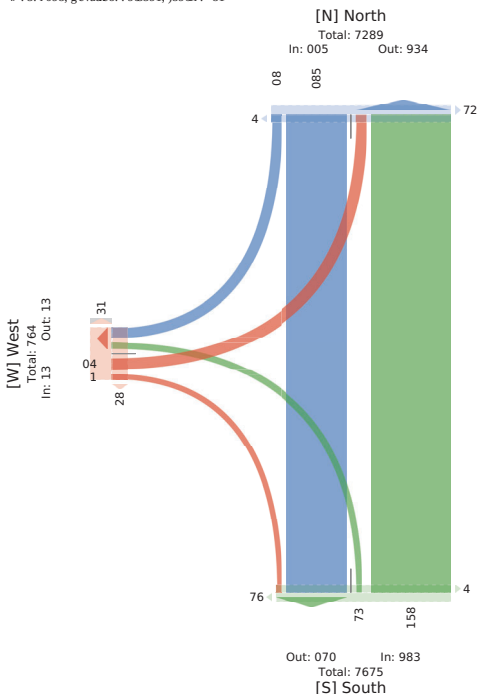
Leg Direction	North Southbound					South Northbound					West Eastbound				
	R	T	U	App	Ped*	T	L	U	App	Ped*	R	L	U	App	Ped*
2022-08-03 6:00AM	15	211	1	229	16	238	2	0	235	8	0	10	0	10	17
5:00AM	42	476	0	827	24	689	18	0	654	21	5	89	0	66	57
7:00AM	84	409	0	463	18	815	5	0	824	9	4	35	0	41	39
9:00AM	21	218	0	236	6	242	5	0	249	5	8	10	0	18	20
11:00AM	38	262	0	295	13	277	7	0	296	6	1	12	0	13	39
12:00PM	80	830	0	870	29	827	15	0	848	22	10	44	0	84	73
1:00PM	49	882	0	601	30	811	9	0	820	35	13	32	0	48	65
3:00PM	80	367	0	417	21	384	10	0	364	10	13	23	0	36	84
4:00PM	65	662	0	529	48	626	18	0	641	27	12	83	0	68	100
8:00PM	66	827	0	894	83	842	21	0	863	48	14	43	0	85	103
Total	481	4223	1	4658	282	4802	111	0	4613	190	59	323	0	402	601
% Approach	9.6%	90.3%	0%	0%	-	95.6%	2.4%	0%	-	-	19.5%	70.3%	0%	-	-
% Total	4.5%	43.6%	0%	47.2%	-	46.8%	1.1%	0%	45.6%	-	0.7%	3.3%	0%	4.1%	-
Lights and Motorcycles	343	4046	0	4379	-	4226	105	0	4333	-	52	274	0	386	-
% Lights and Motorcycles	56.1%	98.7%	0%	93.9%	-	83.9%	96.4%	0%	93.9%	-	91.1%	75.9%	0%	77.0%	-
Heavy	15	139	1	165	-	149	4	0	183	-	8	15	0	22	-
% Heavy	3.7%	3.3%	100%	3.4%	-	3.3%	3.6%	0%	3.3%	-	6.3%	8.3%	0%	8.8%	-
Bicycles on Road	91	37	0	129	-	125	0	0	125	-	2	22	0	24	-
% Bicycles on Road	20.2%	0.9%	0%	2.7%	-	2.7%	0%	0%	2.7%	-	2.8%	6.7%	0%	6.0%	-
Pedestrians	-	-	-	-	230	-	-	-	-	169	-	-	-	-	473
% Pedestrians	-	-	-	-	91.3%	-	-	-	-	77.9%	-	-	-	-	70.4%
Bicycles on Crosswalk	-	-	-	-	22	-	-	-	-	21	-	-	-	-	117
% Bicycles on Crosswalk	-	-	-	-	7.5%	-	-	-	-	11.1%	-	-	-	-	19.6%

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn



Pec DyeHrd	Ords Jruis. rudo				l e o l	Jruis Ords. rudo				l e o l	E e l i S a l l. rudo				l e o l	
	w	T	W	FNN		T	P	W	FNN		w	P	W	FNN		
20220403 g h F M	4	h0	0	h07	h3	h74	2	0	h4	5	7	h g	0	2h	37	2:5
g30F M	h0	h33	0	h73	h3	h40	(	0	h4	h	2	h g	0	h4	h g	3:6
g71F M	h7	h2	0	h55	h3	h40	g	0	h4 g	h h	0	h3	0	h3	h	3:5
h00F M	h g	h4	0	h35	h3	h5h	0	0	h5h	h	0	h3	0	h4	h0	3:8
T r i a	(	04	0	(4	2h	540	h7	0	g07	20	5	(	0	57	g5	h3: g
* F N r a h	38*	4h8*	0*	6	6	4:8*	28*	0*	6	6	4:8*	408*	0*	6	6	6
* T r i a	38*	3:8*	0*	72h*	6	(2h*	h8*	0*	(3h*	6	0:8*	78*	0*	7h*	6	6
l v %	0:6:2	0:8:3	6	0:8:7g	6	0:8:43	0:8:00	6	0:8:4	6	0:8:4	0:8:3	6	0:8:5	6	0:8:5
P C i i a d o M r i r c H e l	7h	743	0	(37	6	52	h3	0	53:	6	5	7:	0	(7	6	h:25
* P C i i a d o M r i r c H e l	:2h*	45h*	0*	4:8*	6	408*	42h*	0*	405*	6	h00*	:2h*	0*	:7h*	6	4:2h*
v e a l y	2	h3	0	h(	6	35	h	0	3g	6	0	(	0	(	6	h
* v e a l y	7h*	2h*	0*	2h*	6	(8*	gB*	0*	(8*	6	0*	:8*	0*	:g8*	6	7h*
R H e l r d w r a o	g	3	0	h0	6	24	0	0	24	6	0	(	0	(	6	77
* R H e l r d w r a o	h7h*	0h5*	0*	h8*	6	7h*	0*	0*	7h*	6	0*	:5*	0*	:g8*	6	3h*
l e o l c i a d l	6	6	6	6	h4	6	6	6	6	20	6	6	6	6	6	4:
* l e o l c i a d l	6	6	6	6	40g*	6	6	6	6	h00*	6	6	6	6	6	g:8h*
R H e l r d 9 r 1 l k a . l	6	6	6	6	2	6	6	6	6	0	6	6	6	6	6	h g
* R H e l r d 9 r 1 l k a . l	6	6	6	6	4g*	6	6	6	6	0*	6	6	6	6	6	22h*

l e o l c i a d l a d o R H e l r d 9 r 1 l k a - L B P t P e h, w t w) C i, T r T s c u, W W G T u d



l e P k B o e s	O i d j J i u g. i u s i				l e l	J i u g O i d j. i u s i				l e l	E e c S a 9 C i u s i				l e l	w c
	v	T	W	(NN		T	l	W	(NN		v	l	W	(NN		
20220403 t r i B O M	14	t14	0	130	m	t11	3	0	t11	3	0	7	0	7	2h	2h
t r i B 4 M	20	117	0	157	1	117	4	0	142	3	1	4	0	5	113	3:4
t r i B O L M	14	112	0	147	3	11m	2	0	14	5	2	m	0	11	1m	3: m
t 2 h 4 l M	11	132	0	115	t 2	133	3	0	135	1	2	10	0	12	27	2h
T r i a	51	435	0	500	20	470	13	0	478	15	4	3:	0	35	1h	1:2 m
* (N N i a o)	108*	Dh8*	0*	6	6	g:7h*	2h*	0*	6	6	1:3h*	1:3h*	0*	6	6	6
* T r i a	48*	118*	0*	1:6h*	6	15h*	18*	0*	17h*	6	0:8*	2h*	0*	3h*	6	6
l r %	0:8:0	0:8:03	6	0:8:1	6	0:8:44	0:8:40	6	0:8:1D	6	0:8:24	0:8:00	6	0:8:1D	6	0:8:23
l P) 9 a s l M i G d y o a 9	13	40m	0	442	6	435	13	0	41m	6	4	24	0	30	6	1:13
* l P) 9 a s l M i G d y o a 9	57h*	m8h*	0*	m8h*	6	m18*	100*	0*	m18*	6	100*	Dh8*	0*	Dh8*	6	m2h*
r e a c y	4	22	0	27	6	22	0	0	22	6	0	3	0	3	6	42
* r e a c y	7h*	18*	0*	18*	6	3h*	0*	0*	3h*	6	0*	m8*	0*	Dh*	6	1h*
H i 9 y o a 9 i s v i a l	t5	4	0	2h	6	12	0	0	12	6	0	3	0	3	6	35
* H i 9 y o a 9 i s v i a l	24h*	0h7*	0*	3h*	6	2h*	0*	0*	2h*	6	0*	m8*	0*	Dh*	6	3h*
l e l e 9 G a s 9	6	6	6	6	27	6	6	6	6	15	6	6	6	6	6	7:
* l e l e 9 G a s 9	6	6	6	6	m8h*	6	6	6	6	100*	6	6	6	6	6	1:8h*
H i 9 y o a 9 i s - d 9 9 B a h	6	6	6	6	1	6	6	6	6	0	6	6	6	6	6	13
* H i 9 y o a 9 i s - d 9 9 B a h	6	6	6	6	3h*	6	6	6	6	0*	6	6	6	6	6	4h*

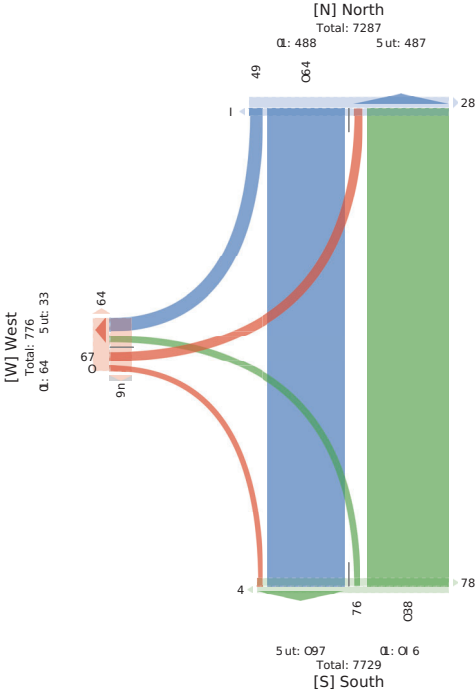
l e l e 9 G a s 9 a s l H i 9 y o a 9 i s - d 9 9 B a h 1 h l e C v h v l P C T h T) d i, W W G T u d

5566814 - COVID - BANK ST @ AYLMER AVE - MAY... - TMC

Tue May 3, 2022
 M: 8:30 AM - 12:30 PM
 9:00 AM - 5:00 PM
 5:00 PM - 9:00 PM
 9:00 PM - 11:00 PM
 11:00 PM - 1:00 AM

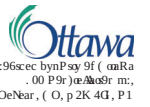


City of Ottawa
 Nepean, ON, K2G 5J4 S 9



5566814 - COVID - BANK ST @ AYLMER AVE - MAY... - TMC

Tue May 3, 2022
 FM Feal 13:00 FM gt r0 FMhg(6eaWFeal - 9u:
 1 AP A)je ICs d0 arc M90: H(H), - ea6y, Fecel0sar), v s(H) 9r B9ac, v s(H) 9r
 P:9)RaA
 1 AM9Gewer0
 km1 t D47, C9H09rnt 481 45, g/45D : 75



City of Ottawa
 Nepean, ON, K2G 5J4 S 9

Time	[N] North				[W] West				[S] South							
	B	T	W	1 NN	FecL	T	C	W	1 NN	FecL	B	C	W	1 NN	FecL	
2022-04-03 3:00 PM	32	15	0	22D	2	7	1	0	74	3	2	1	0	..	30	1
3:45 PM	10	7	0	10	1	10	5	0	10	7	..	1	0	24	21	10
4:00 PM	4	5	0	7	1	7	5	0	77	3	7	7	0	2	24	30
4:15 PM	22	10	0	22	2	10	..	..	..	..	..	..	..	3	24	355
Total	17	722	0	101	10	554	7	0	512	23	2	42	0	73	0	454
% Approach	0.8%	13.2%	0%	4.8%	0.6%	17.8%	2.8%	0%	8.6%	4.2%	2.1%	7.8%	0%	1.8%	0%	8.6%
Lights and Motorcycles	48%	158%	0%	4.8%	0.6%	128%	8.8%	0%	138%	4.2%	8%	38%	0%	18%	0%	18%
% Heavy	0.8%	15.8%	0%	0.8%	0.6%	15.8%	2.8%	0%	15.8%	4.2%	2.1%	15.8%	0%	1.8%	0%	15.8%
Bicycles on Road	41	515	0	744	8	532	7	0	561	8	1	17	0	55	0	170
% Pedestrians	0.8%	15.8%	0%	1.38%	0.6%	14.8%	0.0%	0%	1.42%	4.2%	10.8%	10.8%	0%	10.8%	0%	11.8%
Bicycles on Crosswalk	27	1	0	35	8	23	0	0	23	8	2	1	0	5	0	54
% Pedestrians and Bicycles on Crosswalk	3.0%	0.2%	0%	1.8%	0.6%	3.8%	0%	0%	3.8%	4.2%	1.8%	7.8%	0%	1.8%	0%	1.8%

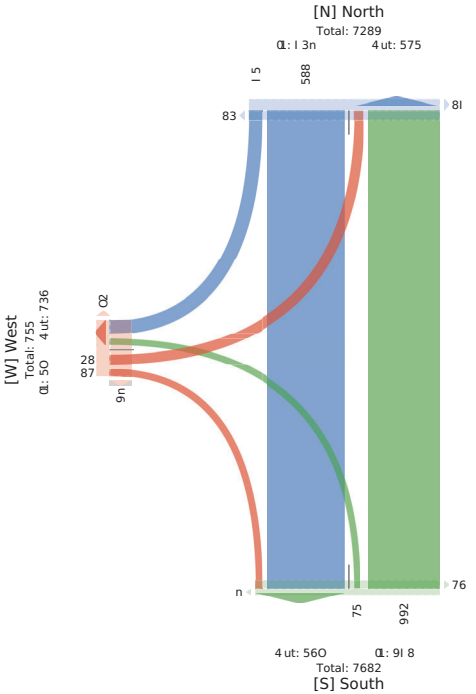
^Fecel0sar) arc v s(H) 9r P:9)RaA8CnCeFq BnBs d0 TnTdu, WnWgtur

5566814 - COVID - BANK ST @ AYLMER AVE - MAY... - TMC

Tue May 3, 2022
 AM AeaP k(30 AM 8: (30 AM- 89) elacC/aep s Lul
 i Cg G(h)h k nloth acHMLLjv(y)h s ea)y, Aeh(h)hach, Bayy0h Lc RLah Bayy0h Lc
 g LHhwaP-
 i (LML) emech
 ID(4: 705, t LvantLc(: 50451, 8 507: b. 1



City of Ottawa
 Nepean, 9 N, K2G 5J4, gi



5566814 - COVID - QUEEN ELIZABETH DRWY @ FIF... - TMC

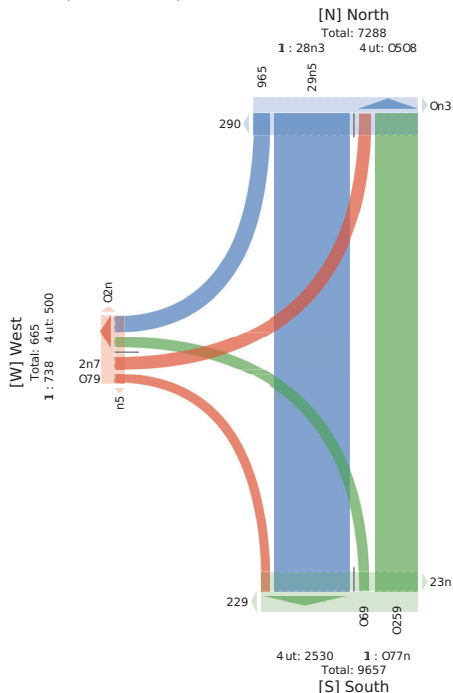
Tue May 3, 2022
 Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on
 Crosswalk)
 All Movements
 ID: 947066, Location: 48303921, -. 83719. 4



City of Ottawa
 Nepean, ON, K2G 8J9, CA

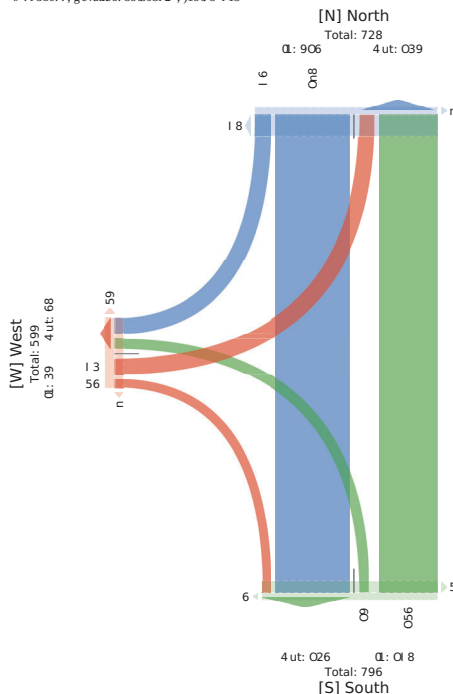
Leg Direction	North					South					West					
	Eouthbound					Northbound					Westbound					
Time	R	T	U	App	Ped*	T	L	U	App	Ped*	R	L	U	App	Ped*	Int
2022-08-03 6:00 AM	8	42	0	4	13	32	1	0	33	11	3	4	0	..	..	7
7:00 AM	23	14	0	19	22	141	..	0	147	2	8	1	0	22	13	36
8:00 AM	44	21	0	318	4	212	21	0	233	2	18	46	0	61	20	600
9:00 AM	24	107	0	132	18	73	13	0	96	11	11	20	0	31	7	289
10:00 AM	30	131	0	161	19	61	8	0	66	23	9	17	0	2	16	284
12:00 PM	86	286	0	312	83	132	2	0	189	2	16	38	0	81	26	822
1:00 PM	83	240	0	293	46	13	26	0	163	88	12	23	0	38	24	491
3:00 PM	26	233	0	289	48	9	23	0	120	3	17	18	0	33	16	412
4:00 PM	68	808	0	80	8	16	36	0	203	66	32	39	0	1	22	744
8:00 PM	69	408	0	4	4	71	191	34	0	228	100	22	4	0	69	39
Total	398	2368	0	2,60	397	1283	193	0	1446	429	143	264	0	40	191	4613
% Approach	145%	785%	0%	-	-	765%	133%	0%	-	-	383%	643%	0%	-	-	-
% Total	75%	815%	0%	895%	-	2.5%	42%	0%	315%	-	33%	85%	0%	75%	-	-
Lights and Motorcycles	36	2329	0	2696	-	1222	193	0	1418	-	137	284	0	392	-	4803
% Lights and Motorcycles	923%	978%	0%	9.5%	-	9.3%	100%	0%	9.5%	-	963%	962%	0%	962%	-	9.3%
Heavy	9	18	0	24	-	10	0	0	10	-	2	4	0	6	-	40
% Heavy	2.9%	0.8%	0%	0.9%	-	0.9%	0%	0%	0.5%	-	1.8%	1.8%	0%	1.5%	-	0.9%
Bicycles on Road	19	21	0	40	-	21	0	0	21	-	3	6	0	9	-	0
% Bicycles on Road	45%	0.9%	0%	1.5%	-	1.5%	0%	0%	1.5%	-	2.3%	2.9%	0%	2.5%	-	1.9%
% Pedestrians	-	-	-	-	290	-	-	-	-	369	-	-	-	-	174	-
Bicycles on Crosswalk	-	-	-	-	107	-	-	-	-	60	-	-	-	-	-	-
% Bicycles on Crosswalk	-	-	-	-	2.9%	-	-	-	-	143%	-	-	-	-	-	35%

*Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn



Time	Ords Jruis. rudo				leol	Jruis Ords. rudo				leol	E ell Sali. rudo				leol
	w	T	W	FNN		T	P	W	FNN		w	P	W	FNN	
20220(03 ghr(FM	hg	74	0	g2	ht	(h	7	0	(5	7	2	5	0	:	g
g30F M	h0	gh	0	1h	g	7g	3	0	5h	(	4	h2	0	h7	4
g4F M	g	g3	0	1h	h7	15	(	0	72	5	g	h	0	23	4
:00F M	hh	(2	0	72	h0	dh	:	0	(0	(	3	h2	0	h	(
T)ia	45	2g0	0	325	4g	2h5	23	0	240	23	h5	47	0	73	2h
* FNR aH	h48*	g(9*	0*	6	g	:08*	:8*	0*	6	g	258*	538*	0*	6	g
* T)ia	5*	448*	0*	(h8*	g	348*	38*	0*	3g8*	g	28*	58*	0*	h00*	g
1 v %	08hg	08dg	6	08g	g	08g	08f3:	6	08g4	g	083h	08f(0	6	0854	g
P)Cil1 ado Mr ir cHHe1	40	25g	0	3hg	g	2h(	23	0	23g	g	h5	4(	0	72	g
* P)Cil1 ado Mr ir cHHe1	g(h*	: :8*	0*	:52*	g	: :8*	h00*	0*	: :8*	g	h00*	:58*	0*	:g8*	g
* v ealy	2	0	0	2	g	2	0	0	2	g	0	0	0	0	g
* v ealy	48*	0*	0*	08*	g	08*	0*	0*	08*	g	0*	0*	0*	0*	g
R)HHe1 rd wrao	(	2	0	5	g	0	0	0	0	g	0	h	0	h	g
* R)HHe1 rd wrao	h08*	08*	0*	28*	g	0*	0*	0*	0*	g	0*	28*	0*	h0*	g
* l eoe1ciad1	6	6	6	6	33	6	6	6	6	hg	6	6	6	6	20
* l eoe1ciad1	6	6	6	6	78g*	6	6	6	6	5g0*	6	6	6	6	(8*
R)HHe1 rd 9 r 1lk a-L	6	6	6	6	h	6	6	6	6	(	6	6	6	6	h
* R)HHe1 rd 9 r 1lk a-L	6	6	6	6	3h8*	6	6	6	6	2h8*	6	6	6	6	48*

l eoe1ciad1 ado R)HHe1 rd 9 r 1lk a-LBPt Pelt, wt w)CsI, Tr Tscu, W WGIud



Time	Os)jP Jsu)P.suCl				LeL	Jsu)P Os)jP.suCl				LeL	E e-) Sa-) suCl				LeL
	H	T	W	6NN		T	9	W	6NN		H	9	W	6NN	
20220703(2600LM	tm	40	0	5m	tt	27	5	0	32	2h	7	t2	0	t5	3
12h 7LM	t3	47	0	5D	h	2m	7	0	3h	2h	4	7	0	tt	11
12h0LM	tt	47	0	5m	tt	37	4	0	11	17	t	D	0	m	7
12h 7LM	t0	44	0	54	17	13	m	0	72	17	1	10	0	tt	5
T)ia	74	274	0	3h2	72	132	25	0	17m	52	14	37	0	7h	24
* 6NNsuD	t58*	128*	0*	h	h	180*	158*	0*	h	h	3h8*	428*	0*	h	h
* T)ia	t08*	108*	0*	7mD*	h	278*	78*	0*	308*	h	38*	48*	0*	mD*	h
Lo %	0835	08h	h	08D	h	08D	0870	h	0857	h	0845	08D	h	0827	h
9)P) aC Ms)jyde-	74	272	0	30D	h	t2D	25	0	t77	h	t4	32	0	1D	h
* 9)P) aC Ms)jyde-	t00*	mD*	0*	mD*	h	mD*	t00*	0*	mD*	h	t00*	mD*	0*	mD*	h
o eary	0	3	0	3	h	3	0	0	3	h	0	t	0	t	h
* o eary	0*	t8*	0*	t8*	h	28*	0*	0*	t8*	h	0*	28*	0*	28*	h
c Blyde- sCHsal	0	t	0	t	h	t	0	0	t	h	0	2	0	2	h
* c Blyde- sCHsal	0*	08*	0*	08*	h	08*	0*	0*	08*	h	0*	78*	0*	38*	h
* Lel e-)B)C	h	h	h	h	12	h	h	h	h	45	h	h	h	h	24
* Lel e-)B)C	h	h	h	h	58g*	h	h	h	h	m8*	h	h	h	h	100*
c Blyde- sCAis--v a(n	h	h	h	h	tt	h	h	h	h	7	h	h	h	h	0
* c Blyde- sCAis--v a(n	h	h	h	h	20D*	h	h	h	h	48*	h	h	h	h	0*

l eoe1ciad1 ado R)HHe1 rd 9 r 1lk a-LBPt Pelt, wt w)CsI, Tr Tscu, W WGIud

5566814 - COVID - QUEEN ELIZABETH DRWY @ FIF... - TMC

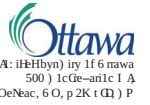
Tue May 3, 2022
 M/Pay kea(R 2 km - : kM9
) ll Clases Bl Agls at P Mnhdyoles, r eacy, kePeshtat s, Håyoles nt v naP, Håyoles nt
 CðssBal(9
) ll MnceRet hs
 ml D47055, Lnoahh 1.4. 0403D2; , -1. 67: D14



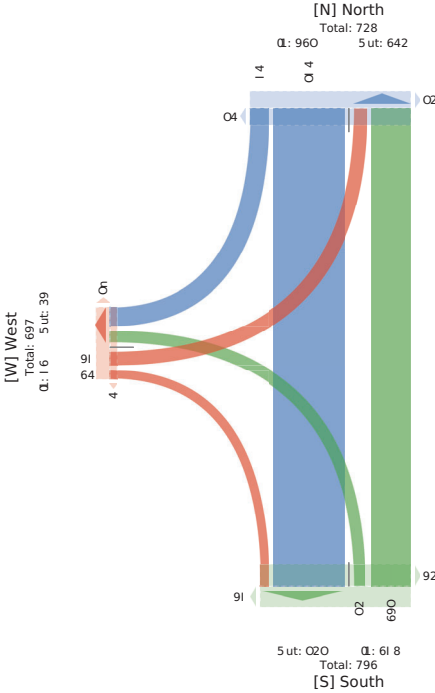
kdnc,RePbyl C,ly ml OlnhBa
 00 Cnt shellahkt md
 Nepeat, ON, K2G . J1 C)

5566814 - COVID - QUEEN ELIZABETH DRWY @ FIF... - TMC

Tue May 3, 2022
 FM Feal 3, 2022
 FM Feal 3, 2022 FM hgngt FM(h6: eA-- Feal 9 IuA
 P -) -a(GeClis idorCacHMrlAyv-c9 ea: y, FeHGAcG BivvyeC1c R1aH BivvyeC1c
) A(Gwa-l
 P -- M1: ek ecrC
 nh nlg4077, s lvanl cngt @03D25, h t 8745D g



F A: ihHbyn lry 116 tawa
 500) cGGe-anl c1 A
 OeNac, G O, p 2K t C1) P



Eed l lAvntic	O1Ao J tumbtuch					J tumb O1Aobtuch					E eG SaGbtuch				
	R	T	W	PNN	FeH	T	s	W	PNN	FeH	R	s	W	PNN	FeH
20220503 3gt FM	52	523	0	53	5	1	g	4	0	72	22	7	4	0	5
g00FM	5g	532	0	5g7	54	g	D	0	1g	22	7	4	0	5g	g
g00FM	20	533	0	54	54	g5	7	0	g	54	D	50	0	5D	2
g00FM	5	55g	0	535		gD	5g	0	73	55	50	0	0	5	7
T tms	73	102	0	17h	70	54D	3	0	227	77	33	3g	0	7	23
* PNN	558*	448*	0*			438*	578*	0*			g38*	108*	0*		
* T tms	8*	148*	0*	78*		228*	g8*	0*	278*		38*	g8*	0*	8*	
F9 %	08 44	08 33	h	08 00	h	08 .t	08 75	h	08 00	h	08 75	08 0	h	08 .t	h
s idorCacHMrlAyv-c	72	gD	0	114	h	547	3	0	223	h	35	33	0	7g	h
* s idorCacHMrlAyv-c	D4g*	D48*	0*	D48*	h	D4g*	500*	0*	D48*	h	D38*	D 5*	0*	D 8*	h
9 ea: y	5	2	0	3	h	3	0	0	3	h	0	5	0	5	h
* 9 ea: y	58*	0g*	0*	08*	h	58*	0*	0*	58*	h	0*	28*	0*	58*	h
BivvyeC1c R1aH	0	g	0	g	h	0	0	0	0	h	2	0	0	2	h
* BivvyeC1c R1aH	0*	08*	0*	08*	h	0*	0*	0*	0*	h	78*	0*	0*	30*	h
* FeHGAcG	h	h	h	h	3D	h	h	h	h	h	h	h	h	h	23
BivvyeC1c A(Gwa-l	h	h	h	h	78*	h	h	h	h	48*	h	h	h	h	500*
* BivvyeC1c A(Gwa-l	h	h	h	h	25	h	h	h	h	5g	h	h	h	h	0
* BivvyeC1c A(Gwa-l	h	h	h	h	318*	h	h	h	h	258*	h	h	h	h	0*

FeHGAcG CAC H BivvyeC1c) A(Gwa-l Bs ns efr, RnRidor, TnToA, WnWhTu&

5566814 - COVID - QUEEN ELIZABETH DRWY @ FIF... - TMC

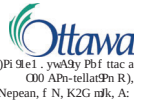
Tue May 3, 2022
 AM AeaP k3(8: AM - 8(8: AM9-) l eGas AeaP Li uC
 g ss h s att l ndr a aH Mi G B y Bet, L ea l y, AevetGdH, R d y Bet i Hwi av, R d y Bet i H
 h G t t mas P9
 g ss Mi l e l eHt
 D (7850 . . ni Bnd H 8: 0403721, -b: 6 517b8



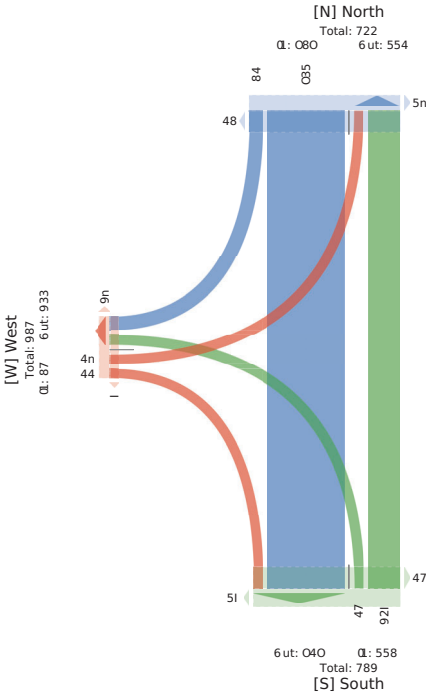
AG l dev l y (h y l O) cma
 100 hi Hessad H4 C
 Nepeat() N, K2G : J7, h g

5566814 - COVID - BANK ST @ EXHIBITION WAY --- - TMC

Tue May 3, 2022
 Full Length (6
 : ll Ala-e- (Lght- anl MPP)G-Cle- s ea l y, de1e-t)9n-, o 9Y-Cle- Pn r Pal, o 9Y-Cle- Pn
 AJP--c allB
 : ll MPI ev ent-
 Rkwnl 2m LP CntPnwDn6k71 8D 5 m87m7k3



d)Pl 9cl, yvW9Y Pbf tta c
 C00 APl-tellatPn R),
 Nepeat, f N, K2G mfk, A'



Leg R9eGDP	Npjh SPath, Punl					E-a-t We-t, Punl					SPath Npjh, Punl					Bt
	T	L	U	: pp	del*	r	L	U	: pp	del*	r	T	U	: pp	del*	
20220503 840: M	1k	30	2	00D	1	k	m	0	0D	0	0	0	00D	0	238	
140: M	23m	m	0	24D	2m	3D	3D	0	8m	22	D	288	0	301	18	
740: M	240	1m	0	28m	21	12	nk	0	00D	88	kD	180	0	mm	22	
140: M	04D	2D	2	07D	0	7	20	0	27	07	33	24	0	2m	m	
040: M	07k	DD	2	232	2m	21	38	0	8D	83	Dm	040	0	238	1	
0400M	37k	1O	0	D8O	Dm	nD	m2	0	08	04f	73	373	0	D88	38	
0400M	3kl	8O	2	D8O	1O	m8	1O	0	03	08c	78	D02	0	D77	30	
3400M	2m	33	0	278	D8	28	mD	0	11	010	mm	20k	0	28m	20	
D400M	D8l	kD	3	m8D	kl	88	07	0	07D	01c	00D	D38	0	mmD	37	
m000M	Dm	08l	3	m83	77	1O	00D	0	01m	080	082	D38	0	mD3	2m	
TPal	2k08	nkD	08	3m8	030	3k0	n8	0	k3l	k0m	8k8	301	3	3118	071	
% : pp)9cH	724%	084%	048%	048%	5	D08%	m78%	04%	5	5	074%	708%	04%	5	5	
% TPal	3m8%	14%	04%	D44%	5	D4%	84%	0%	000%	5	74%	314%	0%	Dnk%	5	
Lght- anl MPP)G-Cle-	287m	m0	0	321O	5	38l	mD	0	71k	5	82m	27m	3	307	5	
% Lght- anl MPP)G-Cle-	324%	184%	00%	134%	5	k00%	k34%	00%	k34%	5	7k4%	k28%	00%	k24%	5	
s ea l y	03*	20	0	08k	5	0	0	0	20	4	23	00D	0	08D	5	
% s ea l y	m0%	34%	0%	D6%	5	24%	07%	0%	24%	4	34%	D8%	0%	D8%	5	
o 9Y-Cle- Pn r Pal	13	3	0	18	5	08	2m	0	37	4	D*	78	0	08D	5	
% o 9Y-Cle- Pn r Pal	24%	04%	0%	24%	5	34%	D6%	0%	D0%	5	84%	24%	0%	34%	5	
de1e-t)9n-	5	5	5	5	D80	5	5	5	5	770	5	5	5	5	01k	
% de1e-t)9n-	5	5	5	5	k14%	5	5	5	5	k14%	5	5	5	5	kml%	
o 9Y-Cle- Ph AJP--c allB	5	5	5	5	00	5	5	5	5	2m	5	5	5	5	7	
% o 9Y-Cle- Ph AJP--c allB	5	5	5	5	24%	5	5	5	5	24%	5	5	5	5	D8%	

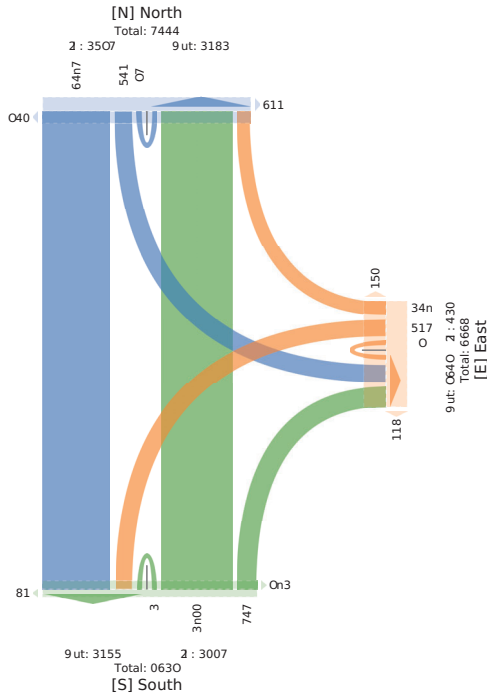
de1e-t)9n- anl o 9Y-Cle- Pn AJP--c allHLw,elt, r w 9ht, TwThju, UwU5Tu)

5566814 - COVID - BANK ST @ EXHIBITION WAY -... - TMC

Tue May 3, 2022
 Full Length (6
 : ll Ala--e- (Lght- anl MPP)G)De-, s eal y, dele-i)9n-, o9)CLe- Pn r Pa l, o9)CLe- Pn
 A)P--c allB
 : ll MPi ev ent-
 Bkwnll 2m LPat9nDn6k718)D 5 m67n7k3

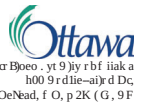


d)Pi 9el- ykBy Pbf ttoe a
 (00 APn-tellatPh R),
 Nepean, f N, K2G rnk, A:



5566814 - COVID - BANK ST @ EXHIBITION WAY -... - TMC

Tue May 3, 2022
 FM 1 eal.rgh(FM 6: th(F MA
 F - 9 -a1le1 rP)Csil ado Mr rir d)He l, v eaBy, l eoeicj ad l R)H)He l rd wrao, R)H)He l rd
 9 r llk a-LA
 F - Mr Bemedi
 IDt : (042(, Pr H)rdt 7(8: g457, 64(65g(g: 3



l r B)oo- vt 9) jy rbf hlk a
 r00 9 rdlle-alk) d Dc,
 OenNad, f O, p 2K (G, 9 F

Pec DyeHyrd	Ords Eruis. rudo				Jall S ell. rudo				Eruis Ords. rudo				ld				
	T	P	W	FNN	l eol	w	P	W	FNN	l eol	w	T		W	FNN	l eol	
202201 003 ghr(F M	52	20	0	g2		h0	h0	0	20	2h	3h	h	0	k22	4	227	
g30F M	45	h7	0	10	(	h7	hg	0	32	h5	25	h2g	0	h7		245
g71 F M	h04	22	0	h2	7	5	h3	0	h	h4	22	h3	0	h4	2	323	
:00F M	g4	6	0	1	(	2	h0	0	h2	h3	2h	h23	0	h77	7	2h
Tlra	332	57	0	3.5	27	32	(h	0	g3	57	h00	7	(	(	22	h07
* FNRzH	g3g*	h5g*	0*	6	6	3g6*	5h6*	0*	6	6	h5g*	g3g*	0*	6	6	6	
* Tlra	30h*	5g*	0*	35g*	6	3g*	7g*	0*	4g*	6	h5g*	75h*	0*	(	g*	6
1v%	084h	0824	6	0857	6	0g4h	08:7	6	087h	6	0g30	0g0h	6	0g77	6	0g2h	
P)Csil ado Mr rir d)He l	3h5	50	0	345	6	3h	74	0	4g	6	g4	77h	0	(	2g	6
* P)Csil ado Mr rir d)He l	(8*	:3g*	0*	:7g*	6	:5g*	:2g*	0*	:7g*	6	g4g*	g:8*	0*	gg8*	6	h6*
v eaBy	h7	7	0	hg	6	h	3	0	7	6	5	33	0	3:	6	5h	
* v eaBy	7g*	5g*	0*	7g*	6	3h*	(8*	0*	7g*	6	5g*	5g*	0*	5g*	6	(8*	
R)H)He l rd wrao	2	0	0	2	6	0	h	0	h	6	4	2h	0	2g	6	3h	
* R)H)He l rd wrao	0g*	0*	0*	0g*	6	0*	2h*	0*	h2*	6	4g*	7g*	0*	7g*	6	2g*	
l eoeicj ad l	6	6	6	6	27	6	6	6	6	50	6	6	6	6	6	2h	
* l eoeicj ad l	6	6	6	6	0	6	6	6	6	3g*	6	6	6	6	(8*	6	
R)H)He l rd 9 r llk a-L	6	6	6	6	0	6	6	6	6	7	6	6	6	6	h	6	
* R)H)He l rd 9 r llk a-L	6	6	6	6	0*	6	6	6	6	5g*	6	6	6	6	7g*	6	

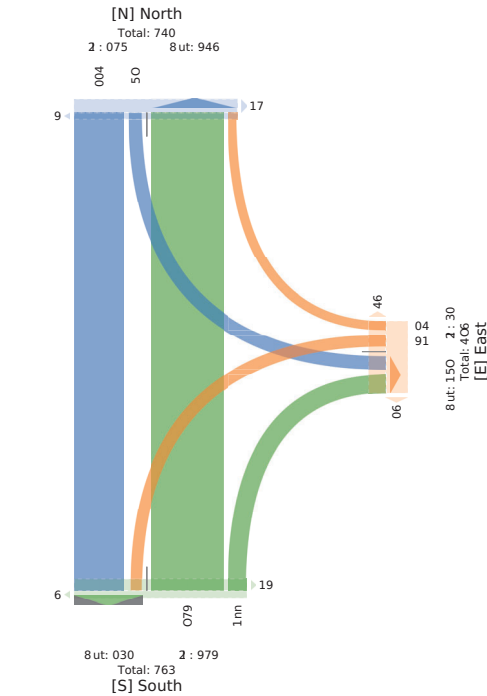
l eoeicj ad l ado R)H)He l rd 9 r llk a-LB)Pt Pelt, wt w)Csi, Tt Tscu, W WGTud

5566814 - COVID - BANK ST @ EXHIBITION WAY -... - TMC

Tue May 3, 2022
 AM Peak (8-9 AM) 1:-9 AM C
 Ass Lsaiie (ght nd aor Mcd)Hyvsei, Bealy, Per eid)hoi, whyvsei co mcar, whyvsei co
 LH)il askC
 Ass McReDeod
 47 : 190529, gcvadro: .96h 851.,)59g 89813

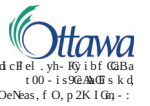


PH)er r: L)h cf O)h) a
 -00 Lcoi)ssado to 7 H
 Nepean, ON, K2G 9)l, LA



5566814 - COVID - BANK ST @ EXHIBITION WAY -... - TMC

Tue May 3, 2022
 MB l ay Lean g 2h0 LM (t h0 LM6
 : Av- A99:9 gl IP)Qasl Mi G d)yoA9, r eacy, Lel e9)as9, H)yoA9)is vial, H)yoA9)is
 - d 99Ba)6
 : AM)l ceRes9
 wk hml 0)21, l i)oe)sh41 7)h8)D4, (l 75h 8)h



Ld e)el- y)h- R) i)bf G)Ba
 t00 - is 9)A)es k d
 OenNad, f O, p 2K l G) - :

l eP k h)oe)is	O) d EluG. i)usl				J)ac S e)C)usl				E)u d O) d) i)usl				wC			
	T	l	W	: NN	Le l	v	l	W	: NN	Le l	v	T		W	: NN	Le l
202201 003 t260LM	8l	rm	0	t04	n	t2	t1	0	2D	2h	23	t02	0	t21	l	215
t26)LM	00m	18	t	128	t1	2h	10	0	3h	35	23	mD	0	t20	14	22h
t100LM	105	11	0	121	h3	1D	13	0	30	34	2h	110	0	13h	13	282
t)h1LM	h8	23	0	115	l1	15	23	0	3m	35	18	mD	0	111	9	210
Tl)A	3h8	D	t	45m	11	55	5h	0	t2D	135	8h	405	0	4m	42	1000
* : N)A)9	83g*	t50*	02*	(	(	12D*	49D*	0*	(	(	113D*	82D*	0*	(((
* Tl)A	352*	5h7	0*	432*	(	51*	15*	0*	t1D*	(	18h*	31h*	0*	412*	((
Lz%	07h5	07h1	0710	07h0	(	07h3	07h0	(	07h0	(	07h0	07h4	(	07h8	(	07h8
l)P)Qasl Mi G d)yoA9	h18	D	t	42m	(	50	1D	0	t1D	(	D	318	0	411	(	10h
* l)P)Qasl Mi G d)yoA9	nt 1*	nt)5*	t00*	nt 1*	(	nt)h7	nt)7*	0*	nt)21*	(	nt)5*	nt)1*	0*	nt)2D*	(	nt)21*
r eacy	25	1	0	3h	(	t	t	0	2	(	4	tm	0	23	(	15
* r eacy	55*	53*	0*	55*	(	t1*	t5*	0*	t5*	(	43*	43*	0*	43*	(	12*
H)yoA9)is vial	m	0	0	m	(	1	3	0	8	(	4	m	0	13	(	30
* H)yoA9)is vial	23*	0*	0*	t)h7*	(	1D5*	4h7	0*	5D*	(	43*	22*	0*	25*	(	28*
l eoeicj ad l	(	(	(	(	13	(	(	(	134	(	(	(	(	(	4h	(
* l eoeicj ad l	(	(	(	(	nt)3*	(	(	(	nt)3*	(	(	(	(	(	nt)35*	(
H)yoA9)is - d 99Ba)6	(	(	(	(	2	(	(	(	2	(	(	(	(	(	1	(
* H)yoA9)is - d 99Ba)6	(	(	(	(	37*	(	(	(	t)3*	(	(	(	(	(	27*	(

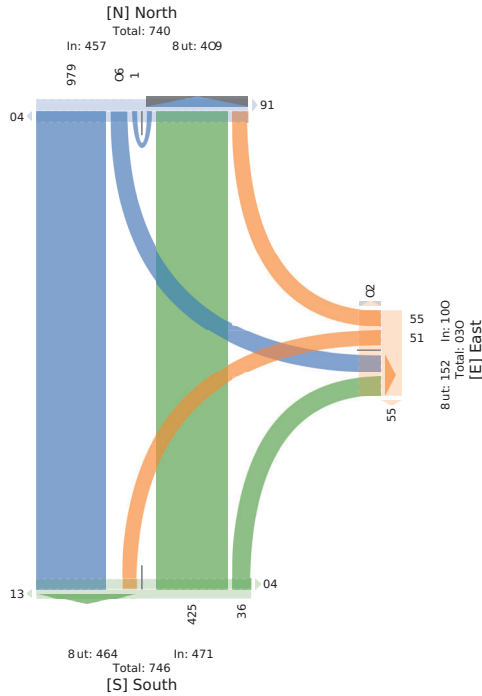
l eoeicj ad l as9 asl H)yoA9)is - d 99Ba)6)7 h1 e)C) v h)P)C)T)h) d, W)W)T)ud

5566814 - COVID - BANK ST @ EXHIBITION WAY ... - TMC

Tue May 3, 2022
 M/PPay kea(8.2-30 km 9: -30 kM)
 l Cs Gillel(8 ghtLanP Mtdrory@L, c eaHy, kePelroAnL, v Ayr@Ldn BdaP, v Ayr@Ldn
 s allLRa(C)
 l CMdHwEntL
 n - D40724, i drat@n- 54.3D6715, 974.1646D3

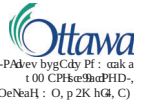


kaHReP-s Ays dI OnaRa
 00 s dnleGat@n 1 q
 Nepean, ON, K2G-4J1 s 1



5566814 - COVID - BANK ST @ EXHIBITION WAY ... - TMC

Tue May 3, 2022
 FM Feal Ing h FM (hg h FM6(: Ae-a9Feal 1 Pu-
) 9Casses li drs avh MPP-B/Bs, 1 eaAyr, FevesedhF, Rdy/Bs PHwPav, Rdy/Bs PH
 C-Pssk a9 6
) 9MPAmeHts
 lDg4h072h, i PbaPPh@457. n, (7h8 5h543



F-PAAevyGdy P: : msk a
 t 00 CPfka@BHD-,
 OeNeh : O, p 2K hG, C)

I eo DdehdfH	OP-a EPaa bbaHk				Jasc S eshPaHk				EPaar OP-a bbaHk				HE			
	T	W	U	NN	FevL	w	i	W	NN	FevL	w	T		W	NN	FevL
2022(0h03 ng hFM	t1.3	1.4	t	1.33	2n	2n	3t	0	hh	n	24	t1.2	t	1n2	d	330
ng0FM	t2h	25	t	1h3	20	t0	24	0	34	3n	2h	t07	0	132	7	32h
ng0FM	t1.2	30	0	1n2	30	t1h	27	0	nt	3n	37	t1.4	0	1h	7	334
hg0FM	t27	3	0	1.3	22	t3	3t	0	nn	n3	3	t1h	0	1h	t0	385
* TbaP	h7	11.3	2	h4	4	++	115	0	174	1h7	127	nh3	t	h5t	33	13h1
*) NNPaH	50h*	14h*	0h*	0h*	0h*	(	1	3h8*	h8*	0*	(	2h9*	75h*	0h*	((
* TbaP	3h9*	5h*	0h*	n3h*	0h*	(	1	nh*	5h*	0*	t3h*	(	4h*	33h*	0h*	n3h*
F1%	0h8t	0h00	0h00	0h00	0h54	(	0h2h	0h42	(	0h73	(	0h574	0h8	0h210	0h87	(
l drs avh MPP-B/Bs	nn0	t1.2	2	hnn	(	.0	t07	0	t.7	(	tth	n22	t	h35	(	12h4
* l drs avh MPP-B/Bs	42h*	44h*	100*	43h*	(	45h*	40h*	0*	43h*	(	40h*	43h*	100*	42h*	(	43h*
1 eaAyr	th	0	0	th	(	0	0	0	0	(	t	1n	0	th	(	30
* 1 eaAyr	3h2*	0*	0*	2h*	(	0*	0*	0*	0*	(	0h5*	3h*	0*	2h*	(	2h*
Rdy/Bs PHwPav	2t	t	0	22	(	t	tt	0	t.2	(	tt	17	0	25	(	2
* Rdy/Bs PHwPav	nh*	0h*	0*	3h*	(	tB*	4h*	0*	h*	(	5h*	3h*	0*	nh*	(	nh*
FevesedhF	(	(	(	(	(	(	(	(	(	(	(	(	(	(	(	30
* FevesedhF	(	(	(	4h8*	(	(	(	(	4.02*	(	(	(	(	(	(	40h8*
Rdy/Bs PHC-Psk a9	(	(	(	h	(	(	(	(	(	(	(	(	(	(	(	3
* Rdy/Bs PHC-Psk a9	(	(	(	h8*	(	(	(	(	h8*	(	(	(	(	(	(	4h*

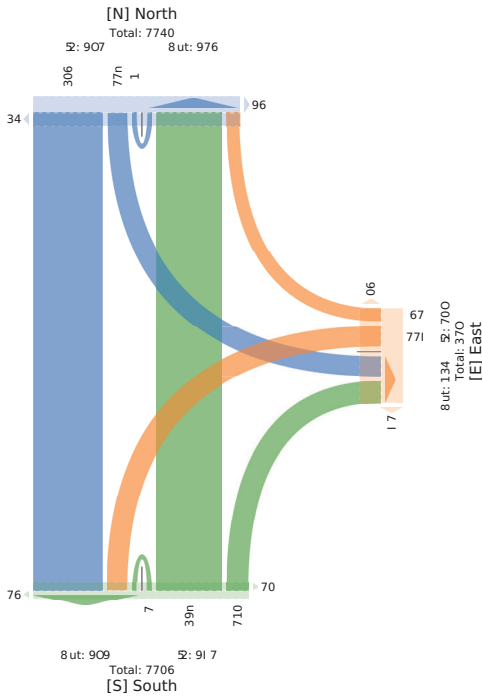
l FevesedhF avh Rdy/Bs PHC-Psk a9 Bi gi efc, wgwdr, TgTr-u, WgWtu-H

5566814 - COVID - BANK ST @ EXHIBITION WAY ... - TMC

Tue May 3, 2022
 AM AeaP (8 - AM 9: 8 - AM) 91 CesaL.AeaP i gus
 h llr lamen ldr c h avB MghsRyRen, i eaCy, AelBnklaivn, wdyRen gv mgarB wdyRen gv
 t sgnrl aP)
 l lLMGcDeviH
 4785-0.2-, dgRahgv8(-6851. b, 9 - 61-153



AegChBbFyBt dP gOI lHl a
 00 t gyndHlghy 7 s,
 Nepean, 1 N, K2G-1J5, t h



5566814 - COVID - BANK ST @ FIFTH AVE - MAY ... - TMC

Tue May 3, 2022
 Fl lnuagI (6 A0 9 MPA0 9 M, 33A0 9 M2) M, - A0) M)) MC
 9 lLs laivt fnd (h age MotrcycaH, Heavy,) ueuIrdgi, Bdychul and Roae, Bdychul and s roaiwalc
 9 lLMovomugh
 lD443-78, n ocahbgA4.503: 8, 84: 7847



rovduke byAs dy of Ottawa
 300 s ogihlilabDg, Nupaag, ON, K2G 4J1, 9

I eo DdehdfH	North Sol h bol ge				East T uil bol ge				South North bol ge				T uah East bol ge				High	
	R	W	U	9 pp	R	W	U	9 pp	R	W	U	9 pp	R	W	U	9 pp		
2022(04133 : 405 M	4	33	7	0	32P	8	5	32	0	2	37	2	335	3	0	338	0	
8400 M	3	24	0	0	27h	2	32	22	3	47	0	37	39	4	0	52	2h	
7400 M	25	17	20	0	52	30	42	52	0	32h	33	2	440	3	0	47h	7	
9400 M	38	203	5	0	222	5	7	2	0	4	1P	P	22h	0	0	2-P	0	
33400 M	37	2	0	33	0	24P	5	3	34	0	0	3	30P	32	2	0	253	
32400 M	-2	55h	23	0	400	h7	-2	42	0	320	2.4	27	5.4	38	0	430	h7	
1400 M	-	50h	37	0	5h3	4	-7	25	13	0	32	395	20	525	3	547	7h	
400 M	32	282	7	0	392	84	34	22	29	0	11	33h	P	392	4	0	20	
500 M	5	432	34	0	48	89	25	53	44	0	320	25	24	5.5	3	0	402	
4400 M	-	44P	27	0	2	77	-5	-8	47	0	32P	24h	0	5.4	3	0	573	
Wbal	2-P	530	3-P	0	877	32	22	243	75	3	72.2	352	38P	53	P2	3	74	5
% 9 pgnact	1	0.0%	0.8%	0%	1	2	2%	29.3%	55.4%	0.3%	1	5.9%	92.1%	2.4%	0%	1	27.8%	2.7%
% Wbal	2	8.4%	3.4%	0%	53.4%	1	2.4%	2.7%	15.2%	0%	9.4%	2.0%	8.4%	3.0%	0%	50.8%	1	25%
% nd (h age MotrcycaH)	22	432	3	0	572	3h	384	14	3	8.5	342	30	77	3	58	20h	38P	22
% nd (h age MotrcycaH)	15	0%	14.8%	0%	93.9%	74.5%	1.8%	14.3%	300%	74.2%	75.9%	93.0%	14.8%	300%	90.7%	15	0%	80.2%
% Heavy	P	3h3	0	37	33	P	32	0	2	374	0	3h5	3	0	4	0	33	1
% Heavy	7%	40%	2.2%	0%	5.7%	5.9%	2%	2%	0%	8.6%	5%	4.5%	1%	0%	4.5%	3.5%	3.2%	3.0%
Bdychul and Roae	5	33	0	0	32	1	22	8	8	0	P	1	23	322	3	0	355	1
% Bdychul and Roae	3.8%	1.5%	2.2%	0%	2%	1.8%	2.8%	3.7%	0%	33.3%	33.8%	1%	3.3%	0%	1%	5.3%	3h7%	3.0%
3 ueuIrdgi	1	1	1	1	1	4hP	1	1	1	1	350	1	1	1	1	1	1	1
% 3 ueuIrdgi	1	1	1	1	1	195.7%	1	1	1	1	197.7%	1	1	1	1	1	1	1
% Bdychul and s roaiwalc	1	1	1	1	1	1	1	1	1	1	20	1	1	1	1	1	1	1
% Bdychul and s roaiwalc	1	1	1	1	1	4.5%	1	1	1	1	3.5%	1	1	1	1	1	1	1

ueuIrdgi age Bdychul and s roaiwalc, n AnuH RARD (h WAWrU, UAUWrg

5566814 - COVID - BANK ST @ FIFTH AVE - MAY ... - TMC

Wed May 11, 2022

Full Length (6:30 AM-9:30 AM, 11:30 AM-2 PM, 3:30 PM-6 PM)

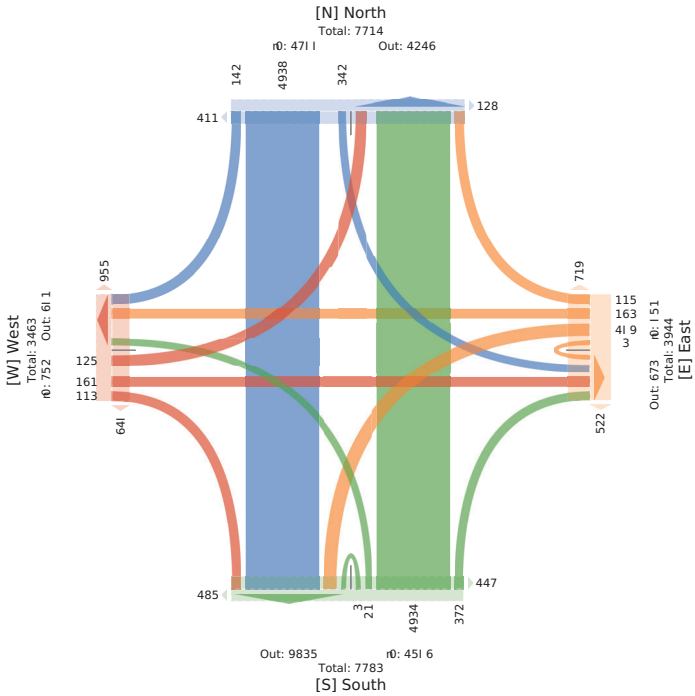
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 951387, Location: 45.40167, -75.68758



Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5566814 - COVID - BANK ST @ FIFTH AVE - MAY ... - TMC

Tue May 3, 2022

F M l ual. ng3h F M (63h F M:

F A. A9A9 n3h F M g ai e MdsdryA9, c ualy, l ueu9dñi 9 v PrrA9 di Bdae, v PrrA9 di

- oB9RkA:

F AMHlHwa9
km 6h3l gD l dras9l (4h7038Q) (Dh7gDhg



I ulr lue 5yr - By d. l bsaRa
300 - d 9aA9ñi mq
f uQai, b, f, N2p h6, - F

Table with traffic flow data for Bank St @ Fifth Ave on Tuesday, May 3, 2022. Includes columns for direction, movement, and vehicle counts.

¹ l ueu9dñi 9 ai e v PrrA9 di - ul9RkA71 t l u.s. Bt B9 Cs St SGfE, Wl WSEai

5566814 - COVID - BANK ST @ FIFTH AVE - MAY ... - TMC

Wed May 11, 2022

AM Peak (8:15 AM - 9:15 AM)

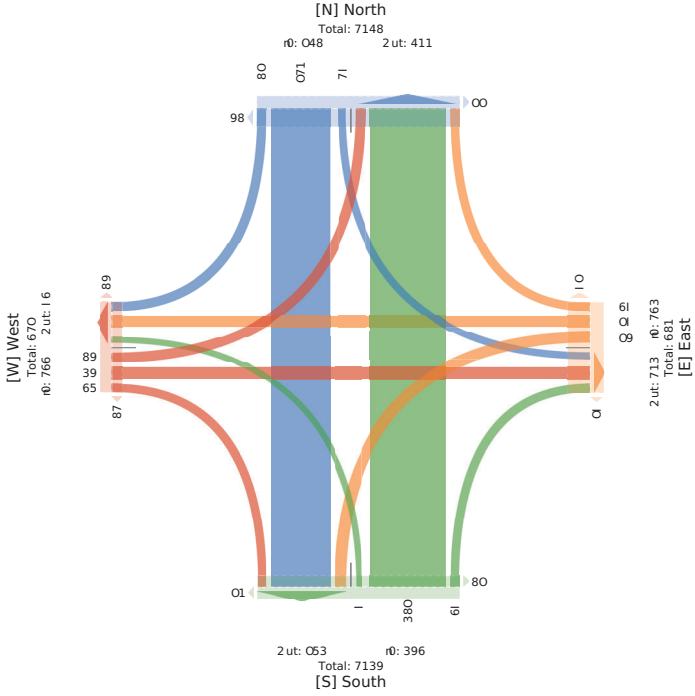
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 951387, Location: 45.40167, -75.68758



Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5566814 - COVID - BANK ST @ FIFTH AVE - MAY ... - TMC

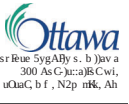
Tue May 3, 2022

MReay l ual. n3g 0 h M (32g 0 l M6

h: Aa-u- uB9P) -aCe Ms9idydu-, o uary, l ueu-ñiB9, c Rlydu- sCHsae, c Rlydu- sC

Ais--v al6

Ais--v al6
Ais--v al6
RegknBt l l 9 sda9l9 G4n9038Q) (Dh9l Dhd



I lsr lue 5y9A9y s. b) w)a
300 AsC-ia9l9 Cwi,
f uQaiC b, f, N2p nH6, Ah

Table with traffic flow data for Bank St @ Fifth Ave on Tuesday, May 3, 2022, during AM Peak. Includes columns for direction, movement, and vehicle counts.

¹ l ueu-ñiB9 -aCe c Rlydu- sCAis--v al79g9u), HgH9P, SgSPHE, Wl WSEaC

5566814 - COVID - BANK ST @ FIFTH AVE - MAY ... - TMC
Wed May 11, 2022
Mkday Peak (118 0 5 M - 128 0 PM9
5)) l jaGc(s Ai gAbd Mt g nyo)eCr eacy, PedeGqahC HAYo)eCt h v t ad, HAYo)eCt h
1 n (CBa)k9
5)) Mt ceRehgC
m8l D: 37, s toaghh84D40167, -7D637D8



5566814 - COVID - BANK ST @ FIFTH AVE - MAY ... - TMC
T ue May 33, 2022
FM Fuul In FM gt FmHg(6uawFuul - 91:
) :9CRAA h
P AM056wawc:
knl D:3478, s 9Hn9cI 5n.503:8, gfn.478n7

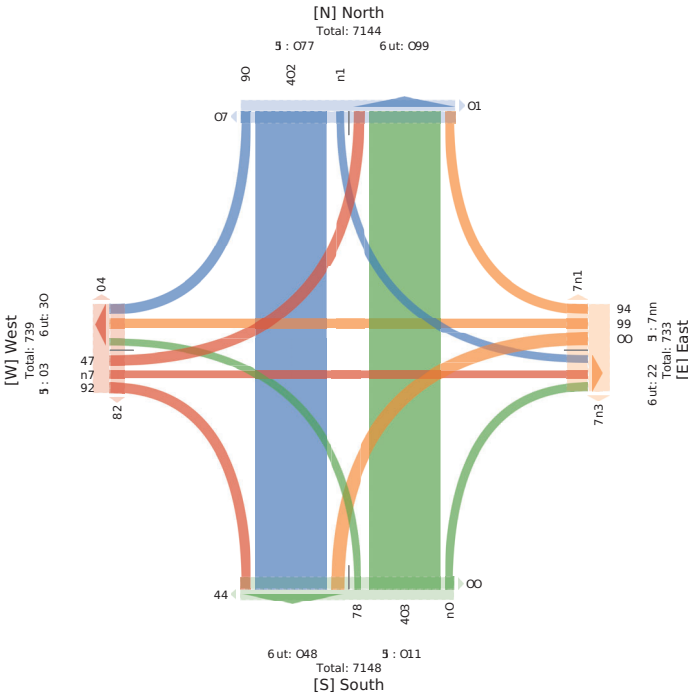
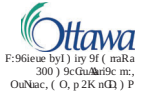


Table with 12 columns: In, Out, and various flow directions (N, S, W, E) for different vehicle types. Includes a summary row at the bottom with values like 739, 733, 733, 733.

5566814 - COVID - BANK ST @ FIFTH AVE - MAY ... - TMC
Wed May 11, 2022
PM Peak (5 PM - 6 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 951387, Location: 45.40167, -75.68758



5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
T ue May 33, 2022
Fl nLugr((6 A0 9 MPA0 9 M, - A0) ME) M, 33A0 9 M3&C M, 3&C M2) Ms
9 lLl laddk fna (lIdag Mr h chYHad, v uaBy,) ueadongd, RdYHudrg wrac, RdYHudrg
i cr dK alas
9 lLlMr Bdl uglt
ID AP:3733, nr lhhrg aCP0357, l5CB - 0 - 5.

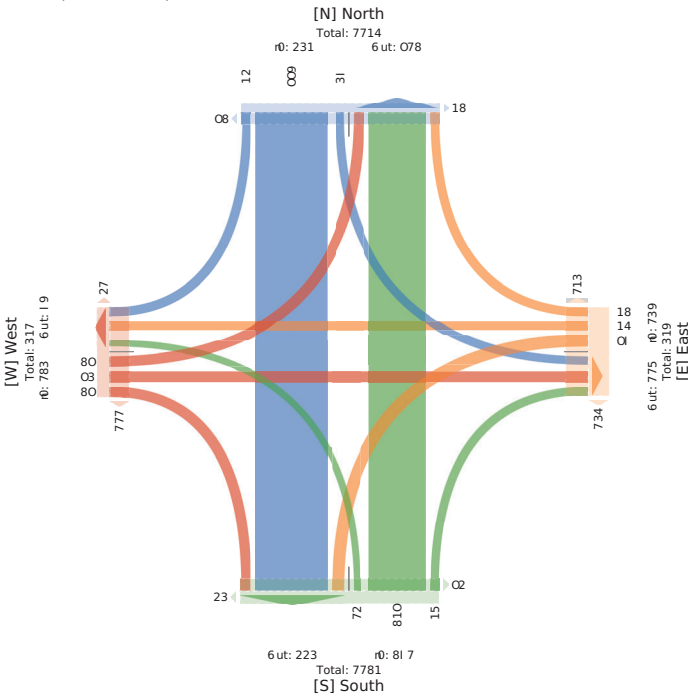
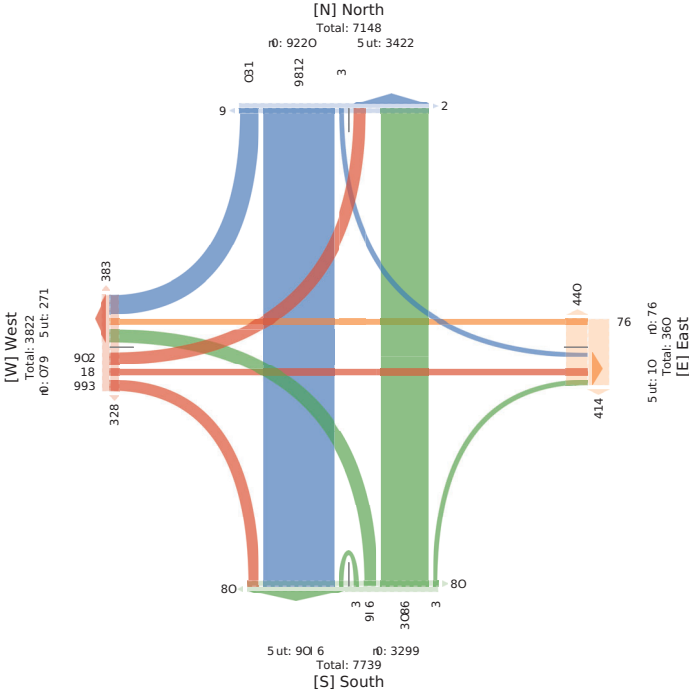
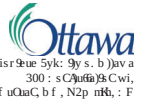


Table with 12 columns: In, Out, and various flow directions (N, S, W, E) for different vehicle types. Includes a summary row at the bottom with values like 739, 733, 733, 733.

5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 Wed May 11, 2022
 Full Length (6:30 AM-9:30 AM, 3:30 PM-6 PM, 11:30 AM-1:15 PM, 1:15 PM-2 PMC
 All s lai ei (Lghti and Mr tr ch)Hei, v eaBy, Pedetioanni, RdHHei r n r w ad, RdHHei r n
 s r iik aln C
 All Mr Bf ent
 B : 9) 1811, L r Htra n: 8) 70148, -4) 7. 034.



5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 T ue May 33, 2022
 F M l ual. rg F M t h F M(
 F 6: GaAuAn- 9P)AaGc Ms j s idyduA o u ar y, l ueu/9hCA c 9hdyu/As CHsae, c 9hdyu/As C
 : is Av a f L
 F 6 Ms r u BuQA
 Rckhml 33, - s daYs Ck l mD0341, t4nDg084g



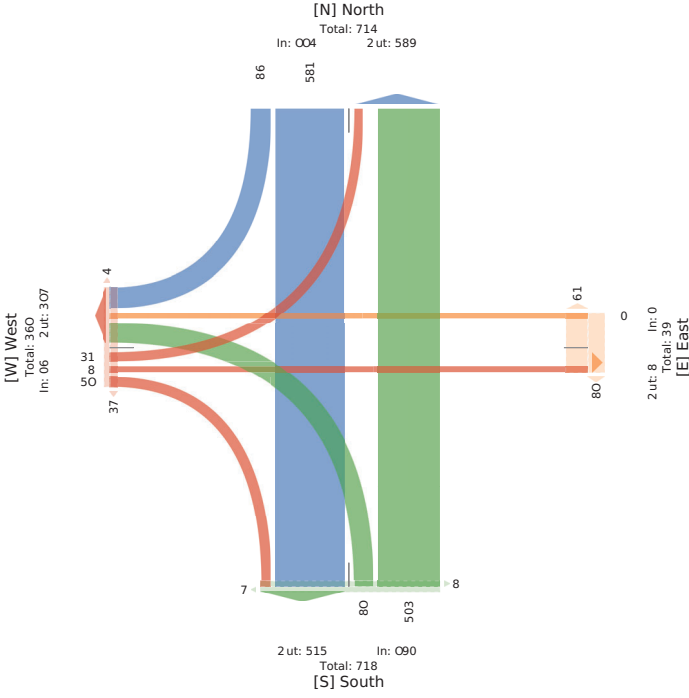
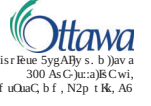
wBuD9C	f s i P					G a Y					j s E P					F u a						
	H	S	W	FOD	u e L	H	S	W	FOD	u e L	H	S	W	FOD	u e L	H	S	W	FOD	u e L		
20220r033 g00F M	30	70	0	0	40	0	3	0	0	3	11	0	m	32	0	7g	8	3	1	0	g	
g00F M	3g	m	0	0	4g	0	3	0	0	3	18	0	m	37	0	42	1	1	8	1	0	
g00F M	28	78	0	0	g7	0	2	0	0	2	1m	0	dh	20	0	1h	2	38	3	7	0	
g00F M	34	h3	0	0	3hg	0	0	0	0	20	0	m	3m	0	7m	2	8	3	m	0		
Sj3e	7g	27h	0	0	884	0	1	0	0	1	3m	0	213	78	0	801	33	28	7	3h	0	
* FODsAP	30D*	4hg*	0*	0*	t	0*	300*	0*	0*	t	10*	4hb*	20h*	0*	t	140*	320h*	8hD*	0*	t		
* Sj3e	hg*	8hg*	0*	0*	1gD*	0*	0D*	0*	0*	0D*	10*	81h*	hD*	0*	18h*	t	8h*	20h*	2h*	0*	7h*	
1 o %	008h	0081	t	t	004m	t	t	t	t	t	t	007h	00gg	t	007g	t	002h	t	00h2	t	00h8	
- 9P)AaGc Ms j s idyduA	74	277	0	0	888	t	0	0	0	0	t	0	28m	78	0	2hg	t	22	0	3h	0	13
- 9P)AaGc Ms j s idyduA	hgD*	hgB*	0*	0*	hg8*	0*	0*	0*	0*	0*	0*	h4h*	300*	0*	hgD*	t	hnd3*	0*	300*	0*	gnb*	
o u ar y	3	3	0	0	2	t	0	0	0	0	t	0	0	0	0	t	0	0	0	0	0	
* o u ar y	30r	0h*	0*	0*	0D*	0*	0*	0*	0*	0*	10*	0*	0*	0*	0*	t	0*	0*	0*	0*	0*	
c 9hdyu/As CHsae	0	2	0	0	2	t	0	1	0	0	1	0	7	0	0	7	t	3	7	0	0	4
* c 9hdyu/As CHsae	0*	0h*	0*	0*	0D*	0*	300*	0*	0*	300*	10*	2h*	0*	0*	2D*	t	1h*	300*	0*	31D*	t	
1 ueu/9hCA	t	t	t	t	t	0	t	t	t	t	71	t	t	t	t	33	t	t	t	t	22	
* 1 ueu/9hCA	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	300*	
c 9hdyu/As C: is Av a f L	t	t	t	t	t	0	t	t	t	t	88	t	t	t	t	0	t	t	t	t	0	
* c 9hdyu/As C: is Av a f L	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	0*		

1 ueu/9hCAaGc c 9hdyu/As C: is Av a f L D k- u.), HgH9P), SgSPE, WkWS6C

5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 Wed May 11, 2022
 AM Peak (8 AM : 5 AM-
 9B) 9h l ei (Csl g j abd Mt g nyoel, r eacy, Pedelgahl, Hsoyoel th v t ad, Hsoyoel th
) r t l l Ba3k-
 9B Mt ce Rehj
 ml 5D311, Cr oage hl 3D90143, :4DX 80648

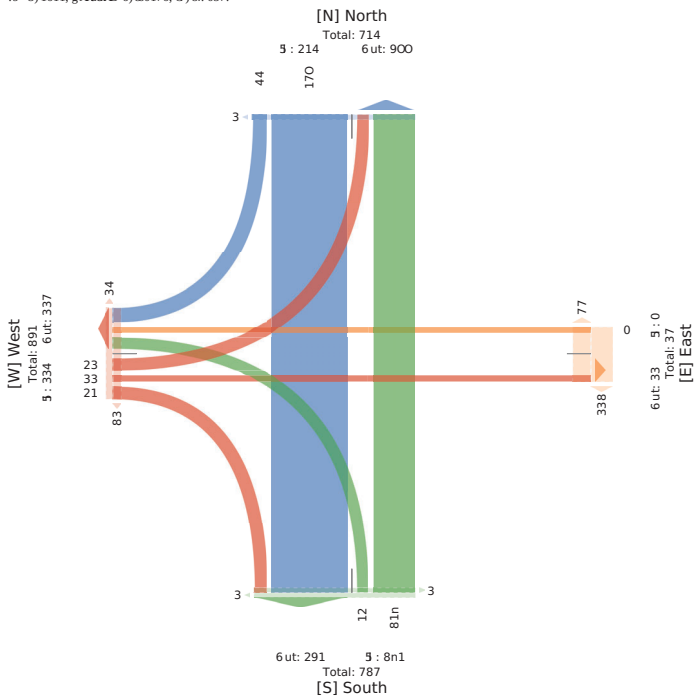
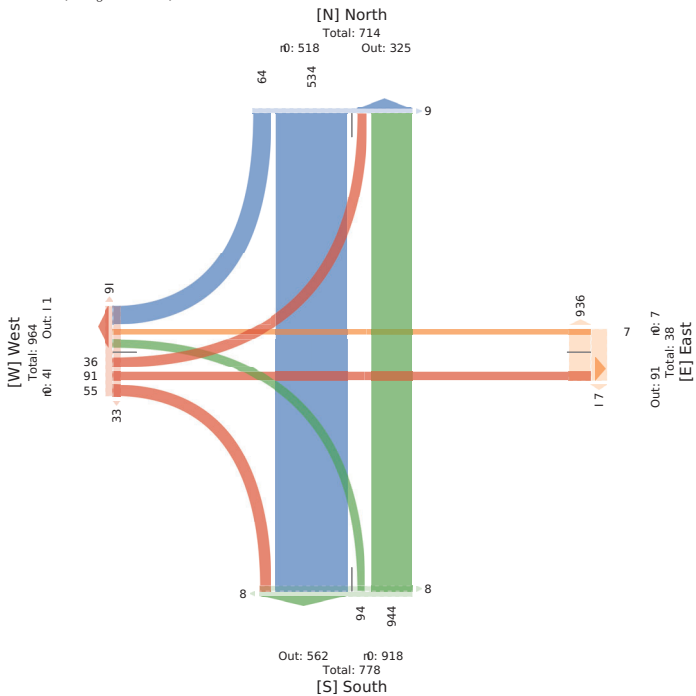


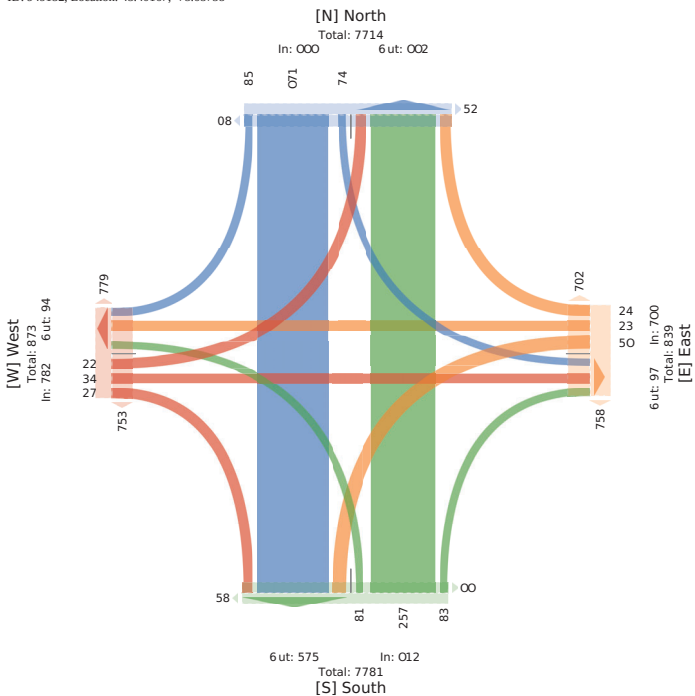
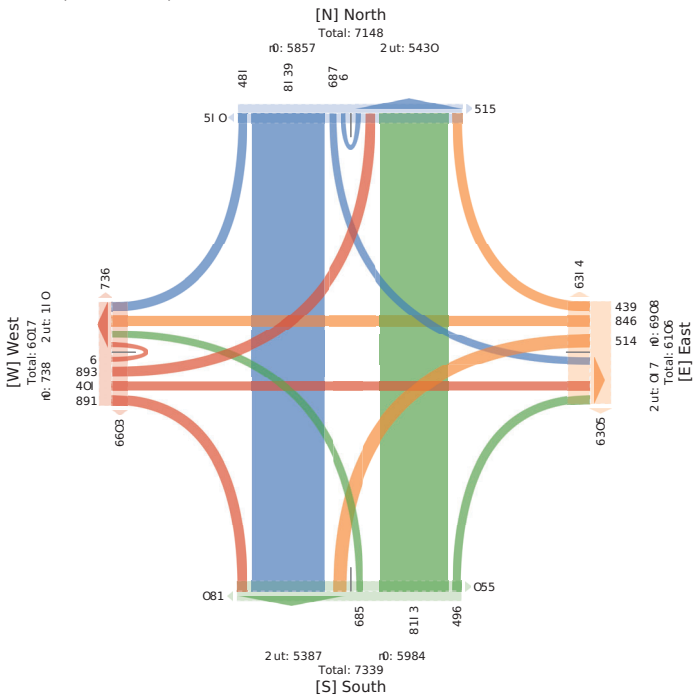
5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 T ue May 33, 2022
 MReay l ual. r32g8t l M h3gt l M(
 6 : Aa- u- t9P) aGc Ms j s idydu- o, u ar y, l ueu- j)lG C, c 9hdyu- s CHsae, c 9hdyu- s C
 Ais- v a f L
 6 : Ms r u BuQ-
 Rwgkt 3n83, 9s daYs Ggm l03Dm hD l4708D7



wBuD9C	f s i P					G a Y					j s E P					F u a						
	H	S	W	FOD	u e L	H	S	W	FOD	u e L	H	S	W	FOD	u e L	H	S	W	FOD	u e L		
20220r033 g00F M	20	D	0	0	k7	0	3	0	0	3	10	0	BD	8	0	m	38	3	t	0	3k	
32g0 M	3t	k4	0	0	333	0	3	0	0	3	44	0	13	t	0	14	h	D	8	4	0	
32g1 M	3D	77	0	0	30t	0	2	0	0	2	m	0	18	8	0	14	0	4	8	D	0	
3g00 M	3t	4	0	0	70	0	3	0	0	3	13	0	0	4	0	m	3	D	32	7	0	
Sj3e	4D	82D	0	0	8km	0	t	0	0	t	233	0	30D	3D	0	3km	7	88	3k	24	0	D
* 6ODsAP	30D*	n7D*	0*	0*	h	0*	300*	0*	0*	h	10*	k32*	7D*	0*	h	h42h*	24h*	88h*	0*	h		
* Sj3e	30D*	n7D*	0*	0*	17D*	0*	0E*	0*	0*	0E*	10*	24h*	2h*	0*	27h*	h	nh*	20*	8h*	0*	33h*	
1 o %	0f787	0f7D	h	h	0k0m	h	h	h	h	h	h	0f33	0D07	h	0f7m	h	048t	h	0f7D	h	0k2t	
9P) aGc Ms j s idydu-	4t	837	0	0	878	t	0	0	0	0	h	0	30D	3D	0	37D	h	83	0	2m	0	tt
* 9P) aGc Ms j s idydu-	k1D*	k1D*	0*	0*	k1D*	0*	0*	0*	0*	0*	h0*	k4D*	300*	0*	k4h*	h48h*	0*	k28*	0*	10h*		
o u ar y	2	2	0	0	m	0	0	0	0	0	h	0	2	0	0	2	h	2	0	0	0	
* o u ar y	80*	0h*	0*	0*	30*	0*	0*	0*	0*	0*	10*	3D*	0*	0*	3D*	h	4h*	0*	0*	2h*		
c 9hdyu- s CHsae	0	D	0	0	D	0	t	0	0	0	t	0	0	0	t	h	0	3k	2	0	23	
* c 9hdyu- s CHsae	0*	2D*	0*	0*	3D*	0*	300*	0*	0*	300*	10*	2D*	0*	0*	2h*	h	0*	300*	1D*	0*	24h*	
1 ueu- j)lG C	h	h	h	h	3	h	h	h	h	7m	h	h	h	h	7	h	h	h	h	h	88	
* 1 ueu- j)lG C	h	h	h	h	h300*	h	h	h	h	h8k7*	h	h	h	h	h300*	h	h	h	h	h	72k*	
c 9hdyu- s CAis--v a f L	h	h	h	h	0	h	h	h	h	h32h	h	h	h	h	0	h	h	h	h	h	D	
* c 9hdyu- s CAis--v a f L	h	h	h	h	0*	h	h	h	h	h402*	h	h	h	h	0*	h	h	h	h	h	0*	

1 ueu- j)lG C aGc c 9hdyu- s CAis--v a f L l9g9u.), HgH9P), SgSPE, WkWS6C





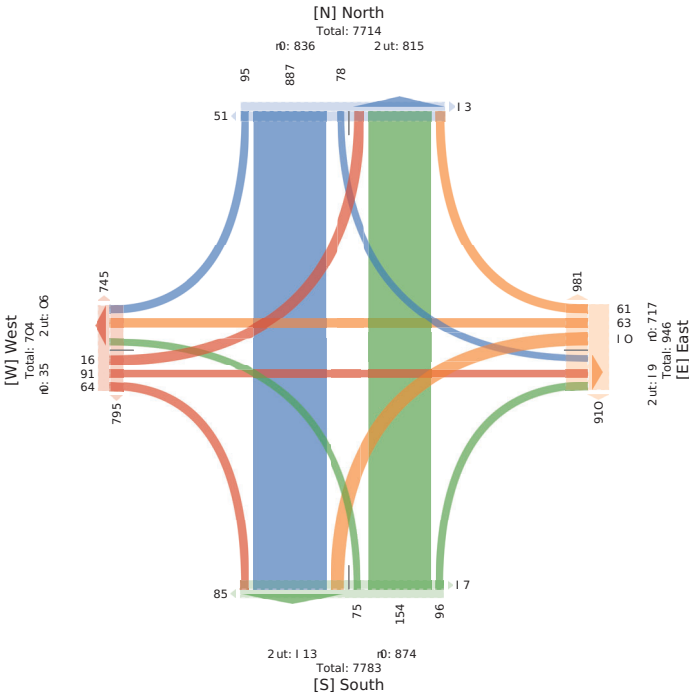
Id	Ch	Ph	Seq	Ph	Seq	Ph	Seq	Ph	Seq	Ph	Seq	Ph	Seq	Ph	Seq	Ph	Seq
1
2
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1) HRLFP fa - Cln COnnuu

5566814 - COVID - BANK ST @ FIFTH AVE - MAY ... - TMC
 Sat May 7, 2022
 PM Peak (WKND) (1:30 PM - 2:30 PM) - Overall Peak Hour
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 949152, Location: 45.40167, -75.68758



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 5J9, CA



5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 Tue/May y3, 2, ,
 0Fl Lngt d (62:A2 - M91:A2 PM)
 - II Clusss (Lit hes ugd Moeacrls3Hnuv3Pndnsrings3Bicacrls and Road3Bicacrls and Crosswalk)
 - II Movmngs
 ID: 4746113, Location: 78526y73y8Q. 2Ay.



Provided by: City of Ottawa
 622 Concession St,
 Nepean, ON, K2G 5J9, CA

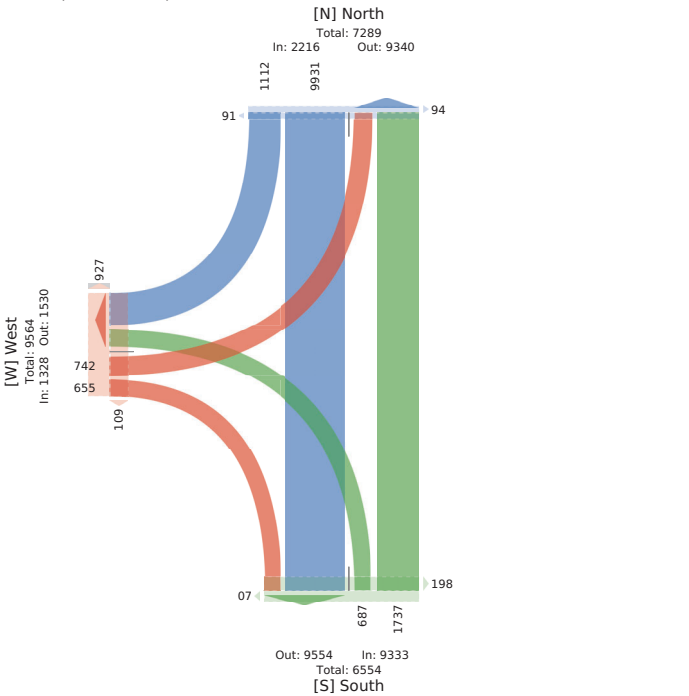
Lst Dirncdog	North ToRhbofgd					ToRhb Northofgd					E nse SusbhoFgd					lge
	R	W	U	- pp	Pnd*	W	L	U	- pp	Pnd*	R	L	U	- pp	Pnd*	
Winn	.2	.4	.2	.2	.2	.6	.2	.2	.2	.2	.6	.2	.2	.2	.2	
6:22M	47	.4	2	A	A	68A	81	2	.24	4	82	A2	2	.2	7y	
6:22PM	6.1	.17	2	A2	7	691	17	2	.72	6	77	88	2	44	48	
6:22PM	4	.16	2	A8A	8	.64	A4	2	.8	.1	71	14	2	668	72	
7:22PM	668	A2	2	7,8	.1	648	11	2	.16	.7	81	12	2	661	88	
A22PM	676	A	2	717	.1	.6	17	2	.y1	86	.1	62	2	6.	.7	
7:22PM	674	A22	2	774	.2	646	84	2	.82	A	.8	4	2	6.A	y1	
8:22PM	.7A	.1y	2	862	1	6.4	41	2	.8	.7	7.	.1	2	6A7	71	
1:22PM	664	677	2	.1A	6	4.	A	2	6A2	.1	.4	84	2	.64	7.6	
Wval	666A	.26	2	A67	7.	6828	748	2	.222	.67	711	8yA	2	62A4	76y	
% - pproach	A93%	115%	2%	9	9	y85%	.75%	2%	9	9	775%	883%	2%	9	9	
% Wval	6y3%	A7%	2%	8.5	5	.y5%	y5%	2%	A63%	9	y9%	42%	2%	615%	9	
Lit hes ugd Monocacrls	6244	.67y	2	A.71	9	6771	747	2	6472	9	788	817	2	6264	9	
% Lit hes ugd Monocacrls	4.3%	4y8%	2%	4y5%	9	413%	445%	2%	4y5%	9	4y3%	4.5%	2%	4.9%	9	
% Hnuv	23%	28%	2%	29%	9	28%	25%	2%	28%	9	63%	29%	2%	62%	9	
Bicacrls and Road	y	86	2	R	9	86	2	2	86	4	A	y	2	62	9	
% Bicacrls and Road	23%	5%	2%	65%	9	47%	2%	2%	9%	9	23%	65%	2%	62%	9	
Pndnsrings	9	9	9	9	7y	9	9	9	9	.28	9	9	9	9	A y	
% Pndnsrings	9	9	9	9	4y5%	9	9	9	9	485%	9	9	9	9	y.5%	
Bicacrls and Crosswalk	9	9	9	9	6	9	9	9	9	4	9	9	9	9	42	
% Bicacrls and Crosswalk	9	9	9	9	.3%	9	9	9	9	75%	9	9	9	9	.6%	

*Pndnsrings ugd Bicacrls and CrosswalkSL: Lnf8R: Rit h8W WlrF3U: U9Wrg

5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 Sat May 7, 2022
 Full Length (10:30 AM-6:30 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 949166, Location: 45.40174, -75.680378



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 5J9, CA



5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 Tue/May y3, 2, ,
 MCFuua l un g h (6 : gA -92 l M 1A92 l M:
 P) CjssLS g lloes ur F McrcHavyls3BLuR3l LFLsdflr3w0vyls cr kcufl3w0vyls cr
 CHssmJn:
 P) McrRLJ Lrs
 lB - 474A883l cvudlrr - 75.72Ay73ly5.8b29yb



Provided by: City of Ottawa
 622 Concession St,
 Nepean, ON, K2G 5J9, CA

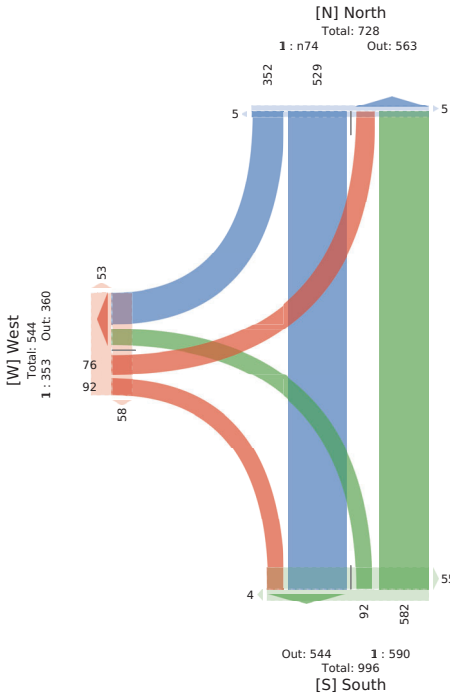
Lst Dirncdog	(ch0 TcJmfclrF					TcJm0 (ch0fclrF					E nse EastcJrF					lge			
	k	S	W	Ppp	lLFU	S	i	W	Ppp	lLFU	k	i	W	Ppp	lLFU				
Winn	.2	.25	.2y	A-92l M	94	55	2	47	.1	78	.2	2	88	7	A	A2	2	. .	AD
A-75l M	92	b2	2	A62	2	5.	A6	2	8y	b	Ay	A8	2	99	b	.A2			
A22l M	.5	5A	2	y8	.1	.7y	AA	2	5b	A8	A7	.2	98	40	Ay2				
Ay6l M	92	54	2	b4	2	54	b	2	8y	9	AA	AA	2	92	AD				
Sca0	A	.75	2	984	7	.27	57	2	.5b	9A	57	8y	2	A	7A				
* Pp0ltoes	99.8%	88.7%	2*	1	1	y4A*	.24*	2*	1	1	77.8%	55.7%	2*	1	1				
* Sca0	AB.8%	9.3%	2*	74.9%	1	.y9*	y.*	2*	97.5*	1	y.*	4.2*	2*	AB.*	1				
l B%	2ybb	2y84	1	2b7A	1	2b5.	2.8y5	1	2.45A	1	2y47	2y8.	1	2b79	1				
l lloes ur F McrcHavyls	A.	.9y	2	954	1	.22	57	2	.57	1	59	87	2	Ay	1				
* l lloes ur F McrcHavyls	4b.7*	48.y*	2*	4y9*	1	4b.2*	A22*	2*	4b.7*	1	4b.A*	45.5*	2*	48.y*	1				
B1alb	A	2	2	A	1	A	2	2	A	1	A	2	2	A	1				
* B1alb	2.b*	2*	2*	2.9*	1	2.5*	2*	2*	2.7*	1	A4*	2*	2*	2.b*	1				
w0avyls cr kcufl	A	b	2	4	1	9	2	2	9	1	2	9	2	9	1				
* w0avyls cr kcufl	2.b*	9.9*	2*	.7*	1	A5*	2*	2*	A.*	1	2*	7.5*	2*	.5*	1				
l LF0ltoes	1	1	1	1	7	1	1	1	1	4	1	1	1	1	98				
* l LF0ltoes	1	1	1	1	A22*	1	1	1	1	49.5*	1	1	1	1	byb*				
w0avyls cr CHssmJn	1	1	1	1	2	1	1	1	1	1	1	1	1	1	5				
* w0avyls cr CHssmJn	1	1	1	1	2*	1	1	1	1	8.5*	1	1	1	1	A.*				

l LF0ltoes ur F w0avyls cr CHssmJn. i - i L08k - k lloesS - SoH3W - WSlJH

5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 Sat May 7, 2022
 Midday Peak (WKND) (12:30 PM A1:30 PM)
 - II Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 - II Movements
 ID: 949155, Location: 4. 60174, A. 680378



5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 Tue May y3, 2, .
 0M 0Ful In g t h (6: A2 0M - 9: A2 0M(- 1 P)u(CD)Ful s i d)
 o Cr Gccfc lHFRc usk Mi d)nanfC3s FuPa30RkFulv33 vnanfC i wDi uk3l vnanfC i w
 r ji cc4 u(C
 o(CMi P)Fvc
 th : 5. 5b993H muel w . 6f. 2by. 3-y69C2Ayo



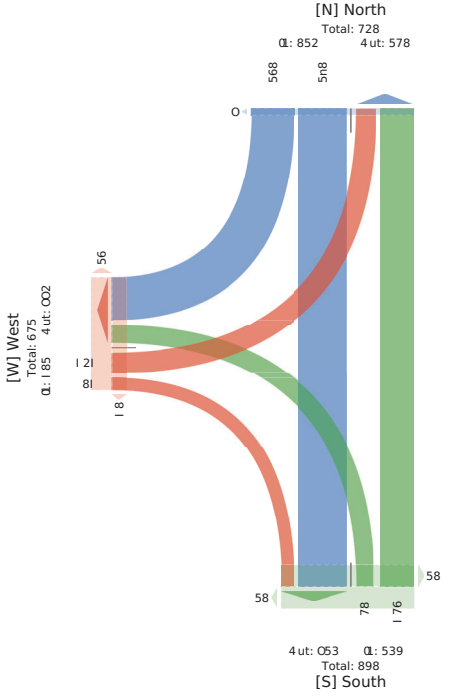
hFb h vFw Sv F	f i dR Ti dRn dsk				Ti dR i iRn dsk				a Fce EuacN dsk				the			
	D	S	W	o KK	O RLU	S	H	W	o KK	O RLU	D	H		W	o KK	O RLU
. 2, .-26-2y 6:A20M	9,	96	2	b,y	2	.9	.6	2	yb	bb	5	.2	2	.5	b.	..y
6: 60M	9,	99	2	bA	.	.9	.	2	90	bA	bA	.	2	46	9	.AA
9:230M	66	60	2	bA	b	.y	b6	2	9	bA	b6	.	A	20	bA	.bA
9:360M	9,	09	2	b62	2	.6	.A	2	90	.	b.	99	2	62	0	.90
Start	.6	y6	2	6,2	A	bQ	06	2	.95	62	0b	h3b	2	b6,	95	5.b
* o RLU sub	.y8*	6.65*	2*	-	-	9CL*	AbB*	2*	-	-	AN*	99L*	2*	-	-	-
* Start	.92*	.5L*	2*	669*	-	b59*	50*	2*	09*	-	6L*	b2b*	2*	b6*	-	-
Os %	266y	2b5b	-	2B0,	-	2690	2K62	-	266,	-	2K62	2b,	0	-	2bCb	-
HFRc usk Mi d jnanfC	.6	.y,	2	6by	-	bQ	06	2	.9y	-	6b	55	2	b62	-	5A
* HFRc usk Mi d jnanfC	b22*	505*	2*	55L*	-	505*	b22*	2*	55A*	-	b22*	502*	2*	50y*	-	55A*
s RLU	2	2	2	2	-	2	2	2	2	-	2	2	2	2	-	2
* s RLU	2*	2*	2*	2*	-	2*	2*	2*	2*	-	2*	2*	2*	2*	-	2*
I vnanfC i wDi uk	2	A	2	A	-	.	.	2	2	-	2	.	2	.	-	y
* I vnanfC i wDi uk	2*	bB*	2*	2B*	-	bB*	2*	2*	2y*	-	2*	.2*	2*	b0*	-	2y*
O RLU	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	9b
* O RLU	-	-	-	-	-	99b*	-	-	-	-	5, 0*	-	-	-	-	y98*
I vnanfC i wr ji cc4 u(C	-	-	-	-	-	b	-	-	-	-	-	-	-	-	-	0
* I vnanfC i wr ji cc4 u(C	-	-	-	-	-	AN*	-	-	-	-	00*	-	-	-	-	.2B*

hFRc usk i wDi uk i wr ji cc4 u(C FH: HFRcD: DFRcS: StQd3W: W5d)w

5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 Sat May 7, 2022
 PM Peak (WKND) (1:30 PM - 03:30 PM) - v r el aIF Peak o uL
 CH: HILLeL(i ghtLadc MutalByB4L, o ear y, PecelIgd, RgYB4Lud wuac, RgYB4Lud
 s luLmalL)
 CHM ur el edtl
 ID: 454. 0Q i uBtgd: 5160. 75, -71680378



5566814 - COVID - BANK ST @ AYLME AVE - MAY... - TMC
 Tue May y3, 2, .
 0Fll Lngt h (62:A2 - M9L:A2 PM)
 - II Cluuss (Lit hes ugd Motorcals3Hnava3Pndnsrings3Bicachs and Road3Bicachs and Crosswalk)
 - II Movmmgs
 ID: 476A883Locuog: 875M7139y75L 86y1



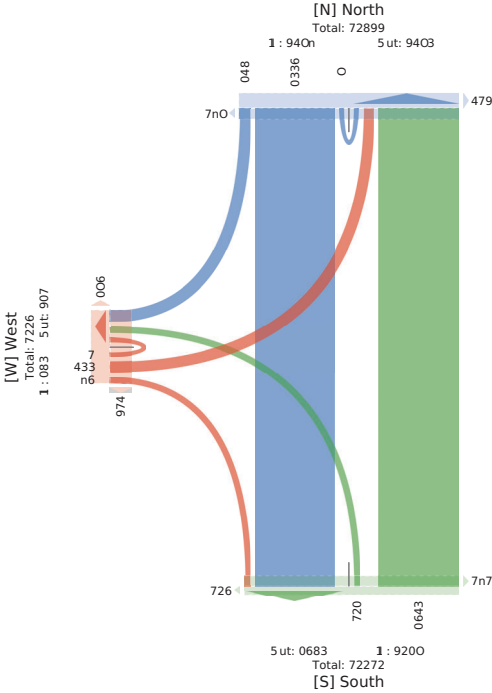
Lst Dirnctog	North TotabtoFgd				ToFh NorthoFgd				E use SueboFgd				lge			
	R	W	U	- pp	Prst*	W	L	U	- pp	Prst*	R	L		U	- pp	Prst*
. 2, . 27y 62:22- M	.7	.4A	2	Ab	62	A21	y	2	AbA	62	.	.1	2	.	84	174
6:22- M	8y	162	2	17y	8y	7.8	6.	2	12,	.7	6A	81	2	74	6,	68.
6:22PM	7y	1AA	2	142	11	746	-	2	744	A	-	82	2	8.	667	6A9
6:22PM	78	1.4	2	y8A	y3	1.A	67	2	1A	8.	4	Al	2	87	672	68.1
.:22PM	11	14.	.	y12	-7	18y	68	2	116	12	4	7.	2	1y	688	68.
A:22PM	14	177	2	y.8	74	11.	6y	2	1.7	AB	62	16	6	y.	6.	68.6
8:22PM	76	7y2	2	1.6	4A	114	6y	2	1.1	82	6.	12	2	y.	62	6A4
7:22PM	76	761	2	71y	AV	7.1	8	2	742	.8	6A	By	2	12	4.	6.6y
1:22PM	61	.6	2	.8y	67	.18	8	2	.1.	y	A	68	2	6y	8A	7A
Wval	84l	8.	4	.	7A y	8. y	84A	628	2	728.	.2	y4	A.	6	81.	48.
% - prouch	.5	.465	2%	9	9	4y5%	.3%	2%	9	9	615%	.5%	25%	9	9	9
% Wval	82%	873%	2%	845	%	9	873%	62%	2%	815%	%	23%	AL%	2%	89%	9
Lit hes ugd Motorcals	A2	812A	2	844A	9	81A8	622	2	8yA8	9	y8	A86	6	861	9	6268A
% Lit hes ugd Motorcals	.43%	.485	2%	4A5%	9	4.6%	.415	2%	4A6%	9	4.6%	.y94%	622%	.58%	9	4.63%
Hnava	.4y	2	.44	9	4.	6	2	.44	9	4.	6	2	.4A	9	4.	26
% Hnava	29%	.5%	2%	66%	9	.5%	65%	2%	.2%	9	.5%	29%	2%	22%	9	68%
Bicachs and Road	88	6.4	2	.87	9	.21	A	2	.24	9	A	81	2	84	9	84A
% Bicachs and Road	623%	A6%	622%	83%	9	85%	.5%	2%	83%	9	A5%	665%	2%	625%	9	87%
Pndnsrings	9	9	9	9	886	9	9	9	9	.8.	9	9	9	9	9	1.
% Pndnsrings	9	9	9	9	429%	9	9	9	9	.9%	9	9	9	9	9	4.5%
Bicachs and Crosswalk	9	9	9	9	81	9	9	9	9	A.	9	9	9	9	9	y8
% Bicachs and Crosswalk	9	9	9	9	43%	9	9	9	9	663%	9	9	9	9	9	y94%

*Pndnsrings ugd Bicachs and Crosswalk5L: Lnfr3R: Rit he3W WhrF3U: U9Mfg

5566814 - COVID - BANK ST @ AYLMER AVE - MAY... - TMC
 Sat May 7, 2022
 Full Length (10:30 AM-6:30 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 941355, Location: 54.3946, -74.685176



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 4J9, CA



5566814 - COVID - BANK ST @ AYLMER AVE - MAY... - TMC
 Tue/May 3, 2, 2,
 M/F/Lu/Su (6: gA -911 M PA911 M:
) (Cs GiiLi gl0r e ucF MHHbBLI 3R Luw3l LFI u0ici 3k BBLI H: mHfE3k BbBLI H: s vH11 u0:
) (CMHdLdca
 46 - 71A8993d HhdH- 91371. 3By15 b9Ay.



1 vMPLF fa-s (b) HCNmli u
 A22 s H e d, GdH: 6 v3
 (1pluc3N(3h, K 1G73)

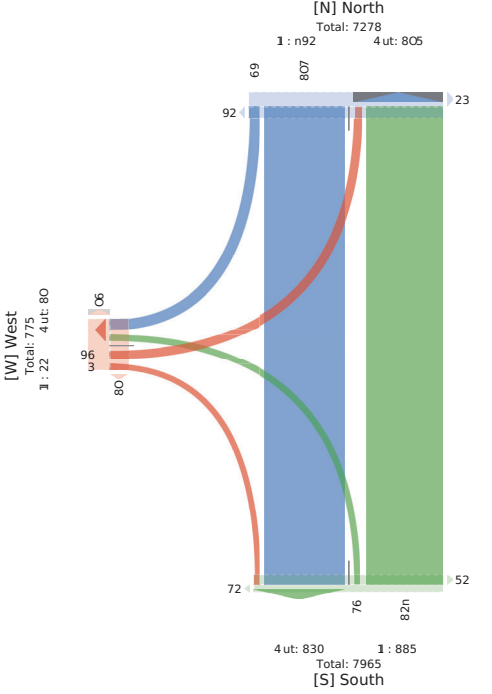
dl0 60Ldkt	(Har TDF e fH cF	TDF e (Har fH cF	Lie Eud fH cF	
SDL	m S W) pp	S d W) pp	m d W) pp	
, 2, , 2, 1Ry A -911 M	A Ay, 2 A0	A B , 2 A 1	8 y 2 A2	8. 817
A22 M	A Ay, 2 A0	A , 9 2 A2	, 9 2 ,	81
A41 M	A A, 9 2 Ay, , B	AA 8 2 A19	b A b 2 7	81
A62 M	AB A, 7 2 Ab, AB	Ay , 2 AyB	7 8 A 2 A2	8y 8y9
S1ar	10 , BA 2 y69	bb , 3y Al 2 , ,	bb 7 81 2 90	A62
*) pp14b	35* 7, 3* 2* P	715* , 3* 2* P	, 23* y73* 2* P	
* S1ar	83* 9, 3* 2* 1A2*	895* A2* 2* 9 2*	, 25* , 9* 2* 85*	
1R%	251b 25y. P 25b2	P 25y. 25, 1 P 25, 7	f 25. y 23Ab P 23yb	25, 1
d0r e ucF MHHbBLI	9. , 8. 2 , yb	P , 28 Al 2 , Ab	f b , 7 2 By	f A888
* d0r e ucF MHHbBLI	b, 3* 7, 3* 2* 7, 3*	P 785* A2* 2* 785*	f bb5* b, 5* 2* b59*	f 7, 5*
R1ar	2 A 2 A	P A0 2 2 A0	H 2 2 2 2	
* R1ar	2* Ab* 2* A6*	P , 5* 2* 2* , 5*	H 2* 2* 2* 2*	f Ab*
k BbBLI H: mHf	y 8y 2 99	P 82 2 2 82	f A , 2 y f	bA
* k BbBLI H: mHf	A5* 13* 2* , 2*	P 95* 2* 2* 99*	f A0* A, 5* 2* A15*	f 15*
* 11L1e0ci	P P P P 723*	P P P P 723*	P P P P 7, 3*	f
k BbBLI H: s vH11 u0	P P P P P	P P P P P	P P P P P	AA
* k BbBLI H: s vH11 u0	P P P P P 75*	P P P P P 75*	P P P P P 75*	f

4) LFI u0ici ucF k BbBLI H: s vH11 u0 s d - d LQ8m- m0r eS- Sr v3W- W5J uc

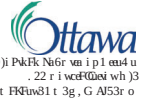
5566814 - COVID - BANK ST @ AYLMER AVE - MAY... - TMC
 Sat May 7, 2022
 Midday Peak (WKND) (12:30PM - 1:30PM)
 l (Cs GiiLeL (gihntLaod Mr tr chH0L, v eaBy, Pedeltciaol, RiHjH0Lro wrad, RiHjH0Lro s r lImaK)
 l (CMr B0l eotL
 9D: 4A1533, gr Htiro: 3A54A6, -7A683176



Por Bded by: s ity r i Ottawa
 100 s r ol eGt0r o Dc
 Nepean, ON, K2G A4, s 1



5566814 - COVID - BANK ST @ AYLMER AVE - MAY... - TMC
 Tue/May 3, 2, 2,
 0M 0Ful In g t h (L, G A0M - 9G A0M(- 1 P) uCD Ful s i d)
 o Cr G0cF: l HMR e: unK Mi d) n r n f c 3s Fu Pa 30 Fk Fy u v c 31 v n r n f c i w D i u k 31 v n r n f c i w
 r j i c04 u0 f
 o (CMi PF7 Fw: e
 0h 65A 9: : 3H1 nmei w6: A95A' 3-yAf Q . yf



0) j Pk f, N6: v a 1 p 1 m s u
 22 r i v c f G0e wh j 3
 r Fk f u 31 t 3g, G A153 r o

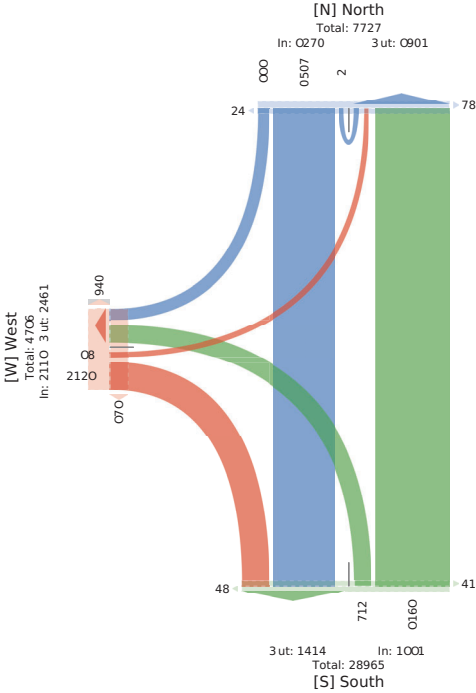
HBB h v Hnd w	f i dR T i d d R n d k	T i d d R f i d d R n d k	a f ce Eud f H d k	
Sv F	D S W o NK 0RLU	S H W o NK 0RLU	D H W o NK 0RLU	
, 2, , 2A2y, 6 AM	, y , fy 2 , O , G	, y: 2 2 , y: y	9 , , 2 , A	19 9y9
9620M	, O , yO 2 , 3f 5	, A5 : 2 , f9 y	, , 2 2 , , 9A	96
96 A0M	, , A 2 , f9 , 2	, f2 A 2 , fA , ,	, , 9 2 , , y 12	9AA
9820M	, , f, 2 , O , f	, O , 2 , O ,	, , , 2 , 9 , f	9K2
S1ar	fO fAO 2 y, f y9	fYA , , 2 fG	, , , N 2 fY	, , 15
* o H0L u0b	5b* 52* 2* ,	5Ch* , H* 2* ,	, f b* O H* 2* ,	
* S1ar	H* : : b* 2* : 5b* ,	: A* 2b* 2* : f b* ,	: 2b* 90* 2* : b* ,	
0s %	26, , 26, f - 26, :	: 262y 2bA2 - 26, :	: 2H CO 2b0y - 2H2, -	26Q
HMR e: unK Mi d) n r n f c	f, , 199 2 f5:	, f, , 2 2 f9, ,	, , A 2 fA ,	, 95
* HMR e: unK Mi d) n r n f c	Chy* 5fh* 2* 5Ae*	, 5, b* 526* 2* 5, b* ,	, 22* 5fh* 2* 5yR*	, 5, b* ,
s FuPa	, A 2 , f -	, 9 , 2 , :	, 2 2 2 2	, 92
* s FuPa	, b* , 3* 2* , b* ,	, b* 5b* 2* , b* ,	, 2* 2* 2* 2*	, b*
l v n r n f c i w D i u k	f , 2 2 , f -	, 2 2 2 2 : 2	, 2 , 2 ,	, A0
* l v n r n f c i w D i u k	Ch0* , b* 2* , b* ,	A6* 2* 2* A0*	, 2* 9H* 2* 98*	, 98*
* 0Hk f y u v c	, , , ,	, , , ,	, , , ,	, 12
* 0Hk f y u v c	, , , , C03*	, , , , 54*	, , , , C03*	,
l v n r n f c i w j) c04 u0 f	, , , , O	, , , ,	, , , ,	, 12
* l v n r n f c i w j) c04 u0 f	, , , , , b*	, , , , , 3*	, , , , , f b*	,

4) Fk f y u v c unK l v n r n f c i w j) c04 u0 b H0L f p 3 D 5 D H B S 6 S f 9 d 3 W 5 J w d

5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Sat May 7, 2022
 Full Length (10:30 AM-6:30 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 941346, Location: 54.397772, -74.684504



5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Tue/May y3, 2, .
 M/F/Tue 1 Lun g h (6 : gAA92 1 M PA -92 1 M:
 1) Cussls g iloes ur F Mce: Havjls3B LuRa3l LFLsd#ur s3w0avjls cr kcuF3w0avjls cr
 CHssm:n
 1) McRll Lrs
 IB - 47A9783i cvudtr - 57.94yyy, 3y7.8b7527



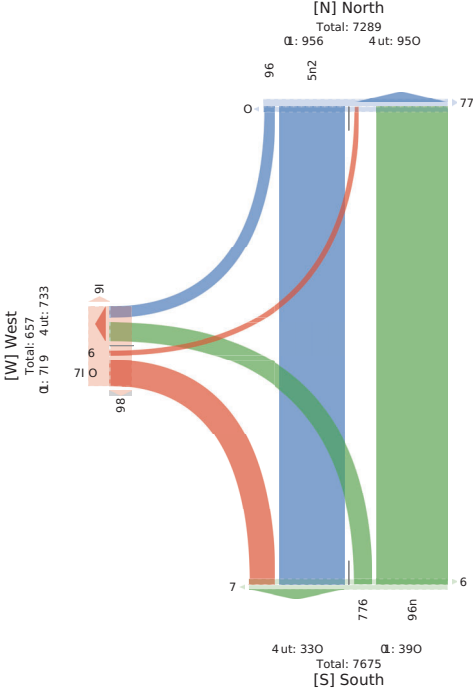
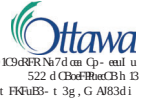
Lid 6Hdstr	Cib Tcl of cjrF					Tclm (cib of cjrF					Lise Eust cjrF				
	k	S	W	1pp	IFLU	S	i	W	1pp	IFLU	k	i	W	1pp	IFLU
AA	ABA	2	AB	5	AB	95	2	AB7	2	72	A	2	7A	2	97b
AA571 M	Av	A24	2	A 8	2	AB	2	AB8	A	52	2	2	52	99	99
A 22 M	Av	A 9	2	Ab	2	ABA	92	2	ABA	94	2	2	5A	9y	97d
A 37 M	AA	A 3	2	AB	2	AA	2	AB2	2	59	2	2	59	2	9A
Scaj	79	542	2	759	Ab	794	A8	2	87	5	Av	9	2	Av7	Av2
* 1 ppilao	4b*	42,*	2*	P	P	b,y*	Ab9*	2*	P	P	4b9*	A3*	2*	P	P
* Scaj	9,4*	97,8*	2*	94,8*	P	94,9*	b,*	2*	Sy,8*	P	A,8*	2,*	2*	A,8*	P
1 B%	2,yA4	2,4A	P	2,4,4	P	2,422	2,69A	P	2,42b	P	2,3,2	2,9y7	P	2,6A4	P
1 iloes ur F Mce:Havjls	58	57y	2	729	P	54b	AAA	2	824	P	AB5	9	2	Ab7	P
* 1 iloes ur F Mce:Havjls	b8,b*	49,9*	2*	4,8*	P	4,5*	4b,*	2*	49,5*	P	47,9*	A2,2*	2*	47,5*	P
BLafo	2	Av	2	Av	P	Av	2	A4	P	2	2	2	2	2	P
* BLafo	2*	9,7*	2*	9,4*	P	9,*	Ab*	2*	4*	P	2*	2*	2*	2*	P
w0avjls cr kcuF	y	Ab	2	9	P	5	2	2	5	P	b	2	2	b	P
* w0avjls cr kcuF	Ab,*	9,9*	2*	5,*	P	5,7*	2*	2*	9,y*	P	5,y*	2*	2*	5,8*	P
1 iloes ur F Mce:Havjls	P	P	P	P	A	P	P	P	P	5	P	P	P	P	A24
* 1 iloes ur F Mce:Havjls	P	P	P	P	A,9*	P	P	P	P	A2,2*	P	P	P	P	45,8*
w0avjls cr CHssm:n	P	P	P	P	A	P	P	P	P	2	P	P	P	P	B
* w0avjls cr CHssm:n	P	P	P	P	y,y*	P	P	P	P	2*	P	P	P	P	7,*

4) LFLsd#ur s ur F w0avjls cr CHssm:n. i - i LQBk - k iloes - SoH3W - WSJH

5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Sat May 7, 2022
 Midday Peak (WKND) (11:30 AM - 12:30 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 941345, Location: . 4697772, -74684. 04



5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Tue/May y3, 2, .
 0M 0Ful In g t h (16 0M : A0M (: - 9FluP0Ful) G 1
 i IPd iloes ur F Mce: Havjls3B LuRa3l LFLsd#ur s3w0avjls cr kcuF3w0avjls cr
 CHssm:n
 1) McRll Lrs
 IB - 47A9783i cvudtr - 57.94yyy, 3y7.8b7527



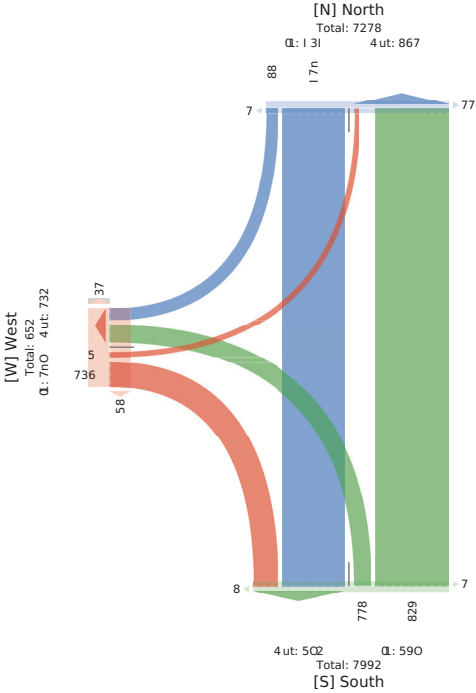
Lid 6Hdstr	Cib Tcl of cjrF					Tclm (cib of cjrF					Lise Eust cjrF				
	m	S	W	1 RK	0HRL	S	r	W	1 RK	0HRL	m	r	W	1 RK	0HRL
AA	ABA	2	AB	5	AB	95	2	AB7	2	72	A	2	7A	2	97b
AA571 M	Av	A24	2	A 8	2	AB	2	AB8	A	52	2	2	52	99	99
A 22 M	Av	A 9	2	Ab	2	ABA	92	2	ABA	94	2	2	5A	9y	97d
A 37 M	AA	A 3	2	AB	2	AA	2	AB2	2	59	2	2	59	2	9A
Scaj	bb	AS8	2	AOA	5	b,6	55b	2	y62	y	50	y	2	582	5,8*
* 1 ppilao	55*	00y*	2*	0K*	5Ay*	2*	88*	2*	88*	2*	88*	2*	88*	2*	88*
* Scaj	66*	66*	2*	60*	65*	y6*	2*	600*	65*	5,6*	2A*	2*	5,6*	2A*	2*
0) %	2bA	2B,86	2	200	2Kb,	2B,y	2	2B,86	2	2825	2B,0	2	2KbA	2	2B,86
r dno ur F Mce:Havjls	b2	6CA	2	ASA	AvA	556	2	b08	5y,	y	2	5y8	565	565	
* r dno ur F Mce:Havjls	82B*	8,8*	2*	8,8*	8,8*	8CE*	2*	8,8*	862*	522*	2*	866*	8,8*	8,8*	
) Rfda	2	5,	2	5,	55	5	2	5,	5	2	2	5	5	5	
*) Rfda	2*	5,*	2*	5,*	5K*	2B*	2*	5b*	2A*	2*	2*	2A*	5y*	5y*	
k0avjls cr kcuF	b	2	2	2	0	5	2	8	52	2	2	52	2	5y	
* k0avjls cr kcuF	85*	6L*	2*	60*	b5*	2B*	2*	AL*	AL*	2*	2*	AL*	2*	AL*	
0HFLsd#ur s	55	55	55	55	55	55	55	55	55	55	55	55	55	55	
* 0HFLsd#ur s	855*	855*	855*	855*	855*	855*	855*	855*	855*	855*	855*	855*	855*	855*	
k0avjls cr kcuF	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
* k0avjls cr kcuF	0L*	0L*	0L*	0L*	0L*	0L*	0L*	0L*	0L*	0L*	0L*	0L*	0L*	0L*	

4) FFLsd#ur s ur F w0avjls cr CHssm:n. i - i LQBk - k iloes - SoH3W - WSJH

5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Sat May 7, 2022
 PM Peak (WKND) (1 PM : 3 PM) : - Qvar Peak 1 Hov
 u r AnaGRcs Li gtCahn MHFdydrc1 eaQy, PeneGdahc c ldydrcH BFhn, c ldydrcCH
 AvHCRark)
 u r MHdwehC
 nDl 93453, s s HatHhHl 13697772, :736 83103



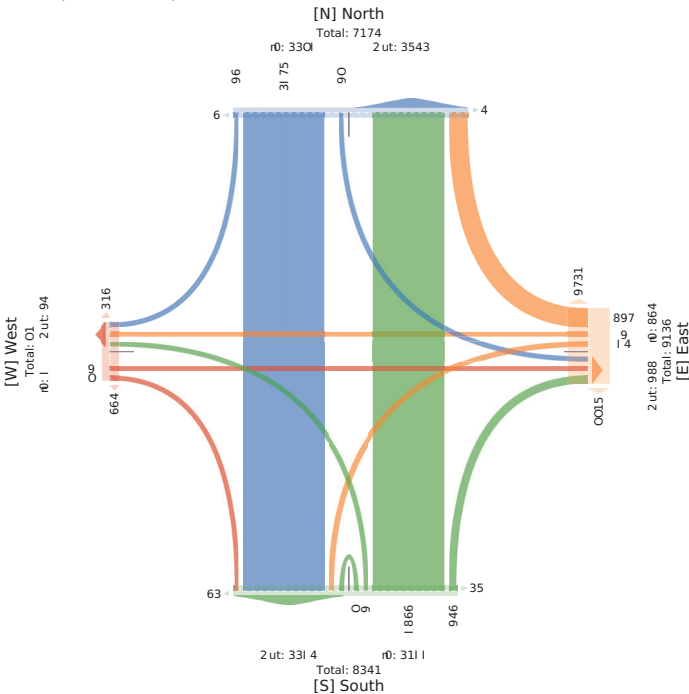
5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Tue/May 3, 2,
 0Fl Lngt h (62:A2 - M9I:A2 PM)
 - II Clusses (Lit hsg ugd Moeacrcs3Hnuv3Pndrsriugs3Bicacns and Roud3Bicacns og
 Crosswalk)
 - II Movmngs
 ID: 476A743, Location: 875W482A39/73. 16y



5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Sat May 7, 2022
 Full Length (10:30 AM-6:30 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on
 Crosswalk)
 All Movements
 ID: 941349, Location: 54.399503, -74.68617



5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Tue/May 3, 2,
 Mofua 1 lan g h (6 : gA92 1 M PA -92 1 M:
 1) CussLs g lloos ur F Mccr Havjls3BLuR3l LFLsdthr s3wkvjls cr kcuF3wkvjls cr
 CHssm:n)
 1) McrRl Lrs
 lB - 47A9743l cvudtr - 875W448293B/75 b. Ay



Dir/Sec	North										East										South									
	R	W	L	U	-pp	Prst	R	W	L	U	-pp	Prst	R	W	L	U	-pp	Prst	R	W	L	U	-pp	Prst						
W	6	71	2	2	7y	6	AA	2	6	2	AB	47	6	72y	2	2	7,6	62	2	2	2	2	2	81						
6:22M	7,6	2	2	7,7	A		1, 2	2	2	18	17	68	72y	2	2	2	7,6	62	2	2	2	2	2	81						
6:22PM	7,6	2	2	7,7	A		48	2	8	2	4	347	6A	8, y	2	2	8,2	68	2	2	2	2	2	6						
8:22PM	7,6	2	2	7,7	A		47	2	8	2	4	347	6A	8, y	2	2	8,2	68	2	2	2	2	2	6						
8:22PM	7,6	2	2	7,7	A		66	6	6	2	688	18	AA	761	6	2	772	61	2	2	2	2	2	68						
8:22PM	7,6	2	2	7,7	A		6, 2	2	2	2	6, 18	AA	847	2	2	76	1	2	2	2	2	2	67							
8:22PM	7,6	2	2	7,7	A		3, 2	6	2	34	49	6, 18	2	2	76	1	6	2	2	2	2	6								
West	67	841	6	2	88, A	6	64	6	6	2	7y	8081	67	A	77	6	82AA	622	6	2	2	2	2	A						
% approach	23%	44%	23%	2%	85%	9	473%	28%	83%	2%	9	4	82%	473%	2%	2%	9	113%	46%	2%	2%	2%	9							
% Lit hsg ugd Moeacrcs	62	867	7	2	86y	9	yy2	2	AI	2	21	9	616	A22	6	1	Ay18	9	2	2	2	2	2	9						
% Lit hsg ugd Moeacrcs	113%	48%	85%	2%	48%	9	482%	2%	4y9%	2%	482%	9	4, 32%	448%	622%	622%	448%	9	622%	2%	2%	2%	113%	9						
% Haava	2%	3%	61%	2%	3%	9	25%	2%	2%	2%	25%	9	23%	2%	2%	2%	2%	2%	9	2%	2%	2%	2%	2%	9					
% Bicacns og Road	7	6A	7	2	68	9	8A	6	6	2	87	9	6A	677	2	2	61	9	2	2	2	2	2	6						
% Bicacns og Road	40%	40%	86%	2%	45%	9	75%	62%	1%	2%	75%	9	38%	85%	2%	2%	65%	9	2%	62%	2%	2%	46%	9						
% Pndrsriugs	9	9	9	9	9	66	9	9	9	9	9	8627	9	9	9	9	9	622	9	9	9	9	9	4A						
% Pndrsriugs	9	9	9	9	9	9463%	9	9	9	9	94422%	9	9	9	9	9	9622%	9	9	9	9	9	9492%							
% Bicacns og Crosswalk	9	9	9	9	9	6	9	9	9	9	86	9	9	9	9	9	2	9	9	9	9	9	8							
% Bicacns og Crosswalk	9	9	9	9	9	9	9	9	9	9	62%	9	9	9	9	9	2%	9	9	9	9	9	2%							

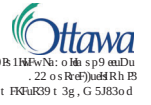
* Pndrsriugs ugd Bicacns og Crosswalk: L: LntR: R: R: h: W: W: F: U: U: F: F: g

5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Sat May 7, 2022
 Midday Peak (WKND) (11:30 AM - 12:30 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 941349, Location: 54.399503, -74.68617

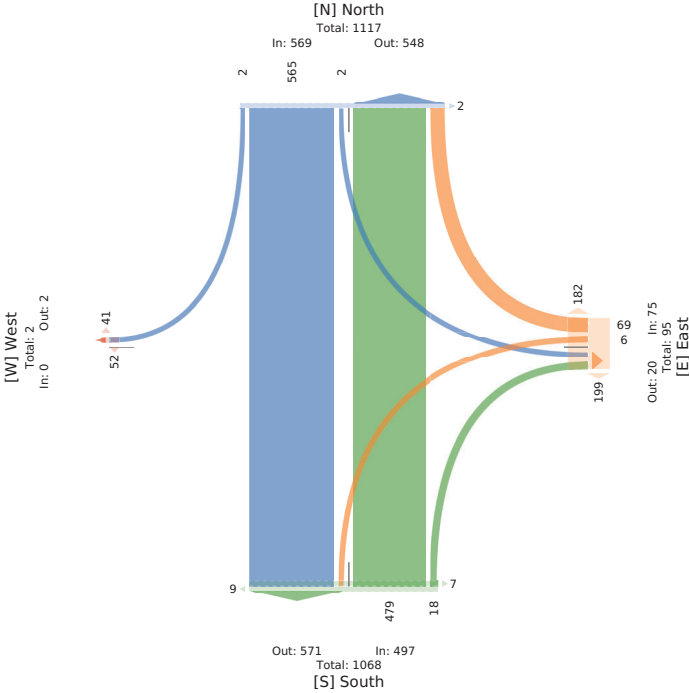


Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 4J9, CA

5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Tue/May y3, 2.,
 0M 0Fl In g t h (16:52 0M A :62 0M(A 9 1FR)) 0Fl Csi P
 d)) o Jurr Fr Ic HFr uRw Ms e hRk)F)C FuLa30FvFrHrR 3mIk)k)F) sR1 suv3mIk)k)F) sR
 o RrrDuj (d)) Ms 1F4 FRr
 Th : 8S. 6583c sKdRr - 5b88- 263A5Fr Cf. y



0B 1HFrW)u: o hA sp9 outD
 22 os (RrF)uR R)P
 t FRUr39 t 3g, G 5J83od



Dir	Phase	Time	Green	Yellow	Red	Start	End	Volume	Flow
S/N	T S c W dNK	0	60	5	10	0	60	0	
		1	60	5	10	0	60	0	
N/S	T S c W dNK	0	60	5	10	0	60	0	
		1	60	5	10	0	60	0	

0FvFrHrR uRwMs e hRk)F) sR o RrrDuj bc: c P)B1 : 1 H)BSS: S)H 3W W)S1 R

5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Sat May 7, 2022
 PM Peak (WKND) (1:10 PM 3 - :10 PM) 3 Overall Peak Hour
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 945149, Location: -4.199-01, 374.68657

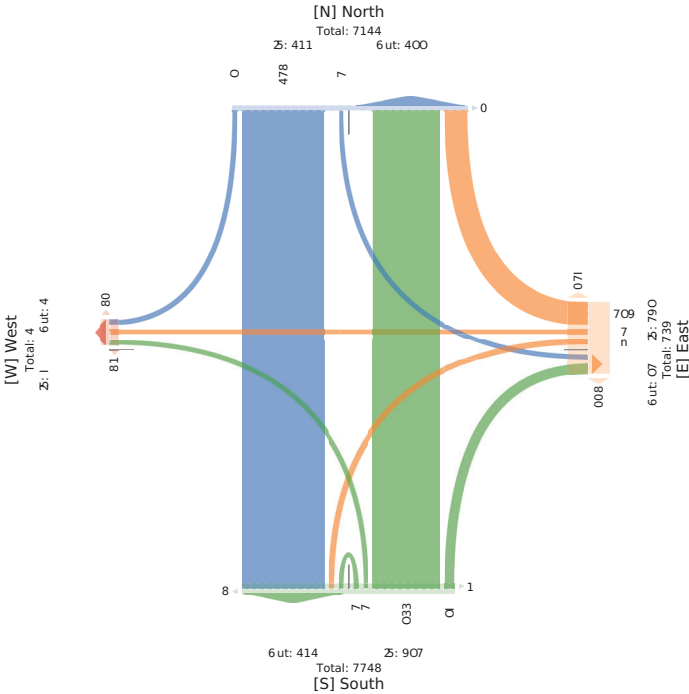


Provided by: City of Ottawa
 500 Constellation Dr,
 Nepean, ON, K2G 4J9, CA

5566814 - COVID - BANK ST @ HOLMWOOD AVE - M... - TMC
 Tue/May y3, 2.,
 0Fl Lngt h (62:A2 - M9L:A2 PM)
 - H Classes (Lit hsg Umcrcalcns 3Hnva3Pndrsrings3Bicacns and Rout3Bicacns og
 Crosswalk)
 - H Movments
 ID: 476A1A3Locustog: 875M4. 4139/7)3. 171A

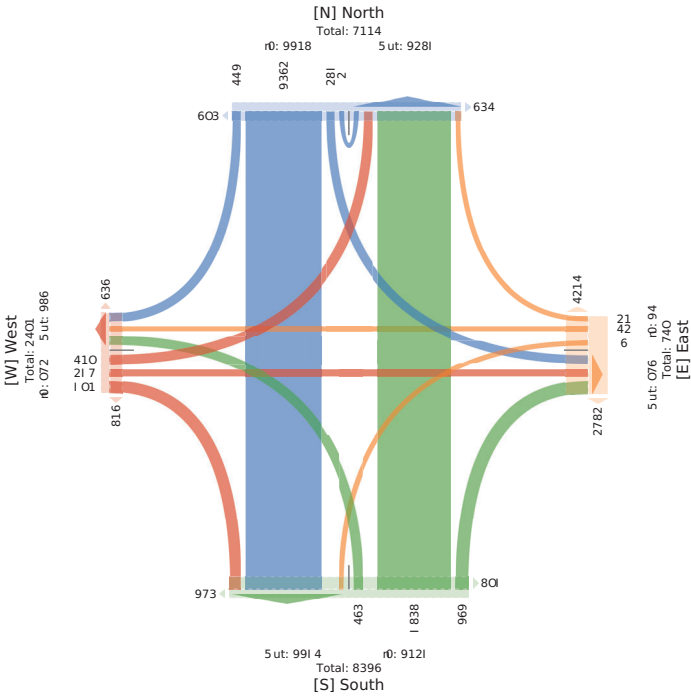


Provided by: City of Ottawa
 622 Cogswell Ave
 Nepean, ON, K2G 4J9, CA

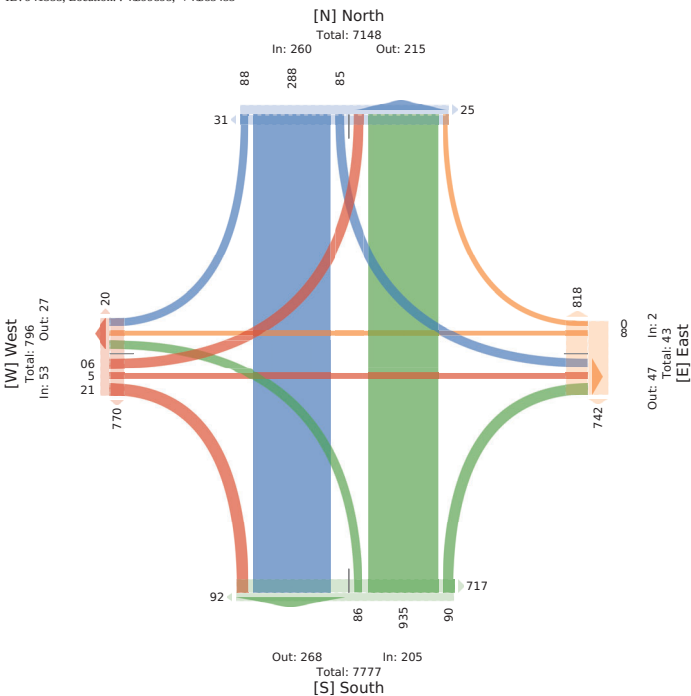


Dir	Phase	Time	Green	Yellow	Red	Start	End	Volume	Flow
S/N	T S c W dNK	0	60	5	10	0	60	0	
		1	60	5	10	0	60	0	
N/S	T S c W dNK	0	60	5	10	0	60	0	
		1	60	5	10	0	60	0	

Pndrsrings ug Bicacns og CrosswalkSL: Lnf)R: Rit h)W W)F3U: U9F)g

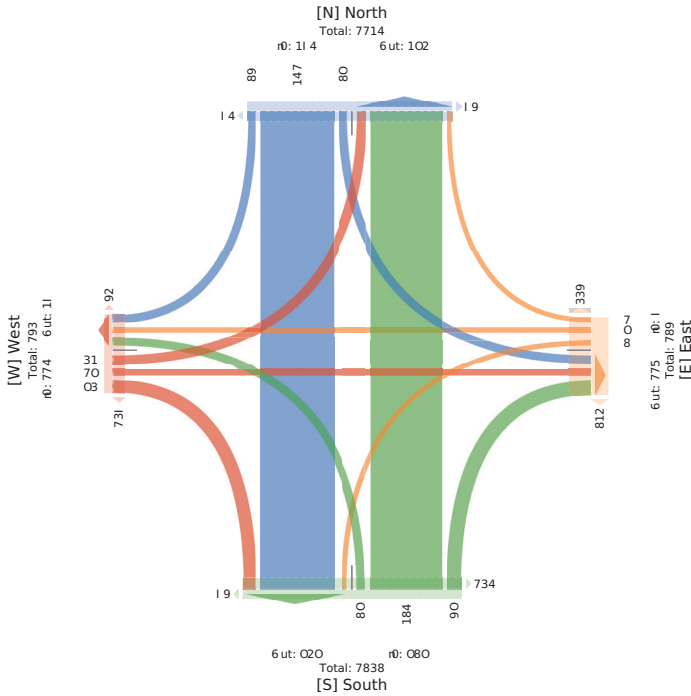


Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
...



Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase	Phase
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
...

5566814 - COVID - BANK ST @ HOLMWOOD AVE - M... - TMC
 Sat May 7, 2022
 PM Peak (WKND) (1:30 - 3:30 PM) Overlapping
 C/H/L/E (Light, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 941367, Location: 3-614484, O-68, -1

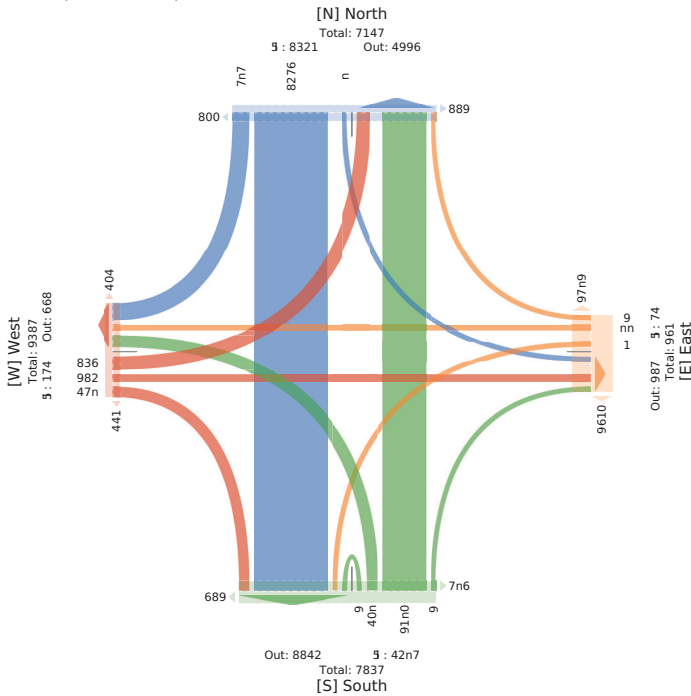


5566814 - COVID - QUEEN ELIZABETH DRWY @ FIF... - TMC
 Tue/May 3, 2, 2,
 0:01 Lngt h (6:2A - 6:59A PM)
 - II Classes (Lit hsgd Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 - II Movements
 ID: 47613, Location: 873244, 639/73, 64y8



Lit Direction	North To/From/Fld					East To/From/Fld					South To/From/Fld					Lit hsgd Motorcycles										
	R	W	L	U	pp	R	W	L	U	pp	R	W	L	U	pp		R	W	L	U	pp					
2, 9275y 62:22 M	2	6	1	2	2	6	6	2	2	2	2	6	2	2	2	6	6	2	2	2	6	6	2	2	2	0
6:22PM	1A	A2	2	2	2	A2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
6:22PM	78	A1	6	2	2	6	6	2	2	2	2	6	2	2	2	2	6	2	2	2	2	6	2	2	2	0
6:22PM	78	A2	6	2	2	6	6	2	2	2	2	6	2	2	2	2	6	2	2	2	2	6	2	2	2	0
6:22PM	14	8A	6	2	2	6	6	2	2	2	2	6	2	2	2	2	6	2	2	2	2	6	2	2	2	0
6:22PM	14	8A	6	2	2	6	6	2	2	2	2	6	2	2	2	2	6	2	2	2	2	6	2	2	2	0
6:22PM	1	816	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
6:22PM	8	7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
Total	787	A27	8	2	A27	6	88	2	7	A27	6	684	48	6	287	6	84	2	7	A27	6	84	2	7	A27	6
% approach	67%	85%	28%	2%	9	65%	83%	60%	2%	9	2%	75%	68%	2%	9	5%	65%	8%	2%	9	5%	65%	8%	2%	9	5%
% Lit hsgd Motorcycles	0%	0%	0%	0%	0	0%	0%	0%	0%	0	0%	0%	0%	0%	0	0%	0%	0%	0%	0	0%	0%	0%	0%	0%	0
Total	787	A27	8	2	A27	6	88	2	7	A27	6	684	48	6	287	6	84	2	7	A27	6	84	2	7	A27	6

5566814 - COVID - QUEEN ELIZABETH DRWY @ FIF... - TMC
 Sat May 7, 2022
 Full Length (10:30 AM-6:30 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 941367, Location: 54.503921, -74.681975



5566814 - COVID - QUEEN ELIZABETH DRWY @ FIF... - TMC
 Tue/May 3, 2, 2,
 MF/Fra 1 am g h (6: g - 911 M PA911 M:
) Cs 0:11 g 0:6 uF M H H B B L L 3 R Lwa 31 L F L u d i c k 3 B B B L H m H F 3 k B B B L H s V H I I u 0:
) C M H L D L r d
 46 - 71 A 5 y 3 l H H A H - 91.9287, A 3 y 1.5 b A 7 y 9



Lit Direction	North To/From/Fld					East To/From/Fld					South To/From/Fld					Lit hsgd Motorcycles										
	R	W	L	U	pp	R	W	L	U	pp	R	W	L	U	pp		R	W	L	U	pp					
2, 9275y 62:22 M	2	6	1	2	2	6	6	2	2	2	2	6	2	2	2	6	6	2	2	2	6	6	2	2	2	0
6:22PM	1A	A2	2	2	2	A2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
6:22PM	78	A1	6	2	2	6	6	2	2	2	2	6	2	2	2	2	6	2	2	2	2	6	2	2	2	0
6:22PM	78	A2	6	2	2	6	6	2	2	2	2	6	2	2	2	2	6	2	2	2	2	6	2	2	2	0
6:22PM	14	8A	6	2	2	6	6	2	2	2	2	6	2	2	2	2	6	2	2	2	2	6	2	2	2	0
6:22PM	14	8A	6	2	2	6	6	2	2	2	2	6	2	2	2	2	6	2	2	2	2	6	2	2	2	0
6:22PM	1	816	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
6:22PM	8	7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
Total	787	A27	8	2	A27	6	88	2	7	A27	6	684	48	6	287	6	84	2	7	A27	6	84	2	7	A27	6
% approach	67%	85%	28%	2%	9	65%	83%	60%	2%	9	2%	75%	68%	2%	9	5%	65%	8%	2%	9	5%	65%	8%	2%	9	5%
% Lit hsgd Motorcycles	0%	0%	0%	0%	0	0%	0%	0%	0%	0	0%	0%	0%	0%	0	0%	0%	0%	0%	0	0%	0%	0%	0%	0	
Total	787	A27	8	2	A27	6	88	2	7	A27	6	684	48	6	287	6	84	2	7	A27	6	84	2	7	A27	6

5566814 - COVID - QUEEN ELIZABETH DRWY @ FIF... - TMC

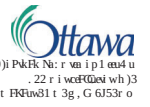
Sat May 7, 2022
 Midday Peak (WKND) (12:30PM - 1:30PM)
 1 Cs GtLEL (gthntLad MrtrctyHtL, v eaBy, PedeltlaoL, RHyHtL o wrad, RHyHtL o s r lLmLk)
 1 CMr BtL eotL
 9D: 4A15, 7, gr Htiro: 3A805421, -7A6 81473



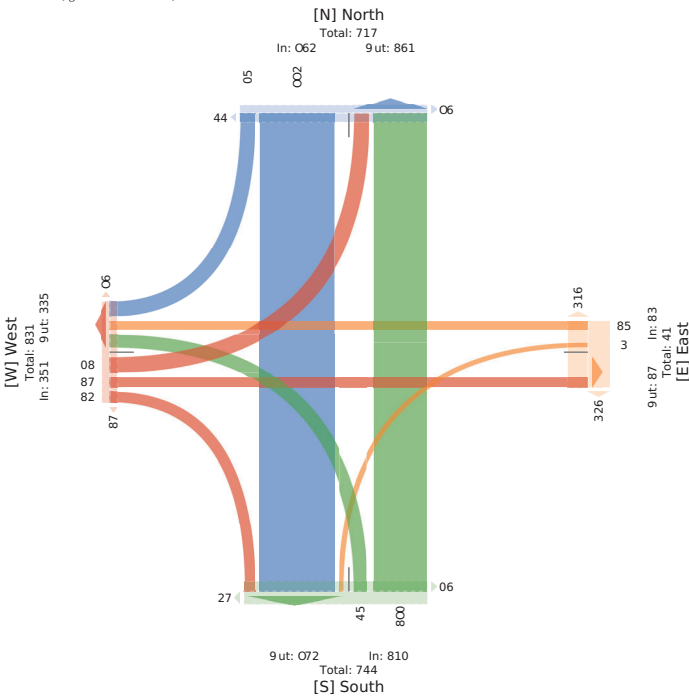
Par Bded by: s by t t Ottawa
 100 s r l e g t i r o D c
 Nepean, ON, K2G 4A4, s 1

5566814 - COVID - QUEEN ELIZABETH DRWY @ FIF... - TMC

Tue/May y3, 2, 2,
 0M 0Fl In g t h (16:A2 0M - 9:A2 0M) (- 1 PFl uCDFl s i d)
 o Cr CccFc LHNEtC uk Mi d j anRrCs FuPa30RkFcJyucw31 v anRrC i wDi uk31 v anRrC i w
 r j i cc4 uL f H: HtPBD: DHRBS: S Rjd3W- W5Djw
 o CMI PFr Fwcc
 9h: 56. ABy3H t mzi w b6b2A5, . 3-y6B0 5yb



O) j PkRk N: i w t f p 1 mzi u
 . 22 r i w t f H g t i w h j 3
 t FkRwL i 3g, G 6J53r o



5566814 - COVID - QUEEN ELIZABETH DRWY @ FIF... - TMC

Sat May 7, 2022
 PM Peak (WKND) (1:30 PM - 3:30 PM) - v r e l a HtPeak o uL
 CHH HtLEL (i ghtLadc MutalByHtL, o eary, PeceltdgdL, RHyHtLud wuac, RHyHtLud s l uLmLk)
 1 CMr BtL eotL
 9D: 415307, i uHtgd: . 16 03425, -7100547.



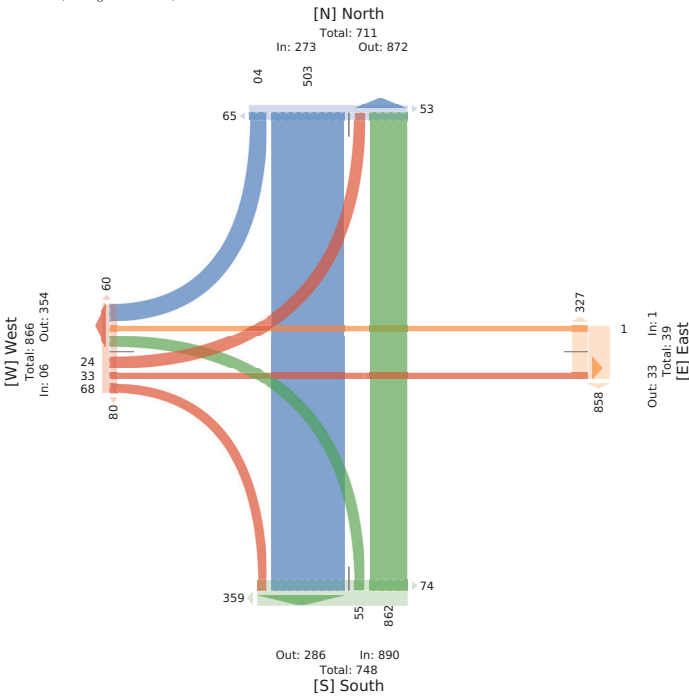
Plur gcc by: s g y uL f t rama
 500 s uL t r e Htgd DL
 Nepean, v N, K2G 1J4, s C

5566814 - COVID - BANK ST @ SUNNYSIDE AVE - ... - TMC

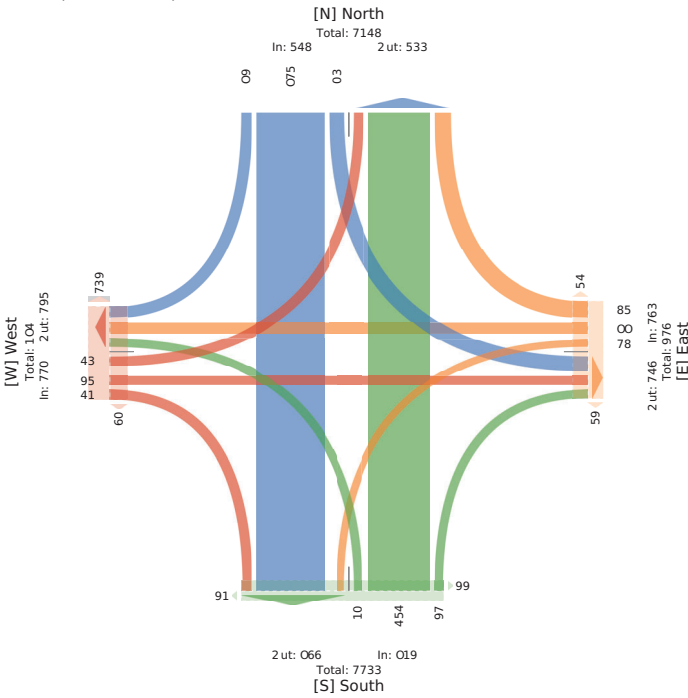
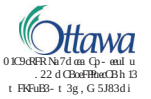
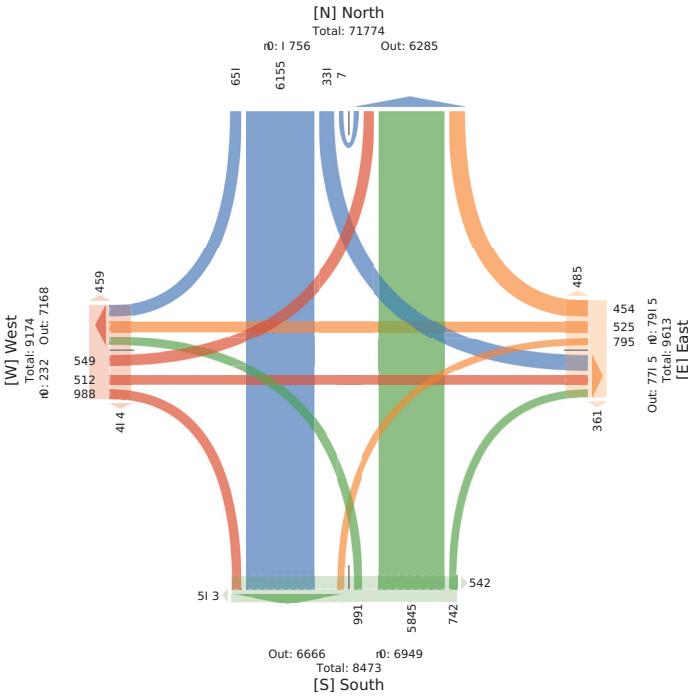
Tue/May y3, 2, 2,
 0Fl Lngt h (6:A2 - M9:A2 PM)
 - H Clusses (Lit h s ugd Mooracacns 3Hnuva3Pndrsrings 3Bicacns and Roud 3Bicacns og
 Crosswuk)
 + H Movmtrngs
 ID: 476A143Locustog: 87548, 463973, 4024



Providnd ba: Ctm of Ottawa
 622 Cogsanllatog Dr3
 Nnpng30N3K, G 7143r o



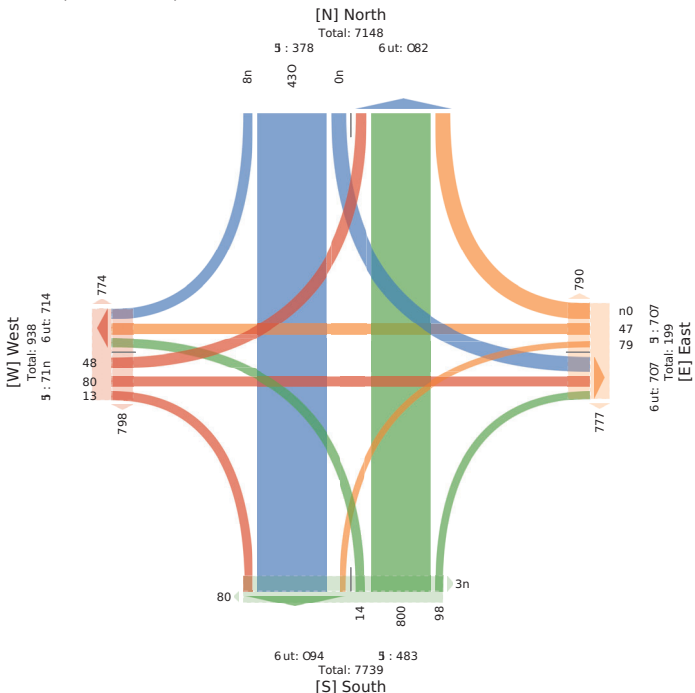
Lat Direction	North ToRthboFgd					East S mudoFgd					ToRthboFgd					S me EudoFgd					Age										
	R	W	L	U	-pp	R	W	L	U	-pp	R	W	L	U	-pp	R	W	L	U	-pp											
2, 2, 927By 62-22 M	7	68	BA	2	...	9	A	61	6A	2	3y	12	66	66	66	2	7A	11	67	4	1	2	y2	y7	3y						
60-22 M	81	844	y6	2	161	9	4A	8	1	2	61A	622	7	8	1	2	74E	94	8	8	AA	2	6A	616	68A						
6:22PM	72	84y	7	2	1A	9	44	7A	2	2	6y	6,4	A2	874	7	2	768	4	82	6	8A	2	668	6	68A						
6:22PM	y2	846	y1	6	1A	9	62y	yA	6	2	64	6v	1	88y	1	2	847	1v	88	6	6	2	66	6	68A						
6:22PM	7A	777	47	2	y2A	9	4	77	2	677	Al	64	6y	6	2	7A	6,7	6	4	AA	2	64	6	68A							
A22PM	84	7y1	4	2	y68	9	4	76	6	2	616	Al	8	8	8	2	78y	6,3	6y	8	78	2	64	6	6716						
8:22PM	88	7	1	44	2	114	9	4y	86	6	2	672	6A	2	76	7	2	77y	1	68	72	71	2	682	6	6761					
7:22PM	11	87y	y	2	247	9	2	AA	6A	2	6A	12	64	7A	6	2	787	6	A2	78	2	66	2	6868							
1:22PM	A	6	6	2	7	9	AA	6y	7	2	77	34	4	AA	61	2	1A	6	67	67	A2	2	12	2	11A						
Wval	8A	82AA	117	6	7606	9	yA	AA	6	A	2	6,7A	68A	6y4	A	yA	2	2	8,y	yA	...	A24	6y	2	414	68	681				
% approach	5%	3%	6A2%	2%	9	9	7,5%	A63%	45%	2%	9	9	85%	423%	73%	2%	9	9	43%	A69%	A	3%	2%	9	9	9					
% Wval	A5%	A63%	75%	2%	885%	9	15%	A8%	63%	2%	625%	9	65%	A6%	65%	2%	A5%	9	3,5%	3%	A5%	2%	9%	9	9						
Lit h s ugd Mooracacns	A	1	A	21	178	6	8	By	9	y	A	6	A	2	6	y	9	6y7	A177	64	2	8284	9	...	A	4y	A1	2	481	9	66214
% Lit h s ugd Mooracacns	5%	483%	4	5%	622%	483%	9	4	2%	4y5%	622%	2%	4y9%	9	9	4y5%	483%	445%	2%	485%	9	4	5%	416%	4	3%	2%	4y4%	9	475%	
% Hnuva	8	1	1	2	621	9	A	8	2	2	y	9	2	4y	6	2	4	9	...	A	2	2	7	9	61						
% Bicacns og Road	63%	83%	63%	2%	47%	9	63%	65%	2%	2%	65%	9	5	8	6	6	2	6,7	9	5	62%	3%	62%	2%	62%	9	5	3%			
% Pndrsrings	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9		
% Bicacns og Crosswuk	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9		
% Pndrsrings og Crosswuk	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9		



Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu	Flu						
50 L	k	s	i	w	1	pp	1	fl	k	s	i	w	1	pp	1	fl	k	s	i	w	1	pp	1	fl	be	
2, .R78y A92l M	A7	A5	A	2	A7A	F	.7	A7	5	2	55	9	y	A	8	4	2	A6	As	A7	A	4	2	.b	5A	967
AA57l M	A7	AA	.8	2	A7A	F	.5	A2	5	2	9b	9A	5	A07	b	2	Ay	A7	A7	A	4	2	95	79	972	
A-32l M	A2	A9	.9	2	A6B	F	.7	A4	8	2	72	97	4	A4	y	2	A07	As	A	7	A6	2	9A	50	981	
A-33l M	A7	A5	A4	2	A7A	F	...	AA	7	2	9b	9b	AA	A25	5	2	AA	As	y	A2	b	2	.7	5A	989	
Scnl	79	7AB	b2	2	85A	F	48	77	A4	2	A72	A3	9A	585	b	2	7.9	17	5	98	52	2	Ab	9A	982	
* l lpploes	b.	* 4A7	A.9*	2*	P	F	78.7*	9.5*	AA.	* 2*	P	F	7.4*	bb.y*	7.5*	2*	P	F	97.8*	92.7*	99.4*	2*	P	F	9	
* Scnl	9.8*	97.9*	7.7*	2*	55.7*	F	8.8*	9.3*	A9*	2*	AA8*	F	.A*	9Ab*	A4*	2*	97.3*	F	.4*	.7*	.y*	2*	b.A*	F	9	
l B%	2.869	2.847	2.84	P	2.4AA	F	2.482	2.y.5	2.y.4.	P	2.b72	F	2.8b.	2.4A	2.y.3b	P	2.4Ab	F	2.82b	2.y.9	2.84	P	2.885	F	2.47.	
i lloes ur F Mca: Havlls	5y	542	b2	2	8Ay	F	47	77	A4	2	A64	F	92	55A	.b	2	544	F	5.	99	9b	2	Ab	F	Ab4	
* i lloes ur F Mca: Havlls	bb.y*	47.2*	A22*	2*	47.A*	F	44.2*	A22*	A22*	2*	44.5*	F	48b.*	47.2*	A22*	2*	47.5*	F	A22*	4A.y*	47.2*	2*	47.A*	F	47.3*	
BluBa	8	AA	2	2	Ay	F	A	2	2	2	A	F	2	A7	2	2	A7	F	2	A	2	2	A	F	95	
* BluBa	AA9*	.A*	2*	2*	.8*	F	A2*	2*	2*	2*	2.8*	F	2*	9.	* 2*	2*	.4*	F	2*	.b*	2*	2*	2b*	F	.5*	
wAvlls cr kcuF	2	A7	2	2	A7	F	2	2	2	2	2	F	A	b	2	2	4	F	2	...	2	2	5	F	.b	
* wAvlls cr kcuF	2*	.4*	2*	2*	.9*	F	2*	2*	2*	2*	2*	F	9.	Ay*	2*	2*	Ay*	F	2*	7.8*	7.2*	2*	9.5*	F	A4*	
l LFllsdlr	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Ab
* l LFllsdlr	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Ab
wAvlls cr Cllssmujh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Ab
* wAvlls cr Cllssmujh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Ab

l LFllsdlr s ur F wAvlls cr Cllssmujh. l - i LGBlk - k (lloes- SoHE3W- VBS Efl

5566814 - COVID - BANK ST @ SUNNYSIDE AVE - ... - TMC
 Sat May 7, 2022
 PM Peak (WKND) (1 PM : 3 PM) : - Qvar Peak 1 Hbv
 u r An(Grcs L)gtCahn MHFHydreC1 eaQy, PeneCvahC c ldydreCH BFhn, c ldydreCH
 AvHCRark)
 u r MHdwehtC
 nDI 9451.9, s HlatHh 34993295, :746 81309



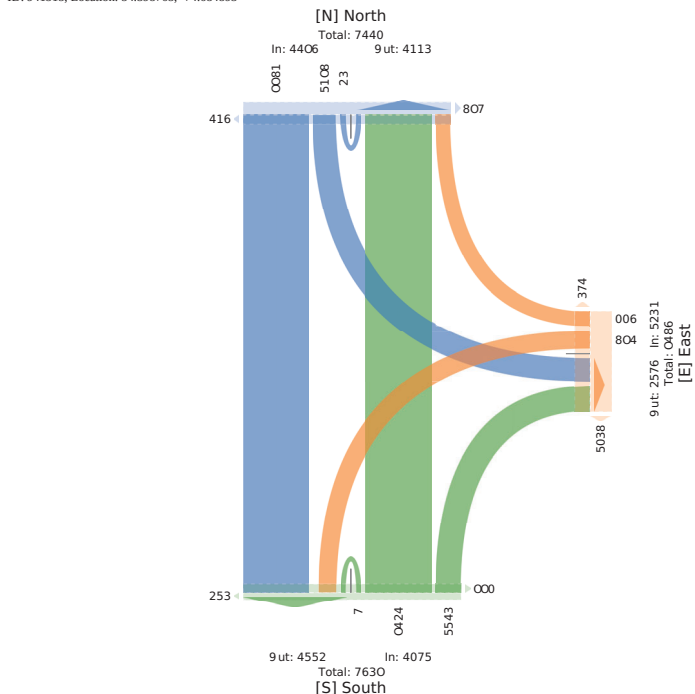
5566814 - COVID - BANK ST @ EXHIBITION WAY - ... - TMC
 Tue/Mua y3, 2, ,
 0Fl Lngt dh (62:A2 - M9I:A2 PM)
 - II Clusss (Lit he ugđ Moorcaclns3Hnuv3Pndnsręis3Bicacłns og Road3Bicacłns og Crosswalk)
 - II Movmmęes
 ID: 4768683Locuioę: 875W, y1839/73, 7. 4A



Lst Dmęctog	North Tořhbogđ					Euse S rsořbogđ					Tořbh Northbogđ					lge
	W	L	U	- pp	Psd*	R	L	U	- pp	Psd*	R	W	U	- pp	Psd*	
Wmn	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
66:22- M	8,4	46	6	7,6	74	17	2	68y	6,1	88	84	876	6	776	8	6,64
6:22PM	824	64	76y	627	1y	2	677	648	6,6	824	2	782	8	6,8	6,616	
6:22PM	868	4y	76A	6,	72	34	2	6,4	1,4	661	824	2	764	11	6616	
6:22PM	87	68A	A	128	616	1,	2	672	1y	6, A	8, 8	2	78y	1,7	606	
A:22PM	888	681	A	74A	6,7	2	62A	2	6, A	668	678	846	2	7,7	6,616	
8:22PM	844	672	7	748	67,	4A	6, 8	2	6y	872	6, A	888	1,4	62,	6882	
7:22PM	A	1	6A	y	746	66	4	7	2	6y8	17y	24	8A2	2	14A	y1
1:22PM	6,	1	7	74	18	4	77	2	8	8A	7	28	8	4A	A	171
% West	4y2	62Ap	4	88A	6688	771	y8	2	6,42	7,6	6684	68,8	87,6	778	62A2y	
% pproach	y15%	AB%	25%	9	9	8,8%	715%	2%	9	9	7,3%	y8%	25%	9	9	
% West	A	3%	62%	22%	8,82%	9	78%	y3%	2%	6,5%	9	668%	AG	2%	883%	9
Lit he ugđ Moorcaclns	6y1	626,	8,2y	9	764	1,2	2	6644	9	62A	6,4	8, A	8, A	9	418,	
% Lit he ugđ Moorcaclns	485%	4y3%	413%	485%	9	4,6%	4,3%	2%	4,5%	9	4,23%	4,6%	622%	4,5%	4,6%	
% Hnna	47	62	2	627	9	7	2	y	9	622	2	62,	2	62,	68	
% Hnna	5	62%	2%	8%	9	28%	29%	2%	25%	9	25%	1,8%	2%	1,5%	8%	
Bicacłns og Road	627	67	6	6,8	9	67	84	2	8	9	62	6A7	2	8A	9	876
% Bicacłns og Road	AS	63%	AB%	5%	9	15%	15%	2%	15%	9	43%	AG%	2%	75%	9	83%
Pndnsręis	9	9	9	9	66,y	9	9	9	9	764	9	9	9	9	768	
% Pndnsręis	9	9	9	9	4,5%	9	9	9	9	4,5%	9	9	9	9	4,5%	
Bicacłns og Crosswalk	9	9	9	9	6y	9	9	9	9	1,	9	9	9	9	82	
% Bicacłns og Crosswalk	9	9	9	9	65%	9	9	9	9	38%	9	9	9	9	y5%	

*Pndnsręis ugđ Bicacłns og Crosswalk5L: Lnfe8R: Rlt he3W WhrF3U: U9WFrę

5566814 - COVID - BANK ST @ EXHIBITION WAY - ... - TMC
 Sat May 7, 2022
 Full Length (10:30 AM-6:30 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 941515, Location: 54.398765, -74.684893



5566814 - COVID - BANK ST @ EXHIBITION WAY - ... - TMC
 Tue/Mua y3, 2, ,
 MCFua 1 Lun g h (6 : gA92 1 M PA -92 1 M:
 1) CjssLs g łloes ur F Mcc:Havyls3BLuR3L LFLsdřur s3włvls cr kcuř3włvls cr
 CHssmų):
 1) McRŁL Lrs
 lB - 47A8A3i cvudřr - 8754, yb83y/73, 7. 49

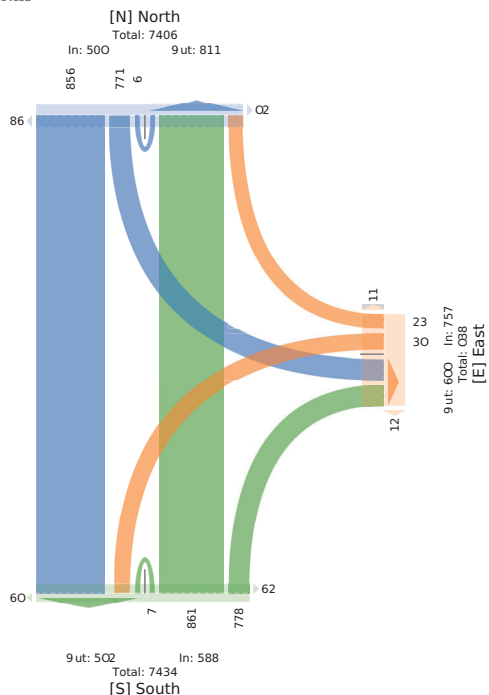


Lst Dmęctog	North Tořhbogđ					Euse S rsořbogđ					Tořbh Northbogđ					lge
	W	L	U	- pp	Psd*	R	L	U	- pp	Psd*	R	W	U	- pp	Psd*	
Wmn	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
66:22- M	8,4	46	6	7,6	74	17	2	68y	6,1	88	84	876	6	776	8	6,64
6:22PM	824	64	76y	627	1y	2	677	648	6,6	824	2	782	8	6,8	6,616	
6:22PM	868	4y	76A	6,	72	34	2	6,4	1,4	661	824	2	764	11	6616	
6:22PM	87	68A	A	128	616	1,	2	672	1y	6, A	8, 8	2	78y	1,7	606	
A:22PM	888	681	A	74A	6,7	2	62A	2	6, A	668	678	846	2	7,7	6,616	
8:22PM	844	672	7	748	67,	4A	6, 8	2	6y	872	6, A	888	1,4	62,	6882	
7:22PM	A	1	6A	y	746	66	4	7	2	6y8	17y	24	8A2	2	14A	y1
1:22PM	6,	1	7	74	18	4	77	2	8	8A	7	28	8	4A	A	171
% West	4y2	62Ap	4	88A	6688	771	y8	2	6,42	7,6	6684	68,8	87,6	778	62A2y	
% pproach	y15%	AB%	25%	9	9	8,8%	715%	2%	9	9	7,3%	y8%	25%	9	9	
% West	A	3%	62%	22%	8,82%	9	78%	y3%	2%	6,5%	9	668%	AG	2%	883%	9
Lit he ugđ Moorcaclns	6y1	626,	8,2y	9	764	1,2	2	6644	9	62A	6,4	8, A	8, A	9	418,	
% Lit he ugđ Moorcaclns	485%	4y3%	413%	485%	9	4,6%	4,3%	2%	4,5%	9	4,23%	4,6%	622%	4,5%	4,6%	
% Hnna	47	62	2	627	9	7	2	y	9	622	2	62,	2	62,	68	
% Hnna	5	62%	2%	8%	9	28%	29%	2%	25%	9	25%	1,8%	2%	1,5%	8%	
Bicacłns og Road	627	67	6	6,8	9	67	84	2	8	9	62	6A7	2	8A	9	876
% Bicacłns og Road	AS	63%	AB%	5%	9	15%	15%	2%	15%	9	43%	AG%	2%	75%	9	83%
Pndnsręis	9	9	9	9	66,y	9	9	9	9	764	9	9	9	9	768	
% Pndnsręis	9	9	9	9	4,5%	9	9	9	9	4,5%	9	9	9	9	4,5%	
Bicacłns og Crosswalk	9	9	9	9	6y	9	9	9	9	1,	9	9	9	9	82	
% Bicacłns og Crosswalk	9	9	9	9	65%	9	9	9	9	38%	9	9	9	9	y5%	

l) LFLsdřur s ur F Mcc:Havyls cr CHssmų)5i - i LŁBk - k łloesS- SořE3W WřF3U



Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 4J9, CA



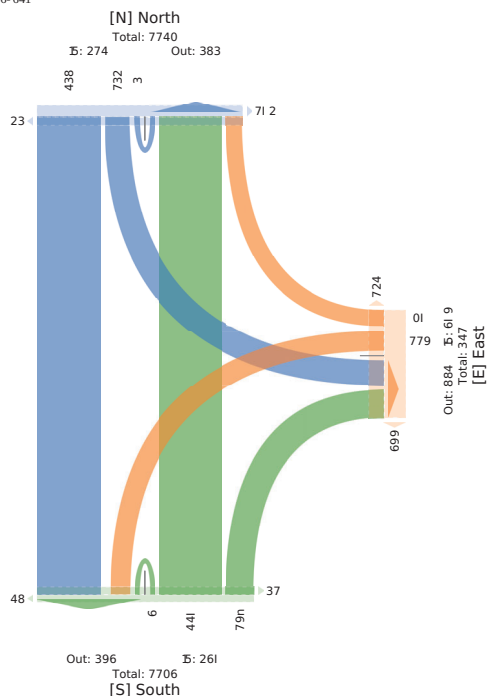
0) i PkRk Nbi : v 1) i 1 m15 u
 22 r i ucaRQd1st wh j3
 r HkFwS1 t 3g, G - J53r o

hB h u f u e w	i j) R Ti d d r N d u k					E u e n F e N d u k					Ti d d r i j) R N d u k					a e				
	S	H	W	o	o	D	H	W	o	o	D	S	W	o	o					
2, ., 9- 9y 6:A 0M	..	2	6-	..	.00	0R	..	f	A	2	A	..	22	A	50	..	.0y	..	f	6-
AZ20M	..	5	A6	..	.f2	6,	..	0	66	2	A6	..	22	A	50	..	.0y	..	f	6y
A - 0M	..	6A	7h	..	y	60	2	05	A05	..	A	6y5
A620M	..	2	A2	2	.A	6,	..	5	A	2	+6	A625	6y0
* S i a c	A	6	0 A	..	52	..	2	.2y	A02	..	5A	.AA
* o i s j u s h	y6H*	2H*	9	A6b*	2*	9
* S i a c	6 h*	2H*	2H*	A 10*	9	..	..	Ch*	..	..	AH*	9	..	..	..	..	..	..	..
0s %	2Hf-	2yf-	2Hf-	2Hf-6	9	..	..	2H2O	2Hf-6	9	2H66	9	..	..	..	..	2H5	2H5	2H5
HFRc usk Mi d) nandfcs	A	..	..	..	..	..	..	fO	..	..	.55	9	..	..	..	..	..	..	..
* HFRc usk Mi d) nandfcs	56H*	5y6H*	..	..	..	..	..	5-10*	500P	2*	50b*	9	..	..	..	..	..	..	..
s FuPa	..	..	..	..	..	..	..	..	..	..	..	9	..	..	..	..	..	..	..
* s FuPa	6h*	2H*	2*	..	..	..	..	..	..	..	..	9	..	..	..	..	..	..	..
i vnanfrc i w Di uk	..	..	..	..	..	..	..	..	..	..	..	9	..	..	..	..	..	..	..
* i vnanfrc i w Di uk	6h*	..	..	..	..	..	..	6h*	6h*	2*	6h*	9	..	..	..	..	..	..	..
o i R k y w e	9	9	9	9	9	..	..	..	..	..	..	9	9	9	9	9	9	9	9
* o i R k y w e	9	9	9	9	9	530*	9	9	9	9	9	5y6*	9	9	9	9	9	9	9	
i vnanfrc i w j) c04 uL	9	9	9	9	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..
* i vnanfrc i w j) c04 uL	9	9	9	9	9	20*	9	9	9	9	9	16*	9	9	9	9	9	9	9	

h) R f C j e y w u k i v n a n f r c i w r j) c 0 4 u L b f H i p e D : D h e R S : S i Q d 3 W W S d j w



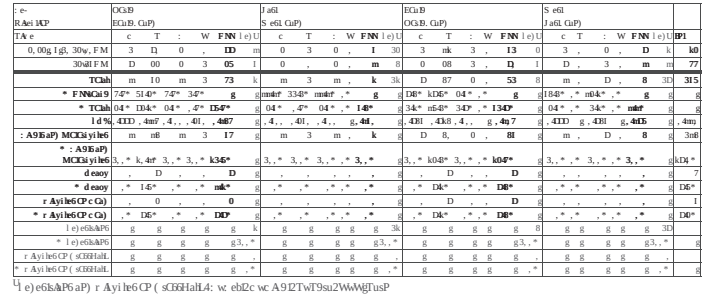
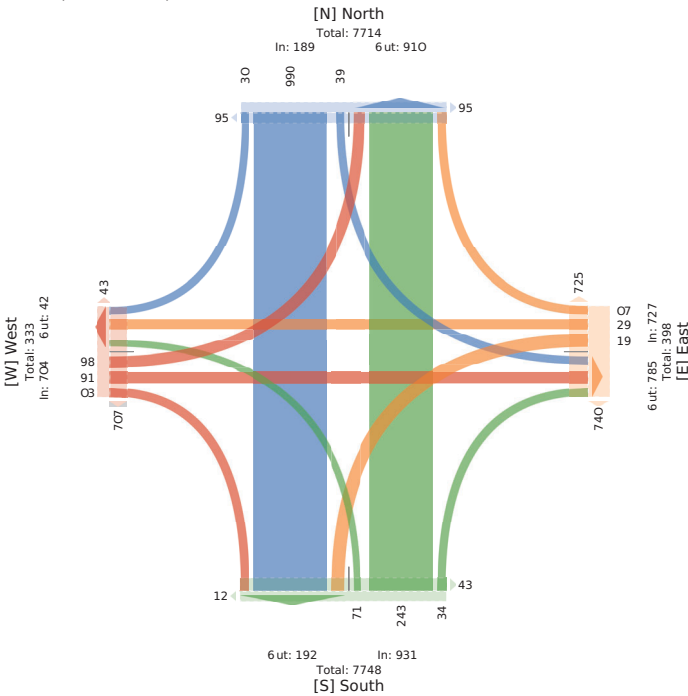
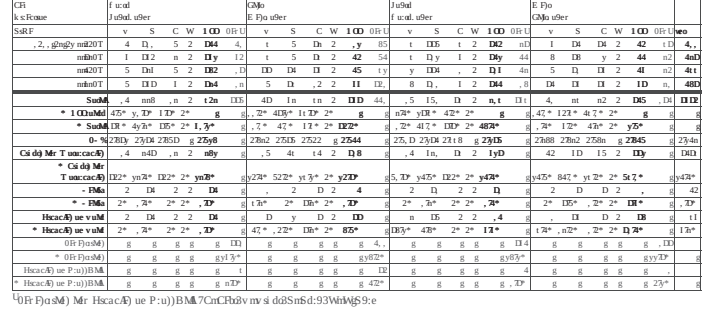
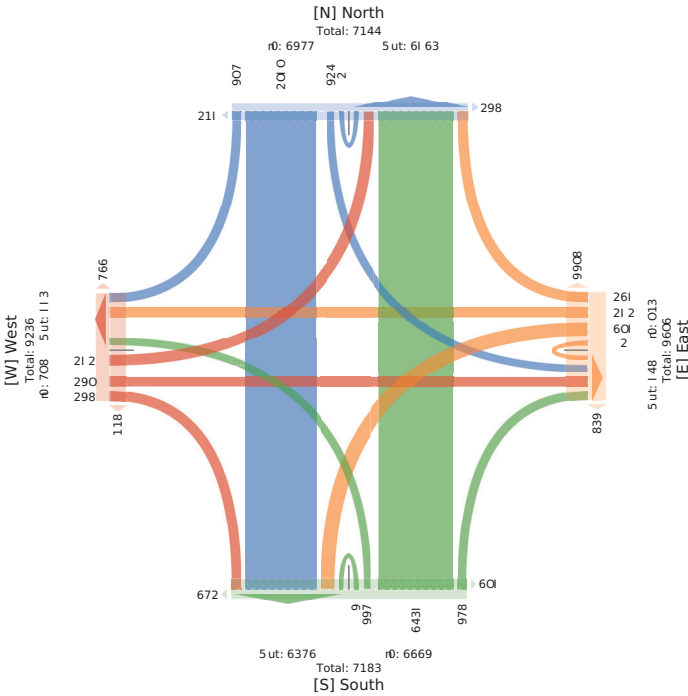
Plur g e c s y : s g y u f i t r a m a
 500 s u l t e H g u d I L
 Nepean, v N, K2G - J4, s C



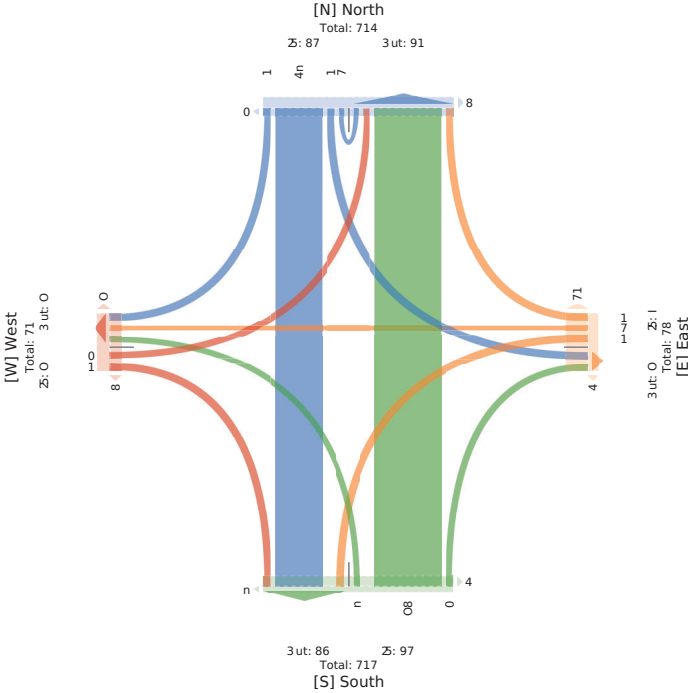
122 C u e s t l i M u e 1 d 0 n M 3 f O 3 p , K D 3 9 C P

L i n g i n t e r s e	D a t h E u f u s u f e d					U M e S m s u f e d					E u f u s D a t h u f e d					S m s J M e u f e d				
	B	W	L	U	PNN	B	W	L	U	PNN	B	W	L	U	PNN	B	W	L	U	PNN
2, ., 909y 6:22-T	1D	..	..	..	..	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7:22-T	A	13*	..	..	72D	115	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8:22-T	A	6	..	..	66D	121	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9:22-T	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11:22-T	D	17A	..	..	18A	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2, ., 909y 6:22-T	6	D	6	1	71	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
W e M	157	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
% P N N u t h	D%	y24%	A6%	24%	9	5	74%	54%	66%	24%	9	9	D%	y14%	A3%	2%	9	9	9	9
% v i r a r i n s	4%	84%	14%	2%	40%	9	4%	84%	66%	2%	24%	9	4%	84%	14%	2%	61%	9	4%	8%
L i g h t s M e d T u t a r a n s	15A	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
% L i g h t s M e d T u t a r a n s	54%	y64%	y54%	122%	yD%	9	5%	84%	5	4%	y4%	122%	yAP%	9	50%	yD%	y	4%	122%	yD%
% c a m	1	75	1	2	82	9	5	A	2	1	2	6	9	..	D	1	1	2	72	9
% c a m	24%	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
% v i r a r i n s u e B u M	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
% v i r a r i n s u e C a s s R M	14%	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
% n d n s t a M s	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
% v i r a r i n s u e C a s s R M	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

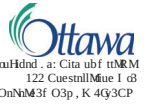
% n d n s t a M s M e d v i r a r i n s u e C a s s R M v L : L n h 3 B : B i g h 3 W W h e F 3 U : U 9 W e



5566814 - COVID - BANK ST @ FIFTH AVE - MAY ... - TMC
 Tue May 3, 20, 00
 AM Peak (May 3, 0, 00 30AM 83 AM:
 A-9-a)e) (l 6L) agh Mt it ndy-e)2o ear y2Pehe)in4g)2c @y-d-e) t g Ht ah2c @y-d-e) t g
 9it)v-a-k:
 A--Mt r eBegi)
 Rwni D 34721 r dai@gmD3) 3. 628645 1641



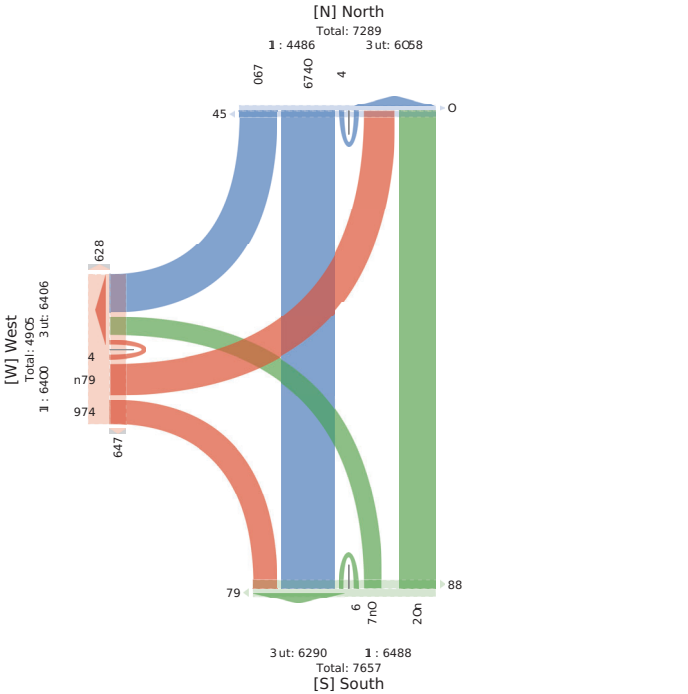
5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 T ue T M y3, 2, ,
 OFH Length (6:42 - T 9L :A2 P T)
 Pll CllMths (Lights Md T utuorarlnc nMh3- ndnstoM3v irarlnc ue BuM3v irarlnc ue
 CusswM6)
 Pll T ufhk nets
 nh : y6y1DE3Lur Mue: 647621D63D47852AD5



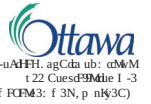
Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
...

* - ndnstoM3 Md v irarlnc ue CusswM6/L: Lnh3B: Bigh3W Whd3U: U9M6e

5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 Mon May 9, 2022
 Full Length (4:30 PM-12:30 AM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on
 Crosswalk)
 All Movements
 ID: 949150, Location: 4. 60154, -5. 6780358

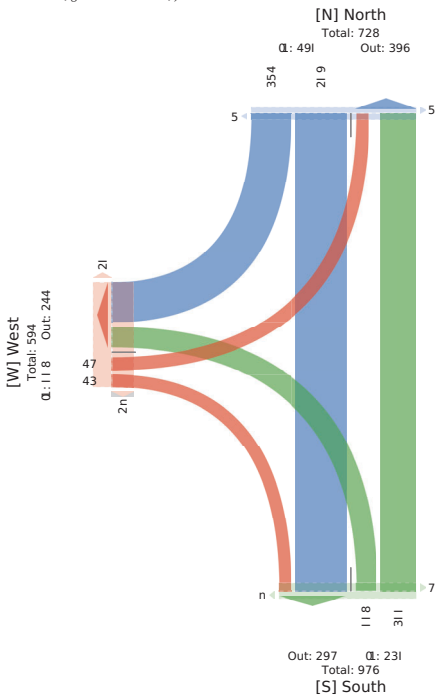
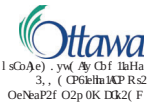


5566814 - COVID - QUEEN ELIZABETH DRWY @ PRI... - TMC
 T ue T M y3, 2, ,
 OT OFM IT M 2y, 2, , ng n0T h (g n OT 6h: AF-MB0FM 1 uP-
 9)CMBs li drs MHT uau-vvS31 FMA30FHScM3BdavS ue RuMBBdavS ue
 CusswM 6
 9)T uAfk Fees
 nh gyDrt 423i uvMthgDrt 4DBhn7 82548



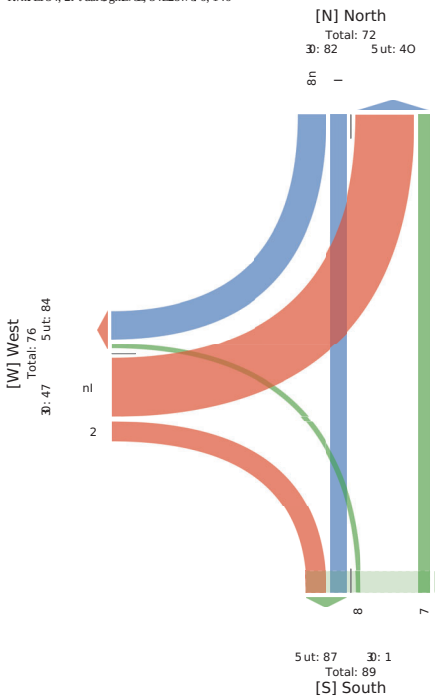
Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln	Ln
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
...

4)FHScM3 MHBdavS ue CusswM 7i gi R3RgRdrcSgSr-P3WgMS-Pe



e- R Aei MCP	OGaB (CuB, CuP)				J CuB (OGB, CuP)				E e6L S a6L CuP)				B P1						
	c	T	W	FNN	e	L	U	FNN	e	L	U	FNN		e	L	U			
0, 00g, Dg, 30w, F M	8	5	,	33	.	5	,	5	.	5	,	5	.	m	3l	,	03	.	5D
30aDF M	m	5	,	1	.	3	,	3	.	0	,	0	.	m	k	,	35	.	00
T CAb	30	7	,	38	.	m	3	,	D	0	,	8	.	07	,	5m	.	D	
* F NNCu3	774*	554*	,	g	.	8, 4*	0, 4*	,	g	.	8	.	054*	174*	,	g	.	g	
* T CAb	03a*	3, 4*	,	534*	.	14*	34*	,	86*	.	3a4*	106*	,	D 6*	.	g	.	g	
1d%	, 4D	, 4l	,	g	.	4k	.	g	.	455	, 4D	.	g	.	41	,	480	.	4nD
: A9EaP) MCC3 yi h6	30	7	,	38	.	m	3	,	D	0	,	8	.	07	,	5m	.	g	
* : A9EaP) MCC3 yi h6	3, *	3, *	,	3, *	.	3, *	3, *	,	3, *	.	3, *	3, *	,	3, *	.	3, *	3, *	.	3, *
d eao y	.	.	,	.	.	.	.	,	.	.	.	.	,	.	.	.	.	.	.
* d eao y	.	.	,	.	.	.	.	,	.	.	.	.	,	.	.	.	.	.	.
r Ayi h6 CP c Ca)	.	.	,	.	.	.	.	,	.	.	.	.	,	.	.	.	.	.	.
* r Ayi h6 CP c Ca)	.	.	,	.	.	.	.	,	.	.	.	.	,	.	.	.	.	.	.
e) e6kAP6	g	g	,	g	.	g	g	,	g	.	g	g	,	g	.	g	g	.	g
* e) e6kAP6	g	g	,	g	.	g	g	,	g	.	g	g	,	g	.	g	g	.	g
r Ayi h6 CP (sCGHalL4)	g	g	,	g	.	g	g	,	g	.	g	g	,	g	.	g	g	.	g
* r Ayi h6 CP (sCGHalL4)	g	g	,	g	.	g	g	,	g	.	g	g	,	g	.	g	g	.	g

l) e) e6kAP6 aP) r Ayi h6 CP (sCGHalL4: w: eh2c w: A9J2T w l 9su2WwM g l usP



Lag l i n e r t u e	Outh J u h t h, u f e d				J u h t h O u t h, u f e d				E n s t S M e, u f e d				m s t				
	B	W	U	P N N	- n d *	W	L	U	P N N	- n d *	B	L		U	P N N	- n d *	
2, 2, 5E D y 6:22-T	D B	A y	2	A y	D	A B	A B	11	2	A B	1 A	6	68	2	D E	y	51 A
D 22-T	4 A	6 y	2	D E	D B	8 4 D	15	2	8 y	A	D	4	42	2	4 4	11 4	1 A 6
8:22-T	6 5	D 21	2	D y	6 6	6 4 y	12	1	6 y 2	, A	11	6 5	2	D y	1 8	1 2 5	
4:22-T	D	6 A 2	1	6 D B	1	6 2 5	5	2	6 1 8	1,	A	1 4	2	2	8 8	5 y	
5:22-T	1 5	A A A	2	A B	1 8	A 4	8	1	A 6 6	1 2	A	1 2	2	1 A	A	4 6 5	
y:22-T	, D	6 6,	1	6 8 5	D	A 2	4	2	A 4	1,	y	.	2	A l	D	5 1 8	
12:22-T	4	, 8,	2	, 8 y	2	1 4 A	,	2	1 4 D	.	A	D	2	5	1 1 3	6 D	
11:22-T	,	1,	1	2	1, A	2	5 A	2	2	5 A	2	.	6	2	8	4	, 1
2, 2, 5E D y 2:22P	1	, y	2	A 2	2	1 y	2	2	1 y	2	2	2	1	2	1	4	D E
% P N N u M h	43%	y, 2%	27%	9	9	y 4 5%	, 7%	27%	9	9	1 D 5%	5 6 7%	2%	9	9	9	
% W u M h	6 2%	6 8 2%	2%	D E 2%	9	6 6 3%	1 2%	2%	6 D y 3%	9	2 2%	A D R	2%	6 7%	9	9	
L i g h t s M d T u n a r a l n s	1 y 6	, 5 2 4	1	A 2,	9	, 4, D	8 2	,	, 4 5 4	9	6,	, 2 4	2	6 y	9	8 2 6	
% L i g h t s M d T u n a r a l n s	4 8 7%	y D E 2%	D E 2%	y A 0 7%	9	y 6 8%	y 8 5%	1 2 2%	y 6 2%	9	1 2 2%	y, 2%	2%	y 6 2%	9	y 6 2%	
% c a M h	2	, 8 4	1	6 5	9	6 4	1	2	6 5	9	2	1	2	1	9	1 1 4	
% c a M h	2%	, 2%	D E 2%	, 7%	9	1 2%	1 2%	2%	1 2%	9	2%	2 6%	2%	2 2%	9	1 5%	
% v i r a l n s u e B u M	8 1	5,	2	1 6 A	9	1 2 y	1	2	1 1 2	9	2	1 D	2	1 D	9	, 8 5	
% v i r a l n s u e B u M	, A y	, 2%	2%	6 2%	9	A 5%	1 2%	2%	A 2%	9	2%	8 2%	2%	D 9%	9	6 7%	
- n d n a s t M s	9	9	9	9	1 y 8	9	9	9	9	5 y	9	9	9	9	9	6 A A	
% - n d n a s t M s	9	9	9	9	y 1 2%	9	9	9	9	y 1 5%	9	9	9	9	9	5 5 2%	
v i r a l n s u e C a u s s R M w	9	9	9	9	1 5	9	9	9	9	9	9	9	9	9	9	D	
% v i r a l n s u e C a u s s R M w	9	9	9	9	5 6%	9	9	9	9	5 2%	9	9	9	9	1, 2%	9	

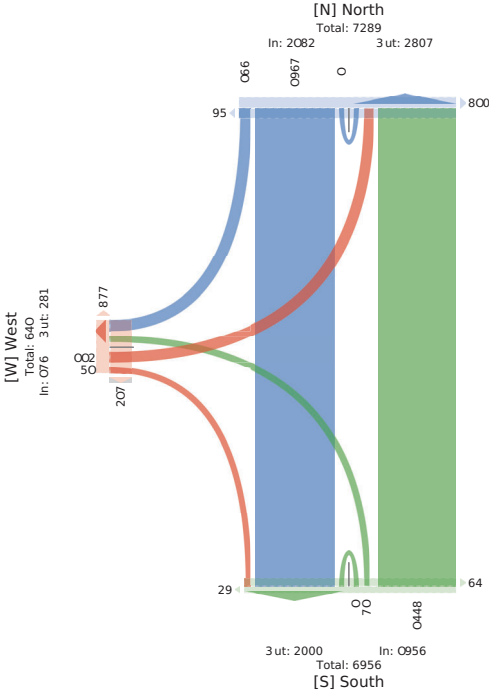
* - n d n a s t M s M d v i r a l n s u e C a u s s R M w L: L n h 3 B: B i g h t 3 W W h d 3 U: U 9 W P e

5566814 - COVID - BANK ST @ AYLMEY AVE - MAY... - TMC

Mon May 9, 2022
 Full Length (4:30 PM-12:30 AM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 95134, Location: 456957, -567841.7

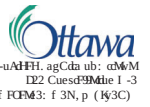


Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 5J9, CA



5566814 - COVID - BANK ST @ AYLMEY AVE - MAY... - TMC

Tue May 3, 20, 00
 0T 0FM IT M 2y, ., ng 20T h (g 2 0T 6h: AF-MB0FM 1 uP-)
 9)C0M6S li dr s MHT uu-vaV531 FMa30H5e0M3Bdav5S ue RuMBBdav5S ue C-usswM 6
) 9T uAK Fees
 n gy(D n43i uvMhgn 7 y(83h(75nD48



0-uAHH, agGda ul: uMm
 F22 CuesE3Mte 1-3
 f FCM3: f 3N, p (H3C)

Sd F	f u-r				f u-r				f u-r				f u-r				
	R	S	W	OO	R	S	W	OO	R	S	W	OO	R	S	W	OO	
2, ., h(ly ng 20T	.4	D	2	Dy	D	D	(	2	D	4	D	(	(	2	,	8	nt
ng(OT	.y	D	2	Dy	D	D	8	2	D	4	D	(	2	,	8	nt	194
(g20T	D	2	D	D	D	D	2	D	D	4	D	(	2	,	8	nt	194
(g20T	.y	D	2	Dy	D	D	(	2	D	4	D	(	2	,	8	nt	194
SuM	D	2	858	(	422	(	2	4	D	2	y	5	2	yn	D	1	2
*) 0uM	D	2	2	h	y4D	2	2	h	y2	2	2	2	h	h	h	h	h
* SuM	D	2	2	n2	88	2	2	n2	2	2	2	2	8	2	2	2	h
01 %	2	2	2	h	2	2	2	h	2	2	2	2	2	2	2	2	h
1 drcs MHT uu-vaV5	8,	(	4	2	8D	h	88	(	2	2	858	h	y	4	2	55	h
* 1 drcs MHT uu-vaV5	8D	y(	2	2	y2	h	y(2	2	2	y(2	h	2	2	2	2	2	h
1 FMa	2	D	2	D	h	4	2	2	4	h	2	2	2	2	2	h	2
* 1 FMa	2	2	2	2	D	h	D	2	2	2	D	h	2	2	2	2	h
Bdav5S ue RuM	1	y	2	2	(	n	h	5	2	2	2	5	h	2	8	2	8
* Bdav5S ue RuM	1	5	2	2	4	h	n	2	2	2	2	5	h	2	4	2	8
0H5e0M3	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h
* 0H5e0M3	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h
Bdav5S ue C-usswM	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h
* Bdav5S ue C-usswM	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h

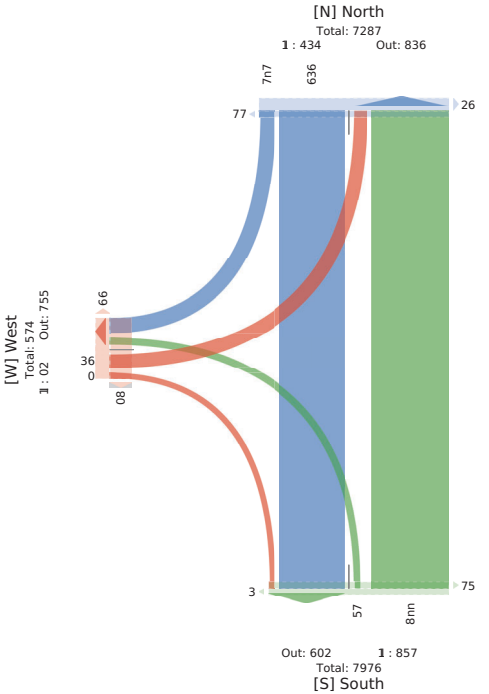
4)H5e0M3 MHBdav5S ue C-usswM 7i gi R3RgRbrC5SGr-P3W6W6P-e

5566814 - COVID - BANK ST @ AYLMEY AVE - MAY... - TMC

Mon May 9, 2022
 PM Peak (May 09 2022 5-60PM) 060 PMv) r 1 ehuPeak AoCh
 s uLuniei (gt ddi anBMoonRyRei, AeaL y, Pekeidn, wRyRei on moaB wRyRei on
 LHii auk
 : s uMol eDend
 : 4-901653, goRdn-5069CF,)30785137

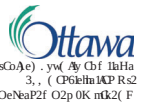


PHo H6By- Lty of r and a
 100 Lontusdn 4 H
 Nepean, r N, K2G 0P9, Ls



5566814 - COVID - BANK ST @ AYLMEY AVE - MAY... - TMC

Tue May 3, 20, 00
 FM 1 eaLrMay 3, 0, 00 30FM g3 FMt
 Fh(h66e6 tr A96aP) MCC3iyi h62d eaoy2l e) e6kAP2r Ayi h6CP c G) 2r Ayi h6CP
 (sCGHHL
 FhM CDev eP6
 RkwnB D42: G a1CPvDn k82gim85D348



1 sG) e) yw Ay Chf h6a
 3, (CP6kHAP R P 2
 OeNaP2 O2P 0K nK2(F

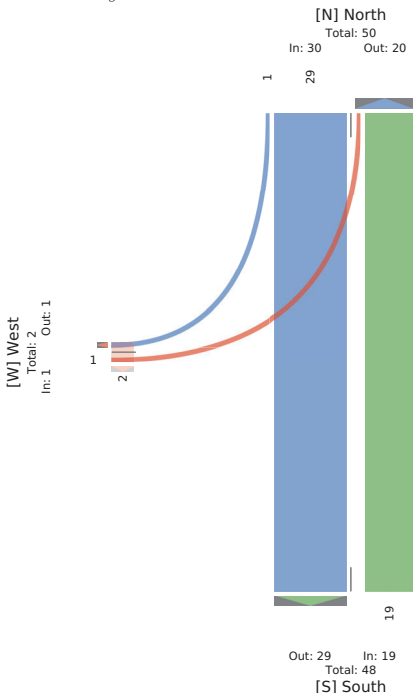
TAX e	OCAB				J CuB				E e6i				Bri
	c	T	W	FNN	T	W	FNN	c	W	FNN	W		
0, 00g mg, 30v, FM	3	38	34		k		k					06	
30ntrM	3	31	31		3		3		3		3	00	
TCh	3	0k	1		3k		3k		3		3	0	
* FNCa9	1	1	1		g		g		g		g	g	
* TCh	0	1	1		15		15		15		15	02	
1 d %	3	3	3		3		3		3		3	3	
: A96aP) MCC3iyi h6	3	08	04		34		34		3		3	3	
* : A96aP) MCC3iyi h6	3	5k	5k		5k		5k		3		3	5k	
d eaoy	0	0	0		0		0		0		0	0	
* d eaoy	0	8k	8k		3		3		3		3	52	
r Ayi h6CP c G)	3	3	3		3		3		3		3	3	
* r Ayi h6CP c G)	3	1	1		3		3		3		3	02	
1 e) e6kAP	g	g	g		g		g		g		g	g	
* 1 e) e6kAP	g	g	g		g		g		g		g	g	
r Ayi h6CP (sCGHHL	g	g	g		g		g		g		g	g	
* r Ayi h6CP (sCGHHL	g	g	g		g		g		g		g	g	

4) e) e6kAP a) r Ayi h6CP (sCGHHL: w e h2c w c A92Twt9s2WwWjTusP

5566814 - COVID - BANK ST @ AYLMER AVE - MAY... - TMC
 Tue May 3, 20, 00
 AM Peak (May 3, 0, 00 30AM 83 AM:
 A-9-a) (l 6L) agh Mt it ndy-e)2o ear y2Pehe)in(ig)2c (y-d-e) t g Ht ah2c (y-d-e) t g
 9t)t v a:k:
 A-Mt r eB(eg)
 Rwn D847521 r dai@g dn7D41 D628D617356



5566814 - COVID - BANK ST @ ECHO DR - MAY 09... - TMC
 Tue May 3, 20, 00
 AM Peak (May 3, 0, 00 30AM 83 AM:
 A-9-a) (l 6L) agh Mt it ndy-e)2o ear y2Pehe)in(ig)2c (y-d-e) t g Ht ah2c (y-d-e) t g
 9t)t v a:k:
 A-Mt r eB(eg)
 Rwn D847521 r dai@g dn7D41 D628D617356

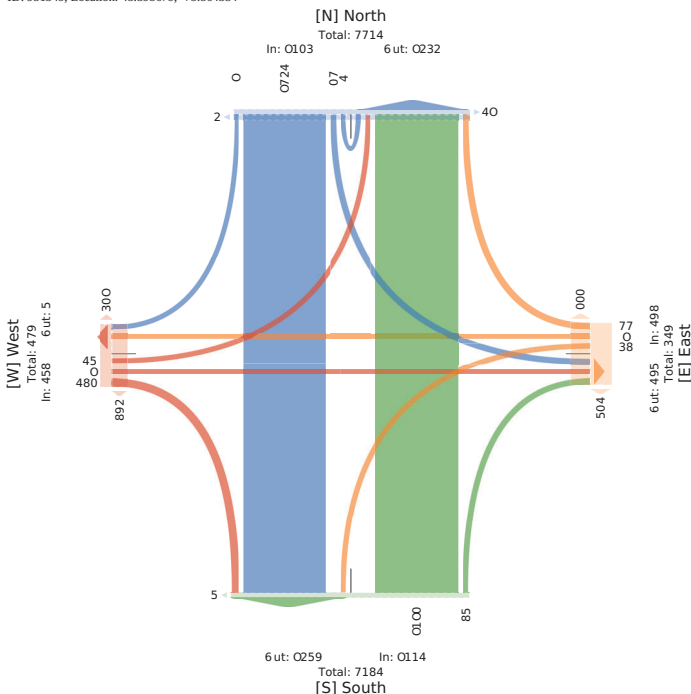
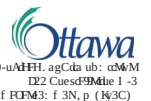


[W] West
 Total: 2
 In: 1 Out: 1

5566814 - COVID - BANK ST @ ECHO DR - MAY 09... - TMC
 Mon May 9, 2022
 Full Length (4:30 PM-12:30 AM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 951349, Location: 45.395679, -75.864334



5566814 - COVID - BANK ST @ ECHO DR - MAY 09... - TMC
 Tue May 3, 20, 00
 AM Peak (May 3, 0, 00 30AM 83 AM:
 A-9-a) (l 6L) agh Mt it ndy-e)2o ear y2Pehe)in(ig)2c (y-d-e) t g Ht ah2c (y-d-e) t g
 9t)t v a:k:
 A-Mt r eB(eg)
 Rwn D847521 r dai@g dn7D41 D628D617356



[W] West
 Total: 479
 In: 458 Out: 5

[E] East
 Total: 498
 In: 498 Out: 349

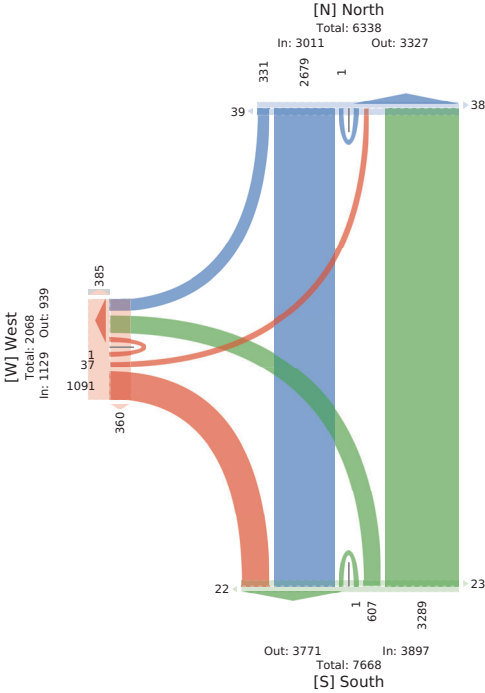
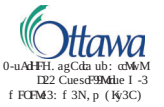
Leg	Direction	Phase	Start	End	Duration	Phase	Start	End	Duration	Phase	Start	End	Duration
1	North	1	00:00	00:15	15s	2	00:15	00:30	15s	3	00:30	00:45	15s
2	South	1	00:00	00:15	15s	2	00:15	00:30	15s	3	00:30	00:45	15s

* - nndstMs M d v ir ar ins ue CussRMwL: Lnk3B: Bigh3W VndF3U: U9Wfoc

5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Mon May 9, 2022
 Full Length (4:30 PM-12:30 AM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 95135, Location: 45697772, -75B: 5405



5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Tue May 3, 20, 00
 0T 0FM 1T M 2y, 2, ng 20T h (g 2 0T 6h: AF-MB0FM 1 uP-)
 9)C6M6S li drs MHT uau-vav9S1 FMa30HfScdM4S3Bdav9S ue RuMBBdav9S ue C-usswM 6
 9)T uAk Fecs
 n8 gy(D (43i uvM4egni 7y888, 316(75d n2(

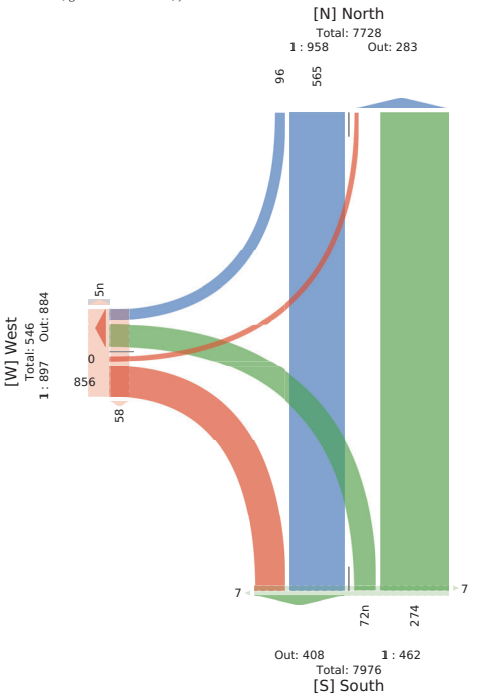


Sd F	f u-o				f u-o				f u-o				f u-o					
	R	S	W	OD	R	S	W	OD	R	S	W	OD	R	S	W	OD		
2, , h(hly ng 20T	D	D	2	D	D	n4	2	22	((	D	2	(5	..	..	..	..
ng(OT	D	D	2	D	D	..	2	D	..	..	..	..	..	..	..	..
g(OT	D	D	2	D	D	..	2	D	..	..	..	..	..	..	..	..
g(OT	D	D	2	D	D	..	2	D	..	..	..	..	..	..	..	..
SuM	(4	n4	2	(n	2	5D	D	2	845	
*) O4uM	D	2*	4y2*	2*	h	847*	D	2*	h	h	y42*	D	2*	h	h	h	h	
*) SuM	1*	2*	2*	1a2*	h	1y2*	D	2*	ny2*	h	1*	2*	2*	h	h	h	h	
01%	2*	n	278n	h	27y	h	275(2782	h	2755	h	278D	27*	2*	h	274*	h	275
i drs MHT uau-vav9S	(5	m2	2	ny5	h	(5	D	2	8*	h	h	
* i drs MHT uau-vav9S	y55*	y23*	2*	y42*	h	yD*	y42*	2*	y2*	h	y	2*	2*	h	y	2*	h	
i FMa	2	D	2	D	h	y	D	2	D	h	2	2	2	h	
* i FMa	2*	1*	2*	1*	h	D	2*	2*	D	h	2*	2*	2*	h	
Bdav9S ue RuM	h	h	h	
* Bdav9S ue RuM	1*	2*	2*	1*	h	5*	D	2*	5*	h	87*	2*	2*	h	87*	h	87*	
OHECdB	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h		
OHECdB	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h		
Bdav9S ue C-usswM	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h		
* Bdav9S ue C-usswM	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h		

5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Mon May 9, 2022
 PM Peak (May 09 2022 5-60PM) O60 PMV) r l ehuPeak AoCH
 s uLuniei (gt ddi anBMoonRyRei, AeaLy, Pekeidnini, wlyRei on moaB wlyRei on
 LHii i auk
 : s uMol eDend
 : 4-9016CB, goRdn- 50697772, 7083C500



5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC
 Tue May 3, 20, 00
 F M 1 eaLnMay 3, 0, 00 30F M g3 F Mt
 Fh(h66e6 tr A916 aP) MCC3i yi h62 eaoy2l e)e6kAP2r Ayi h6 CP c Ca) 2r Ayi h6 CP
 (sCGHhL
 F hM CDev eP6
 Rk wkn8 n12: G a1CPw4n1 k88802gim5Dn1, m



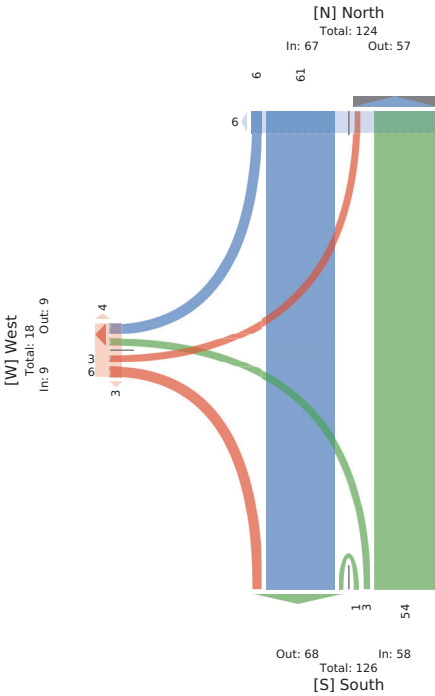
TAX e	OGB (CuB: CuP)				GUB (CuB: CuP)				E est Safet CuP)			
	c	T	W	FNN	T	W	FNN	c	W	FNN	le)U	
0, 00g ng5, 30w, F M	4	0	..	08	1	m	1	3	1	k	..	..
30anF M	0	1	D	..	4	5	3k	..	..	..	..	..
TCh	5	53	..	58	5	..	..	..	..	..	..	..
* F NGA9	k2*	k3*	..	..	g	k2*	..	..	g	558*	111*	..
* TCh	4tr	4tr	..	..	m	3*	..	..	41*	4tr	02*	..
14%	..	..	..	..	..	..	..	..	..	..	..	..
: A916 aP) MCC3i yi h6	5	m	..	50	g	n	1	3	mm	g	5	..
* : A916 aP) MCC3i yi h6	3,*	k3D*	..	..	g	k42*	3,*	3,*	k4D*	g	3,*	117*
d eaoy	..	..	..	..	g	0	..	..	g	..	..	..
* d eaoy	..	4k*	..	..	g	12*	..	..	g	12*	..	..
r Ayi h6 CP c Ca)	..	0	..	..	g	3	..	..	g	0	..	..
* r Ayi h6 CP c Ca)	..	1*	..	..	g	3k*	..	..	g	558*	..	000*
e) e6kAP6	g	g	g	g	g	5	g	g	g	g	g	g
e) e6kAP6	g	g	g	g	g	3,*	g	g	g	g	g	g
r Ayi h6 CP (sCGHhL	g	g	g	g	g	g	g	g	g	g	g	g
* r Ayi h6 CP (sCGHhL	g	g	g	g	g	g	g	g	g	g	g	g

5566814 - COVID - BANK ST @ WILTON CRES - MA... - TMC

Tue May 3, 20, 00
 AM Peak (May 3, 0, 00 30AM 83 AM:
 A-9-a)e) (l 6L) agh Mt it ndy-e)2o ear y2Pehe)in(ig)2c (yde-e) t g Ht ah2c (yde-e) t g
 9rt)v a-k:
 A-Mt r eBegi)
 Rwni D34D72l t dai(gn5D4l 666028D17D5, D



Pr r d'eh bynD Qy Tf Oliav a
 3, , 9t g)ie-aif g wri
 Nepeag2ON2K0G DJI 29 A



5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC

Tue M y3, 2, ,
 0FH Lnegh (6:A2 - T 9L :A2 P T)
 Pll CIMegs (Lights Md T utuarInS3c nMh3- ndnstoiM3svirInS ue BuM3virInS ue
 CusswM)6
 Pll T uHh nets
 nh : yDIA13Lur Mue: 6D7y62A3BDD5418



- auHhdid : a Cita ub f nM
 122 CuesnallMue 1 6
 OnNm3f O3p, K D33CP

Lag I Intrdue	Quoth EuRth. uFed				JMc S st. uFed				EuRth Quoth. uFed				mt			
	W	L	U	PNN	B	L	U	PNN	B	W	U	PNN				
.2, , 9Ddy 6:22-T	A26	A	2	A28	.1	DD	1	2	DD	186	4	,A6	2	,66	y	428
D22-T	D42	.	2	D6	A	1,6	2	2	1,6	698	1y	DEI	2	D2	11	1,24
4:22-T	686	1	2	68D	2	152	2	2	152	566	62	DEI	2	D1	18	1194
8:22-T	65.	D	2	658	1	,2y	A	2	,1	441	9y	616	2	6DA	1	11D
5:22-T	648	2	2	648	6	54	A	1	y2	A26	11	AW	2	A6y	1A	584
y:22-T	AU5	2	2	AU5	6	y4	D	2	121	11A	16	A24	2	A2	6	8Ay
12:22-T	A81	2	2	A81	2	1DD	D	2	142	515	,y	A66	1	616	8	y6D
11:22-T	154	2	2	154	2	8.	.	2	86	44	12	,1A	2	,,A	A	65A
.2, , 9Ddy 21, 22PT	42	2	2	42	6	,4	1	2	,8	..	4	DD	1	4.	1	16y
% PNNaMh	y28%	278%	2%	9	y83%	,2%	27%	9	9	D3%	y63%	27%	9	9	9	8DA
% VnaMh	6A0%	27%	2%	6A0%	9	1A2%	27%	2%	1A3%	9	,3%	627%	2%	6,20%	9	9
Lights Md T utuarInS	A2, y	4	2	A2D	9	y5,	2	1	122A	9	182	,844	1	,yA8	9	4y8D
% Lights Md T utuarInS	y63%	DE3%	2%	y63%	9	y83%	122%	122%	y83%	9	y83%	yA5%	DE2%	y62%	9	y63%
% c nMh	8A	2	2	8A	9	6	2	2	6	9	2	IS	2	IS	9	1D
% c nMh	,28%	2%	2%	,28%	9	28%	2%	2%	28%	9	2%	,2%	2%	13%	9	13%
virarInS ue BuM	y2	D	2	yD	9	18	2	2	18	9	6	1,4	1	1A1	9	,6A
% virarInS ue BuM	,25%	6D3%	2%	A2%	9	13%	2%	2%	13%	9	,2%	67%	DE2%	62%	9	A2%
% ndnstoiM3	9	9	9	14	9	9	9	9	9	AQ2	9	9	9	9	9	88
% ndnstoiM3	9	9	9	9	9	9	9	9	9	yyD3%	9	9	9	9	9	122%
virarInS ue CusswM	9	9	9	9	9	9	9	9	9	1y	9	9	9	9	9	2
% virarInS ue CusswM	9	9	9	9	9	9	9	9	9	2D3%	9	9	9	9	9	2%

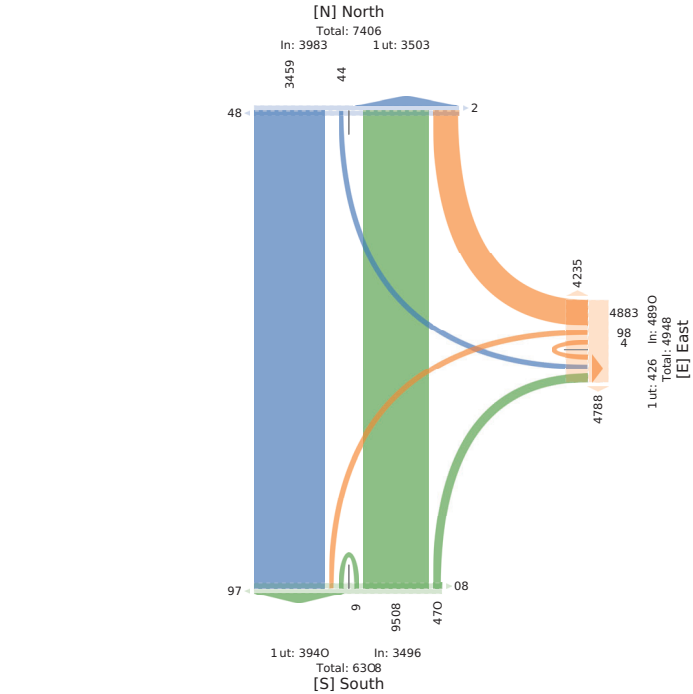
* ndnstoiM3 Md virarInS ue CusswM7L: Lnh3B: Bigh3W WhdF3U: U9Mf6e

5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC

Mon May 9, 2022
 Full Length (4:30 PM-12:30 AM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on
 Crosswalk)
 All Movements
 ID: 9513. 1, Location: 45699403, -756 8. 17

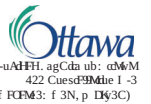


Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 5J9, CA



5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC

Tue M y3, 2, ,
 0T 0FM IT M 2y, 2, , ng 20T h (g 2 0T 6h: AF-MB0FM 1 uP-
 9)C9M3s li dr s MHT uau-vaV3S1 FMA30FHScM3BdavaS ue RuMBBdavaS ue
 C-usswM 6
 9)T uAfk Fees
 nh gyDit n43i uvMtheg7Dl yy72t 3f (Dh5n4(

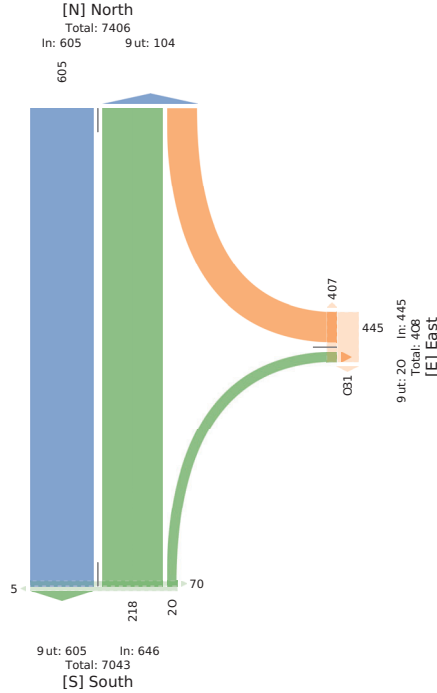


0-uAHFH, ag Cda ub: nM
 422 CuesnallMue 1-3
 f FCM3: f 3N, p D33(C)

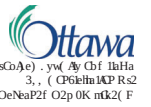
I fo I d fVnde	F u-a FuPr. uPeH				CMc E Fic. uPeH				F u-a F u-a. uPeH				mc			
	S	i	W	) OD	R	i	W	) OD	R	S	W	) OD				
.2, , hDdy ng 20T	472	2	2	472	2	D	2	2	D	4	4,	2	4,	1	D	
ng 0T	444	2	2	444	2	D	2	2	D	14	4,	4,	2	477	147	
(g 20T	447	2	2	447	2	D	2	2	D	14	4,	4,	2	4D	5	
(g 0T	45	2	2	45	2	IS	2	2	IS	49y	42	427	2	447	4	
SuMh	D2	2	2	D2	2	,1	2	2	,,1	555	76	7y	2	D D	4	
*) ODuM	422	2*	2*	422	2*	h	h	h	422	2*	2*	h	h	58*	y48*	2*
* SuMh	728	2*	2*	728	2*	4(6*	2*	2*	4(6*	h	18*	158*	2*	7,8*	h	h
01%	28yn	h	h	28yn	h	28D	h	h	28D	h	28y5	28y2	h	28y7	h	28(4
i dr s MHT uau-vaV3S	754	2	2	754	2	,4	2	2	,,4	h	7D	7D	2	7yD	h	44(
* i dr s MHT uau-vaV3S	yDh*	2*	2*	yDh*	h	yy8h*	2*	2*	yy8h*	h	y(6*	yt8*	2*	y78*	h	yDh*
1 FMa	42	2	2	42	h	2	2	2	2	h	2	y	2	y	h	4y
* 1 FMa	,8*	2*	2*	,8*	h	2*	2*	2*	2*	h	2*	48*	2*	48*	h	487
BdavaS ue RuM	4,	2	2	4,	h	,	2	2	,	h	4	,2	2	4	h	1D
* BdavaS ue RuM	,8*	2*	2*	,8*	h	28*	2*	2*	28*	h	,8*	78*	2*	78*	h	,8*
0)FScM3	h	h	h	h	h	h	h	h	h	55h	h	h	h	h	h	4h
0)FScM3	h	h	h	h	h	h	h	h	h	yy8h*	h	h	h	h	h	422*
BdavaS ue CusswM	h	h	h	h	h	h	h	h	h	D	h	h	h	h	h	2
* BdavaS ue CusswM	h	h	h	h	h	h	h	h	h	28*	h	h	h	h	h	2*

0)FScM3 MhBdavaS ue C-usswM 8i gi R3RgRdr cSgSr -P3WgMS P-e

5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Mon May 3, 2022
 PM Peak (May 09 2022 5-60PM) O60 PMV) r l eia uPeak AoCh
 s uLuniei (glt ddi anBMoortRyRei, AeaLy, PeReidnini, wRyRei on moaB wRyRei on
 LHii1 aukv
 s uMol eDend
 :4 - 913653, goRdon- .17699.06,)OI58530



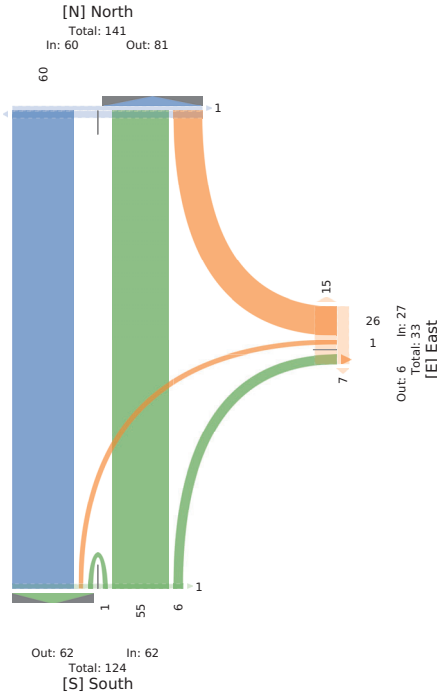
5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Tue May 3, 20, 00
 FM Peak (May 3, 0, 00 30F M g3 FMt
 Fh(h666tr A9B aP) MCCSi yi h62d eaoy2l e) e6kAPG2r Ayi h6CP c Ca) 2r Ayi h6CP
 (sCGHalL7
 FihMCoev eP6E
 RkwnBf D2: G a1CPw4mfl k4, 12gimL5D38



[-e- RAei MCP	OGaB EGaB, CuP)	Jast S e6i CuP)	ECaB OGaB, CuP)		
TAX e	T : W FNN l e)U	c : W FNN l e)U	c T W FNN l e)U	P1	
0, 00g ngB, 30w, FM	11 , , , 11	35 , , , 35	4 18 3 40 3	0, , , 0, , ,	kl
30aof M	08 , , , 08	1 5 3 , , k	0 35 , , 0, , ,		nd
TChk	0 , , , 0	4 00 3 , , 08	00 D nm 3 00 3		34k
* FNNCaI9	3, , , * , * , * g	kM+ 1 B+ , * , * g	kB+ 55B+ 34P	g	g
* TChk	4, 3, , * , * , * 4, 1*	303+ , 3+ , * 35P*	42* 118* , 3+*	43P*	g
L4%	, 20B g g , 20B	, 21B , 20g , * , 18m	, 28m , 25D g , 25m	g	, 255
* A9EaP) MCCSi yi h6	nd , , , nd	00 3 , , 08	D 45 , , nd	g	398
* : A9EaP) MCCSi yi h6	kl 1* , * , * , * kl 1*	g 3, , * 3, , * , * 3, , *	g 3, , * 581* , * , * 583*	g	k33*
d eaoy	1 , , , 1	g , , , g	g , , , 1	g	I g D
* d eaoy	nd* , * , * , * nd*	g , * , * , * , * g	g , * , * , * , * 45*	g	42*
r Ayi h6CP c Ca)	3 , , , 3	g , , , g	g , 4 3 3 m	g	D
* r Ayi h6CP c Ca)	3B* , * , * , * 3B*	g , * , * , * , * g	g , * 81* 3, , * 5B*	g	47*
l e) e6kAPG	g g g g 4	g g g g 00	g g g g 3	g	3
l e) e6kAPG	g g g g 3, *	g g g g 3, *	g g g g 3, *	g	g
r Ayi h6CP (sCGHalL7	g g g g , *	g g g g , *	g g g g , *	g	g
* r Ayi h6CP (sCGHalL7	g g g g , *	g g g g , *	g g g g , *	g	g

l e) e6kAPG aP) r Ayi h6CP (sCGHalL7: w: eb2c w A92Twt9su2WwWgtusP

5566814 - COVID - BANK ST @ MARCHE WAY - MAY... - TMC
 Tue May 3, 20, 00
 AM Peak (May 3, 0, 00 30AM 83 AM:
 A-- 9-a))e (l 6L) agh Mt it ndyde)2o ear y2Pehe)inf6g)2c @yde) t g Ht ah2c @yde) t g
 9 ut)v a-k:
 A-- Mt r eBegi)
 Rwnf D347321 t dai@gn5D4115, 4286D71736



5566814 - COVID - BANK ST @ HOLMWOOD AVE - M... - TMC
 Tue T M y3, 2, .
 OFH Length (6:A2 - T 9L - aT PT)
 P11 CIMoss (Lights Md T unarlns3c nM3- ndnstaM3v irarlns ue BuM3v irarlns ue CaussRnM3)
 P11 T uHk nets
 r h yDI A463Lur Mue: 6D7y8y435fD84D4A



Lang l ieritue	Quoth EuF6, ufed	J Mo S mt, ufed	EuF6 Quoth, ufed	S no J Mo, ufed	
Wk n	B W L U PNN -nd*	B W L U PNN -nd*	B W L U PNN -nd*	B W L U PNN -nd*	an
, 2, 908y622-T	14 52 5 2 , yA	0y 2 2 2 2 2 18A	AD , AB AI 2 A06 82	AI 11 11 2 DA 03	402
1222-T	AA 18A , 6 2 422 138	1 , , , 2 D 691	54 688 DE 2 416 142	6A , D AB 2 12, , 2	1A 1
422-T	6 6ty AB 2 655 AA	, 6 2 2 4 508	128 13y 6A 1 441 12	46 A, A2 2 1,4 , 61	1,52
522-T	A2 AHA AI 2 6, 6	1y 1 2 2 2 1 444	111 65D 6D 2 4A 22	85 A AI 2 102 , 61	1,24
822-T	, , Apy , 1 A 66D 42	1 1 2 2 2 , A2	AD AB, 16 2 6, 1 11A	AI y 12 2 DE 80	y18
y22-T	, A , yA , 8 2 A66 65	2 1 2 2 1 , A	AA A62 , , 2 AyD 44	AI 12 14 2 DE 54	5y5
1222-T	AB AA , 4 2 62, 104	2 , , 2 2 , 803	, y 6, A 65 2 6yy 12	AI y AB 2 58 , 3	y61
1122-T	11 15y 5 1 198 , y	2 2 2 2 2 2 5A	D 13y , 6 2 88 , 5	y D , 2 A 61	D2
, 2, 908y21, 229P-T	, DD , 2 Dy , y	2 2 2 2 2 2 , 2	, SA D , B ,	A 2 A 2 4 4	165
WkM	15y , 8Dy 182 6 A 6, 8ED	D 12 , 2 15 A10	6/A A55 , 81 A AByD 1103	AA 1AA 1yD 2 40R 1,42	581
% PNNMts	47% 887 % 13% 23%	9 % y87% DE8% 113% 2%	9 117% 812% 51% 23%	9 9DE% , 27% , y2% 2%	9 3 9
% WkM	13% A78% , 38% 23% 612%	9 23% 23% 2% 2% 21%	9 130% 625% A9% 2% 6y3%	9 62% 15% , 13% 2% 80%	9 3
Lights Md T unarlns	150 , 521 158 6 A55	9 2 2 2 2 2 2	612 A64 , 55 A A6M	9 A8B 11A 1y1 2 4 ,	564k
% Lights Md T unarlns	y53% y63% y87% 122% y63%	9 2% 2% 2% 2% 2%	9 y63% y13% y87% 122% y13%	9 y40% 80% y53% y63%	y13%
c nM3	2 5D 2 2 2 5D	9 1 2 2 2 1 9	2 DD 1 2 Dk 9	, 2 , 2 6 9	1M
% c nM3	2% , 2% 2% 2% 2%	9 22% 2% 2% 2% 19%	9 2% 15% 28% 2% 15%	9 23% , 2% 12% 2% 2%	9 15%
% v irarlns ue BuM3	D BA , 2 y2 9 6 12 2 14 9	, 6 54 A 2 12A	9 12 , 2 2 A 9	9 12 , 2 2 A 9	61
% v irarlns ue BuM3	13% , 3% 17% 2% , 20%	9 822% 122% 122% 2% y63%	9 DD% , 30% 17% 2% , 2%	9 82% 102% 12% 2% 63%	9 83%
% ndnstaM3	9 9 9 9 9 86A	9 9 9 9 9 A8B	9 9 9 9 9 11AC	9 9 9 9 9 1,6	
% ndnstaM3	9 9 9 9 9 y32%	9 9 9 9 9 y3y2%	9 9 9 9 9 y87%	9 9 9 9 9 y87%	9
% v irarlns ue CaussRnM3	9 9 9 9 9 1, 9	9 9 9 9 9 4	9 9 9 9 9 11	9 9 9 9 9 11	
% v irarlns ue CaussRnM3	9 9 9 9 9 13%	9 9 9 9 9 27%	9 9 9 9 9 13%	9 9 9 9 9 13%	

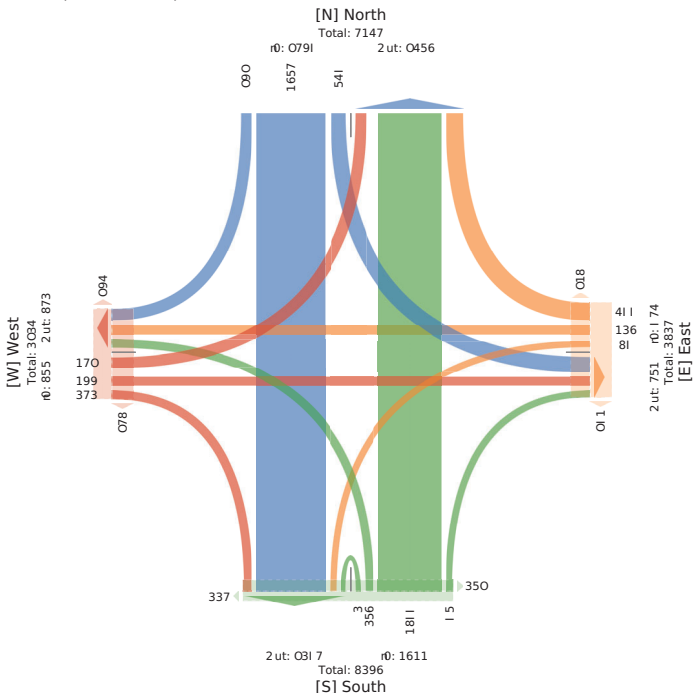
* ndnstaM3 Md v irarlns ue CaussRnM3L: Lht3B: Bight3W VhtF3U: U9WFe

5566814 - COVID - BANK ST @ SUNNYSIDE AVE - ... - TMC

Mon May 9, 2022
 Full Length (4:30 PM-12:30 AM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 9513.1, Location: 45694291, - 56783409

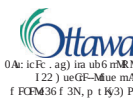


Provided by: City of Ottawa
 100 Constellation Dr,
 Nepean, ON, K2G 5J9, CA



5566814 - COVID - BANK ST @ SUNNYSIDE AVE - ... - TMC

Tue May 3, 2020
 OT OFM IT M 2y, 2, , ngt OT ht gr OT (h6: FM4-OFM 9 ut1A
 P -)-MCCICs idorCMc T unuAhHFC9 FMa30R:FGAMCv ihHFCue BuM3v ihHFCue
 AUCRM ()
 P - T ut: FwFc
 lngyrt I D1 3s utMmngtj Dn, y1 3ht 75Dz2y



0Ar: ic Rc. ag) lra ub6 nMRM
 122) ucFG6-Mue mR9
 f FCM36 F 3N, p t h3) P

Phase	Phase Name	Phase Color	Phase Length	Phase Offset	Phase Priority	Phase Type	Phase Control	Phase Status
1	North	Blue	14.5	0.0	1	1	1	1
2	South	Green	14.5	0.0	1	1	1	1
3	West	Red	14.5	0.0	1	1	1	1
4	East	Orange	14.5	0.0	1	1	1	1

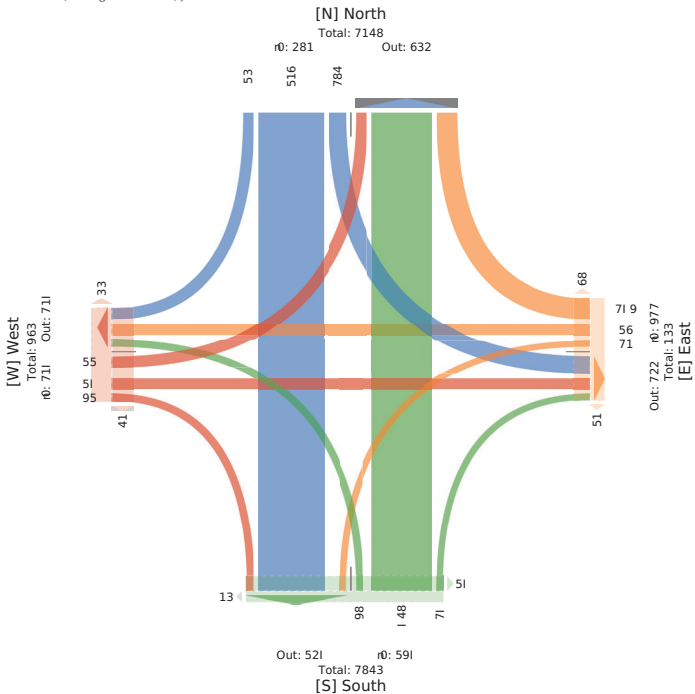
0)R:FGAMCMe v iHhFCue) AUCRM 7s gs Fb3BgBidor3Sgs0A3VgW61A

5566814 - COVID - BANK ST @ SUNNYSIDE AVE - ... - TMC

Mon May 9, 2022
 PM Peak (May 09 2022 5-56PM) 6-56 PMO) v r el a H Peak u o a l
 CHS H i L L e L (i g h t d. a n c M o d l B y B u l , u e a r y , P e c e l d i n g , R g B u l L o n w o a c , R g B u l L o n w o a c)
 s l o L i m a i t O
 C H M o r e e n d .
 D - 964134, i o B d p n - 56.195294, j36.781509

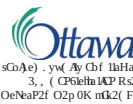


Plor g e c b y - s g i o f v d h m a
 400 s o n l e h B d p n : 1,
 Nepean, v N, K2G 6J9, s C



5566814 - COVID - BANK ST @ SUNNYSIDE AVE - ... - TMC

Tue May 3, 2020
 FM 1 e a L M 3, 0, 00 30F M g 3 F Mt
 F h (h 6 e 6 n A 9 E a P) M C C I s y i h e 2 d e a o y 2 l e) e 6 k A P 2 r A y i h e 6 P c C a) 2 r A y i h e 6 P
 (s C B H a L L)
 F h M C o e v e P E
 R r k n B 1 D B 2 : C l a M P w 4 m l k 4 0 k 3 2 g J n B 5 1 4 , k

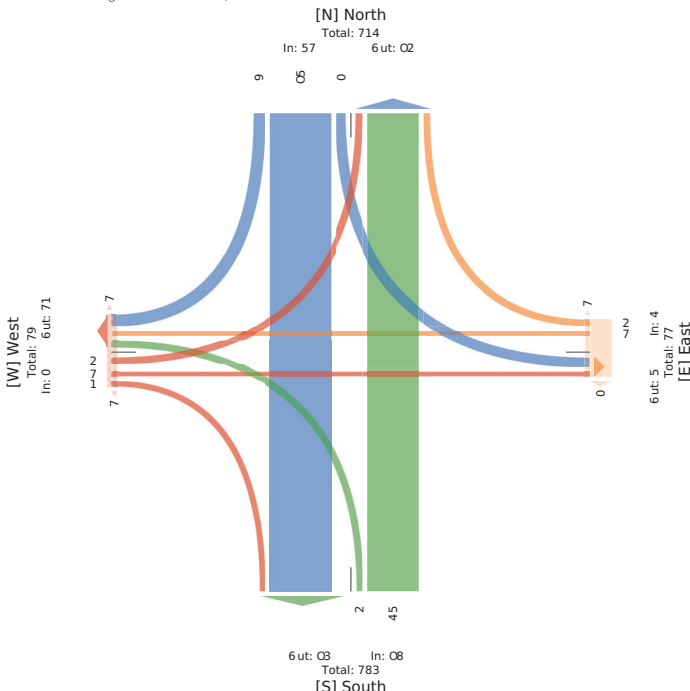


1 s C a) e) y w A y C h l h h a
 3 , (C P G k e h i A P R s 2
 O e N a P 2 P 0 2 K n f k 2 (F

Phase	Phase Name	Phase Color	Phase Length	Phase Offset	Phase Priority	Phase Type	Phase Control	Phase Status
1	North	Blue	14.5	0.0	1	1	1	1
2	South	Green	14.5	0.0	1	1	1	1
3	West	Red	14.5	0.0	1	1	1	1
4	East	Orange	14.5	0.0	1	1	1	1

1) e) e6kA P6 a P) r Ay i h e 6 P (s C B H a L L : w e h 2 c v e A 9 E 2 T W T 9 s 2 W a W J u s P

5566814 - COVID - BANK ST @ SUNNYSIDE AVE - ... - TMC
 Tue May 3, 20, 00
 AM Peak (May 3, 0, 00 30AM 83 AM:
 A-9-a) (l 6L) agh Mt it ndy-e) 2o ear y2Pehe) in f g) 2c d yd-e) t g Ht ah2c d yd-e) t g
 9 it) v a-k:
 A- Mt r eBegi)
 Rwnl D347321 t dai@gm5D415013287D6145,1



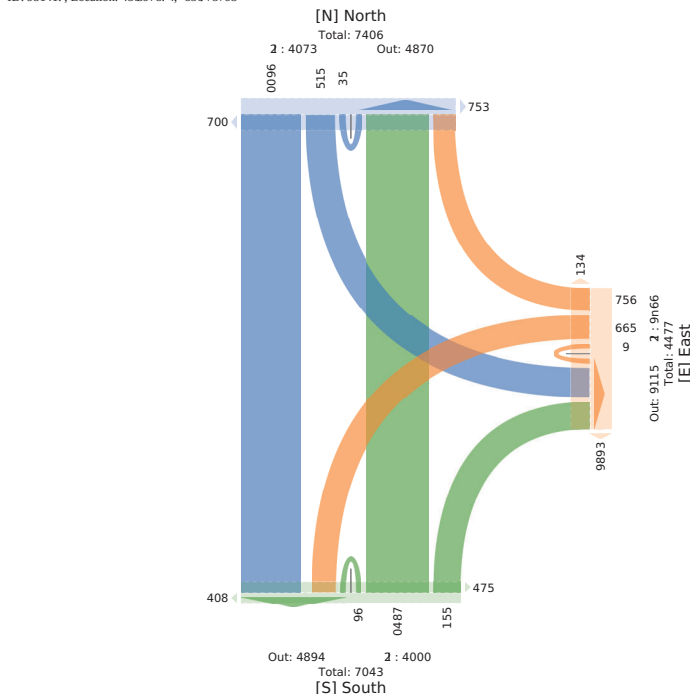
5566814 - COVID - BANK ST @ EXHIBITION WAY - ... - TMC
 Tue May 3, 20, 00
 OFI Length (6: A2 - T 9L : A2 P T)
 PII CILMghs (Lights Md T utuorarl ns3c nMh3- ndnstoiM3v irarl ns ue BuM3v irarl ns ue
 CausRm))
 PII T uHh nets
 rh : yDl6143Lur Mue: 6Dy854635D88DyA



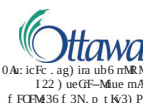
Lag I Intrdue	Outh Eufh. ufed					JMt S st. uFed					Eufh Outh. ufed				
	W	L	U	PNN	-nd*	B	L	U	PNN	-nd*	B	W	U	PNN	-nd*
2, ., 9D3y 6:22-T	.25	84	.	.yD	5,	Ag	41	2	122	113	y2	.18	1	Ay	At
D22-T	611	14D	y	BD	151	84	118	2	26	Av	184	61D	.	42A	y8
4:22-T	AD	11D	1,	8,	.55	81	81	2	14	66	186	6,6	4	416	168
5:22-T	A,8	11D	12	8y4	-4,	58	84	2	146	AD	1,1	AA	A	685	176
8:22-T	.y4	1A5	A	6A	44	42	5D	2	1AD	142	8A	8,	2	AD	68
y22-T	.,D	y8	5	AO	4,	41	52	2	1A1	56	84	68	1	AO	8
12:22-T	.41	125	11	Ag	6,	15A	168	2	A1	.,A	y6	.26	6	AO	14
11:22-T	1AA	4D	.	.22	A	12A	11D	2	.18	AA	62	116	2	1D6	.5
2, ., 9D3y 6:22-T	61	18	A	4,	A	14	.D	1	6,	11	1D	AO	2	DA	A
% PNN	45%	A2%	17%	9	9	65%	11	23%	9	9	53%	51%	21%	9	9
% VNM	58%	1,7%	27%	612%	9	83%	y8%	2%	181%	9	117%	.y2%	27%	622%	9
Lights Md T unararl ns	.251	y5D	Dy	A2D	9	4y2	5A1	1	16,5	9	88,	.y6	15	AyA	9
% C rMh	52	A	2	5A	9	A	6	2	5	9	4	12	2	D	9
% C rMh	A2%	28%	2%	2%	9	23%	23%	2%	23%	9	25%	.1%	2%	15%	9
% v irarl ns ue BuM	54	11	2	85	9	6	Ag	2	6A	9	11	4,	2	5A	9
% v irarl ns ue BuM	A2%	17%	2%	2%	9	24%	102%	2%	3%	9	17%	.5%	2%	76%	9
% v irarl ns ue CausRm	9	9	9	9	1y8	9	9	9	9	18A1	9	9	9	9	454
% v irarl ns ue CausRm	9	9	9	9	1y	9	9	9	9	Ag	9	9	9	9	1A
% v irarl ns ue CausRm	9	9	9	9	10%	9	9	9	9	2%	9	9	9	9	13%

* - ndnstoiM3 Md v irarl ns ue CausRm/WL: Lnh3B: Bigh3W Wht3U: U9MFe

5566814 - COVID - BANK ST @ EXHIBITION WAY - ... - TMC
 Mon May 9, 2022
 Full Length (4:30 PM-12:30 AM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on
 Crosswalk)
 All Movements
 ID: 95141, Location: 456978.4, -856 75793

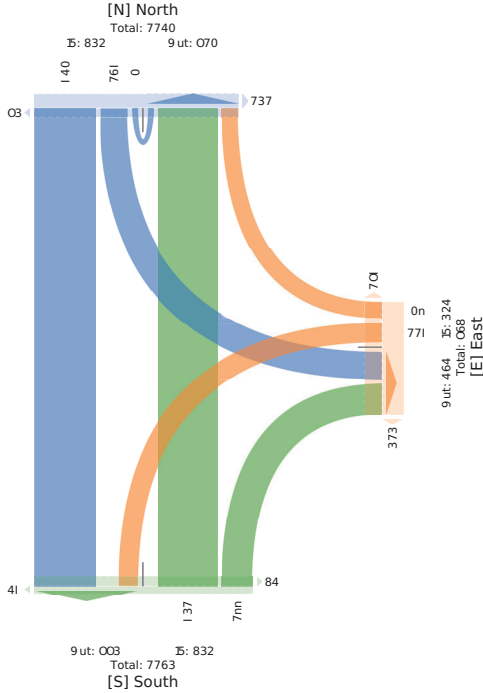
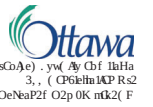


5566814 - COVID - BANK ST @ EXHIBITION WAY - ... - TMC
 Tue May 3, 20, 00
 OFI Length (6: A2 - T 9L : A2 P T)
 PII CILMghs (Lights Md T utuorarl ns3c nMh3- ndnstoiM3v irarl ns ue BuM3v irarl ns ue
 CausRm))
 PII T uHh nets
 rh : yDl6143Lur Mue: 6Dy854635D88DyA



sRl mARHue	Julio f uo.ulec					CME E Rg.ulec					Julio f uo.ulec				
	S	s	W	POD	ORL	B	s	W	POD	ORL	B	S	W	POD	ORL
2, ., 9D3y 6:22-T	117	ny	1	11P	n2	.7	.y	2	t,	8y	t7	12D	2	1y	.1
t g2OT	1,1	.8	2	1ny	7%	.h	71	2	t1	85	ny	12n	2	11P	.n
t g1OT	8	nl	.	1,8	60	.8	72	2	t8	11y	h,	12n	2	1AD	13
t g2OT	11y	tD	1	182	11	ln	.n	2	78	5,	11	125	2	1D	71
% PNN	52%	.84*	14*	h	h	n74*	tD*	2*	h	h	7,4*	D34*	2*	h	h
% VNM	72a*	1,4*	24*	n72*	h	D*	54*	2*	1nd*	h	174*	.y4*	2*	n74*	h
Lights Md T unararl ns	24y5	245,	2402	240P	h	24yt	2471	h	24Dh	h	24yt	2411	h	2478	h
% C rMh	7y2	157	8	t5l	h	8y	125	2	1yD	h	1yD	7yn	2	ty2	h
% v irarl ns ue BuM	8y4*	yy4*	122*	y,4*	h	122*	y74*	2*	yDyP	h	y84*	y74P	2*	yt4*	h
% v irarl ns ue BuM	1y	2	2	1y	h	2	1	2	1	h	2	12	2	12	h
% v irarl ns ue BuM	n4*	2*	2*	74*	h	2*	24*	2*	24*	h	2*	.4*	2*	14P	h
% v irarl ns ue BuM	.y	1	2	72	h	2	D	2	D	h	7	15	2	.2	h
% v irarl ns ue BuM	DyP	24P	2*	n6*	h	2*	t4P	2*	74*	h	14*	n4*	2*	74*	h
% v irarl ns ue BuM	h	h	h	h	1D	h	h	h	h	7,	h	h	h	h	y,
% v irarl ns ue BuM	h	h	h	h	y4*	h	h	h	h	yD*	h	h	h	h	y4*
% v irarl ns ue BuM	h	h	h	h	8	h	h	h	h	1n	h	h	h	h	t
% v irarl ns ue BuM	h	h	h	h	n4*	h	h	h	h	74*	h	h	h	h	t4*

h) FcRGMcM v iHhFCue) ACRM 4s gs Fr3BgBidar3SgsA3WMS1A



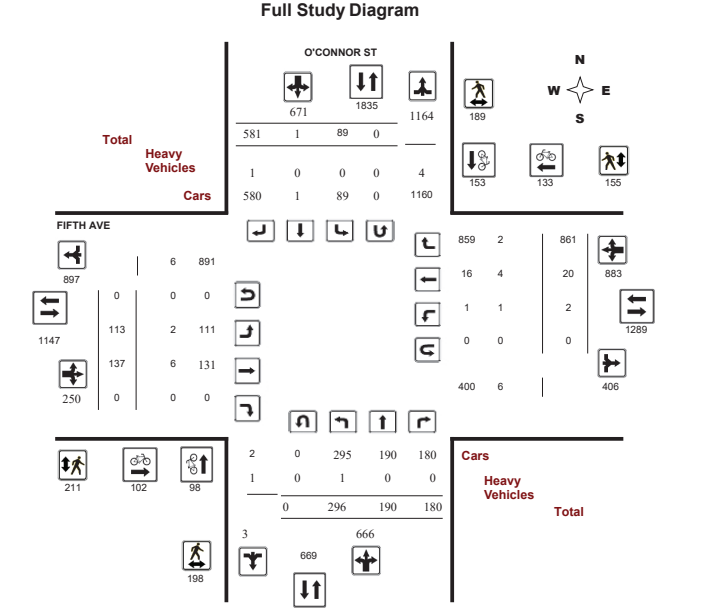
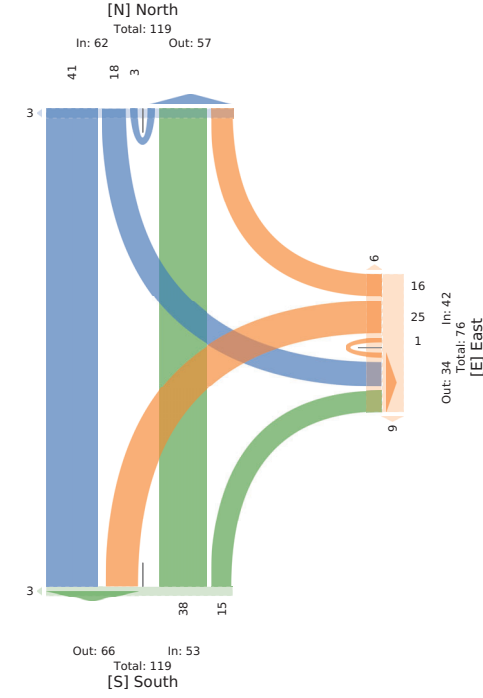
Direction	OCB (EuB, CuP)	Jab (SeB, CuP)	EuB (OCB, CuP)
0, 00g mg, 30w, FM	3D 3m 7 71	3 8 30 3	03 3 5 0D 77
30m n F M	0m 7 08	0 8 37 03	0 8 30 0
TCh	13 38 7 10	3D 0m 3 10	3m 78 , m 7 305
* FNCA9	020* 33m 34* 744*	3 40* 3m 3 , 49	040* 534* , * 8 8 8
* TCh	4, , , 4, , 4m , 4D	4, 40 , 483 , 4m , 40	440* 01 40* , 774*
1 d %	75 38 7 08	3m 0m 3 13	31 7D , m 8 39k
: A96aP) MCCS yi h e	k, 4* 3, , * 3, , * k74*	k74* 3, , * 3, , * k50*	k74* k14* , * k14* 8 k14*
* : A96aP) MCCS yi h e	7 , , , 7 8	3 , , , 3 8	3 0 , 7 8 5
d e a o y	54* , * , * 14*	D0* , * , * 04*	D6* m6* , * m6* 8 14*
r A y i h e 6 C P c C a	3 , , , 3 8	8 , , , 8 8	8 , , , 8 8
* r A y i h e 6 C P c C a	04* , * , * 34*	8 , * , * , * 8	8 , * , * , * 8
1 e) e 6 k A P	8 8 8 8 7	8 8 8 8 8 3m	8 8 8 8 8 7
+ 1 e) e 6 k A P	8 8 8 8 8 3, *	8 8 8 8 8 8 3, *	8 8 8 8 8 3, *
r A y i h e 6 C P (s C G H a L L	8 8 8 8 8	8 8 8 8 8	8 8 8 8 8
* r A y i h e 6 C P (s C G H a L L	8 8 8 8 8 , *	8 8 8 8 8 , *	8 8 8 8 8 , *

1) e) e6kAP aP) r Ayi h e6 CP (sCGHALL: w e h 2 c w e A 9 2 T w T 9 s u 2 W w w g t u s P



Transportation Services - Traffic Services
Turning Movement Count - Study Results
FIFTH AVE @ O'CONNOR ST

Survey Date: Tuesday, July 26, 2022
 Start Time: 16:00
 WO No: 40492
 Device: Miovision





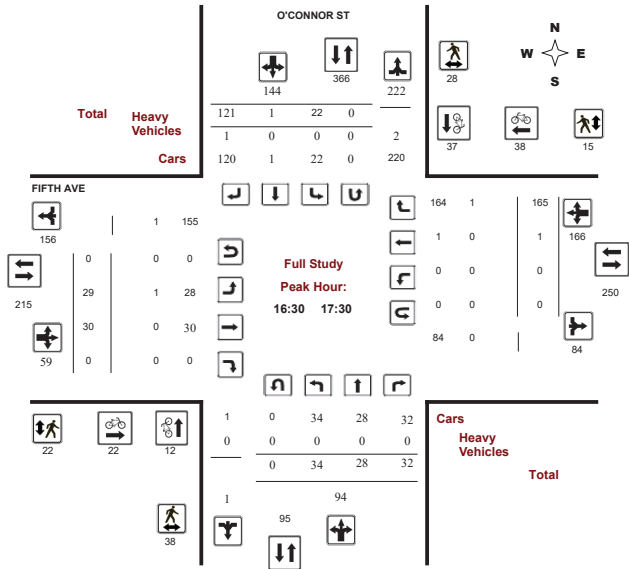
Transportation Services - Traffic Services

Turning Movement Count - Study Results
FIFTH AVE @ O'CONNOR ST

Survey Date: Tuesday, July 26, 2022
Start Time: 16:00

WO No: 40492
Device: Miovision

Full Study Peak Hour Diagram



Transportation Services - Traffic Services

Turning Movement Count - Study Results
FIFTH AVE @ O'CONNOR ST

Survey Date: Tuesday, July 26, 2022
Start Time: 16:00

WO No: 40492
Device: Miovision

Full Study 15 Minute Increments

Table with columns for Time Period, Northbound, Southbound, Eastbound, Westbound, and Grand Total. Rows show 15-minute intervals from 16:00 to 23:45.

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results
FIFTH AVE @ O'CONNOR ST

Survey Date: Tuesday, July 26, 2022
Start Time: 16:00

WO No: 40492
Device: Miovision

Full Study Cyclist Volume

Table showing cyclist volume counts for O'CONNOR ST and FIFTH AVE. Columns include Northbound, Southbound, Eastbound, and Street Total for both streets.



Transportation Services - Traffic Services

Turning Movement Count - Study Results
FIFTH AVE @ O'CONNOR ST

Survey Date: Tuesday, July 26, 2022
Start Time: 16:00

WO No: 40492
Device: Miovision

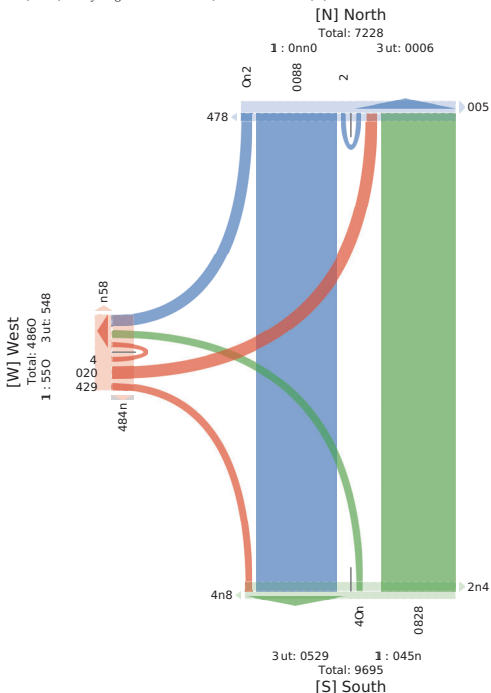
Full Study Pedestrian Volume

Table showing pedestrian volume counts for O'CONNOR ST and FIFTH AVE. Columns include NB Approach, SB Approach, EB Approach, WB Approach, Total, and Grand Total.

5589707 - BANK ST @ AYLMEY AVE - OCT 14 2022 - TMC
 Sat M7, 20FuFF
 Sl Lengh7 t 3 u A 6, 3 u A P
) ILCSii nI le th (2 sgd - o'bay ylni 0c nsH0Andni 7zsgl 0v tyr ylni og Bosd0v tyr ylni og
 Coo i R s l w p
) IL - of h k n g 7
 n k 3, uu FTI 90e oys 7og 3245 94. 06845 DE, 8. 0br t k Codn 32u., 2, u:



5589707 - BANK ST @ AYLMEY AVE - OCT 14 2022 - TMC
 Tue M3, 20FD0
 L L lng h (36 L : 636 L L A M - ng 9l ngt 1 P u
 C9s 9gi ni h dory g cHL P P u v a 9i 21 ng - v 2l n h i y u g c i 2 B a v a 9i P c R P g i 2 B a v a 9i P c
 s u P i w g 9 A
 C9L P - n k n c y
 n k (3 F F 0 D 4 2 d P a g e P c , 6 8 4 6 5 2 : 6 5 D 3 . 5 2 b e n s P H h , F 5 3 , F 8



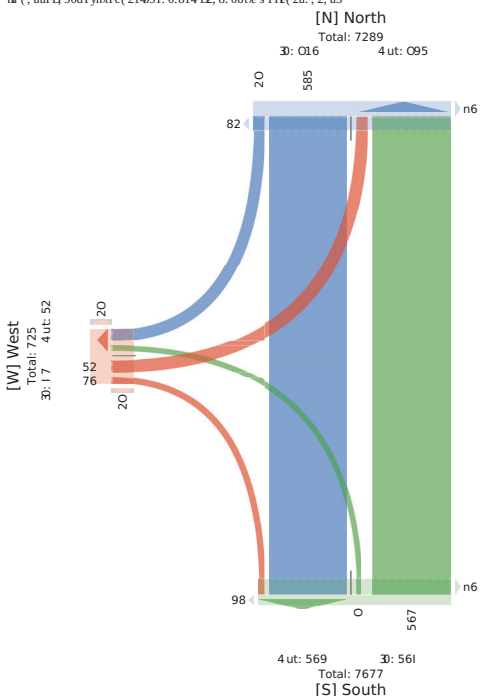
Wkn	NPar bPyr Pp cH				bPyr NPar Pp cH				E ny Sg d Pp cH				
	R	W	U	Cpp	R	W	U	Cpp	R	W	U	Cpp	
0000:3F3, (36) L	34	304	F	0FD	3D	0F3	0	F	0F8	3,	8	3D	F
(8) L	0	3	F	0F3	34	3D	8	F	3D	3F	F	3	F
(6) L	3	F	3D	00	3	3	F	3	F	00	34	F	00
600 L	3D	34	F	030	00	340	0	F	34	34	D	06	F
Wp g i	5D	6	F	D6	D8	63	D	F	64	5L	36	5	F
% Cpp g i	43%	43%	P%	1%	40%	37%	P%	1%	35%	D3%	P%	1%	1%
% Wp g i	2%	2%	P%	D6%	67%	F7%	P%	67%	F7%	2%	P%	67%	1%
1 1 T	F545	F2,5	F	F66F	F700	F755	F	F704	F715	F76F	F	F755	F785
dery g cHL P u v a 9i	58	54D	F	53	F	D	F	36	F	38	8	F	D5
% dery g cHL P u v a 9i	405%	4,2%	P%	4,2%	4,2%	30%	P%	4,2%	4,2%	45%	P%	4,2%	4,2%
1 ng - v	3	3	F	3D	38	F	F	38	F	0	F	0	88
% 1 ng - v	33%	02%	P%	02%	37%	P%	P%	37%	P%	05%	P%	07%	03%
B a v a 9i P c R P g i	00	F	05	83	F	F	83	0	3	F	8	5F	87%
% B a v a 9i P c R P g i	63%	81%	P%	87%	7%	P%	P%	7%	30%	3%	P%	87%	87%
% 1 n h i y u g c i	1	1	1	5	1	1	1	5	1	1	1	5	1
% B a v a 9i P c s u P i w g 9	1	1	1	483%	1	1	1	4,70%	1	1	1	4,70%	1
% B a v a 9i P c s u P i w g 9	1	1	1	6	1	1	1	0	1	1	1	0	1
% B a v a 9i P c s u P i w g 9	1	1	1	57%	1	1	1	07%	1	1	1	07%	1

1 n h i y u g c i g c H B a v a 9 i P c s u P i w g 9 7 d (d n g e R (R o o r 2 W W u) 2 U (U : W) u

5589707 - BANK ST @ AYLMEY AVE - OCT 14 2022 - TMC
 Sat M7, 20FuFF
 L L lng h (11 L : 1 L 1 L 3 : M e a n - 1 e n g 6 P a
 C - s - n i e i h d o r 2 n c H L P P a y y - e i 0 6 e n a / 0 l e h i 7 a n c i 0 B y y - e i P c R P h F B B y y - e i P c
 s u P i w n g 3
 C - L P a k e c 7
 n k (, u u F T I) 9 0 d P y n 7 P c (21-691, 0:814 DE, 8. 0br t k s P H h (2u., 2, u 5



5589707 - BANK ST @ ECHO DR - OCT 14 2022 - TMC
 Tue M3, 20FD0
 T I L n g h (6 A F - 9 I 3 A F - 9 P
) ILCSii g i n d i y s t d o y n a r a l g i 2 c g s H 2 - g d g i y s t i 2 v e a r a l g i o t B o s d 2 v e a r a l g i o t
 C u i i R s l w p
) I L 9 o h k n g 7
 n k (3 F F 0 D 4 2 n o a s y o t A 7 8 5 7 D 5 2 1 4 7 8 D : : , 2 b o g C o d g A F 3 : 3 F :



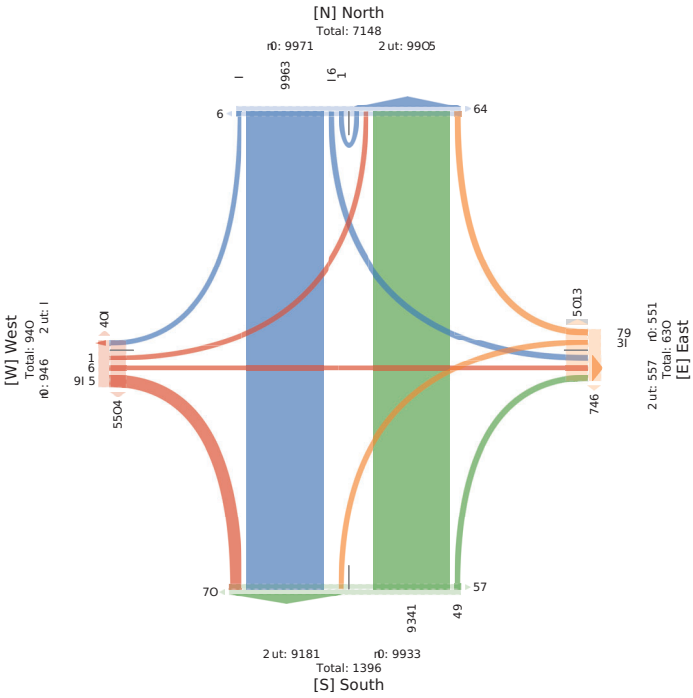
Wkn	NPar bPyr Pp cH				bPyr NPar Pp cH				E ny Sg d Pp cH				
	R	W	U	Cpp	R	W	U	Cpp	R	W	U	Cpp	
0000:DFD, (A)-9	F	35	3	F	357	F	F	F	4	3	3	37	F
(A)-9	3	304	0	F	35F	3	F	F	F	3F	3	35F	F
c o l d e W e p l	3	DB	F	D	F	F	F	33	0	7	F	F	F
(A)-9	F	3D	0	F	35F	3	F	F	3	00	3	34D	F
(A)-9	F	35	F	357	F	D	F	F	33	07	03	F	00F
(A)-9	F	0F7	0	F	064	F	F	F	5	73	35	F	35D
(A)-9	F	34	F	344	3	5	F	3	F	3F	7	7	350
c o l d e W e p l	3	4	D	F	4,5	0	0	F	D	F	3,13	34	41F
(A)-9	F	033	F	03	F	D	F	3	F	5	40	03	F
(A)-9	F	3D8	F	3D	0	7	F	3	F	D	7	357	F
(A)-9	F	350	0	F	35	3	F	F	3	7	3	3D	F
(A)-9	F	3	D	F	34D	F	F	3	D	F	7	3	377
c o l d e W e p l	F	470	33	F	4,2	7	34	F	F	03	0,5	37	4,7
(A)-9	F	3	0	F	3, D	F	0	F	0	F	304	7	3,5
(A)-9	F	3	D	3	F	3,5	3	F	3	340	3	353	F
(A)-9	F	3	D	3	F	3,5	3	F	F	F	3	343	F
(A)-9	F	3	D	0	F	3,3	4	F	F	0	10	3	4
c o l d e W e p l	F	7	F	7,4	30	7	F	7	F	36	33	34	D
(A)-9	F	37D	3	F	375	F	F	F	F	00F	3	34	F
(A)-9	F	3	D	F	340	F	3	F	3	F	0,3	3	3,5
(A)-9	F	37F	3	F	37	7	0	F	3	F	D	0	3
(A)-9	F	374	F	F	3, F	3	0	F	0	F	70	3	30D
c o l d e W e p l	F	5	5	7	7	F	F	5	D	7	744	F	7D
(A)-9	F	33	0	F	355	F	F	F	7	3	334	F	3D
(A)-9	F	3	F	3,4	3	F	F	4	05	0	35	F	337
(A)-9	F	30F	F	F	303	F	0	F	F	0	F	330	F
(A)-9	F	3F0	0	F	3F	F	0	F	3	F	15	3	3F
c o l d e W e p l	F	40	4	3	D	3	33	F	F	37	313	1	D
(A)-9	F	5	0	F	5	F	F	F	5	F	3	3	F
(A)-9	F	45	0	F	3	D	F	F	F	0	40	F	30
(A)-9	F	40	3	F	40	F	0	F	0	13	F	18	F
(A)-9	F	4F	0	F	40	F	F	F	3	40	F	5	F
c o l d e W e p l	F	103	4	1	0	F	D	F	F	D	035	3	4
(A)-9	F	74	F	74	F	F	F	F	0	3D	0	40	F
(A)-9	F	43	F	3	40	F	F	F	0	13	3	57	F
(A)-9	F	50	F	3	5	3	F	F	7	5	0	F	D
(A)-9	F	30	F	30	F	F	F	F	13	F	44	F	44
c o l d e W e p l	F	22	F	0	D	3	F	F	4	3F	75	7	38F
(A)-9	F	337	F	33	F	3	F	F	3	0	7	F	3
(A)-9	F	D	F	D	F	F	F	F	07	F	4	F	F
c o l d e W e p l	F	35D	3	F	355	F	3	F	F	3	13	3	3,5
W e p l	7	0	70	5	D	0	D	F	7	F	335	0,77	73
% j p p a s s	FR%	52%	38%	FR%	1	48%	FR%	05%	FR%	1	38%	50%	FR%
% W e p l	FR%	8%	FR%	FR%	48%	1	FR%	FR%	FR%	38%	FR%	FR%	FR%
n d k y s t d o y n a r a l g i	F	30	D	5	30D	0	F	F	57	0	3F	F	3
% n d k y s t d o y n a r a l g i	P%	5	8%	50%	33%	P%	5	8%	P%	450%	1	78%	5
c g h t	F	3	F	3	F	F	F	F	3	F	3,3	F	3,3
% c g h t	P%	18%	P%	P%	18%	1	P%	P%	0%	FR%	1	FR%	P%
v e a r a l g i o t B o s d	F	37	F	3	0	F	F	3	F	0	00	30	F
% v e a r a l g i o t B o s d	FR%	0%	48%	FR%	18%	1	FR%	FR%	FR%	FR%	0%	FR%	FR%
% g d g i y s t i	1	1	1	1	1	1	1	1	1	1	1	1	1
% g d g i y s t i	1	1	1	1	1	1	1	1	1	1	1	1	1
v e a r a l g i o t C u i i R s l w p	1	1	1	1	1	1	1	1	1	1	1	1	1
% v e a r a l g i o t C u i i R s l w p	1	1	1	1	1	1	1	1	1	1	1	1	1

- g d g i y s t i s t d v e a r a l g i o t C u i i R s l w n A n g 0 2 B A B d h (2 W W u) 2 U A U I W u

Sat M7, 20FuFF
SI Length 1.3 u A-6, 3 u A-P
) ILCSiigi l e th (2 sgd - o b a y y n i 0 c n s H 0 A n d n i 2 s g i 0 v t y r y n i o g B o s d 0 v t y r y n i o g
C a o i i R s l w P
) L - o h k n g 7
n 3, u u F T) 9 0 e o y s 7 o g 3 2 4 5 . 4 D B . 0 6 4 3 B D 2 : : 2 0 b t r h C o d n 3 2 u 8 , ; : u :



A n o H d n i l r 3 C T i o M 7 s R s
u u C o g i T a l l s T o g 1 a d
N p r e s g O M N O K F G 4 1 . 0 C)



Tue M3, 20F00
1 L 1 n g r h (3 6 1 L : 6 3 6 1 L A : M n g 9 1 n g 1 P) u
C 9 s g i i n i l e t h (2 s g d - o b a y y n i 0 c n s H 0 A n d n i 2 s g i 0 v t y r y n i o g B o s d 0 v t y r y n i o g
C a o i i R s l w P
) L - o h k n g 7
n 3, u u F T) 9 0 e o y s 7 o g 3 2 4 5 . 4 D B . 0 6 4 3 B D 2 : : 2 0 b t r h C o d n 3 2 u 8 , ; : u :



i u p e h i h v i s o q P O M 7 s R s
3 F F C o t i g l l y n t 1 u 2
N p r e s g 2 M N 2 K O G 6 1 5 2 C

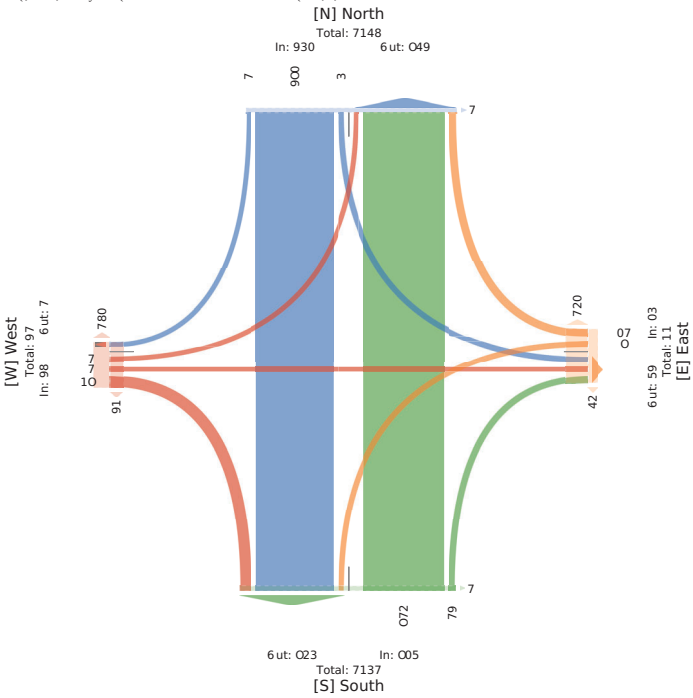
Table with 4 main columns: N/Pay, E/gly, N/Pay, E/gly. Rows include vehicle counts (W, n, U,) and percentages for various vehicle types and directions.

1 n h i y a g c i g H B a v a n i P e s u p i w g 7 d (d n Q E R) R a n y 2 W W u 2 U (U : W : u)

Sat M7, 20FuFF
SI Length 1.1 L : 1 L : 1 L 3 : M e a n - 1 e n g 6 P) a
C - s - n i e i h d t o r 2 n c h L P 2 P a y y e i 0 6 e n a w / 0 e h i 2 n c i 0 B y y y e i P e R p h F B Y y y e i P e
s a p i w n g 3
C - L P a c k e c 7
n (, u u F T) 9 0 d P y n 7 P (2 1 - 6 . 1 D B . 0 : 9 1 4 6 D 2 5 5 2 0 b t r e s P H (2 u 8 , 5, u 5



i a P a H i h v i s o q P O M 7 s R s
u u s P e i 2 - n 7 P e 1 a d
N e p e n c O M N O K F G 1 1 . 0 s C



Tue M3, 20F00
T i L n g h y (G A F - 9 1 3 3 A F - 9 P
) I L C S i i g i 6 n d h (y s t d 9 o y a r a l g i 2 c s H 2 - g d j y u s t i 2 v n r a l g i o t B o s d 2 v n r a l g i o t
C a o i i R s l w P
) I L 9 o h k n g 7
n A 3 F F O D B : 2 n o a s y n t A 4 7 2 D B . , 2 1 5 4 2 D H D : 2 b e g C o d g A F . 3 5 3 F :



- u h d i g i l A C o y O M 7 s R s
3 F F C o t i g l l y n t 1 u 2
N p r e s g 2 M N 2 K O G 4 1 8 2 C)

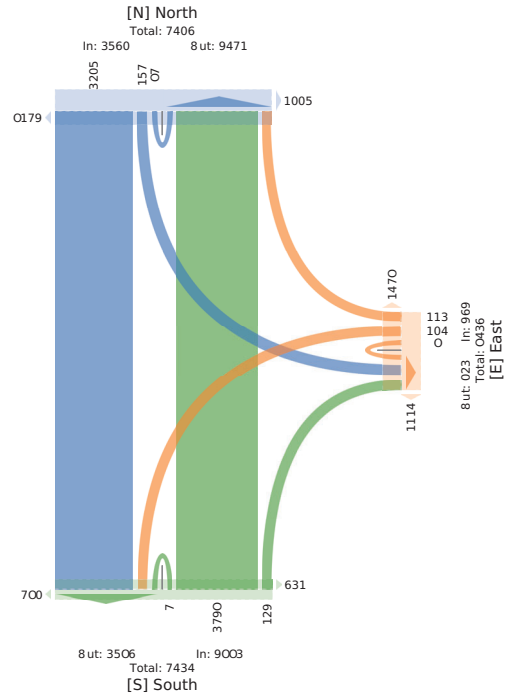
Table with 4 main columns: N/Pay, E/gly, N/Pay, E/gly. Rows include vehicle counts (W, n, U,) and percentages for various vehicle types and directions.

Ingh l agwot	Noaf bol y f o l t d				Esty S g y f o l t d				bol y Noaf f o l t d						
	W	n	U	) pp - g1*	B	n	U	) pp - g1*	B	W	U	) pp - g1*
% v aralgi ot Cuii Rslw	1	1	1	1	F2%	1	1	1	1	F2%	1	1	1	1	37%

* g d g j y s t i s t d v aralgi ot Cuii Rslw n Ang @ 2 BAB d h i (2 VAW d 2 U AU W U t

5589707 - BANK ST @ EXHIBITION WAY - OCT 14 ... - TMC

Sat My7, 20FuFF
 1 L leng h (3 1 L : 6 3 1 L A : M - ng 5 l ngt 1 P u)
 C 9 s 9 i n i h d e r y j g c H L P y u a v a 9 i 2 1 n g - v 2 l n h i y u g c i 2 B a v a 9 i P c R p g F B a v a 9 i P c
 s u P i w g 9 A
 C 9 L P - n k n c y
 n h (3 F F 0 B 4 2 d P a g y P c (, 6 7 8 D E , 2 : 5 6 7 D 6 D 8 4 2 b e n s P H i (, F : 3 5 3 F 4



5589707 - BANK ST @ EXHIBITION WAY - OCT 14 ... - TMC

Tue My3, 20Fu0
 1 L leng h (3 6 1 L : 6 3 6 1 L A : M - ng 5 l ngt 1 P u)
 C 9 s 9 i n i h d e r y j g c H L P y u a v a 9 i 2 1 n g - v 2 l n h i y u g c i 2 B a v a 9 i P c R p g F B a v a 9 i P c
 s u P i w g 9 A
 C 9 L P - n k n c y
 n h (3 F F 0 B 4 2 d P a g y P c (, 6 7 8 D E , 2 : 5 6 7 D 6 D 8 4 2 b e n s P H i (, F : 3 5 3 F 4

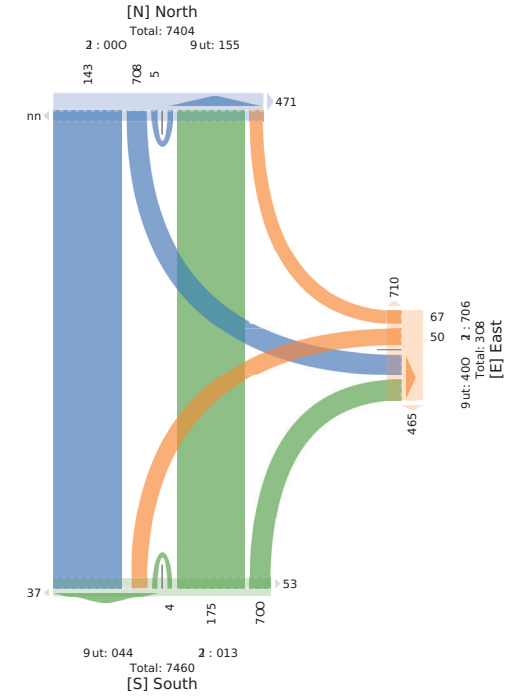


Ingh l agwot	Noaf bol y f o l t d				Esty S g y f o l t d				bol y Noaf f o l t d							
	W	n	U	) pp - g1*	B	n	U	) pp - g1*	B	W	U	) pp - g1*				
0F00:3E:3, (36) L	335	4	3	3.3	63	3D	03	F	48	DE	45	340	F	3.8	05	4.8
(46) L	33	4	3	3.F	..	3	0D	F	..	84	4D	33D	F	365	05	4.3
(61) L	340	44	6	35F	DE	38	0	F	4	3.F	4	33D	F	360	46	4.6
6(F) L	368	33	0	350	3H	3D	04	F	3	335	0	363	3	35	..	4D
% V	60	34F	8	..4	4F4	53	8	F	3.5	..46	344	638	0	..6	346	3.4
% Cpp	587%	382%	32%	..	..	076%	657%	P%	..	..	076%	587%	F2%	..	..	..
% V	463%	DDE	F2%	..5%	..	..3%	..7%	P%	339%	..	87%	463%	F2%	..7%	..	..
1 T	F26F	F56F	F26F	F96F	..	F843	F1D	..	F8.0	..	F1D	F1Q	F6FF	F835	..	F8.0
d e r y j g c H L P y u a v a 9 i	8	36	308	8	..44	..5	8	F	3.3	..	30D	8	0	..0	..	3.3D
% d e r y j g c H L P y u a v a 9 i	8.7%	887%	3F%	867%	..	8.7%	858%	P%	8.7%	..	8.7%	867%	3F%	867%	..	867%
1 n g - v	35	F	F	35	..	F	3	F	3	..	4	33	F	3	..	40
% 1 n g - v	47%	P%	P%	07%	..	P%	33%	P%	F2%	..	07%	07%	P%	07%	..	07%
B a v a 9 i P c R p g F	30	3	F	34	..	..	3	F	6	..	0	3	F	3	..	4
% B a v a 9 i P c R p g F	07%	F1%	P%	07%	..	67%	33%	P%	43%	..	33%	07%	P%	07%	..	07%
1 n h i y u g c i	..	..	..	..	41%	..	..	..	..	..	..	..	..	..	..	30%
% 1 n h i y u g c i	..	..	..	..	887%	..	..	..	887%	..	..	..	..	..	..	807%
B a v a 9 i P c s u P i w g 9	..	..	..	..	4	..	..	..	4	..	..	..	..	..	..	3F
% B a v a 9 i P c s u P i w g 9	..	..	..	..	33%	..	..	..	F5%	..	..	..	..	..	..	57%

* 1 n h i y u g c i g c H B a v a 9 i P c s u P i w g 9 7 d (d n 9 2 R R e r j 2 W W u j 2 U (U : W j u c

5589707 - BANK ST @ EXHIBITION WAY - OCT 14 ... - TMC

Sat My7, 20FuFF
 1 L leng h (1 1 L : 1 (, 1 1 L 3 : M e a n - l e n g 6 P) a
 C - s - n i e i h d r 2 n c H L P P a y v e i 0 6 e n A w l e h i 2 a n c i 0 B t y v e i P c R p h F B t y v e i P c
 s a P i w n g 3
 C - L P a e k e c 7
 n h (, u u F T) 9 0 d P y n 7 P c (2 1 4 5 D 8 2 0 : 1 4 8 D I E 9 0 b r e s P H i (2 u 8 , . . , u 9



5589707 - BANK ST @ FIFTH AVE - OCT 14 2022 - TMC
 Tue May 3, 20FuF
 1 L lng h 6 AF - 9 B3AF - 9 P
) LLCSiini le th (2 sg d - 0 bayar algi 2c gsH 2- gdsyust 12v er algi ot Bosd2v er algi ot
 Cuii RsbwP
) IEG oHk ngT
 nA3F0DF2Onay A 42 F385254B4E141E. eg CodgA FR383F:



5589707 - BANK ST @ FIFTH AVE - OCT 14 2022 - TMC
 Sat M7, 20FuF
 1 L lng h 1 3 u A - 6, 3 u A - P
) LLCSiini le th (2 sg d - 0 bayar ylni 0c nsH F0Andni 2sgsi 0v tyr ylni og Bosd0v tyr ylni og
 Cuii RsbwP
) IEG oHk ngT
 nA3F0DF2Onay A 42 F385254B4E141E. eg CodgA FR383F:



h g l g e g v g	Ousay of g h d t d				Eay S g h d t d				S g y Esi b d t d				ay								
	B	W	U	J	B	W	U	J	B	W	U	J									
0F00DF1L : AF-9	8	3	8	F	3	4	0	F	3	4	0	F	3	4	0	F					
0F00DF1L : AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	31	080	34	F	018	112	30	34	0D	F	44	38	03	3	F	03D	3	F	03D	3	F
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
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c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
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c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8	F	3	F	3	F	
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
AF-9	3	3	0	F	3	3	0	F	3	3	0	F	3	3	0	F					
c o l d e W e s t	34	345	D	F	30F	15	5	33	03	F	31	384	J	304	8						

Tue May 3, 20F00
 TL lng h 6 AF - 9 B3AF - 9 P
) LLCLSIi g 6nd h y st d 9 oyaral g 2 gsH 2- gfgjyust i2v nralgi ot Bosd2varalgi ot Cuii RslwP
) L9 oHh g g y
 nA AFH0D02nassant A 47 8818521 4E1E45: 2bg CodgA F53F3F:



u-utidg l r ACoy oMKGsRs
 3FF Cot i gylvst 1 u Npngg 2MN2KOG 4182C

Wk.g	Nbr of Expt					Nbr of Expt					Nbr of Expt					Nbr of Expt				
	B	W	n	U	pp	B	W	n	U	pp	B	W	n	U	pp	B	W	n	U	pp
0F00:3E3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
% ggnat	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
% c h	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
% v aralgi ot Bosd	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
% v aralgi ot Cuii RslwP	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%

Tue May 3, 20F00
 TL lng h 6 AF - 9 B3AF - 9 P
) LLCLSIi g 6nd h y st d 9 oyaral g 2 gsH 2- gfgjyust i2v nralgi ot Bosd2varalgi ot Cuii RslwP
) L9 oHh g g y
 nA AFH0D02nassant A 47 8818521 4E1E45: 2bg CodgA F53F3F:



u-utidg l r ACoy oMKGsRs
 3FF Cot i gylvst 1 u Npngg 2MN2KOG 4182C

Wk.g	Nbr of Expt					Nbr of Expt					Nbr of Expt					Nbr of Expt				
	B	W	n	U	pp	B	W	n	U	pp	B	W	n	U	pp	B	W	n	U	pp
0F00:3E3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
% ggnat	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
% c h	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
% v aralgi ot Bosd	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
% v aralgi ot Cuii RslwP	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%

Tue May 3, 20F00
 TL lng h 6 AF - 9 B3AF - 9 P
) LLCLSIi g 6nd h y st d 9 oyaral g 2 gsH 2- gfgjyust i2v nralgi ot Bosd2varalgi ot Cuii RslwP
) L9 oHh g g y
 nA AFH0D02nassant A 47 8818521 4E1E45: 2bg CodgA F53F3F:

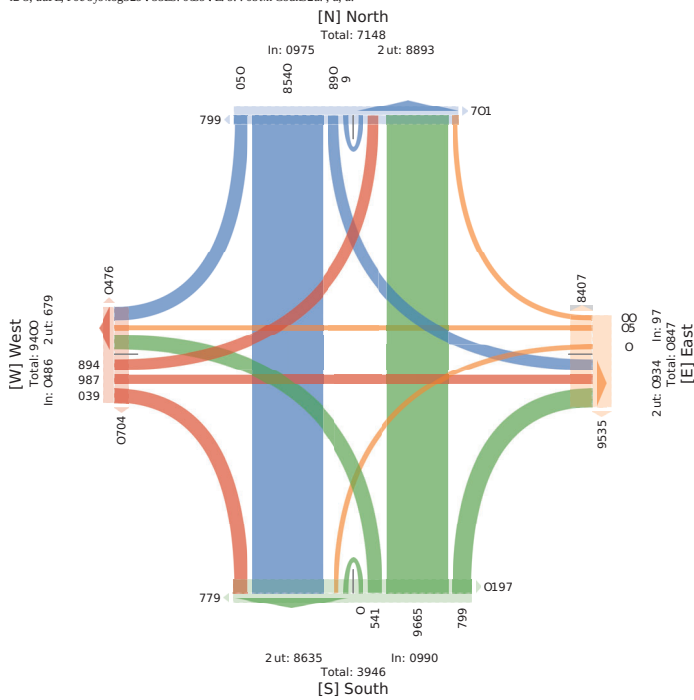


u-utidg l r ACoy oMKGsRs
 3FF Cot i gylvst 1 u Npngg 2MN2KOG 4182C

Sat M7, 20F00
 SL lng h 7 L 3 u A - 6, 3 u A - P
) LLCLSIi ni le th (2 sg d - o bzar ylni 0c nsH 0Andni 2sg i 0v ty ylni ot Bosd 0v ty ylni ot
 Cuii RslwP
) L - oHh ng7
 nA 3, u nT) F0eys 7og 329 55D5: 06B94 D 9 : 0b7r h Codn 32u... u, u



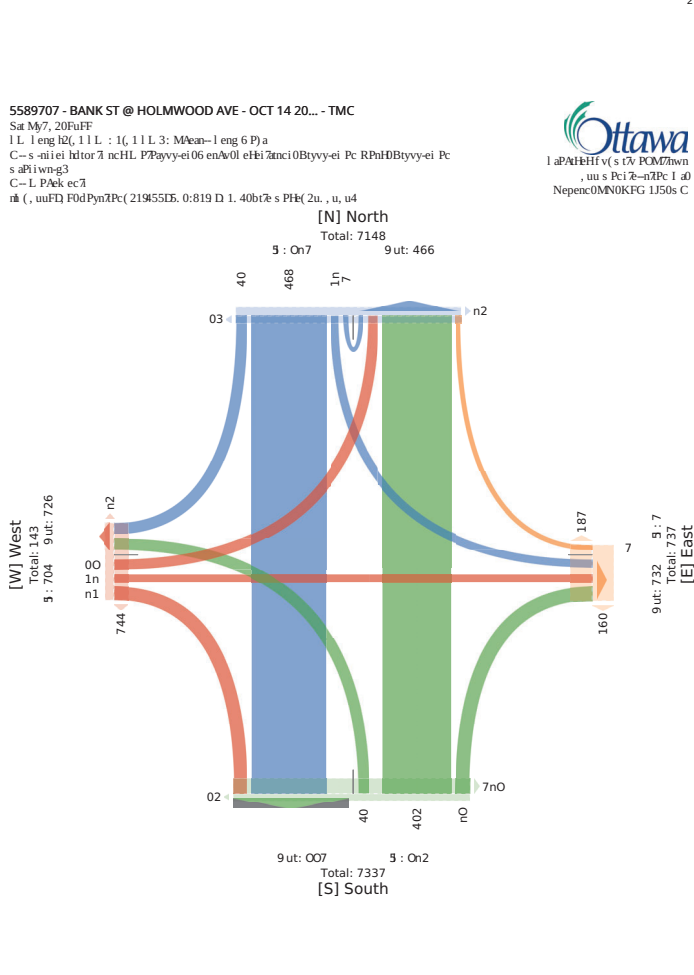
u-utidg l r ACoy oMKGsRs
 3FF Cot i gylvst 1 u Npngg 2MN2KOG 4182C



Sat M7, 20F00
 SL lng h 7 L 3 u A - 6, 3 u A - P
) LLCLSIi ni le th (2 sg d - o bzar ylni 0c nsH 0Andni 2sg i 0v ty ylni ot Bosd 0v ty ylni ot
 Cuii RslwP
) L - oHh ng7
 nA 3, u nT) F0eys 7og 329 55D5: 06B94 D 9 : 0b7r h Codn 32u... u, u



u-utidg l r ACoy oMKGsRs
 3FF Cot i gylvst 1 u Npngg 2MN2KOG 4182C



Sat M7, 20F00
 SL lng h 7 L 3 u A - 6, 3 u A - P
) LLCLSIi ni le th (2 sg d - o bzar ylni 0c nsH 0Andni 2sg i 0v ty ylni ot Bosd 0v ty ylni ot
 Cuii RslwP
) L - oHh ng7
 nA 3, u nT) F0eys 7og 329 55D5: 06B94 D 9 : 0b7r h Codn 32u... u, u



u-utidg l r ACoy oMKGsRs
 3FF Cot i gylvst 1 u Npngg 2MN2KOG 4182C

5589707 - BANK ST @ WILTON CRES - OCT 14 2022 - TMC

Tue May 3, 20F00
 TL Lng h (6 AF - 9 P
) IL Csi i g h d h (y st d 9 o y u ar al g i 2 c g s H 2 - g d g j y s t i 2 v ar al g i o t Bos d 2 v ar al g i o t
 C u i i R s l w P
) IL 9 o h k g y
 n h 3 F F D B 4 2 n o a s y o t A 4 7 8 5 5 0 2 1 5 4 7 D 1 , F 4 2 b e g C o d g A , F 3 0 3 F



u o C o g i T h s 7 o g 1 d
 N n p r s g 2 M N 2 K O G 4 J 8 2 C

ngh l agayst Wk g	Nouq bol y f o l t d				bol y Nouq f o l t d				E g y S s i j o l t d									
	B	W	U	J	pp	- g d *	W	n	U	J	pp	- g d *	B	n	U	J	pp	- g d *

% v ar al g i o t C u i i R s l w	1	1	1	1	1	F 2 %	1	1	1	1	1	F 2 %	1	1	1	1	1	1	3 2 %
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* - g d g j y s t i s t d v ar al g i o t C u i i R s l w n A n g o 2 B A B d h i y 2 W A W i d 2 U A U I W u

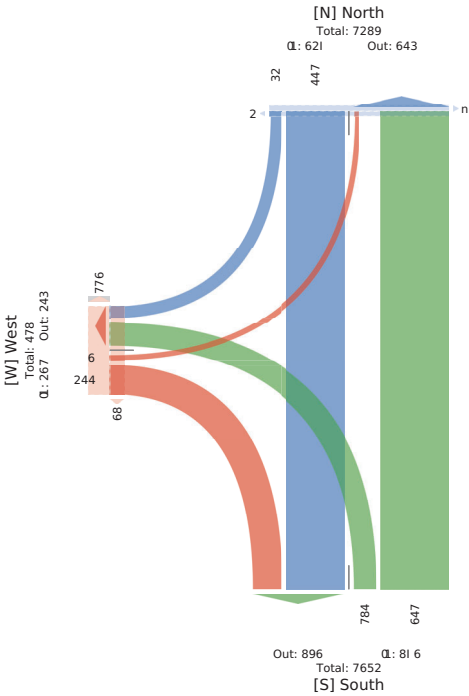
ngh l agayst Wk g	Nouq bol y f o l t d				bol y Nouq f o l t d				E g y S s i j o l t d											
	B	W	U	J	pp	- g d *	W	n	U	J	pp	- g d *	B	n	U	J	pp	- g d *	my	
0F00BFD1 : AF-9	3F	30	F	3	3		30	4	F	3	3	F	3	4	F	3	3	3	3	3
c o l u W s l	03	0	0	F	03	0	03	0	F	03	0	03	0	03	0	F	03	0	03	0
AF-9	34	3	F	34	3		34	3	F	34	3	F	34	3	F	34	3	F	34	3
c o l u W s l	03	0	0	F	03	0	03	0	F	03	0	03	0	03	0	F	03	0	03	0
AF-9	0	33D	F	3	3		3D	3	F	3	3	F	3	3	F	3	3	3	3	3
c o l u W s l	45	4	F	48	34		30	358	F	583	F	0	3	F	0	4	353		3	08
4AF-9	0	33D	F	3	3		3D	3	F	3	3	F	3	3	F	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		30	4	F	3	3	F	3	4	F	3	3	3	3	3
4AF-9	05	333	3	3	3		3D	00	F	0F0	F	50	F	F	50	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		30	4	F	3	3	F	3	4	F	3	3	3	3	3
4A-9	0	33D	F	3	3		3D	3	F	3	3	F	3	3	F	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		30	4	F	3	3	F	3	4	F	3	3	3	3	3
4A-9	0	333	F	3	3		343	F	F	343	F	44	F	F	44	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		30	4	F	3	3	F	3	4	F	3	3	3	3	3
D4F-9	0	D	F	303	0		303	F	F	303	0	3	F	F	3	0	3	0	3	0
c o l u W s l	0	D	F	303	0		350	F	F	350	30	3	F	F	3	11	13	13	13	13
4A-9	4	D	F	3	3		3	0	F	353	31	40	F	F	F	40	30	3	3	3
c o l u W s l	380	38F	F	40D	003		3	3	F	3	3	F	35	3	F	35	3	3	3	3
5AF-9	0	333	F	3	3		343	F	F	343	F	44	F	F	44	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		30	4	F	3	3	F	3	4	F	3	3	3	3	3
D4F-9	0	D	F	303	0		303	F	F	303	0	3	F	F	3	0	3	0	3	0
c o l u W s l	0	D	F	303	0		330	F	F	330	0	3	F	F	3	0	3	0	3	0
D4F-9	0	D	F	303	0		33	F	F	33	4	4	F	F	F	4	3	3	3	3
c o l u W s l	3F	30	F	3	3		3	3	F	3	3	F	3	3	F	3	3	3	3	3
D4-9	0	D	F	303	0		3	3	F	3	3	F	3	3	F	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3	3	F	3	3	F	3	3	F	3	3	3	3	3
8AF-9	0	50	F	84	35		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
8A-9	38	D	F	88	3		3F4	F	F	3F4	0	0	F	F	0	03	03	03	03	03
c o l u W s l	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
8AF-9	3	55	F	83	00		D	F	F	D	08	F	F	F	F	F	F	F	F	F
c o l u W s l	00	D	F	8F	43		83	F	F	83	43	3	F	F	3	D	3	D	3	D
3AF-9	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
3FA-9	0	80	F	33D	0		33	F	F	33	0	3	F	F	3	0	3	0	3	0
c o l u W s l	0D	D	F	33	3		33	F	F	33	4	4	F	F	F	4	3	3	3	3
D4-9	0	D	F	303	0		3	3	F	3	3	F	3	3	F	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3	3	F	3	3	F	3	3	F	3	3	3	3	3
8AF-9	0	50	F	84	35		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
8A-9	38	D	F	88	3		3F4	F	F	3F4	0	0	F	F	0	03	03	03	03	03
c o l u W s l	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
8AF-9	3	55	F	83	00		D	F	F	D	08	F	F	F	F	F	F	F	F	F
c o l u W s l	00	D	F	8F	43		83	F	F	83	43	3	F	F	3	D	3	D	3	D
3AF-9	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
3FA-9	0	80	F	33D	0		33	F	F	33	0	3	F	F	3	0	3	0	3	0
c o l u W s l	0D	D	F	33	3		33	F	F	33	4	4	F	F	F	4	3	3	3	3
D4-9	0	D	F	303	0		3	3	F	3	3	F	3	3	F	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3	3	F	3	3	F	3	3	F	3	3	3	3	3
3AF-9	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
3FA-9	0	80	F	33D	0		33	F	F	33	0	3	F	F	3	0	3	0	3	0
c o l u W s l	0D	D	F	33	3		33	F	F	33	4	4	F	F	F	4	3	3	3	3
D4-9	0	D	F	303	0		3	3	F	3	3	F	3	3	F	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3	3	F	3	3	F	3	3	F	3	3	3	3	3
3AF-9	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
3FA-9	0	80	F	33D	0		33	F	F	33	0	3	F	F	3	0	3	0	3	0
c o l u W s l	0D	D	F	33	3		33	F	F	33	4	4	F	F	F	4	3	3	3	3
D4-9	0	D	F	303	0		3	3	F	3	3	F	3	3	F	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3	3	F	3	3	F	3	3	F	3	3	3	3	3
3AF-9	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
3FA-9	0	80	F	33D	0		33	F	F	33	0	3	F	F	3	0	3	0	3	0
c o l u W s l	0D	D	F	33	3		33	F	F	33	4	4	F	F	F	4	3	3	3	3
D4-9	0	D	F	303	0		3	3	F	3	3	F	3	3	F	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3	3	F	3	3	F	3	3	F	3	3	3	3	3
3AF-9	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
c o l u W s l	3F	30	F	3	3		3F	F	F	3F	3F	3	F	F	3	3	3	3	3	3
3FA-9	0	80	F	33D	0		33	F	F	33	0	3	F	F	3	0	3	0	3	0
c o l u W s l	0D	D	F	33	3		33	F	F	33	4									

5589707 - BANK ST @ WILTON CRES - OCT 14 2022 - TMC

Sat M7, 20FuFF
 1 L eng h2(, 1 L L : 1(, 1 L L 3: M'ean-1 eng 6 P)a
 C--s-ni ei h2tor 2 nchL P'P'vyv-ei 06 en/a/0l ehki 2nci0Btyvyei-Pc P'Phf0Btyvyei-Pc
 s aP1wng3
 C--L P'ek ec7
 n(, uuFT) 10d Pyn7P(21945... FD: 19D12u10br'e s P'F(2u8, F, u4



1 pA'HHV(s Dv P'OM'fwn
 u u s P'ci 2--n2P: 1 a0
 Nepenc0M'NKG 1J50s C



Ingh l ap'p'ot	Noug bol' f'ol t d				bol' f' Noug f'ol t d				E g'y Sai' f'ol t d			
	B	W	U	) pp	W	n	U	) pp	B	n	U	) pp
% v'aralgi ot Cuii Rsl'v	1	1	1	1	1	1	1	1	1	1	1	1

* g'dgi y'st i s t d v'aralgi ot Cuii Rsl'v n' An g'2B'AB'h(2'VAV' d 2U'AU'W' u

5589707 - QUEEN ELIZABETH DRWY @ FIFTH AVE ... - TMC

Tue M7, 20FD0
 TI L'ng h'v G AF - 9 133AF - 9 P
) IL C'si i'ni G d h(y s t d 9 o'p'ar algi 2c gs H 2- g'dgi y'st i 2v'ar algi ot Bos d 2v'ar algi ot
 Cuii Rsl'v
) IL - o'Hk ng7
 n(A3FF0D 32no'as'ot A 47 F: 80321542 D885, 2b'eg CodgA F: 333F:



1 p'Ag'g' l' r' C'op' o'OM'f'f's
 3'F' C'oi' g'l'g' y'st 1 a2
 N'p'ng s'g'M'N'K'G 9J50C

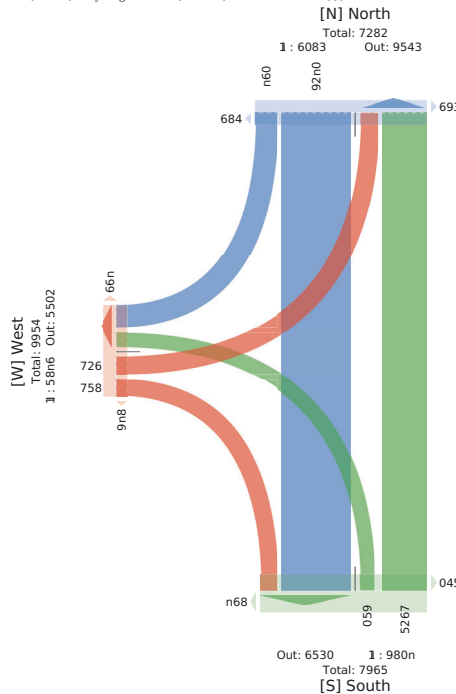
Ingh l ap'p'ot	Noug bol' f'ol t d				bol' f' Noug f'ol t d				E g'y Sai' f'ol t d			
	B	W	U	) pp	W	n	U	) pp	B	n	U	) pp
% v'aralgi ot Cuii Rsl'v	1	1	1	1	1	1	1	1	1	1	1	1

5589707 - QUEEN ELIZABETH DRWY @ FIFTH AVE ... - TMC

Sat M7, 20FuFF
 SI L'eng h'v l' 3 u A - 6, 3 u A - P
) IL C'si i'ni l' e th(2 sgd - o'bayr y'ni 0c ns F 0'Andni 2'eg gi 0v ty'ni and Bos d 0v ty'ni and
 Cuii Rsl'v
) IL - o'Hk ng7
 n(3, uuFD, 0e oys 7og 3292u: 5F, 06 94D 5, 20b'r'h Codn 32u8, , , , ,



1 p'Ag'g' l' r' C'op' o'OM'f'f's
 u u C'og' T'ls 7og 1 a0
 N'p'ng s'g'M'N'K'G 9J50C



5589707 - QUEEN ELIZABETH DRWY @ FIFTH AVE ... - TMC

Tue May 3, 20F00

1 L 1 ng h (6 1 L : 6 6 1 L A M ng 9 l ngt 1 P u)

C9s gji ni l d e o r y g c H L P p u a v a h i 2 1 n g - v 2 l n h i y u g i c 2 B a v a h i P c R p g F 2 B a v a h i P c

s u P i w g 9 A

C9L P - n k n c y

n h (3 F F 0 D 4 3 2 d P a g e P c (, 6 7 F 4 8 0 3 2 : 5 6 7 D 8 5 , 2 b e n s P H i (, F . 3 3 3 F 4



1 u P - e h H i v (s o y P O M g e r s

3 F F s P e r i v g e P c 1 u 2

N p p g r 2 M N 2 K O G 6 J 8 2 s C

5589707 - QUEEN ELIZABETH DRWY @ FIFTH AVE ... - TMC

Sat May 7, 20F00

1 L 1 e n g h 2 1 1 L : 1 (2 1 1 L 3 : M e a n - 1 e n g 6 P a

C - s e n i e i h t o r 2 n c H L P P a y - e i 0 6 e n a w l e h i 2 n c i 0 B t y v - e i P c R p h F B t y v - e i P c

s a P i w n g 3

C - L P A e k e c 7

n h (, u i u F B , 0 d P y n 7 P c (2 1 - 4 u 9 5 F , 0 : 1 4 D) 5 . 2 0 b r e s P H i (2 u 8 , , u 9



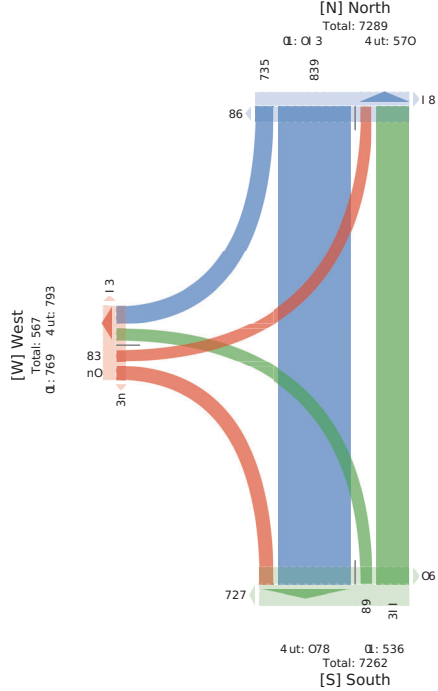
1 u P A h i v (s o y P O M g e r s

u u s P e i 2 - n P c 1 a 0

N e p e n c 0 M N 0 K F G 1 J 5 0 s C

Wk n	Nbr b y y P c H				b P y Nbr P P c H				E n y S g y P y c H				
	R	W	U	Cpp	W	U	D	Cpp	R	d	U	Cpp	l n t P
0F00:3F3	4	3	6	F 0E3	6	3	D	F 5	3	F	3	F 05	0
60F1L	04	3	F	F 3D	3	5	F	D	03	3	F	F 43	0
636L	08	3	F	F 0E	3	6	F	F 3	05	3	F	F 30	43
648L	0D	3	F	F 3	5	03	F	F 85	08	0	F	F 63	31
W g p	304	108	F	F 500	066	8	F	F 40	12	0	F	F 3	0
% C a p a g e	3.7%	12.7%	F%	F 37%	5.0%	0.33%	F%	F 1%	6.2%	0.37%	F%	F 1%	1%
% W g p	37%	63%	F%	F 37%	0.7%	67%	F%	F 0.7%	5.8%	6.7%	F%	F 307%	1%
1 1 T	F54	F D 8	F	F 83D	F D 4	F D 0 3	F	F D 0	F 5	3	F 5 6	F	F 750
d e r y g c H L P p u a v a h i	3F8	34	F	F 500	0	5	F	F 436	D	0	F	F 3	D
% d e r y g c H L P p u a v a h i	1.2%	8.5%	F%	F 8.3%	8.3%	8.0%	F%	F 8.5%	8.0%	3.1%	F%	F 8.8%	8.5%
1 n g - v	F	8	F	F 8	5	3	F	F D	F	F	F	F	F 35
% 1 n g - v	1%	37%	F%	F 37%	0.5%	37%	F%	F 0.5%	1%	1%	F%	F 1%	37%
B a v a h i P c R p g i	3	5	F	F 03	3	F	F 3	F 3	3	F	F 3	F 3	04
% B a v a h i P c R p g i	33%	37%	F%	F 03%	7%	1%	F%	F 7%	37%	1%	F%	F 75%	37%
1 n h i y u g i	1	1	1	1 313	1	1	1	1 3	1	1	1	1 50	1
% 1 n h i y u g i	1	1	1	1 84%	1	1	1	1 84%	1	1	1	1 84%	1
B a v a h i P c s u P i w g 9	1	1	1	1 30	1	1	1	1 30	1	1	1	1 0	0
% B a v a h i P c s u P i w g 9	1	1	1	1 37%	1	1	1	1 37%	1	1	1	1 2%	1

1 n h i y u g i g c H B a v a h i P c s u P i w g 9 7 d (d n g R R (R e o r 2 W (W u 2 U : W u c



5589707 - QUEEN ELIZABETH DRWY @ PRINCESS PA... - TMC

Tue May 3, 20F00

1 L 1 n g h b y 6 A F - 9 1 3 3 A F - 9 P

) 1 L C b i g i 6 n d (y i s t d 9 o y a r a l g i 2 c g s H 2 - g d g j y s t i 2 v n a r a l g i o t B o s d 2 v n a r a l g i o t

C u i i R s l w P

1 L 9 a h j k g y

n h 3 F F 0 D 4 2 n o a s y o t A 7 8 F 3 4 , 2 4 7 8 5 D : 4 D E . e g C o d g A , F 5 F 3 F :



1 u P - e h H i v (s o y P O M g e r s

3 F F s P e r i v g e P c 1 u 2

N p p g r 2 M N 2 K O G 7 J 8 2 C

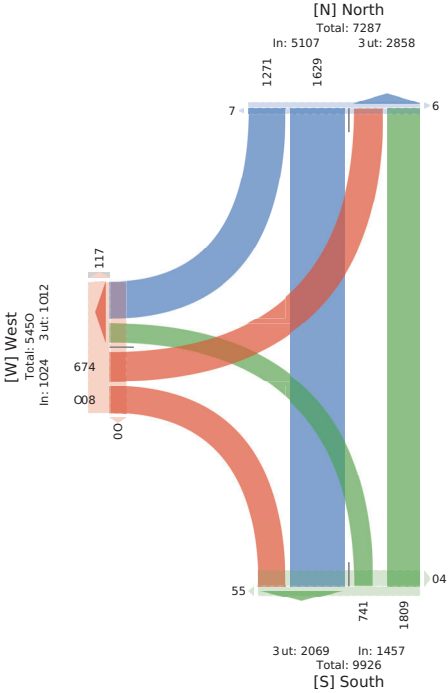
Wk g	Nbr o l y f o l d				o l y Nbr f o l d				E g y S s i y f o l d			
	B	W	U	pp	W	n	U	pp	B	n	U	pp
% v a r a l g i o t C u i i R s l w	1	1	1	1	1	1	1	1	1	1	1	1
% - g d g j y s t i s t d v n a r a l g i o t C u i i R s l w h A n g g 2 B A B d h i y 2 W A W u 2 U A U I W u	1	1	1	1	1	1	1	1	1	1	1	1

Wk g	Nbr o l y f o l d				o l y Nbr f o l d				E g y S s i y f o l d			
	B	W	U	pp	W	n	U	pp	B	n	U	pp
0F00:3F3	4	3	6	F 0E3	6	3	D	F 5	3	F	3	F 05
60F1L	04	3	F	F 3D	3	5	F	D	03	3	F	F 43
636L	08	3	F	F 0E	3	6	F	F 3	05	3	F	F 30
648L	0D	3	F	F 3	5	03	F	F 85	08	0	F	F 63
W g p	304	108	F	F 500	066	8	F	F 40	12	0	F	F 3
% C a p a g e	3.7%	12.7%	F%	F 37%	5.0%	0.33%	F%	F 1%	6.2%	0.37%	F%	F 1%
% W g p	37%	63%	F%	F 37%	0.7%	67%	F%	F 0.7%	5.8%	6.7%	F%	F 307%
1 1 T	F54	F D 8	F	F 83D	F D 4	F D 0 3	F	F D 0	F 5	3	F 5 6	F
d e r y g c H L P p u a v a h i	3F8	34	F	F 500	0	5	F	F 436	D	0	F	F 3
% d e r y g c H L P p u a v a h i	1.2%	8.5%	F%	F 8.3%	8.3%	8.0%	F%	F 8.5%	8.0%	3.1%	F%	F 8.8%
1 n g - v	F	8	F	F 8	5	3	F	F D	F	F	F	F
% 1 n g - v	1%	37%	F%	F 37%	0.5%	37%	F%	F 0.5%	1%	1%	F%	F 1%
B a v a h i P c R p g i	3	5	F	F 03	3	F	F 3	F 3	3	F	F 3	F 3
% B a v a h i P c R p g i	33%	37%	F%	F 03%	7%	1%	F%	F 7%	37%	1%	F%	F 75%
1 n h i y u g i	1	1	1	1 313	1	1	1	1 3	1	1	1	1 50
% 1 n h i y u g i	1	1	1	1 84%	1	1	1	1 84%	1	1	1	1 84%
B a v a h i P c s u P i w g 9	1	1	1	1 30	1	1	1	1 30	1	1	1	1 0
% B a v a h i P c s u P i w g 9	1	1	1	1 37%	1	1	1	1 37%	1	1	1	1 2%

5589707 - QUEEN ELIZABETH DRWY @ PRINCESS PA... - TMC
 Sat My7, 20FuFF
 S1 LEgh7 t 3 u A- 6, 3 u A- P
) ILCSiini le th(2 sgd - o'bayr ylni 0c nsH0Andni 7zsg10v tyr ylni og Bosd0v tyr ylni og
 Caoi iRslwP
) LL- oHhkg7
 nk 3, uuiF90e oys7og3242u, 920B45 D: 9D08t7h Codn32u. ub, u:



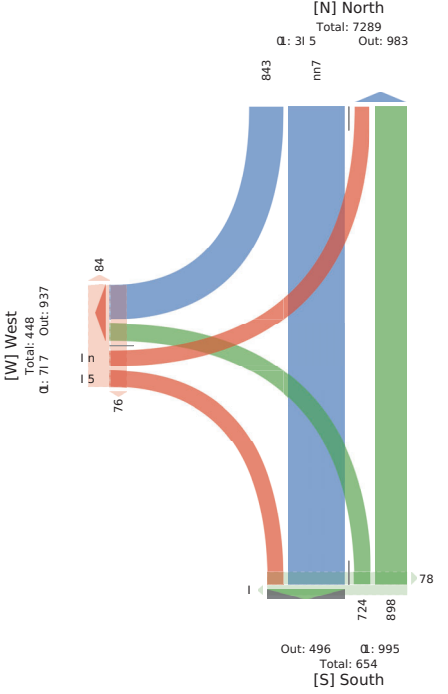
5589707 - QUEEN ELIZABETH DRWY @ PRINCESS PA... - TMC
 Tue My3, 20F0D
 L L 1 ngr h (61 L : 6, 61 L A M- ng9l ngr 1 P) u
 C9s 9gi ini ldr y gHL PpPuvah121 ng- v21 nHh1yugci2Bavah1 Pc Rpgh2Bavah1 Pc
 s uPi w9 A
 C9L P- nk ncy
 nk (3FF0D42d PgyPc (, 67 F34, 2:46BDF54DE. yn s PH(, F8Fb3F5



Wk n	NPar P y r f P) c H					P y r f P) c H					E ay S g y P) c H				
	R	W	U	Cpp	l n P	W	d	U	Cpp	l n P	R	d	U	Cpp	l n P
0F00:3E:3, (61 L	b	30F	F	38b	F	86	05	F	DD	D	35	38	F	0b	35
60F1 L	86	338	F	30B	F	8F	0F	F	DF	5	0F	3D	F	5D	35
60B1 L	D	338	F	0F5	F	60	53	F	1B	5	0D	53	F	0b	35
60G1 L	6D	DB	F	3,	F	66	53	F	DB	5	58	0b	F	86	35
Wpgl	068	, 3	F	8b-4	F	050	316	F	554	03	b4	b,	F	3b3	, 5
% CapaPgr	587%	857%	P%			803%	537%	P%			6F2%	, 87%	P%		
% Wpgl	0F7%	587%	P%	687%		308%	18%	P%	047%		47%	42%	P%	367%	
11 T	F84,	F73b		F18F		F16	F14		F38F		F84,	F86D		F856	
d nry g:HL PpPuvah1	0,4	, 50	F	84b		008	3F3	F	504		b0	D,	F	3B	
% d nry g:HL PpPuvah1	b86%	b0P%	P%	b47%		b47%	b87%	P%	b47%		b, 2%	b, 2%	P%	b, 2%	
1 ng- v	4	0	F	b		5	,	F	4		6	6	F	3F	
% 1 ng- v	02%	F6%	P%	35%		35%	53%	P%	02%		67%	67%	P%	67%	
Bavah1 Pc Rpgh	0	4	F	b		5	F	F	5		F	F	F	F	
% Bavah1 Pc Rpgh	F0%	32%	P%	35%		35%	P%	P%	F7%		P%	P%	P%	P%	
1 nHh1yugci															
% 1 nHh1yugci											34F%				bF2%
Bavah1 Pc s uPi w9 A															
% Bavah1 Pc s uPi w9 A															b5%

1 nHh1yugci gHLBavah1 Pc s uPi w9 A 7d(d nQDR(R nry) W(W) 2U(U: W) t c

5589707 - QUEEN ELIZABETH DRWY @ PRINCESS PA... - TMC
 Sat My7, 20FuFF
 L L 1 eng h2(1 L L : 1(21 L L 3: M'ean- 1 eng 6 P) a
 C- s- ni ei hdtor 2 nchL PpPyvy-ei 06 en/ w0l ehki 7znci 0Btyvy-ei Pc RPhfDBtyvy-ei Pc
 s aPi wng3
 C- L P'ack ec7
 nk (, uuiF90d Pyn7Pc(2142u, 920:9146D: 9D08t7s PH(2uSub, u.



APPENDIX B - INTERSECTION COLLISION DATA



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: AYLMER AVE @ BANK ST

Traffic Control: Traffic signal

Total Collisions: 18

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jul-28, Tue,20:27	Clear	Rear end	Non-fatal injury	Dry	North	Slowing or stopping	Bicycle	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Cyclist	
2015-Aug-24, Mon,13:28	Rain	Rear end	P.D. only	Wet	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Mar-17, Thu,18:15	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Delivery van	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Pick-up truck	Other motor vehicle	
2016-Jun-12, Sun,11:35	Rain	SMV other	Non-fatal injury	Wet	East	Turning left	Automobile, station wagon	Pedestrian	1
2016-Jul-06, Wed,13:32	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	
2016-Jul-18, Mon,17:37	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2017-Jan-31, Tue,17:10	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2017-Jul-01, Sat,22:34	Clear	Rear end	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jul-08, Sat,18:29	Clear	SMV other	Non-fatal injury	Dry	North	Turning left	School bus	Pedestrian	1
2017-Aug-01, Tue,17:39	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Aug-30, Wed,08:10	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Dec-28, Fri,13:46	Rain	Angle	P.D. only	Wet	West	Turning left	Unknown	Other motor vehicle	0
					North	Going ahead	Delivery van	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: AYLMER AVE @ BANK ST

Traffic Control: Traffic signal

Total Collisions: 18

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2019-Jan-05, Sat,01:45	Clear	Sideswipe	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Mar-14, Thu,21:55	Clear	Turning movement	P.D. only	Wet	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Sep-20, Fri,08:45	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	
2019-Dec-21, Sat,16:00	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Passenger van	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Oct-10, Sat,11:39	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2021-Mar-11, Thu,20:00	Rain	Sideswipe	P.D. only	Wet	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	

Location: BANK ST @ ECHO DR

Traffic Control: Stop sign

Total Collisions: 9

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2015-Jan-26, Mon,12:17	Clear	Rear end	P.D. only	Ice	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2015-May-06, Wed,11:23	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Jul-09, Thu,20:45	Clear	Angle	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Aug-16, Tue,17:39	Rain	Angle	P.D. only	Wet	East	Turning right	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: BANK ST @ ECHO DR

Traffic Control: Stop sign

Total Collisions: 9

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Jan-24, Tue,09:05	Freezing Rain	Approaching	P.D. only	Ice	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Unknown	Passenger van	Other motor vehicle	
					East	Unknown	Automobile, station wagon	Other motor vehicle	
					East	Unknown	Pick-up truck	Other motor vehicle	
2017-Feb-22, Wed,14:35	Clear	Angle	P.D. only	Dry	East	Turning left	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2019-Feb-05, Tue,08:39	Rain	Sideswipe	P.D. only	Wet	South	Unknown	Unknown	Other motor vehicle	0
					South	Stopped	Municipal transit bus	Other motor vehicle	
2019-Jun-26, Wed,23:50	Clear	Turning movement	P.D. only	Dry	South	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-Aug-20, Fri,14:15	Clear	Other	P.D. only	Dry	North	Reversing	Pick-up truck	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	

Location: BANK ST @ EXHIBITION WAY

Traffic Control: Traffic signal

Total Collisions: 14

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2015-Jan-08, Thu,12:14	Snow	Rear end	P.D. only	Packed snow	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Truck - closed	Other motor vehicle	
2015-Mar-14, Sat,23:43	Snow	Rear end	P.D. only	Loose snow	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Jul-17, Fri,23:22	Clear	Turning movement	P.D. only	Wet	North	Going ahead	Passenger van	Other motor vehicle	0
					North	Making "U" turn	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: BANK ST @ EXHIBITION WAY

Traffic Control: Traffic signal

Total Collisions: 14

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2015-Oct-13, Tue,12:03	Fog, mist, smoke, dust	Turning movement	Non-fatal injury	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2015-Nov-06, Fri,11:04	Rain	Rear end	P.D. only	Wet	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2016-Sep-03, Sat,21:58	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Cyclist	0
					North	Going ahead	Bicycle	Other motor vehicle	
2016-Nov-13, Sun,11:35	Clear	SMV other	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Pedestrian	2
2016-Nov-24, Thu,06:52	Snow	Rear end	P.D. only	Loose snow	North	Turning right	Passenger van	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Aug-12, Sat,11:20	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Mar-11, Sun,17:20	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2018-Nov-13, Tue,03:36	Snow	SMV other	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Curb	0
2018-Nov-20, Tue,21:00	Snow	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Dec-06, Thu,21:45	Clear	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Dec-08, Sun,13:30	Clear	Sideswipe	P.D. only	Dry	North	Unknown	Automobile, station wagon	Other motor vehicle	0
					North	Unknown	Automobile, station wagon	Other motor vehicle	

Location: BANK ST @ FIFTH AVE

Traffic Control: Traffic signal

Total Collisions: 23

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
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Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: BANK ST @ FIFTH AVE

Traffic Control: Traffic signal

Total Collisions: 23

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2015-Feb-06, Fri,17:49	Clear	Sideswipe	P.D. only	Slush	North	Going ahead	Delivery van	Other motor vehicle	0
					North	Stopped	Municipal transit bus	Other motor vehicle	
2015-Mar-15, Sun,16:59	Clear	Angle	P.D. only	Dry	South	Going ahead	Passenger van	Other motor vehicle	0
					East	Going ahead	Passenger van	Other motor vehicle	
2015-May-26, Tue,18:00	Clear	Angle	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Sep-03, Thu,10:18	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Mar-04, Fri,18:42	Clear	Sideswipe	P.D. only	Dry	North	Unknown	Automobile, station wagon	Other motor vehicle	0
					North	Unknown	Automobile, station wagon	Other motor vehicle	
2016-Oct-06, Thu,18:44	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Passenger van	Other motor vehicle	
2016-Oct-19, Wed,16:29	Clear	Turning movement	P.D. only	Dry	West	Turning right	Unknown	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Nov-25, Fri,19:26	Clear	Turning movement	P.D. only	Wet	North	Turning left	School bus	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-May-15, Mon,08:48	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Jun-26, Mon,22:42	Rain	Rear end	P.D. only	Wet	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2017-Dec-16, Sat,16:52	Clear	SMV unattended vehicle	P.D. only	Wet	East	Turning left	Fire vehicle	Unattended vehicle	0



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Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: BANK ST @ FIFTH AVE

Traffic Control: Traffic signal

Total Collisions: 23

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Apr-26, Thu,07:12	Rain	Sideswipe	P.D. only	Wet	South	Changing lanes	Truck - closed	Other motor vehicle	0
					South	Stopped	Truck - tractor	Other motor vehicle	
2019-Mar-07, Thu,13:38	Clear	SMV other	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Pedestrian	1
2019-Aug-16, Fri,23:17	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Oct-03, Thu,06:13	Clear	Turning movement	Non-fatal injury	Dry	North	Going ahead	Bicycle	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Cyclist	
2019-Oct-06, Sun,00:00	Rain	Angle	P.D. only	Wet	West	Turning right	Fire vehicle	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Nov-21, Thu,18:18	Rain	Turning movement	Non-fatal injury	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-04, Sat,17:15	Clear	Rear end	P.D. only	Wet	North	Stopped	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Feb-15, Sat,14:00	Clear	Rear end	P.D. only	Packed snow	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Aug-28, Fri,11:58	Clear	Sideswipe	P.D. only	Dry	North	Pulling away from shoulder or curb	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Nov-05, Thu,11:11	Clear	SMV other	Non-fatal injury	Dry	West	Turning left	Pick-up truck	Pedestrian	1
2021-Mar-17, Wed,13:56	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	
2021-Mar-17, Wed,14:58	Clear	Rear end	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: BANK ST @ HOLMWOOD AVE

Traffic Control: Traffic signal

Total Collisions: 21

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-05, Mon,19:25	Clear	Rear end	Non-fatal injury	Slush	South	Unknown	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-May-17, Tue,17:08	Clear	Rear end	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2016-May-25, Wed,08:51	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Jun-16, Thu,09:00	Clear	Sideswipe	P.D. only	Dry	South	Going ahead	Motorcycle	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Jul-07, Thu,14:06	Clear	Rear end	P.D. only	Dry	North	Going ahead	Unknown	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Aug-12, Fri,11:30	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2016-Nov-15, Tue,15:24	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Dec-18, Sun,12:26	Clear	Approaching	Non-fatal injury	Loose snow	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Mar-17, Fri,12:17	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-May-10, Wed,20:45	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Aug-22, Wed,09:23	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Cyclist	0
					South	Going ahead	Bicycle	Other motor vehicle	
2018-Oct-05, Fri,22:45	Clear	Sideswipe	P.D. only	Dry	South	Unknown	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: BANK ST @ HOLMWOOD AVE

Traffic Control: Traffic signal

Total Collisions: 21

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Nov-21, Thu,13:56	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Truck - dump	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-13, Fri,18:00	Rain	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Unknown	Other motor vehicle	
2019-Dec-28, Sat,11:42	Clear	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-14, Tue,12:20	Clear	Rear end	P.D. only	Wet	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2020-Aug-15, Sat,20:23	Clear	Rear end	P.D. only	Dry	North	Unknown	Unknown	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Sep-04, Fri,11:00	Clear	Turning movement	P.D. only	Dry	South	Turning left	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Sep-04, Fri,17:40	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	
2021-Jun-22, Tue,08:00	Clear	Other	P.D. only	Dry	West	Reversing	Truck - closed	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2021-Sep-20, Mon,11:35	Clear	Angle	P.D. only	Dry	East	Turning right	Unknown	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	

Location: BANK ST @ MARCHE WAY

Traffic Control: Stop sign

Total Collisions: 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Nov-25, Sun,06:25	Freezing Rain	SMV other	Non-fatal injury	Ice	West	Turning right	Automobile, station wagon	Pedestrian	1



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: BANK ST @ MARCHE WAY

Traffic Control: Stop sign

Total Collisions: 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2021-Aug-30, Mon,17:06	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	

Location: BANK ST @ SUNNYSIDE AVE

Traffic Control: Traffic signal

Total Collisions: 37

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-15, Thu,20:34	Clear	Sideswipe	P.D. only	Slush	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Jan-22, Thu,10:28	Clear	Rear end	P.D. only	Ice	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Feb-11, Wed,22:08	Snow	Angle	P.D. only	Loose snow	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Mar-18, Wed,16:25	Clear	Rear end	P.D. only	Dry	South	Unknown	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2015-May-13, Wed,18:10	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Pick-up truck	Other motor vehicle	
2015-May-26, Tue,07:02	Clear	Sideswipe	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	
2015-Jun-18, Thu,15:38	Clear	Sideswipe	P.D. only	Dry	North	Going ahead	Truck - tractor	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Jun-25, Thu,09:30	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Motorcycle	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Jun-28, Sun,20:10	Rain	Rear end	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: BANK ST @ SUNNYSIDE AVE

Traffic Control: Traffic signal

Total Collisions: 37

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2015-Sep-29, Tue,17:59	Rain	Turning movement	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2015-Sep-30, Wed,15:00	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Oct-15, Thu,12:42	Rain	Rear end	P.D. only	Wet	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Dec-29, Tue,15:30	Snow	Sideswipe	P.D. only	Loose snow	North	Unknown	Unknown	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2016-Jun-09, Thu,20:39	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Oct-08, Sat,21:31	Clear	Rear end	P.D. only	Dry	North	Going ahead	Unknown	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Nov-30, Wed,16:44	Rain	SMV other	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Pedestrian	1
2016-Dec-17, Sat,11:41	Clear	Rear end	P.D. only	Loose snow	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jan-28, Sat,08:58	Rain	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Mar-14, Tue,12:42	Clear	Turning movement	P.D. only	Loose snow	North	Turning left	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Passenger van	Other motor vehicle	
2017-May-20, Sat,17:53	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	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: BANK ST @ SUNNYSIDE AVE

Traffic Control: Traffic signal

Total Collisions: 37

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Jun-25, Sun,09:30	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	
2017-Aug-10, Thu,13:59	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Truck - tractor	Other motor vehicle	
2017-Sep-11, Mon,07:46	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	
2017-Sep-25, Mon,21:17	Clear	Turning movement	Non-fatal injury	Dry	East	Turning left	Bicycle	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Cyclist	
2017-Nov-09, Thu,21:06	Rain	SMV other	Non-fatal injury	Wet	South	Turning left	Automobile, station wagon	Pedestrian	1
2018-Aug-01, Wed,16:36	Clear	Turning movement	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Sep-14, Fri,13:34	Clear	SMV other	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Pedestrian	1
2018-Oct-06, Sat,16:40	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Municipal transit bus	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Oct-31, Wed,15:51	Rain	Rear end	Non-fatal injury	Wet	South	Going ahead	Passenger van	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Feb-02, Sat,09:50	Snow	Rear end	P.D. only	Loose snow	South	Going ahead	Unknown	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2019-Apr-26, Fri,15:15	Rain	Sideswipe	P.D. only	Wet	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Sep-27, Fri,14:04	Clear	Sideswipe	P.D. only	Dry	South	Stopped	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: BANK ST @ SUNNYSIDE AVE

Traffic Control: Traffic signal

Total Collisions: 37

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2020-Aug-08, Sat,17:53	Clear	Sideswipe	P.D. only	Dry	South	Turning right	Municipal transit bus	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2021-Feb-15, Mon,08:29	Clear	Turning movement	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2021-May-11, Tue,10:51	Clear	Turning movement	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Pick-up truck	Other motor vehicle	
2021-Aug-26, Thu,15:23	Clear	SMV other	Non-fatal injury	Dry	North	Going ahead	Motorcycle	Skidding/sliding	0
2021-Oct-02, Sat,01:00	Rain	Turning movement	P.D. only	Wet	South	Turning left	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: BANK ST @ WILTON CRES

Traffic Control: Stop sign

Total Collisions: 26

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2015-Jan-30, Fri,15:45	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2015-Apr-03, Fri,22:13	Rain	Turning movement	P.D. only	Wet	South	Turning right	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Sep-25, Fri,12:22	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Cyclist	0
					South	Going ahead	Bicycle	Other motor vehicle	
2015-Oct-25, Sun,22:40	Clear	Turning movement	P.D. only	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Feb-07, Sun,12:07	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Truck - closed	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: BANK ST @ WILTON CRES

Traffic Control: Stop sign

Total Collisions: 26

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Apr-01, Fri,18:31	Clear	Angle	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Municipal transit bus	Other motor vehicle	
2016-Apr-19, Tue,14:40	Clear	Rear end	P.D. only	Dry	North	Going ahead	Delivery van	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2016-May-28, Sat,14:38	Clear	Angle	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jun-15, Wed,14:08	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Cyclist	0
					South	Going ahead	Bicycle	Other motor vehicle	
2016-Oct-01, Sat,13:19	Clear	Angle	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2016-Oct-11, Tue,10:30	Clear	Angle	Non-fatal injury	Dry	East	Turning right	Automobile, station wagon	Cyclist	0
					North	Going ahead	Bicycle	Other motor vehicle	
2016-Dec-12, Mon,14:20	Drifting Snow	Rear end	P.D. only	Packed snow	South	Going ahead	Municipal transit bus	Other motor vehicle	0
					South	Slowing or stopping	Pick-up truck	Other motor vehicle	
2017-Jul-28, Fri,17:07	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Cyclist	0
					South	Going ahead	Bicycle	Other motor vehicle	
2017-Sep-24, Sun,13:23	Clear	Sideswipe	Non-fatal injury	Dry	North	Stopped	Automobile, station wagon	Cyclist	0
					North	Going ahead	Bicycle	Other motor vehicle	
2017-Dec-14, Thu,08:45	Clear	Angle	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Jan-12, Fri,12:22	Rain	Sideswipe	P.D. only	Wet	North	Unknown	Automobile, station wagon	Other motor vehicle	0
					North	Unknown	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: BANK ST @ WILTON CRES

Traffic Control: Stop sign

Total Collisions: 26

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Jun-19, Tue,13:49	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Cyclist	0
					South	Going ahead	Bicycle	Other motor vehicle	
2018-Oct-19, Fri,22:50	Clear	Rear end	Non-fatal injury	Wet	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Nov-15, Thu,17:00	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Dec-12, Wed,11:20	Clear	Rear end	P.D. only	Dry	East	Unknown	Unknown	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jun-01, Sat,15:40	Clear	Turning movement	P.D. only	Dry	South	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jun-23, Sun,22:45	Clear	Turning movement	P.D. only	Dry	North	Turning left	Unknown	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jul-14, Sun,10:45	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	
2019-Dec-21, Sat,06:39	Clear	SMV other	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Curb	0
2020-Feb-21, Fri,15:23	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2021-Nov-27, Sat,19:59	Rain	Turning movement	Non-fatal injury	Wet	North	Turning left	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: FIFTH AVE @ QUEEN ELIZABETH DRWY

Traffic Control: Traffic signal

Total Collisions: 10

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Jan-12, Tue,15:10	Snow	Rear end	P.D. only	Dry	South	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Jan-13, Wed,08:30	Clear	Sideswipe	P.D. only	Loose snow	North	Unknown	Unknown	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Apr-15, Fri,18:32	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2016-Apr-23, Sat,19:45	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Aug-20, Sat,17:15	Clear	SMV other	P.D. only	Dry	South	Turning left	Pick-up truck	Pole (sign, parking meter)	0
2016-Oct-16, Sun,10:35	Rain	Turning movement	Non-fatal injury	Wet	South	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					South	Overtaking	Pick-up truck	Other motor vehicle	
2016-Dec-29, Thu,16:50	Snow	Rear end	Non-fatal injury	Slush	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Truck-other	Other motor vehicle	
2017-Jul-06, Thu,20:45	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Truck - closed	Other motor vehicle	
2017-Dec-15, Fri,18:19	Snow	Rear end	P.D. only	Loose snow	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Passenger van	Other motor vehicle	
2019-Jan-17, Thu,17:20	Clear	Rear end	P.D. only	Wet	South	Going ahead	Passenger van	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	

Location: PRINCESS PATRICIA WAY @ QUEEN ELIZABETH DRWY

Traffic Control: Stop sign

Total Collisions: 8

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
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Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 To: December 31, 2021

Location: PRINCESS PATRICIA WAY @ QUEEN ELIZABETH DRWY

Traffic Control: Stop sign

Total Collisions: 8

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-May-18, Wed,11:56	Clear	Rear end	P.D. only	Dry	North	Going ahead	Motorcycle	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-May-06, Sat,15:30	Rain	Approaching	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jun-30, Fri,17:48	Clear	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Mar-19, Mon,23:36	Clear	Sideswipe	P.D. only	Dry	South	Merging	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Feb-15, Fri,18:12	Clear	Angle	P.D. only	Wet	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Mar-03, Sun,21:00	Clear	Angle	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Apr-22, Mon,20:38	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Motorcycle	Other motor vehicle	
2019-Aug-24, Sat,17:05	Clear	Angle	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	

APPENDIX C - TDM CHECKLIST

Introduction

The City of Ottawa's *Transportation Impact Assessment (TIA) Guidelines* (specifically Module 4.3—Transportation Demand Management) requires proponents of qualifying developments to assess the context, need and opportunity for transportation demand management (TDM) measures at their development. The guidelines require that proponents complete the City's **TDM Measures Checklist**, at a minimum, to identify any TDM measures being proposed.

The remaining sections of this document are:

- Using the Checklist
- Glossary
- TDM Measures Checklist: Non-Residential Developments
- TDM Measures 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

The City's *TIA Guidelines* are designed so that *Module 3.1—Development-Generated Travel Demand*, *Module 4.1—Development Design*, and *Module 4.2—Parking* are complete before a proponent begins *Module 4.3—Transportation Demand Management*.

Within Module 4.3, *Element 4.3.1—Context for TDM* and *Element 4.3.2—Need and Opportunity* are intended to create an understanding of the need for any TDM measures, and of the results they are expected to achieve or support. Once those two elements are complete, proponents begin *Element 4.3.3—TDM Program* that requires proponents to identify proposed TDM measures using the **TDM Measures Checklist**, at a minimum. The *TIA Guidelines* note that the City may require additional analysis for large or complex development proposals, or those that represent a higher degree of performance risk; as well, proponents proposing TDM measures for a new development must also propose an implementation plan that addresses planning and coordination, funding and human resources, timelines for action, performance targets and monitoring requirements.

This **TDM Measures Checklist** document includes two actual checklists, one for non-residential developments (office, institutional, retail or industrial) and one for residential developments (multi-family, condominium or subdivision). 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 TDM measures being proposed and provides additional detail on them, including an implementation plan as required by the City's *TIA Guidelines*.

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

- **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.
- **★** —The measure is one of the most dependably effective tools to encourage the use of sustainable modes.

Glossary

This glossary defines and describes the following measures that are identified in the **TDM Measures Checklist**:

<p><i>TDM program management</i></p> <ul style="list-style-type: none">▪ Program coordinator▪ Travel surveys <p><i>Parking</i></p> <ul style="list-style-type: none">▪ Priced parking <p><i>Walking & cycling</i></p> <ul style="list-style-type: none">▪ Information on walking/cycling routes & destinations▪ Bicycle skills training▪ Valet bike parking <p><i>Transit</i></p> <ul style="list-style-type: none">▪ Transit information▪ Transit fare incentives▪ Enhanced public transit service▪ Private transit service <p><i>Ridesharing</i></p> <ul style="list-style-type: none">▪ Ridematching service▪ Carpool parking price incentives▪ Vanpool service <p><i>Carsharing & bikesharing</i></p> <ul style="list-style-type: none">▪ Bikeshare stations & memberships▪ Carshare vehicles & memberships <p><i>TDM marketing & communications</i></p> <ul style="list-style-type: none">▪ Multimodal travel information▪ Personalized trip planning▪ Promotions <p><i>Other incentives & amenities</i></p> <ul style="list-style-type: none">▪ Emergency ride home▪ Alternative work arrangements▪ Local business travel options▪ Commuter incentives▪ On-site amenities
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For further information on selecting and implementing TDM measures (particularly as they apply to non-residential developments, with a focus on workplaces), readers may find it helpful to consult Transport Canada's *Workplace Travel Plans: Guidance for Canadian Employers*, which can be downloaded in English and French from the ACT Canada website at www.actcanada.com/resources/act-resources.

► ***TDM program management***

While some TDM measures can be implemented with a minimum of effort through routine channels (e.g. parking or human resources), more complex measures or a larger development site may warrant assigning responsibility for TDM program coordination to a designated person either inside or outside the implementing organization. Similarly, some TDM measures are more effective if they are targeted or customized for specific audiences, and would benefit from the collection of related information.

Program coordinator. This person is charged with day-to-day TDM program development and implementation. Only in very large employers with thousands of workers is this likely to be a full-time, dedicated position. Usually, it is added to an existing role in parking, real estate, human resources or environmental management. In practice, this role may be called TDM coordinator, commute trip reduction coordinator or employee transportation coordinator. The City of Ottawa can identify external resources (e.g. non-profit organizations or consultants) that could provide these services.

Travel surveys. Travel surveys are most commonly conducted at workplaces, but can be helpful in other settings. They identify how and why people travel the way they do, and what barriers and opportunities exist for different behaviours. They usually capture the following information:

- *Personal data* including home address or postal code, destination, job type or function, employment status (full-time, part-time and/or teleworker), gender, age and hours of work
- *Commute information* including distance or time for the trip between home and work, usual methods of commuting, and reasons for choosing them
- *Barriers and opportunities* including why other commuting methods are unattractive, willingness to consider other options, and what improvements to other options could make them more attractive

► ***Parking***

Priced parking. Charging for parking is typically among the most effective ways of getting drivers to consider other travel options. While drivers may not support parking fees, they can be more accepting if the revenues are used to improve other travel options (e.g. new showers and change rooms, improved bicycle parking or subsidized transit passes). At workplaces or daytime destinations, parking discounts (e.g. early bird specials, daily passes that cost significantly less than the equivalent hourly charge, monthly passes that cost significantly less than the equivalent daily charge) encourage long-term parking and discourage the use of other travel options. For residential uses, unbundling parking costs from dwelling purchase, lease or rental costs provides an incentive for residents to own fewer cars, and can reduce car use and the costs of parking provision.

► **Walking & cycling**

Active transportation options like cycling and walking are particularly attractive for short trips (typically up to 5 km and 2 km, respectively). Other supportive factors include an active, health-conscious audience, and development proximity to high-quality walking and cycling networks. Common challenges to active transportation include rain, darkness, snowy or icy conditions, personal safety concerns, the potential for bicycle theft, and a lack of shower and change facilities for those making longer trips.

Information on walking/cycling routes & destinations. Ottawa, Gatineau and the National Capital Commission all publish maps to help people identify the most convenient and comfortable walking or cycling routes.

Bicycle skills training. Potential cyclists can be intimidated by the need to ride on roads shared with motor vehicles. This barrier can be reduced or eliminated by offering cycling skills training to interested cyclists (e.g. CAN-BIKE certification courses).

Valet bike parking. For large events, temporary “valet parking” areas can be easily set up to maximize convenience and security for cyclists. Experienced local non-profit groups can help.

► **Transit**

Transit information. Difficulty in finding or understanding basic information on transit fares, routes and schedules can prevent people from trying transit. Employers can help by providing online links to OC Transpo and STO websites. Transit users also appreciate visible maps and schedules of transit routes that serve the site; even better, a screen that shows real-time transit arrival information is particularly useful at sites with many transit users and an adjacent transit stop or station.

Transit fare incentives. Free or subsidized transit fares are an attractive incentive for non-transit riders to try transit. Many non-users are unsure of how to pay a fare, and providing tickets or a preloaded PRESTO card (or, for special events, pre-arranging with OC Transpo that transit fares are included with event tickets) overcome that barrier.

Enhanced public transit service. OC Transpo may adjust transit routes, stop locations, service hours or frequencies for an agreed fee under contract, or at no cost where warranted by the potential ridership increase. Information provided by a survey of people who travel to a given development can support these decisions.

Private transit service. At remote suburban or rural workplaces, a poor transit connection to the nearest rapid transit station can be an obstacle for potential transit users, and an employer in this situation could initiate a private shuttle service to make transit use more feasible or attractive. Other circumstances where a shuttle makes sense include large special events, or a residential development for people with limited independent mobility who still require regular access to shops and services.

► **Ridesharing**

Ridesharing's potential is greatest in situations where transit ridership is low, where parking costs are high, and/or where large numbers of car commuters (e.g. employees or full-time students) live reasonably far from the workplace.

Ridematching service. Potential carpoolers in Ottawa are served by www.OttawaRideMatch.com, an online service to help people find carpool partners. Employers can arrange for a dedicated portal where their employees can search for potential carpool partners only among their colleagues, if they desire. Some very large employers may establish internal ridematching services, to maximize employee uptake and corporate control. Ridematching service providers typically include a waiver to relieve employers of liability when their employees start carpooling through a ridematching service. Ridesharing with co-workers also tends to eliminate security concerns.

Carpool parking price incentives. Discounted parking fees for carpools can be an extra incentive to rideshare.

Vanpool service. Vanpools operate in the Toronto and Vancouver metropolitan areas, where vans that carry up to about ten occupants are driven by one of the vanpool members. Vanpools tend to operate on a cost-recovery basis, and are most practical for long-distance commutes where transit is not an option. Current legislation in Ontario does not permit third-party (i.e. private or non-profit) vanpool services, but does permit employers to operate internal vanpools.

► **Carsharing & bikesharing**

Bikeshare station & memberships. VeloGO Bike Share and Right Bike both operate bikesharing services in Ottawa. Developments that would benefit from having a bikeshare station installed at or near their development may negotiate directly with either service provider.

Carshare vehicles & memberships. VRTUCAR and Zipcar both operate carsharing services in Ottawa, for use by the general public or by businesses as an alternative to corporate fleets. Carsharing services offer 24-hour access, self-serve reservation systems, itemized monthly billings, and outsourcing of all financing, insurance, maintenance and administrative responsibilities.

► **TDM marketing & communications**

Multimodal travel information. Aside from mode-specific information discussed elsewhere in this document, multimodal information that identifies and explains the full range of travel options available to people can be very influential—especially when provided at times and locations where individuals are actively choosing among those options. Examples include: employees when their employer is relocating, or when they are joining a new employer; students when they are starting a program at a new institution; visitors or customers travelling to an unfamiliar destination, or when faced with new options (e.g. shuttle services or parking restrictions); and residents when they purchase or occupy a residence that is new to them.

Personalized trip planning. As an extension to the simple provision of information, this technique (also known as *individualized marketing*) is effective in helping people make more sustainable travel choices. The approach involves identifying who is most likely to change their travel choices (notably relocating employees, students or residents) giving them customized information, training and incentives to support them in making that change. It may be conducted with assistance from an external service provider with the necessary skills, and delivered in a variety of settings including workplaces and homes.

Promotions. Special events and incentives can raise awareness and encourage individuals to examine and try new travel options.

- *Special events* can help attract attention, build participation and celebrate successes. Events that have been held in Ottawa include Earth Day (in April) Bike to Work Month (in May), Environment Week (early June), International Car Free Day (September 22), and Canadian Ridesharing Week (October). At workplaces or educational institutions, similarly effective internal events could include workshops, lunch-and-learns, inter-departmental challenges, pancake breakfasts, and so on.
- *Incentives* can encourage trial of sustainable modes, and might include loyalty rewards for duration or consistency of activity (e.g. 1,000 km commuted by bicycle), participation prizes (e.g. for completing a survey or joining a special event), or personal recognition that highlights individual accomplishments.

► **Other incentives & amenities**

Emergency ride home. This measure assures non-driving commuters that they will be able to get home quickly and conveniently in case of family emergency (or in some workplaces, in case of unexpected overtime, severe weather conditions, or the early departure of a carpool driver) by offering a chit or reimbursement for taxi, carshare or rental car usage. Limits on annual usage or cost per employee may be set, although across North America the actual rates of usage are typically very low.

Alternative work arrangements. A number of alternatives to the standard 9-to-5, Monday-to-Friday workweek can support sustainable commuting (and work-life balance) at workplaces:

- *Flexible working hours* allow transit commuters to take advantage of the fastest and most convenient transit services, and allow potential carpoolers to include people who work slightly different schedules in their search for carpool partners. They also allow active commuters to travel at least one direction in daylight, either in the morning or the afternoon, during the winter.
- *Compressed workweeks* allow employees to work their required hours over fewer days (e.g. five days in four, or ten days in nine), eliminating the need to commute on certain days. For employees, this can promote work-life balance and gives flexibility for appointments. For employers, this can permit extended service hours as well as reduced parking demands if employees stagger their days off.
- *Telework* is a normal part of many workplaces. It helps reduce commuting activity, and can lead to significant cost savings through workspace sharing. Telework initiatives involve many stakeholders, and may face as much resistance as support within an organization. Consultation, education and training are helpful.

Local business travel options. A common obstacle for people who might prefer to not drive to work is that their employer requires them to bring a car to work so they can make business trips during the day. Giving employees convenient alternatives to private cars for local business travel during the workday makes walking, cycling, transit or carpooling in someone else's car more practical.

- *Walking and cycling*—Active transportation can be a convenient and enjoyable way to make short business trips. They can also reduce employer expenses, although they may require extra travel time. Providing a fleet of shared bikes, or reimbursing cyclists for the kilometres they ride, are inexpensive ways to validate their choice.
- *Public transit*—Transit can be convenient and inexpensive compared to driving. OC Transpo's PRESTO cards are transferable among employees and automatically reloadable, making them the perfect tool for enabling transit use during the day.
- *Ridesharing*—When multiple employees attend the same off-site meeting or event, they can be reminded to carpool whenever possible.
- *Taxis or ride-hailing*—Taxis and ride-hailing can eliminate parking costs, save time and eliminate collision liability concerns. Taxi chits eliminate cash transactions and minimize paperwork.
 - *Fleet vehicles or carsharing*—Fleet vehicles can be cost-effective for high travel volumes, while carsharing is a great option for less frequent trips.
 - *Interoffice shuttles*—Employers with multiple worksites in the region could use a shuttle service to move people as well as mail or supplies.
 - *Videoconferencing*—New technologies mean that staying in the office to hold meetings electronically is more viable, affordable and productive than ever.

Commuter incentives. Financial incentives can help create a level playing field and support commuting by sustainable modes. A "commuting allowance" given to all employees as a taxable benefit is one such incentive; employees who choose to drive could then be charged for parking, while other employees could use the allowance for transit fares or cycling equipment, or for spending or saving. (Note that in the United States this practice is known as "parking cash-out," and is popular because commuting allowances are not taxable up to a certain limit). Alternatively, a monthly commuting allowance for non-driving employees would give drivers an incentive to choose a different commuting mode. Another practical incentive for active commuters or transit users is to offer them discounted "rainy day" parking passes for a small number of days each month.

On-site amenities. Developments that offer services to limit employees' need for a car during their commute (e.g. to drop off clothing at the dry cleaners) or during their workday (e.g. to buy lunch) can free employees to make the commuting decision that otherwise works best for them.

TDM Measures Checklist:
Non-Residential Developments (office, institutional, retail or industrial)

Legend	
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
★	The measure is one of the most dependably effective tools to encourage the use of sustainable modes

TDM measures: <i>Non-residential developments</i>		Check if proposed & add descriptions
1. TDM PROGRAM MANAGEMENT		
1.1 Program coordinator		
BASIC	★ 1.1.1 Designate an internal coordinator, or contract with an external coordinator	<input checked="" type="checkbox"/> Currently in place
1.2 Travel surveys		
BETTER	1.2.1 Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	<input checked="" type="checkbox"/> Currently in place
2. WALKING AND CYCLING		
2.1 Information on walking/cycling routes & destinations		
BASIC	2.1.1 Display local area maps with walking/cycling access routes and key destinations at major entrances	<input checked="" type="checkbox"/>
2.2 Bicycle skills training		
<i>Commuter travel</i>		
BETTER	★ 2.2.1 Offer on-site cycling courses for commuters, or subsidize off-site courses	<input type="checkbox"/> N/A
2.3 Valet bike parking		
<i>Visitor travel</i>		
BETTER	2.3.1 Offer secure valet bike parking during public events when demand exceeds fixed supply (e.g. for festivals, concerts, games)	<input checked="" type="checkbox"/>

TDM measures: <i>Non-residential developments</i>		Check if proposed & add descriptions
3. TRANSIT		
3.1 Transit information		
BASIC	3.1.1 Display relevant transit schedules and route maps at entrances	<input checked="" type="checkbox"/>
BASIC	3.1.2 Provide online links to OC Transpo and STO information	<input checked="" type="checkbox"/>
BETTER	3.1.3 Provide real-time arrival information display at entrances	<input type="checkbox"/> N/A
3.2 Transit fare incentives		
<i>Commuter travel</i>		
BETTER	3.2.1 Offer preloaded PRESTO cards to encourage commuters to use transit	<input type="checkbox"/> N/A
BETTER ★	3.2.2 Subsidize or reimburse monthly transit pass purchases by employees	<input type="checkbox"/> N/A
<i>Visitor travel</i>		
BETTER	3.2.3 Arrange inclusion of same-day transit fare in price of tickets (e.g. for festivals, concerts, games)	<input checked="" type="checkbox"/>
3.3 Enhanced public transit service		
<i>Commuter travel</i>		
BETTER	3.3.1 Contract with OC Transpo to provide enhanced transit services (e.g. for shift changes, weekends)	<input checked="" type="checkbox"/>
<i>Visitor travel</i>		
BETTER	3.3.2 Contract with OC Transpo to provide enhanced transit services (e.g. for festivals, concerts, games)	<input checked="" type="checkbox"/>
3.4 Private transit service		
<i>Commuter travel</i>		
BETTER	3.4.1 Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for shift changes, weekends)	<input checked="" type="checkbox"/>
<i>Visitor travel</i>		
BETTER	3.4.2 Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for festivals, concerts, games)	<input checked="" type="checkbox"/>

TDM measures: <i>Non-residential developments</i>		Check if proposed & add descriptions
4. RIDESHARING		
4.1 Ridematching service		
<i>Commuter travel</i>		
BASIC ★	4.1.1 Provide a dedicated ridematching portal at OttawaRideMatch.com	<input type="checkbox"/> N/A
4.2 Carpool parking price incentives		
<i>Commuter travel</i>		
BETTER	4.2.1 Provide discounts on parking costs for registered carpools	<input type="checkbox"/> N/A
4.3 Vanpool service		
<i>Commuter travel</i>		
BETTER	4.3.1 Provide a vanpooling service for long-distance commuters	<input type="checkbox"/> N/A
5. CARSHARING & BIKESHARING		
5.1 Bikeshare stations & memberships		
BETTER	5.1.1 Contract with provider to install on-site bikeshare station for use by commuters and visitors	<input type="checkbox"/> N/A
<i>Commuter travel</i>		
BETTER	5.1.2 Provide employees with bikeshare memberships for local business travel	<input type="checkbox"/> N/A
5.2 Carshare vehicles & memberships		
<i>Commuter travel</i>		
BETTER	5.2.1 Contract with provider to install on-site carshare vehicles and promote their use by tenants	<input type="checkbox"/> N/A
BETTER	5.2.2 Provide employees with carshare memberships for local business travel	<input type="checkbox"/> N/A
6. PARKING		
6.1 Priced parking		
<i>Commuter travel</i>		
BASIC ★	6.1.1 Charge for long-term parking (daily, weekly, monthly)	<input checked="" type="checkbox"/>
BASIC	6.1.2 Unbundle parking cost from lease rates at multi-tenant sites	<input checked="" type="checkbox"/>
<i>Visitor travel</i>		
BETTER	6.1.3 Charge for short-term parking (hourly)	<input checked="" type="checkbox"/>

TDM measures: <i>Non-residential developments</i>		Check if proposed & add descriptions
7. TDM MARKETING & COMMUNICATIONS		
7.1 Multimodal travel information		
<i>Commuter travel</i>		
BASIC ★	7.1.1 Provide a multimodal travel option information package to new/relocating employees and students	<input checked="" type="checkbox"/>
<i>Visitor travel</i>		
BETTER ★	7.1.2 Include multimodal travel option information in invitations or advertising that attract visitors or customers (e.g. for festivals, concerts, games)	<input checked="" type="checkbox"/>
7.2 Personalized trip planning		
<i>Commuter travel</i>		
BETTER ★	7.2.1 Offer personalized trip planning to new/relocating employees	<input type="checkbox"/> N/A
7.3 Promotions		
<i>Commuter travel</i>		
BETTER	7.3.1 Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes	<input checked="" type="checkbox"/>
8. OTHER INCENTIVES & AMENITIES		
8.1 Emergency ride home		
<i>Commuter travel</i>		
BETTER ★	8.1.1 Provide emergency ride home service to non-driving commuters	<input type="checkbox"/> N/A
8.2 Alternative work arrangements		
<i>Commuter travel</i>		
BASIC ★	8.2.1 Encourage flexible work hours	<input type="checkbox"/>
BETTER	8.2.2 Encourage compressed workweeks	<input type="checkbox"/> N/A
BETTER ★	8.2.3 Encourage telework	<input type="checkbox"/>
8.3 Local business travel options		
<i>Commuter travel</i>		
BASIC ★	8.3.1 Provide local business travel options that minimize the need for employees to bring a personal car to work	<input type="checkbox"/> N/A
8.4 Commuter incentives		
<i>Commuter travel</i>		
BETTER	8.4.1 Offer employees a taxable, mode-neutral commuting allowance	<input type="checkbox"/> N/A
8.5 On-site amenities		
<i>Commuter travel</i>		
BETTER	8.5.1 Provide on-site amenities/services to minimize mid-day or mid-commute errands	<input type="checkbox"/> N/A

TDM Measures Checklist:
Residential Developments (multi-family, condominium or subdivision)

Legend	
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
★	The measure is one of the most dependably effective tools to encourage the use of sustainable modes

TDM measures: <i>Residential developments</i>		Check if proposed & add descriptions
1. TDM PROGRAM MANAGEMENT		
1.1 Program coordinator		
BASIC	★	1.1.1 Designate an internal coordinator, or contract with an external coordinator <input type="checkbox"/>
1.2 Travel surveys		
BETTER		1.2.1 Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress <input type="checkbox"/>
2. WALKING AND CYCLING		
2.1 Information on walking/cycling routes & destinations		
BASIC		2.1.1 Display local area maps with walking/cycling access routes and key destinations at major entrances (<i>multi-family, condominium</i>) <input type="checkbox"/>
2.2 Bicycle skills training		
BETTER		2.2.1 Offer on-site cycling courses for residents, or subsidize off-site courses <input type="checkbox"/>

Residential TDM Details to be addressed through subsequent phases of permitting and approvals (i.e. Phase 3 of Lansdowne 2.0)

TDM measures: <i>Residential developments</i>		Check if proposed & add descriptions
3. TRANSIT		
3.1 Transit information		
BASIC	3.1.1 Display relevant transit schedules and route maps at entrances (<i>multi-family, condominium</i>)	<input type="checkbox"/>
BETTER	3.1.2 Provide real-time arrival information display at entrances (<i>multi-family, condominium</i>)	<input type="checkbox"/>
3.2 Transit fare incentives		
BASIC ★	3.2.1 Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit	<input type="checkbox"/>
BETTER	3.2.2 Offer at least one year of free monthly transit passes on residence purchase/move-in	<input type="checkbox"/>
3.3 Enhanced public transit service		
BETTER ★	3.3.1 Contract with OC Transpo to provide early transit services until regular services are warranted by occupancy levels (<i>subdivision</i>)	<input type="checkbox"/>
3.4 Private transit service		
BETTER	3.4.1 Provide shuttle service for seniors homes or lifestyle communities (e.g. scheduled mall or supermarket runs)	<input type="checkbox"/>
4. CARSHARING & BIKESHARING		
4.1 Bikeshare stations & memberships		
BETTER	4.1.1 Contract with provider to install on-site bikeshare station (<i>multi-family</i>)	<input type="checkbox"/>
BETTER	4.1.2 Provide residents with bikeshare memberships, either free or subsidized (<i>multi-family</i>)	<input type="checkbox"/>
4.2 Carshare vehicles & memberships		
BETTER	4.2.1 Contract with provider to install on-site carshare vehicles and promote their use by residents	<input type="checkbox"/>
BETTER	4.2.2 Provide residents with carshare memberships, either free or subsidized	<input type="checkbox"/>
5. PARKING		
5.1 Priced parking		
BASIC ★	5.1.1 Unbundle parking cost from purchase price (<i>condominium</i>)	<input type="checkbox"/>
BASIC ★	5.1.2 Unbundle parking cost from monthly rent (<i>multi-family</i>)	<input type="checkbox"/>

Residential TDM Details to be addressed through subsequent phases of permitting and approvals (i.e. Phase 3 of Lansdowne 2.0)

TDM measures: <i>Residential developments</i>		Check if proposed & add descriptions
6. TDM MARKETING & COMMUNICATIONS		
6.1 Multimodal travel information		
BASIC ★	6.1.1 Provide a multimodal travel option information package to new residents	<input type="checkbox"/>
6.2 Personalized trip planning		
BETTER ★	6.2.1 Offer personalized trip planning to new residents	<input type="checkbox"/>

Residential TDM Details to be addressed through subsequent phases of permitting and approvals (i.e. Phase 3 of Lansdowne 2.0)

**APPENDIX D - SYNCHRO
SUMMARY SHEETS**

Existing scenario

2024 Weekday AM Peak Hour

Queues

1: Bank & Fifth

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↕	↕		↕		↕
Traffic Volume (vph)	37	57	47	49	9	534	19	410
Future Volume (vph)	37	57	47	49	9	534	19	410
Lane Group Flow (vph)	0	135	52	86	0	635	0	515
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)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		20.5	20.5	20.5		43.5		43.5
Actuated g/C Ratio		0.27	0.27	0.27		0.58		0.58
v/c Ratio		0.36	0.18	0.21		0.38		0.32
Control Delay (s/veh)		21.9	22.9	15.9		3.7		8.5
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		21.9	22.9	15.9		3.7		8.5
LOS		C	C	B		A		A
Approach Delay (s/veh)		21.9		18.5		3.7		8.5
Approach LOS		C		B		A		A
Queue Length 50th (m)		12.9	5.6	5.7		6.6		17.1
Queue Length 95th (m)		27.2	14.0	16.0		8.1		25.6
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		376	290	418		1655		1594
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.36	0.18	0.21		0.38		0.32

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 33 (44%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.38
 Intersection Signal Delay (s/veh): 8.6
 Intersection Capacity Utilization 53.5%
 Intersection LOS: A
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

08/01/2024

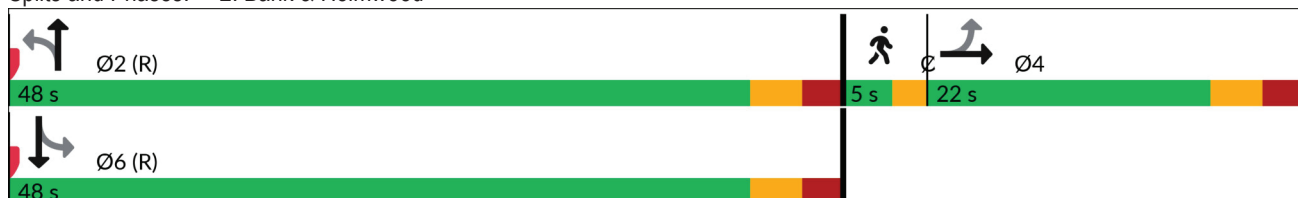


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations						
Traffic Volume (vph)	21	16	521	11	366	
Future Volume (vph)	21	16	521	11	366	
Lane Group Flow (vph)	85	0	627	0	443	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag					Lead
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	10.0		57.5		57.5	
Actuated g/C Ratio	0.13		0.77		0.77	
v/c Ratio	0.47		0.29		0.21	
Control Delay (s/veh)	37.6		1.0		3.1	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	37.6		1.0		3.1	
LOS	D		A		A	
Approach Delay (s/veh)	37.6		1.0		3.1	
Approach LOS	D		A		A	
Queue Length 50th (m)	11.3		1.7		6.9	
Queue Length 95th (m)	22.6		4.5		13.2	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	298		2141		2154	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.29		0.29		0.21	

Intersection Summary

Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 28 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay (s/veh): 4.5	Intersection LOS: A
Intersection Capacity Utilization 51.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

08/01/2024



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø6	Ø7
Lane Configurations							
Traffic Volume (vph)	51	32	495	64	332		
Future Volume (vph)	51	32	495	64	332		
Lane Group Flow (vph)	57	36	661	71	369		
Turn Type	Perm	Perm	NA	custom	NA		
Protected Phases			2	1	1 6	6	7
Permitted Phases	8	8		6			
Detector Phase	8	8	2	1	1 6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	1.0		10.0	4.0
Minimum Split (s)	26.0	26.0	27.0	7.9		44.0	8.0
Total Split (s)	26.0	26.0	32.0	12.0		32.0	5.0
Total Split (%)	34.7%	34.7%	42.7%	16.0%		43%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0		3.0	2.0
All-Red Time (s)	3.0	3.0	3.9	3.9		3.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0			
Total Lost Time (s)	6.3	6.3	6.9	6.9			
Lead/Lag				Lead			Lag
Lead-Lag Optimize?				Yes			Yes
Recall Mode	None	None	C-Max	None		C-Max	None
Act Effct Green (s)	10.3	10.3	42.7	47.8	56.1		
Actuated g/C Ratio	0.14	0.14	0.57	0.64	0.75		
v/c Ratio	0.29	0.20	0.41	0.17	0.16		
Control Delay (s/veh)	33.0	13.2	10.6	11.6	9.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	33.0	13.2	10.6	11.6	9.0		
LOS	C	B	B	B	A		
Approach Delay (s/veh)	25.3		10.6		9.4		
Approach LOS	C		B		A		
Queue Length 50th (m)	7.4	0.0	26.3	5.7	15.7		
Queue Length 95th (m)	17.2	7.4	40.3	12.2	22.9		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	377	316	1623	427	2350		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.15	0.11	0.41	0.17	0.16		

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 25 (33%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay (s/veh): 11.3

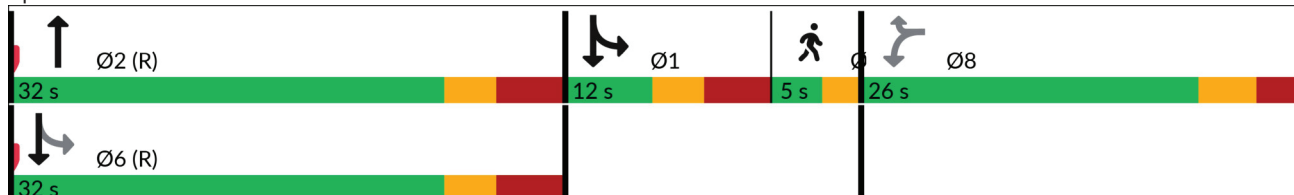
Intersection LOS: B

Intersection Capacity Utilization 55.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

08/01/2024

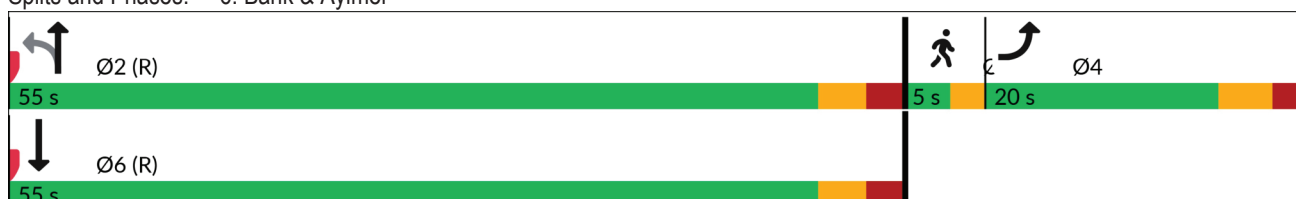


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	58	14	690	509	
Future Volume (vph)	58	14	690	509	
Lane Group Flow (vph)	71	0	783	622	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	20.0	55.0	55.0	55.0	5.0
Total Split (s)	20.0	55.0	55.0	55.0	5.0
Total Split (%)	25.0%	68.8%	68.8%	68.8%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		50.3	50.3	
Actuated g/C Ratio	0.18		0.63	0.63	
v/c Ratio	0.26		0.42	0.33	
Control Delay (s/veh)	29.5		3.6	7.2	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	29.5		3.6	7.2	
LOS	C		A	A	
Approach Delay (s/veh)	29.5		3.6	7.2	
Approach LOS	C		A	A	
Queue Length 50th (m)	8.6		10.4	19.6	
Queue Length 95th (m)	19.9		m14.6	28.1	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	281		1848	1877	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.25		0.42	0.33	

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 4 (5%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.42
 Intersection Signal Delay (s/veh): 6.4 Intersection LOS: A
 Intersection Capacity Utilization 51.3% ICU Level of Service A
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø6	Ø7
Lane Configurations		↕		↕		↕		↕			
Traffic Volume (vph)	56	58	18	58	22	945	183	374			
Future Volume (vph)	56	58	18	58	22	945	183	374			
Lane Group Flow (vph)	0	139	0	380	0	1088	0	666			
Turn Type	Perm	NA	Perm	NA	Perm	NA	custom	NA			
Protected Phases		4		8		2	1	16	3	6	7
Permitted Phases	4		8		2		6				
Detector Phase	4	4	8	8	2	2	1	16			
Switch Phase											
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0		1.0	17.0	1.0
Minimum Split (s)	26.0	26.0	26.0	26.0	38.0	38.0	11.0		5.0	49.0	5.0
Total Split (s)	26.0	26.0	26.0	26.0	38.0	38.0	11.0		5.0	38.0	5.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	47.5%	47.5%	13.8%		6%	48%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		2.0	3.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9		0.0	3.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0					
Total Lost Time (s)		5.6		5.6		6.0					
Lead/Lag	Lag	Lag	Lag	Lag					Lead		Lead
Lead-Lag Optimize?			Yes	Yes							Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None		None	C-Max	None
Act Effct Green (s)		20.2		20.2		34.4		42.4			
Actuated g/C Ratio		0.25		0.25		0.43		0.53			
v/c Ratio		0.68		0.87		0.86		0.67			
Control Delay (s/veh)		43.0		32.4		30.6		19.5			
Queue Delay		0.0		0.0		0.0		0.0			
Total Delay (s/veh)		43.0		32.4		30.6		19.5			
LOS		D		C		C		B			
Approach Delay (s/veh)		43.0		32.4		30.6		19.5			
Approach LOS		D		C		C		B			
Queue Length 50th (m)		18.1		23.2		80.4		29.9			
Queue Length 95th (m)		35.5		#68.0		#122.0		#48.4			
Internal Link Dist (m)		75.1		136.0		63.1		79.0			
Turn Bay Length (m)											
Base Capacity (vph)		231		469		1265		990			
Starvation Cap Reductn		0		0		0		0			
Spillback Cap Reductn		0		0		0		0			
Storage Cap Reductn		0		0		0		0			
Reduced v/c Ratio		0.60		0.81		0.86		0.67			

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 79 (99%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay (s/veh): 28.4	Intersection LOS: C
Intersection Capacity Utilization 92.2%	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.	

Queues

7: Bank & Sunnyside

08/01/2024

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

08/01/2024

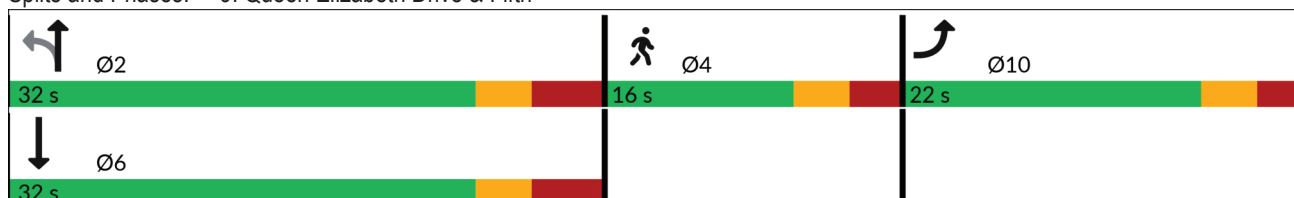


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	46	23	217	280	
Future Volume (vph)	46	23	217	280	
Lane Group Flow (vph)	70	0	267	363	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Detector Phase	10	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	32.0	32.0	32.0	16.0
Total Split (s)	22.0	32.0	32.0	32.0	16.0
Total Split (%)	31.4%	45.7%	45.7%	45.7%	23%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	None	None	Max	None
Act Effct Green (s)	10.0		25.2	25.2	
Actuated g/C Ratio	0.21		0.53	0.53	
v/c Ratio	0.21		0.32	0.42	
Control Delay (s/veh)	17.6		7.7	8.6	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	17.6		7.7	8.6	
LOS	B		A	A	
Approach Delay (s/veh)	17.6		7.7	8.6	
Approach LOS	B		A	A	
Queue Length 50th (m)	4.9		11.2	16.2	
Queue Length 95th (m)	12.9		21.9	30.5	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	535		841	873	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.13		0.32	0.42	

Intersection Summary

Cycle Length: 70	
Actuated Cycle Length: 47.7	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.42	
Intersection Signal Delay (s/veh): 9.2	Intersection LOS: A
Intersection Capacity Utilization 51.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth






Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	104	65	5	5	5
Future Vol, veh/h	5	104	65	5	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	116	72	6	6	6
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	7.7	7.4	7.2
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	0%	50%
Vol Thru, %	95%	93%	0%
Vol Right, %	0%	7%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	109	70	10
LT Vol	5	0	5
Through Vol	104	65	0
RT Vol	0	5	5
Lane Flow Rate	121	78	11
Geometry Grp	1	1	1
Degree of Util (X)	0.135	0.086	0.013
Departure Headway (Hd)	4.021	4.001	4.074
Convergence, Y/N	Yes	Yes	Yes
Cap	893	894	866
Service Time	2.041	2.03	2.157
HCM Lane V/C Ratio	0.135	0.087	0.013
HCM Control Delay, s/veh	7.7	7.4	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.3	0

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	5	5	119	5	5
Future Vol, veh/h	2	5	5	119	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	6	6	132	6	6
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	6.7	7.7	7.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	50%	0%	4%
Vol Thru, %	0%	29%	96%
Vol Right, %	50%	71%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	10	7	124
LT Vol	5	0	5
Through Vol	0	2	119
RT Vol	5	5	0
Lane Flow Rate	11	8	138
Geometry Grp	1	1	1
Degree of Util (X)	0.012	0.008	0.152
Departure Headway (Hd)	3.985	3.627	3.968
Convergence, Y/N	Yes	Yes	Yes
Cap	890	985	908
Service Time	2.045	1.656	1.972
HCM Lane V/C Ratio	0.012	0.008	0.152
HCM Control Delay, s/veh	7.1	6.7	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0	0.5

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	5	65	55	69	40
Future Vol, veh/h	2	5	65	55	69	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	6	72	61	77	44
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	6.9	8.1	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	63%	0%	54%
Vol Thru, %	0%	29%	46%
Vol Right, %	37%	71%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	109	7	120
LT Vol	69	0	65
Through Vol	0	2	55
RT Vol	40	5	0
Lane Flow Rate	121	8	133
Geometry Grp	1	1	1
Degree of Util (X)	0.137	0.008	0.158
Departure Headway (Hd)	4.086	3.822	4.262
Convergence, Y/N	Yes	Yes	Yes
Cap	866	920	835
Service Time	2.164	1.915	2.32
HCM Lane V/C Ratio	0.14	0.009	0.159
HCM Control Delay, s/veh	7.8	6.9	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0	0.6

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	65	40	0	0	0	70	18	31	23	0	0	105
Future Vol, veh/h	65	40	0	0	0	70	18	31	23	0	0	105
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	44	0	0	0	78	20	34	26	0	0	117
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.4	7.3	7.8	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	62%	0%	0%
Vol Thru, %	43%	38%	0%	0%
Vol Right, %	32%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	105	70	105
LT Vol	18	65	0	0
Through Vol	31	40	0	0
RT Vol	23	0	70	105
Lane Flow Rate	80	117	78	117
Geometry Grp	1	1	1	1
Degree of Util (X)	0.096	0.148	0.084	0.125
Departure Headway (Hd)	4.341	4.562	3.881	3.855
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	828	791	926	932
Service Time	2.356	2.562	1.895	1.868
HCM Lane V/C Ratio	0.097	0.148	0.084	0.126
HCM Control Delay, s/veh	7.8	8.4	7.3	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.3	0.4

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	1	182	138	608	351	25
Future Vol, veh/h	1	182	138	608	351	25
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	1	202	153	676	390	28
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1226	582	596	0	-	0
Stage 1	582	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Critical Hdwy	6.675	6.275	4.175	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	2.2475	-	-	-
Pot Cap-1 Maneuver	180	505	961	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	90	410	780	-	-	-
Mov Cap-2 Maneuver	90	-	-	-	-	-
Stage 1	339	-	-	-	-	-
Stage 2	389	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/2.04		3.44		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	634	-	410	-	-	
HCM Lane V/C Ratio	0.197	-	0.493	-	-	
HCM Control Delay (s/veh)	10.7	1.8	22	-	-	
HCM Lane LOS	B	A	C	-	-	
HCM 95th %tile Q(veh)	0.7	-	2.7	-	-	

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	0	26	0	735	523	0
Future Vol, veh/h	0	26	0	735	523	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	0	29	0	817	581	0

Major/Minor

	Minor2	Major1	Major2
Conflicting Flow All	- 581	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.275	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	-3.3475	- -	- -
Pot Cap-1 Maneuver	0 506	0 -	- 0
Stage 1	0 -	0 -	- 0
Stage 2	0 -	0 -	- 0
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- 506	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach

	EB	NB	SB
HCM Control Delay, s/√2.55		0	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBTEBLn1	SBT
Capacity (veh/h)	- 506	-
HCM Lane V/C Ratio	- 0.057	-
HCM Control Delay (s/veh)	- 12.6	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0.2	-

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			L		
Traffic Vol, veh/h	19	23	63	241	269	68
Future Vol, veh/h	19	23	63	241	269	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	21	26	70	268	299	76
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	744	337	374	0	-	0
Stage 1	337	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	385	710	1195	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	358	710	1195	-	-	-
Mov Cap-2 Maneuver	358	-	-	-	-	-
Stage 1	678	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	13.09	1.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	373	-	492	-	-	
HCM Lane V/C Ratio	0.059	-	0.095	-	-	
HCM Control Delay (s/veh)	8.2	0	13.1	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-	

Intersection

Int Delay, s/veh 0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↔			↕↗
Traffic Vol, veh/h	0	33	527	7	0	398
Future Vol, veh/h	0	33	527	7	0	398
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	15	6	0	0	5
Mvmt Flow	0	37	586	8	0	442

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	-	397	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.2	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.45	-	-	-
Pot Cap-1 Maneuver	0	567	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	507	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/√2.65		0	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	507
HCM Lane V/C Ratio	-	-	0.072
HCM Control Delay (s/veh)	-	-	12.6
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	104	60	5	65	18	5
Future Vol, veh/h	104	60	5	65	18	5
Conflicting Peds, #/hr	0	100	100	0	100	100
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	67	6	72	20	6
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	282	0	432	349
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	183	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1280	-	580	694
Stage 1	-	-	-	-	793	-
Stage 2	-	-	-	-	848	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1145	-	462	555
Mov Cap-2 Maneuver	-	-	-	-	462	-
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	755	-
Approach	EB	WB	NB			
HCM Control Delay, s/v	0	0.58	12.93			
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	479	-	-	129	-	
HCM Lane V/C Ratio	0.053	-	-	0.005	-	
HCM Control Delay (s/veh)	12.9	-	-	8.2	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	37	116	15	5	4
Future Vol, veh/h	5	37	116	15	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	41	129	17	6	4

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	146	0	189
Stage 1	-	-	137
Stage 2	-	-	52
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1437	-	800
Stage 1	-	-	889
Stage 2	-	-	970
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1437	-	796
Mov Cap-2 Maneuver	-	-	796
Stage 1	-	-	886
Stage 2	-	-	970

Approach

	EB	WB	SB
HCM Control Delay, s/v0.89		0	9.32
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	214	-	-	-	844
HCM Lane V/C Ratio	0.004	-	-	-	0.012
HCM Control Delay (s/veh)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Existing scenario

2022 Weekday PM Peak Hour

Queues

1: Bank & Fifth

08/01/2024

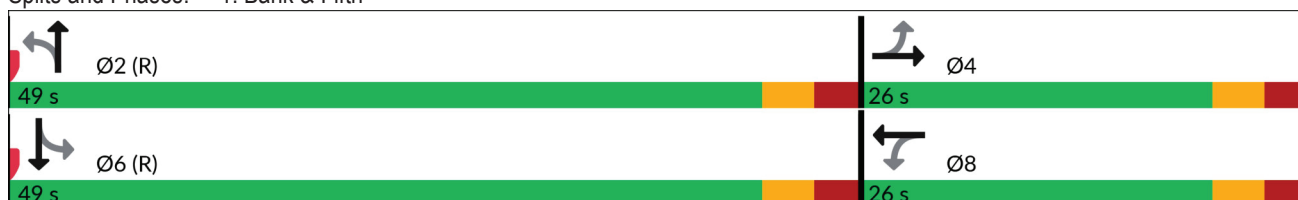


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↙	↘		↕		↕
Traffic Volume (vph)	45	52	58	37	16	435	28	559
Future Volume (vph)	45	52	58	37	16	435	28	559
Lane Group Flow (vph)	0	158	64	79	0	534	0	692
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		12.6	12.6	12.6		51.4		51.4
Actuated g/C Ratio		0.17	0.17	0.17		0.69		0.69
v/c Ratio		0.65	0.39	0.29		0.27		0.36
Control Delay (s/veh)		35.1	33.1	17.7		8.7		6.1
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		35.1	33.1	17.7		8.7		6.1
LOS		D	C	B		A		A
Approach Delay (s/veh)		35.1		24.6		8.7		6.1
Approach LOS		D		C		A		A
Queue Length 50th (m)		16.8	8.2	5.0		11.5		17.5
Queue Length 95th (m)		31.7	17.3	14.4		43.2		34.0
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		375	265	419		1951		1939
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.42	0.24	0.19		0.27		0.36

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay (s/veh): 11.7 Intersection LOS: B
 Intersection Capacity Utilization 65.8% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

08/01/2024

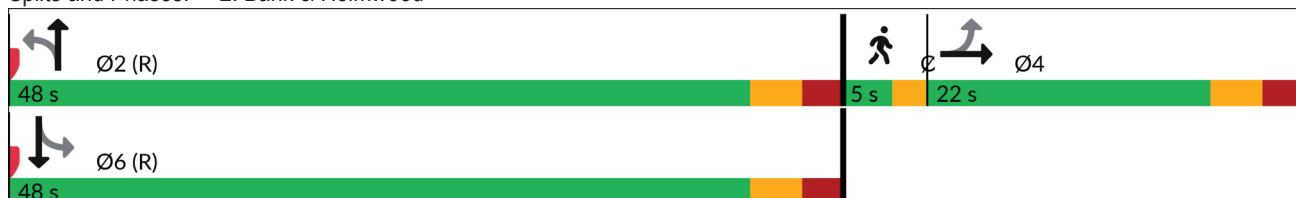


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations						
Traffic Volume (vph)	17	25	481	27	536	
Future Volume (vph)	17	25	481	27	536	
Lane Group Flow (vph)	108	0	616	0	656	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.2		56.4		56.4	
Actuated g/C Ratio	0.15		0.75		0.75	
v/c Ratio	0.53		0.30		0.31	
Control Delay (s/veh)	38.3		4.7		4.7	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.3		4.7		4.7	
LOS	D		A		A	
Approach Delay (s/veh)	38.3		4.7		4.7	
Approach LOS	D		A		A	
Queue Length 50th (m)	14.3		13.6		24.4	
Queue Length 95th (m)	26.7		25.8		21.1	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	295		2041		2112	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.37		0.30		0.31	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.53
 Intersection Signal Delay (s/veh): 7.4 Intersection LOS: A
 Intersection Capacity Utilization 62.9% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

08/01/2024

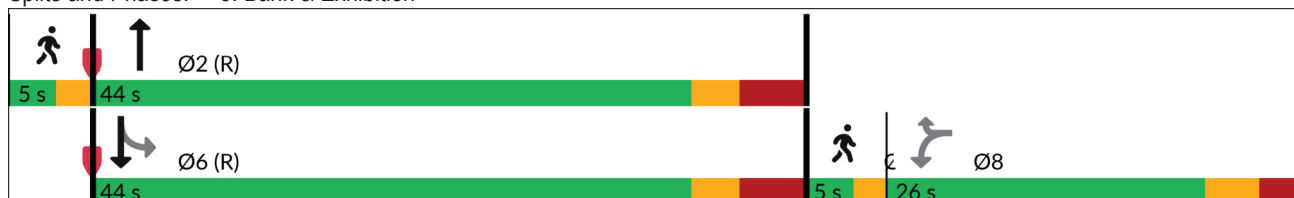


Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	118	61	453	113	476		
Future Volume (vph)	118	61	453	113	476		
Lane Group Flow (vph)	131	68	644	126	529		
Turn Type	Perm	Perm	NA	Perm	NA		
Protected Phases			2		6	1	7
Permitted Phases	8	8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	44.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	44.0	44.0	44.0	5.0	5.0
Total Split (%)	32.5%	32.5%	55.0%	55.0%	55.0%	6%	6%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	12.7	12.7	58.7	58.7	58.7		
Actuated g/C Ratio	0.16	0.16	0.73	0.73	0.73		
v/c Ratio	0.54	0.29	0.31	0.28	0.23		
Control Delay (s/veh)	39.1	10.9	5.2	8.0	5.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	39.1	10.9	5.2	8.0	5.3		
LOS	D	B	A	A	A		
Approach Delay (s/veh)	29.4		5.2		5.8		
Approach LOS	C		A		A		
Queue Length 50th (m)	18.7	0.0	15.8	6.5	13.6		
Queue Length 95th (m)	32.7	9.7	29.0	18.3	24.5		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	372	326	2110	452	2328		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.35	0.21	0.31	0.28	0.23		

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay (s/veh): 8.7
 Intersection Capacity Utilization 60.0%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

08/01/2024



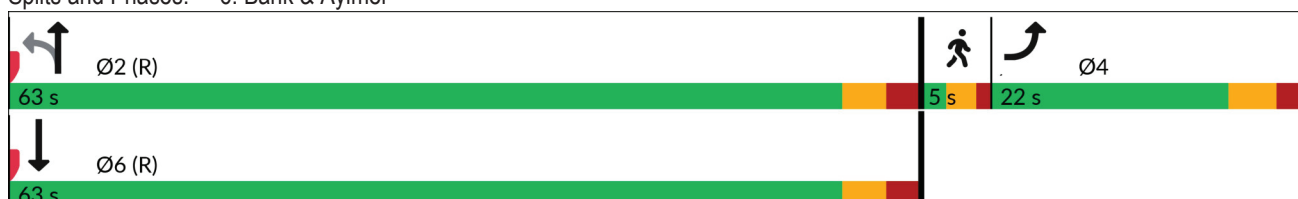
Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	52	17	665	722	
Future Volume (vph)	52	17	665	722	
Lane Group Flow (vph)	81	0	758	899	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		60.3	60.3	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.34		0.38	0.45	
Control Delay (s/veh)	31.1		6.3	7.6	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	31.1		6.3	7.6	
LOS	C		A	A	
Approach Delay (s/veh)	31.1		6.3	7.6	
Approach LOS	C		A	A	
Queue Length 50th (m)	9.6		26.8	32.6	
Queue Length 95th (m)	22.8		m32.6	43.7	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	280		1975	2006	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.29		0.38	0.45	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.45
 Intersection Signal Delay (s/veh): 8.1 Intersection LOS: A
 Intersection Capacity Utilization 52.9% ICU Level of Service A
 Analysis Period (min) 15

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

Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø6	Ø7
Lane Configurations		↕		↕		↕↕		↕↕			
Traffic Volume (vph)	50	78	16	80	14	409	200	717			
Future Volume (vph)	50	78	16	80	14	409	200	717			
Lane Group Flow (vph)	0	175	0	374	0	492	0	1119			
Turn Type	Perm	NA	Perm	NA	Perm	NA	custom	NA			
Protected Phases		4		8		2	1	16	3	6	7
Permitted Phases	4		8		2		6				
Detector Phase	4	4	8	8	2	2	1	16			
Switch Phase											
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0		1.0	17.0	1.0
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0		5.0	60.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0		5.0	43.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%		6%	48%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		2.0	3.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9		0.0	3.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0					
Total Lost Time (s)		5.6		5.6		6.0					
Lead/Lag	Lag	Lag	Lag	Lag					Lead		Lead
Lead-Lag Optimize?			Yes	Yes							Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None		None	C-Max	None
Act Effct Green (s)		24.4		24.4		37.0		48.2			
Actuated g/C Ratio		0.27		0.27		0.41		0.54			
v/c Ratio		0.65		0.93		0.43		0.91			
Control Delay (s/veh)		42.2		53.1		20.2		22.5			
Queue Delay		0.0		0.0		0.0		0.0			
Total Delay (s/veh)		42.2		53.1		20.2		22.5			
LOS		D		D		C		C			
Approach Delay (s/veh)		42.2		53.1		20.2		22.5			
Approach LOS		D		D		C		C			
Queue Length 50th (m)		26.7		43.7		30.7		37.6			
Queue Length 95th (m)		#53.6		#98.3		43.9		#55.3			
Internal Link Dist (m)		75.1		136.0		63.1		79.0			
Turn Bay Length (m)											
Base Capacity (vph)		269		403		1146		1236			
Starvation Cap Reductn		0		0		0		0			
Spillback Cap Reductn		0		0		0		0			
Storage Cap Reductn		0		0		0		0			
Reduced v/c Ratio		0.65		0.93		0.43		0.91			

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 6 (7%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay (s/veh): 28.9	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.	

Queues

7: Bank & Sunnyside

08/01/2024

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

08/01/2024

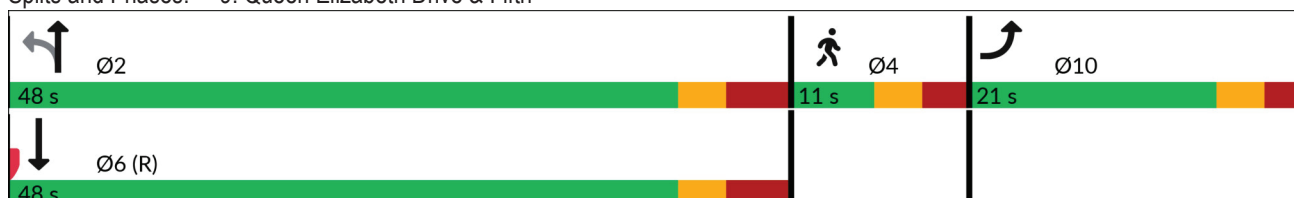


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	34	37	189	502	
Future Volume (vph)	34	37	189	502	
Lane Group Flow (vph)	75	0	251	628	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Detector Phase	10	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	None	None	C-Max	None
Act Effct Green (s)	10.7		56.8	56.8	
Actuated g/C Ratio	0.13		0.71	0.71	
v/c Ratio	0.37		0.24	0.53	
Control Delay (s/veh)	36.6		5.0	7.7	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	36.6		5.0	7.7	
LOS	D		A	A	
Approach Delay (s/veh)	36.6		5.0	7.7	
Approach LOS	D		A	A	
Queue Length 50th (m)	10.7		10.6	35.2	
Queue Length 95th (m)	22.0		21.5	66.0	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	293		1028	1178	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.26		0.24	0.53	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay (s/veh): 9.2	Intersection LOS: A
Intersection Capacity Utilization 62.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Lanes, Volumes, Timings
12: Exhibition & Paul Askin

08/01/2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	5	118	136	5	5	5
Future Volume (vph)	5	118	136	5	5	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.932	
Flt Protected		0.998			0.976	
Satd. Flow (prot)	0	1683	1678	0	1534	0
Flt Permitted		0.998			0.976	
Satd. Flow (perm)	0	1683	1678	0	1534	0
Link Speed (k/h)		30	30		30	
Link Distance (m)		61.9	92.7		69.2	
Travel Time (s)		7.4	11.1		8.3	
Confl. Peds. (#/hr)	100			100	100	100
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	131	151	6	6	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	137	157	0	12	0
Enter Blocked Intersection	Yes	Yes	Yes	Yes	Yes	Yes
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.2	
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	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (k/h)	24			14	24	14
Sign Control		Stop	Stop		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.8%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings
13: Paul Askin & Marche

08/01/2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕			↕	↕	
Traffic Volume (vph)	3	5	5	5	5	5
Future Volume (vph)	3	5	5	5	5	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.910				0.932	
Flt Protected				0.976	0.976	
Satd. Flow (prot)	1535	0	0	1646	1534	0
Flt Permitted				0.976	0.976	
Satd. Flow (perm)	1535	0	0	1646	1534	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	115.2			88.5	69.2	
Travel Time (s)	13.8			10.6	8.3	
Confl. Peds. (#/hr)		100	100		100	100
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	3	6	6	6	6	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	0	0	12	12	0
Enter Blocked Intersection	Yes	Yes	Yes	Yes	Yes	Yes
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.2	
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	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.7%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings
14: Exhibition & Marche

08/01/2024



















Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	3	5	136	5	5	118
Future Volume (vph)	3	5	136	5	5	118
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.910			0.871		
Flt Protected				0.954	0.998	
Satd. Flow (prot)	1535	0	0	1609	1466	0
Flt Permitted				0.954	0.998	
Satd. Flow (perm)	1535	0	0	1609	1466	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	88.5			119.7	28.7	
Travel Time (s)	10.6			14.4	3.4	
Confl. Peds. (#/hr)	100		100	100		100
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	3	6	151	6	6	131
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	0	0	157	137	0
Enter Blocked Intersection	Yes	Yes	Yes	Yes	Yes	Yes
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.2	
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	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (k/h)	14		24	24		14
Sign Control	Stop			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	35.3% ICU Level of Service A
Analysis Period (min)	15

Lanes, Volumes, Timings
37: O' Connor & Fifth

08/01/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	38	0	0	0	100	39	26	29	0	0	90
Future Volume (vph)	72	38	0	0	0	100	39	26	29	0	0	90
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
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						0.865		0.958				0.865
Fl _t Protected		0.968						0.980				
Satd. Flow (prot)	0	1632	0	0	0	1459	0	1583	0	0	0	1459
Fl _t Permitted		0.968						0.980				
Satd. Flow (perm)	0	1632	0	0	0	1459	0	1583	0	0	0	1459
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		211.4			68.9			224.9			85.7	
Travel Time (s)		25.4			8.3			27.0			10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	80	42	0	0	0	111	43	29	32	0	0	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	0	0	0	111	0	104	0	0	0	100
Enter Blocked Intersection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	28.4%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 10.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	3	226	207	540	545	48
Future Vol, veh/h	3	226	207	540	545	48
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	251	230	600	606	53

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1570	810	837	0	-	0
Stage 1	810	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	111	379	795	-	-	-
Stage 1	436	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	42	308	645	-	-	-
Mov Cap-2 Maneuver	42	-	-	-	-	-
Stage 1	203	-	-	-	-	-
Stage 2	344	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/62.93		6.17	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	538	- 308	-	-
HCM Lane V/C Ratio	0.356	- 0.817	-	-
HCM Control Delay (s/veh)	13.6	3.3 52.9	-	-
HCM Lane LOS	B	A F	-	-
HCM 95th %tile Q(veh)	1.6	- 6.8	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	0	23	0	755	780	2
Future Vol, veh/h	0	23	0	755	780	2
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	26	0	839	867	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	954	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.23	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	313	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	284	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	18.9	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBTEBLn1	SBT	SBR			
Capacity (veh/h)	-	284	-	-		
HCM Lane V/C Ratio	-	0.09	-	-		
HCM Control Delay (s/veh)	-	18.9	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0.3	-	-		

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			L		
Traffic Vol, veh/h	51	54	45	249	480	66
Future Vol, veh/h	51	54	45	249	480	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	57	60	50	277	533	73
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	947	570	607	0	0	
Stage 1	570	-	-	-	-	
Stage 2	377	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	292	525	981	-	-	
Stage 1	570	-	-	-	-	
Stage 2	698	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	275	525	981	-	-	
Mov Cap-2 Maneuver	275	-	-	-	-	
Stage 1	535	-	-	-	-	
Stage 2	698	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/veh	19.49	1.36		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	276	-	364	-	-	
HCM Lane V/C Ratio	0.051	-	0.321	-	-	
HCM Control Delay (s/veh)	8.9	0	19.5	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.4	-	-	

Intersection

Int Delay, s/veh 0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↔			↕↗
Traffic Vol, veh/h	5	72	522	7	1	587
Future Vol, veh/h	5	72	522	7	1	587
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	3	2	0	0	3
Mvmt Flow	6	80	580	8	1	652

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	1012	394	0	0	688
Stage 1	684	-	-	-	-
Stage 2	328	-	-	-	-
Critical Hdwy	6.8	6.96	-	-	4.1
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.33	-	-	2.2
Pot Cap-1 Maneuver	239	602	-	-	916
Stage 1	468	-	-	-	-
Stage 2	708	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	213	539	-	-	819
Mov Cap-2 Maneuver	213	-	-	-	-
Stage 1	418	-	-	-	-
Stage 2	707	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/√2.85		0	0.02
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	539	819
HCM Lane V/C Ratio	-	-	0.149	0.001
HCM Control Delay (s/veh)	-	-	12.8	9.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0

Intersection

Int Delay, s/veh 1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	118	122	5	136	43	5
Future Vol, veh/h	118	122	5	136	43	5
Conflicting Peds, #/hr	0	100	100	0	100	100
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	131	136	6	151	48	6

Major/Minor

	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	367	0	561
Stage 1	-	-	-	-	299
Stage 2	-	-	-	-	262
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1192	-	489
Stage 1	-	-	-	-	752
Stage 2	-	-	-	-	782
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1066	-	389
Mov Cap-2 Maneuver	-	-	-	-	389
Stage 1	-	-	-	-	673
Stage 2	-	-	-	-	695

Approach

	EB	WB	NB
HCM Control Delay, s/v	0	0.3	15.41
HCM LOS			C

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	399	-	-	64	-
HCM Lane V/C Ratio	0.134	-	-	0.005	-
HCM Control Delay (s/veh)	15.4	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	56	23	88	49	5
Future Vol, veh/h	5	56	23	88	49	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	62	26	98	54	6
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	123	0	-	0	148	74
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	73	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1464	-	-	-	844	987
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	950	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1464	-	-	-	841	987
Mov Cap-2 Maneuver	-	-	-	-	841	-
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	950	-
Approach	EB	WB		SB		
HCM Control Delay, s/v0.61		0		9.54		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR SBLn1		
Capacity (veh/h)	148	-	-	-	853	
HCM Lane V/C Ratio	0.004	-	-	-	0.07	
HCM Control Delay (s/veh)	7.5	0	-	-	9.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

Existing scenario

2022 Saturday Peak Hour

Queues

1: Bank & Fifth

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↙	↘		↕		↕
Traffic Volume (vph)	44	39	65	43	20	461	19	510
Future Volume (vph)	44	39	65	43	20	461	19	510
Lane Group Flow (vph)	0	138	72	102	0	560	0	617
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)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		11.7	11.7	11.7		55.6		55.6
Actuated g/C Ratio		0.16	0.16	0.16		0.74		0.74
v/c Ratio		0.63	0.46	0.39		0.27		0.29
Control Delay (s/veh)		34.2	36.6	18.5		8.6		5.1
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		34.2	36.6	18.5		8.6		5.1
LOS		C	D	B		A		A
Approach Delay (s/veh)		34.2		26.0		8.6		5.1
Approach LOS		C		C		A		A
Queue Length 50th (m)		13.9	9.4	6.0		11.5		14.3
Queue Length 95th (m)		28.1	19.4	17.0		47.2		28.2
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		361	276	421		2097		2122
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.38	0.26	0.24		0.27		0.29

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay (s/veh): 11.6

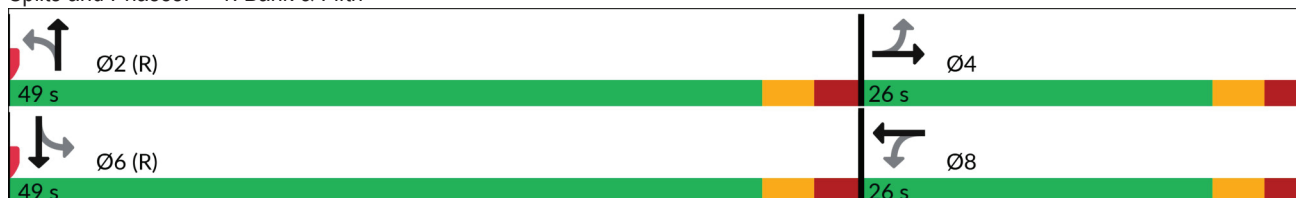
Intersection LOS: B

Intersection Capacity Utilization 55.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

08/01/2024

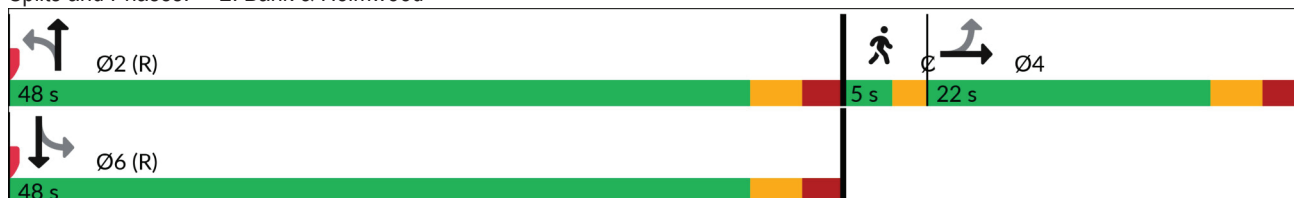


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	9	27	469	29	522	
Future Volume (vph)	9	27	469	29	522	
Lane Group Flow (vph)	107	0	599	0	636	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.3		56.4		56.4	
Actuated g/C Ratio	0.15		0.75		0.75	
v/c Ratio	0.54		0.29		0.30	
Control Delay (s/veh)	38.5		3.1		5.5	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.5		3.1		5.5	
LOS	D		A		A	
Approach Delay (s/veh)	38.5		3.1		5.5	
Approach LOS	D		A		A	
Queue Length 50th (m)	14.2		3.2		24.0	
Queue Length 95th (m)	26.7		15.9		41.2	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	291		2040		2106	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.37		0.29		0.30	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay (s/veh): 7.0 Intersection LOS: A
 Intersection Capacity Utilization 62.9% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

08/01/2024



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	83	68	429	119	452		
Future Volume (vph)	83	68	429	119	452		
Lane Group Flow (vph)	92	76	604	132	502		
Turn Type	Perm	Perm	NA	Perm	NA		
Protected Phases			2		6	1	7
Permitted Phases	8	8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	39.0	39.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	39.0	39.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	52.0%	52.0%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	11.1	11.1	55.4	55.4	55.4		
Actuated g/C Ratio	0.15	0.15	0.74	0.74	0.74		
v/c Ratio	0.41	0.33	0.28	0.28	0.21		
Control Delay (s/veh)	34.4	11.6	4.6	5.0	3.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	34.4	11.6	4.6	5.0	3.1		
LOS	C	B	A	A	A		
Approach Delay (s/veh)	24.1		4.6		3.5		
Approach LOS	C		A		A		
Queue Length 50th (m)	12.2	0.0	12.9	4.0	8.1		
Queue Length 95th (m)	23.9	10.3	23.4	8.1	11.0		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	399	351	2160	467	2342		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.23	0.22	0.28	0.28	0.21		

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 70 (93%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay (s/veh): 6.4

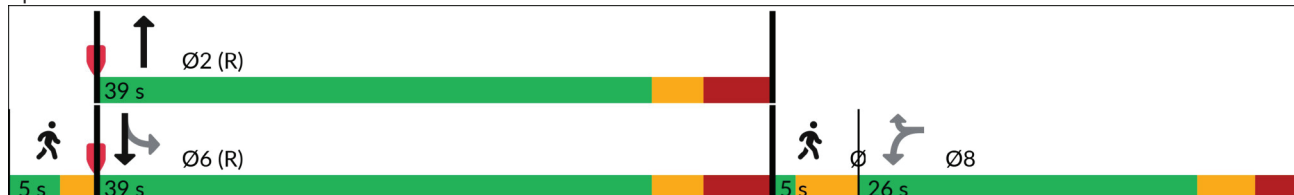
Intersection LOS: A

Intersection Capacity Utilization 58.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

08/01/2024

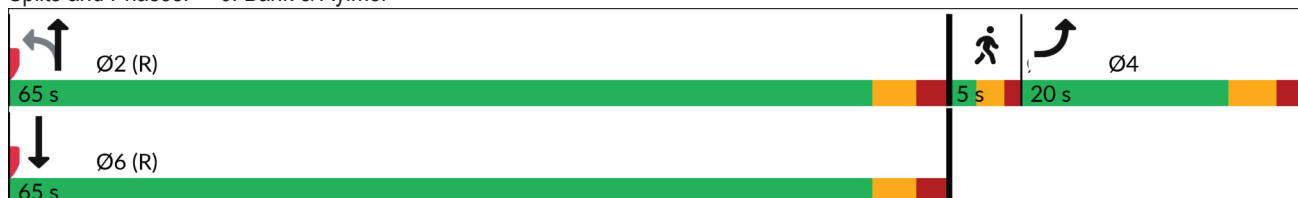


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	35	15	647	681	
Future Volume (vph)	35	15	647	681	
Lane Group Flow (vph)	49	0	736	816	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	19.5	35.2	35.2	35.2	4.0
Total Split (s)	20.0	65.0	65.0	65.0	5.0
Total Split (%)	22.2%	72.2%	72.2%	72.2%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		60.3	60.3	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.20		0.37	0.40	
Control Delay (s/veh)	30.3		5.0	7.2	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	30.3		5.0	7.2	
LOS	C		A	A	
Approach Delay (s/veh)	30.3		5.0	7.2	
Approach LOS	C		A	A	
Queue Length 50th (m)	5.9		18.9	28.5	
Queue Length 95th (m)	15.8		24.5	38.4	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	248		1989	2051	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.20		0.37	0.40	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 28 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay (s/veh): 6.9	Intersection LOS: A
Intersection Capacity Utilization 50.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

08/01/2024

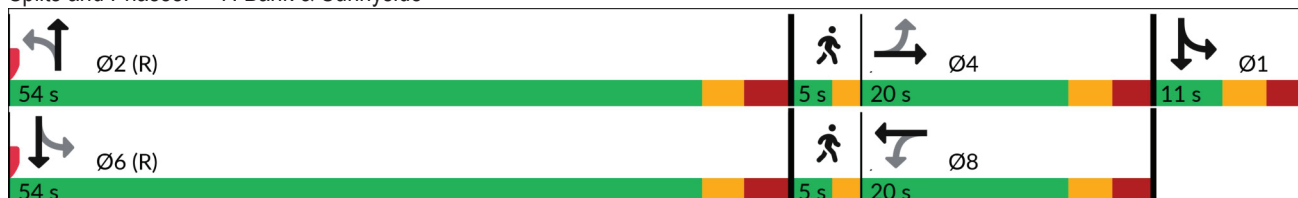


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø6	Ø7
Lane Configurations		↕		↕		↕↕		↕↕			
Traffic Volume (vph)	40	36	19	55	28	464	80	516			
Future Volume (vph)	40	36	19	55	28	464	80	516			
Lane Group Flow (vph)	0	131	0	189	0	581	0	721			
Turn Type	Perm	NA	Perm	NA	Perm	NA	custom	NA			
Protected Phases		4		8		2	1	16	3	6	7
Permitted Phases	4		8		2		6				
Detector Phase	4	4	8	8	2	2	1	16			
Switch Phase											
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0		1.0	17.0	1.0
Minimum Split (s)	20.0	20.0	20.0	20.0	54.0	54.0	11.0		5.0	54.0	5.0
Total Split (s)	20.0	20.0	20.0	20.0	54.0	54.0	11.0		5.0	54.0	5.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%	60.0%	60.0%	12.2%		6%	60%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		2.0	3.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9		0.0	3.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0					
Total Lost Time (s)		5.6		5.6		6.0					
Lead/Lag	Lag	Lag	Lag	Lag					Lead		Lead
Lead-Lag Optimize?			Yes	Yes							Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None		None	C-Max	None
Act Effct Green (s)		18.0		18.0		48.2		54.6			
Actuated g/C Ratio		0.20		0.20		0.54		0.61			
v/c Ratio		0.63		0.66		0.40		0.48			
Control Delay (s/veh)		46.7		33.4		13.2		6.3			
Queue Delay		0.0		0.0		0.0		0.0			
Total Delay (s/veh)		46.7		33.4		13.2		6.3			
LOS		D		C		B		A			
Approach Delay (s/veh)		46.7		33.4		13.2		6.3			
Approach LOS		D		C		B		A			
Queue Length 50th (m)		20.4		19.7		28.9		15.8			
Queue Length 95th (m)		39.1		42.1		40.7		19.5			
Internal Link Dist (m)		75.1		136.0		63.1		79.0			
Turn Bay Length (m)											
Base Capacity (vph)		211		290		1451		1504			
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		0.62		0.65		0.40		0.48			

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 33 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay (s/veh): 15.2	Intersection LOS: B
Intersection Capacity Utilization 69.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

08/01/2024

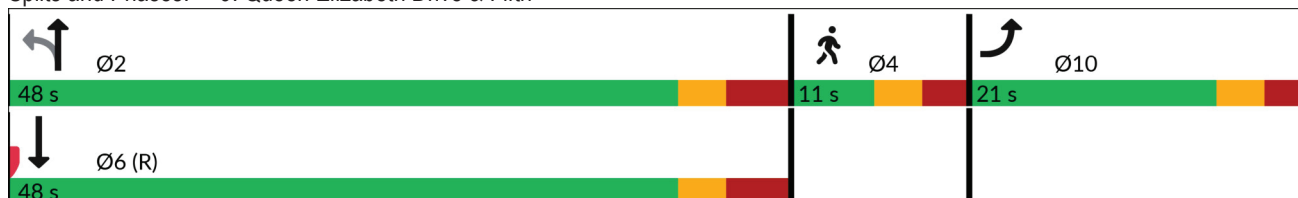


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	52	40	235	339	
Future Volume (vph)	52	40	235	339	
Lane Group Flow (vph)	90	0	305	433	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Detector Phase	10	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	None	None	C-Max	None
Act Effct Green (s)	11.1		56.4	56.4	
Actuated g/C Ratio	0.14		0.71	0.71	
v/c Ratio	0.42		0.29	0.37	
Control Delay (s/veh)	37.3		5.4	6.1	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	37.3		5.4	6.1	
LOS	D		A	A	
Approach Delay (s/veh)	37.3		5.4	6.1	
Approach LOS	D		A	A	
Queue Length 50th (m)	12.9		13.3	20.4	
Queue Length 95th (m)	25.2		27.5	40.5	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	297		1070	1168	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.30		0.29	0.37	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.42	
Intersection Signal Delay (s/veh): 9.2	Intersection LOS: A
Intersection Capacity Utilization 61.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	5	116	83	5	5	5
Future Vol, veh/h	5	116	83	5	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	129	92	6	6	6
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	7.8	7.5	7.3
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	50%
Vol Thru, %	96%	94%	0%
Vol Right, %	0%	6%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	121	88	10
LT Vol	5	0	5
Through Vol	116	83	0
RT Vol	0	5	5
Lane Flow Rate	134	98	11
Geometry Grp	1	1	1
Degree of Util (X)	0.151	0.109	0.013
Departure Headway (Hd)	4.035	4.02	4.131
Convergence, Y/N	Yes	Yes	Yes
Cap	889	890	851
Service Time	2.059	2.052	2.23
HCM Lane V/C Ratio	0.151	0.11	0.013
HCM Control Delay, s/veh	7.8	7.5	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.4	0

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	5	5	70	5	5
Future Vol, veh/h	15	5	5	70	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	6	6	78	6	6
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7	7.4	7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	50%	0%	7%
Vol Thru, %	0%	75%	93%
Vol Right, %	50%	25%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	10	20	75
LT Vol	5	0	5
Through Vol	0	15	70
RT Vol	5	5	0
Lane Flow Rate	11	22	83
Geometry Grp	1	1	1
Degree of Util (X)	0.012	0.024	0.092
Departure Headway (Hd)	3.916	3.866	3.984
Convergence, Y/N	Yes	Yes	Yes
Cap	909	927	903
Service Time	1.959	1.885	1.991
HCM Lane V/C Ratio	0.012	0.024	0.092
HCM Control Delay, s/veh	7	7	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.3

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	5	83	5	101	20
Future Vol, veh/h	15	5	83	5	101	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	6	92	6	112	22
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.3	8.1	8.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	83%	0%	94%
Vol Thru, %	0%	75%	6%
Vol Right, %	17%	25%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	121	20	88
LT Vol	101	0	83
Through Vol	0	15	5
RT Vol	20	5	0
Lane Flow Rate	134	22	98
Geometry Grp	1	1	1
Degree of Util (X)	0.157	0.026	0.119
Departure Headway (Hd)	4.21	4.2	4.378
Convergence, Y/N	Yes	Yes	Yes
Cap	843	858	810
Service Time	2.283	2.2	2.456
HCM Lane V/C Ratio	0.159	0.026	0.121
HCM Control Delay, s/veh	8.1	7.3	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	0.1	0.4

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	39	46	0	0	0	90	56	38	35	0	0	101
Future Vol, veh/h	39	46	0	0	0	90	56	38	35	0	0	101
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	51	0	0	0	100	62	42	39	0	0	112
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.4	7.5	8.4	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	46%	0%	0%
Vol Thru, %	29%	54%	0%	0%
Vol Right, %	27%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	129	85	90	101
LT Vol	56	39	0	0
Through Vol	38	46	0	0
RT Vol	35	0	90	101
Lane Flow Rate	143	94	100	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.175	0.123	0.111	0.122
Departure Headway (Hd)	4.403	4.684	3.999	3.926
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	816	767	897	913
Service Time	2.423	2.703	2.019	1.946
HCM Lane V/C Ratio	0.175	0.123	0.111	0.123
HCM Control Delay, s/veh	8.4	8.4	7.5	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.4	0.4	0.4

Intersection						
Int Delay, s/veh	5.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	3	172	113	539	490	53
Future Vol, veh/h	3	172	113	539	490	53
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	3	191	126	599	544	59
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1302	752	781	0	-	0
Stage 1	752	-	-	-	-	-
Stage 2	551	-	-	-	-	-
Critical Hdwy	6.645	6.245	4.145	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.52853	3.32852	2.2285	-	-	-
Pot Cap-1 Maneuver	163	407	829	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	83	331	673	-	-	-
Mov Cap-2 Maneuver	83	-	-	-	-	-
Stage 1	291	-	-	-	-	-
Stage 2	438	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	29.8	3.52		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	561	-	331	-	-	
HCM Lane V/C Ratio	0.187	-	0.578	-	-	
HCM Control Delay (s/veh)	11.6	1.8	29.8	-	-	
HCM Lane LOS	B	A	D	-	-	
HCM 95th %tile Q(veh)	0.7	-	3.4	-	-	

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕	
Traffic Vol, veh/h	1	31	0	641	654	0
Future Vol, veh/h	1	31	0	641	654	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1	34	0	712	727	0

Major/Minor

	Minor2	Major1	Major2		
Conflicting Flow All	1083	727	-	0	-
Stage 1	727	-	-	-	-
Stage 2	356	-	-	-	-
Critical Hdwy	6.645	6.245	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-
Follow-up Hdwy	3.5285	3.3285	-	-	-
Pot Cap-1 Maneuver	224	421	0	-	0
Stage 1	475	-	0	-	0
Stage 2	678	-	0	-	0
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	224	421	-	-	-
Mov Cap-2 Maneuver	224	-	-	-	-
Stage 1	475	-	-	-	-
Stage 2	678	-	-	-	-

Approach

	EB	NB	SB
HCM Control Delay, s/veh	14.31	0	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBTEBLn1	SBT
Capacity (veh/h)	- 421	-
HCM Lane V/C Ratio	- 0.082	-
HCM Control Delay (s/veh)	- 14.3	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0.3	-

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			L		
Traffic Vol, veh/h	67	54	54	204	245	124
Future Vol, veh/h	67	54	54	204	245	124
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	74	60	60	227	272	138
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	688	341	410	0	0	
Stage 1	341	-	-	-	-	
Stage 2	347	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	415	706	1160	-	-	
Stage 1	725	-	-	-	-	
Stage 2	720	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	391	706	1160	-	-	
Mov Cap-2 Maneuver	391	-	-	-	-	
Stage 1	682	-	-	-	-	
Stage 2	720	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/√15.16		1.73		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	377	-	488	-	-	
HCM Lane V/C Ratio	0.052	-	0.276	-	-	
HCM Control Delay (s/veh)	8.3	0	15.2	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.1	-	-	

Intersection

Int Delay, s/veh 0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↗
Traffic Vol, veh/h	6	69	479	18	2	565
Future Vol, veh/h	6	69	479	18	2	565
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	2	2
Mvmt Flow	7	77	532	20	2	628

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	961	376	0	0	652
Stage 1	642	-	-	-	-
Stage 2	318	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.14
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.22
Pot Cap-1 Maneuver	258	627	-	-	930
Stage 1	491	-	-	-	-
Stage 2	716	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	230	561	-	-	832
Mov Cap-2 Maneuver	230	-	-	-	-
Stage 1	439	-	-	-	-
Stage 2	714	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/√	2.43	0	0.03
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	561	832
HCM Lane V/C Ratio	-	-	0.137	0.003
HCM Control Delay (s/veh)	-	-	12.4	9.3
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0

Intersection

Int Delay, s/veh 2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	116	117	5	83	68	5
Future Vol, veh/h	116	117	5	83	68	5
Conflicting Peds, #/hr	0	100	100	0	100	100
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	130	6	92	76	6

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	359	0	497
Stage 1	-	-	-	-	294
Stage 2	-	-	-	-	203
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1200	-	532
Stage 1	-	-	-	-	756
Stage 2	-	-	-	-	831
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1073	-	423
Mov Cap-2 Maneuver	-	-	-	-	423
Stage 1	-	-	-	-	676
Stage 2	-	-	-	-	739

Approach

	EB	WB	NB
HCM Control Delay, s/v	0	0.48	15.34
HCM LOS			C

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	429	-	-	102	-
HCM Lane V/C Ratio	0.189	-	-	0.005	-
HCM Control Delay (s/veh)	15.3	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	30	72	106	91	5
Future Vol, veh/h	5	30	72	106	91	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	33	80	118	101	6

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	198	0	0	183	139
Stage 1	-	-	-	139	-
Stage 2	-	-	-	44	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1375	-	-	806	909
Stage 1	-	-	-	888	-
Stage 2	-	-	-	978	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1375	-	-	803	909
Mov Cap-2 Maneuver	-	-	-	803	-
Stage 1	-	-	-	884	-
Stage 2	-	-	-	978	-

Approach	EB	WB	SB
HCM Control Delay, s/v	1.09	0	10.13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	257	-	-	-	808
HCM Lane V/C Ratio	0.004	-	-	-	0.132
HCM Control Delay (s/veh)	7.6	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Existing scenario

2024 Sunday Peak Hour

Queues

1: Bank & Fifth

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↙	↘		↕		↕
Traffic Volume (vph)	52	36	118	64	15	468	22	486
Future Volume (vph)	52	36	118	64	15	468	22	486
Lane Group Flow (vph)	0	126	131	112	0	566	0	608
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)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		14.0	14.0	14.0		50.0		50.0
Actuated g/C Ratio		0.19	0.19	0.19		0.67		0.67
v/c Ratio		0.53	0.65	0.36		0.30		0.33
Control Delay (s/veh)		30.2	41.7	20.1		7.9		6.5
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		30.2	41.7	20.1		7.9		6.5
LOS		C	D	C		A		A
Approach Delay (s/veh)		30.2		31.8		7.9		6.5
Approach LOS		C		C		A		A
Queue Length 50th (m)		13.6	17.3	9.0		32.0		15.8
Queue Length 95th (m)		26.4	30.7	20.0		51.3		30.8
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		338	297	431		1903		1869
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.37	0.44	0.26		0.30		0.33

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 42 (56%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay (s/veh): 12.9

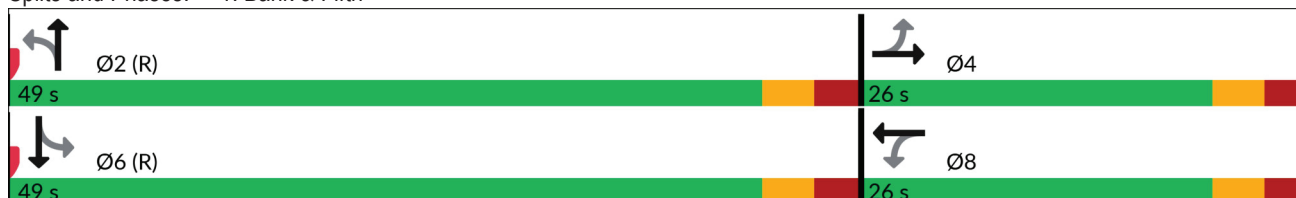
Intersection LOS: B

Intersection Capacity Utilization 58.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

08/01/2024

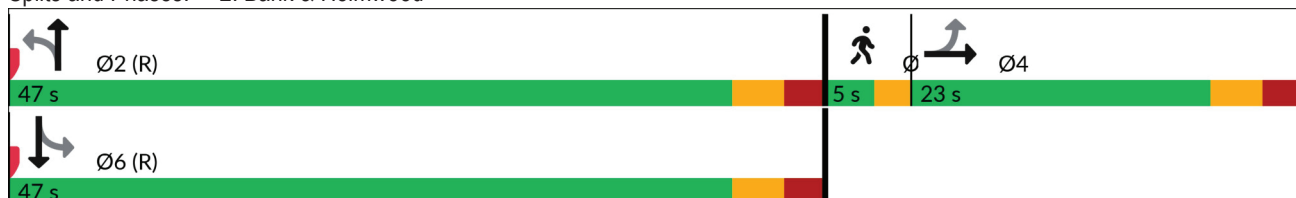


Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔			↔		↔	
Traffic Volume (vph)	17	0	31	494	22	519	
Future Volume (vph)	17	0	31	494	22	519	
Lane Group Flow (vph)	107	2	0	670	0	639	
Turn Type	NA		Perm	NA	Perm	NA	
Protected Phases	4			2		6	3
Permitted Phases			2		6		
Detector Phase	4		2	2	6	6	
Switch Phase							
Minimum Initial (s)	4.4		10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	23.0		47.0	47.0	47.0	47.0	5.0
Total Split (s)	23.0		47.0	47.0	47.0	47.0	5.0
Total Split (%)	30.7%		62.7%	62.7%	62.7%	62.7%	7%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6		2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0			0.0		0.0	
Total Lost Time (s)	5.6			5.2		5.2	
Lead/Lag	Lag						Lead
Lead-Lag Optimize?							
Recall Mode	None		C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.2	0.0		56.4		56.4	
Actuated g/C Ratio	0.15	0.00		0.75		0.75	
v/c Ratio	0.53	0.01		0.34		0.30	
Control Delay (s/veh)	38.2	0.0		7.2		8.2	
Queue Delay	0.0	0.0		0.0		0.0	
Total Delay (s/veh)	38.2	0.0		7.2		8.2	
LOS	D	A		A		A	
Approach Delay (s/veh)	38.2			7.2		8.2	
Approach LOS	D			A		A	
Queue Length 50th (m)	14.2	0.0		30.2		19.5	
Queue Length 95th (m)	26.7	0.0		49.5		44.3	
Internal Link Dist (m)	39.8	116.8		31.5		195.6	
Turn Bay Length (m)							
Base Capacity (vph)	313	143		1966		2124	
Starvation Cap Reductn	0	0		0		0	
Spillback Cap Reductn	0	0		0		0	
Storage Cap Reductn	0	0		0		0	
Reduced v/c Ratio	0.34	0.01		0.34		0.30	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 16 (21%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.53
 Intersection Signal Delay (s/veh): 10.0 Intersection LOS: A
 Intersection Capacity Utilization Err% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

08/01/2024



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø3	Ø6	Ø7
Lane Configurations								
Traffic Volume (vph)	120	63	397	170	423			
Future Volume (vph)	120	63	397	170	423			
Lane Group Flow (vph)	133	70	570	189	470			
Turn Type	Perm	Perm	NA	custom	NA			
Protected Phases			2	1	1 6	3	6	7
Permitted Phases	8	8		6				
Detector Phase	8	8	2	1	1 6			
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	1.0		3.0	10.0	3.0
Minimum Split (s)	26.0	26.0	27.0	7.9		5.0	27.0	5.0
Total Split (s)	26.0	26.0	27.0	12.0		5.0	27.0	5.0
Total Split (%)	34.7%	34.7%	36.0%	16.0%		7%	36%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0		2.0	3.0	2.0
All-Red Time (s)	3.0	3.0	3.9	3.9		0.0	3.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.3	6.3	6.9	6.9				
Lead/Lag				Lead			Lag	
Lead-Lag Optimize?				Yes			Yes	
Recall Mode	None	None	C-Max	None		None	C-Max	None
Act Effct Green (s)	12.5	12.5	40.6	45.7	54.0			
Actuated g/C Ratio	0.17	0.17	0.54	0.61	0.72			
v/c Ratio	0.53	0.29	0.36	0.41	0.21			
Control Delay (s/veh)	35.8	10.2	11.3	12.4	5.1			
Queue Delay	0.0	0.0	0.0	0.0	0.0			
Total Delay (s/veh)	35.8	10.2	11.3	12.4	5.1			
LOS	D	B	B	B	A			
Approach Delay (s/veh)	27.0		11.3		7.1			
Approach LOS	C		B		A			
Queue Length 50th (m)	17.6	0.0	21.9	7.5	10.4			
Queue Length 95th (m)	31.2	9.4	37.9	26.0	23.4			
Internal Link Dist (m)	30.6		33.7		44.8			
Turn Bay Length (m)				40.0				
Base Capacity (vph)	399	347	1584	462	2283			
Starvation Cap Reductn	0	0	0	0	0			
Spillback Cap Reductn	0	0	0	0	0			
Storage Cap Reductn	0	0	0	0	0			
Reduced v/c Ratio	0.33	0.20	0.36	0.41	0.21			

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay (s/veh): 11.6

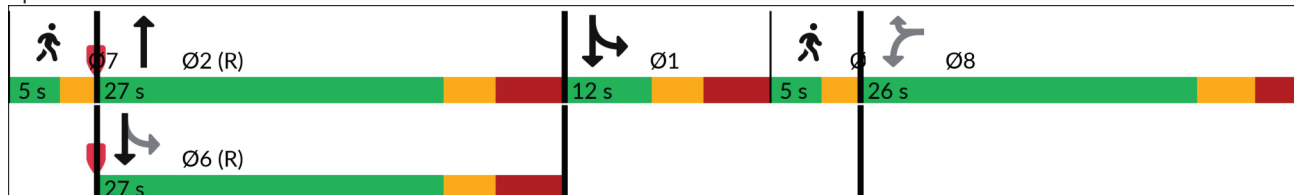
Intersection LOS: B

Intersection Capacity Utilization 59.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

08/01/2024

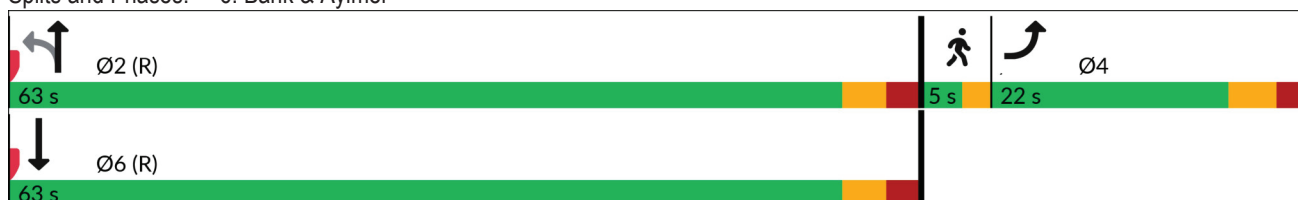


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	50	13	572	627	
Future Volume (vph)	50	13	572	627	
Lane Group Flow (vph)	76	0	650	753	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	4.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	10.8		72.6	72.6	
Actuated g/C Ratio	0.12		0.81	0.81	
v/c Ratio	0.40		0.27	0.31	
Control Delay (s/veh)	35.7		2.4	3.4	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	35.7		2.4	3.4	
LOS	D		A	A	
Approach Delay (s/veh)	35.7		2.4	3.4	
Approach LOS	D		A	A	
Queue Length 50th (m)	9.6		10.8	15.8	
Queue Length 95th (m)	21.9		14.3	26.2	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	281		2411	2463	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.27		0.27	0.31	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay (s/veh): 4.6	Intersection LOS: A
Intersection Capacity Utilization 47.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

08/01/2024

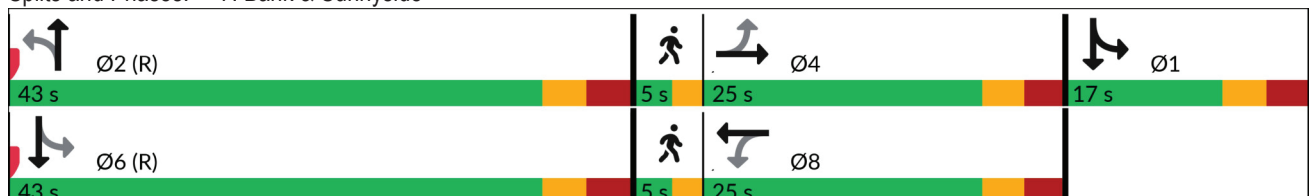


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø6	Ø7
Lane Configurations		↕		↕		↕↕		↕↕			
Traffic Volume (vph)	41	32	15	49	18	448	113	482			
Future Volume (vph)	41	32	15	49	18	448	113	482			
Lane Group Flow (vph)	0	114	0	185	0	530	0	751			
Turn Type	Perm	NA	Perm	NA	Perm	NA	custom	NA			
Protected Phases		4		8		2	1	16	3	6	7
Permitted Phases	4		8		2		6				
Detector Phase	4	4	8	8	2	2	1	16			
Switch Phase											
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0		1.0	17.0	1.0
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0		5.0	43.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0		5.0	43.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%		6%	48%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		2.0	3.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9		0.0	3.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0					
Total Lost Time (s)		5.6		5.6		6.0					
Lead/Lag	Lag	Lag	Lag	Lag					Lead		Lead
Lead-Lag Optimize?			Yes	Yes							Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None		None	C-Max	None
Act Effct Green (s)		14.6		14.6		44.6		58.0			
Actuated g/C Ratio		0.16		0.16		0.50		0.64			
v/c Ratio		0.78		0.70		0.37		0.49			
Control Delay (s/veh)		67.8		32.8		16.5		4.7			
Queue Delay		0.0		0.0		0.0		0.0			
Total Delay (s/veh)		67.8		32.8		16.5		4.7			
LOS		E		C		B		A			
Approach Delay (s/veh)		67.8		32.8		16.5		4.7			
Approach LOS		E		C		B		A			
Queue Length 50th (m)		19.1		16.5		28.7		8.6			
Queue Length 95th (m)		34.5		35.5		47.5		11.3			
Internal Link Dist (m)		75.1		136.0		63.1		79.0			
Turn Bay Length (m)											
Base Capacity (vph)		199		333		1417		1547			
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		0.57		0.56		0.37		0.49			

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 23 (26%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay (s/veh): 16.5	Intersection LOS: B
Intersection Capacity Utilization 72.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

08/01/2024



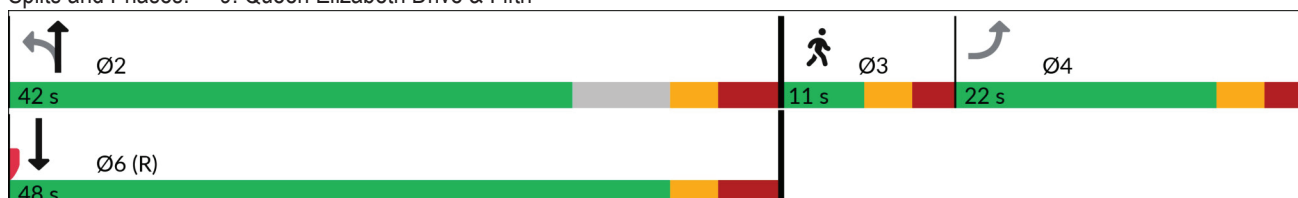
Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	12	198	12	11	
Future Volume (vph)	12	198	12	11	
Lane Group Flow (vph)	154	0	233	40	
Turn Type	Perm	Perm	NA	NA	
Protected Phases			2	6	3
Permitted Phases	4	2			
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	42.0	42.0	42.0	9.7
Total Split (s)	22.0	42.0	42.0	48.0	11.0
Total Split (%)	27.2%	51.9%	51.9%	59.3%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?	Yes				Yes
Recall Mode	Min	None	None	C-Max	None
Act Effct Green (s)	14.0		54.5	54.5	
Actuated g/C Ratio	0.17		0.67	0.67	
v/c Ratio	0.61		0.29	0.04	
Control Delay (s/veh)	40.6		7.3	5.6	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	40.6		7.3	5.6	
LOS	D		A	A	
Approach Delay (s/veh)	40.6		7.3	5.6	
Approach LOS	D		A	A	
Queue Length 50th (m)	22.3		12.4	1.8	
Queue Length 95th (m)	37.4		27.9	5.7	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	306		804	1026	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.50		0.29	0.04	

Intersection Summary

Cycle Length: 81
 Actuated Cycle Length: 81
 Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay (s/veh): 19.1
 Intersection Capacity Utilization 38.3%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	141	100	5	5	5
Future Vol, veh/h	5	141	100	5	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	157	111	6	6	6
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	8	7.7	7.4
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	50%
Vol Thru, %	97%	95%	0%
Vol Right, %	0%	5%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	146	105	10
LT Vol	5	0	5
Through Vol	141	100	0
RT Vol	0	5	5
Lane Flow Rate	162	117	11
Geometry Grp	1	1	1
Degree of Util (X)	0.182	0.131	0.013
Departure Headway (Hd)	4.048	4.046	4.328
Convergence, Y/N	Yes	Yes	Yes
Cap	886	883	832
Service Time	2.076	2.084	2.328
HCM Lane V/C Ratio	0.183	0.133	0.013
HCM Control Delay, s/veh	8	7.7	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	0.5	0

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	14	5	5	158	5	5
Future Vol, veh/h	14	5	5	158	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	6	6	176	6	6
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.1	8	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	50%	0%	3%
Vol Thru, %	0%	74%	97%
Vol Right, %	50%	26%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	10	19	163
LT Vol	5	0	5
Through Vol	0	14	158
RT Vol	5	5	0
Lane Flow Rate	11	21	181
Geometry Grp	1	1	1
Degree of Util (X)	0.013	0.023	0.2
Departure Headway (Hd)	4.083	3.93	3.976
Convergence, Y/N	Yes	Yes	Yes
Cap	864	907	906
Service Time	2.166	1.969	1.985
HCM Lane V/C Ratio	0.013	0.023	0.2
HCM Control Delay, s/veh	7.2	7.1	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.7

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	14	5	54	3	122	24
Future Vol, veh/h	14	5	54	3	122	24
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	6	60	3	136	27
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.3	7.9	8.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	84%	0%	95%
Vol Thru, %	0%	74%	5%
Vol Right, %	16%	26%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	146	19	57
LT Vol	122	0	54
Through Vol	0	14	3
RT Vol	24	5	0
Lane Flow Rate	162	21	63
Geometry Grp	1	1	1
Degree of Util (X)	0.187	0.025	0.078
Departure Headway (Hd)	4.148	4.216	4.425
Convergence, Y/N	Yes	Yes	Yes
Cap	860	854	798
Service Time	2.202	2.216	2.516
HCM Lane V/C Ratio	0.188	0.025	0.079
HCM Control Delay, s/veh	8.2	7.3	7.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	0.1	0.3

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	67	79	0	0	0	223	97	65	60	0	0	101
Future Vol, veh/h	67	79	0	0	0	223	97	65	60	0	0	101
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	88	0	0	0	248	108	72	67	0	0	112
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.9	9.4	10.6	8.5
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	46%	0%	0%
Vol Thru, %	29%	54%	0%	0%
Vol Right, %	27%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	222	146	223	101
LT Vol	97	67	0	0
Through Vol	65	79	0	0
RT Vol	60	0	223	101
Lane Flow Rate	247	162	248	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.339	0.234	0.304	0.144
Departure Headway (Hd)	4.943	5.183	4.417	4.619
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	720	685	805	765
Service Time	3.028	3.272	2.496	2.717
HCM Lane V/C Ratio	0.343	0.236	0.308	0.146
HCM Control Delay, s/veh	10.6	9.9	9.4	8.5
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.5	0.9	1.3	0.5

Intersection

Int Delay, s/veh 4.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	5	149	105	527	473	59
Future Vol, veh/h	5	149	105	527	473	59
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	6	166	117	586	526	66

Major/Minor

	Minor2	Major1	Major2			
Conflicting Flow All	1262	736	769	0	-	0
Stage 1	736	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Critical Hdwy	6.645	6.245	4.145	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.52853	3.32852	2.2285	-	-	-
Pot Cap-1 Maneuver	173	416	838	-	-	-
Stage 1	470	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	91	337	680	-	-	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	303	-	-	-	-	-
Stage 2	451	-	-	-	-	-

Approach

HCM Control Delay, s/25.53 3.28 0
HCM LOS D

Minor Lane/Major Mvmt

	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	569	-	337	-
HCM Lane V/C Ratio	0.172	-	0.491	-
HCM Control Delay (s/veh)	11.4	1.7	25.5	-
HCM Lane LOS	B	A	D	-
HCM 95th %tile Q(veh)	0.6	-	2.6	-

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	2	68	0	607	626	1
Future Vol, veh/h	2	68	0	607	626	1
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	76	0	674	696	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1119	782	-	0	-	0
Stage 1	782	-	-	-	-	-
Stage 2	337	-	-	-	-	-
Critical Hdwy	6.645	6.245	-	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.528	5.328	-	-	-	-
Pot Cap-1 Maneuver	213	391	0	-	-	-
Stage 1	448	-	0	-	-	-
Stage 2	693	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	176	356	-	-	-	-
Mov Cap-2 Maneuver	176	-	-	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/√7.83		0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBTEBLn1	SBT	SBR			
Capacity (veh/h)	-	356	-	-		
HCM Lane V/C Ratio	-	0.212	-	-		
HCM Control Delay (s/veh)	-	17.8	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0.8	-	-		

Intersection						
Int Delay, s/veh	5.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	84	132	69	125	65	57
Future Vol, veh/h	84	132	69	125	65	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	93	147	77	139	72	63
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	396	104	136	0	0	
Stage 1	104	-	-	-	-	
Stage 2	292	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	613	956	1461	-	-	
Stage 1	925	-	-	-	-	
Stage 2	762	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	578	956	1461	-	-	
Mov Cap-2 Maneuver	578	-	-	-	-	
Stage 1	873	-	-	-	-	
Stage 2	762	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/veh	1.88	2.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	640	-	762	-	-	
HCM Lane V/C Ratio	0.052	-	0.315	-	-	
HCM Control Delay (s/veh)	7.6	0	11.9	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.4	-	-	

Intersection

Int Delay, s/veh 1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↔			↕↗
Traffic Vol, veh/h	7	156	452	19	0	578
Future Vol, veh/h	7	156	452	19	0	578
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	2	2
Mvmt Flow	8	173	502	21	0	642

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	934	362	0	0	-
Stage 1	613	-	-	-	-
Stage 2	321	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-
Pot Cap-1 Maneuver	268	641	-	-	0
Stage 1	509	-	-	-	0
Stage 2	714	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	240	573	-	-	-
Mov Cap-2 Maneuver	240	-	-	-	-
Stage 1	455	-	-	-	-
Stage 2	714	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/veh	13.98	0	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	573
HCM Lane V/C Ratio	-	-	0.302
HCM Control Delay (s/veh)	-	-	14
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	1.3

Intersection

Int Delay, s/veh 3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	141	145	5	100	83	5
Future Vol, veh/h	141	145	5	100	83	5
Conflicting Peds, #/hr	0	100	100	0	100	100
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	157	161	6	111	92	6

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	418	0	559 437
Stage 1	-	-	-	-	337 -
Stage 2	-	-	-	-	222 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1141	-	490 619
Stage 1	-	-	-	-	723 -
Stage 2	-	-	-	-	815 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1020	-	389 495
Mov Cap-2 Maneuver	-	-	-	-	389 -
Stage 1	-	-	-	-	646 -
Stage 2	-	-	-	-	724 -

Approach

	EB	WB	NB
HCM Control Delay, s/v	0	0.41	17.12
HCM LOS			C

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	394	-	-	86	-
HCM Lane V/C Ratio	0.248	-	-	0.005	-
HCM Control Delay (s/veh)	17.1	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0	-

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	50	52	74	166	5
Future Vol, veh/h	5	50	52	74	166	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	56	58	82	184	6

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	140	0	-	0	166 99
Stage 1	-	-	-	-	99 -
Stage 2	-	-	-	-	67 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1443	-	-	-	825 957
Stage 1	-	-	-	-	925 -
Stage 2	-	-	-	-	956 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1443	-	-	-	822 957
Mov Cap-2 Maneuver	-	-	-	-	822 -
Stage 1	-	-	-	-	921 -
Stage 2	-	-	-	-	956 -

Approach

	EB	WB	SB
HCM Control Delay, s/v0.68		0	10.66
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	164	-	-	-	825
HCM Lane V/C Ratio	0.004	-	-	-	0.23
HCM Control Delay (s/veh)	7.5	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Existing scenario

2022 Minor Event Ingress

Queues

1: Bank & Fifth

08/01/2024

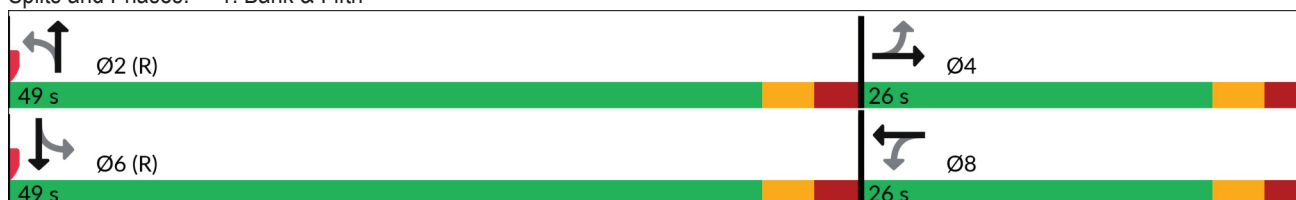


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↙	↘		↕		↕
Traffic Volume (vph)	50	56	65	45	16	482	25	557
Future Volume (vph)	50	56	65	45	16	482	25	557
Lane Group Flow (vph)	0	154	72	84	0	585	0	673
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		13.1	13.1	13.1		50.9		50.9
Actuated g/C Ratio		0.17	0.17	0.17		0.68		0.68
v/c Ratio		0.65	0.42	0.30		0.30		0.35
Control Delay (s/veh)		36.9	33.3	19.0		10.0		6.3
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		36.9	33.3	19.0		10.0		6.3
LOS		D	C	B		B		A
Approach Delay (s/veh)		36.9		25.6		10.0		6.3
Approach LOS		D		C		B		A
Queue Length 50th (m)		17.7	9.2	6.1		17.3		17.4
Queue Length 95th (m)		32.3	18.8	15.6		49.8		33.6
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		361	270	423		1931		1925
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.43	0.27	0.20		0.30		0.35

Intersection Summary

Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay (s/veh): 12.6	Intersection LOS: B
Intersection Capacity Utilization 61.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

08/01/2024

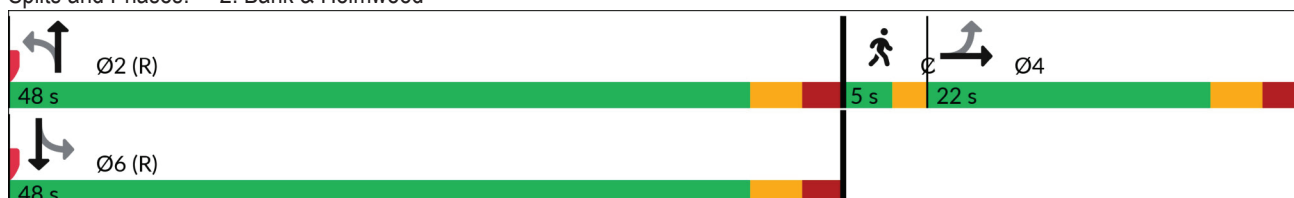


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations						
Traffic Volume (vph)	25	50	488	24	543	
Future Volume (vph)	25	50	488	24	543	
Lane Group Flow (vph)	114	0	682	0	667	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.4		56.3		56.3	
Actuated g/C Ratio	0.15		0.75		0.75	
v/c Ratio	0.54		0.37		0.32	
Control Delay (s/veh)	38.1		2.9		4.8	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.1		2.9		4.8	
LOS	D		A		A	
Approach Delay (s/veh)	38.1		2.9		4.8	
Approach LOS	D		A		A	
Queue Length 50th (m)	15.1		6.3		25.1	
Queue Length 95th (m)	27.8		13.9		20.2	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	303		1858		2108	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.38		0.37		0.32	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay (s/veh): 6.5 Intersection LOS: A
 Intersection Capacity Utilization 66.2% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

08/01/2024



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	118	86	415	165	411		
Future Volume (vph)	118	86	415	165	411		
Lane Group Flow (vph)	131	96	668	183	457		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	12.1	12.1	54.4	54.4	54.4		
Actuated g/C Ratio	0.16	0.16	0.73	0.73	0.73		
v/c Ratio	0.50	0.37	0.33	0.41	0.20		
Control Delay (s/veh)	35.1	10.5	4.9	7.4	3.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	35.1	10.5	4.9	7.4	3.1		
LOS	D	B	A	A	A		
Approach Delay (s/veh)	24.7		4.9		4.3		
Approach LOS	C		A		A		
Queue Length 50th (m)	17.4	0.0	14.0	5.3	6.7		
Queue Length 95th (m)	30.8	11.2	26.6	10.5	8.8		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	429	366	2044	446	2300		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.31	0.26	0.33	0.41	0.20		

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay (s/veh): 7.6

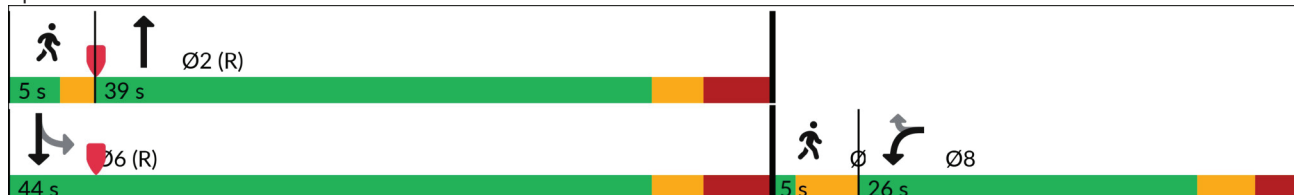
Intersection LOS: A

Intersection Capacity Utilization 62.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

08/01/2024

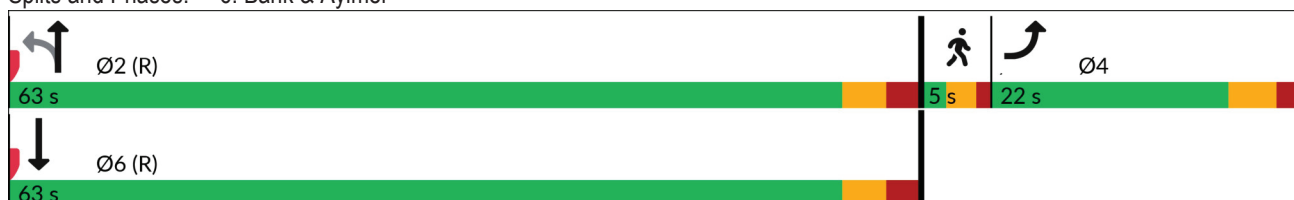


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	70	18	675	499	
Future Volume (vph)	70	18	675	499	
Lane Group Flow (vph)	86	0	770	635	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		60.3	60.3	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.35		0.39	0.32	
Control Delay (s/veh)	36.4		5.4	6.4	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	36.4		5.4	6.4	
LOS	D		A	A	
Approach Delay (s/veh)	36.4		5.4	6.4	
Approach LOS	D		A	A	
Queue Length 50th (m)	12.6		24.9	19.8	
Queue Length 95th (m)	26.1		23.6	28.0	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	288		1987	1980	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.30		0.39	0.32	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay (s/veh): 7.6	Intersection LOS: A
Intersection Capacity Utilization 53.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕		↕		
Traffic Volume (vph)	55	50	17	57	19	467	103	528		
Future Volume (vph)	55	50	17	57	19	467	103	528		
Lane Group Flow (vph)	0	146	0	258	0	559	0	772		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Detector Phase	4	4	8	8	2	2	1	6		
Switch Phase										
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0	17.0	1.0	1.0
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None	C-Max	None	None
Act Effct Green (s)		20.1		20.1		58.3		58.3		
Actuated g/C Ratio		0.22		0.22		0.65		0.65		
v/c Ratio		0.73		0.76		0.30		0.53		
Control Delay (s/veh)		52.2		32.6		8.1		7.5		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		52.2		32.6		8.1		7.5		
LOS		D		C		A		A		
Approach Delay (s/veh)		52.2		32.6		8.1		7.5		
Approach LOS		D		C		A		A		
Queue Length 50th (m)		22.9		23.5		20.9		17.6		
Queue Length 95th (m)		#42.6		49.7		32.2		23.4		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		219		361		1837		1449		
Starvation Cap Reductn		0		0		0		0		
Spillback Cap Reductn		0		0		0		0		
Storage Cap Reductn		0		0		0		0		
Reduced v/c Ratio		0.67		0.71		0.30		0.53		

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 17 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay (s/veh): 15.2 Intersection LOS: B
 Intersection Capacity Utilization 79.7% 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.

Queues

7: Bank & Sunnyside

08/01/2024

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

08/01/2024

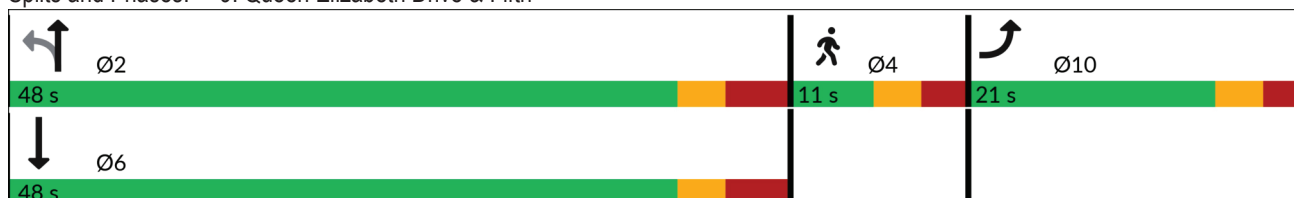


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	51	51	215	519	
Future Volume (vph)	51	51	215	519	
Lane Group Flow (vph)	97	0	296	670	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Detector Phase	10	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	None	None	Max	None
Act Effct Green (s)	10.7		41.2	41.2	
Actuated g/C Ratio	0.17		0.64	0.64	
v/c Ratio	0.38		0.34	0.63	
Control Delay (s/veh)	28.6		6.8	10.7	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	28.6		6.8	10.7	
LOS	C		A	B	
Approach Delay (s/veh)	28.6		6.8	10.7	
Approach LOS	C		A	B	
Queue Length 50th (m)	10.4		13.2	39.4	
Queue Length 95th (m)	22.4		27.9	78.2	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	367		878	1058	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.26		0.34	0.63	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 64.4	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay (s/veh): 11.2	Intersection LOS: B
Intersection Capacity Utilization 73.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	5	222	117	5	5	5
Future Vol, veh/h	5	222	117	5	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	247	130	6	6	6
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	8.7	7.9	7.6
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	50%
Vol Thru, %	98%	96%	0%
Vol Right, %	0%	4%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	227	122	10
LT Vol	5	0	5
Through Vol	222	117	0
RT Vol	0	5	5
Lane Flow Rate	252	136	11
Geometry Grp	1	1	1
Degree of Util (X)	0.284	0.155	0.014
Departure Headway (Hd)	4.059	4.117	4.56
Convergence, Y/N	Yes	Yes	Yes
Cap	883	865	790
Service Time	2.096	2.175	2.56
HCM Lane V/C Ratio	0.285	0.157	0.014
HCM Control Delay, s/veh	8.7	7.9	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.2	0.5	0

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	16	5	5	48	5	5
Future Vol, veh/h	16	5	5	48	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	6	6	53	6	6
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7	7.3	7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	50%	0%	9%
Vol Thru, %	0%	76%	91%
Vol Right, %	50%	24%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	10	21	53
LT Vol	5	0	5
Through Vol	0	16	48
RT Vol	5	5	0
Lane Flow Rate	11	23	59
Geometry Grp	1	1	1
Degree of Util (X)	0.012	0.025	0.065
Departure Headway (Hd)	3.876	3.854	3.99
Convergence, Y/N	Yes	Yes	Yes
Cap	921	931	902
Service Time	1.908	1.869	1.997
HCM Lane V/C Ratio	0.012	0.025	0.065
HCM Control Delay, s/veh	7	7	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.2

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	16	5	117	44	211	16
Future Vol, veh/h	16	5	117	44	211	16
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	6	130	49	234	18
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.8	9.2	9.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	93%	0%	73%
Vol Thru, %	0%	76%	27%
Vol Right, %	7%	24%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	227	21	161
LT Vol	211	0	117
Through Vol	0	16	44
RT Vol	16	5	0
Lane Flow Rate	252	23	179
Geometry Grp	1	1	1
Degree of Util (X)	0.32	0.03	0.234
Departure Headway (Hd)	4.57	4.62	4.719
Convergence, Y/N	Yes	Yes	Yes
Cap	789	775	762
Service Time	2.589	2.648	2.741
HCM Lane V/C Ratio	0.319	0.03	0.235
HCM Control Delay, s/veh	9.7	7.8	9.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.4	0.1	0.9

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	59	50	0	0	0	135	61	40	37	0	0	80
Future Vol, veh/h	59	50	0	0	0	135	61	40	37	0	0	80
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	66	56	0	0	0	150	68	44	41	0	0	89
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.7	7.9	8.7	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	54%	0%	0%
Vol Thru, %	29%	46%	0%	0%
Vol Right, %	27%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	138	109	135	80
LT Vol	61	59	0	0
Through Vol	40	50	0	0
RT Vol	37	0	135	80
Lane Flow Rate	153	121	150	89
Geometry Grp	1	1	1	1
Degree of Util (X)	0.194	0.16	0.168	0.102
Departure Headway (Hd)	4.556	4.743	4.024	4.114
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	787	756	891	869
Service Time	2.588	2.774	2.054	2.148
HCM Lane V/C Ratio	0.194	0.16	0.168	0.102
HCM Control Delay, s/veh	8.7	8.7	7.9	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.6	0.6	0.3

Intersection						
Int Delay, s/veh	10.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	5	260	139	638	466	53
Future Vol, veh/h	5	260	139	638	466	53
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	6	289	154	709	518	59
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1389	725	755	0	-	0
Stage 1	725	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Critical Hdwy	6.645	6.245	4.145	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.52853	3.32852	2.2285	-	-	-
Pot Cap-1 Maneuver	144	422	848	-	-	-
Stage 1	476	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	68	342	688	-	-	-
Mov Cap-2 Maneuver	68	-	-	-	-	-
Stage 1	278	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	2.66	3.98		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	553	-	342	-	-	
HCM Lane V/C Ratio	0.224	-	0.844	-	-	
HCM Control Delay (s/veh)	11.7	2.3	52.7	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	0.9	-	7.6	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖↖	↖	
Traffic Vol, veh/h	4	36	0	762	734	0
Future Vol, veh/h	4	36	0	762	734	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	4	40	0	847	816	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1239	816	-	0	-	0
Stage 1	816	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Critical Hdwy	6.645	6.245	-	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.528	5.328	-	-	-	-
Pot Cap-1 Maneuver	179	374	0	-	-	0
Stage 1	432	-	0	-	-	0
Stage 2	627	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	179	374	-	-	-	-
Mov Cap-2 Maneuver	179	-	-	-	-	-
Stage 1	432	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	15.77	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NB	EBLn1	SBT			
Capacity (veh/h)	-	374	-			
HCM Lane V/C Ratio	-	0.107	-			
HCM Control Delay (s/veh)	-	15.8	-			
HCM Lane LOS	-	C	-			
HCM 95th %tile Q(veh)	-	0.4	-			

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			L		
Traffic Vol, veh/h	58	52	110	211	316	245
Future Vol, veh/h	58	52	110	211	316	245
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	64	58	122	234	351	272
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	966	487	623	0	0	
Stage 1	487	-	-	-	-	
Stage 2	479	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	285	584	968	-	-	
Stage 1	622	-	-	-	-	
Stage 2	627	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	243	584	968	-	-	
Mov Cap-2 Maneuver	243	-	-	-	-	
Stage 1	531	-	-	-	-	
Stage 2	627	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/21.71		3.17		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	617	-	336	-	-	
HCM Lane V/C Ratio	0.126	-	0.364	-	-	
HCM Control Delay (s/veh)	9.3	0	21.7	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.4	-	1.6	-	-	

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↔			↕↗
Traffic Vol, veh/h	0	53	501	19	2	560
Future Vol, veh/h	0	53	501	19	2	560
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	2	2
Mvmt Flow	0	59	557	21	2	622
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	389	0	0	678	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	615	-	-	910	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	550	-	-	814	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/veh	12.32	0		0.03		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	550	814	-	
HCM Lane V/C Ratio	-	-	0.107	0.003	-	
HCM Control Delay (s/veh)	-	-	12.3	9.4	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.4	0	-	

Intersection						
Int Delay, s/veh	3.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	222	129	5	117	87	5
Future Vol, veh/h	222	129	5	117	87	5
Conflicting Peds, #/hr	0	100	100	0	100	100
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	247	143	6	130	97	6
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	490	0	659	518
Stage 1	-	-	-	-	418	-
Stage 2	-	-	-	-	241	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1073	-	428	557
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	960	-	340	446
Mov Cap-2 Maneuver	-	-	-	-	340	-
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	710	-
Approach	EB	WB	NB			
HCM Control Delay, s/v	0	0.36	19.79			
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	345	-	-	74	-	
HCM Lane V/C Ratio	0.297	-	-	0.006	-	
HCM Control Delay (s/veh)	19.8	-	-	8.8	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	1.2	-	-	0	-	

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	27	156	199	83	5
Future Vol, veh/h	5	27	156	199	83	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	30	173	221	92	6

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	394	0	0 325 284
Stage 1	-	-	- 284 -
Stage 2	-	-	- 41 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1164	-	- 669 755
Stage 1	-	-	- 764 -
Stage 2	-	-	- 981 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1164	-	- 666 755
Mov Cap-2 Maneuver	-	-	- 666 -
Stage 1	-	-	- 761 -
Stage 2	-	-	- 981 -

Approach

	EB	WB	SB
HCM Control Delay, s/v	1.27	0	11.29
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	281	-	-	-	670
HCM Lane V/C Ratio	0.005	-	-	-	0.146
HCM Control Delay (s/veh)	8.1	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Existing scenario

2022 Minor Event Egress

Queues

1: Bank & Fifth

08/01/2024

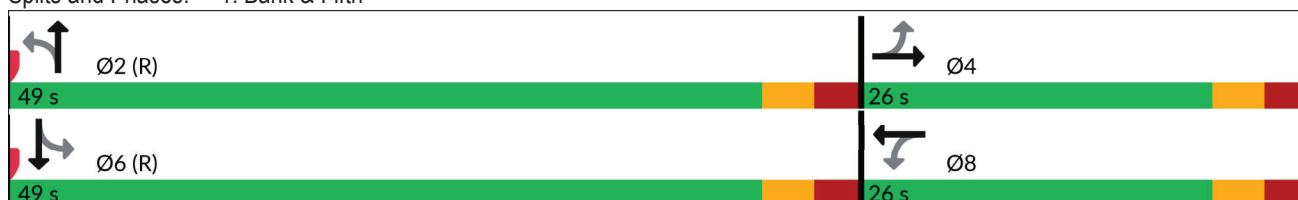


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↙	↘		↕		↕
Traffic Volume (vph)	41	9	47	24	16	457	20	344
Future Volume (vph)	41	9	47	24	16	457	20	344
Lane Group Flow (vph)	0	84	52	61	0	538	0	427
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		9.4	9.4	9.4		57.9		57.9
Actuated g/C Ratio		0.13	0.13	0.13		0.77		0.77
v/c Ratio		0.51	0.34	0.30		0.24		0.20
Control Delay (s/veh)		31.9	34.4	19.5		6.0		3.6
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		31.9	34.4	19.5		6.0		3.6
LOS		C	C	B		A		A
Approach Delay (s/veh)		31.9		26.4		6.0		3.6
Approach LOS		C		C		A		A
Queue Length 50th (m)		7.5	6.9	3.5		12.8		7.5
Queue Length 95th (m)		18.8	15.5	12.6		34.2		15.6
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		330	341	402		2251		2168
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.25	0.15	0.15		0.24		0.20

Intersection Summary

Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay (s/veh): 9.0	Intersection LOS: A
Intersection Capacity Utilization 51.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Bank & Fifth



Signal Timing, M

Queues

2: Bank & Holmwood

08/01/2024

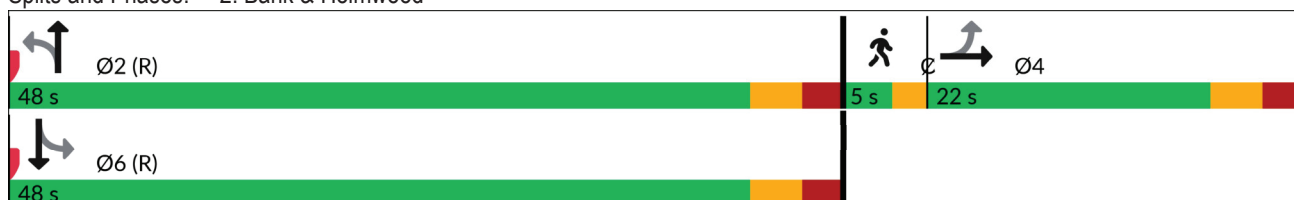


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	7	52	445	22	325	
Future Volume (vph)	7	52	445	22	325	
Lane Group Flow (vph)	84	0	579	0	424	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	9.9		57.5		57.5	
Actuated g/C Ratio	0.13		0.77		0.77	
v/c Ratio	0.47		0.29		0.20	
Control Delay (s/veh)	37.7		3.7		4.4	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	37.7		3.7		4.4	
LOS	D		A		A	
Approach Delay (s/veh)	37.7		3.7		4.4	
Approach LOS	D		A		A	
Queue Length 50th (m)	11.2		8.8		12.4	
Queue Length 95th (m)	22.3		22.1		24.4	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	296		2029		2106	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.28		0.29		0.20	

Intersection Summary

Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay (s/veh): 6.6	Intersection LOS: A
Intersection Capacity Utilization 57.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Bank & Holmwood



Signal Timing, M

Queues

3: Bank & Exhibition

08/01/2024

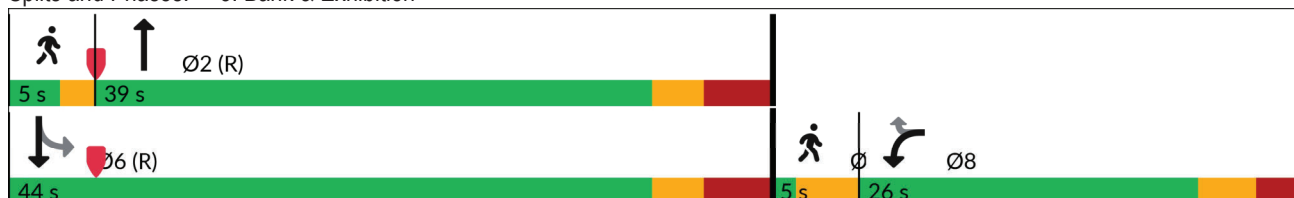


Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	187	213	187	111	253		
Future Volume (vph)	187	213	187	111	253		
Lane Group Flow (vph)	208	237	297	123	281		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	14.9	14.9	46.9	46.9	46.9		
Actuated g/C Ratio	0.20	0.20	0.63	0.63	0.63		
v/c Ratio	0.64	0.57	0.17	0.25	0.14		
Control Delay (s/veh)	36.4	9.6	4.9	5.8	4.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	36.4	9.6	4.9	5.8	4.4		
LOS	D	A	A	A	A		
Approach Delay (s/veh)	22.1		4.9		4.8		
Approach LOS	C		A		A		
Queue Length 50th (m)	27.3	0.0	5.4	4.2	5.0		
Queue Length 95th (m)	43.5	16.2	12.4	8.8	7.6		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	431	471	1777	502	1985		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.48	0.50	0.17	0.25	0.14		

Intersection Summary

Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay (s/veh): 11.6	Intersection LOS: B
Intersection Capacity Utilization 57.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Bank & Exhibition



Signal Timing, M

Queues

6: Bank & Aylmer

08/01/2024

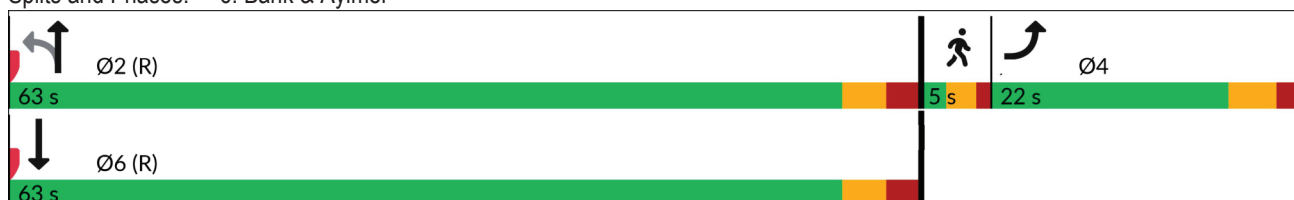


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	4	1	155	191	
Future Volume (vph)	4	1	155	191	
Lane Group Flow (vph)	7	0	173	219	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		60.3	60.3	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.03		0.08	0.10	
Control Delay (s/veh)	27.2		5.3	5.2	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	27.2		5.3	5.2	
LOS	C		A	A	
Approach Delay (s/veh)	27.2		5.3	5.2	
Approach LOS	C		A	A	
Queue Length 50th (m)	0.6		4.8	6.0	
Queue Length 95th (m)	4.4		8.1	9.6	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	253		2043	2103	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.03		0.08	0.10	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.10	
Intersection Signal Delay (s/veh): 5.7	Intersection LOS: A
Intersection Capacity Utilization 45.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Bank & Aylmer



Signal Timing, M

Queues

7: Bank & Sunnyside

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕↕		↕↕		
Traffic Volume (vph)	28	7	5	12	12	236	33	411		
Future Volume (vph)	28	7	5	12	12	236	33	411		
Lane Group Flow (vph)	0	60	0	55	0	281	0	541		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Detector Phase	4	4	8	8	2	2	1	6		
Switch Phase										
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0	17.0	1.0	1.0
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	None	None
Act Effct Green (s)		10.1		9.5		65.1		65.1		
Actuated g/C Ratio		0.13		0.12		0.82		0.82		
v/c Ratio		0.48		0.33		0.12		0.24		
Control Delay (s/veh)		44.4		20.8		3.2		3.5		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		44.4		20.8		3.2		3.5		
LOS		D		C		A		A		
Approach Delay (s/veh)		44.4		20.8		3.2		3.5		
Approach LOS		D		C		A		A		
Queue Length 50th (m)		9.3		2.8		5.4		11.3		
Queue Length 95th (m)		19.1		11.9		11.0		21.2		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		241		304		2387		2225		
Starvation Cap Reductn		0		0		0		0		
Spillback Cap Reductn		0		0		0		0		
Storage Cap Reductn		0		0		0		0		
Reduced v/c Ratio		0.25		0.18		0.12		0.24		

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 79	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay (s/veh): 7.0	Intersection LOS: A
Intersection Capacity Utilization 60.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: Bank & Sunnyside



Signal Timing, M

Queues

9: Queen Elizabeth Drive & Fifth

08/01/2024

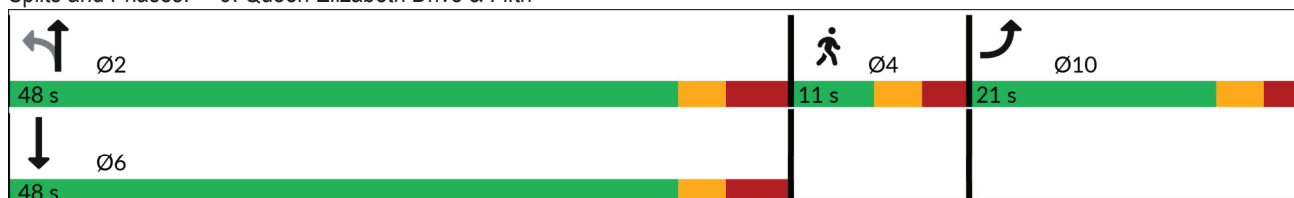


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	64	31	264	152	
Future Volume (vph)	64	31	264	152	
Lane Group Flow (vph)	102	0	327	206	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Detector Phase	10	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	None	None	Max	None
Act Effct Green (s)	10.8		41.2	41.2	
Actuated g/C Ratio	0.17		0.64	0.64	
v/c Ratio	0.39		0.32	0.20	
Control Delay (s/veh)	28.7		6.5	5.6	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	28.7		6.5	5.6	
LOS	C		A	A	
Approach Delay (s/veh)	28.7		6.5	5.6	
Approach LOS	C		A	A	
Queue Length 50th (m)	11.0		14.3	8.2	
Queue Length 95th (m)	23.4		29.4	18.0	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	370		1030	1051	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.28		0.32	0.20	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 64.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay (s/veh): 9.8	Intersection LOS: A
Intersection Capacity Utilization 51.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	5	190	275	5	5	5
Future Vol, veh/h	5	190	275	5	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	211	306	6	6	6
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	8.7	9.4	7.9
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	50%
Vol Thru, %	97%	98%	0%
Vol Right, %	0%	2%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	195	280	10
LT Vol	5	0	5
Through Vol	190	275	0
RT Vol	0	5	5
Lane Flow Rate	217	311	11
Geometry Grp	1	1	1
Degree of Util (X)	0.252	0.355	0.015
Departure Headway (Hd)	4.191	4.105	4.857
Convergence, Y/N	Yes	Yes	Yes
Cap	847	868	741
Service Time	2.267	2.164	2.857
HCM Lane V/C Ratio	0.256	0.358	0.015
HCM Control Delay, s/veh	8.7	9.4	7.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1	1.6	0

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	5	5	144	5	5
Future Vol, veh/h	24	5	5	144	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	6	6	160	6	6
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.2	7.9	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	50%	0%	3%
Vol Thru, %	0%	83%	97%
Vol Right, %	50%	17%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	10	29	149
LT Vol	5	0	5
Through Vol	0	24	144
RT Vol	5	5	0
Lane Flow Rate	11	32	166
Geometry Grp	1	1	1
Degree of Util (X)	0.013	0.036	0.183
Departure Headway (Hd)	4.074	3.973	3.985
Convergence, Y/N	Yes	Yes	Yes
Cap	866	898	904
Service Time	2.157	2.009	1.997
HCM Lane V/C Ratio	0.013	0.036	0.184
HCM Control Delay, s/veh	7.2	7.2	7.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.7

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	5	73	5	129	66
Future Vol, veh/h	24	5	73	5	129	66
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	6	81	6	143	73
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.6	8.2	8.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	66%	0%	94%
Vol Thru, %	0%	83%	6%
Vol Right, %	34%	17%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	195	29	78
LT Vol	129	0	73
Through Vol	0	24	5
RT Vol	66	5	0
Lane Flow Rate	217	32	87
Geometry Grp	1	1	1
Degree of Util (X)	0.245	0.04	0.112
Departure Headway (Hd)	4.069	4.415	4.641
Convergence, Y/N	Yes	Yes	Yes
Cap	869	815	777
Service Time	2.157	2.418	2.643
HCM Lane V/C Ratio	0.25	0.039	0.112
HCM Control Delay, s/veh	8.5	7.6	8.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1	0.1	0.4

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	10	43	0	0	0	64	10	10	49	0	0	94
Future Vol, veh/h	10	43	0	0	0	64	10	10	49	0	0	94
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	48	0	0	0	71	11	11	54	0	0	104
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.7	7.1	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	19%	0%	0%
Vol Thru, %	14%	81%	0%	0%
Vol Right, %	71%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	53	64	94
LT Vol	10	10	0	0
Through Vol	10	43	0	0
RT Vol	49	0	64	94
Lane Flow Rate	77	59	71	104
Geometry Grp	1	1	1	1
Degree of Util (X)	0.082	0.071	0.073	0.105
Departure Headway (Hd)	3.841	4.34	3.691	3.616
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	922	819	959	979
Service Time	1.909	2.4	1.758	1.685
HCM Lane V/C Ratio	0.084	0.072	0.074	0.106
HCM Control Delay, s/veh	7.3	7.7	7.1	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.2	0.4

Intersection

Int Delay, s/veh 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	2	108	46	276	389	65
Future Vol, veh/h	2	108	46	276	389	65
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	120	51	307	432	72

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	902	646	682	0	-	0
Stage 1	646	-	-	-	-	-
Stage 2	256	-	-	-	-	-
Critical Hdwy	6.645	6.245	4.145	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.52853	3.32852	2.2285	-	-	-
Pot Cap-1 Maneuver	291	468	903	-	-	-
Stage 1	518	-	-	-	-	-
Stage 2	762	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	177	380	733	-	-	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	388	-	-	-	-	-
Stage 2	618	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/veh	18.79	1.97	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	514	-	380	-
HCM Lane V/C Ratio	0.07	-	0.316	-
HCM Control Delay (s/veh)	10.3	0.6	18.8	-
HCM Lane LOS	B	A	C	-
HCM 95th %tile Q(veh)	0.2	-	1.3	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕	
Traffic Vol, veh/h	2	11	0	353	321	0
Future Vol, veh/h	2	11	0	353	321	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	12	0	392	357	0

Major/Minor

	Minor2	Major1	Major2
Conflicting Flow All	553	357	0
Stage 1	357	-	-
Stage 2	196	-	-
Critical Hdwy	6.645	6.245	-
Critical Hdwy Stg 1	5.445	-	-
Critical Hdwy Stg 2	5.845	-	-
Follow-up Hdwy	3.5285	3.3285	-
Pot Cap-1 Maneuver	476	684	0
Stage 1	705	-	0
Stage 2	816	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	476	684	-
Mov Cap-2 Maneuver	476	-	-
Stage 1	705	-	-
Stage 2	816	-	-

Approach

	EB	NB	SB
HCM Control Delay, s/veh	0.36	0	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBTEBLn1	SBT
Capacity (veh/h)	- 684	-
HCM Lane V/C Ratio	- 0.018	-
HCM Control Delay (s/veh)	- 10.4	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0.1	-

Intersection						
Int Delay, s/veh	10.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	251	166	17	44	121	61
Future Vol, veh/h	251	166	17	44	121	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	279	184	19	49	134	68
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	255	168	202	0	0	
Stage 1	168	-	-	-	-	
Stage 2	87	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	738	881	1382	-	-	
Stage 1	866	-	-	-	-	
Stage 2	942	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	728	881	1382	-	-	
Mov Cap-2 Maneuver	728	-	-	-	-	
Stage 1	854	-	-	-	-	
Stage 2	942	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/veh	16.07	2.13		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	502	-	782	-	-	
HCM Lane V/C Ratio	0.014	-	0.593	-	-	
HCM Control Delay (s/veh)	7.6	0	16.1	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0	-	4	-	-	

Intersection

Int Delay, s/veh 2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			↑↑
Traffic Vol, veh/h	5	144	409	29	0	356
Future Vol, veh/h	5	144	409	29	0	356
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	2	2
Mvmt Flow	6	160	454	32	0	396

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	768	343	0	0	-
Stage 1	571	-	-	-	-
Stage 2	198	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-
Pot Cap-1 Maneuver	342	658	-	-	0
Stage 1	534	-	-	-	0
Stage 2	822	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	306	589	-	-	-
Mov Cap-2 Maneuver	306	-	-	-	-
Stage 1	478	-	-	-	-
Stage 2	822	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/veh	13.38	0	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	589
HCM Lane V/C Ratio	-	-	0.272
HCM Control Delay (s/veh)	-	-	13.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	1.1

Intersection						
Int Delay, s/veh	5.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	190	1	0	280	120	5
Future Vol, veh/h	190	1	0	280	120	5
Conflicting Peds, #/hr	0	100	100	0	100	100
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	1	0	311	133	6
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	312	0	723	412
Stage 1	-	-	-	-	312	-
Stage 2	-	-	-	-	411	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1248	-	393	640
Stage 1	-	-	-	-	742	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1116	-	314	512
Mov Cap-2 Maneuver	-	-	-	-	314	-
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	598	-
Approach	EB	WB	NB			
HCM Control Delay, s/v	0	0	24.68			
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	319	-	-	1116	-	
HCM Lane V/C Ratio	0.435	-	-	-	-	
HCM Control Delay (s/veh)	24.7	-	-	0	-	
HCM Lane LOS	C	-	-	A	-	
HCM 95th %tile Q(veh)	2.1	-	-	0	-	

Intersection

Int Delay, s/veh 9.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	70	73	5	347	5
Future Vol, veh/h	1	70	73	5	347	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	78	81	6	386	6

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	87	0	164
Stage 1	-	-	84
Stage 2	-	-	80
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1509	-	827
Stage 1	-	-	939
Stage 2	-	-	943
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1509	-	826
Mov Cap-2 Maneuver	-	-	826
Stage 1	-	-	939
Stage 2	-	-	943

Approach

	EB	WB	SB
HCM Control Delay, s/v	0.1	0	13.18
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	25	-	-	-	828
HCM Lane V/C Ratio	0.001	-	-	-	0.472
HCM Control Delay (s/veh)	7.4	0	-	-	13.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	2.6

Existing scenario

2022 Major Event Ingress

Queues

1: Bank & Fifth

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↙	↘		↕		↕
Traffic Volume (vph)	60	53	71	61	23	453	31	599
Future Volume (vph)	60	53	71	61	23	453	31	599
Lane Group Flow (vph)	0	166	79	126	0	569	0	764
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)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)		13.5	13.5	13.5		46.4		46.4
Actuated g/C Ratio		0.19	0.19	0.19		0.65		0.65
v/c Ratio		0.67	0.42	0.40		0.32		0.42
Control Delay (s/veh)		35.8	30.3	17.4		6.5		7.4
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		35.8	30.3	17.4		6.5		7.4
LOS		D	C	B		A		A
Approach Delay (s/veh)		35.8		22.4		6.5		7.4
Approach LOS		D		C		A		A
Queue Length 50th (m)		16.9	8.8	7.6		14.0		20.5
Queue Length 95th (m)		34.5	19.8	20.3		28.7		41.4
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		366	289	454		1791		1803
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.45	0.27	0.28		0.32		0.42

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 71
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay (s/veh): 11.6
 Intersection Capacity Utilization 68.9%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 1: Bank & Fifth



Signal Timing, Page 1

Queues

2: Bank & Holmwood

08/01/2024

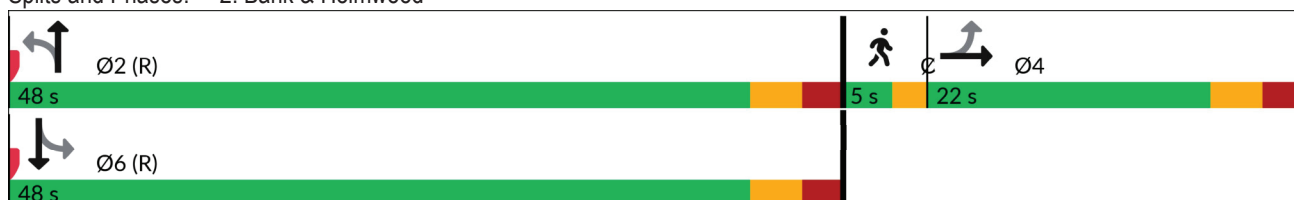


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations						
Traffic Volume (vph)	37	67	479	53	554	
Future Volume (vph)	37	67	479	53	554	
Lane Group Flow (vph)	150	0	737	0	729	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	13.2		51.0		51.0	
Actuated g/C Ratio	0.18		0.68		0.68	
v/c Ratio	0.61		0.48		0.42	
Control Delay (s/veh)	38.5		7.1		6.7	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.5		7.1		6.7	
LOS	D		A		A	
Approach Delay (s/veh)	38.5		7.1		6.7	
Approach LOS	D		A		A	
Queue Length 50th (m)	19.8		19.7		19.7	
Queue Length 95th (m)	34.1		38.8		37.4	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	314		1547		1739	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.48		0.48		0.42	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay (s/veh): 9.8 Intersection LOS: A
 Intersection Capacity Utilization 72.0% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Signal Timing, I

Queues

3: Bank & Exhibition

08/01/2024

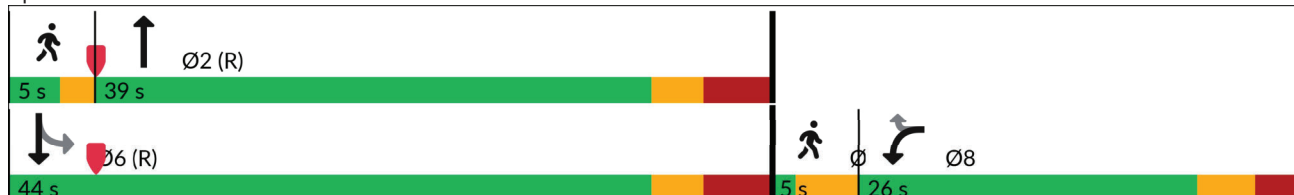


Lane Group	NBT	SBT	Ø1	Ø7	Ø8
Lane Configurations	↑↑	↑↑			
Traffic Volume (vph)	681	608			
Future Volume (vph)	681	608			
Lane Group Flow (vph)	757	676			
Turn Type	NA	NA			
Protected Phases	2	6	1	7	8
Permitted Phases					
Detector Phase	2	6			
Switch Phase					
Minimum Initial (s)	10.0	10.0	1.0	1.0	10.0
Minimum Split (s)	39.0	44.0	5.0	5.0	26.0
Total Split (s)	39.0	44.0	5.0	5.0	26.0
Total Split (%)	52.0%	58.7%	7%	7%	35%
Yellow Time (s)	3.0	3.0	2.0	3.5	3.3
All-Red Time (s)	3.9	3.9	0.0	0.0	3.0
Lost Time Adjust (s)	0.0	0.0			
Total Lost Time (s)	6.9	6.9			
Lead/Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	C-Max	C-Max	None	None	None
Act Effct Green (s)	75.0	75.0			
Actuated g/C Ratio	1.00	1.00			
v/c Ratio	0.24	0.21			
Control Delay (s/veh)	0.2	0.1			
Queue Delay	0.0	0.0			
Total Delay (s/veh)	0.2	0.1			
LOS	A	A			
Approach Delay (s/veh)	0.2	0.1			
Approach LOS	A	A			
Queue Length 50th (m)	0.0	0.0			
Queue Length 95th (m)	0.0	0.0			
Internal Link Dist (m)	33.7	44.8			
Turn Bay Length (m)					
Base Capacity (vph)	3204	3173			
Starvation Cap Reductn	0	0			
Spillback Cap Reductn	0	0			
Storage Cap Reductn	0	0			
Reduced v/c Ratio	0.24	0.21			

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.24
 Intersection Signal Delay (s/veh): 0.2 Intersection LOS: A
 Intersection Capacity Utilization 46.7% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Signal Timing, I

Queues

6: Bank & Aylmer

08/01/2024

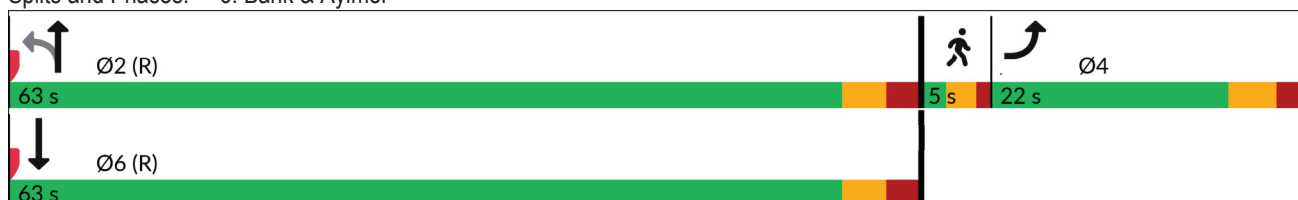


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	88	13	714	745	
Future Volume (vph)	88	13	714	745	
Lane Group Flow (vph)	125	0	807	882	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.6		59.7	59.7	
Actuated g/C Ratio	0.16		0.66	0.66	
v/c Ratio	0.50		0.41	0.43	
Control Delay (s/veh)	38.1		7.8	7.9	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	38.1		7.8	7.9	
LOS	D		A	A	
Approach Delay (s/veh)	38.1		7.8	7.9	
Approach LOS	D		A	A	
Queue Length 50th (m)	17.9		29.1	31.8	
Queue Length 95th (m)	33.9		43.3	47.0	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	282		1985	2047	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.44		0.41	0.43	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay (s/veh): 9.9	Intersection LOS: A
Intersection Capacity Utilization 51.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Bank & Aylmer



Signal Timing, I

Queues

7: Bank & Sunnyside

08/01/2024

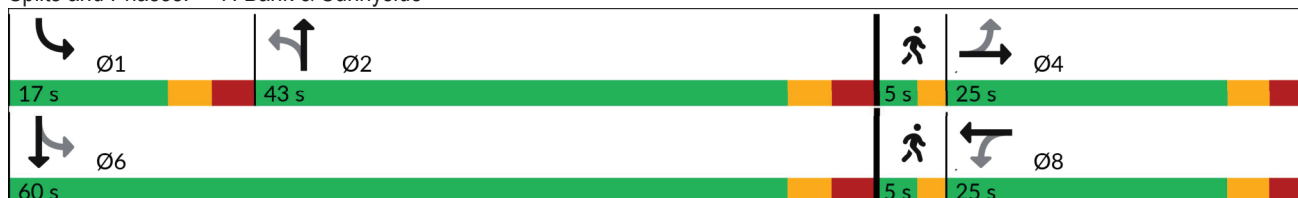


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕↕		↕↕		
Traffic Volume (vph)	51	76	13	81	26	509	135	605		
Future Volume (vph)	51	76	13	81	26	509	135	605		
Lane Group Flow (vph)	0	181	0	273	0	625	0	912		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Detector Phase	4	4	8	8	2	2	1	6		
Switch Phase										
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0	17.0	1.0	1.0
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	None	None
Act Effct Green (s)		18.7		18.7		54.0		54.0		
Actuated g/C Ratio		0.22		0.22		0.64		0.64		
v/c Ratio		0.84		0.82		0.36		0.68		
Control Delay (s/veh)		64.5		43.7		7.8		12.8		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		64.5		43.7		7.8		12.8		
LOS		E		D		A		B		
Approach Delay (s/veh)		64.5		43.7		7.8		12.8		
Approach LOS		E		D		A		B		
Queue Length 50th (m)		28.0		29.6		22.2		43.8		
Queue Length 95th (m)		#62.2		#69.7		31.4		64.8		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		224		340		1743		1339		
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		0.81		0.80		0.36		0.68		

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 84.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay (s/veh): 20.2 Intersection LOS: C
 Intersection Capacity Utilization 87.5% 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: 7: Bank & Sunnyside



Signal Timing, I

Queues

9: Queen Elizabeth Drive & Fifth

08/01/2024

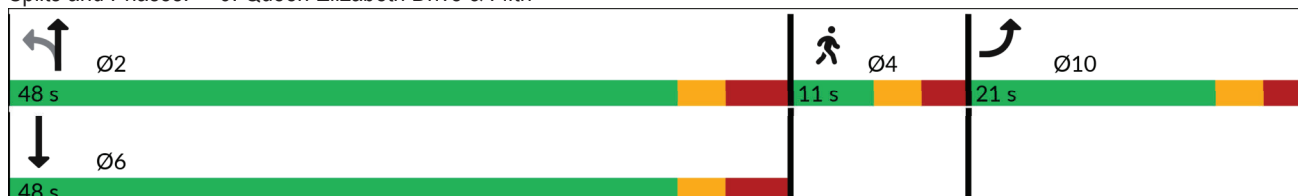


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	62	69	255	629	
Future Volume (vph)	62	69	255	629	
Lane Group Flow (vph)	166	0	360	836	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Detector Phase	10	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.7	10.8	10.8	31.8	9.7
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	None	None	Max	None
Act Effct Green (s)	12.4		41.3	41.3	
Actuated g/C Ratio	0.19		0.62	0.62	
v/c Ratio	0.58		0.56	0.81	
Control Delay (s/veh)	33.3		11.9	18.9	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	33.3		11.9	18.9	
LOS	C		B	B	
Approach Delay (s/veh)	33.3		11.9	18.9	
Approach LOS	C		B	B	
Queue Length 50th (m)	18.8		21.9	67.5	
Queue Length 95th (m)	35.6		49.3	#156.5	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	352		646	1027	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.47		0.56	0.81	

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 66.2
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay (s/veh): 18.8 Intersection LOS: B
 Intersection Capacity Utilization 86.4% 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: Queen Elizabeth Drive & Fifth



Signal Timing, I

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	0	0	0
HCM LOS	-	-	-

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0
LT Vol	0	0	0
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	0
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0
HCM Control Delay, s/veh	6.9	6.9	6.9
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	0	0	0
HCM LOS	-	-	-

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0
LT Vol	0	0	0
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	0
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0
HCM Control Delay, s/veh	6.9	6.9	6.9
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	0	0	0
HCM LOS	-	-	-

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0
LT Vol	0	0	0
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	0
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0
HCM Control Delay, s/veh	6.9	6.9	6.9
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	66	56	0	0	0	192	57	58	93	0	0	127
Future Vol, veh/h	66	56	0	0	0	192	57	58	93	0	0	127
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	73	62	0	0	0	213	63	64	103	0	0	141
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.5	9	9.8	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	54%	0%	0%
Vol Thru, %	28%	46%	0%	0%
Vol Right, %	45%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	208	122	192	127
LT Vol	57	66	0	0
Through Vol	58	56	0	0
RT Vol	93	0	192	127
Lane Flow Rate	231	136	213	141
Geometry Grp	1	1	1	1
Degree of Util (X)	0.301	0.194	0.259	0.174
Departure Headway (Hd)	4.693	5.147	4.369	4.433
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	760	691	815	802
Service Time	2.76	3.221	2.434	2.506
HCM Lane V/C Ratio	0.304	0.197	0.261	0.176
HCM Control Delay, s/veh	9.8	9.5	9	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.3	0.7	1	0.6

Intersection						
Int Delay, s/veh	14.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↖		↖↖	↖	
Traffic Vol, veh/h	0	266	104	702	518	103
Future Vol, veh/h	0	266	104	702	518	103
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	296	116	780	576	114
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	811	868	0	0	
Stage 1	-	-	-	-	-	
Stage 2	-	-	-	-	-	
Critical Hdwy	-	6.245	4.145	-	-	
Critical Hdwy Stg 1	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-	-	-	
Follow-up Hdwy	-3.3285	2.2285	-	-	-	
Pot Cap-1 Maneuver	0	377	769	-	-	
Stage 1	0	-	-	-	-	
Stage 2	0	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	306	624	-	-	
Mov Cap-2 Maneuver	-	-	-	-	-	
Stage 1	-	-	-	-	-	
Stage 2	-	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/veh	1.31	3.48		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	465	-	306	-	-	
HCM Lane V/C Ratio	0.185	-	0.967	-	-	
HCM Control Delay (s/veh)	12.1	2.2	81.3	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	0.7	-	9.9	-	-	

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖↖	↖	
Traffic Vol, veh/h	0	72	0	784	757	0
Future Vol, veh/h	0	72	0	784	757	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	80	0	871	841	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	841	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.245	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3285	-	-	-	-
Pot Cap-1 Maneuver	0	362	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	362	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	17.76	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBTEBLn1		SBT			
Capacity (veh/h)	- 362		-			
HCM Lane V/C Ratio	- 0.221		-			
HCM Control Delay (s/veh)	- 17.8		-			
HCM Lane LOS	- C		-			
HCM 95th %tile Q(veh)	- 0.8		-			

Intersection						
Int Delay, s/veh	8.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	94	97	105	232	441	256
Future Vol, veh/h	94	97	105	232	441	256
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	104	108	117	258	490	284
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1123	632	774	0	0	
Stage 1	632	-	-	-	-	
Stage 2	491	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	229	484	850	-	-	
Stage 1	533	-	-	-	-	
Stage 2	619	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	193	484	850	-	-	
Mov Cap-2 Maneuver	193	-	-	-	-	
Stage 1	448	-	-	-	-	
Stage 2	619	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/50.28		3.09		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	561	-	278	-	-	
HCM Lane V/C Ratio	0.137	-	0.765	-	-	
HCM Control Delay (s/veh)	9.9	0	50.3	-	-	
HCM Lane LOS	A	A	F	-	-	
HCM 95th %tile Q(veh)	0.5	-	5.7	-	-	

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↖
Traffic Vol, veh/h	0	0	681	0	0	608
Future Vol, veh/h	0	0	681	0	0	608
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	2	2
Mvmt Flow	0	0	757	0	0	676
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	478	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	539	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	482	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	-			
HCM Lane V/C Ratio	-	-	-			
HCM Control Delay (s/veh)	-	-	0			
HCM Lane LOS	-	-	A			
HCM 95th %tile Q(veh)	-	-	-			

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	100	100	0	100	100
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	101	0	202	201
Stage 1	-	-	-	-	101	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1491	-	786	840
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1333	-	629	671
Mov Cap-2 Maneuver	-	-	-	-	629	-
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	825	-
Approach	EB	WB	NB			
HCM Control Delay, s/v	0	0	0			
HCM LOS						A
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	1333	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s/veh)	0	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	-	-	-	0	-	

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1022	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1083
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR/SBLn1		
Capacity (veh/h)	1622	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s/veh)	0	-	-	0		
HCM Lane LOS	A	-	-	A		
HCM 95th %tile Q(veh)	0	-	-	-		

Existing scenario

2022 Major Event Egress

Queues

1: Bank & Fifth

08/01/2024

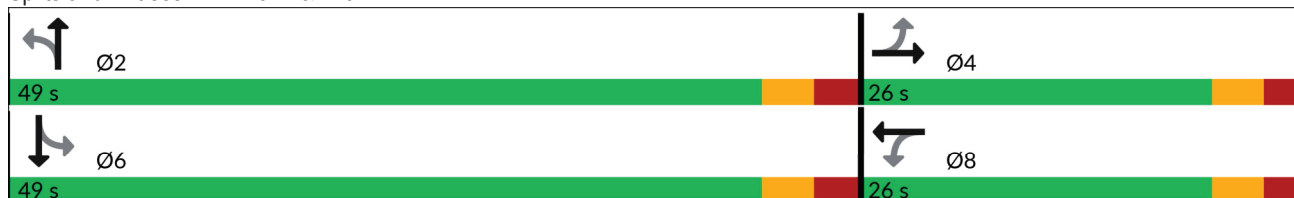


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↙	↘		↕		↕
Traffic Volume (vph)	74	32	39	68	21	308	19	340
Future Volume (vph)	74	32	39	68	21	308	19	340
Lane Group Flow (vph)	0	147	43	143	0	392	0	441
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)		13.1	12.9	12.9		48.0		48.0
Actuated g/C Ratio		0.19	0.19	0.19		0.70		0.70
v/c Ratio		0.65	0.22	0.45		0.20		0.23
Control Delay (s/veh)		36.0	24.7	19.3		5.6		5.6
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		36.0	24.7	19.3		5.6		5.6
LOS		D	C	B		A		A
Approach Delay (s/veh)		36.0		20.5		5.6		5.6
Approach LOS		D		C		A		A
Queue Length 50th (m)		15.3	4.6	9.3		8.7		9.8
Queue Length 95th (m)		31.8	12.1	23.1		18.9		21.1
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		345	320	469		1945		1954
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.43	0.13	0.30		0.20		0.23

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 68.4
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay (s/veh): 11.8 Intersection LOS: B
 Intersection Capacity Utilization 71.9% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

08/01/2024

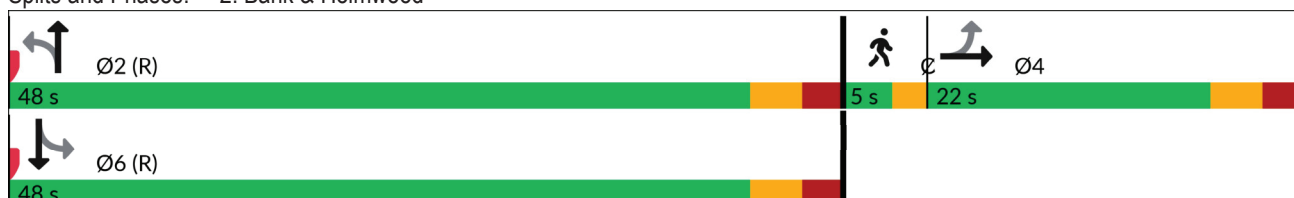


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	21	49	259	30	270	
Future Volume (vph)	21	49	259	30	270	
Lane Group Flow (vph)	143	0	405	0	401	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	13.1		51.1		51.1	
Actuated g/C Ratio	0.17		0.68		0.68	
v/c Ratio	0.61		0.25		0.23	
Control Delay (s/veh)	38.7		5.0		4.8	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.7		5.0		4.8	
LOS	D		A		A	
Approach Delay (s/veh)	38.7		5.0		4.8	
Approach LOS	D		A		A	
Queue Length 50th (m)	18.9		8.4		8.0	
Queue Length 95th (m)	32.8		17.4		16.6	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	304		1645		1778	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.47		0.25		0.23	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay (s/veh): 10.0 Intersection LOS: B
 Intersection Capacity Utilization 59.2% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Signal Timing, M

Queues

3: Bank & Exhibition

08/01/2024

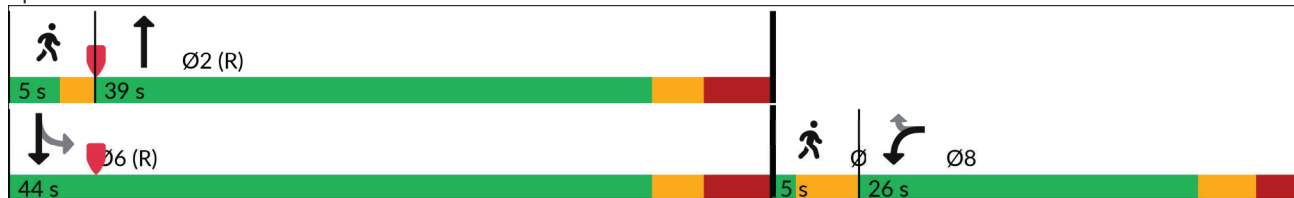


Lane Group	NBT	SBT	Ø1	Ø7	Ø8
Lane Configurations	↑↑	↑↑			
Traffic Volume (vph)	350	333			
Future Volume (vph)	350	333			
Lane Group Flow (vph)	389	370			
Turn Type	NA	NA			
Protected Phases	2	6	1	7	8
Permitted Phases					
Detector Phase	2	6			
Switch Phase					
Minimum Initial (s)	10.0	10.0	1.0	1.0	10.0
Minimum Split (s)	39.0	44.0	5.0	5.0	26.0
Total Split (s)	39.0	44.0	5.0	5.0	26.0
Total Split (%)	52.0%	58.7%	7%	7%	35%
Yellow Time (s)	3.0	3.0	2.0	3.5	3.3
All-Red Time (s)	3.9	3.9	0.0	0.0	3.0
Lost Time Adjust (s)	0.0	0.0			
Total Lost Time (s)	6.9	6.9			
Lead/Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	C-Max	C-Max	None	None	None
Act Effct Green (s)	75.0	75.0			
Actuated g/C Ratio	1.00	1.00			
v/c Ratio	0.12	0.12			
Control Delay (s/veh)	0.1	0.1			
Queue Delay	0.0	0.0			
Total Delay (s/veh)	0.1	0.1			
LOS	A	A			
Approach Delay (s/veh)	0.1	0.1			
Approach LOS	A	A			
Queue Length 50th (m)	0.0	0.0			
Queue Length 95th (m)	0.0	0.0			
Internal Link Dist (m)	33.7	44.8			
Turn Bay Length (m)					
Base Capacity (vph)	3204	3173			
Starvation Cap Reductn	0	0			
Spillback Cap Reductn	0	0			
Storage Cap Reductn	0	0			
Reduced v/c Ratio	0.12	0.12			

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.12
 Intersection Signal Delay (s/veh): 0.1 Intersection LOS: A
 Intersection Capacity Utilization 43.5% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Signal Timing, M

Queues

6: Bank & Aylmer

08/01/2024

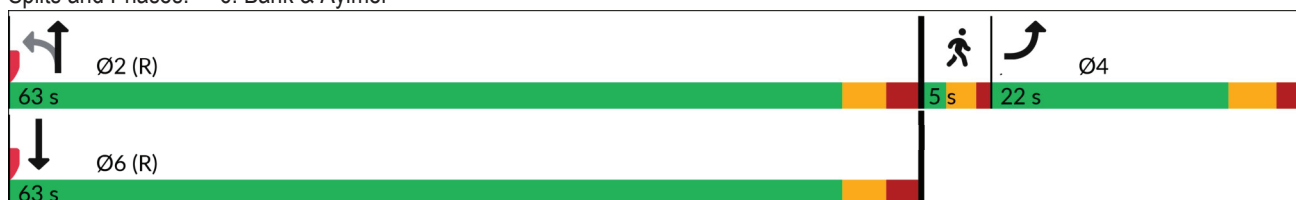


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	18	16	323	288	
Future Volume (vph)	18	16	323	288	
Lane Group Flow (vph)	37	0	377	344	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		60.3	60.3	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.17		0.19	0.17	
Control Delay (s/veh)	23.5		5.9	5.5	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	23.5		5.9	5.5	
LOS	C		A	A	
Approach Delay (s/veh)	23.5		5.9	5.5	
Approach LOS	C		A	A	
Queue Length 50th (m)	3.0		11.3	9.6	
Queue Length 95th (m)	11.4		16.6	14.4	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	261		1971	2055	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.14		0.19	0.17	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.19	
Intersection Signal Delay (s/veh): 6.6	Intersection LOS: A
Intersection Capacity Utilization 45.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Bank & Aylmer



Signal Timing, M

Queues

7: Bank & Sunnyside

08/01/2024

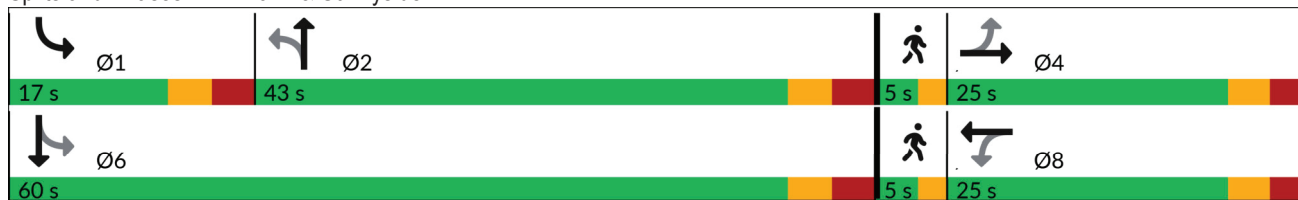


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕		↕		
Traffic Volume (vph)	30	27	16	34	19	263	14	295		
Future Volume (vph)	30	27	16	34	19	263	14	295		
Lane Group Flow (vph)	0	87	0	96	0	321	0	376		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Detector Phase	4	4	8	8	2	2	1	6		
Switch Phase										
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0	17.0	1.0	1.0
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	None	None
Act Effct Green (s)		11.3		11.1		60.3		60.3		
Actuated g/C Ratio		0.14		0.14		0.76		0.76		
v/c Ratio		0.53		0.48		0.15		0.18		
Control Delay (s/veh)		42.8		28.2		4.1		4.1		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		42.8		28.2		4.1		4.1		
LOS		D		C		A		A		
Approach Delay (s/veh)		42.8		28.2		4.1		4.1		
Approach LOS		D		C		A		A		
Queue Length 50th (m)		12.0		8.1		6.6		7.5		
Queue Length 95th (m)		24.9		21.2		13.6		15.4		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		283		327		2153		2117		
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		0.31		0.29		0.15		0.18		

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 79.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay (s/veh): 10.6	Intersection LOS: B
Intersection Capacity Utilization 44.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

08/01/2024

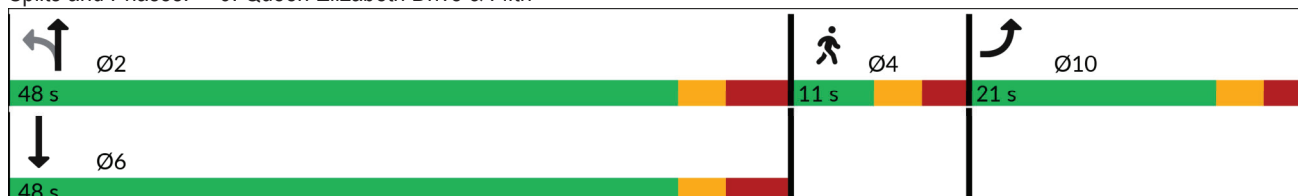


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	132	42	298	283	
Future Volume (vph)	132	42	298	283	
Lane Group Flow (vph)	214	0	378	388	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Detector Phase	10	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.7	10.8	10.8	31.8	9.7
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	None	None	Max	None
Act Effct Green (s)	13.6		41.2	41.2	
Actuated g/C Ratio	0.20		0.61	0.61	
v/c Ratio	0.68		0.40	0.39	
Control Delay (s/veh)	36.7		8.6	8.4	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	36.7		8.6	8.4	
LOS	D		A	A	
Approach Delay (s/veh)	36.7		8.6	8.4	
Approach LOS	D		A	A	
Queue Length 50th (m)	25.0		22.7	23.2	
Queue Length 95th (m)	#45.8		39.1	39.1	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	355		946	1005	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.60		0.40	0.39	

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 67.3
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay (s/veh): 14.6 Intersection LOS: B
 Intersection Capacity Utilization 66.7% 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: Queen Elizabeth Drive & Fifth



Signal Timing, M

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	0	0	0
HCM LOS	-	-	-

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0
LT Vol	0	0	0
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	0
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0
HCM Control Delay, s/veh	6.9	6.9	6.9
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	0	0	0
HCM LOS	-	-	-

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0
LT Vol	0	0	0
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	0
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0
HCM Control Delay, s/veh	6.9	6.9	6.9
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	0	0	0
HCM LOS	-	-	-

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0
LT Vol	0	0	0
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	0
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0
HCM Control Delay, s/veh	6.9	6.9	6.9
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	24	51	0	0	0	109	114	97	141	0	0	53
Future Vol, veh/h	24	51	0	0	0	109	114	97	141	0	0	53
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	57	0	0	0	121	127	108	157	0	0	59
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.9	8.3	11.1	7.6
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	32%	0%	0%
Vol Thru, %	28%	68%	0%	0%
Vol Right, %	40%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	352	75	109	53
LT Vol	114	24	0	0
Through Vol	97	51	0	0
RT Vol	141	0	109	53
Lane Flow Rate	391	83	121	59
Geometry Grp	1	1	1	1
Degree of Util (X)	0.468	0.119	0.15	0.07
Departure Headway (Hd)	4.307	5.145	4.444	4.249
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	837	694	803	839
Service Time	2.34	3.196	2.491	2.296
HCM Lane V/C Ratio	0.467	0.12	0.151	0.07
HCM Control Delay, s/veh	11.1	8.9	8.3	7.6
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.5	0.4	0.5	0.2

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖↖	↗	
Traffic Vol, veh/h	0	5	0	350	280	66
Future Vol, veh/h	0	5	0	350	280	66
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	6	0	389	311	73

Major/Minor

	Minor2	Major1	Major2		
Conflicting Flow All	-	526	562	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.245	4.145	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-3.3285	2.2285		-	-
Pot Cap-1 Maneuver	0	549	1001	-	-
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	445	812	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach

	EB	NB	SB
HCM Control Delay, s/veh	13.19	0	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	812	-	445	-
HCM Lane V/C Ratio	-	-	0.012	-
HCM Control Delay (s/veh)	0	-	13.2	-
HCM Lane LOS	A	-	B	-
HCM 95th %tile Q(veh)	0	-	0	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕	
Traffic Vol, veh/h	0	32	0	350	290	0
Future Vol, veh/h	0	32	0	350	290	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	36	0	389	322	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	322	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.245	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3285	-	-	-	-
Pot Cap-1 Maneuver	0	715	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	715	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	10.3	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBTEBLn1	SBT				
Capacity (veh/h)	-	715	-			
HCM Lane V/C Ratio	-	0.05	-			
HCM Control Delay (s/veh)	-	10.3	-			
HCM Lane LOS	-	B	-			
HCM 95th %tile Q(veh)	-	0.2	-			

Intersection						
Int Delay, s/veh	19					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	238	210	50	109	215	127
Future Vol, veh/h	238	210	50	109	215	127
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	264	233	56	121	239	141
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	542	309	380	0	0	
Stage 1	309	-	-	-	-	
Stage 2	232	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	505	735	1190	-	-	
Stage 1	749	-	-	-	-	
Stage 2	811	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	480	735	1190	-	-	
Mov Cap-2 Maneuver	480	-	-	-	-	
Stage 1	711	-	-	-	-	
Stage 2	811	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/v	39.4	2.57		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	566	-	573	-	-	
HCM Lane V/C Ratio	0.047	-	0.868	-	-	
HCM Control Delay (s/veh)	8.2	0	39.4	-	-	
HCM Lane LOS	A	A	E	-	-	
HCM 95th %tile Q(veh)	0.1	-	9.7	-	-	

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↖
Traffic Vol, veh/h	0	0	350	0	0	333
Future Vol, veh/h	0	0	350	0	0	333
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	2	2
Mvmt Flow	0	0	389	0	0	370
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	294	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	708	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	633	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	-			
HCM Lane V/C Ratio	-	-	-			
HCM Control Delay (s/veh)	-	-	0			
HCM Lane LOS	-	-	A			
HCM 95th %tile Q(veh)	-	-	-			

Intersection

Int Delay, s/veh 0

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	100	100	0	100	100
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	101	0	202	201
Stage 1	-	-	-	-	101	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1491	-	786	840
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1333	-	629	671
Mov Cap-2 Maneuver	-	-	-	-	629	-
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	825	-

Approach EB WB NB

HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	-	-	-	1333	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1022	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1083
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR/SBLn1		
Capacity (veh/h)	1622	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s/veh)	0	-	-	0		
HCM Lane LOS	A	-	-	A		
HCM 95th %tile Q(veh)	0	-	-	-		

2028 Scenario

Weekday AM Peak Hour

Queues

1: Bank & Fifth

07/31/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↕	↕		↕		↕
Traffic Volume (vph)	38	59	50	50	9	551	20	420
Future Volume (vph)	38	59	50	50	9	551	20	420
Lane Group Flow (vph)	0	140	56	89	0	661	0	528
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)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		20.5	20.5	20.5		43.5		43.5
Actuated g/C Ratio		0.27	0.27	0.27		0.58		0.58
v/c Ratio		0.37	0.20	0.21		0.40		0.33
Control Delay (s/veh)		22.2	23.1	15.9		3.5		8.6
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		22.2	23.1	15.9		3.5		8.6
LOS		C	C	B		A		A
Approach Delay (s/veh)		22.2		18.7		3.5		8.6
Approach LOS		C		B		A		A
Queue Length 50th (m)		13.5	6.1	6.0		4.6		17.7
Queue Length 95th (m)		28.4	14.8	16.4		5.3		26.4
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		376	287	419		1647		1589
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.37	0.20	0.21		0.40		0.33

Intersection Summary

Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 33 (44%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 75	
Control Type: Pretimed	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay (s/veh): 8.6	Intersection LOS: A
Intersection Capacity Utilization 54.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

07/31/2024



Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations						
Traffic Volume (vph)	22	16	542	11	376	
Future Volume (vph)	22	16	542	11	376	
Lane Group Flow (vph)	88	0	651	0	456	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag					Lead
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	10.1		57.4		57.4	
Actuated g/C Ratio	0.13		0.77		0.77	
v/c Ratio	0.48		0.30		0.21	
Control Delay (s/veh)	37.8		2.2		3.1	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	37.8		2.2		3.1	
LOS	D		A		A	
Approach Delay (s/veh)	37.8		2.2		3.1	
Approach LOS	D		A		A	
Queue Length 50th (m)	11.7		1.7		7.2	
Queue Length 95th (m)	23.3		4.4		13.6	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	298		2138		2147	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.30		0.30		0.21	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 28 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay (s/veh): 5.2 Intersection LOS: A
 Intersection Capacity Utilization 52.2% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

07/31/2024



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	49	30	514	56	349		
Future Volume (vph)	49	30	514	56	349		
Lane Group Flow (vph)	54	33	674	62	388		
Turn Type	Prot	Perm	NA	pm+pt	NA		
Protected Phases	8		2	5	6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	5	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	1.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	27.0	12.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	27.0	12.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	36.0%	16.0%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	None	C-Max	None	None
Act Effct Green (s)	10.2	10.2	49.0	54.8	56.2		
Actuated g/C Ratio	0.14	0.14	0.65	0.73	0.75		
v/c Ratio	0.26	0.19	0.36	0.13	0.16		
Control Delay (s/veh)	32.4	13.5	9.1	8.1	6.6		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	32.4	13.5	9.1	8.1	6.6		
LOS	C	B	A	A	A		
Approach Delay (s/veh)	25.2		9.1		6.8		
Approach LOS	C		A		A		
Queue Length 50th (m)	7.0	0.0	27.3	4.4	15.5		
Queue Length 95th (m)	16.5	7.1	40.8	10.5	23.7		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	405	314	1867	488	2355		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.13	0.11	0.36	0.13	0.16		

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 25 (33%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay (s/veh): 9.4

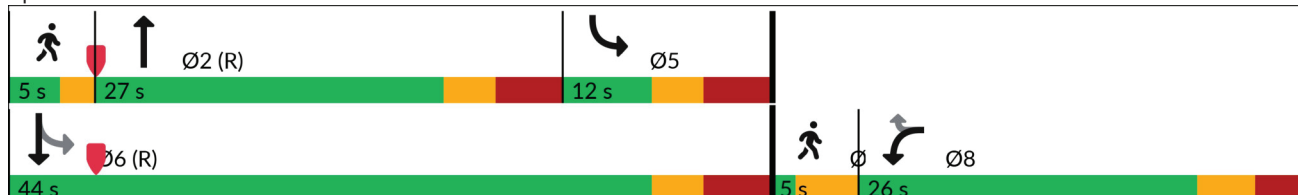
Intersection LOS: A

Intersection Capacity Utilization 55.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

07/31/2024

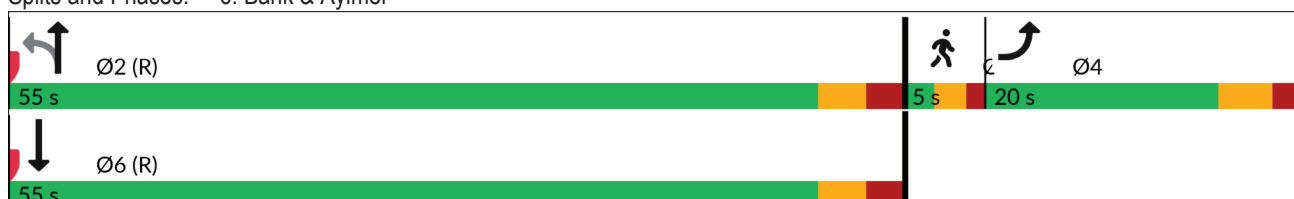


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	64	15	711	529	
Future Volume (vph)	64	15	711	529	
Lane Group Flow (vph)	81	0	807	648	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	20.0	55.0	55.0	55.0	5.0
Total Split (s)	20.0	55.0	55.0	55.0	5.0
Total Split (%)	25.0%	68.8%	68.8%	68.8%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		50.3	50.3	
Actuated g/C Ratio	0.18		0.63	0.63	
v/c Ratio	0.30		0.44	0.35	
Control Delay (s/veh)	29.6		3.5	7.4	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	29.6		3.5	7.4	
LOS	C		A	A	
Approach Delay (s/veh)	29.6		3.5	7.4	
Approach LOS	C		A	A	
Queue Length 50th (m)	9.7		13.6	20.7	
Queue Length 95th (m)	21.8		m15.2	29.5	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	280		1844	1875	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.29		0.44	0.35	

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 4 (5%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.44
 Intersection Signal Delay (s/veh): 6.5 Intersection LOS: A
 Intersection Capacity Utilization 52.6% ICU Level of Service A
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

07/31/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕↕		↕↕		
Traffic Volume (vph)	58	60	19	60	23	975	189	393		
Future Volume (vph)	58	60	19	60	23	975	189	393		
Lane Group Flow (vph)	0	144	0	392	0	1123	0	695		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Minimum Split (s)	26.0	26.0	26.0	26.0	38.0	38.0	11.0	49.0	5.0	5.0
Total Split (s)	26.0	26.0	26.0	26.0	38.0	38.0	11.0	49.0	5.0	5.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	47.5%	47.5%	13.8%	61.3%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Act Effct Green (s)		20.4		20.4		32.0		43.0		
Actuated g/C Ratio		0.26		0.26		0.40		0.54		
v/c Ratio		0.72		0.89		0.96		1.14dl		
Control Delay (s/veh)		49.6		38.8		43.1		16.2		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		49.6		38.8		43.1		16.2		
LOS		D		D		D		B		
Approach Delay (s/veh)		49.6		38.8		43.1		16.2		
Approach LOS		D		D		D		B		
Queue Length 50th (m)		19.9		28.0		84.9		20.8		
Queue Length 95th (m)		#47.3		#80.4		#128.8		30.9		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		201		439		1170		962		
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		0.72		0.89		0.96		0.72		

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 10 (13%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 0.96

Intersection Signal Delay (s/veh): 34.9

Intersection LOS: C

Intersection Capacity Utilization 94.7%

ICU Level of Service F

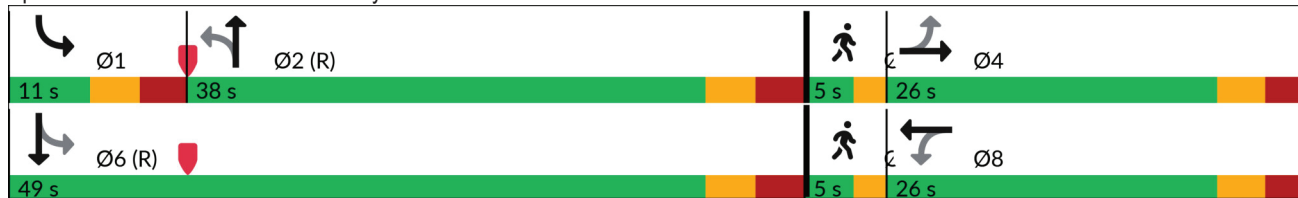
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

07/31/2024

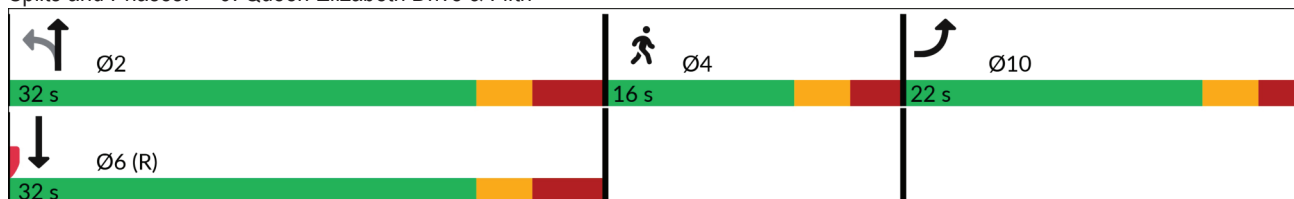


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	47	27	225	293	
Future Volume (vph)	47	27	225	293	
Lane Group Flow (vph)	82	0	280	379	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Minimum Split (s)	22.0	32.0	32.0	32.0	16.0
Total Split (s)	22.0	32.0	32.0	32.0	16.0
Total Split (%)	31.4%	45.7%	45.7%	45.7%	23%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	16.3		25.2	25.2	
Actuated g/C Ratio	0.23		0.36	0.36	
v/c Ratio	0.23		0.50	0.64	
Control Delay (s/veh)	23.8		21.3	24.5	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	23.8		21.3	24.5	
LOS	C		C	C	
Approach Delay (s/veh)	23.8		21.3	24.5	
Approach LOS	C		C	C	
Queue Length 50th (m)	8.7		27.9	40.3	
Queue Length 95th (m)	19.2		48.5	67.2	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	361		562	595	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.23		0.50	0.64	

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green
 Natural Cycle: 70
 Control Type: Pretimed
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay (s/veh): 23.2 Intersection LOS: C
 Intersection Capacity Utilization 55.1% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	153	83	5	5	5
Future Vol, veh/h	5	153	83	5	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	170	92	6	6	6
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	8.1	7.6	7.4
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	50%
Vol Thru, %	97%	94%	0%
Vol Right, %	0%	6%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	158	88	10
LT Vol	5	0	5
Through Vol	153	83	0
RT Vol	0	5	5
Lane Flow Rate	176	98	11
Geometry Grp	1	1	1
Degree of Util (X)	0.197	0.11	0.013
Departure Headway (Hd)	4.033	4.05	4.318
Convergence, Y/N	Yes	Yes	Yes
Cap	890	881	834
Service Time	2.058	2.091	2.318
HCM Lane V/C Ratio	0.198	0.111	0.013
HCM Control Delay, s/veh	8.1	7.6	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	0.4	0

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	5	5	123	5	5
Future Vol, veh/h	2	5	5	123	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	6	6	137	6	6
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	6.7	7.7	7.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	50%	0%	4%
Vol Thru, %	0%	29%	96%
Vol Right, %	50%	71%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	10	7	128
LT Vol	5	0	5
Through Vol	0	2	123
RT Vol	5	5	0
Lane Flow Rate	11	8	142
Geometry Grp	1	1	1
Degree of Util (X)	0.012	0.008	0.157
Departure Headway (Hd)	3.993	3.63	3.967
Convergence, Y/N	Yes	Yes	Yes
Cap	888	984	909
Service Time	2.055	1.66	1.972
HCM Lane V/C Ratio	0.012	0.008	0.156
HCM Control Delay, s/veh	7.1	6.7	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0	0.6

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	5	67	57	87	87
Future Vol, veh/h	2	5	67	57	87	87
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	6	74	63	97	97
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.1	8.4	8.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	50%	0%	54%
Vol Thru, %	0%	29%	46%
Vol Right, %	50%	71%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	174	7	124
LT Vol	87	0	67
Through Vol	0	2	57
RT Vol	87	5	0
Lane Flow Rate	193	8	138
Geometry Grp	1	1	1
Degree of Util (X)	0.214	0.009	0.168
Departure Headway (Hd)	3.985	4.08	4.388
Convergence, Y/N	Yes	Yes	Yes
Cap	885	882	807
Service Time	2.078	2.08	2.473
HCM Lane V/C Ratio	0.218	0.009	0.171
HCM Control Delay, s/veh	8.2	7.1	8.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	0	0.6

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	67	41	0	0	0	72	19	32	24	0	0	108
Future Vol, veh/h	67	41	0	0	0	72	19	32	24	0	0	108
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	46	0	0	0	80	21	36	27	0	0	120
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.4	7.3	7.9	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	62%	0%	0%
Vol Thru, %	43%	38%	0%	0%
Vol Right, %	32%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	108	72	108
LT Vol	19	67	0	0
Through Vol	32	41	0	0
RT Vol	24	0	72	108
Lane Flow Rate	83	120	80	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.101	0.153	0.087	0.129
Departure Headway (Hd)	4.358	4.583	3.9	3.872
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	824	787	920	928
Service Time	2.376	2.583	1.917	1.888
HCM Lane V/C Ratio	0.101	0.152	0.087	0.129
HCM Control Delay, s/veh	7.9	8.4	7.3	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.3	0.4

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	1	188	142	630	369	26
Future Vol, veh/h	1	188	142	630	369	26
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	1	209	158	700	410	29

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1268	602	617	0	-	0
Stage 1	602	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Critical Hdwy	6.675	6.275	4.175	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	2.2475	-	-	-
Pot Cap-1 Maneuver	169	491	944	-	-	-
Stage 1	538	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	83	399	766	-	-	-
Mov Cap-2 Maneuver	83	-	-	-	-	-
Stage 1	325	-	-	-	-	-
Stage 2	379	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/veh	23.53	3.58	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	617	-	399	-
HCM Lane V/C Ratio	0.206	-	0.524	-
HCM Control Delay (s/veh)	10.9	1.9	23.5	-
HCM Lane LOS	B	A	C	-
HCM 95th %tile Q(veh)	0.8	-	2.9	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕	
Traffic Vol, veh/h	0	27	0	761	546	0
Future Vol, veh/h	0	27	0	761	546	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	0	30	0	846	607	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	607	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.275	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3475	-	-	-	-
Pot Cap-1 Maneuver	0	489	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	489	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/√2.85		0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBTEBLn1		SBT			
Capacity (veh/h)	- 489		-			
HCM Lane V/C Ratio	- 0.061		-			
HCM Control Delay (s/veh)	- 12.8		-			
HCM Lane LOS	- B		-			
HCM 95th %tile Q(veh)	- 0.2		-			

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			L		
Traffic Vol, veh/h	25	25	70	248	277	85
Future Vol, veh/h	25	25	70	248	277	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	28	28	78	276	308	94
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	786	355	402	0	0	
Stage 1	355	-	-	-	-	
Stage 2	431	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	364	693	1167	-	-	
Stage 1	714	-	-	-	-	
Stage 2	660	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	335	693	1167	-	-	
Mov Cap-2 Maneuver	335	-	-	-	-	
Stage 1	658	-	-	-	-	
Stage 2	660	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/veh	4.08	1.83		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	396	-	452	-	-	
HCM Lane V/C Ratio	0.067	-	0.123	-	-	
HCM Control Delay (s/veh)	8.3	0	14.1	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-	

Intersection

Int Delay, s/veh 0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			↑↑
Traffic Vol, veh/h	0	34	548	7	0	409
Future Vol, veh/h	0	34	548	7	0	409
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	15	6	0	0	5
Mvmt Flow	0	38	609	8	0	454

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	-	408	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.2	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.45	-	-	-
Pot Cap-1 Maneuver	0	557	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	498	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/√	12.82	0	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	498
HCM Lane V/C Ratio	-	-	0.076
HCM Control Delay (s/veh)	-	-	12.8
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	38	120	35	8	10
Future Vol, veh/h	51	38	120	35	8	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	42	133	39	9	11

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	172	0	0	308	153
Stage 1	-	-	-	153	-
Stage 2	-	-	-	156	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1405	-	-	684	893
Stage 1	-	-	-	875	-
Stage 2	-	-	-	873	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1405	-	-	656	893
Mov Cap-2 Maneuver	-	-	-	656	-
Stage 1	-	-	-	839	-
Stage 2	-	-	-	873	-

Approach

	EB	WB	SB
HCM Control Delay, s/v	4.4	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1031	-	-	-	769
HCM Lane V/C Ratio	0.04	-	-	-	0.026
HCM Control Delay (s/veh)	7.7	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

2028 Scenario

Weekday PM Peak Hour

Queues

1: Bank & Fifth

07/31/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↕	↕		↕		↕
Traffic Volume (vph)	46	54	63	38	16	443	29	565
Future Volume (vph)	46	54	63	38	16	443	29	565
Lane Group Flow (vph)	0	162	70	81	0	554	0	701
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)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		20.5	20.5	20.5		43.5		43.5
Actuated g/C Ratio		0.27	0.27	0.27		0.58		0.58
v/c Ratio		0.44	0.26	0.20		0.35		0.44
Control Delay (s/veh)		22.5	24.4	14.1		13.9		9.8
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		22.5	24.4	14.1		13.9		9.8
LOS		C	C	B		B		A
Approach Delay (s/veh)		22.5		18.8		13.9		9.8
Approach LOS		C		B		B		A
Queue Length 50th (m)		15.1	7.7	4.4		23.5		26.1
Queue Length 95th (m)		31.7	17.9	14.3		50.1		37.5
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		372	274	409		1588		1589
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.44	0.26	0.20		0.35		0.44

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.44
 Intersection Signal Delay (s/veh): 13.4 Intersection LOS: B
 Intersection Capacity Utilization 67.1% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

07/31/2024

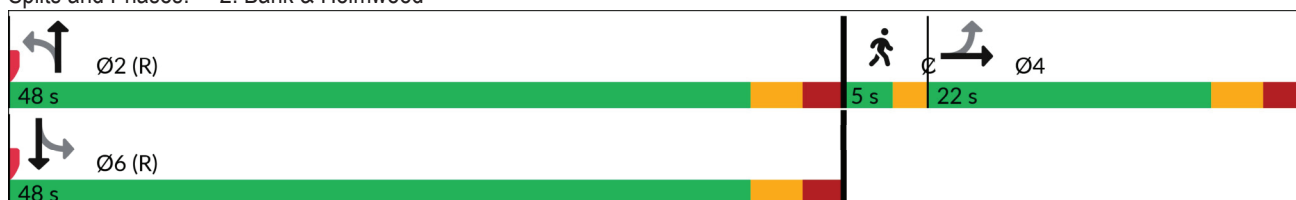


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	18	26	500	28	545	
Future Volume (vph)	18	26	500	28	545	
Lane Group Flow (vph)	112	0	641	0	668	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.6		56.0		56.0	
Actuated g/C Ratio	0.15		0.75		0.75	
v/c Ratio	0.55		0.33		0.33	
Control Delay (s/veh)	38.8		1.9		3.4	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.8		1.9		3.4	
LOS	D		A		A	
Approach Delay (s/veh)	38.8		1.9		3.4	
Approach LOS	D		A		A	
Queue Length 50th (m)	14.8		4.0		6.3	
Queue Length 95th (m)	27.6		9.1		14.3	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	287		1970		2033	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.39		0.33		0.33	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay (s/veh): 5.5 Intersection LOS: A
 Intersection Capacity Utilization 64.3% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

07/31/2024

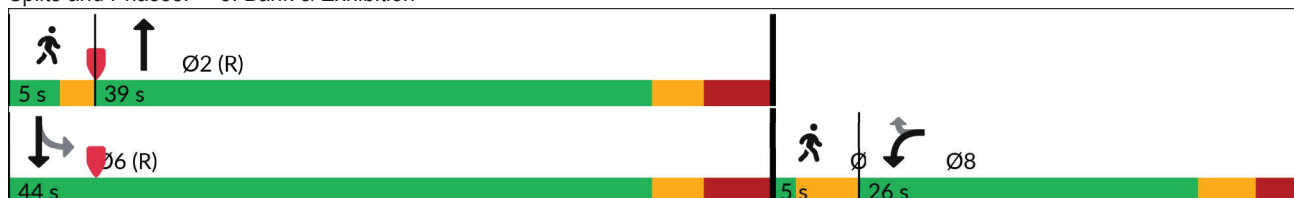


Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	114	56	469	97	498		
Future Volume (vph)	114	56	469	97	498		
Lane Group Flow (vph)	127	62	645	108	553		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	12.2	12.2	54.2	54.2	54.2		
Actuated g/C Ratio	0.16	0.16	0.72	0.72	0.72		
v/c Ratio	0.51	0.27	0.32	0.25	0.24		
Control Delay (s/veh)	35.4	10.6	5.5	4.7	3.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	35.4	10.6	5.5	4.7	3.1		
LOS	D	B	A	A	A		
Approach Delay (s/veh)	27.3		5.5		3.4		
Approach LOS	C		A		A		
Queue Length 50th (m)	16.8	0.0	15.8	3.1	8.2		
Queue Length 95th (m)	30.2	9.0	29.0	5.8	10.2		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	405	335	2031	430	2271		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.31	0.19	0.32	0.25	0.24		

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay (s/veh): 7.3
 Intersection Capacity Utilization 59.7%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

07/31/2024



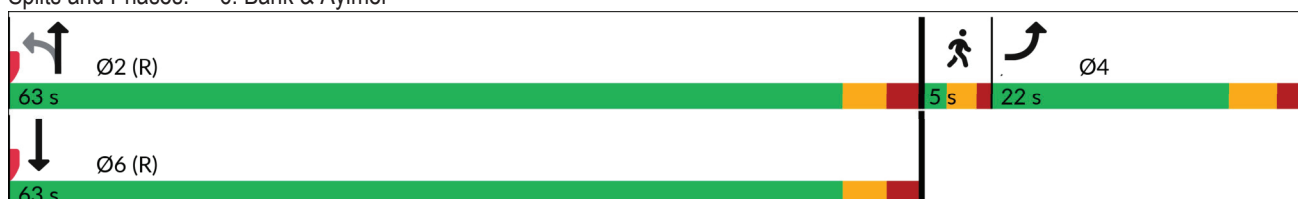
Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	56	21	685	747	
Future Volume (vph)	56	21	685	747	
Lane Group Flow (vph)	89	0	784	936	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.1		60.2	60.2	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.37		0.41	0.48	
Control Delay (s/veh)	31.5		4.3	8.0	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	31.5		4.3	8.0	
LOS	C		A	A	
Approach Delay (s/veh)	31.5		4.3	8.0	
Approach LOS	C		A	A	
Queue Length 50th (m)	10.6		12.9	34.8	
Queue Length 95th (m)	24.2		m14.2	47.8	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	275		1910	1958	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.32		0.41	0.48	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay (s/veh): 7.6	Intersection LOS: A
Intersection Capacity Utilization 56.6%	ICU Level of Service B
Analysis Period (min) 15	

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

Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

07/31/2024

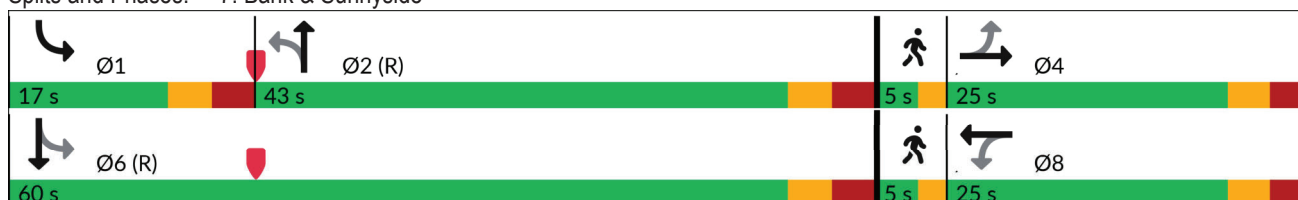


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕		↕		
Traffic Volume (vph)	52	80	16	82	14	424	206	744		
Future Volume (vph)	52	80	16	82	14	424	206	744		
Lane Group Flow (vph)	0	180	0	383	0	510	0	1159		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Act Effct Green (s)		19.4		19.4		37.0		54.0		
Actuated g/C Ratio		0.22		0.22		0.41		0.60		
v/c Ratio		1.15		1.10		0.45		0.91		
Control Delay (s/veh)		154.9		104.0		20.4		20.6		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		154.9		104.0		20.4		20.6		
LOS		F		F		C		C		
Approach Delay (s/veh)		154.9		104.0		20.4		20.6		
Approach LOS		F		F		C		C		
Queue Length 50th (m)		~37.1		~57.3		32.2		22.6		
Queue Length 95th (m)		#76.3		#111.2		45.7		#99.6		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		156		347		1144		1278		
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		1.15		1.10		0.45		0.91		

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 23 (26%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Pretimed
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay (s/veh): 45.7 Intersection LOS: D
 Intersection Capacity Utilization 95.4% ICU Level of Service F
 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: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

07/31/2024

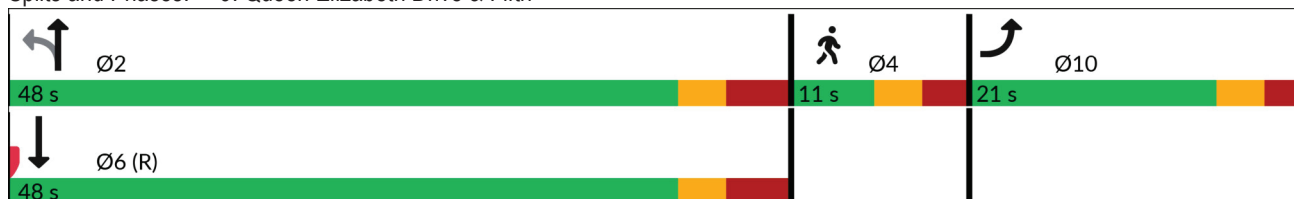


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	35	45	198	527	
Future Volume (vph)	35	45	198	527	
Lane Group Flow (vph)	98	0	270	658	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	15.3		41.2	41.2	
Actuated g/C Ratio	0.19		0.52	0.52	
v/c Ratio	0.34		0.44	0.77	
Control Delay (s/veh)	31.8		15.0	23.2	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	31.8		15.0	23.2	
LOS	C		B	C	
Approach Delay (s/veh)	31.8		15.0	23.2	
Approach LOS	C		B	C	
Queue Length 50th (m)	13.0		24.2	75.5	
Queue Length 95th (m)	26.3		42.6	119.7	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	290		614	855	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.34		0.44	0.77	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Pretimed	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay (s/veh): 21.9	Intersection LOS: C
Intersection Capacity Utilization 70.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	210	174	5	5	5
Future Vol, veh/h	5	210	174	5	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	233	193	6	6	6
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	8.7	8.4	7.7
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	50%
Vol Thru, %	98%	97%	0%
Vol Right, %	0%	3%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	215	179	10
LT Vol	5	0	5
Through Vol	210	174	0
RT Vol	0	5	5
Lane Flow Rate	239	199	11
Geometry Grp	1	1	1
Degree of Util (X)	0.273	0.227	0.014
Departure Headway (Hd)	4.107	4.114	4.667
Convergence, Y/N	Yes	Yes	Yes
Cap	870	865	772
Service Time	2.157	2.174	2.667
HCM Lane V/C Ratio	0.275	0.23	0.014
HCM Control Delay, s/veh	8.7	8.4	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.1	0.9	0

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	5	5	5	5	5
Future Vol, veh/h	3	5	5	5	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	6	6	6	6	6
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	6.6	7.1	6.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	50%	0%	50%
Vol Thru, %	0%	38%	50%
Vol Right, %	50%	63%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	10	8	10
LT Vol	5	0	5
Through Vol	0	3	5
RT Vol	5	5	0
Lane Flow Rate	11	9	11
Geometry Grp	1	1	1
Degree of Util (X)	0.012	0.009	0.013
Departure Headway (Hd)	3.769	3.587	4.06
Convergence, Y/N	Yes	Yes	Yes
Cap	953	1002	886
Service Time	1.777	1.593	2.065
HCM Lane V/C Ratio	0.012	0.009	0.012
HCM Control Delay, s/veh	6.8	6.6	7.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	5	140	5	39	210
Future Vol, veh/h	3	5	140	5	39	210
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	6	156	6	43	233
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.4	9	8.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	16%	0%	97%
Vol Thru, %	0%	38%	3%
Vol Right, %	84%	63%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	249	8	145
LT Vol	39	0	140
Through Vol	0	3	5
RT Vol	210	5	0
Lane Flow Rate	277	9	161
Geometry Grp	1	1	1
Degree of Util (X)	0.298	0.011	0.212
Departure Headway (Hd)	3.88	4.322	4.727
Convergence, Y/N	Yes	Yes	Yes
Cap	930	828	764
Service Time	1.892	2.347	2.727
HCM Lane V/C Ratio	0.298	0.011	0.211
HCM Control Delay, s/veh	8.5	7.4	9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.3	0	0.8

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	74	39	0	0	0	103	40	27	30	0	0	93
Future Vol, veh/h	74	39	0	0	0	103	40	27	30	0	0	93
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	82	43	0	0	0	114	44	30	33	0	0	103
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.6	7.5	8.2	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	41%	65%	0%	0%
Vol Thru, %	28%	35%	0%	0%
Vol Right, %	31%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	113	103	93
LT Vol	40	74	0	0
Through Vol	27	39	0	0
RT Vol	30	0	103	93
Lane Flow Rate	108	126	114	103
Geometry Grp	1	1	1	1
Degree of Util (X)	0.134	0.162	0.125	0.115
Departure Headway (Hd)	4.471	4.641	3.942	3.991
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	803	773	910	899
Service Time	2.491	2.663	1.963	2.01
HCM Lane V/C Ratio	0.134	0.163	0.125	0.115
HCM Control Delay, s/veh	8.2	8.6	7.5	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.6	0.4	0.4

Intersection						
Int Delay, s/veh	12.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	3	233	213	558	570	49
Future Vol, veh/h	3	233	213	558	570	49
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	3	259	237	620	633	54
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1622	839	866	0	-	0
Stage 1	839	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Critical Hdwy	6.675	6.275	4.175	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	2.2475	-	-	-
Pot Cap-1 Maneuver	100	359	760	-	-	-
Stage 1	417	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	36	291	617	-	-	-
Mov Cap-2 Maneuver	36	-	-	-	-	-
Stage 1	181	-	-	-	-	-
Stage 2	329	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	6.86	6.73		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	510	-	291	-	-	
HCM Lane V/C Ratio	0.384	-	0.888	-	-	
HCM Control Delay (s/veh)	14.4	3.8	66.9	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	1.8	-	8	-	-	

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	0	24	0	780	812	2
Future Vol, veh/h	0	24	0	780	812	2
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	0	27	0	867	902	2

Major/Minor

	Minor2	Major1	Major2
Conflicting Flow All	- 989	-	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	- 6.275	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-3.3475	-	-
Pot Cap-1 Maneuver	0 293	0	-
Stage 1	0	0	-
Stage 2	0	0	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	- 267	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

	EB	NB	SB
HCM Control Delay, s/v	20	0	0
HCM LOS	C		

Minor Lane/Major Mvmt

	NBTEBLn1	SBT	SBR
Capacity (veh/h)	- 267	-	-
HCM Lane V/C Ratio	- 0.1	-	-
HCM Control Delay (s/veh)	- 20	-	-
HCM Lane LOS	- C	-	-
HCM 95th %tile Q(veh)	- 0.3	-	-

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	63	59	56	257	495	97
Future Vol, veh/h	63	59	56	257	495	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	70	66	62	286	550	108
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1014	604	658	0	-	0
Stage 1	604	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	267	502	940	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	246	502	940	-	-	-
Mov Cap-2 Maneuver	246	-	-	-	-	-
Stage 1	506	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	23.65		1.63	0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	322	-	326	-	-	
HCM Lane V/C Ratio	0.066	-	0.415	-	-	
HCM Control Delay (s/veh)	9.1	0	23.7	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	2	-	-	

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↘			↗↘
Traffic Vol, veh/h	5	74	542	7	1	597
Future Vol, veh/h	5	74	542	7	1	597
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	15	6	0	0	5
Mvmt Flow	6	82	602	8	1	663
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1040	405	0	0	710	0
Stage 1	706	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Critical Hdwy	6.8	7.2	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.45	-	-	2.2	-
Pot Cap-1 Maneuver	229	560	-	-	899	-
Stage 1	456	-	-	-	-	-
Stage 2	703	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	205	501	-	-	803	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	408	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/veh	13.59	0		0.02		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	501	803	-	
HCM Lane V/C Ratio	-	-	0.164	0.001	-	
HCM Control Delay (s/veh)	-	-	13.6	9.5	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.6	0	-	

Intersection						
Int Delay, s/veh	4.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	94	58	24	129	65	39
Future Vol, veh/h	94	58	24	129	65	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	64	27	143	72	43
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	170	0	-	0	372	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	273	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1407	-	-	-	629	958
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	773	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1407	-	-	-	581	958
Mov Cap-2 Maneuver	-	-	-	-	581	-
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	773	-
Approach	EB	WB	SB			
HCM Control Delay, s/v	4.8	0	11.36			
HCM LOS			B			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1113	-	-	-	681	
HCM Lane V/C Ratio	0.074	-	-	-	0.17	
HCM Control Delay (s/veh)	7.8	0	-	-	11.4	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6	

2028 Scenario

Saturday Peak Hour

Queues

1: Bank & Fifth

07/31/2024

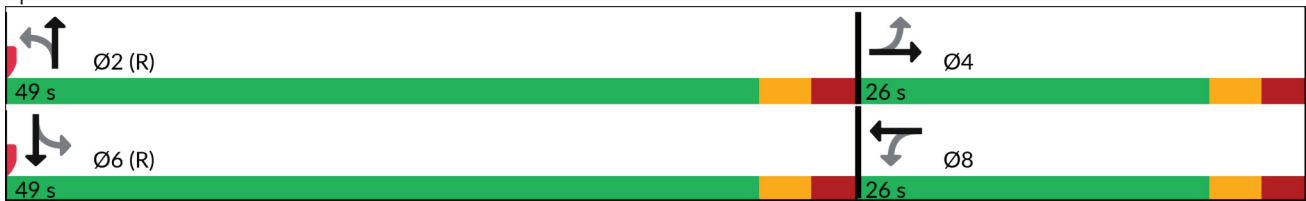


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↕	↕		↕		↕
Traffic Volume (vph)	45	40	72	44	21	466	20	515
Future Volume (vph)	45	40	72	44	21	466	20	515
Lane Group Flow (vph)	0	141	80	105	0	578	0	624
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		20.5	20.5	20.5		43.5		43.5
Actuated g/C Ratio		0.27	0.27	0.27		0.58		0.58
v/c Ratio		0.39	0.28	0.25		0.36		0.38
Control Delay (s/veh)		20.6	24.7	13.2		12.9		9.2
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		20.6	24.7	13.2		12.9		9.2
LOS		C	C	B		B		A
Approach Delay (s/veh)	20.6			18.2		12.9		9.2
Approach LOS	C			B		B		A
Queue Length 50th (m)		12.1	8.9	5.2		19.9		22.2
Queue Length 95th (m)		27.0	19.9	16.5		51.0		32.2
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		363	287	414		1589		1624
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.39	0.28	0.25		0.36		0.38

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.39
 Intersection Signal Delay (s/veh): 12.7 Intersection LOS: B
 Intersection Capacity Utilization 56.9% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

07/31/2024

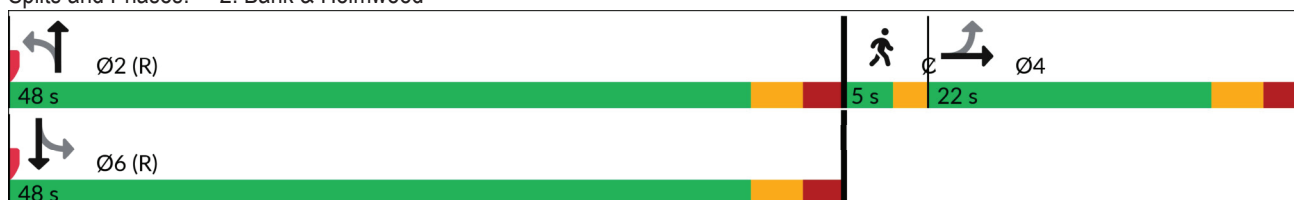


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	9	28	483	30	533	
Future Volume (vph)	9	28	483	30	533	
Lane Group Flow (vph)	110	0	617	0	651	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.6		56.1		56.1	
Actuated g/C Ratio	0.15		0.75		0.75	
v/c Ratio	0.55		0.31		0.32	
Control Delay (s/veh)	38.8		2.3		3.9	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.8		2.3		3.9	
LOS	D		A		A	
Approach Delay (s/veh)	38.8		2.3		3.9	
Approach LOS	D		A		A	
Queue Length 50th (m)	14.6		3.8		6.9	
Queue Length 95th (m)	27.2		9.0		22.0	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	284		1968		2031	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.39		0.31		0.32	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay (s/veh): 6.0 Intersection LOS: A
 Intersection Capacity Utilization 63.9% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

07/31/2024

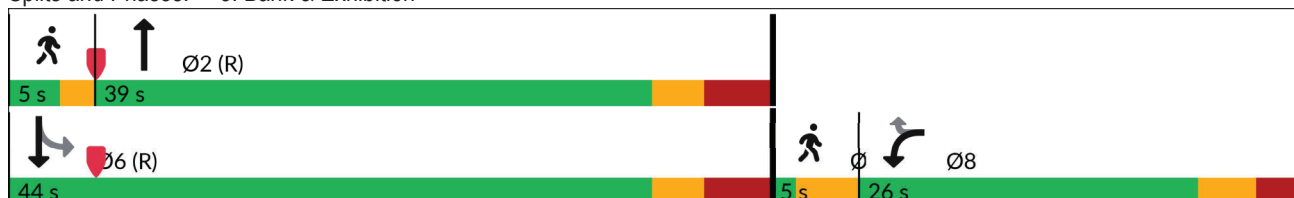


Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	75	59	444	104	474		
Future Volume (vph)	75	59	444	104	474		
Lane Group Flow (vph)	83	66	603	116	527		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	10.8	10.8	55.6	55.6	55.6		
Actuated g/C Ratio	0.14	0.14	0.74	0.74	0.74		
v/c Ratio	0.37	0.31	0.29	0.25	0.23		
Control Delay (s/veh)	33.9	12.0	4.6	4.1	2.7		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	33.9	12.0	4.6	4.1	2.7		
LOS	C	B	A	A	A		
Approach Delay (s/veh)	24.2		4.6		3.0		
Approach LOS	C		A		A		
Queue Length 50th (m)	10.9	0.0	13.3	2.7	6.2		
Queue Length 95th (m)	22.2	9.7	23.3	5.5	9.5		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	405	338	2092	456	2330		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.20	0.20	0.29	0.25	0.23		

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.37
 Intersection Signal Delay (s/veh): 5.9 Intersection LOS: A
 Intersection Capacity Utilization 58.5% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

07/31/2024

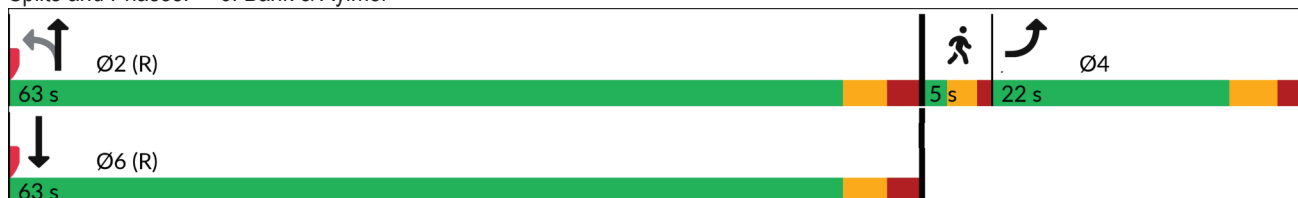


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	38	18	667	705	
Future Volume (vph)	38	18	667	705	
Lane Group Flow (vph)	54	0	761	850	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		60.3	60.3	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.23		0.39	0.42	
Control Delay (s/veh)	30.2		5.8	7.4	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	30.2		5.8	7.4	
LOS	C		A	A	
Approach Delay (s/veh)	30.2		5.8	7.4	
Approach LOS	C		A	A	
Queue Length 50th (m)	6.4		14.8	30.3	
Queue Length 95th (m)	16.7		28.2	41.0	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	276		1934	2003	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.20		0.39	0.42	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.42	
Intersection Signal Delay (s/veh): 7.4	Intersection LOS: A
Intersection Capacity Utilization 53.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

07/31/2024

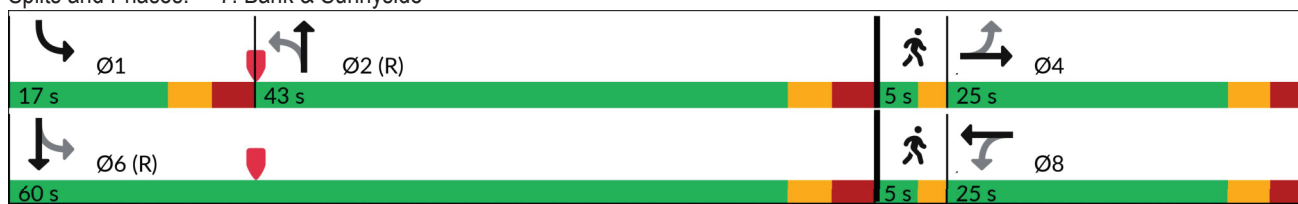


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕↕		↕↕		
Traffic Volume (vph)	41	37	20	57	29	481	82	537		
Future Volume (vph)	41	37	20	57	29	481	82	537		
Lane Group Flow (vph)	0	135	0	195	0	602	0	749		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Act Effct Green (s)		19.4		19.4		37.0		54.0		
Actuated g/C Ratio		0.22		0.22		0.41		0.60		
v/c Ratio		0.59		0.63		0.55		0.53		
Control Delay (s/veh)		43.8		31.3		22.1		4.6		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		43.8		31.3		22.1		4.6		
LOS		D		C		C		A		
Approach Delay (s/veh)		43.8		31.3		22.1		4.6		
Approach LOS		D		C		C		A		
Queue Length 50th (m)		21.1		20.0		39.8		7.7		
Queue Length 95th (m)		#40.4		42.9		55.8		9.7		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		228		308		1103		1425		
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		0.59		0.63		0.55		0.53		

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 23 (26%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Pretimed
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay (s/veh): 17.1 Intersection LOS: B
 Intersection Capacity Utilization 71.0% 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: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

07/31/2024

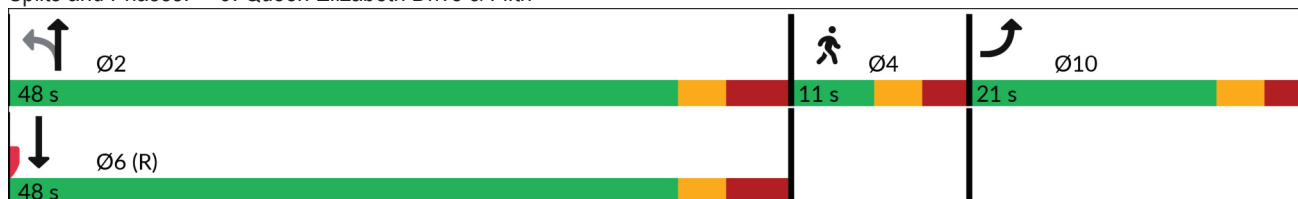


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	54	52	248	358	
Future Volume (vph)	54	52	248	358	
Lane Group Flow (vph)	113	0	334	456	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	15.3		41.2	41.2	
Actuated g/C Ratio	0.19		0.52	0.52	
v/c Ratio	0.38		0.45	0.53	
Control Delay (s/veh)	32.7		14.6	15.9	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	32.7		14.6	15.9	
LOS	C		B	B	
Approach Delay (s/veh)	32.7		14.6	15.9	
Approach LOS	C		B	B	
Queue Length 50th (m)	15.1		30.0	43.6	
Queue Length 95th (m)	29.7		49.9	69.1	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	294		748	853	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.38		0.45	0.53	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Pretimed	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay (s/veh): 17.5	Intersection LOS: B
Intersection Capacity Utilization 64.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	40	48	0	0	0	93	58	39	36	0	0	104
Future Vol, veh/h	40	48	0	0	0	93	58	39	36	0	0	104
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	53	0	0	0	103	64	43	40	0	0	116
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.4	7.6	8.4	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	45%	0%	0%
Vol Thru, %	29%	55%	0%	0%
Vol Right, %	27%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	88	93	104
LT Vol	58	40	0	0
Through Vol	39	48	0	0
RT Vol	36	0	93	104
Lane Flow Rate	148	98	103	116
Geometry Grp	1	1	1	1
Degree of Util (X)	0.182	0.128	0.115	0.127
Departure Headway (Hd)	4.425	4.704	4.022	3.949
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	811	763	891	908
Service Time	2.446	2.729	2.047	1.97
HCM Lane V/C Ratio	0.182	0.128	0.116	0.128
HCM Control Delay, s/veh	8.4	8.4	7.6	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.4	0.4	0.4

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	205	137	5	5	5
Future Vol, veh/h	5	205	137	5	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	228	152	6	6	6
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	8.6	8.1	7.6
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	50%
Vol Thru, %	98%	96%	0%
Vol Right, %	0%	4%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	210	142	10
LT Vol	5	0	5
Through Vol	205	137	0
RT Vol	0	5	5
Lane Flow Rate	233	158	11
Geometry Grp	1	1	1
Degree of Util (X)	0.264	0.18	0.014
Departure Headway (Hd)	4.076	4.106	4.568
Convergence, Y/N	Yes	Yes	Yes
Cap	877	868	788
Service Time	2.117	2.162	2.568
HCM Lane V/C Ratio	0.266	0.182	0.014
HCM Control Delay, s/veh	8.6	8.1	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.1	0.7	0

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	5	5	72	5	5
Future Vol, veh/h	15	5	5	72	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	6	6	80	6	6
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7	7.4	7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	50%	0%	6%
Vol Thru, %	0%	75%	94%
Vol Right, %	50%	25%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	10	20	77
LT Vol	5	0	5
Through Vol	0	15	72
RT Vol	5	5	0
Lane Flow Rate	11	22	86
Geometry Grp	1	1	1
Degree of Util (X)	0.012	0.024	0.095
Departure Headway (Hd)	3.92	3.867	3.983
Convergence, Y/N	Yes	Yes	Yes
Cap	908	926	903
Service Time	1.965	1.887	1.991
HCM Lane V/C Ratio	0.012	0.024	0.095
HCM Control Delay, s/veh	7	7	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.3

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	5	86	5	155	106
Future Vol, veh/h	15	5	86	5	155	106
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	6	96	6	172	118
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.7	8.6	9.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	59%	0%	95%
Vol Thru, %	0%	75%	5%
Vol Right, %	41%	25%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	261	20	91
LT Vol	155	0	86
Through Vol	0	15	5
RT Vol	106	5	0
Lane Flow Rate	290	22	101
Geometry Grp	1	1	1
Degree of Util (X)	0.332	0.028	0.135
Departure Headway (Hd)	4.125	4.549	4.79
Convergence, Y/N	Yes	Yes	Yes
Cap	876	788	750
Service Time	2.125	2.569	2.807
HCM Lane V/C Ratio	0.331	0.028	0.135
HCM Control Delay, s/veh	9.2	7.7	8.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.5	0.1	0.5

Intersection

Int Delay, s/veh 6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	3	177	116	557	513	55
Future Vol, veh/h	3	177	116	557	513	55
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	3	197	129	619	570	61

Major/Minor

	Minor2	Major1	Major2			
Conflicting Flow All	1346	779	809	0	-	0
Stage 1	779	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Critical Hdwy	6.675	6.275	4.175	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	2.2475	-	-	-
Pot Cap-1 Maneuver	151	389	798	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	525	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	76	316	648	-	-	-
Mov Cap-2 Maneuver	76	-	-	-	-	-
Stage 1	274	-	-	-	-	-
Stage 2	426	-	-	-	-	-

Approach

HCM Control Delay, s/3.51 3.73 0
HCM LOS D

Minor Lane/Major Mvmt

	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	537	-	316	-
HCM Lane V/C Ratio	0.199	-	0.623	-
HCM Control Delay (s/veh)	11.9	2	33.5	-
HCM Lane LOS	B	A	D	-
HCM 95th %tile Q(veh)	0.7	-	3.9	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	1	32	0	662	682	0
Future Vol, veh/h	1	32	0	662	682	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	1	36	0	736	758	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1126	758	-	0	-	0
Stage 1	758	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Critical Hdwy	6.675	6.275	-	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	-	-	-	-
Pot Cap-1 Maneuver	208	400	0	-	-	0
Stage 1	455	-	0	-	-	0
Stage 2	664	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	208	400	-	-	-	-
Mov Cap-2 Maneuver	208	-	-	-	-	-
Stage 1	455	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	4.88	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NB	EBLn1	SBT			
Capacity (veh/h)	-	400	-			
HCM Lane V/C Ratio	-	0.089	-			
HCM Control Delay (s/veh)	-	14.9	-			
HCM Lane LOS	-	B	-			
HCM 95th %tile Q(veh)	-	0.3	-			

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	85	61	65	210	252	155
Future Vol, veh/h	85	61	65	210	252	155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	94	68	72	233	280	172
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	744	366	452	0	0	
Stage 1	366	-	-	-	-	
Stage 2	378	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	385	684	1119	-	-	
Stage 1	706	-	-	-	-	
Stage 2	697	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	356	684	1119	-	-	
Mov Cap-2 Maneuver	356	-	-	-	-	
Stage 1	654	-	-	-	-	
Stage 2	697	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/veh	7.63	1.99		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	425	-	446	-	-	
HCM Lane V/C Ratio	0.065	-	0.364	-	-	
HCM Control Delay (s/veh)	8.4	0	17.6	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.6	-	-	

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↔			↕↗
Traffic Vol, veh/h	6	71	494	19	2	577
Future Vol, veh/h	6	71	494	19	2	577
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	15	6	0	0	5
Mvmt Flow	7	79	549	21	2	641
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	984	385	0	0	670	0
Stage 1	659	-	-	-	-	-
Stage 2	325	-	-	-	-	-
Critical Hdwy	6.8	7.2	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.45	-	-	2.2	-
Pot Cap-1 Maneuver	249	578	-	-	930	-
Stage 1	482	-	-	-	-	-
Stage 2	711	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	222	517	-	-	831	-
Mov Cap-2 Maneuver	222	-	-	-	-	-
Stage 1	431	-	-	-	-	-
Stage 2	708	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/veh	13.22	0		0.03		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	517	831	-	
HCM Lane V/C Ratio	-	-	0.153	0.003	-	
HCM Control Delay (s/veh)	-	-	13.2	9.3	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.5	0	-	

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	91	31	74	146	123	72
Future Vol, veh/h	91	31	74	146	123	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	101	34	82	162	137	80
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	244	0	-	0	400	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	237	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1322	-	-	-	606	881
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	803	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1322	-	-	-	559	881
Mov Cap-2 Maneuver	-	-	-	-	559	-
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	803	-
Approach	EB	WB	SB			
HCM Control Delay, s/v	5.93		0	13.36		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1296	-	-	-	646	
HCM Lane V/C Ratio	0.076	-	-	-	0.335	
HCM Control Delay (s/veh)	7.9	0	-	-	13.4	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	1.5	

2028 Scenario

Sunday Peak Hour

Queues

1: Bank & Fifth

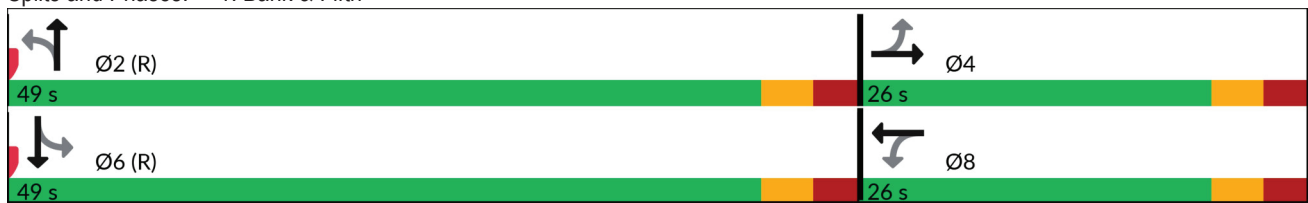
07/31/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↕	↕		↕		↕
Traffic Volume (vph)	53	37	127	65	15	466	22	481
Future Volume (vph)	53	37	127	65	15	466	22	481
Lane Group Flow (vph)	0	129	141	114	0	577	0	604
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)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		20.5	20.5	20.5		43.5		43.5
Actuated g/C Ratio		0.27	0.27	0.27		0.58		0.58
v/c Ratio		0.38	0.48	0.27		0.36		0.38
Control Delay (s/veh)		22.6	29.3	16.6		10.4		9.0
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		22.6	29.3	16.6		10.4		9.0
LOS		C	C	B		B		A
Approach Delay (s/veh)		22.6		23.6		10.4		9.0
Approach LOS		C		C		B		A
Queue Length 50th (m)		12.4	16.6	8.1		31.2		21.1
Queue Length 95th (m)		26.8	33.0	20.2		48.2		30.9
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		341	294	424		1606		1594
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.38	0.48	0.27		0.36		0.38

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 42 (56%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 75	
Control Type: Pretimed	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay (s/veh): 13.0	Intersection LOS: B
Intersection Capacity Utilization 58.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

07/31/2024

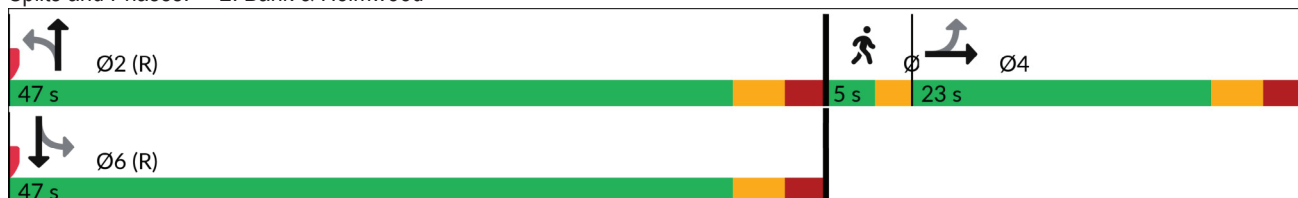


Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔			↔		↔	
Traffic Volume (vph)	17	0	32	504	22	522	
Future Volume (vph)	17	0	32	504	22	522	
Lane Group Flow (vph)	109	2	0	685	0	643	
Turn Type	NA		Perm	NA	Perm	NA	
Protected Phases	4			2		6	3
Permitted Phases			2		6		
Detector Phase	4		2	2	6	6	
Switch Phase							
Minimum Initial (s)	4.4		10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	23.0		47.0	47.0	47.0	47.0	5.0
Total Split (s)	23.0		47.0	47.0	47.0	47.0	5.0
Total Split (%)	30.7%		62.7%	62.7%	62.7%	62.7%	7%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6		2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0			0.0		0.0	
Total Lost Time (s)	5.6			5.2		5.2	
Lead/Lag	Lag						Lead
Lead-Lag Optimize?							
Recall Mode	None		C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.5	0.0		56.1		56.1	
Actuated g/C Ratio	0.15	0.00		0.75		0.75	
v/c Ratio	0.55	0.01		0.36		0.31	
Control Delay (s/veh)	38.5	0.0		2.4		9.3	
Queue Delay	0.0	0.0		0.0		0.0	
Total Delay (s/veh)	38.5	0.0		2.4		9.3	
LOS	D	A		A		A	
Approach Delay (s/veh)	38.5			2.4		9.3	
Approach LOS	D			A		A	
Queue Length 50th (m)	14.4	0.0		4.9		28.3	
Queue Length 95th (m)	26.9	0.0		11.1		44.5	
Internal Link Dist (m)	39.8	116.8		31.5		195.6	
Turn Bay Length (m)							
Base Capacity (vph)	304	143		1895		2052	
Starvation Cap Reductn	0	0		0		0	
Spillback Cap Reductn	0	0		0		0	
Storage Cap Reductn	0	0		0		0	
Reduced v/c Ratio	0.36	0.01		0.36		0.31	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 16 (21%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay (s/veh): 8.2 Intersection LOS: A
 Intersection Capacity Utilization Err% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

07/31/2024

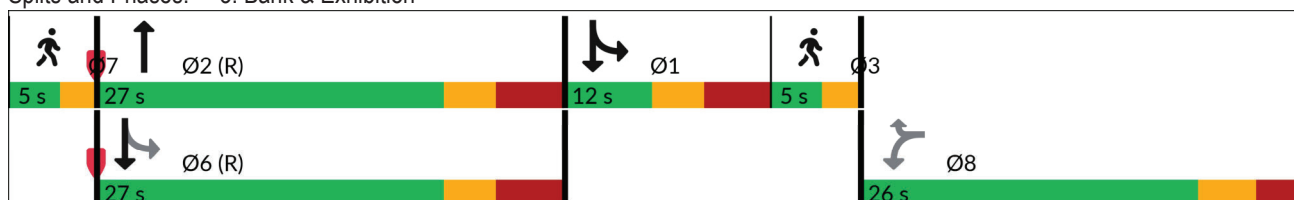


Lane Group	WBL	WBR	NBT	SBL	SBT	Ø3	Ø6	Ø7
Lane Configurations								
Traffic Volume (vph)	109	51	407	151	440			
Future Volume (vph)	109	51	407	151	440			
Lane Group Flow (vph)	121	57	559	168	489			
Turn Type	Perm	Perm	NA	custom	NA			
Protected Phases			2	1	1 6	3	6	7
Permitted Phases	8	8		6				
Detector Phase	8	8	2	1	1 6			
Switch Phase								
Minimum Initial (s)	4.0	4.0	10.0	4.0		1.0	5.1	3.0
Minimum Split (s)	26.0	26.0	27.0	12.0		5.0	27.0	5.0
Total Split (s)	26.0	26.0	27.0	12.0		5.0	27.0	5.0
Total Split (%)	34.7%	34.7%	36.0%	16.0%		7%	36%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0		2.0	3.0	2.0
All-Red Time (s)	3.0	3.0	3.9	3.9		0.0	3.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.3	6.3	6.9	6.9				
Lead/Lag				Lead			Lag	
Lead-Lag Optimize?				Yes			Yes	
Recall Mode	None	None	C-Max	None		None	C-Max	None
Act Effct Green (s)	11.7	11.7	40.7	45.8	54.1			
Actuated g/C Ratio	0.16	0.16	0.54	0.61	0.72			
v/c Ratio	0.55	0.27	0.36	0.38	0.22			
Control Delay (s/veh)	37.9	11.0	11.5	8.4	4.2			
Queue Delay	0.0	0.0	0.0	0.0	0.0			
Total Delay (s/veh)	37.9	11.0	11.5	8.4	4.2			
LOS	D	B	B	A	A			
Approach Delay (s/veh)	29.3		11.5		5.3			
Approach LOS	C		B		A			
Queue Length 50th (m)	16.0	0.0	22.0	5.5	8.3			
Queue Length 95th (m)	28.9	8.5	38.1	11.1	12.3			
Internal Link Dist (m)	30.6		33.7		44.8			
Turn Bay Length (m)				40.0				
Base Capacity (vph)	371	317	1532	445	2266			
Starvation Cap Reductn	0	0	0	0	0			
Spillback Cap Reductn	0	0	0	0	0			
Storage Cap Reductn	0	0	0	0	0			
Reduced v/c Ratio	0.33	0.18	0.36	0.38	0.22			

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 15 (20%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay (s/veh): 10.8 Intersection LOS: B
 Intersection Capacity Utilization 55.6% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

07/31/2024

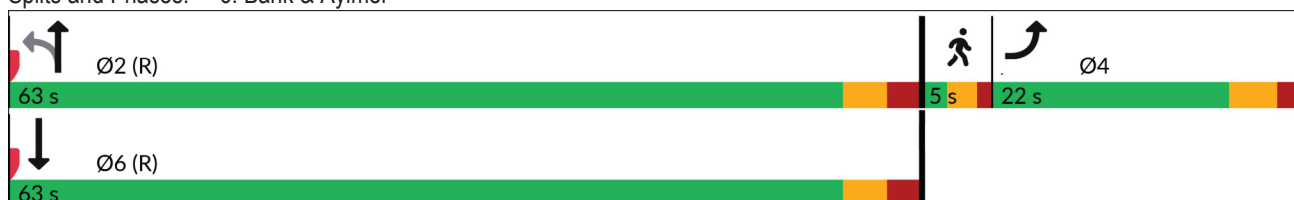


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	53	16	584	643	
Future Volume (vph)	53	16	584	643	
Lane Group Flow (vph)	81	0	667	776	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.0		72.4	72.4	
Actuated g/C Ratio	0.12		0.80	0.80	
v/c Ratio	0.43		0.29	0.32	
Control Delay (s/veh)	36.0		2.6	3.6	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	36.0		2.6	3.6	
LOS	D		A	A	
Approach Delay (s/veh)	36.0		2.6	3.6	
Approach LOS	D		A	A	
Queue Length 50th (m)	10.3		11.2	16.5	
Queue Length 95th (m)	23.1		15.0	28.4	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	276		2334	2401	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.29		0.29	0.32	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.43
 Intersection Signal Delay (s/veh): 4.9 Intersection LOS: A
 Intersection Capacity Utilization 49.7% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

07/31/2024

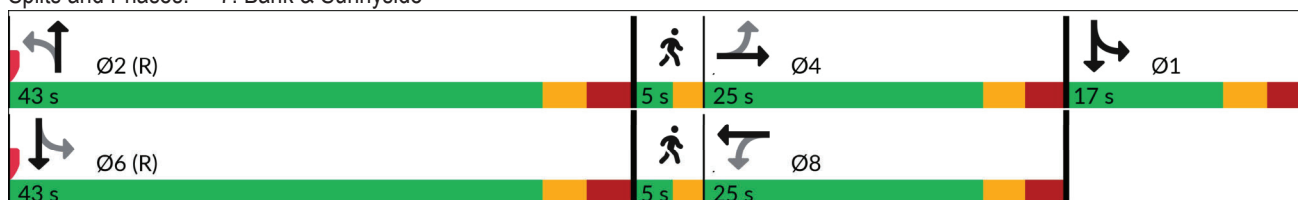


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø6	Ø7
Lane Configurations		↕		↕		↕		↕			
Traffic Volume (vph)	42	33	15	50	18	460	115	497			
Future Volume (vph)	42	33	15	50	18	460	115	497			
Lane Group Flow (vph)	0	117	0	190	0	543	0	771			
Turn Type	Perm	NA	Perm	NA	Perm	NA	custom	NA			
Protected Phases		4		8		2	1	16	3	6	7
Permitted Phases	4		8		2		6				
Detector Phase	4	4	8	8	2	2	1	16			
Switch Phase											
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0		1.0	17.0	1.0
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0		5.0	43.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0		5.0	43.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%		6%	48%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		2.0	3.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9		0.0	3.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0					
Total Lost Time (s)		5.6		5.6		6.0					
Lead/Lag	Lag	Lag	Lag	Lag					Lead		Lead
Lead-Lag Optimize?			Yes	Yes							Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None		None	C-Max	None
Act Effct Green (s)		15.2		15.2		44.0		57.4			
Actuated g/C Ratio		0.17		0.17		0.49		0.64			
v/c Ratio		0.77		0.71		0.39		0.51			
Control Delay (s/veh)		65.0		34.0		17.0		5.2			
Queue Delay		0.0		0.0		0.0		0.0			
Total Delay (s/veh)		65.0		34.0		17.0		5.2			
LOS		E		C		B		A			
Approach Delay (s/veh)		65.0		34.0		17.0		5.2			
Approach LOS		E		C		B		A			
Queue Length 50th (m)		19.5		17.5		30.4		9.1			
Queue Length 95th (m)		34.8		36.5		48.7		11.8			
Internal Link Dist (m)		75.1		136.0		63.1		79.0			
Turn Bay Length (m)											
Base Capacity (vph)		201		325		1399		1520			
Starvation Cap Reductn		0		0		0		0			
Spillback Cap Reductn		0		0		0		0			
Storage Cap Reductn		0		0		0		0			
Reduced v/c Ratio		0.58		0.58		0.39		0.51			

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 23 (26%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay (s/veh): 16.8 Intersection LOS: B
 Intersection Capacity Utilization 73.3% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

07/31/2024



Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	12	215	19	22	
Future Volume (vph)	12	215	19	22	
Lane Group Flow (vph)	182	0	260	53	
Turn Type	Perm	Perm	NA	NA	
Protected Phases			2	6	3
Permitted Phases	4	2			
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	42.0	42.0	42.0	9.7
Total Split (s)	22.0	42.0	42.0	42.0	11.0
Total Split (%)	29.3%	56.0%	56.0%	56.0%	15%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?	Yes				Yes
Recall Mode	Min	Max	Max	Max	None
Act Effct Green (s)	12.7		35.3	35.3	
Actuated g/C Ratio	0.21		0.58	0.58	
v/c Ratio	0.59		0.38	0.06	
Control Delay (s/veh)	29.9		9.3	6.4	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	29.9		9.3	6.4	
LOS	C		A	A	
Approach Delay (s/veh)	29.9		9.3	6.4	
Approach LOS	C		A	A	
Queue Length 50th (m)	18.3		13.4	2.2	
Queue Length 95th (m)	35.1		30.5	6.8	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	396		692	909	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.46		0.38	0.06	

Intersection Summary

Cycle Length: 75	
Actuated Cycle Length: 60.5	
Natural Cycle: 75	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay (s/veh): 16.6	Intersection LOS: B
Intersection Capacity Utilization 41.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	250	164	5	5	5
Future Vol, veh/h	5	250	164	5	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	278	182	6	6	6
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	9.1	8.4	7.8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	50%
Vol Thru, %	98%	97%	0%
Vol Right, %	0%	3%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	255	169	10
LT Vol	5	0	5
Through Vol	250	164	0
RT Vol	0	5	5
Lane Flow Rate	283	188	11
Geometry Grp	1	1	1
Degree of Util (X)	0.322	0.216	0.015
Departure Headway (Hd)	4.097	4.147	4.736
Convergence, Y/N	Yes	Yes	Yes
Cap	873	856	760
Service Time	2.149	2.216	2.736
HCM Lane V/C Ratio	0.324	0.22	0.014
HCM Control Delay, s/veh	9.1	8.4	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.4	0.8	0

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	14	5	5	163	5	5
Future Vol, veh/h	14	5	5	163	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	6	6	181	6	6
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.1	8	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	50%	0%	3%
Vol Thru, %	0%	74%	97%
Vol Right, %	50%	26%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	10	19	168
LT Vol	5	0	5
Through Vol	0	14	163
RT Vol	5	5	0
Lane Flow Rate	11	21	187
Geometry Grp	1	1	1
Degree of Util (X)	0.013	0.023	0.206
Departure Headway (Hd)	4.093	3.934	3.976
Convergence, Y/N	Yes	Yes	Yes
Cap	862	906	905
Service Time	2.177	1.974	1.985
HCM Lane V/C Ratio	0.013	0.023	0.207
HCM Control Delay, s/veh	7.2	7.1	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.8

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	14	5	56	3	188	130
Future Vol, veh/h	14	5	56	3	188	130
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	6	62	3	209	144
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.8	8.4	9.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	59%	0%	95%
Vol Thru, %	0%	74%	5%
Vol Right, %	41%	26%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	318	19	59
LT Vol	188	0	56
Through Vol	0	14	3
RT Vol	130	5	0
Lane Flow Rate	353	21	66
Geometry Grp	1	1	1
Degree of Util (X)	0.388	0.027	0.09
Departure Headway (Hd)	3.956	4.627	4.917
Convergence, Y/N	Yes	Yes	Yes
Cap	897	778	733
Service Time	2.034	2.63	2.918
HCM Lane V/C Ratio	0.394	0.027	0.09
HCM Control Delay, s/veh	9.6	7.8	8.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.9	0.1	0.3

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	68	81	0	0	0	227	99	66	61	0	0	103
Future Vol, veh/h	68	81	0	0	0	227	99	66	61	0	0	103
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	90	0	0	0	252	110	73	68	0	0	114
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10	9.6	10.7	8.6
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	46%	0%	0%
Vol Thru, %	29%	54%	0%	0%
Vol Right, %	27%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	226	149	227	103
LT Vol	99	68	0	0
Through Vol	66	81	0	0
RT Vol	61	0	227	103
Lane Flow Rate	251	166	252	114
Geometry Grp	1	1	1	1
Degree of Util (X)	0.346	0.24	0.311	0.151
Departure Headway (Hd)	4.967	5.209	4.442	4.751
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	716	680	800	760
Service Time	3.06	3.307	2.53	2.751
HCM Lane V/C Ratio	0.351	0.244	0.315	0.15
HCM Control Delay, s/veh	10.7	10	9.6	8.6
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.5	0.9	1.3	0.5

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	5	152	107	540	491	60
Future Vol, veh/h	5	152	107	540	491	60
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	6	169	119	600	546	67

Major/Minor

	Minor2	Major1	Major2			
Conflicting Flow All	1295	757	790	0	-	0
Stage 1	757	-	-	-	-	-
Stage 2	538	-	-	-	-	-
Critical Hdwy	6.675	6.275	4.175	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	2.2475	-	-	-
Pot Cap-1 Maneuver	163	400	812	-	-	-
Stage 1	455	-	-	-	-	-
Stage 2	544	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	84	325	659	-	-	-
Mov Cap-2 Maneuver	84	-	-	-	-	-
Stage 1	290	-	-	-	-	-
Stage 2	441	-	-	-	-	-

Approach

HCM Control Delay, s/27.46 3.44 0
HCM LOS D

Minor Lane/Major Mvmt

	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	549	-	325	-
HCM Lane V/C Ratio	0.18	-	0.52	-
HCM Control Delay (s/veh)	11.7	1.8	27.5	-
HCM Lane LOS	B	A	D	-
HCM 95th %tile Q(veh)	0.7	-	2.8	-

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	2	69	0	621	647	1
Future Vol, veh/h	2	69	0	621	647	1
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	2	77	0	690	719	1

Major/Minor

	Minor2	Major1	Major2
Conflicting Flow All	1150	805	0
Stage 1	805	-	-
Stage 2	345	-	-
Critical Hdwy	6.675	6.275	-
Critical Hdwy Stg 1	5.475	-	-
Critical Hdwy Stg 2	5.875	-	-
Follow-up Hdwy	3.5475	3.3475	-
Pot Cap-1 Maneuver	201	375	0
Stage 1	432	-	0
Stage 2	682	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	166	341	-
Mov Cap-2 Maneuver	166	-	-
Stage 1	393	-	-
Stage 2	620	-	-

Approach

	EB	NB	SB
HCM Control Delay, s/veh	18.59	0	0
HCM LOS	C		

Minor Lane/Major Mvmt

	NBTEBLn1	SBT	SBR
Capacity (veh/h)	- 341	-	-
HCM Lane V/C Ratio	- 0.225	-	-
HCM Control Delay (s/veh)	- 18.6	-	-
HCM Lane LOS	- C	-	-
HCM 95th %tile Q(veh)	- 0.8	-	-

Intersection						
Int Delay, s/veh	6.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	106	141	82	128	66	92
Future Vol, veh/h	106	141	82	128	66	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	118	157	91	142	73	102
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	449	124	176	0	0	
Stage 1	124	-	-	-	-	
Stage 2	324	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	571	932	1413	-	-	
Stage 1	906	-	-	-	-	
Stage 2	737	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	531	932	1413	-	-	
Mov Cap-2 Maneuver	531	-	-	-	-	
Stage 1	843	-	-	-	-	
Stage 2	737	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/veh	13.34	3.02		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	703	-	704	-	-	
HCM Lane V/C Ratio	0.064	-	0.39	-	-	
HCM Control Delay (s/veh)	7.7	0	13.3	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.9	-	-	

Intersection

Int Delay, s/veh 2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			↑↑
Traffic Vol, veh/h	7	159	461	19	0	582
Future Vol, veh/h	7	159	461	19	0	582
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	15	6	0	0	5
Mvmt Flow	8	177	512	21	0	647

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	946	367	0	0	-
Stage 1	623	-	-	-	-
Stage 2	323	-	-	-	-
Critical Hdwy	6.8	7.2	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.45	-	-	-
Pot Cap-1 Maneuver	263	594	-	-	0
Stage 1	503	-	-	-	0
Stage 2	712	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	236	531	-	-	-
Mov Cap-2 Maneuver	236	-	-	-	-
Stage 1	450	-	-	-	-
Stage 2	712	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/veh	15.11	0	0
HCM LOS	C		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	531
HCM Lane V/C Ratio	-	-	0.332
HCM Control Delay (s/veh)	-	-	15.1
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	1.4

Intersection

Int Delay, s/veh 8.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	110	51	54	121	198	67
Future Vol, veh/h	110	51	54	121	198	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	57	60	134	220	74

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	194	0	-	0	428 127
Stage 1	-	-	-	-	127 -
Stage 2	-	-	-	-	301 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1379	-	-	-	583 923
Stage 1	-	-	-	-	899 -
Stage 2	-	-	-	-	751 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1379	-	-	-	530 923
Mov Cap-2 Maneuver	-	-	-	-	530 -
Stage 1	-	-	-	-	816 -
Stage 2	-	-	-	-	751 -

Approach

	EB	WB	SB
HCM Control Delay, s/v	5.37	0	16.87
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1230	-	-	-	594
HCM Lane V/C Ratio	0.089	-	-	-	0.496
HCM Control Delay (s/veh)	7.9	0	-	-	16.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.7

2028 Scenario

Minor Event Ingress

Queues

1: Bank & Fifth

07/31/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↕	↕		↕		↕
Traffic Volume (vph)	52	58	74	46	16	479	26	548
Future Volume (vph)	52	58	74	46	16	479	26	548
Lane Group Flow (vph)	0	159	82	119	0	593	0	665
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)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		20.5	20.5	20.5		43.5		43.5
Actuated g/C Ratio		0.27	0.27	0.27		0.58		0.58
v/c Ratio		0.45	0.30	0.28		0.37		0.41
Control Delay (s/veh)		24.4	25.1	12.7		13.5		9.5
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		24.4	25.1	12.7		13.5		9.5
LOS		C	C	B		B		A
Approach Delay (s/veh)		24.4		17.8		13.5		9.5
Approach LOS		C		B		B		A
Queue Length 50th (m)		16.0	9.1	5.4		22.8		24.3
Queue Length 95th (m)		32.8	20.5	17.4		53.4		35.1
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		356	277	418		1601		1606
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.45	0.30	0.28		0.37		0.41

Intersection Summary

Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 75	
Control Type: Pretimed	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay (s/veh): 13.5	Intersection LOS: B
Intersection Capacity Utilization 62.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

07/31/2024

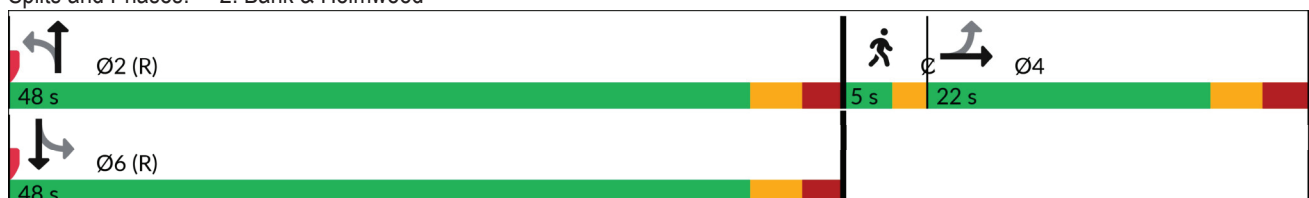


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	26	52	490	24	544	
Future Volume (vph)	26	52	490	24	544	
Lane Group Flow (vph)	117	0	686	0	669	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.7		56.0		56.0	
Actuated g/C Ratio	0.16		0.75		0.75	
v/c Ratio	0.56		0.38		0.33	
Control Delay (s/veh)	38.5		3.0		3.6	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.5		3.0		3.6	
LOS	D		A		A	
Approach Delay (s/veh)	38.5		3.0		3.6	
Approach LOS	D		A		A	
Queue Length 50th (m)	15.5		6.0		6.3	
Queue Length 95th (m)	28.3		13.0		9.7	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	296		1787		2036	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.40		0.38		0.33	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.56
 Intersection Signal Delay (s/veh): 6.1 Intersection LOS: A
 Intersection Capacity Utilization 66.5% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Background Volu

Queues

3: Bank & Exhibition

07/31/2024

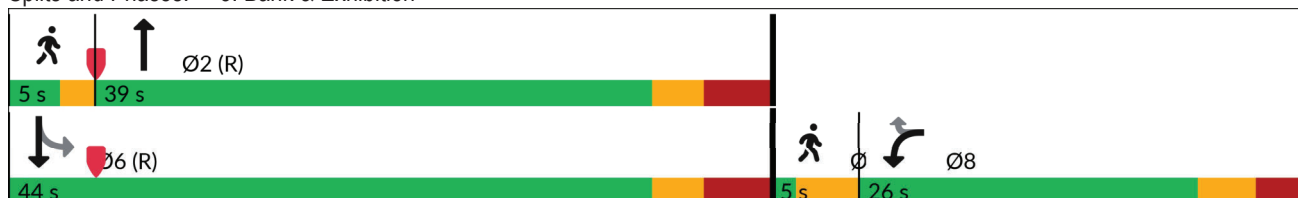


Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	104	72	425	145	423		
Future Volume (vph)	104	72	425	145	423		
Lane Group Flow (vph)	116	80	656	161	470		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	11.8	11.8	54.6	54.6	54.6		
Actuated g/C Ratio	0.16	0.16	0.73	0.73	0.73		
v/c Ratio	0.48	0.33	0.33	0.38	0.21		
Control Delay (s/veh)	35.1	10.9	5.0	6.5	3.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	35.1	10.9	5.0	6.5	3.0		
LOS	D	B	A	A	A		
Approach Delay (s/veh)	25.2		5.0		3.9		
Approach LOS	C		A		A		
Queue Length 50th (m)	15.4	0.0	14.2	4.6	6.4		
Queue Length 95th (m)	28.2	10.3	27.1	8.1	8.7		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	405	348	1972	429	2287		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.29	0.23	0.33	0.38	0.21		

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay (s/veh): 7.2
 Intersection Capacity Utilization 61.1%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 3: Bank & Exhibition



Background Volu

Queues

6: Bank & Aylmer

07/31/2024

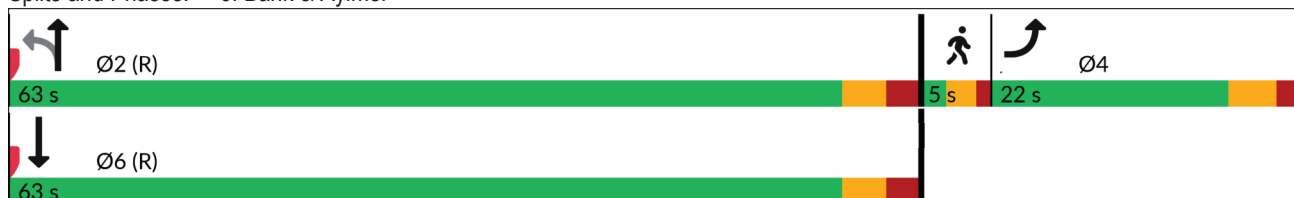


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	72	19	687	511	
Future Volume (vph)	72	19	687	511	
Lane Group Flow (vph)	88	0	784	651	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.1		60.2	60.2	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.36		0.40	0.34	
Control Delay (s/veh)	36.7		5.0	6.5	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	36.7		5.0	6.5	
LOS	D		A	A	
Approach Delay (s/veh)	36.7		5.0	6.5	
Approach LOS	D		A	A	
Queue Length 50th (m)	13.0		14.0	20.6	
Queue Length 95th (m)	26.6		20.7	29.5	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	283		1947	1940	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.31		0.40	0.34	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay (s/veh): 7.5	Intersection LOS: A
Intersection Capacity Utilization 55.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Bank & Aylmer



ckground Volu

Queues

7: Bank & Sunnyside

07/31/2024

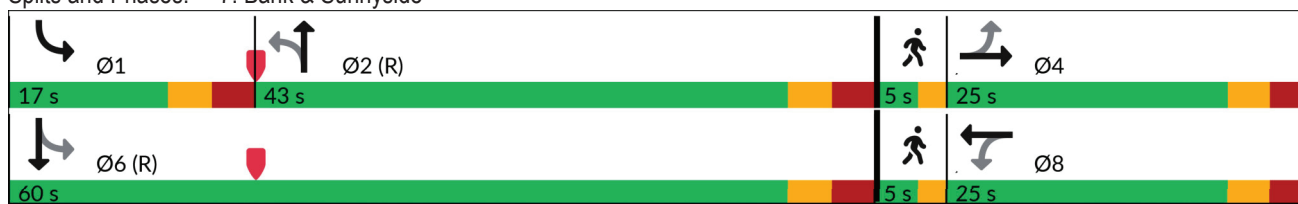


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕		↕		
Traffic Volume (vph)	57	52	18	59	20	473	106	540		
Future Volume (vph)	57	52	18	59	20	473	106	540		
Lane Group Flow (vph)	0	151	0	267	0	568	0	791		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Act Effct Green (s)		19.4		19.4		37.0		54.0		
Actuated g/C Ratio		0.22		0.22		0.41		0.60		
v/c Ratio		0.78		0.81		0.49		0.59		
Control Delay (s/veh)		62.2		40.2		21.2		7.5		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		62.2		40.2		21.2		7.5		
LOS		E		D		C		A		
Approach Delay (s/veh)		62.2		40.2		21.2		7.5		
Approach LOS		E		D		C		A		
Queue Length 50th (m)		24.8		26.7		36.7		14.5		
Queue Length 95th (m)		#56.1		#67.2		51.4		18.1		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		193		331		1158		1337		
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		0.78		0.81		0.49		0.59		

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 23 (26%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Pretimed
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay (s/veh): 21.4 Intersection LOS: C
 Intersection Capacity Utilization 80.9% 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: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

07/31/2024



Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	51	66	227	537	
Future Volume (vph)	51	66	227	537	
Lane Group Flow (vph)	120	0	325	694	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	15.3		41.2	41.2	
Actuated g/C Ratio	0.19		0.52	0.52	
v/c Ratio	0.41		0.67	0.82	
Control Delay (s/veh)	33.4		23.0	26.1	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	33.4		23.0	26.1	
LOS	C		C	C	
Approach Delay (s/veh)	33.4		23.0	26.1	
Approach LOS	C		C	C	
Queue Length 50th (m)	16.2		34.5	82.9	
Queue Length 95th (m)	31.3		65.8	#148.1	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	292		483	851	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.41		0.67	0.82	

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green
 Natural Cycle: 80
 Control Type: Pretimed
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay (s/veh): 26.0 Intersection LOS: C
 Intersection Capacity Utilization 76.3% 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: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	323	185	5	5	5
Future Vol, veh/h	5	323	185	5	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	359	206	6	6	6
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	10.1	8.7	8
HCM LOS	B	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	50%
Vol Thru, %	98%	97%	0%
Vol Right, %	0%	3%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	328	190	10
LT Vol	5	0	5
Through Vol	323	185	0
RT Vol	0	5	5
Lane Flow Rate	364	211	11
Geometry Grp	1	1	1
Degree of Util (X)	0.416	0.247	0.015
Departure Headway (Hd)	4.114	4.209	4.957
Convergence, Y/N	Yes	Yes	Yes
Cap	867	840	726
Service Time	2.174	2.297	2.957
HCM Lane V/C Ratio	0.42	0.251	0.015
HCM Control Delay, s/veh	10.1	8.7	8
HCM Lane LOS	B	A	A
HCM 95th-tile Q	2.1	1	0

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	16	5	5	49	5	5
Future Vol, veh/h	16	5	5	49	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	6	6	54	6	6
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7	7.3	7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	50%	0%	9%
Vol Thru, %	0%	76%	91%
Vol Right, %	50%	24%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	10	21	54
LT Vol	5	0	5
Through Vol	0	16	49
RT Vol	5	5	0
Lane Flow Rate	11	23	60
Geometry Grp	1	1	1
Degree of Util (X)	0.012	0.025	0.067
Departure Headway (Hd)	3.878	3.855	3.99
Convergence, Y/N	Yes	Yes	Yes
Cap	920	930	902
Service Time	1.912	1.871	1.997
HCM Lane V/C Ratio	0.012	0.025	0.067
HCM Control Delay, s/veh	7	7	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.2

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	16	5	121	45	282	110
Future Vol, veh/h	16	5	121	45	282	110
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	6	134	50	313	122
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	8.3	10	12.6
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	72%	0%	73%
Vol Thru, %	0%	76%	27%
Vol Right, %	28%	24%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	392	21	166
LT Vol	282	0	121
Through Vol	0	16	45
RT Vol	110	5	0
Lane Flow Rate	436	23	184
Geometry Grp	1	1	1
Degree of Util (X)	0.539	0.033	0.263
Departure Headway (Hd)	4.451	5.07	5.132
Convergence, Y/N	Yes	Yes	Yes
Cap	810	702	697
Service Time	2.482	3.132	3.18
HCM Lane V/C Ratio	0.538	0.033	0.264
HCM Control Delay, s/veh	12.6	8.3	10
HCM Lane LOS	B	A	A
HCM 95th-tile Q	3.3	0.1	1.1

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	61	51	0	0	0	139	61	42	37	0	0	82
Future Vol, veh/h	61	51	0	0	0	139	61	42	37	0	0	82
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	57	0	0	0	154	68	47	41	0	0	91
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.7	7.9	8.7	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	54%	0%	0%
Vol Thru, %	30%	46%	0%	0%
Vol Right, %	26%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	140	112	139	82
LT Vol	61	61	0	0
Through Vol	42	51	0	0
RT Vol	37	0	139	82
Lane Flow Rate	156	124	154	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.198	0.165	0.173	0.105
Departure Headway (Hd)	4.579	4.762	4.043	4.137
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	782	753	887	865
Service Time	2.611	2.794	2.072	2.172
HCM Lane V/C Ratio	0.199	0.165	0.174	0.105
HCM Control Delay, s/veh	8.7	8.7	7.9	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.6	0.6	0.4

Intersection						
Int Delay, s/veh	12.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	5	268	143	649	477	55
Future Vol, veh/h	5	268	143	649	477	55
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	6	298	159	721	530	61
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1417	739	769	0	-	0
Stage 1	739	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Critical Hdwy	6.675	6.275	4.175	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	2.2475	-	-	-
Pot Cap-1 Maneuver	136	410	827	-	-	-
Stage 1	465	-	-	-	-	-
Stage 2	460	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	63	333	671	-	-	-
Mov Cap-2 Maneuver	63	-	-	-	-	-
Stage 1	265	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	2.12	4.2		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	537	-	333	-	-	
HCM Lane V/C Ratio	0.237	-	0.894	-	-	
HCM Control Delay (s/veh)	12	2.5	62.1	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	0.9	-	8.6	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	4	37	0	777	753	0
Future Vol, veh/h	4	37	0	777	753	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	4	41	0	863	837	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1268	837	-	0	-	0
Stage 1	837	-	-	-	-	-
Stage 2	432	-	-	-	-	-
Critical Hdwy	6.675	6.275	-	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	-	-	-	-
Pot Cap-1 Maneuver	169	360	0	-	-	0
Stage 1	417	-	0	-	-	0
Stage 2	616	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	169	360	-	-	-	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	417	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	16.29	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NB	EBLn1	SBT			
Capacity (veh/h)	-	360	-			
HCM Lane V/C Ratio	-	0.114	-			
HCM Control Delay (s/veh)	-	16.3	-			
HCM Lane LOS	-	C	-			
HCM 95th %tile Q(veh)	-	0.4	-			

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			L		
Traffic Vol, veh/h	79	59	120	217	326	275
Future Vol, veh/h	79	59	120	217	326	275
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	88	66	133	241	362	306
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1023	515	668	0	-	0
Stage 1	515	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	263	564	932	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	220	564	932	-	-	-
Mov Cap-2 Maneuver	220	-	-	-	-	-
Stage 1	504	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	29.29	3.39		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	641	-	298	-	-	
HCM Lane V/C Ratio	0.143	-	0.515	-	-	
HCM Control Delay (s/veh)	9.5	0	29.3	-	-	
HCM Lane LOS	A	A	D	-	-	
HCM 95th %tile Q(veh)	0.5	-	2.8	-	-	

Intersection

Int Delay, s/veh 0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↗
Traffic Vol, veh/h	0	53	508	19	2	559
Future Vol, veh/h	0	53	508	19	2	559
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	15	6	0	0	5
Mvmt Flow	0	59	564	21	2	621

Major/Minor

	Minor1	Major1	Major2
Conflicting Flow All	-	393	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	7.2	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.45	-
Pot Cap-1 Maneuver	0	571	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	510	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/√	2.97	0	0.03
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	510	820
HCM Lane V/C Ratio	-	-	0.115	0.003
HCM Control Delay (s/veh)	-	-	13	9.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	99	28	161	245	113	33
Future Vol, veh/h	99	28	161	245	113	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	31	179	272	126	37

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	451	0	0	566	315
Stage 1	-	-	-	315	-
Stage 2	-	-	-	251	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1109	-	-	485	725
Stage 1	-	-	-	740	-
Stage 2	-	-	-	791	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1109	-	-	436	725
Mov Cap-2 Maneuver	-	-	-	436	-
Stage 1	-	-	-	665	-
Stage 2	-	-	-	791	-

Approach

	EB	WB	SB
HCM Control Delay, s/v	6.71	0	16.29
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1090	-	-	-	480
HCM Lane V/C Ratio	0.099	-	-	-	0.338
HCM Control Delay (s/veh)	8.6	0	-	-	16.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.5

2028 Scenario

Minor Event Egress

Queues

1: Bank & Fifth

07/31/2024

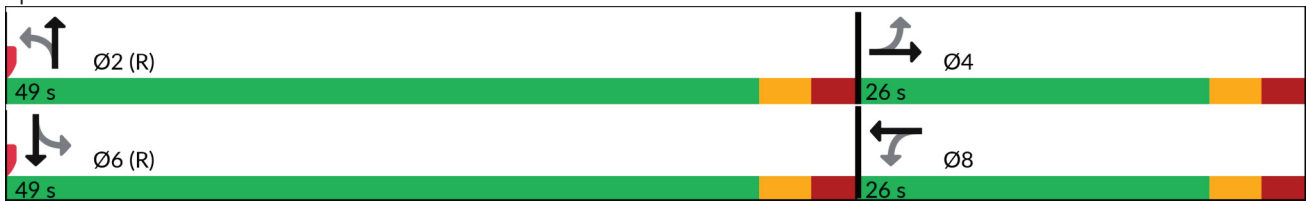


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↕	↕		↕		↕
Traffic Volume (vph)	42	9	58	25	16	441	21	350
Future Volume (vph)	42	9	58	25	16	441	21	350
Lane Group Flow (vph)	0	86	64	64	0	520	0	436
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		20.5	20.5	20.5		43.5		43.5
Actuated g/C Ratio		0.27	0.27	0.27		0.58		0.58
v/c Ratio		0.25	0.22	0.16		0.31		0.27
Control Delay (s/veh)		17.5	23.6	12.7		11.4		8.2
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		17.5	23.6	12.7		11.4		8.2
LOS		B	C	B		B		A
Approach Delay (s/veh)		17.5		18.1		11.4		8.2
Approach LOS		B		B		B		A
Queue Length 50th (m)		6.1	7.0	2.9		19.1		14.1
Queue Length 95th (m)		16.9	16.6	11.6		39.7		21.5
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		338	289	396		1658		1595
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.25	0.22	0.16		0.31		0.27

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.31
 Intersection Signal Delay (s/veh): 11.4 Intersection LOS: B
 Intersection Capacity Utilization 53.0% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

07/31/2024

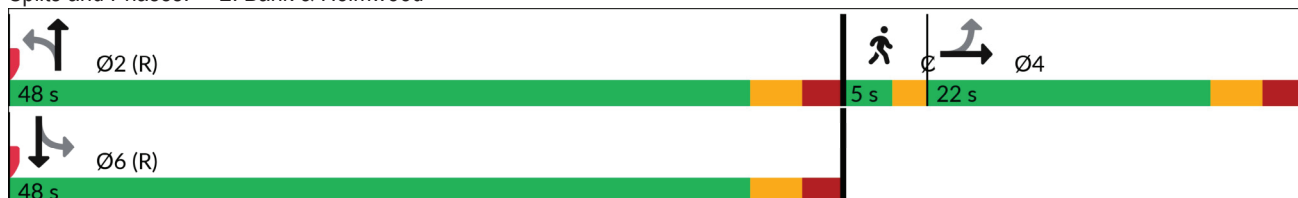


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	7	54	439	22	321	
Future Volume (vph)	7	54	439	22	321	
Lane Group Flow (vph)	86	0	575	0	421	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag					Lead
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	10.2		57.3		57.3	
Actuated g/C Ratio	0.14		0.76		0.76	
v/c Ratio	0.48		0.29		0.21	
Control Delay (s/veh)	38.1		3.8		2.6	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.1		3.8		2.6	
LOS	D		A		A	
Approach Delay (s/veh)	38.1		3.8		2.6	
Approach LOS	D		A		A	
Queue Length 50th (m)	11.4		8.8		3.5	
Queue Length 95th (m)	22.9		22.0		7.0	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	287		1963		2036	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.30		0.29		0.21	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay (s/veh): 6.1 Intersection LOS: A
 Intersection Capacity Utilization 57.3% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Background Volun

Queues

3: Bank & Exhibition

07/31/2024

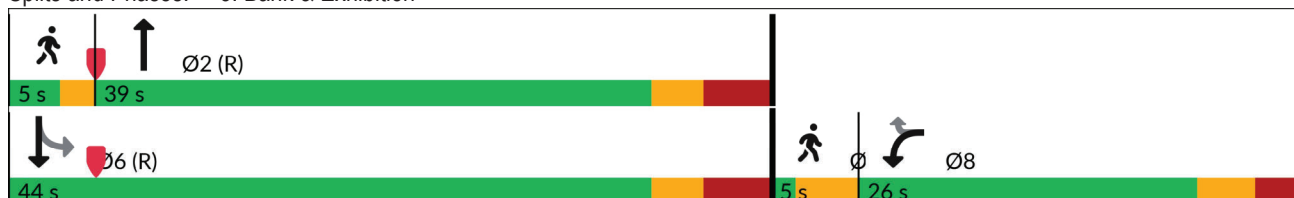


Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	168	194	191	111	261		
Future Volume (vph)	168	194	191	111	261		
Lane Group Flow (vph)	187	216	301	123	290		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	14.5	14.5	47.3	47.3	47.3		
Actuated g/C Ratio	0.19	0.19	0.63	0.63	0.63		
v/c Ratio	0.63	0.56	0.18	0.26	0.15		
Control Delay (s/veh)	36.7	9.8	4.8	5.8	4.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	36.7	9.8	4.8	5.8	4.1		
LOS	D	A	A	A	A		
Approach Delay (s/veh)	22.3		4.8		4.6		
Approach LOS	C		A		A		
Queue Length 50th (m)	24.6	0.0	5.5	4.0	4.8		
Queue Length 95th (m)	40.2	15.5	12.5	8.7	7.7		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	405	448	1706	480	1980		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.46	0.48	0.18	0.26	0.15		

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay (s/veh): 11.0 Intersection LOS: B
 Intersection Capacity Utilization 57.6% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



ckground Volun

Queues

6: Bank & Aylmer

07/31/2024



Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	4	1	156	192	
Future Volume (vph)	4	1	156	192	
Lane Group Flow (vph)	7	0	174	220	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		60.3	60.3	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.03		0.09	0.11	
Control Delay (s/veh)	27.2		4.0	5.3	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	27.2		4.0	5.3	
LOS	C		A	A	
Approach Delay (s/veh)	27.2		4.0	5.3	
Approach LOS	C		A	A	
Queue Length 50th (m)	0.6		3.3	6.0	
Queue Length 95th (m)	4.4		5.0	9.7	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	248		2006	2063	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.03		0.09	0.11	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.11
 Intersection Signal Delay (s/veh): 5.1 Intersection LOS: A
 Intersection Capacity Utilization 45.6% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 6: Bank & Aylmer



Background Volu

Queues

7: Bank & Sunnyside

07/31/2024

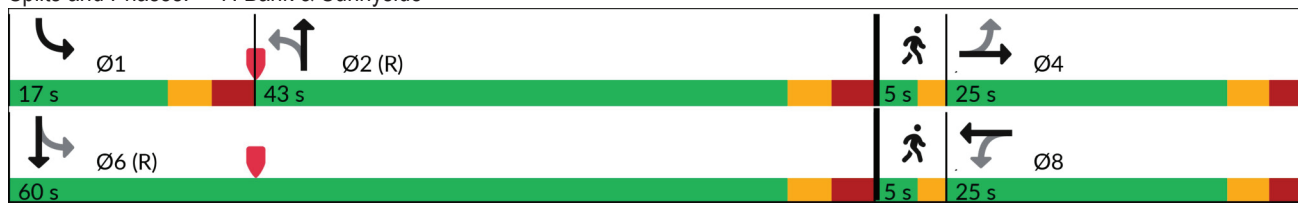


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕↕		↕↕		
Traffic Volume (vph)	29	7	5	12	12	239	34	418		
Future Volume (vph)	29	7	5	12	12	239	34	418		
Lane Group Flow (vph)	0	62	0	56	0	285	0	550		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Act Effct Green (s)		19.4		19.4		37.0		54.0		
Actuated g/C Ratio		0.22		0.22		0.41		0.60		
v/c Ratio		0.26		0.20		0.24		0.33		
Control Delay (s/veh)		32.8		16.3		17.8		7.1		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		32.8		16.3		17.8		7.1		
LOS		C		B		B		A		
Approach Delay (s/veh)		32.8		16.3		17.8		7.1		
Approach LOS		C		B		B		A		
Queue Length 50th (m)		9.0		2.7		16.3		14.3		
Queue Length 95th (m)		20.1		12.4		25.1		19.4		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		240		276		1189		1664		
Starvation Cap Reductn		0		0		0		0		
Spillback Cap Reductn		0		0		0		0		
Storage Cap Reductn		0		0		0		0		
Reduced v/c Ratio		0.26		0.20		0.24		0.33		

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 23 (26%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
Maximum v/c Ratio: 0.33	
Intersection Signal Delay (s/veh): 12.5	Intersection LOS: B
Intersection Capacity Utilization 60.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

07/31/2024

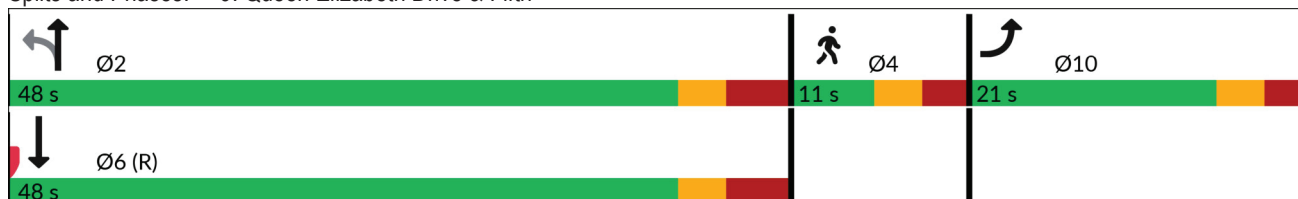


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	64	51	274	155	
Future Volume (vph)	64	51	274	155	
Lane Group Flow (vph)	103	0	361	210	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	15.3		41.2	41.2	
Actuated g/C Ratio	0.19		0.52	0.52	
v/c Ratio	0.35		0.45	0.25	
Control Delay (s/veh)	31.8		14.6	11.8	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	31.8		14.6	11.8	
LOS	C		B	B	
Approach Delay (s/veh)	31.8		14.6	11.8	
Approach LOS	C		B	B	
Queue Length 50th (m)	13.7		32.6	16.7	
Queue Length 95th (m)	27.5		53.2	28.9	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	298		798	847	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.35		0.45	0.25	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Pretimed	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay (s/veh): 16.3	Intersection LOS: B
Intersection Capacity Utilization 53.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	196	371	5	5	5
Future Vol, veh/h	5	196	371	5	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	218	412	6	6	6
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	9	10.9	8.2
HCM LOS	A	B	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	50%
Vol Thru, %	98%	99%	0%
Vol Right, %	0%	1%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	201	376	10
LT Vol	5	0	5
Through Vol	196	371	0
RT Vol	0	5	5
Lane Flow Rate	223	418	11
Geometry Grp	1	1	1
Degree of Util (X)	0.271	0.477	0.016
Departure Headway (Hd)	4.371	4.112	5.095
Convergence, Y/N	Yes	Yes	Yes
Cap	826	865	705
Service Time	2.371	2.185	3.105
HCM Lane V/C Ratio	0.27	0.483	0.016
HCM Control Delay, s/veh	9	10.9	8.2
HCM Lane LOS	A	B	A
HCM 95th-tile Q	1.1	2.6	0

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	25	5	5	148	5	5
Future Vol, veh/h	25	5	5	148	5	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	6	6	164	6	6
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.2	7.9	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	50%	0%	3%
Vol Thru, %	0%	83%	97%
Vol Right, %	50%	17%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	10	30	153
LT Vol	5	0	5
Through Vol	0	25	148
RT Vol	5	5	0
Lane Flow Rate	11	33	170
Geometry Grp	1	1	1
Degree of Util (X)	0.013	0.037	0.188
Departure Headway (Hd)	4.084	3.98	3.985
Convergence, Y/N	Yes	Yes	Yes
Cap	864	897	903
Service Time	2.168	2.017	1.997
HCM Lane V/C Ratio	0.013	0.037	0.188
HCM Control Delay, s/veh	7.2	7.2	7.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.7

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	25	5	75	5	220	69
Future Vol, veh/h	25	5	75	5	220	69
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	6	83	6	244	77
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.9	8.6	9.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	76%	0%	94%
Vol Thru, %	0%	83%	6%
Vol Right, %	24%	17%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	289	30	80
LT Vol	220	0	75
Through Vol	0	25	5
RT Vol	69	5	0
Lane Flow Rate	321	33	89
Geometry Grp	1	1	1
Degree of Util (X)	0.38	0.043	0.121
Departure Headway (Hd)	4.26	4.68	4.896
Convergence, Y/N	Yes	Yes	Yes
Cap	851	766	734
Service Time	2.26	2.703	2.915
HCM Lane V/C Ratio	0.377	0.043	0.121
HCM Control Delay, s/veh	9.8	7.9	8.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.8	0.1	0.4

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	10	44	0	0	0	66	10	10	49	0	0	97
Future Vol, veh/h	10	44	0	0	0	66	10	10	49	0	0	97
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	49	0	0	0	73	11	11	54	0	0	108
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.7	7.1	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	19%	0%	0%
Vol Thru, %	14%	81%	0%	0%
Vol Right, %	71%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	54	66	97
LT Vol	10	10	0	0
Through Vol	10	44	0	0
RT Vol	49	0	66	97
Lane Flow Rate	77	60	73	108
Geometry Grp	1	1	1	1
Degree of Util (X)	0.082	0.072	0.075	0.108
Departure Headway (Hd)	3.85	4.347	3.697	3.622
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	920	818	957	978
Service Time	1.917	2.407	1.765	1.69
HCM Lane V/C Ratio	0.084	0.073	0.076	0.11
HCM Control Delay, s/veh	7.3	7.7	7.1	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.2	0.4

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	2	111	47	280	395	67
Future Vol, veh/h	2	111	47	280	395	67
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	2	123	52	311	439	74

Major/Minor

	Minor2	Major1	Major2			
Conflicting Flow All	914	654	691	0	-	0
Stage 1	654	-	-	-	-	-
Stage 2	260	-	-	-	-	-
Critical Hdwy	6.675	6.275	4.175	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	2.2475	-	-	-
Pot Cap-1 Maneuver	283	459	885	-	-	-
Stage 1	509	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	171	373	718	-	-	-
Mov Cap-2 Maneuver	171	-	-	-	-	-
Stage 1	380	-	-	-	-	-
Stage 2	611	-	-	-	-	-

Approach

HCM Control Delay, s/veh 19.37
 HCM LOS C

Minor Lane/Major Mvmt

	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	517	-	373	-
HCM Lane V/C Ratio	0.073	-	0.331	-
HCM Control Delay (s/veh)	10.4	0.6	19.4	-
HCM Lane LOS	B	A	C	-
HCM 95th %tile Q(veh)	0.2	-	1.4	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	2	11	0	360	325	0
Future Vol, veh/h	2	11	0	360	325	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	2	12	0	400	361	0

Major/Minor

	Minor2	Major1	Major2
Conflicting Flow All	561	361	0
Stage 1	361	-	-
Stage 2	200	-	-
Critical Hdwy	6.675	6.275	-
Critical Hdwy Stg 1	5.475	-	-
Critical Hdwy Stg 2	5.875	-	-
Follow-up Hdwy	3.5475	3.3475	-
Pot Cap-1 Maneuver	467	675	0
Stage 1	696	-	0
Stage 2	807	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	467	675	-
Mov Cap-2 Maneuver	467	-	-
Stage 1	696	-	-
Stage 2	807	-	-

Approach

HCM Control Delay, s/veh 10.43
HCM LOS B

Minor Lane/Major Mvmt

	NB	EBLn1	SBT
Capacity (veh/h)	-	675	-
HCM Lane V/C Ratio	-	0.018	-
HCM Control Delay (s/veh)	-	10.4	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection						
Int Delay, s/veh	11.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	279	175	17	45	125	61
Future Vol, veh/h	279	175	17	45	125	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	310	194	19	50	139	68
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	261	173	207	0	-	0
Stage 1	173	-	-	-	-	-
Stage 2	88	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	733	876	1377	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	722	876	1377	-	-	-
Mov Cap-2 Maneuver	722	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	7.89	2.1		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	494	-	775	-	-	
HCM Lane V/C Ratio	0.014	-	0.651	-	-	
HCM Control Delay (s/veh)	7.7	0	17.9	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0	-	4.9	-	-	

Intersection

Int Delay, s/veh 2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			↑↑
Traffic Vol, veh/h	5	144	396	29	0	373
Future Vol, veh/h	5	144	396	29	0	373
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	15	6	0	0	5
Mvmt Flow	6	160	440	32	0	414

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	763	336	0	0	-
Stage 1	556	-	-	-	-
Stage 2	207	-	-	-	-
Critical Hdwy	6.8	7.2	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.45	-	-	-
Pot Cap-1 Maneuver	345	623	-	-	0
Stage 1	544	-	-	-	0
Stage 2	813	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	308	557	-	-	-
Mov Cap-2 Maneuver	308	-	-	-	-
Stage 1	486	-	-	-	-
Stage 2	813	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/veh	4.04	0	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	557
HCM Lane V/C Ratio	-	-	0.287
HCM Control Delay (s/veh)	-	-	14
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	1.2

Intersection						
Int Delay, s/veh	11.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	72	75	5	395	43
Future Vol, veh/h	2	72	75	5	395	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	80	83	6	439	48
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	89	0	-	0	171	86
Stage 1	-	-	-	-	86	-
Stage 2	-	-	-	-	84	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1507	-	-	-	820	973
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	939	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1507	-	-	-	818	973
Mov Cap-2 Maneuver	-	-	-	-	818	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	939	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.2	0		15.26		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	49	-	-	-	-	831
HCM Lane V/C Ratio	0.001	-	-	-	-	0.585
HCM Control Delay (s/veh)	7.4	0	-	-	-	15.3
HCM Lane LOS	A	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	-	3.9

2033 Scenario

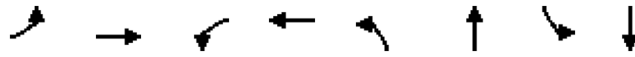
Weekday PM Peak Hour

Future Volumes

Queues

1: Bank & Fifth

07/31/2024

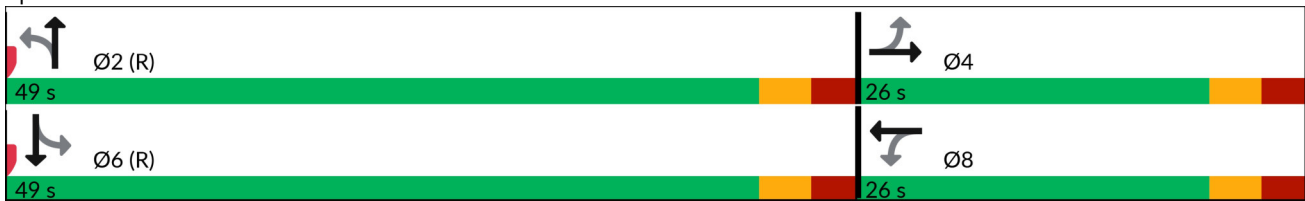


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↗	↖		↕		↕
Traffic Volume (vph)	48	55	61	39	17	476	30	626
Future Volume (vph)	48	55	61	39	17	476	30	626
Lane Group Flow (vph)	0	167	68	87	0	584	0	771
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		20.5	20.5	20.5		43.5		43.5
Actuated g/C Ratio		0.27	0.27	0.27		0.58		0.58
v/c Ratio		0.45	0.25	0.21		0.37		0.48
Control Delay (s/veh)		22.8	24.3	13.7		15.1		10.3
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		22.8	24.3	13.7		15.1		10.3
LOS		C	C	B		B		B
Approach Delay (s/veh)		22.8		18.3		15.1		10.3
Approach LOS		C		B		B		B
Queue Length 50th (m)		15.6	7.5	4.6		28.5		29.8
Queue Length 95th (m)		32.7	17.5	14.7		53.9		42.4
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		371	272	409		1598		1592
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.45	0.25	0.21		0.37		0.48

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay (s/veh): 14.0 Intersection LOS: B
 Intersection Capacity Utilization 69.4% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

07/31/2024

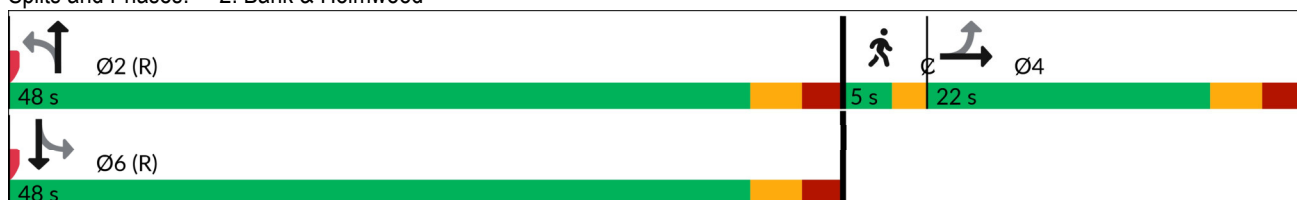


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	18	26	524	34	596	
Future Volume (vph)	18	26	524	34	596	
Lane Group Flow (vph)	114	0	675	0	732	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.7		55.9		55.9	
Actuated g/C Ratio	0.16		0.75		0.75	
v/c Ratio	0.56		0.35		0.37	
Control Delay (s/veh)	38.8		2.1		3.4	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.8		2.1		3.4	
LOS	D		A		A	
Approach Delay (s/veh)	38.8		2.1		3.4	
Approach LOS	D		A		A	
Queue Length 50th (m)	15.1		4.6		6.4	
Queue Length 95th (m)	27.8		10.4		16.1	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	288		1950		2001	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.40		0.35		0.37	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.56
 Intersection Signal Delay (s/veh): 5.5 Intersection LOS: A
 Intersection Capacity Utilization 68.1% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

07/31/2024

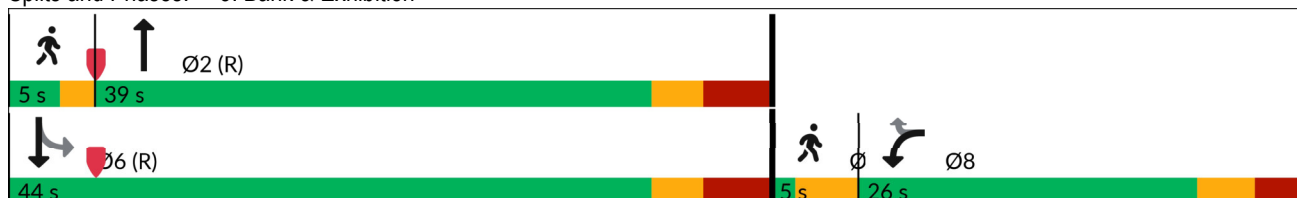


Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	139	71	488	141	511		
Future Volume (vph)	139	71	488	141	511		
Lane Group Flow (vph)	154	79	714	157	568		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	13.2	13.2	48.6	48.6	48.6		
Actuated g/C Ratio	0.18	0.18	0.65	0.65	0.65		
v/c Ratio	0.57	0.31	0.40	0.43	0.28		
Control Delay (s/veh)	36.1	9.7	6.8	8.0	3.9		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	36.1	9.7	6.8	8.0	3.9		
LOS	D	A	A	A	A		
Approach Delay (s/veh)	27.1		6.8		4.8		
Approach LOS	C		A		A		
Queue Length 50th (m)	20.3	0.0	18.6	4.5	8.4		
Queue Length 95th (m)	34.7	9.7	34.8	9.5	11.4		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	405	347	1790	365	2035		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.38	0.23	0.40	0.43	0.28		

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay (s/veh): 8.8 Intersection LOS: A
 Intersection Capacity Utilization 62.1% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

07/31/2024



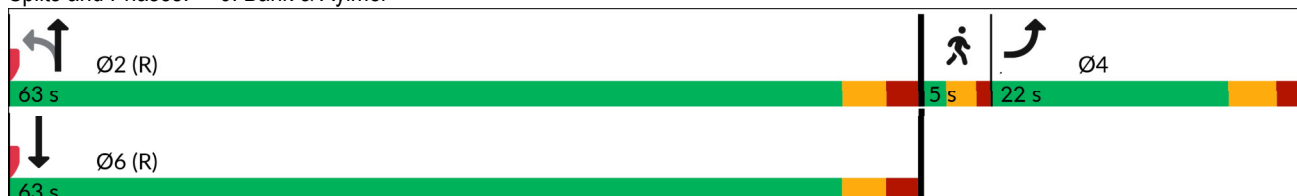
Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	57	21	730	780	
Future Volume (vph)	57	21	730	780	
Lane Group Flow (vph)	90	0	834	975	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.1		60.2	60.2	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.38		0.44	0.50	
Control Delay (s/veh)	31.6		4.7	8.2	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	31.6		4.7	8.2	
LOS	C		A	A	
Approach Delay (s/veh)	31.6		4.7	8.2	
Approach LOS	C		A	A	
Queue Length 50th (m)	10.7		13.8	37.1	
Queue Length 95th (m)	24.5		m17.4	51.0	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	275		1910	1959	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.33		0.44	0.50	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.50
 Intersection Signal Delay (s/veh): 7.8 Intersection LOS: A
 Intersection Capacity Utilization 57.9% ICU Level of Service B
 Analysis Period (min) 15

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

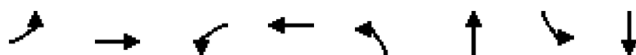
Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

07/31/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕		↕		
Traffic Volume (vph)	53	82	17	85	15	463	211	777		
Future Volume (vph)	53	82	17	85	15	463	211	777		
Lane Group Flow (vph)	0	184	0	395	0	554	0	1203		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2		1	6	3 7
Permitted Phases	4		8		2		6			
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Act Effct Green (s)		19.4		19.4		37.0		54.0		
Actuated g/C Ratio		0.22		0.22		0.41		0.60		
v/c Ratio		1.23		1.14		0.48		0.95		
Control Delay (s/veh)		184.2		116.2		21.0		27.0		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		184.2		116.2		21.0		27.0		
LOS		F		F		C		C		
Approach Delay (s/veh)		184.2		116.2		21.0		27.0		
Approach LOS		F		F		C		C		
Queue Length 50th (m)		~39.6		~61.9		35.6		23.3		
Queue Length 95th (m)		#79.2		#116.6		50.2		#117.3		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		149		347		1143		1262		
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		1.23		1.14		0.48		0.95		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 23 (26%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 100

Control Type: Pretimed

Maximum v/c Ratio: 1.23

Intersection Signal Delay (s/veh): 53.0

Intersection LOS: D

Intersection Capacity Utilization 96.8%

ICU Level of Service F

Analysis Period (min) 15

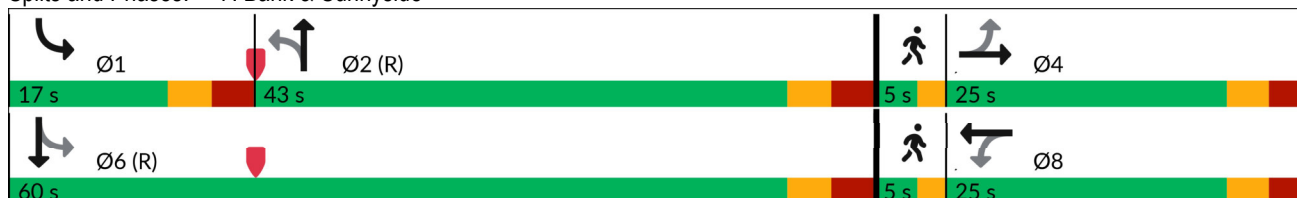
~ Volume exceeds capacity, queue is theoretically infinite.

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: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

07/31/2024

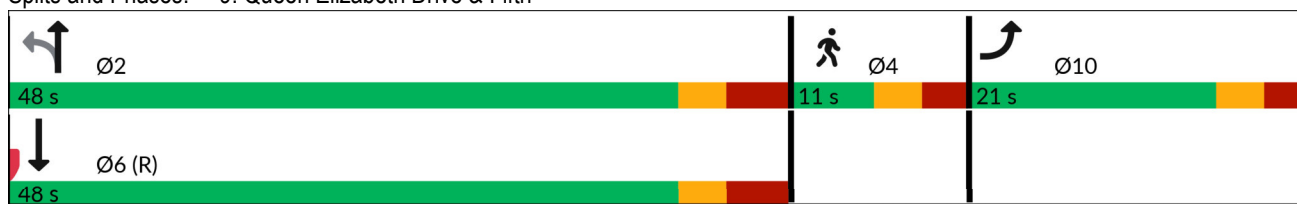


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	40	39	207	542	
Future Volume (vph)	40	39	207	542	
Lane Group Flow (vph)	83	0	273	676	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	15.3		41.2	41.2	
Actuated g/C Ratio	0.19		0.52	0.52	
v/c Ratio	0.28		0.43	0.79	
Control Delay (s/veh)	30.7		14.7	24.5	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	30.7		14.7	24.5	
LOS	C		B	C	
Approach Delay (s/veh)	30.7		14.7	24.5	
Approach LOS	C		B	C	
Queue Length 50th (m)	10.9		24.2	79.0	
Queue Length 95th (m)	23.1		42.4	#129.4	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	294		641	855	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.28		0.43	0.79	

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green
 Natural Cycle: 80
 Control Type: Pretimed
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay (s/veh): 22.4 Intersection LOS: C
 Intersection Capacity Utilization 65.4% 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: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	76	40	0	0	0	106	45	27	34	0	0	95
Future Vol, veh/h	76	40	0	0	0	106	45	27	34	0	0	95
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	44	0	0	0	118	50	30	38	0	0	106
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.6	7.6	8.3	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	42%	66%	0%	0%
Vol Thru, %	25%	34%	0%	0%
Vol Right, %	32%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	116	106	95
LT Vol	45	76	0	0
Through Vol	27	40	0	0
RT Vol	34	0	106	95
Lane Flow Rate	118	129	118	106
Geometry Grp	1	1	1	1
Degree of Util (X)	0.147	0.167	0.13	0.118
Departure Headway (Hd)	4.487	4.675	3.976	4.02
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	800	768	902	892
Service Time	2.509	2.699	1.999	2.042
HCM Lane V/C Ratio	0.148	0.168	0.131	0.119
HCM Control Delay, s/veh	8.3	8.6	7.6	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.6	0.4	0.4

Intersection

Int Delay, s/veh 15.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	3	239	219	600	598	51
Future Vol, veh/h	3	239	219	600	598	51
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	3	266	243	667	664	57

Major/Minor

	Minor2	Major1	Major2			
Conflicting Flow All	1691	871	899	0	-	0
Stage 1	871	-	-	-	-	-
Stage 2	820	-	-	-	-	-
Critical Hdwy	6.675	6.275	4.175	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	2.2475	-	-	-
Pot Cap-1 Maneuver	91	344	738	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	30	279	599	-	-	-
Mov Cap-2 Maneuver	30	-	-	-	-	-
Stage 1	164	-	-	-	-	-
Stage 2	315	-	-	-	-	-

Approach

	EB	NB	SB
HCM Control Delay, s/veh	2.08	7.21	0
HCM LOS	F		

Minor Lane/Major Mvmt

	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	488	-	279	-
HCM Lane V/C Ratio	0.406	-	0.951	-
HCM Control Delay (s/veh)	15.1	4.3	82.1	-
HCM Lane LOS	C	A	F	-
HCM 95th %tile Q(veh)	2	-	9.2	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	0	24	0	827	846	2
Future Vol, veh/h	0	24	0	827	846	2
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	0	27	0	919	940	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	1027	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.275	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3475	-	-	-	-
Pot Cap-1 Maneuver	0	279	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	253	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/20.88		0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBTEBLn1	SBT	SBR			
Capacity (veh/h)	-	253	-	-		
HCM Lane V/C Ratio	-	0.105	-	-		
HCM Control Delay (s/veh)	-	20.9	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0.3	-	-		

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	62	65	59	263	507	82
Future Vol, veh/h	62	65	59	263	507	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	69	72	66	292	563	91
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1032	609	654	0	-	0
Stage 1	609	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	260	499	942	-	-	-
Stage 1	547	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	238	499	942	-	-	-
Mov Cap-2 Maneuver	238	-	-	-	-	-
Stage 1	501	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	24.27	1.67		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	330	-	325	-	-	
HCM Lane V/C Ratio	0.07	-	0.434	-	-	
HCM Control Delay (s/veh)	9.1	0	24.3	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	2.1	-	-	

Intersection

Int Delay, s/veh 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			↑↑
Traffic Vol, veh/h	5	84	566	9	1	650
Future Vol, veh/h	5	84	566	9	1	650
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	15	6	0	0	5
Mvmt Flow	6	93	629	10	1	722

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	1097	419	0	0	739
Stage 1	734	-	-	-	-
Stage 2	363	-	-	-	-
Critical Hdwy	6.8	7.2	-	-	4.1
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.45	-	-	2.2
Pot Cap-1 Maneuver	211	548	-	-	877
Stage 1	441	-	-	-	-
Stage 2	680	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	188	490	-	-	784
Mov Cap-2 Maneuver	188	-	-	-	-
Stage 1	394	-	-	-	-
Stage 2	679	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/veh	4.07	0	0.01
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	490	784
HCM Lane V/C Ratio	-	-	0.191	0.001
HCM Control Delay (s/veh)	-	-	14.1	9.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.7	0

2033 Scenario

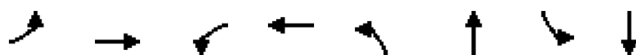
Saturday Peak Hour

Background Volumes

Queues

1: Bank & Fifth

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↙	↘		↕		↕
Traffic Volume (vph)	46	41	69	45	21	489	20	547
Future Volume (vph)	46	41	69	45	21	489	20	547
Lane Group Flow (vph)	0	145	77	108	0	593	0	660
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)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		12.2	12.2	12.2		51.8		51.8
Actuated g/C Ratio		0.16	0.16	0.16		0.69		0.69
v/c Ratio		0.65	0.48	0.40		0.31		0.34
Control Delay (s/veh)		35.0	37.0	18.0		9.8		5.9
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		35.0	37.0	18.0		9.8		5.9
LOS		C	D	B		A		A
Approach Delay (s/veh)		35.0		25.9		9.8		5.9
Approach LOS		C		C		A		A
Queue Length 50th (m)		14.8	10.0	6.2		15.3		16.2
Queue Length 95th (m)		29.3	20.2	17.3		51.5		31.8
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		354	269	415		1915		1939
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.41	0.29	0.26		0.31		0.34

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay (s/veh): 12.4

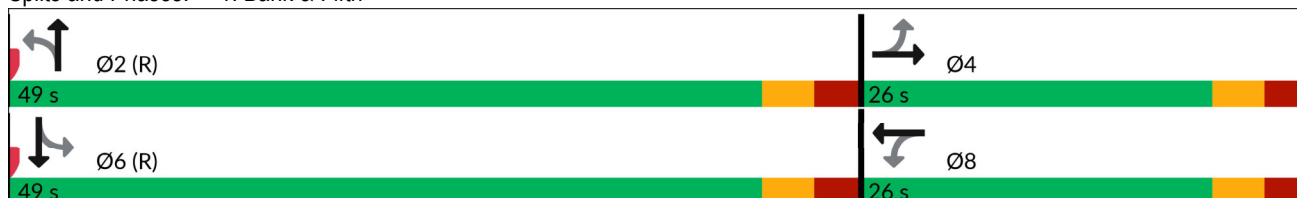
Intersection LOS: B

Intersection Capacity Utilization 57.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Timing, 2031

Queues

2: Bank & Holmwood

08/01/2024

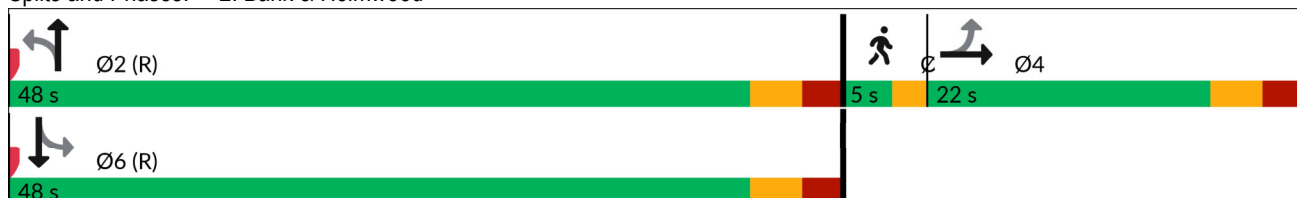


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	10	29	497	31	559	
Future Volume (vph)	10	29	497	31	559	
Lane Group Flow (vph)	113	0	634	0	681	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag					Lead
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.7		55.9		55.9	
Actuated g/C Ratio	0.16		0.75		0.75	
v/c Ratio	0.56		0.32		0.34	
Control Delay (s/veh)	38.9		2.3		5.9	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.9		2.3		5.9	
LOS	D		A		A	
Approach Delay (s/veh)	38.9		2.3		5.9	
Approach LOS	D		A		A	
Queue Length 50th (m)	14.9		4.1		27.2	
Queue Length 95th (m)	27.7		9.7		46.1	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	285		1958		2023	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.40		0.32		0.34	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.56
 Intersection Signal Delay (s/veh): 6.9
 Intersection Capacity Utilization 65.3%
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

08/01/2024



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	88	72	455	126	485		
Future Volume (vph)	88	72	455	126	485		
Lane Group Flow (vph)	98	80	639	140	539		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	11.2	11.2	55.2	55.2	55.2		
Actuated g/C Ratio	0.15	0.15	0.74	0.74	0.74		
v/c Ratio	0.43	0.34	0.31	0.32	0.23		
Control Delay (s/veh)	34.6	11.6	4.9	5.1	2.8		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	34.6	11.6	4.9	5.1	2.8		
LOS	C	B	A	A	A		
Approach Delay (s/veh)	24.3		4.9		3.3		
Approach LOS	C		A		A		
Queue Length 50th (m)	13.0	0.0	14.1	3.8	6.4		
Queue Length 95th (m)	25.1	10.5	26.1	6.6	9.6		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	405	348	2055	440	2314		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.24	0.23	0.31	0.32	0.23		

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay (s/veh): 6.5

Intersection LOS: A

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Timing, 2031

Queues

6: Bank & Aylmer

08/01/2024



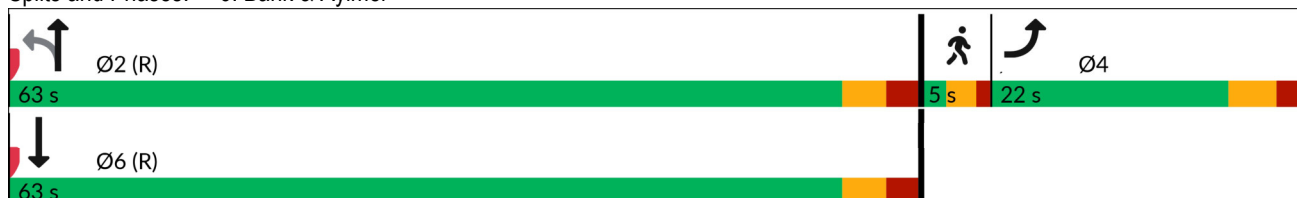
Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	39	19	683	722	
Future Volume (vph)	39	19	683	722	
Lane Group Flow (vph)	56	0	780	870	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		60.3	60.3	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.24		0.40	0.43	
Control Delay (s/veh)	30.0		6.1	7.5	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	30.0		6.1	7.5	
LOS	C		A	A	
Approach Delay (s/veh)	30.0		6.1	7.5	
Approach LOS	C		A	A	
Queue Length 50th (m)	6.6		15.2	31.5	
Queue Length 95th (m)	17.3		30.8	42.3	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	276		1930	2004	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.20		0.40	0.43	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.43
 Intersection Signal Delay (s/veh): 7.6
 Intersection Capacity Utilization 55.0%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

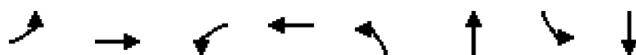
Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

08/01/2024

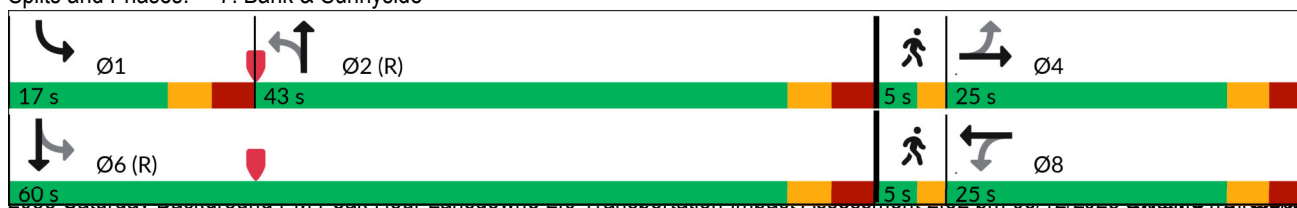


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕↕		↕↕		
Traffic Volume (vph)	42	38	20	58	30	493	85	550		
Future Volume (vph)	42	38	20	58	30	493	85	550		
Lane Group Flow (vph)	0	138	0	198	0	618	0	767		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Act Effct Green (s)		19.4		19.4		37.0		54.0		
Actuated g/C Ratio		0.22		0.22		0.41		0.60		
v/c Ratio		0.61		0.64		0.56		0.54		
Control Delay (s/veh)		44.9		32.0		22.4		4.7		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		44.9		32.0		22.4		4.7		
LOS		D		C		C		A		
Approach Delay (s/veh)		44.9		32.0		22.4		4.7		
Approach LOS		D		C		C		A		
Queue Length 50th (m)		21.7		20.6		41.3		8.0		
Queue Length 95th (m)		#43.8		#44.2		57.8		10.0		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		226		308		1100		1409		
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		0.61		0.64		0.56		0.54		

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 23 (26%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Pretimed
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay (s/veh): 17.4 Intersection LOS: B
 Intersection Capacity Utilization 72.3% ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

08/01/2024



Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	55	42	248	358	
Future Volume (vph)	55	42	248	358	
Lane Group Flow (vph)	95	0	323	457	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Detector Phase	10	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	None	None	C-Max	None
Act Effct Green (s)	11.3		56.2	56.2	
Actuated g/C Ratio	0.14		0.70	0.70	
v/c Ratio	0.43		0.30	0.39	
Control Delay (s/veh)	37.5		5.7	6.3	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	37.5		5.7	6.3	
LOS	D		A	A	
Approach Delay (s/veh)	37.5		5.7	6.3	
Approach LOS	D		A	A	
Queue Length 50th (m)	13.6		14.5	22.3	
Queue Length 95th (m)	26.1		29.9	44.1	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	297		1060	1165	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.32		0.30	0.39	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.43	
Intersection Signal Delay (s/veh): 9.5	Intersection LOS: A
Intersection Capacity Utilization 63.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	41	49	0	0	0	95	60	40	37	0	0	107
Future Vol, veh/h	41	49	0	0	0	95	60	40	37	0	0	107
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	54	0	0	0	106	67	44	41	0	0	119
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.5	7.6	8.5	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	46%	0%	0%
Vol Thru, %	29%	54%	0%	0%
Vol Right, %	27%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	137	90	95	107
LT Vol	60	41	0	0
Through Vol	40	49	0	0
RT Vol	37	0	95	107
Lane Flow Rate	152	100	106	119
Geometry Grp	1	1	1	1
Degree of Util (X)	0.188	0.131	0.119	0.131
Departure Headway (Hd)	4.442	4.726	4.044	3.966
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	808	759	887	904
Service Time	2.464	2.753	2.069	1.99
HCM Lane V/C Ratio	0.188	0.132	0.12	0.132
HCM Control Delay, s/veh	8.5	8.5	7.6	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.4	0.4	0.5

Intersection						
Int Delay, s/veh	6.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	3	182	119	571	526	56
Future Vol, veh/h	3	182	119	571	526	56
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	3	202	132	634	584	62
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1375	794	825	0	-	0
Stage 1	794	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Critical Hdwy	6.675	6.275	4.175	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	2.2475	-	-	-
Pot Cap-1 Maneuver	145	381	788	-	-	-
Stage 1	438	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	71	309	639	-	-	-
Mov Cap-2 Maneuver	71	-	-	-	-	-
Stage 1	266	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	6.13	3.86		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	527	-	309	-	-	
HCM Lane V/C Ratio	0.207	-	0.653	-	-	
HCM Control Delay (s/veh)	12.1	2.1	36.1	-	-	
HCM Lane LOS	B	A	E	-	-	
HCM 95th %tile Q(veh)	0.8	-	4.3	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	1	33	0	679	699	0
Future Vol, veh/h	1	33	0	679	699	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	1	37	0	754	777	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1154	777	-	0	0	
Stage 1	777	-	-	-	-	
Stage 2	377	-	-	-	-	
Critical Hdwy	6.675	6.275	-	-	-	
Critical Hdwy Stg 1	5.475	-	-	-	-	
Critical Hdwy Stg 2	5.875	-	-	-	-	
Follow-up Hdwy	3.5475	3.3475	-	-	-	
Pot Cap-1 Maneuver	200	390	0	-	0	
Stage 1	446	-	0	-	0	
Stage 2	657	-	0	-	0	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	200	390	-	-	-	
Mov Cap-2 Maneuver	200	-	-	-	-	
Stage 1	446	-	-	-	-	
Stage 2	657	-	-	-	-	
Approach	EB	NB	SB			
HCM Control Delay, s/veh	15.19	0	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NB	EBLn1	SBT			
Capacity (veh/h)	-	390	-			
HCM Lane V/C Ratio	-	0.094	-			
HCM Control Delay (s/veh)	-	15.2	-			
HCM Lane LOS	-	C	-			
HCM 95th %tile Q(veh)	-	0.3	-			

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	71	57	57	216	259	131
Future Vol, veh/h	71	57	57	216	259	131
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	79	63	63	240	288	146

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	727	361	433	0	-	0
Stage 1	361	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	394	689	1137	-	-	-
Stage 1	710	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	368	689	1137	-	-	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	705	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/veh	16.13	1.74	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	376	-	465	-
HCM Lane V/C Ratio	0.056	-	0.306	-
HCM Control Delay (s/veh)	8.4	0	16.1	-
HCM Lane LOS	A	A	C	-
HCM 95th %tile Q(veh)	0.2	-	1.3	-

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			↑↑
Traffic Vol, veh/h	6	73	508	19	2	605
Future Vol, veh/h	6	73	508	19	2	605
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	15	6	0	0	5
Mvmt Flow	7	81	564	21	2	672
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1016	393	0	0	686	0
Stage 1	675	-	-	-	-	-
Stage 2	341	-	-	-	-	-
Critical Hdwy	6.8	7.2	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.45	-	-	2.2	-
Pot Cap-1 Maneuver	238	571	-	-	917	-
Stage 1	473	-	-	-	-	-
Stage 2	698	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	212	510	-	-	820	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	423	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/veh	13.38	0		0.03		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	510	820	-	
HCM Lane V/C Ratio	-	-	0.159	0.003	-	
HCM Control Delay (s/veh)	-	-	13.4	9.4	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.6	0	-	

2033 Scenario

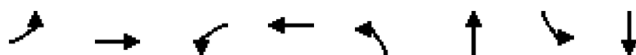
Saturday Peak Hour

Future Volumes

Queues

1: Bank & Fifth

07/31/2024

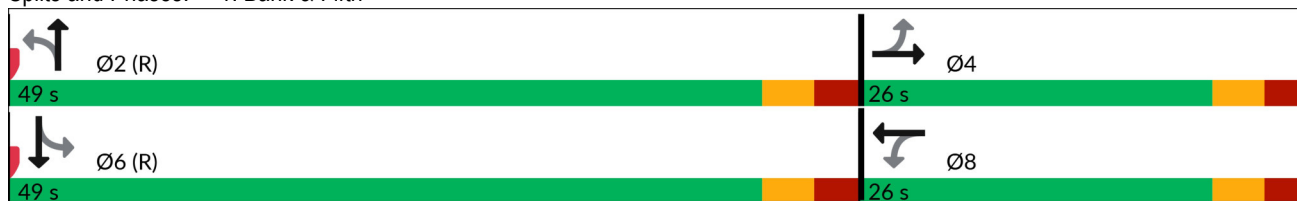


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↙	↘		↕		↕
Traffic Volume (vph)	46	41	69	45	21	513	20	578
Future Volume (vph)	46	41	69	45	21	513	20	578
Lane Group Flow (vph)	0	145	77	114	0	620	0	694
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		20.5	20.5	20.5		43.5		43.5
Actuated g/C Ratio		0.27	0.27	0.27		0.58		0.58
v/c Ratio		0.40	0.27	0.27		0.39		0.43
Control Delay (s/veh)		20.9	24.6	12.8		14.3		9.6
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		20.9	24.6	12.8		14.3		9.6
LOS		C	C	B		B		A
Approach Delay (s/veh)		20.9		17.5		14.3		9.6
Approach LOS		C		B		B		A
Queue Length 50th (m)		12.6	8.5	5.3		26.6		25.7
Queue Length 95th (m)		28.0	19.2	17.0		56.9		36.6
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		362	285	416		1606		1631
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.40	0.27	0.27		0.39		0.43

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.43
 Intersection Signal Delay (s/veh): 13.3 Intersection LOS: B
 Intersection Capacity Utilization 58.8% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

07/31/2024

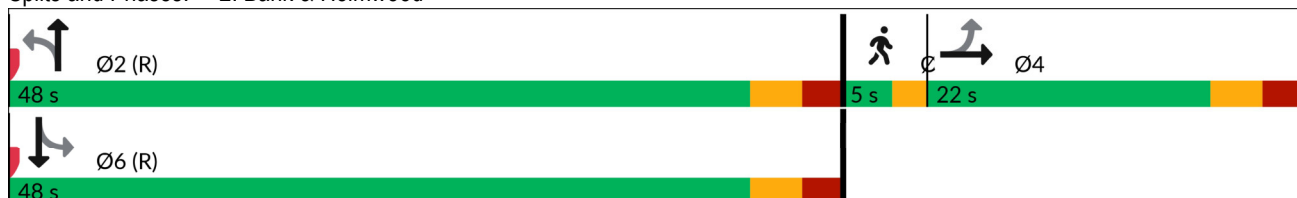


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	10	29	522	37	584	
Future Volume (vph)	10	29	522	37	584	
Lane Group Flow (vph)	113	0	670	0	716	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.7		55.9		55.9	
Actuated g/C Ratio	0.16		0.75		0.75	
v/c Ratio	0.56		0.34		0.36	
Control Delay (s/veh)	38.9		2.3		3.9	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.9		2.3		3.9	
LOS	D		A		A	
Approach Delay (s/veh)	38.9		2.3		3.9	
Approach LOS	D		A		A	
Queue Length 50th (m)	14.9		4.8		6.8	
Queue Length 95th (m)	27.7		11.2		28.4	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	285		1946		1991	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.40		0.34		0.36	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.56
 Intersection Signal Delay (s/veh): 5.8 Intersection LOS: A
 Intersection Capacity Utilization 67.3% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

07/31/2024



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	112	84	463	150	485		
Future Volume (vph)	112	84	463	150	485		
Lane Group Flow (vph)	124	93	674	167	539		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	12.1	12.1	54.3	54.3	54.3		
Actuated g/C Ratio	0.16	0.16	0.72	0.72	0.72		
v/c Ratio	0.50	0.36	0.34	0.40	0.24		
Control Delay (s/veh)	35.3	10.6	5.4	7.0	3.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	35.3	10.6	5.4	7.0	3.1		
LOS	D	B	A	A	A		
Approach Delay (s/veh)	24.7		5.4		4.0		
Approach LOS	C		A		A		
Queue Length 50th (m)	16.4	0.0	16.0	4.8	8.0		
Queue Length 95th (m)	29.7	11.0	29.8	9.9	9.9		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	405	358	1996	421	2275		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.31	0.26	0.34	0.40	0.24		

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay (s/veh): 7.4

Intersection LOS: A

Intersection Capacity Utilization 61.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

07/31/2024



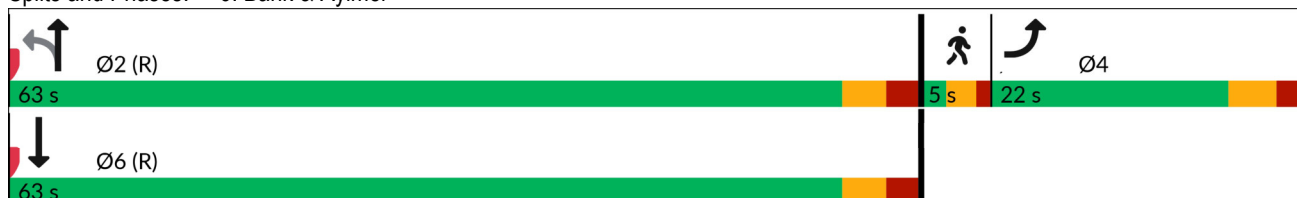
Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	39	19	715	747	
Future Volume (vph)	39	19	715	747	
Lane Group Flow (vph)	56	0	815	898	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		60.3	60.3	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.24		0.42	0.45	
Control Delay (s/veh)	30.0		6.6	7.7	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	30.0		6.6	7.7	
LOS	C		A	A	
Approach Delay (s/veh)	30.0		6.6	7.7	
Approach LOS	C		A	A	
Queue Length 50th (m)	6.6		16.0	32.9	
Queue Length 95th (m)	17.3		35.6	44.2	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	276		1930	2008	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.20		0.42	0.45	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.45
 Intersection Signal Delay (s/veh): 7.9
 Intersection Capacity Utilization 55.9%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service B

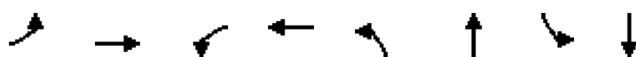
Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

07/31/2024

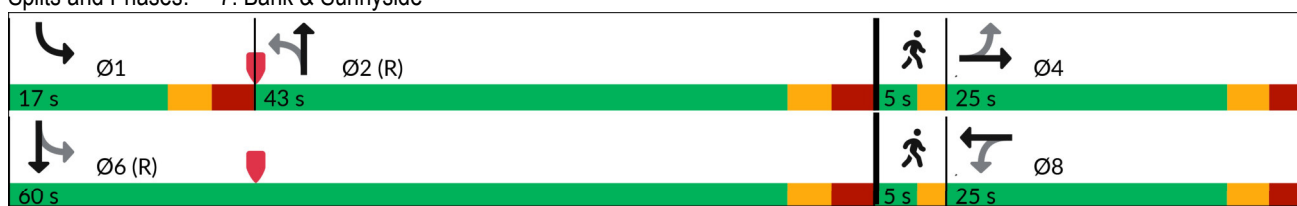


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕		↕		
Traffic Volume (vph)	42	38	20	58	30	524	85	574		
Future Volume (vph)	42	38	20	58	30	524	85	574		
Lane Group Flow (vph)	0	138	0	198	0	652	0	794		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Act Effct Green (s)		19.4		19.4		37.0		54.0		
Actuated g/C Ratio		0.22		0.22		0.41		0.60		
v/c Ratio		0.61		0.64		0.59		0.57		
Control Delay (s/veh)		45.0		32.0		23.1		4.9		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		45.0		32.0		23.1		4.9		
LOS		D		C		C		A		
Approach Delay (s/veh)		45.0		32.0		23.1		4.9		
Approach LOS		D		C		C		A		
Queue Length 50th (m)		21.7		20.6		44.4		8.3		
Queue Length 95th (m)		#43.8		#44.2		61.7		10.3		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		226		308		1103		1399		
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		0.61		0.64		0.59		0.57		

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 23 (26%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Pretimed
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay (s/veh): 17.7
 Intersection LOS: B
 Intersection Capacity Utilization 73.9%
 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: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

07/31/2024

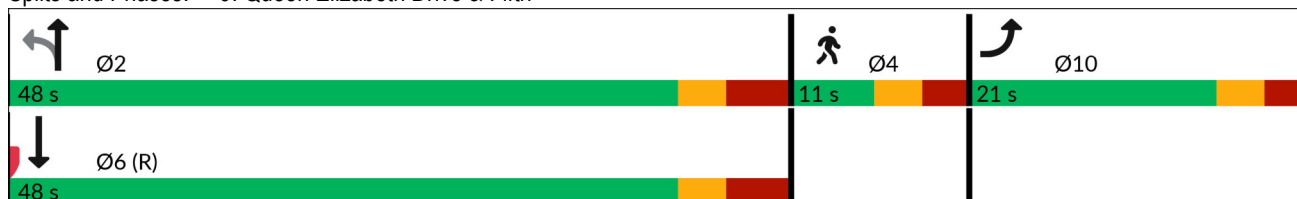


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	62	42	259	371	
Future Volume (vph)	62	42	259	371	
Lane Group Flow (vph)	103	0	335	471	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	15.3		41.2	41.2	
Actuated g/C Ratio	0.19		0.52	0.52	
v/c Ratio	0.35		0.43	0.55	
Control Delay (s/veh)	31.9		14.4	16.3	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	31.9		14.4	16.3	
LOS	C		B	B	
Approach Delay (s/veh)	31.9		14.4	16.3	
Approach LOS	C		B	B	
Queue Length 50th (m)	13.7		29.9	45.6	
Queue Length 95th (m)	27.5		49.4	72.1	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	298		771	853	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.35		0.43	0.55	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Pretimed	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay (s/veh): 17.3	Intersection LOS: B
Intersection Capacity Utilization 65.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	41	49	0	0	0	95	66	40	43	0	0	107
Future Vol, veh/h	41	49	0	0	0	95	66	40	43	0	0	107
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	54	0	0	0	106	73	44	48	0	0	119
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.5	7.7	8.6	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	46%	0%	0%
Vol Thru, %	27%	54%	0%	0%
Vol Right, %	29%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	90	95	107
LT Vol	66	41	0	0
Through Vol	40	49	0	0
RT Vol	43	0	95	107
Lane Flow Rate	166	100	106	119
Geometry Grp	1	1	1	1
Degree of Util (X)	0.204	0.132	0.12	0.132
Departure Headway (Hd)	4.433	4.758	4.076	3.983
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	810	754	879	900
Service Time	2.459	2.787	2.103	2.009
HCM Lane V/C Ratio	0.205	0.133	0.121	0.132
HCM Control Delay, s/veh	8.6	8.5	7.7	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.5	0.4	0.5

Intersection

Int Delay, s/veh 6.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	3	182	119	602	550	56
Future Vol, veh/h	3	182	119	602	550	56
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	3	202	132	669	611	62

Major/Minor

	Minor2	Major1	Major2			
Conflicting Flow All	1419	820	851	0	-	0
Stage 1	820	-	-	-	-	-
Stage 2	599	-	-	-	-	-
Critical Hdwy	6.675	6.275	4.175	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	2.2475	-	-	-
Pot Cap-1 Maneuver	136	368	769	-	-	-
Stage 1	425	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	66	299	624	-	-	-
Mov Cap-2 Maneuver	66	-	-	-	-	-
Stage 1	255	-	-	-	-	-
Stage 2	410	-	-	-	-	-

Approach

	EB	NB	SB
HCM Control Delay, s/veh	9.01	3.95	0
HCM LOS	E		

Minor Lane/Major Mvmt

	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	508	-	299	-
HCM Lane V/C Ratio	0.212	-	0.677	-
HCM Control Delay (s/veh)	12.3	2.3	39	-
HCM Lane LOS	B	A	E	-
HCM 95th %tile Q(veh)	0.8	-	4.6	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	1	33	0	710	723	0
Future Vol, veh/h	1	33	0	710	723	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	1	37	0	789	803	0

Major/Minor

	Minor2	Major1	Major2
Conflicting Flow All	1198	803	0
Stage 1	803	-	-
Stage 2	394	-	-
Critical Hdwy	6.675	6.275	-
Critical Hdwy Stg 1	5.475	-	-
Critical Hdwy Stg 2	5.875	-	-
Follow-up Hdwy	3.5475	3.3475	-
Pot Cap-1 Maneuver	188	376	0
Stage 1	433	-	0
Stage 2	643	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	188	376	-
Mov Cap-2 Maneuver	188	-	-
Stage 1	433	-	-
Stage 2	643	-	-

Approach

	EB	NB	SB
HCM Control Delay, s/veh	15.59	0	0
HCM LOS	C		

Minor Lane/Major Mvmt

	NBTEBLn1	SBT
Capacity (veh/h)	- 376	-
HCM Lane V/C Ratio	- 0.097	-
HCM Control Delay (s/veh)	- 15.6	-
HCM Lane LOS	- C	-
HCM 95th %tile Q(veh)	- 0.3	-

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	81	68	70	216	259	144
Future Vol, veh/h	81	68	70	216	259	144
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	90	76	78	240	288	160
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	763	368	448	0	0	
Stage 1	368	-	-	-	-	
Stage 2	396	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	375	682	1123	-	-	
Stage 1	705	-	-	-	-	
Stage 2	685	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	345	682	1123	-	-	
Mov Cap-2 Maneuver	345	-	-	-	-	
Stage 1	648	-	-	-	-	
Stage 2	685	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/v	7.78	2.07		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	441	-	446	-	-	
HCM Lane V/C Ratio	0.069	-	0.372	-	-	
HCM Control Delay (s/veh)	8.4	0	17.8	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.7	-	-	

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			↑↑
Traffic Vol, veh/h	6	85	527	20	2	629
Future Vol, veh/h	6	85	527	20	2	629
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	15	6	0	0	5
Mvmt Flow	7	94	586	22	2	699
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1051	404	0	0	708	0
Stage 1	697	-	-	-	-	-
Stage 2	354	-	-	-	-	-
Critical Hdwy	6.8	7.2	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.45	-	-	2.2	-
Pot Cap-1 Maneuver	226	561	-	-	900	-
Stage 1	461	-	-	-	-	-
Stage 2	687	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	201	502	-	-	805	-
Mov Cap-2 Maneuver	201	-	-	-	-	-
Stage 1	412	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/veh	13.83	0		0.03		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	502	805	-	
HCM Lane V/C Ratio	-	-	0.188	0.003	-	
HCM Control Delay (s/veh)	-	-	13.8	9.5	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.7	0	-	

2033 Scenario

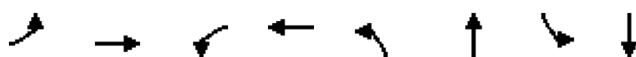
Sunday Peak Hour

Background Volumes

Queues

1: Bank & Fifth

08/06/2024

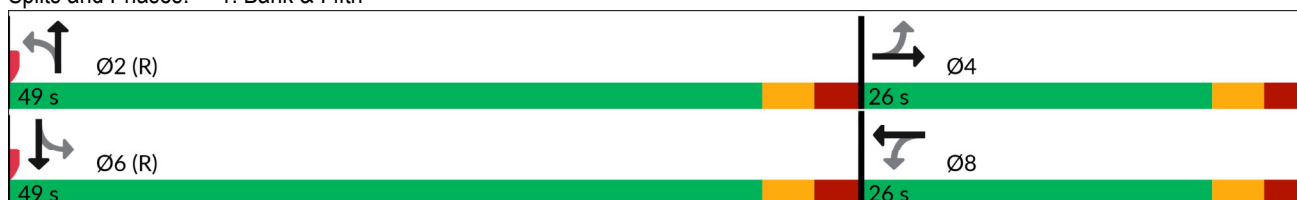


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔	↖	↗		↕		↕
Traffic Volume (vph)	54	38	123	67	16	491	23	516
Future Volume (vph)	54	38	123	67	16	491	23	516
Lane Group Flow (vph)	0	131	137	117	0	594	0	646
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		14.5	14.5	14.5		49.5		49.5
Actuated g/C Ratio		0.19	0.19	0.19		0.66		0.66
v/c Ratio		0.55	0.67	0.38		0.32		0.36
Control Delay (s/veh)		30.6	43.3	20.4		7.3		6.9
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		30.6	43.3	20.4		7.3		6.9
LOS		C	D	C		A		A
Approach Delay (s/veh)		30.6		32.7		7.3		6.9
Approach LOS		C		C		A		A
Queue Length 50th (m)		14.2	18.0	9.6		28.2		17.9
Queue Length 95th (m)		27.4	32.3	20.9		50.0		33.6
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		332	288	423		1845		1810
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.39	0.48	0.28		0.32		0.36

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 42 (56%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay (s/veh): 13.0 Intersection LOS: B
 Intersection Capacity Utilization 60.0% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

08/06/2024



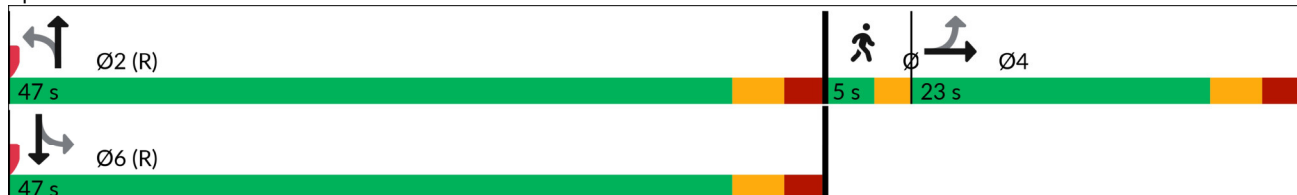
Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	18	32	519	23	551	
Future Volume (vph)	18	32	519	23	551	
Lane Group Flow (vph)	111	0	704	0	678	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	23.0	47.0	47.0	47.0	47.0	5.0
Total Split (s)	23.0	47.0	47.0	47.0	47.0	5.0
Total Split (%)	30.7%	62.7%	62.7%	62.7%	62.7%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag					Lead
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.6		56.1		56.1	
Actuated g/C Ratio	0.15		0.75		0.75	
v/c Ratio	0.55		0.37		0.33	
Control Delay (s/veh)	38.6		2.4		8.9	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.6		2.4		8.9	
LOS	D		A		A	
Approach Delay (s/veh)	38.6		2.4		8.9	
Approach LOS	D		A		A	
Queue Length 50th (m)	14.7		5.3		24.5	
Queue Length 95th (m)	27.3		12.1		48.9	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	304		1890		2043	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.37		0.37		0.33	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 16 (21%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay (s/veh): 8.1
 Intersection Capacity Utilization 67.7%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

08/06/2024

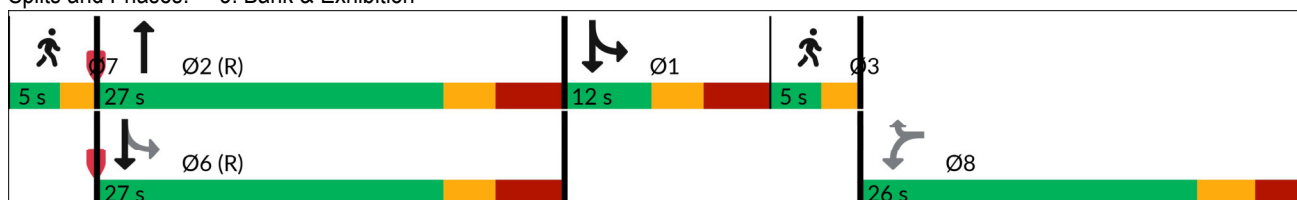


Lane Group	WBL	WBR	NBT	SBL	SBT	Ø3	Ø6	Ø7
Lane Configurations								
Traffic Volume (vph)	126	66	417	178	450			
Future Volume (vph)	126	66	417	178	450			
Lane Group Flow (vph)	140	73	597	198	500			
Turn Type	Perm	Perm	NA	custom	NA			
Protected Phases			2	1	1 6	3	6	7
Permitted Phases	8	8		6				
Detector Phase	8	8	2	1	1 6			
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	4.0		1.0	10.0	1.0
Minimum Split (s)	26.0	26.0	27.0	10.9		5.0	27.0	5.0
Total Split (s)	26.0	26.0	27.0	12.0		5.0	27.0	5.0
Total Split (%)	34.7%	34.7%	36.0%	16.0%		7%	36%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0		2.0	3.0	2.0
All-Red Time (s)	3.0	3.0	3.9	3.9		0.0	3.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.3	6.3	6.9	6.9				
Lead/Lag				Lead				Lag
Lead-Lag Optimize?				Yes				Yes
Recall Mode	None	None	C-Max	None		None	C-Max	None
Act Effct Green (s)	13.1	13.1	40.0	45.1	53.4			
Actuated g/C Ratio	0.17	0.17	0.53	0.60	0.71			
v/c Ratio	0.56	0.29	0.40	0.47	0.22			
Control Delay (s/veh)	36.6	9.8	12.2	11.4	4.7			
Queue Delay	0.0	0.0	0.0	0.0	0.0			
Total Delay (s/veh)	36.6	9.8	12.2	11.4	4.7			
LOS	D	A	B	B	A			
Approach Delay (s/veh)	27.4		12.2		6.6			
Approach LOS	C		B		A			
Queue Length 50th (m)	18.5	0.0	24.3	8.7	11.5			
Queue Length 95th (m)	32.4	9.3	42.2	17.2	12.3			
Internal Link Dist (m)	30.6		33.7		44.8			
Turn Bay Length (m)				40.0				
Base Capacity (vph)	377	343	1486	424	2235			
Starvation Cap Reductn	0	0	0	0	0			
Spillback Cap Reductn	0	0	0	0	0			
Storage Cap Reductn	0	0	0	0	0			
Reduced v/c Ratio	0.37	0.21	0.40	0.47	0.22			

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 15 (20%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.56
 Intersection Signal Delay (s/veh): 11.8
 Intersection Capacity Utilization 60.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

08/06/2024



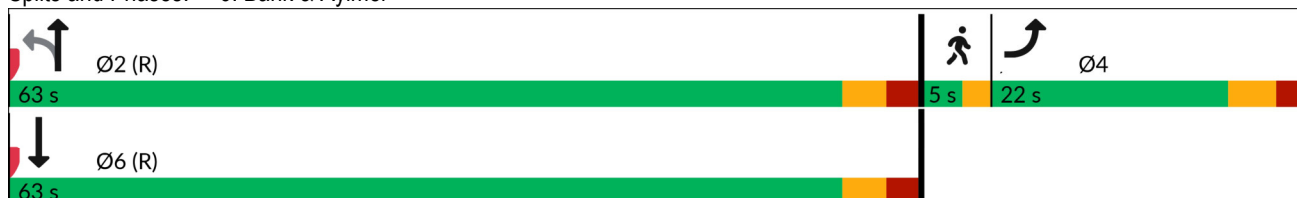
Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	54	17	598	659	
Future Volume (vph)	54	17	598	659	
Lane Group Flow (vph)	83	0	683	795	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.1		72.4	72.4	
Actuated g/C Ratio	0.12		0.80	0.80	
v/c Ratio	0.43		0.29	0.33	
Control Delay (s/veh)	35.9		2.7	3.7	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	35.9		2.7	3.7	
LOS	D		A	A	
Approach Delay (s/veh)	35.9		2.7	3.7	
Approach LOS	D		A	A	
Queue Length 50th (m)	10.5		11.5	17.1	
Queue Length 95th (m)	23.2		16.9	29.5	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	276		2328	2400	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.30		0.29	0.33	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.43
 Intersection Signal Delay (s/veh): 4.9
 Intersection Capacity Utilization 50.9%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

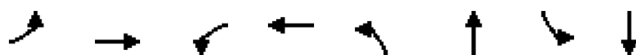
Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

08/06/2024

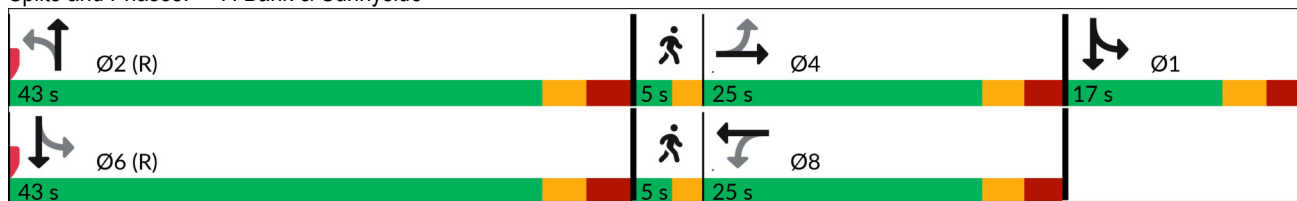


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø6	Ø7
Lane Configurations		↕		↕		↕↕		↕↕			
Traffic Volume (vph)	43	33	16	51	19	472	118	509			
Future Volume (vph)	43	33	16	51	19	472	118	509			
Lane Group Flow (vph)	0	118	0	195	0	558	0	790			
Turn Type	Perm	NA	Perm	NA	Perm	NA	custom	NA			
Protected Phases		4		8		2	1	16	3	6	7
Permitted Phases	4		8		2		6				
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0		5.0	43.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0		5.0	43.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%		6%	48%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		2.0	3.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9		0.0	3.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0					
Total Lost Time (s)		5.6		5.6		6.0					
Lead/Lag	Lag	Lag	Lag	Lag					Lead		Lead
Lead-Lag Optimize?			Yes	Yes							Yes
Act Effct Green (s)		19.4		19.4		37.0		48.2			
Actuated g/C Ratio		0.22		0.22		0.41		0.54			
v/c Ratio		0.53		0.61		0.48		0.65			
Control Delay (s/veh)		41.1		27.5		21.0		10.7			
Queue Delay		0.0		0.0		0.0		0.0			
Total Delay (s/veh)		41.1		27.5		21.0		10.7			
LOS		D		C		C		B			
Approach Delay (s/veh)		41.1		27.5		21.0		10.7			
Approach LOS		D		C		C		B			
Queue Length 50th (m)		18.2		17.2		36.0		35.6			
Queue Length 95th (m)		35.5		39.9		50.5		27.1			
Internal Link Dist (m)		75.1		136.0		63.1		79.0			
Turn Bay Length (m)											
Base Capacity (vph)		223		318		1170		1224			
Starvation Cap Reductn		0		0		0		0			
Spillback Cap Reductn		0		0		0		0			
Storage Cap Reductn		0		0		0		0			
Reduced v/c Ratio		0.53		0.61		0.48		0.65			

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 23 (26%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Pretimed
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay (s/veh): 18.3
 Intersection LOS: B
 Intersection Capacity Utilization 73.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

08/06/2024

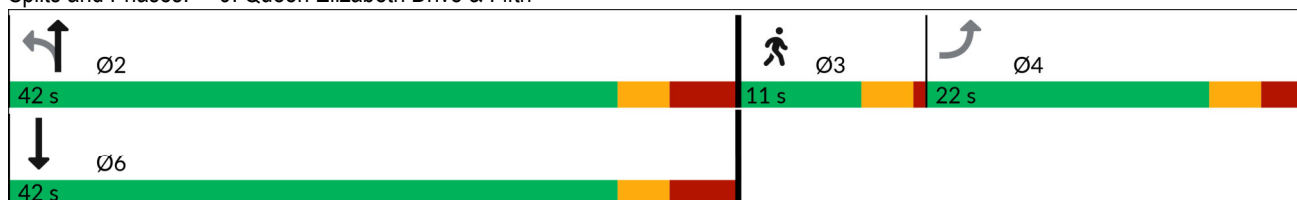


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	13	207	13	12	
Future Volume (vph)	13	207	13	12	
Lane Group Flow (vph)	162	0	244	42	
Turn Type	Perm	Perm	NA	NA	
Protected Phases			2	6	3
Permitted Phases	4	2			
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	42.0	42.0	42.0	8.0
Total Split (s)	22.0	42.0	42.0	42.0	11.0
Total Split (%)	29.3%	56.0%	56.0%	56.0%	15%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	0.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?	Yes				Yes
Recall Mode	Min	None	None	Max	None
Act Effct Green (s)	12.3		35.2	35.2	
Actuated g/C Ratio	0.21		0.59	0.59	
v/c Ratio	0.54		0.35	0.05	
Control Delay (s/veh)	28.4		8.8	6.2	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	28.4		8.8	6.2	
LOS	C		A	A	
Approach Delay (s/veh)	28.4		8.8	6.2	
Approach LOS	C		A	A	
Queue Length 50th (m)	16.0		11.8	1.7	
Queue Length 95th (m)	31.4		28.3	5.7	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	400		701	897	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.41		0.35	0.05	

Intersection Summary

Cycle Length: 75	
Actuated Cycle Length: 60	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay (s/veh): 15.6	Intersection LOS: B
Intersection Capacity Utilization 39.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	70	83	0	0	0	233	101	67	62	0	0	106
Future Vol, veh/h	70	83	0	0	0	233	101	67	62	0	0	106
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	92	0	0	0	259	112	74	69	0	0	118
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.2	9.7	10.9	8.7
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	46%	0%	0%
Vol Thru, %	29%	54%	0%	0%
Vol Right, %	27%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	153	233	106
LT Vol	101	70	0	0
Through Vol	67	83	0	0
RT Vol	62	0	233	106
Lane Flow Rate	256	170	259	118
Geometry Grp	1	1	1	1
Degree of Util (X)	0.355	0.253	0.322	0.157
Departure Headway (Hd)	5.113	5.349	4.573	4.799
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	708	675	792	750
Service Time	3.113	3.349	2.573	2.809
HCM Lane V/C Ratio	0.362	0.252	0.327	0.157
HCM Control Delay, s/veh	10.9	10.2	9.7	8.7
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	1.6	1	1.4	0.6

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	5	156	110	553	503	62
Future Vol, veh/h	5	156	110	553	503	62
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	6	173	122	614	559	69
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1323	771	806	0	-	0
Stage 1	771	-	-	-	-	-
Stage 2	552	-	-	-	-	-
Critical Hdwy	6.675	6.275	4.175	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	2.2475	-	-	-
Pot Cap-1 Maneuver	156	393	801	-	-	-
Stage 1	448	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	80	319	650	-	-	-
Mov Cap-2 Maneuver	80	-	-	-	-	-
Stage 1	281	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	28.97	3.56		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	539	-	319	-	-	
HCM Lane V/C Ratio	0.188	-	0.544	-	-	
HCM Control Delay (s/veh)	11.8	1.9	29	-	-	
HCM Lane LOS	B	A	D	-	-	
HCM 95th %tile Q(veh)	0.7	-	3.1	-	-	

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	2	71	0	637	663	1
Future Vol, veh/h	2	71	0	637	663	1
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	2	79	0	708	737	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1177	823	-	0	0	
Stage 1	823	-	-	-	-	
Stage 2	354	-	-	-	-	
Critical Hdwy	6.675	6.275	-	-	-	
Critical Hdwy Stg 1	5.475	-	-	-	-	
Critical Hdwy Stg 2	5.875	-	-	-	-	
Follow-up Hdwy	3.5475	3.3475	-	-	-	
Pot Cap-1 Maneuver	193	366	0	-	-	
Stage 1	424	-	0	-	-	
Stage 2	675	-	0	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	160	333	-	-	-	
Mov Cap-2 Maneuver	160	-	-	-	-	
Stage 1	385	-	-	-	-	
Stage 2	613	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/veh	19.13	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NB	EBLn1	SBT	SBR		
Capacity (veh/h)	-	333	-	-		
HCM Lane V/C Ratio	-	0.237	-	-		
HCM Control Delay (s/veh)	-	19.1	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0.9	-	-		

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	88	138	72	131	68	60
Future Vol, veh/h	88	138	72	131	68	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	98	153	80	146	76	67
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	414	109	142	0	0	
Stage 1	109	-	-	-	-	
Stage 2	306	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	598	950	1453	-	-	
Stage 1	921	-	-	-	-	
Stage 2	752	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	562	950	1453	-	-	
Mov Cap-2 Maneuver	562	-	-	-	-	
Stage 1	865	-	-	-	-	
Stage 2	752	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/veh	2.21	2.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	638	-	749	-	-	
HCM Lane V/C Ratio	0.055	-	0.335	-	-	
HCM Control Delay (s/veh)	7.6	0	12.2	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-	

Intersection

Int Delay, s/veh 2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			↑↑
Traffic Vol, veh/h	7	163	475	20	0	613
Future Vol, veh/h	7	163	475	20	0	613
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	15	6	0	0	5
Mvmt Flow	8	181	528	22	0	681

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	979	375	0	0	-
Stage 1	639	-	-	-	-
Stage 2	341	-	-	-	-
Critical Hdwy	6.8	7.2	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.45	-	-	-
Pot Cap-1 Maneuver	251	587	-	-	0
Stage 1	493	-	-	-	0
Stage 2	698	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	224	525	-	-	-
Mov Cap-2 Maneuver	224	-	-	-	-
Stage 1	441	-	-	-	-
Stage 2	698	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/veh	15.44	0	0
HCM LOS	C		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	525
HCM Lane V/C Ratio	-	-	0.345
HCM Control Delay (s/veh)	-	-	15.4
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	1.5

2033 Scenario

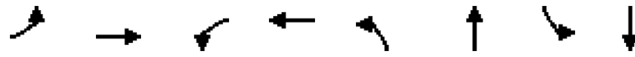
Sunday Peak Hour

Future Volumes

Queues

1: Bank & Fifth

08/06/2024

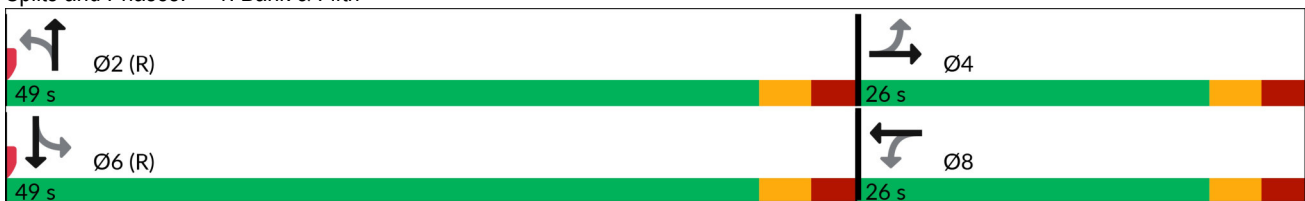


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↕	↕		↕		↕
Traffic Volume (vph)	54	38	123	67	16	516	23	548
Future Volume (vph)	54	38	123	67	16	516	23	548
Lane Group Flow (vph)	0	131	137	124	0	621	0	682
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		20.5	20.5	20.5		43.5		43.5
Actuated g/C Ratio		0.27	0.27	0.27		0.58		0.58
v/c Ratio		0.39	0.47	0.29		0.38		0.43
Control Delay (s/veh)		22.9	29.0	16.4		10.0		9.6
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		22.9	29.0	16.4		10.0		9.6
LOS		C	C	B		A		A
Approach Delay (s/veh)		22.9		23.0		10.0		9.6
Approach LOS		C		C		A		A
Queue Length 50th (m)		12.7	16.1	8.6		34.3		24.8
Queue Length 95th (m)		27.3	32.2	21.3		46.6		36.0
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		339	293	424		1625		1596
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.39	0.47	0.29		0.38		0.43

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 42 (56%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Pretimed
 Maximum v/c Ratio: 0.47
 Intersection Signal Delay (s/veh): 12.8 Intersection LOS: B
 Intersection Capacity Utilization 60.8% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

08/06/2024

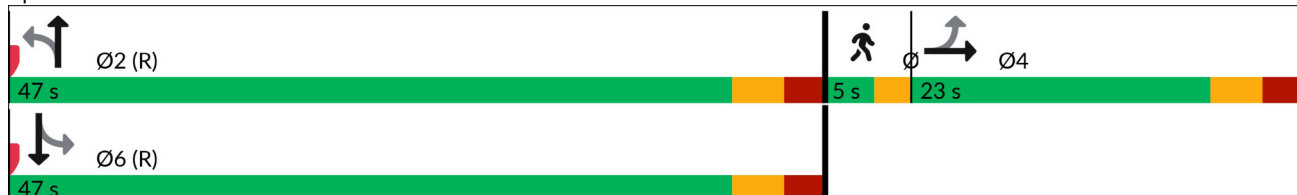


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	18	32	543	30	576	
Future Volume (vph)	18	32	543	30	576	
Lane Group Flow (vph)	111	0	737	0	713	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	23.0	47.0	47.0	47.0	47.0	5.0
Total Split (s)	23.0	47.0	47.0	47.0	47.0	5.0
Total Split (%)	30.7%	62.7%	62.7%	62.7%	62.7%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.6		56.1		56.1	
Actuated g/C Ratio	0.15		0.75		0.75	
v/c Ratio	0.55		0.39		0.35	
Control Delay (s/veh)	38.6		2.4		10.2	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.6		2.4		10.2	
LOS	D		A		B	
Approach Delay (s/veh)	38.6		2.4		10.2	
Approach LOS	D		A		B	
Queue Length 50th (m)	14.7		6.1		34.1	
Queue Length 95th (m)	27.3		13.4		53.0	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	304		1883		2010	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.37		0.39		0.35	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 16 (21%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay (s/veh): 8.5 Intersection LOS: A
 Intersection Capacity Utilization 69.5% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

08/06/2024



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø3	Ø6	Ø7
Lane Configurations								
Traffic Volume (vph)	150	73	428	203	450			
Future Volume (vph)	150	73	428	203	450			
Lane Group Flow (vph)	167	81	635	226	500			
Turn Type	Perm	Perm	NA	custom	NA			
Protected Phases			2	1	1 6	3	6	7
Permitted Phases	8	8		6				
Detector Phase	8	8	2	1	1 6			
Switch Phase								
Minimum Initial (s)	4.0	4.0	10.0	4.0		1.0	5.1	3.0
Minimum Split (s)	26.0	26.0	27.0	12.0		5.0	27.0	5.0
Total Split (s)	26.0	26.0	27.0	12.0		5.0	27.0	5.0
Total Split (%)	34.7%	34.7%	36.0%	16.0%		7%	36%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0		2.0	3.0	2.0
All-Red Time (s)	3.0	3.0	3.9	3.9		0.0	3.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.3	6.3	6.9	6.9				
Lead/Lag				Lead			Lag	
Lead-Lag Optimize?				Yes			Yes	
Recall Mode	None	None	C-Max	None		None	C-Max	None
Act Effct Green (s)	14.0	14.0	35.8	40.9	47.8			
Actuated g/C Ratio	0.19	0.19	0.48	0.55	0.64			
v/c Ratio	0.63	0.31	0.48	0.61	0.25			
Control Delay (s/veh)	38.2	9.4	14.3	17.3	4.6			
Queue Delay	0.0	0.0	0.0	0.0	0.0			
Total Delay (s/veh)	38.2	9.4	14.3	17.3	4.6			
LOS	D	A	B	B	A			
Approach Delay (s/veh)	28.8		14.3		8.6			
Approach LOS	C		B		A			
Queue Length 50th (m)	22.0	0.0	27.2	6.6	7.6			
Queue Length 95th (m)	36.7	9.6	47.5	#25.1	12.7			
Internal Link Dist (m)	30.6		33.7		44.8			
Turn Bay Length (m)				40.0				
Base Capacity (vph)	371	334	1325	372	2002			
Starvation Cap Reductn	0	0	0	0	0			
Spillback Cap Reductn	0	0	0	0	0			
Storage Cap Reductn	0	0	0	0	0			
Reduced v/c Ratio	0.45	0.24	0.48	0.61	0.25			

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 15 (20%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay (s/veh): 14.0

Intersection LOS: B

Intersection Capacity Utilization 61.1%

ICU Level of Service B

Analysis Period (min) 15

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

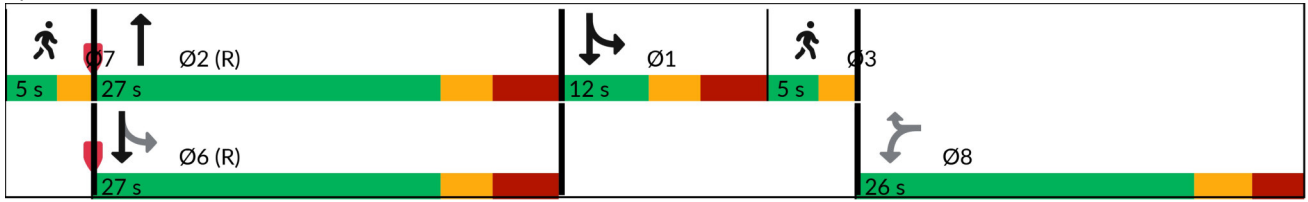
Queue shown is maximum after two cycles.

Queues

3: Bank & Exhibition

08/06/2024

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

08/06/2024

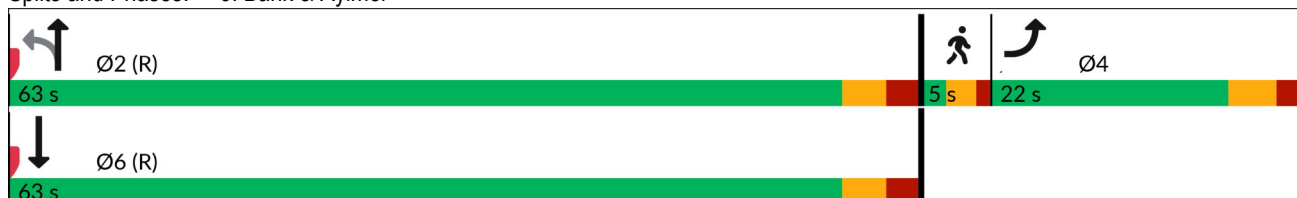


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	54	17	630	683	
Future Volume (vph)	54	17	630	683	
Lane Group Flow (vph)	83	0	719	822	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.1		72.4	72.4	
Actuated g/C Ratio	0.12		0.80	0.80	
v/c Ratio	0.43		0.31	0.34	
Control Delay (s/veh)	35.9		3.0	3.7	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	35.9		3.0	3.7	
LOS	D		A	A	
Approach Delay (s/veh)	35.9		3.0	3.7	
Approach LOS	D		A	A	
Queue Length 50th (m)	10.5		12.5	18.0	
Queue Length 95th (m)	23.2		20.4	30.8	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	276		2329	2406	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.30		0.31	0.34	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.43
 Intersection Signal Delay (s/veh): 5.1 Intersection LOS: A
 Intersection Capacity Utilization 51.8% ICU Level of Service A
 Analysis Period (min) 15

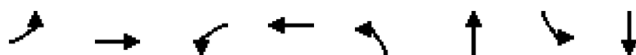
Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

08/06/2024

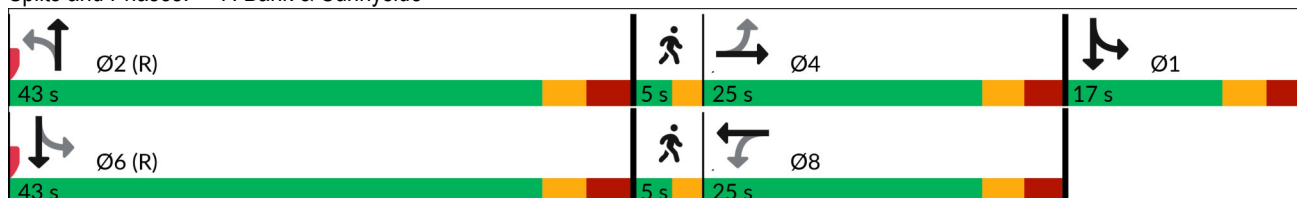


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø6	Ø7
Lane Configurations		↕		↕		↕↕		↕↕			
Traffic Volume (vph)	43	33	16	51	19	504	118	534			
Future Volume (vph)	43	33	16	51	19	504	118	534			
Lane Group Flow (vph)	0	118	0	195	0	594	0	817			
Turn Type	Perm	NA	Perm	NA	Perm	NA	custom	NA			
Protected Phases		4		8		2	1	16	3	6	7
Permitted Phases	4		8		2		6				
Detector Phase	4	4	8	8	2	2	1	16			
Switch Phase											
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0		1.0	17.0	1.0
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0		5.0	43.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0		5.0	43.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%		6%	48%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		2.0	3.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9		0.0	3.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0					
Total Lost Time (s)		5.6		5.6		6.0					
Lead/Lag	Lag	Lag	Lag	Lag					Lead		Lead
Lead-Lag Optimize?			Yes	Yes							Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None		None	C-Max	None
Act Effct Green (s)		15.5		15.5		43.5		57.1			
Actuated g/C Ratio		0.17		0.17		0.48		0.63			
v/c Ratio		0.77		0.72		0.43		0.55			
Control Delay (s/veh)		64.9		34.8		17.7		5.8			
Queue Delay		0.0		0.0		0.0		0.0			
Total Delay (s/veh)		64.9		34.8		17.7		5.8			
LOS		E		C		B		A			
Approach Delay (s/veh)		64.9		34.8		17.7		5.8			
Approach LOS		E		C		B		A			
Queue Length 50th (m)		19.7		18.4		34.8		9.6			
Queue Length 95th (m)		34.8		37.5		54.1		12.4			
Internal Link Dist (m)		75.1		136.0		63.1		79.0			
Turn Bay Length (m)											
Base Capacity (vph)		200		325		1381		1491			
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		0.59		0.60		0.43		0.55			

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 23 (26%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay (s/veh): 17.2	Intersection LOS: B
Intersection Capacity Utilization 74.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

08/06/2024

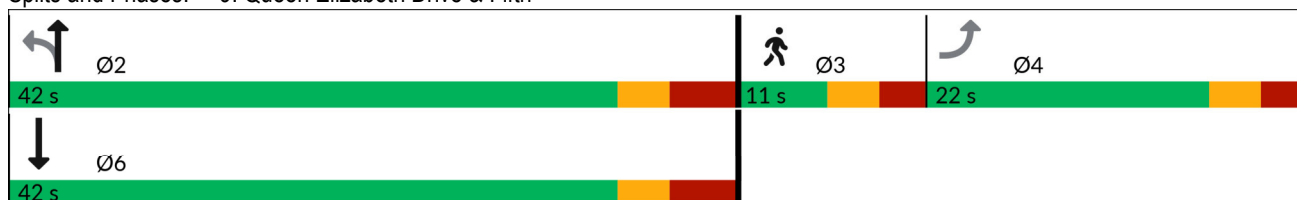


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	19	207	26	25	
Future Volume (vph)	19	207	26	25	
Lane Group Flow (vph)	169	0	259	57	
Turn Type	Perm	Perm	NA	NA	
Protected Phases			2	6	3
Permitted Phases	4	2			
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	42.0	42.0	42.0	9.7
Total Split (s)	22.0	42.0	42.0	42.0	11.0
Total Split (%)	29.3%	56.0%	56.0%	56.0%	15%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?	Yes				Yes
Recall Mode	Min	Max	Max	Max	None
Act Effct Green (s)	12.4		35.2	35.2	
Actuated g/C Ratio	0.21		0.59	0.59	
v/c Ratio	0.56		0.37	0.06	
Control Delay (s/veh)	28.9		9.1	6.3	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	28.9		9.1	6.3	
LOS	C		A	A	
Approach Delay (s/veh)	28.9		9.1	6.3	
Approach LOS	C		A	A	
Queue Length 50th (m)	16.8		12.9	2.3	
Queue Length 95th (m)	32.6		30.3	7.1	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	401		701	920	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.42		0.37	0.06	

Intersection Summary

Cycle Length: 75	
Actuated Cycle Length: 60.1	
Natural Cycle: 75	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay (s/veh): 15.7	Intersection LOS: B
Intersection Capacity Utilization 40.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	70	83	0	0	0	233	108	67	69	0	0	106
Future Vol, veh/h	70	83	0	0	0	233	108	67	69	0	0	106
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	92	0	0	0	259	120	74	77	0	0	118
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.3	9.9	11.3	8.8
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	46%	0%	0%
Vol Thru, %	27%	54%	0%	0%
Vol Right, %	28%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	244	153	233	106
LT Vol	108	70	0	0
Through Vol	67	83	0	0
RT Vol	69	0	233	106
Lane Flow Rate	271	170	259	118
Geometry Grp	1	1	1	1
Degree of Util (X)	0.385	0.255	0.332	0.158
Departure Headway (Hd)	5.116	5.392	4.621	4.835
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	705	666	779	741
Service Time	3.129	3.424	2.637	2.868
HCM Lane V/C Ratio	0.384	0.255	0.332	0.159
HCM Control Delay, s/veh	11.3	10.3	9.9	8.8
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	1.8	1	1.5	0.6

Intersection

Int Delay, s/veh 5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	5	156	110	585	527	62
Future Vol, veh/h	5	156	110	585	527	62
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	6	173	122	650	586	69

Major/Minor

	Minor2	Major1	Major2			
Conflicting Flow All	1367	798	832	0	-	0
Stage 1	798	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Critical Hdwy	6.675	6.275	4.175	-	-	-
Critical Hdwy Stg 1	5.475	-	-	-	-	-
Critical Hdwy Stg 2	5.875	-	-	-	-	-
Follow-up Hdwy	3.5475	3.3475	2.2475	-	-	-
Pot Cap-1 Maneuver	146	379	782	-	-	-
Stage 1	435	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	74	308	635	-	-	-
Mov Cap-2 Maneuver	74	-	-	-	-	-
Stage 1	270	-	-	-	-	-
Stage 2	425	-	-	-	-	-

Approach

	EB	NB	SB
HCM Control Delay, s/Ø0.79		3.63	0
HCM LOS	D		

Minor Lane/Major Mvmt

	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	520	-	308	-
HCM Lane V/C Ratio	0.193	-	0.563	-
HCM Control Delay (s/veh)	12	2.1	30.8	-
HCM Lane LOS	B	A	D	-
HCM 95th %tile Q(veh)	0.7	-	3.2	-

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	2	71	0	669	687	1
Future Vol, veh/h	2	71	0	669	687	1
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	2	79	0	743	763	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1222	850	-	0	0	
Stage 1	850	-	-	-	-	
Stage 2	372	-	-	-	-	
Critical Hdwy	6.675	6.275	-	-	-	
Critical Hdwy Stg 1	5.475	-	-	-	-	
Critical Hdwy Stg 2	5.875	-	-	-	-	
Follow-up Hdwy	3.5475	3.3475	-	-	-	
Pot Cap-1 Maneuver	181	354	0	-	-	
Stage 1	411	-	0	-	-	
Stage 2	661	-	0	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	150	321	-	-	-	
Mov Cap-2 Maneuver	150	-	-	-	-	
Stage 1	374	-	-	-	-	
Stage 2	601	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/v	19.8	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBTEBLn1	SBT	SBR			
Capacity (veh/h)	-	321	-	-		
HCM Lane V/C Ratio	-	0.245	-	-		
HCM Control Delay (s/veh)	-	19.8	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0.9	-	-		

Intersection						
Int Delay, s/veh	6.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	101	151	86	131	68	73
Future Vol, veh/h	101	151	86	131	68	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	112	168	96	146	76	81
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	453	116	157	0	-	0
Stage 1	116	-	-	-	-	-
Stage 2	337	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	569	942	1436	-	-	-
Stage 1	914	-	-	-	-	-
Stage 2	728	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	527	942	1436	-	-	-
Mov Cap-2 Maneuver	527	-	-	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	728	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	3.22	3.05		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	713	-	716	-	-	
HCM Lane V/C Ratio	0.067	-	0.391	-	-	
HCM Control Delay (s/veh)	7.7	0	13.2	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.9	-	-	

Intersection

Int Delay, s/veh 2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			↑↑
Traffic Vol, veh/h	7	181	489	23	0	638
Future Vol, veh/h	7	181	489	23	0	638
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	15	6	0	0	5
Mvmt Flow	8	201	543	26	0	709

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	1011	384	0	0	-
Stage 1	656	-	-	-	-
Stage 2	354	-	-	-	-
Critical Hdwy	6.8	7.2	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.45	-	-	-
Pot Cap-1 Maneuver	239	578	-	-	0
Stage 1	483	-	-	-	0
Stage 2	687	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	214	517	-	-	-
Mov Cap-2 Maneuver	214	-	-	-	-
Stage 1	432	-	-	-	-
Stage 2	687	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/veh	16.33	0	0
HCM LOS	C		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	517
HCM Lane V/C Ratio	-	-	0.389
HCM Control Delay (s/veh)	-	-	16.3
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	1.8

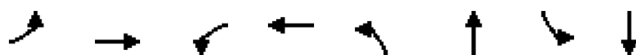
2033 Scenario

Minor Event Ingress

Queues

1: Bank & Fifth

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔	↖	↗		↕		↕
Traffic Volume (vph)	53	59	69	48	17	516	26	605
Future Volume (vph)	53	59	69	48	17	516	26	605
Lane Group Flow (vph)	0	163	77	125	0	625	0	728
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)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		13.7	13.7	13.7		50.3		50.3
Actuated g/C Ratio		0.18	0.18	0.18		0.67		0.67
v/c Ratio		0.67	0.44	0.40		0.33		0.38
Control Delay (s/veh)		37.5	33.2	15.9		11.1		6.9
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		37.5	33.2	15.9		11.1		6.9
LOS		D	C	B		B		A
Approach Delay (s/veh)		37.5		22.5		11.1		6.9
Approach LOS		D		C		B		A
Queue Length 50th (m)		18.9	9.8	6.4		21.2		20.1
Queue Length 95th (m)		33.9	19.6	18.1		56.1		38.3
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		355	265	427		1902		1900
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.46	0.29	0.29		0.33		0.38

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay (s/veh): 13.1

Intersection LOS: B

Intersection Capacity Utilization 64.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



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Queues

2: Bank & Holmwood

08/01/2024



Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	26	53	522	30	586	
Future Volume (vph)	26	53	522	30	586	
Lane Group Flow (vph)	119	0	730	0	723	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	11.6		56.0		56.0	
Actuated g/C Ratio	0.15		0.75		0.75	
v/c Ratio	0.55		0.40		0.35	
Control Delay (s/veh)	38.2		3.0		4.9	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.2		3.0		4.9	
LOS	D		A		A	
Approach Delay (s/veh)	38.2		3.0		4.9	
Approach LOS	D		A		A	
Queue Length 50th (m)	15.8		7.1		25.0	
Queue Length 95th (m)	28.8		15.2		9.3	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	304		1830		2073	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.39		0.40		0.35	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay (s/veh): 6.5

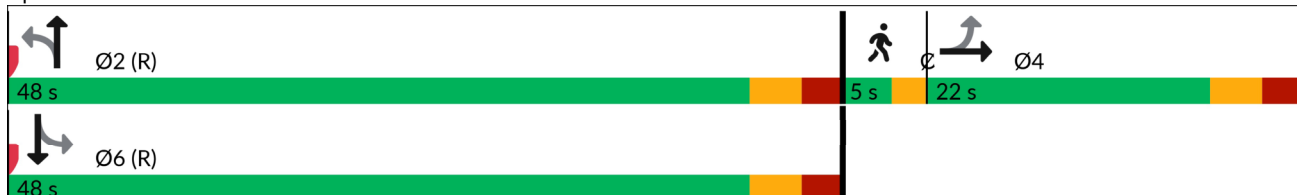
Intersection LOS: A

Intersection Capacity Utilization 69.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



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Queues

3: Bank & Exhibition

08/01/2024



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	132	93	440	187	434		
Future Volume (vph)	132	93	440	187	434		
Lane Group Flow (vph)	147	103	719	208	482		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	12.6	12.6	49.2	49.2	49.2		
Actuated g/C Ratio	0.17	0.17	0.66	0.66	0.66		
v/c Ratio	0.54	0.38	0.39	0.54	0.23		
Control Delay (s/veh)	35.5	10.1	5.8	12.3	3.6		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	35.5	10.1	5.8	12.3	3.6		
LOS	D	B	A	B	A		
Approach Delay (s/veh)	25.0		5.8		6.2		
Approach LOS	C		A		A		
Queue Length 50th (m)	19.4	0.0	16.0	6.0	7.2		
Queue Length 95th (m)	33.6	11.3	30.4	19.0	9.4		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	429	371	1855	387	2083		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.34	0.28	0.39	0.54	0.23		

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay (s/veh): 8.9

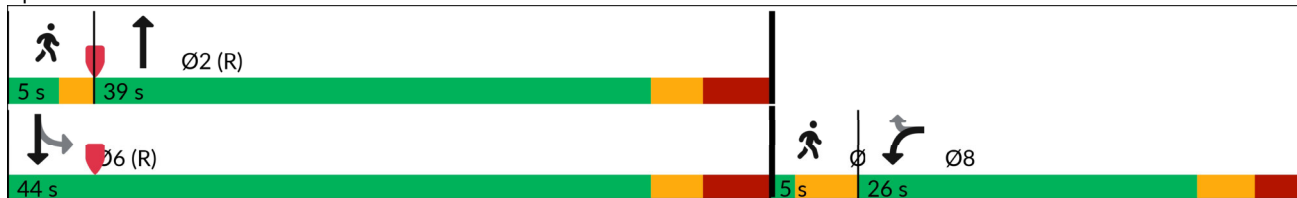
Intersection LOS: A

Intersection Capacity Utilization 65.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



round Scaled U

Queues

6: Bank & Aylmer

08/01/2024

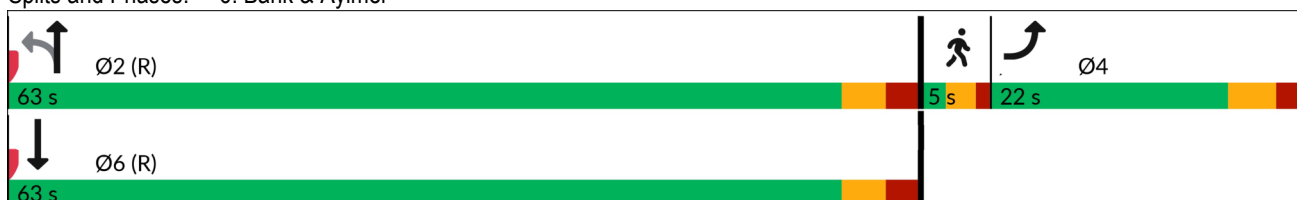


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	74	19	725	535	
Future Volume (vph)	74	19	725	535	
Lane Group Flow (vph)	90	0	827	680	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.1		60.2	60.2	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.36		0.42	0.34	
Control Delay (s/veh)	36.7		5.5	6.6	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	36.7		5.5	6.6	
LOS	D		A	A	
Approach Delay (s/veh)	36.7		5.5	6.6	
Approach LOS	D		A	A	
Queue Length 50th (m)	13.3		26.6	21.7	
Queue Length 95th (m)	27.1		26.2	31.0	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	289		1983	1978	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.31		0.42	0.34	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.42
 Intersection Signal Delay (s/veh): 7.8 Intersection LOS: A
 Intersection Capacity Utilization 56.1% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Bank & Aylmer

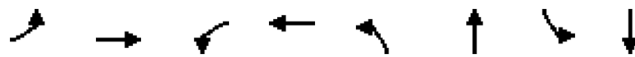


round Scaled U

Queues

7: Bank & Sunnyside

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕		↕		
Traffic Volume (vph)	58	53	18	60	20	505	109	565		
Future Volume (vph)	58	53	18	60	20	505	109	565		
Lane Group Flow (vph)	0	153	0	273	0	603	0	825		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Detector Phase	4	4	8	8	2	2	1	6		
Switch Phase										
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0	17.0	1.0	1.0
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None	C-Max	None	None
Act Effct Green (s)		21.5		21.5		56.9		56.9		
Actuated g/C Ratio		0.24		0.24		0.63		0.63		
v/c Ratio		0.71		0.76		0.34		0.59		
Control Delay (s/veh)		48.8		33.3		8.9		8.6		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		48.8		33.3		8.9		8.6		
LOS		D		C		A		A		
Approach Delay (s/veh)		48.8		33.3		8.9		8.6		
Approach LOS		D		C		A		A		
Queue Length 50th (m)		23.1		25.3		25.3		19.3		
Queue Length 95th (m)		#47.4		#59.8		35.2		24.3		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		228		369		1786		1392		
Starvation Cap Reductn		0		0		0		0		
Spillback Cap Reductn		0		0		0		0		
Storage Cap Reductn		0		0		0		0		
Reduced v/c Ratio		0.67		0.74		0.34		0.59		

Intersection Summary

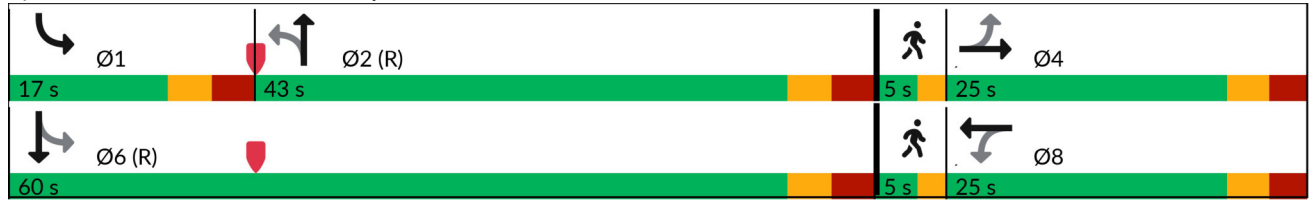
Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 17 (19%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay (s/veh): 15.6 Intersection LOS: B
 Intersection Capacity Utilization 82.4% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

7: Bank & Sunnyside

08/01/2024

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

08/01/2024

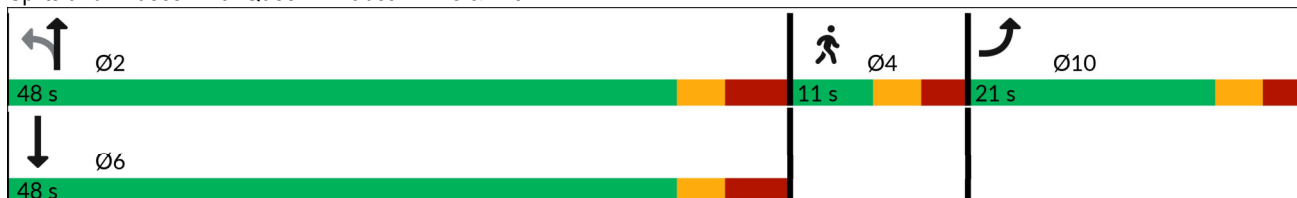


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	56	54	232	546	
Future Volume (vph)	56	54	232	546	
Lane Group Flow (vph)	104	0	318	706	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Detector Phase	10	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	None	None	Max	None
Act Effct Green (s)	10.9		41.2	41.2	
Actuated g/C Ratio	0.17		0.64	0.64	
v/c Ratio	0.40		0.37	0.67	
Control Delay (s/veh)	29.0		7.2	11.7	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	29.0		7.2	11.7	
LOS	C		A	B	
Approach Delay (s/veh)	29.0		7.2	11.7	
Approach LOS	C		A	B	
Queue Length 50th (m)	11.2		14.5	43.0	
Queue Length 95th (m)	23.7		31.3	88.0	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	366		868	1055	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.28		0.37	0.67	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 64.6	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay (s/veh): 12.0	Intersection LOS: B
Intersection Capacity Utilization 76.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



round Scaled U

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	62	53	0	0	0	143	65	43	41	0	0	85
Future Vol, veh/h	62	53	0	0	0	143	65	43	41	0	0	85
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	69	59	0	0	0	159	72	48	46	0	0	94
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.8	8	8.9	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	54%	0%	0%
Vol Thru, %	29%	46%	0%	0%
Vol Right, %	28%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	115	143	85
LT Vol	65	62	0	0
Through Vol	43	53	0	0
RT Vol	41	0	143	85
Lane Flow Rate	166	128	159	94
Geometry Grp	1	1	1	1
Degree of Util (X)	0.211	0.17	0.18	0.109
Departure Headway (Hd)	4.598	4.799	4.079	4.171
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	780	746	879	857
Service Time	2.631	2.833	2.11	2.208
HCM Lane V/C Ratio	0.213	0.172	0.181	0.11
HCM Control Delay, s/veh	8.9	8.8	8	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.6	0.7	0.4

Intersection						
Int Delay, s/veh	14.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	5	275	147	686	500	56
Future Vol, veh/h	5	275	147	686	500	56
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	6	306	163	762	556	62
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1472	765	796	0	-	0
Stage 1	765	-	-	-	-	-
Stage 2	708	-	-	-	-	-
Critical Hdwy	6.645	6.245	4.145	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.52853	3.32852	2.2285	-	-	-
Pot Cap-1 Maneuver	127	400	818	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	58	325	664	-	-	-
Mov Cap-2 Maneuver	58	-	-	-	-	-
Stage 1	255	-	-	-	-	-
Stage 2	364	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/√	2.41	4.34		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	524	-	325	-	-	
HCM Lane V/C Ratio	0.246	-	0.94	-	-	
HCM Control Delay (s/veh)	12.2	2.7	72.4	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	1	-	9.6	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	4	38	0	817	783	0
Future Vol, veh/h	4	38	0	817	783	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	4	42	0	908	870	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1324	870	-	0	-	0
Stage 1	870	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Critical Hdwy	6.645	6.245	-	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.52853	3.3285	-	-	-	-
Pot Cap-1 Maneuver	158	348	0	-	-	0
Stage 1	407	-	0	-	-	0
Stage 2	605	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	158	348	-	-	-	-
Mov Cap-2 Maneuver	158	-	-	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	16.77	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NB	EBLn1	SBT			
Capacity (veh/h)	-	348	-			
HCM Lane V/C Ratio	-	0.121	-			
HCM Control Delay (s/veh)	-	16.8	-			
HCM Lane LOS	-	C	-			
HCM 95th %tile Q(veh)	-	0.4	-			

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	66	60	122	223	334	257
Future Vol, veh/h	66	60	122	223	334	257
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	73	67	136	248	371	286
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1033	514	657	0	0	
Stage 1	514	-	-	-	-	
Stage 2	519	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	260	565	940	-	-	
Stage 1	605	-	-	-	-	
Stage 2	601	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	216	565	940	-	-	
Mov Cap-2 Maneuver	216	-	-	-	-	
Stage 1	504	-	-	-	-	
Stage 2	601	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/veh	26.26	3.35		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	637	-	306	-	-	
HCM Lane V/C Ratio	0.144	-	0.457	-	-	
HCM Control Delay (s/veh)	9.5	0	26.3	-	-	
HCM Lane LOS	A	A	D	-	-	
HCM 95th %tile Q(veh)	0.5	-	2.3	-	-	

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↖
Traffic Vol, veh/h	0	61	533	20	2	604
Future Vol, veh/h	0	61	533	20	2	604
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	2	2
Mvmt Flow	0	68	592	22	2	671
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	407	0	0	714	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	599	-	-	882	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	536	-	-	788	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/veh	2.69		0		0.03	
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	536	788	-	
HCM Lane V/C Ratio	-	-	0.127	0.003	-	
HCM Control Delay (s/veh)	-	-	12.7	9.6	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.4	0	-	

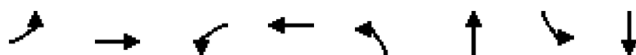
2033 Scenario

Minor Event Egress

Queues

1: Bank & Fifth

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔	↗	↖		↕		↕
Traffic Volume (vph)	43	10	50	25	17	471	21	371
Future Volume (vph)	43	10	50	25	17	471	21	371
Lane Group Flow (vph)	0	88	56	66	0	555	0	459
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)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		9.5	9.5	9.5		57.8		57.8
Actuated g/C Ratio		0.13	0.13	0.13		0.77		0.77
v/c Ratio		0.52	0.36	0.32		0.25		0.21
Control Delay (s/veh)		32.2	35.0	19.2		6.4		3.7
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		32.2	35.0	19.2		6.4		3.7
LOS		C	C	B		A		A
Approach Delay (s/veh)		32.2		26.4		6.4		3.7
Approach LOS		C		C		A		A
Queue Length 50th (m)		7.9	7.4	3.6		14.0		8.4
Queue Length 95th (m)		19.6	16.3	13.1		37.3		17.2
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		330	335	403		2237		2163
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.27	0.17	0.16		0.25		0.21

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 47 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay (s/veh): 9.2

Intersection LOS: A

Intersection Capacity Utilization 53.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

08/01/2024

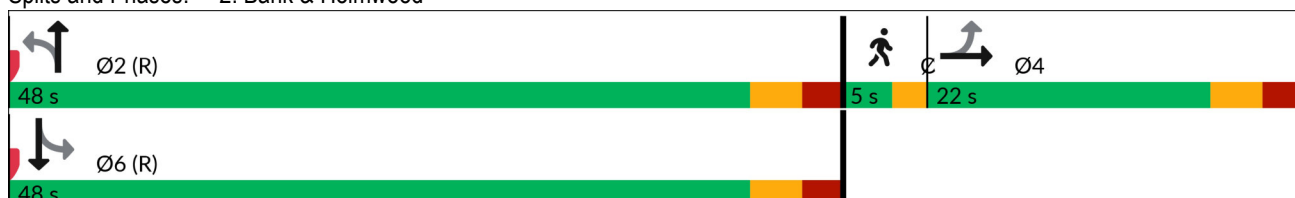


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations						
Traffic Volume (vph)	7	55	458	25	349	
Future Volume (vph)	7	55	458	25	349	
Lane Group Flow (vph)	88	0	600	0	457	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag					Lead
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	10.2		57.3		57.3	
Actuated g/C Ratio	0.14		0.76		0.76	
v/c Ratio	0.48		0.30		0.22	
Control Delay (s/veh)	37.9		3.8		4.6	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	37.9		3.8		4.6	
LOS	D		A		A	
Approach Delay (s/veh)	37.9		3.8		4.6	
Approach LOS	D		A		A	
Queue Length 50th (m)	11.7		9.4		14.1	
Queue Length 95th (m)	23.3		23.1		26.8	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	295		1999		2082	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.30		0.30		0.22	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay (s/veh): 6.8 Intersection LOS: A
 Intersection Capacity Utilization 58.1% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



Queues

3: Bank & Exhibition

08/01/2024



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	195	217	198	123	267		
Future Volume (vph)	195	217	198	123	267		
Lane Group Flow (vph)	217	241	321	137	297		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	15.2	15.2	46.6	46.6	46.6		
Actuated g/C Ratio	0.20	0.20	0.62	0.62	0.62		
v/c Ratio	0.66	0.58	0.18	0.28	0.15		
Control Delay (s/veh)	36.6	9.4	5.0	6.3	4.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	36.6	9.4	5.0	6.3	4.4		
LOS	D	A	A	A	A		
Approach Delay (s/veh)	22.3		5.0		5.0		
Approach LOS	C		A		A		
Queue Length 50th (m)	28.5	0.0	5.9	4.5	5.1		
Queue Length 95th (m)	45.0	16.1	13.3	10.0	8.1		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	433	475	1757	490	1971		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.50	0.51	0.18	0.28	0.15		

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay (s/veh): 11.5

Intersection LOS: B

Intersection Capacity Utilization 57.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Bank & Exhibition



Queues

6: Bank & Aylmer

08/01/2024

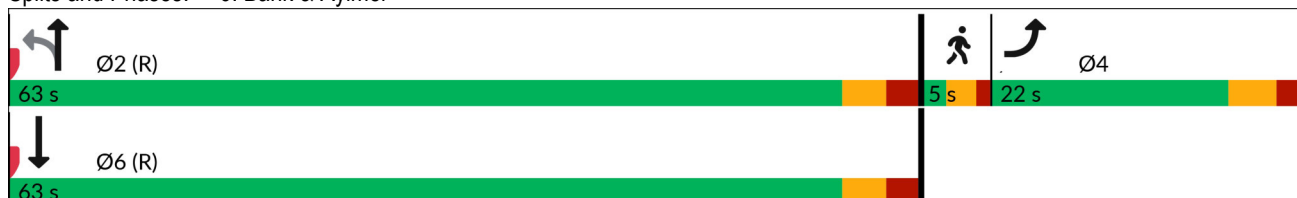


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	4	1	172	200	
Future Volume (vph)	4	1	172	200	
Lane Group Flow (vph)	7	0	192	229	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		60.3	60.3	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.03		0.09	0.11	
Control Delay (s/veh)	27.2		5.4	5.3	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	27.2		5.4	5.3	
LOS	C		A	A	
Approach Delay (s/veh)	27.2		5.4	5.3	
Approach LOS	C		A	A	
Queue Length 50th (m)	0.6		5.4	6.3	
Queue Length 95th (m)	4.4		8.8	10.0	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	253		2044	2105	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.03		0.09	0.11	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.11
 Intersection Signal Delay (s/veh): 5.7
 Intersection Capacity Utilization 45.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

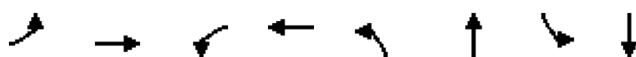
Splits and Phases: 6: Bank & Aylmer



Queues

7: Bank & Sunnyside

08/01/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕↕		↕↕		
Traffic Volume (vph)	30	7	5	13	13	257	35	431		
Future Volume (vph)	30	7	5	13	13	257	35	431		
Lane Group Flow (vph)	0	63	0	58	0	306	0	567		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Detector Phase	4	4	8	8	2	2	1	6		
Switch Phase										
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0	17.0	1.0	1.0
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	None	None
Act Effct Green (s)		10.6		10.4		63.4		63.4		
Actuated g/C Ratio		0.13		0.13		0.78		0.78		
v/c Ratio		0.50		0.33		0.14		0.27		
Control Delay (s/veh)		45.9		19.9		3.7		4.2		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		45.9		19.9		3.7		4.2		
LOS		D		B		A		A		
Approach Delay (s/veh)		45.9		19.9		3.7		4.2		
Approach LOS		D		B		A		A		
Queue Length 50th (m)		9.6		2.9		6.0		12.3		
Queue Length 95th (m)		19.7		12.3		12.1		23.0		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		232		300		2246		2089		
Starvation Cap Reductn		0		0		0		0		
Spillback Cap Reductn		0		0		0		0		
Storage Cap Reductn		0		0		0		0		
Reduced v/c Ratio		0.27		0.19		0.14		0.27		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 81.7

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay (s/veh): 7.6

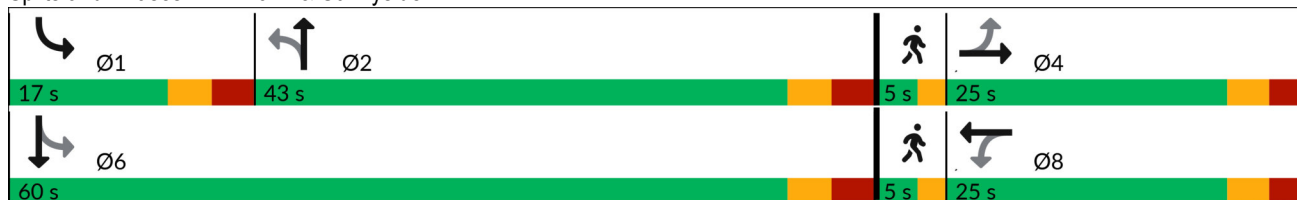
Intersection LOS: A

Intersection Capacity Utilization 60.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

08/01/2024

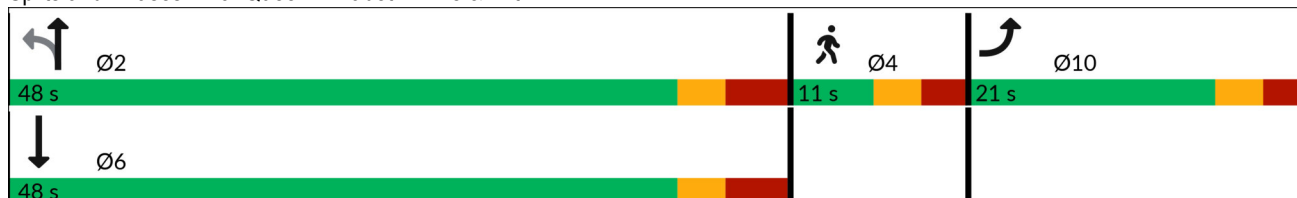


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	67	33	269	164	
Future Volume (vph)	67	33	269	164	
Lane Group Flow (vph)	107	0	336	221	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Detector Phase	10	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	None	None	Max	None
Act Effct Green (s)	10.9		41.2	41.2	
Actuated g/C Ratio	0.17		0.64	0.64	
v/c Ratio	0.41		0.33	0.21	
Control Delay (s/veh)	29.0		6.7	5.7	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	29.0		6.7	5.7	
LOS	C		A	A	
Approach Delay (s/veh)	29.0		6.7	5.7	
Approach LOS	C		A	A	
Queue Length 50th (m)	11.6		14.8	8.9	
Queue Length 95th (m)	24.3		30.8	19.4	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	370		1023	1049	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.29		0.33	0.21	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 64.6	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay (s/veh): 10.0	Intersection LOS: A
Intersection Capacity Utilization 52.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	11	45	0	0	0	68	12	11	51	0	0	99
Future Vol, veh/h	11	45	0	0	0	68	12	11	51	0	0	99
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	50	0	0	0	76	13	12	57	0	0	110
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.8	7.1	7.3	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	20%	0%	0%
Vol Thru, %	15%	80%	0%	0%
Vol Right, %	69%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	74	56	68	99
LT Vol	12	11	0	0
Through Vol	11	45	0	0
RT Vol	51	0	68	99
Lane Flow Rate	82	62	76	110
Geometry Grp	1	1	1	1
Degree of Util (X)	0.089	0.075	0.078	0.111
Departure Headway (Hd)	3.876	4.365	3.713	3.634
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	913	813	952	972
Service Time	1.948	2.431	1.787	1.708
HCM Lane V/C Ratio	0.09	0.076	0.08	0.113
HCM Control Delay, s/veh	7.3	7.8	7.1	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.3	0.4

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	2	114	49	299	408	69
Future Vol, veh/h	2	114	49	299	408	69
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	127	54	332	453	77
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	945	670	708	0	0	
Stage 1	670	-	-	-	-	
Stage 2	275	-	-	-	-	
Critical Hdwy	6.645	6.245	4.145	-	-	
Critical Hdwy Stg 1	5.445	-	-	-	-	
Critical Hdwy Stg 2	5.845	-	-	-	-	
Follow-up Hdwy	3.52853	3.32852	2.2285	-	-	
Pot Cap-1 Maneuver	274	454	883	-	-	
Stage 1	505	-	-	-	-	
Stage 2	745	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	165	368	717	-	-	
Mov Cap-2 Maneuver	165	-	-	-	-	
Stage 1	376	-	-	-	-	
Stage 2	604	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/v	19.8	2.03		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	507	-	368	-	-	
HCM Lane V/C Ratio	0.076	-	0.344	-	-	
HCM Control Delay (s/veh)	10.4	0.7	19.8	-	-	
HCM Lane LOS	B	A	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-	

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	2	12	0	381	336	0
Future Vol, veh/h	2	12	0	381	336	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	13	0	423	373	0

Major/Minor

	Minor2	Major1	Major2
Conflicting Flow All	585	373	0
Stage 1	373	-	-
Stage 2	212	-	-
Critical Hdwy	6.645	6.245	-
Critical Hdwy Stg 1	5.445	-	-
Critical Hdwy Stg 2	5.845	-	-
Follow-up Hdwy	3.5285	3.3285	-
Pot Cap-1 Maneuver	455	669	0
Stage 1	693	-	0
Stage 2	801	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	455	669	-
Mov Cap-2 Maneuver	455	-	-
Stage 1	693	-	-
Stage 2	801	-	-

Approach

	EB	NB	SB
HCM Control Delay, s/√0.49		0	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBTEBLn1	SBT
Capacity (veh/h)	- 669	-
HCM Lane V/C Ratio	- 0.02	-
HCM Control Delay (s/veh)	- 10.5	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0.1	-

Intersection						
Int Delay, s/veh	10.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	255	170	24	46	128	68
Future Vol, veh/h	255	170	24	46	128	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	283	189	27	51	142	76
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	284	180	218	0	0	
Stage 1	180	-	-	-	-	
Stage 2	104	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	710	868	1364	-	-	
Stage 1	856	-	-	-	-	
Stage 2	925	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	696	868	1364	-	-	
Mov Cap-2 Maneuver	696	-	-	-	-	
Stage 1	839	-	-	-	-	
Stage 2	925	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/√7.36		2.64		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	617	-	756	-	-	
HCM Lane V/C Ratio	0.02	-	0.625	-	-	
HCM Control Delay (s/veh)	7.7	0	17.4	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	4.4	-	-	

Intersection

Int Delay, s/veh 2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			↑↑
Traffic Vol, veh/h	5	148	426	30	0	382
Future Vol, veh/h	5	148	426	30	0	382
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	2	2
Mvmt Flow	6	164	473	33	0	424

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	802	353	0	0	-
Stage 1	590	-	-	-	-
Stage 2	212	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-
Pot Cap-1 Maneuver	326	649	-	-	0
Stage 1	522	-	-	-	0
Stage 2	809	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	291	580	-	-	-
Mov Cap-2 Maneuver	291	-	-	-	-
Stage 1	467	-	-	-	-
Stage 2	809	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/√	3.64	0	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	580
HCM Lane V/C Ratio	-	-	0.283
HCM Control Delay (s/veh)	-	-	13.6
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	1.2

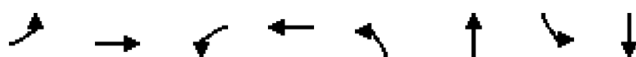
2033 Scenario

Major Event Ingress

Queues

1: Bank & Fifth

08/06/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔	↖	↗		↕		↕
Traffic Volume (vph)	63	56	75	64	24	491	33	655
Future Volume (vph)	63	56	75	64	24	491	33	655
Lane Group Flow (vph)	0	174	83	139	0	615	0	833
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)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)		13.8	13.8	13.8		45.6		45.6
Actuated g/C Ratio		0.20	0.20	0.20		0.65		0.65
v/c Ratio		0.69	0.43	0.42		0.35		0.47
Control Delay (s/veh)		36.5	30.7	17.5		6.9		8.0
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		36.5	30.7	17.5		6.9		8.0
LOS		D	C	B		A		A
Approach Delay (s/veh)		36.5		22.4		6.9		8.0
Approach LOS		D		C		A		A
Queue Length 50th (m)		18.0	9.3	8.2		16.0		24.1
Queue Length 95th (m)		36.3	20.8	21.8		31.6		46.8
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		366	286	457		1770		1780
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.48	0.29	0.30		0.35		0.47

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 70.5

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay (s/veh): 12.0

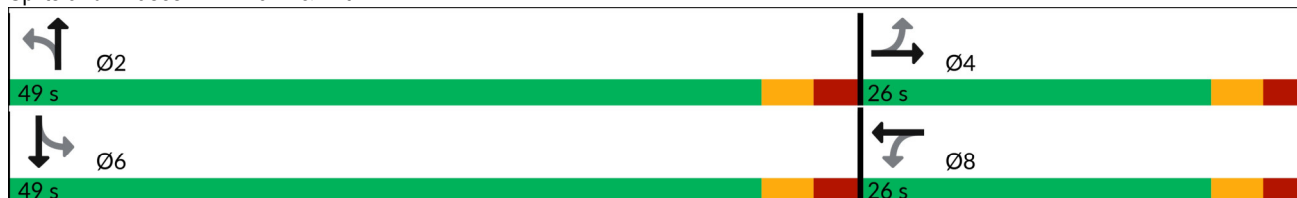
Intersection LOS: B

Intersection Capacity Utilization 89.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Bank & Fifth



ound Scaled Up

Queues

2: Bank & Holmwood

08/06/2024

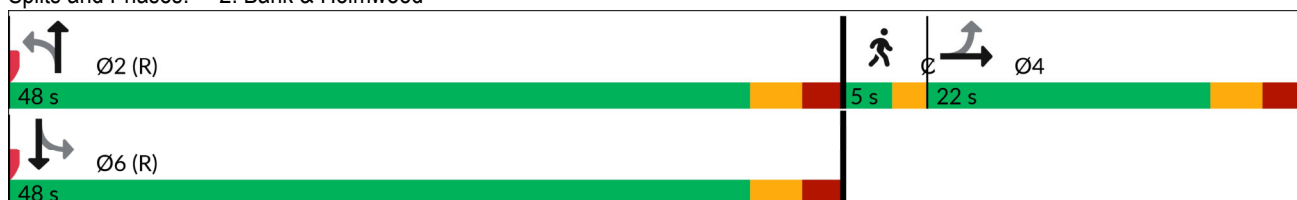


Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	39	71	518	59	605	
Future Volume (vph)	39	71	518	59	605	
Lane Group Flow (vph)	157	0	793	0	796	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	13.5		50.7		50.7	
Actuated g/C Ratio	0.18		0.68		0.68	
v/c Ratio	0.62		0.52		0.47	
Control Delay (s/veh)	38.5		4.2		7.5	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.5		4.2		7.5	
LOS	D		A		A	
Approach Delay (s/veh)	38.5		4.2		7.5	
Approach LOS	D		A		A	
Queue Length 50th (m)	20.7		1.6		23.1	
Queue Length 95th (m)	35.3		47.6		43.7	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	316		1512		1695	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.50		0.52		0.47	

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay (s/veh): 8.8 Intersection LOS: A
 Intersection Capacity Utilization 75.6% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



ound Scaled Up

Queues

3: Bank & Exhibition

08/06/2024



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	61	44	655	66	595		
Future Volume (vph)	61	44	655	66	595		
Lane Group Flow (vph)	68	49	819	73	661		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	10.3	10.3	56.1	56.1	56.1		
Actuated g/C Ratio	0.14	0.14	0.75	0.75	0.75		
v/c Ratio	0.30	0.25	0.36	0.18	0.28		
Control Delay (s/veh)	32.9	12.6	4.9	4.8	3.7		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	32.9	12.6	4.9	4.8	3.7		
LOS	C	B	A	A	A		
Approach Delay (s/veh)	24.4		4.9		3.8		
Approach LOS	C		A		A		
Queue Length 50th (m)	8.8	0.0	20.6	2.8	13.8		
Queue Length 95th (m)	19.4	8.6	31.8	m6.1	18.1		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	429	331	2284	406	2373		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.16	0.15	0.36	0.18	0.28		

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay (s/veh): 5.8

Intersection LOS: A

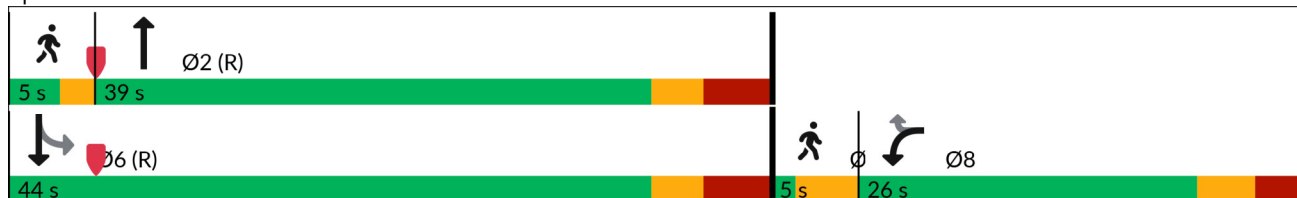
Intersection Capacity Utilization 63.6%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 3: Bank & Exhibition



ound Scaled Up

Queues

6: Bank & Aylmer

08/06/2024

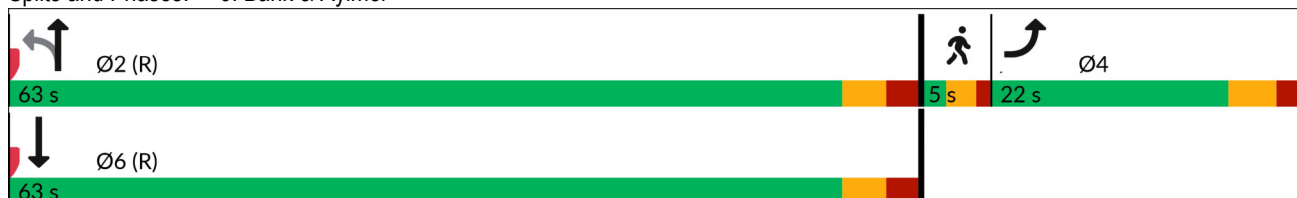


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	93	14	772	799	
Future Volume (vph)	93	14	772	799	
Lane Group Flow (vph)	131	0	874	946	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.6		59.7	59.7	
Actuated g/C Ratio	0.16		0.66	0.66	
v/c Ratio	0.52		0.44	0.46	
Control Delay (s/veh)	38.8		8.2	8.2	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	38.8		8.2	8.2	
LOS	D		A	A	
Approach Delay (s/veh)	38.8		8.2	8.2	
Approach LOS	D		A	A	
Queue Length 50th (m)	19.0		32.6	35.3	
Queue Length 95th (m)	35.4		48.3	51.7	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	283		1973	2044	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.46		0.44	0.46	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.52
 Intersection Signal Delay (s/veh): 10.3 Intersection LOS: B
 Intersection Capacity Utilization 53.6% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 6: Bank & Aylmer

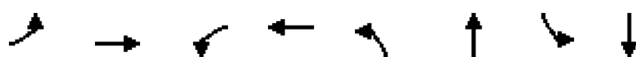


ound Scaled Up

Queues

7: Bank & Sunnyside

08/06/2024

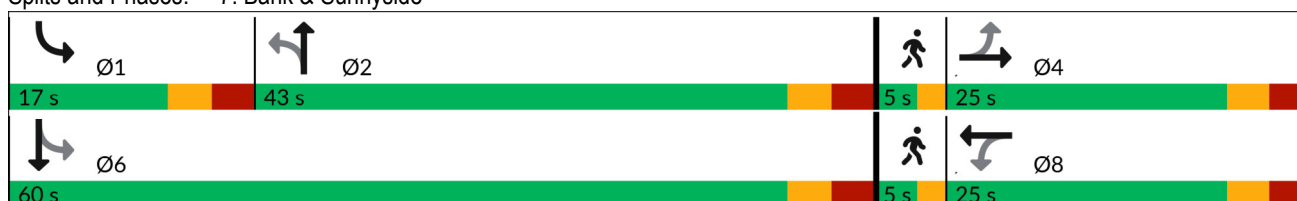


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕↕		↕↕		
Traffic Volume (vph)	54	80	14	86	27	555	143	651		
Future Volume (vph)	54	80	14	86	27	555	143	651		
Lane Group Flow (vph)	0	191	0	291	0	679	0	978		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Detector Phase	4	4	8	8	2	2	1	6		
Switch Phase										
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0	17.0	1.0	1.0
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	None	None
Act Effct Green (s)		19.4		19.4		54.0		54.0		
Actuated g/C Ratio		0.23		0.23		0.64		0.64		
v/c Ratio		0.88		0.86		0.39		0.76		
Control Delay (s/veh)		72.0		49.0		8.3		15.4		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		72.0		49.0		8.3		15.4		
LOS		E		D		A		B		
Approach Delay (s/veh)		72.0		49.0		8.3		15.4		
Approach LOS		E		D		A		B		
Queue Length 50th (m)		30.1		33.5		24.8		51.1		
Queue Length 95th (m)		#67.4		#78.0		34.7		77.1		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		216		337		1722		1294		
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		0.88		0.86		0.39		0.76		

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 85
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay (s/veh): 22.8
 Intersection LOS: C
 Intersection Capacity Utilization 92.2%
 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: 7: Bank & Sunnyside



ound Scaled Up

Queues

9: Queen Elizabeth Drive & Fifth

08/06/2024

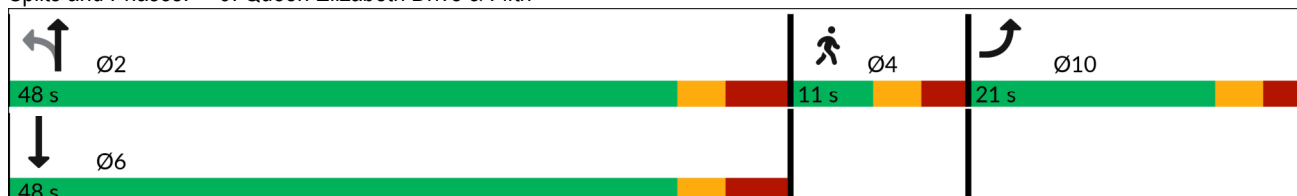


Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	97	73	272	662	
Future Volume (vph)	97	73	272	662	
Lane Group Flow (vph)	210	0	383	880	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Detector Phase	10	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.7	10.8	10.8	31.8	9.7
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	None	None	Max	None
Act Effct Green (s)	13.6		41.2	41.2	
Actuated g/C Ratio	0.20		0.61	0.61	
v/c Ratio	0.68		0.69	0.87	
Control Delay (s/veh)	36.9		17.9	23.7	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	36.9		17.9	23.7	
LOS	D		B	C	
Approach Delay (s/veh)	36.9		17.9	23.7	
Approach LOS	D		B	C	
Queue Length 50th (m)	24.6		30.1	85.7	
Queue Length 95th (m)	#45.2		#70.0	#169.4	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	349		554	1010	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.60		0.69	0.87	

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 67.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay (s/veh): 24.1 Intersection LOS: C
 Intersection Capacity Utilization 92.2% 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: Queen Elizabeth Drive & Fifth



ound Scaled Up

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	70	59	0	0	0	203	61	61	97	0	0	134
Future Vol, veh/h	70	59	0	0	0	203	61	61	97	0	0	134
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	66	0	0	0	226	68	68	108	0	0	149
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.7	9.2	10.1	8.6
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	54%	0%	0%
Vol Thru, %	28%	46%	0%	0%
Vol Right, %	44%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	219	129	203	134
LT Vol	61	70	0	0
Through Vol	61	59	0	0
RT Vol	97	0	203	134
Lane Flow Rate	243	143	226	149
Geometry Grp	1	1	1	1
Degree of Util (X)	0.322	0.208	0.278	0.186
Departure Headway (Hd)	4.761	5.22	4.436	4.508
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	747	681	801	786
Service Time	2.839	3.308	2.513	2.594
HCM Lane V/C Ratio	0.325	0.21	0.282	0.19
HCM Control Delay, s/veh	10.1	9.7	9.2	8.6
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.4	0.8	1.1	0.7

Intersection

Int Delay, s/veh 20.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	5	281	110	759	559	109
Future Vol, veh/h	5	281	110	759	559	109
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	6	312	122	843	621	121

Major/Minor

	Minor2	Major1	Major2			
Conflicting Flow All	1526	860	920	0	-	0
Stage 1	860	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Critical Hdwy	6.645	6.245	4.145	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.52853	3.32852	2.2285	-	-	-
Pot Cap-1 Maneuver	118	353	734	-	-	-
Stage 1	411	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	57 ~ 286	596		-	-	-
Mov Cap-2 Maneuver	57			-	-	-
Stage 1	244			-	-	-
Stage 2	382			-	-	-

Approach

	EB	NB	SB
HCM Control Delay, s/veh	18.96	3.88	0
HCM LOS	F		

Minor Lane/Major Mvmt

	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	456	-	286	-
HCM Lane V/C Ratio	0.205	-	1.09	-
HCM Control Delay (s/veh)	12.6	2.6	119	-
HCM Lane LOS	B	A	F	-
HCM 95th %tile Q(veh)	0.8	-	12.6	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	1	76	0	846	811	0
Future Vol, veh/h	1	76	0	846	811	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1	84	0	940	901	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1371	901	-	0	-	0
Stage 1	901	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Critical Hdwy	6.645	6.245	-	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.5285	3.3285	-	-	-	-
Pot Cap-1 Maneuver	148	334	0	-	-	0
Stage 1	393	-	0	-	-	0
Stage 2	594	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	148	334	-	-	-	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	594	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	19.39	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NB	EBLn1	SBT			
Capacity (veh/h)	-	334	-			
HCM Lane V/C Ratio	-	0.253	-			
HCM Control Delay (s/veh)	-	19.4	-			
HCM Lane LOS	-	C	-			
HCM 95th %tile Q(veh)	-	1	-			

Intersection						
Int Delay, s/veh	14					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	102	105	117	245	466	268
Future Vol, veh/h	102	105	117	245	466	268
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	113	117	130	272	518	298
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1199	667	816	0	0	
Stage 1	667	-	-	-	-	
Stage 2	532	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	
Pot Cap-1 Maneuver	207	463	821	-	-	
Stage 1	514	-	-	-	-	
Stage 2	593	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	168	463	821	-	-	
Mov Cap-2 Maneuver	168	-	-	-	-	
Stage 1	418	-	-	-	-	
Stage 2	593	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s/veh	2.39	3.3		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	582	-	248	-	-	
HCM Lane V/C Ratio	0.158	-	0.926	-	-	
HCM Control Delay (s/veh)	10.2	0	82.4	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	0.6	-	8.2	-	-	

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↖
Traffic Vol, veh/h	0	8	698	1	0	662
Future Vol, veh/h	0	8	698	1	0	662
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	2	2
Mvmt Flow	0	9	776	1	0	736
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	488	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	531	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	475	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/veh	12.73	0	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	475			
HCM Lane V/C Ratio	-	-	0.019			
HCM Control Delay (s/veh)	-	-	12.7			
HCM Lane LOS	-	-	B			
HCM 95th %tile Q(veh)	-	-	0.1			

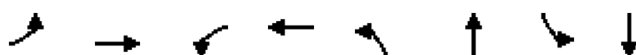
2033 Scenario

Major Event Egress

Queues

1: Bank & Fifth

08/06/2024

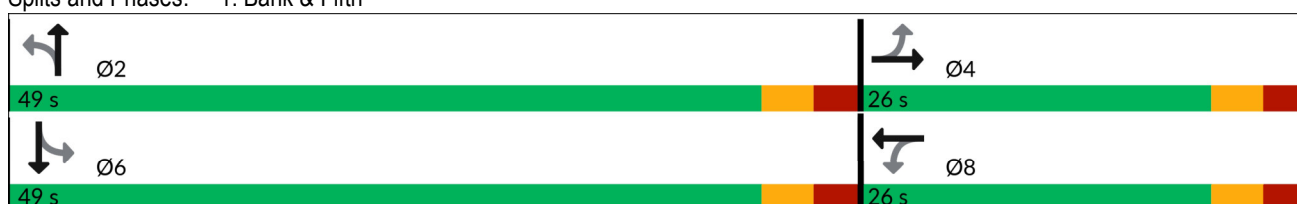


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔	↗	↖		↕		↕
Traffic Volume (vph)	78	34	41	72	22	333	20	373
Future Volume (vph)	78	34	41	72	22	333	20	373
Lane Group Flow (vph)	0	155	46	209	0	422	0	480
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (s)	26.0	26.0	26.0	26.0	49.0	49.0	49.0	49.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)		14.2	14.2	14.2		44.4		44.4
Actuated g/C Ratio		0.20	0.20	0.20		0.64		0.64
v/c Ratio		0.76	0.21	0.58		0.24		0.27
Control Delay (s/veh)		46.5	24.3	18.9		6.4		6.5
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)		46.5	24.3	18.9		6.4		6.5
LOS		D	C	B		A		A
Approach Delay (s/veh)		46.5		19.9		6.4		6.5
Approach LOS		D		B		A		A
Queue Length 50th (m)		16.8	4.9	11.3		10.4		12.0
Queue Length 95th (m)		35.7	12.7	29.6		20.5		23.3
Internal Link Dist (m)		49.7		112.4		195.6		190.0
Turn Bay Length (m)			45.0					
Base Capacity (vph)		287	312	474		1765		1776
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.54	0.15	0.44		0.24		0.27

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 69.6
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay (s/veh): 13.8
 Intersection Capacity Utilization 73.6%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 1: Bank & Fifth



Queues

2: Bank & Holmwood

08/06/2024



Lane Group	EBT	NBL	NBT	SBL	SBT	Ø3
Lane Configurations	↔		↕		↕	
Traffic Volume (vph)	22	52	281	33	297	
Future Volume (vph)	22	52	281	33	297	
Lane Group Flow (vph)	151	0	437	0	438	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		2		6	3
Permitted Phases		2		6		
Detector Phase	4	2	2	6	6	
Switch Phase						
Minimum Initial (s)	4.4	10.0	10.0	4.0	4.0	1.0
Minimum Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (s)	22.0	48.0	48.0	48.0	48.0	5.0
Total Split (%)	29.3%	64.0%	64.0%	64.0%	64.0%	7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.6	2.2	2.2	2.2	2.2	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.6		5.2		5.2	
Lead/Lag	Lag			Lead		
Lead-Lag Optimize?						
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)	13.5		50.7		50.7	
Actuated g/C Ratio	0.18		0.68		0.68	
v/c Ratio	0.62		0.27		0.25	
Control Delay (s/veh)	38.9		3.6		5.2	
Queue Delay	0.0		0.0		0.0	
Total Delay (s/veh)	38.9		3.6		5.2	
LOS	D		A		A	
Approach Delay (s/veh)	38.9		3.6		5.2	
Approach LOS	D		A		A	
Queue Length 50th (m)	19.9		9.5		9.3	
Queue Length 95th (m)	34.2		20.1		19.1	
Internal Link Dist (m)	39.8		31.5		195.6	
Turn Bay Length (m)						
Base Capacity (vph)	306		1620		1755	
Starvation Cap Reductn	0		0		0	
Spillback Cap Reductn	0		0		0	
Storage Cap Reductn	0		0		0	
Reduced v/c Ratio	0.49		0.27		0.25	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 74 (99%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay (s/veh): 9.5

Intersection LOS: A

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Bank & Holmwood



und Scaled Up

Queues

3: Bank & Exhibition

08/06/2024



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø1	Ø7
Lane Configurations							
Traffic Volume (vph)	9	8	370	13	351		
Future Volume (vph)	9	8	370	13	351		
Lane Group Flow (vph)	10	9	423	14	390		
Turn Type	Prot	Perm	NA	Perm	NA		
Protected Phases	8		2		6	1	7
Permitted Phases		8		6			
Detector Phase	8	8	2	6	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	1.0	1.0
Minimum Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (s)	26.0	26.0	39.0	44.0	44.0	5.0	5.0
Total Split (%)	34.7%	34.7%	52.0%	58.7%	58.7%	7%	7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.0	2.0	3.5
All-Red Time (s)	3.0	3.0	3.9	3.9	3.9	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.3	6.3	6.9	6.9	6.9		
Lead/Lag	Lag	Lag	Lag			Lead	Lead
Lead-Lag Optimize?			Yes			Yes	Yes
Recall Mode	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	10.0	10.0	65.7	65.7	65.7		
Actuated g/C Ratio	0.13	0.13	0.88	0.88	0.88		
v/c Ratio	0.05	0.06	0.15	0.02	0.14		
Control Delay (s/veh)	29.0	17.5	2.4	2.6	1.8		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay (s/veh)	29.0	17.5	2.4	2.6	1.8		
LOS	C	B	A	A	A		
Approach Delay (s/veh)	23.6		2.4		1.8		
Approach LOS	C		A		A		
Queue Length 50th (m)	1.3	0.0	0.0	0.0	0.0		
Queue Length 95th (m)	5.3	3.9	13.7	m1.5	10.1		
Internal Link Dist (m)	30.6		33.7		44.8		
Turn Bay Length (m)				40.0			
Base Capacity (vph)	429	302	2773	644	2780		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.02	0.03	0.15	0.02	0.14		

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.15

Intersection Signal Delay (s/veh): 2.6

Intersection LOS: A

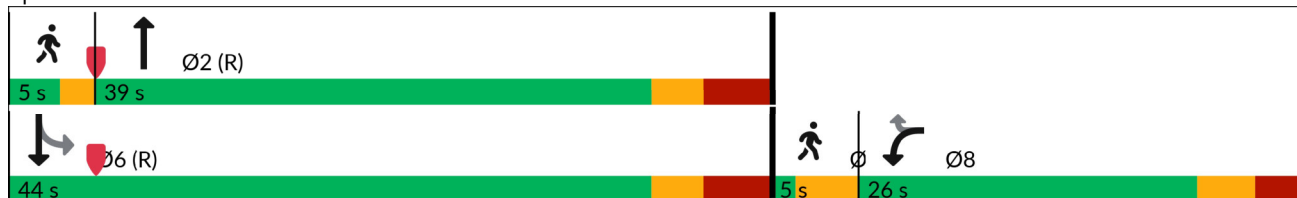
Intersection Capacity Utilization 43.5%

ICU Level of Service A

Analysis Period (min) 15

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

Splits and Phases: 3: Bank & Exhibition



und Scaled Up

Queues

6: Bank & Aylmer

08/06/2024

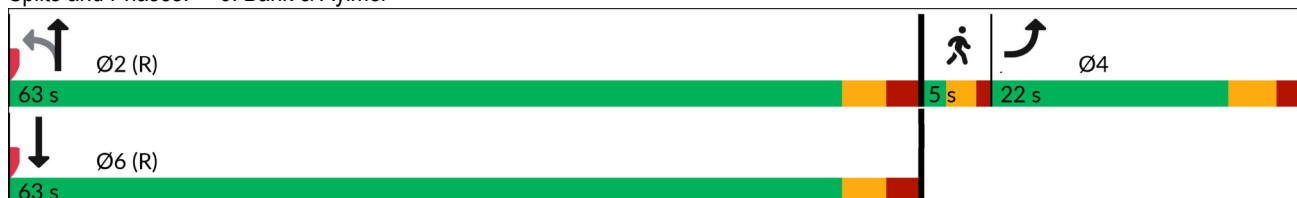


Lane Group	EBL	NBL	NBT	SBT	Ø3
Lane Configurations					
Traffic Volume (vph)	19	17	353	312	
Future Volume (vph)	19	17	353	312	
Lane Group Flow (vph)	39	0	411	373	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	4		2	6	3
Permitted Phases	4	2		6	
Detector Phase	4	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	30.0	30.0	30.0	1.0
Minimum Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (s)	22.0	63.0	63.0	63.0	5.0
Total Split (%)	24.4%	70.0%	70.0%	70.0%	6%
Yellow Time (s)	3.3	3.0	3.0	3.0	2.0
All-Red Time (s)	2.2	2.2	2.2	2.2	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.5		5.2	5.2	
Lead/Lag	Lag				Lead
Lead-Lag Optimize?					
Recall Mode	Ped	C-Max	C-Max	C-Max	Max
Act Effct Green (s)	14.0		60.3	60.3	
Actuated g/C Ratio	0.16		0.67	0.67	
v/c Ratio	0.17		0.21	0.18	
Control Delay (s/veh)	23.5		6.0	5.6	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	23.5		6.0	5.6	
LOS	C		A	A	
Approach Delay (s/veh)	23.5		6.0	5.6	
Approach LOS	C		A	A	
Queue Length 50th (m)	3.2		12.5	10.6	
Queue Length 95th (m)	11.9		18.2	15.7	
Internal Link Dist (m)	76.7		28.1	10.1	
Turn Bay Length (m)					
Base Capacity (vph)	262		1971	2055	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.15		0.21	0.18	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 87 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.21
 Intersection Signal Delay (s/veh): 6.6
 Intersection Capacity Utilization 45.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 6: Bank & Aylmer

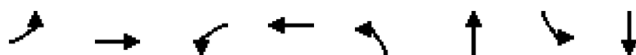


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Queues

7: Bank & Sunnyside

08/06/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations		↕		↕		↕↕		↕↕		
Traffic Volume (vph)	32	29	17	36	20	290	15	319		
Future Volume (vph)	32	29	17	36	20	290	15	319		
Lane Group Flow (vph)	0	94	0	101	0	352	0	405		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
Permitted Phases	4		8		2		6			
Detector Phase	4	4	8	8	2	2	1	6		
Switch Phase										
Minimum Initial (s)	6.4	6.4	5.3	5.3	17.0	17.0	5.0	17.0	1.0	1.0
Minimum Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (s)	25.0	25.0	25.0	25.0	43.0	43.0	17.0	60.0	5.0	5.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	47.8%	47.8%	18.9%	66.7%	6%	6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.6	2.6	2.6	2.6	3.0	3.0	2.9	3.0	0.0	0.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0		
Total Lost Time (s)		5.6		5.6		6.0		6.0		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead		Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	None	None
Act Effct Green (s)		11.7		11.5		59.8		59.8		
Actuated g/C Ratio		0.15		0.15		0.75		0.75		
v/c Ratio		0.56		0.48		0.16		0.19		
Control Delay (s/veh)		43.6		28.4		4.4		4.3		
Queue Delay		0.0		0.0		0.0		0.0		
Total Delay (s/veh)		43.6		28.4		4.4		4.3		
LOS		D		C		A		A		
Approach Delay (s/veh)		43.6		28.4		4.4		4.3		
Approach LOS		D		C		A		A		
Queue Length 50th (m)		12.9		8.7		7.5		8.5		
Queue Length 95th (m)		26.7		22.2		15.4		17.3		
Internal Link Dist (m)		75.1		136.0		63.1		79.0		
Turn Bay Length (m)										
Base Capacity (vph)		280		328		2144		2100		
Starvation Cap Reductn		0		0		0		0		
Spillback Cap Reductn		0		0		0		0		
Storage Cap Reductn		0		0		0		0		
Reduced v/c Ratio		0.34		0.31		0.16		0.19		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 79.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay (s/veh): 10.8

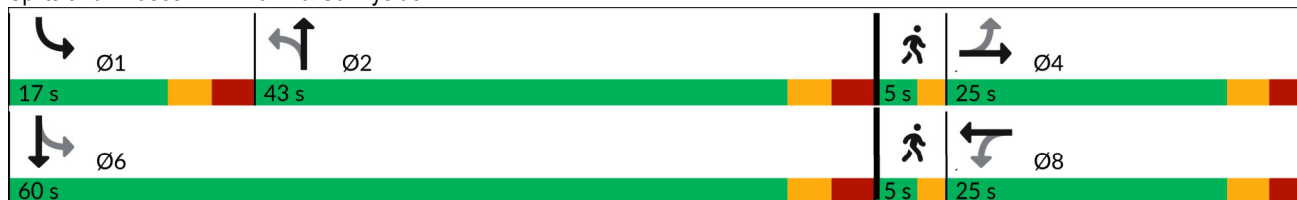
Intersection LOS: B

Intersection Capacity Utilization 46.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: Bank & Sunnyside



Queues

9: Queen Elizabeth Drive & Fifth

08/06/2024



Lane Group	EBL	NBL	NBT	SBT	Ø4
Lane Configurations					
Traffic Volume (vph)	143	44	306	298	
Future Volume (vph)	143	44	306	298	
Lane Group Flow (vph)	229	0	389	410	
Turn Type	Prot	Perm	NA	NA	
Protected Phases	10		2	6	4
Permitted Phases		2			
Detector Phase	10	2	2	6	
Switch Phase					
Minimum Initial (s)	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.7	10.8	10.8	31.8	9.7
Total Split (s)	21.0	48.0	48.0	48.0	11.0
Total Split (%)	26.3%	60.0%	60.0%	60.0%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.7	3.8	3.8	3.8	2.7
Lost Time Adjust (s)	0.0		0.0	0.0	
Total Lost Time (s)	5.7		6.8	6.8	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	None	None	Max	None
Act Effct Green (s)	13.9		41.2	41.2	
Actuated g/C Ratio	0.21		0.61	0.61	
v/c Ratio	0.72		0.41	0.41	
Control Delay (s/veh)	39.0		8.9	8.7	
Queue Delay	0.0		0.0	0.0	
Total Delay (s/veh)	39.0		8.9	8.7	
LOS	D		A	A	
Approach Delay (s/veh)	39.0		8.9	8.7	
Approach LOS	D		A	A	
Queue Length 50th (m)	27.0		24.0	25.2	
Queue Length 95th (m)	#53.5		40.7	42.0	
Internal Link Dist (m)	57.2		0.1	5.9	
Turn Bay Length (m)					
Base Capacity (vph)	353		938	1001	
Starvation Cap Reductn	0		0	0	
Spillback Cap Reductn	0		0	0	
Storage Cap Reductn	0		0	0	
Reduced v/c Ratio	0.65		0.41	0.41	

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 67.6

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay (s/veh): 15.5

Intersection LOS: B

Intersection Capacity Utilization 69.2%

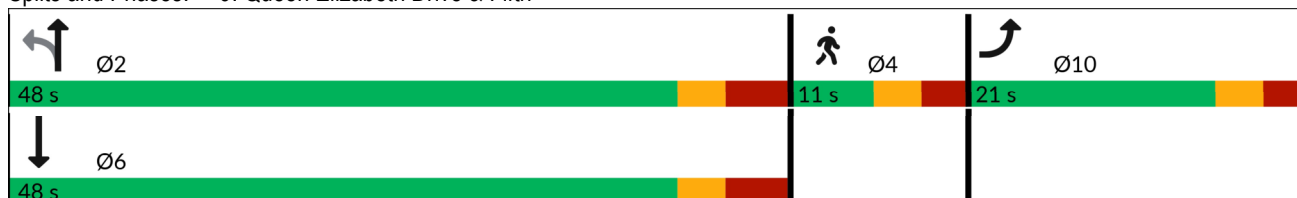
ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Queen Elizabeth Drive & Fifth



und Scaled Up

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕				↕
Traffic Vol, veh/h	25	54	0	0	0	115	116	102	143	0	0	56
Future Vol, veh/h	25	54	0	0	0	115	116	102	143	0	0	56
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	60	0	0	0	128	129	113	159	0	0	62
Number of Lanes	0	1	0	0	0	1	0	1	0	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9	8.4	11.4	7.7
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	32%	0%	0%
Vol Thru, %	28%	68%	0%	0%
Vol Right, %	40%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	361	79	115	56
LT Vol	116	25	0	0
Through Vol	102	54	0	0
RT Vol	143	0	115	56
Lane Flow Rate	401	88	128	62
Geometry Grp	1	1	1	1
Degree of Util (X)	0.484	0.127	0.159	0.074
Departure Headway (Hd)	4.342	5.19	4.488	4.294
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	826	688	795	829
Service Time	2.379	3.244	2.538	2.348
HCM Lane V/C Ratio	0.485	0.128	0.161	0.075
HCM Control Delay, s/veh	11.4	9	8.4	7.7
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.7	0.4	0.6	0.2

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	0	5	0	374	304	70
Future Vol, veh/h	0	5	0	374	304	70
Conflicting Peds, #/hr	0	0	178	0	0	107
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	6	0	416	338	78
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	555	594	0	0	
Stage 1	-	-	-	-	-	
Stage 2	-	-	-	-	-	
Critical Hdwy	-	6.245	4.145	-	-	
Critical Hdwy Stg 1	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-	-	-	
Follow-up Hdwy	-3.32852	2.2285	-	-	-	
Pot Cap-1 Maneuver	0	528	975	-	-	
Stage 1	0	-	-	-	-	
Stage 2	0	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	429	791	-	-	
Mov Cap-2 Maneuver	-	-	-	-	-	
Stage 1	-	-	-	-	-	
Stage 2	-	-	-	-	-	
Approach	EB	NB	SB			
HCM Control Delay, s/veh	13.51	0	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	791	-	429	-	-	
HCM Lane V/C Ratio	-	-	0.013	-	-	
HCM Control Delay (s/veh)	0	-	13.5	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑	
Traffic Vol, veh/h	0	34	0	358	314	0
Future Vol, veh/h	0	34	0	358	314	0
Conflicting Peds, #/hr	0	0	0	0	0	86
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	38	0	398	349	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	349	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.245	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3285	-	-	-	-
Pot Cap-1 Maneuver	0	691	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	691	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	0		0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBTEBLn1		SBT			
Capacity (veh/h)	- 691		-			
HCM Lane V/C Ratio	- 0.055		-			
HCM Control Delay (s/veh)	- 10.5		-			
HCM Lane LOS	- B		-			
HCM 95th %tile Q(veh)	- 0.2		-			

Intersection						
Int Delay, s/veh	23.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	242	214	57	115	227	134
Future Vol, veh/h	242	214	57	115	227	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	269	238	63	128	252	149
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	581	327	401	0	-	0
Stage 1	327	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	479	719	1168	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	793	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	451	719	1168	-	-	-
Mov Cap-2 Maneuver	451	-	-	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	793	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/veh	9.99	2.74		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR		
Capacity (veh/h)	597	-	547	-	-	
HCM Lane V/C Ratio	0.054	-	0.927	-	-	
HCM Control Delay (s/veh)	8.3	0	50	-	-	
HCM Lane LOS	A	A	E	-	-	
HCM 95th %tile Q(veh)	0.2	-	11.5	-	-	

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			↑↑
Traffic Vol, veh/h	0	4	444	1	0	364
Future Vol, veh/h	0	4	444	1	0	364
Conflicting Peds, #/hr	0	0	0	100	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	2	2
Mvmt Flow	0	4	493	1	0	404

Major/Minor

	Minor1	Major1	Major2
Conflicting Flow All	-	347	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.9	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	-
Pot Cap-1 Maneuver	0	655	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	585	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s/v	11.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	585
HCM Lane V/C Ratio	-	-	0.008
HCM Control Delay (s/veh)	-	-	11.2
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0