1-19 Sir John A MacDonald Parkway

Transportation Impact Assessment

Type of Document
Final Report

Project Number
OTT-00245595-A0

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National Capital Commission

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2020-10-28

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1. Screening Form

EXP completed a TIA screening form for the proposed re-zoning request for the property and submitted as part of the original Memorandum submitted to the City of Ottawa on April 26, 2019. A copy of the completed screening form is attached to this report as Appendix A.

The National Capital Commission (NCC) is looking to complete a rezoning request for the property to rezone from 'Open Space and Leisure' to 'Residential First Density (R1)'. The 3.7-hectare site located north of Burnside Avenue between Forward Avenue and Slidell Street, is bounded to the north by Sir John A. MacDonald Parkway (SJAM) and to the south by Burnside Avenue. The site location is shown below in **Figure 1**. For the purposes of this rezoning request, the NCC has prepared a concept plan which divides the land into 6 parcels (see draft concept plan in Appendix B). The proposed concept satisfies the Trip Generation Trigger and the Safety Trigger due to the size of the development and the proximity to an existing intersection and we are proceeding with the Scoping Report.

Figure 1 - Site Area

2. Scoping Report

2.1 Proposed Development

The National Capital Commission (NCC) is proposing the rezoning of the existing 3.7-hectare property described above from 'Open Space and Leisure' to Residential First Density (R1). Diplomatic mission is listed as a permitted use in the R1 zone. The concept plan prepared for the purposes of this rezoning request divides the property into 6 parcels with a pathway along the northern edge of the site (along Sir John A. MacDonald Parkway), two pathway connections through the site and 1,596m^2 of parkland which has been provided at the eastern edge of the site. The concept shows potential access to the local roadway network, parking and entrances and has a total of 206 parking spaces. The size of the building on each parcel is as follows:

Table 1 - Parcel Building Sizes

Parcel	Gross Floor Area (m^2)
Parcel 1	2,430
Parcel 2	2,139
Parcel 3	2,123
Parcel 4	2,360
Parcel 5	2,090
Parcel 6	2,147
Total	**13,289**

As the project moves forward, each parcel will need to follow a site plan approval process which may include the preparation of individual Transportation Impact Assessments (TIAs) discussing potential traffic impacts of each site and how each site would align with the City's transportation objectives through adherence to the Transit-Oriented Development goals of the City.

The NCC is undertaking a comprehensive review of the lands along and including Sir John A. MacDonald Parking as part of their 'Ottawa River South Shore Riverfront Park Plan' which may have an impact on traffic patterns in the area.

2.2 Existing and Proposed Conditions

2.2.1 Existing Conditions

2.2.1.1 Area Road Network

Sir John A. MacDonald Parkway is an east-west, NCC arterial roadway, which extends from Carling Avenue to the west to Portage Avenue to the east. Sir John A. MacDonald Parkway is a four-lane urban divided controlled access roadway with a traffic control signal at the Slidell Street/River Street intersection and an on/off ramps at Parkdale Avenue. The NCC has posted the following turn restrictions at the Slidell Street/River Street intersection:

- SJAM eastbound, right turn restriction – 7:00 to 9:00, 16:00 to 18:00;
- SJAM westbound, right and left turn restrictions, straight only;
- Slidell Street northbound, right and left turn restrictions, straight only; and
- Onigam Street southbound, left turn restriction.

The posted speed limit is 60 km/hr and no commercial vehicles are permitted on the roadway.

Slidell Street is a north-south, City-owned, collector roadway which extends between SJAM to the north to the Burnside Avenue/Bayview Station Road roundabout to the south. Slidell Street has northbound turning restrictions identified above. The Highway Traffic Act restricts speed to 50 km/hr in unposted urban areas.

Onigam Street is a north-south, City-owned, local roadway which extends between the Lemieux Island Water Purification Plant to the north to SJAM to the south. Onigam Street is a two-lane urban local roadway with the turning restrictions (southbound) identified above. The speed limit is assumed to be 50 km/hr in the unposted area.

Bayview Station Road is a north-south, City-owned, collector roadway which extends from Slidell Road/Burnside Avenue to the north to Wellington Street West to the south. Bayview Station Road is a two-lane, urban collector street with on-street parking and auxiliary turning lanes at major intersections. The speed limit is assumed to be 50 km/hr in the unposted area.

Burnside Avenue is an east-west, City-owned, local roadway which extends from Parkdale Avenue to the west to Slidell Street/Bayview Station Road to the east. Burnside Avenue is a two-lane urban local roadway with a signalized intersection at Parkdale Avenue and unsignalized intersections east of Parkdale. The speed limit is assumed to be 50 km/hr in the unposted area.

Hinchey Avenue is a north-south, City-owned, local roadway which extends from a dead-end north of Burnside Avenue to the north to Armstrong Street to the south. Hinchey Avenue is a two-lane urban local roadway with on-street parking on the west side of the street south of Burnside Avenue and on-street parking on the east side of the street north of Burnside Avenue. Hinchey Avenue has unsignalized intersections throughout and speed limit is posted as 40 km/hr.

Forward Avenue is a north-south, City-owned, local roadway which extends from Emmerson Avenue to the north to a dead-end south of Lyndale Avenue to the south. Forward Avenue is a two-lane urban local roadway with on-street parking on the east side of the street and unsignalized intersections throughout. The speed limit is posted as 40 km/hr.

2.2.1.2 Existing Study Area Intersections

From discussion with the City (Appendix C), the following intersections study area delineates the study area for the Screening and Scoping Report:

Sir John A. MacDonald Parkway & Slidell Street / Onigam Street is a signalized four-way intersection. The eastbound approach consists of two through lanes with no left or right turns permitted between 7:00 and 9:00 and 16:00 and 18:00. The westbound approach consists of two through lanes with no left turns permitted and no right turns permitted between 7:00 to 9:00 and 16:00 to 18:00. The northbound approach consists of one through lane with no left or right turns permitted. The southbound approach consists of one through lane with no left turns permitted.

Slidell Street & Burnside Avenue & Bayview Station Road is a one-lane roundabout with exits at each street and designated pedestrian crossings at each street entry/exit.

Scott Street / Albert St & Bayview Station Road is a signalized four-way intersection. The eastbound approach consists of one through lane and one shared bus lane and right turn lane. The westbound approach consists of one through-lane, one auxiliary left-turn lane and one bus lane which is a shared through lane and right turn lane. The northbound approach consists of one through lane, one auxiliary left turn lane and one right turn lane with a yield sign. The southbound approach consists of one through lane and one auxiliary left turn lane. There are cycle lanes provided along the south side of Scott Street on the eastbound approach.

Parkdale Avenue & Burnside Avenue is a three-way signalized intersection. All approaches at this intersection consist of single full-movement lanes. There are no cycle lanes provided.

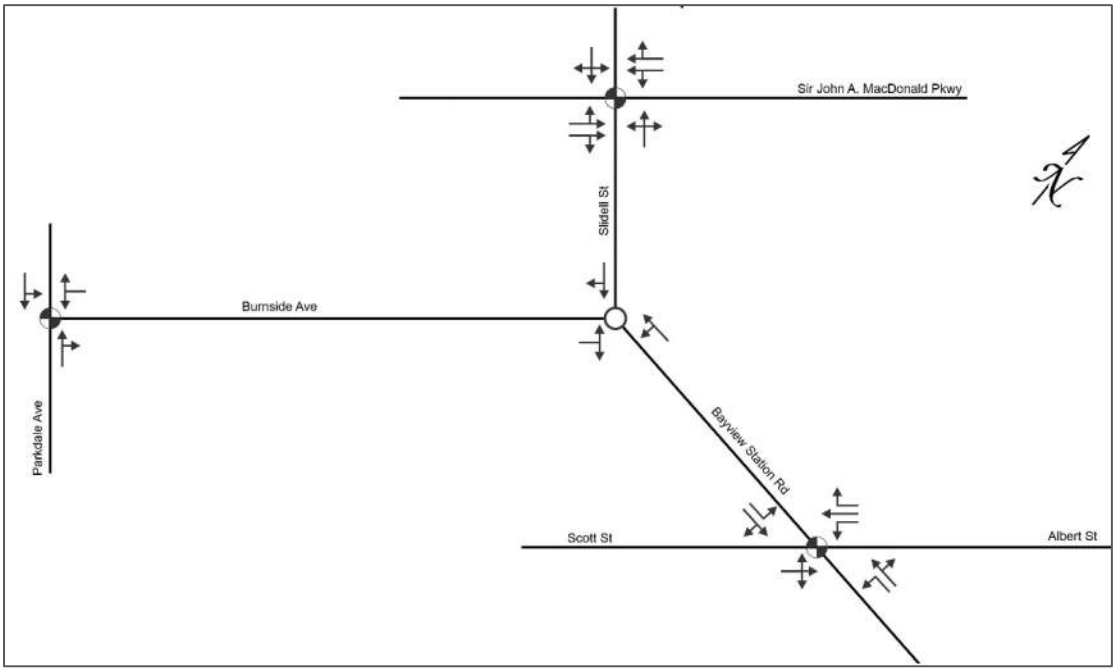


Figure 2 - Study Area Lane Configuration

2.2.1.3 Existing Driveways to Adjacent Developments

There is an existing commercial driveway entrance located approximately 45m to the south of the signalized intersection of SJAM and Slidell Road. This driveway provides access to a large commercial lot for Bayview Yards.

There is an existing apartment driveway/parking lot entrance located on Burnside Avenue approximately 35m west of Stonehurst Avenue. This parking area services the apartment units located between Stonehurst Avenue and Carruthers Avenue on the south side of Burnside Avenue.

There is an existing parking lot and parking lot entrance located approximately 35m to the west of Caruthers Avenue. These parking lots service the surrounding residential properties.

On Burnside Avenue between Hinchey Avenue and Carruthers Avenue there are two driveway accesses to single detached houses, as well as a laneway. on Burnside Avenue between Carruthers Avenue and Stonehurst Avenue there is a driveway access to an apartment buildings garage and a laneway.

There is an existing parking garage entrance to the apartment building located at 100 Hinchey Avenue located approximately 50m to the north of Burnside Avenue on Hinchey Avenue.

2.2.1.4 Pedestrian/Cycling Network

With respect to pedestrian traffic, sidewalks in the vicinity of the proposed development will need to be constructed to connect the proposed development to the existing pedestrian walkways.

With respect to cyclists, according to the City of Ottawa Cycling Plan, both SJAM and Scott Street/Albert Street are considered major pathways with Scott Street/Albert Street also classified as a “Spine” cycling route and “Cross-town” cycling route. Slidell Street, Burnside Avenue, Bayview Station Road and Parkdale Avenue north of Burnside Road are considered “local” cycling routes.

The Ottawa River Pathway is a major multi use trail. It runs along the north side of Sir John A MacDonald Parkway and is within the study area. The safest connection point to the pathway is either via the connection on Parkdale Avenue or the crossing at Onigam Street. The pathway is a part of the larger network maintained by the National Capital Commission, as well as a part of the Trans Canada Trail.

A multi-use pathway runs along the north side of Scott Street within the study area. At the intersection of Bayview Station Road and Scott Street/Albert Street, the pathway splits in two and exists on both sides of Albert Street until Bayview Station, where it resumes to follow the north side of Albert Street.

Connections to these pedestrian/cycling networks will need to be examined as part of the pre-consultation process for the individual site plan applications for each parcel.

2.2.1.5 Transit Network

A map of the nearby bus routes and light rail stations is shown in **Figure 3**. The closest bus stop is located at Parkdale Avenue and Burnside Avenue, serviced by a single bus route.

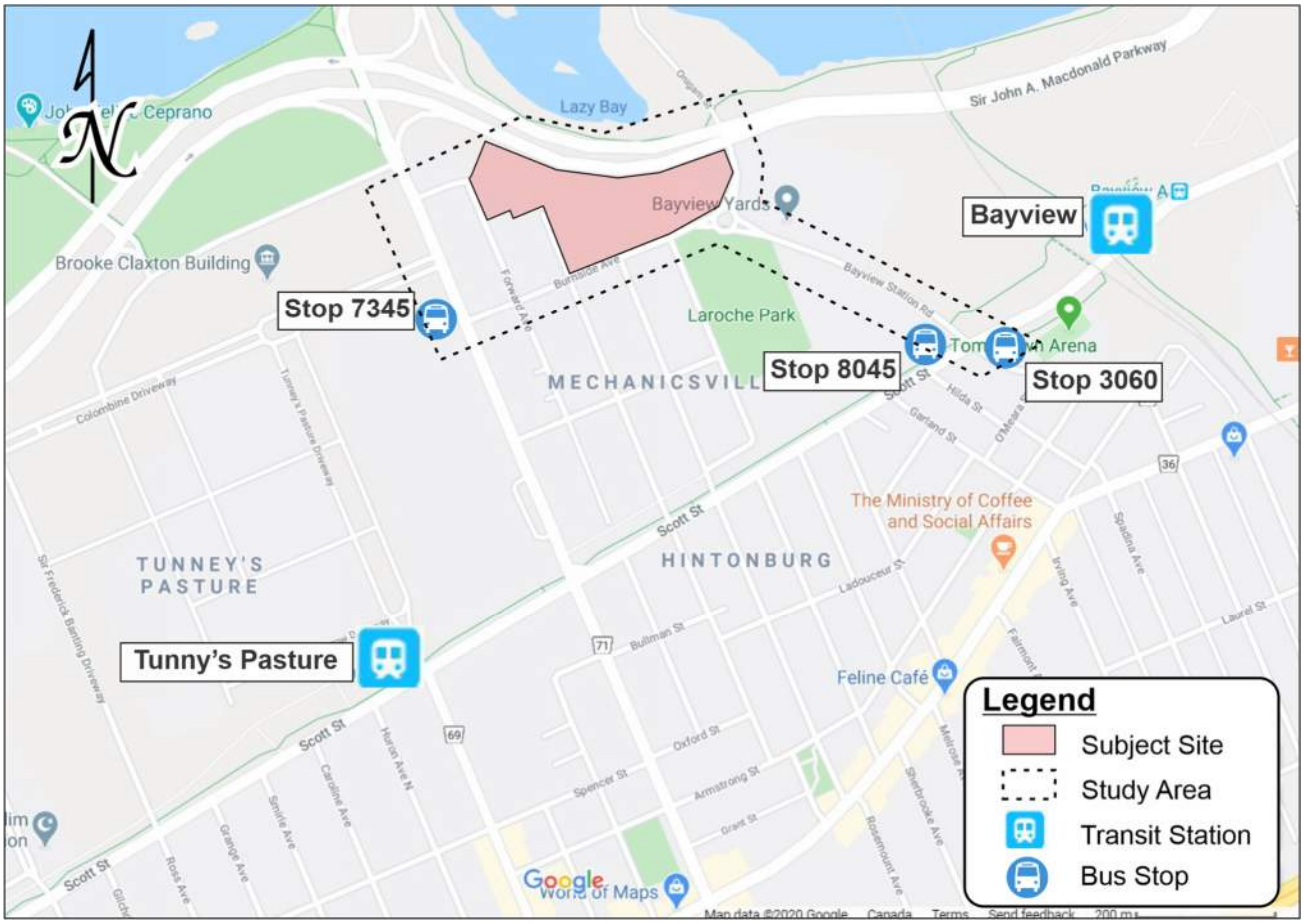


Figure 3 - Transit Network

A description of each transit stop is provided in **Table 2**.

Table 2 Transit Stop Descriptions

Stop Location	Distance from Subject Site (Approx.)	Amenities	Direction	OC Transpo Route
Parkdale / Burnside (7345)	200 m	Bus Shelter Bench	Southbound	54
Tom Brown Arena (8045)	450 m	Bus Shelter Bench	Westbound	16
				57
				61
				75
Bayview B (3060)	525 m	Bus Shelter	Eastbound	16
				57
				61
				63
				66
				75
Tunney's Pasture Station (3011)	850 m	Transit Station	Eastbound / Westbound	Route 1 O-Train
				50 Bus Routes
Bayview	650 m	Transit Station	Eastbound / Westbound	Route 1 O-Train
				Route 2 O-Train

An overview of the transit routes within the study area:

Route 1 O-Train Tunney's Pasture – Blair: The O-Train operating in exclusive right-of-way from Tunney's Pasture to Blair Station via Downtown Ottawa with peak headways of approximately 4 minutes and off-peak headways of 5 to 8 minutes and 15 minutes after 23:00. The O-Train operates from 05:00 to 01:00 during the week.

Route 2 O-Train Bayview – Greenboro: The O-Train is currently being served by a bus due to construction but serves all stations along Route 2. This route is currently operating on headways of approximately 12 minutes until 21:00 and hen operates on headways of 15 minutes. Route 2 operates from 05:35 to approximately 24:00 during the week.

Route 16 Main – Tunny's Pasture/Westboro: The bus route operates along Scott Street through the study area, between Main Street outside Saint Paul University and Tunney's Pasture transit station. The route extends west of Tunney's Pasture transit station to Westboro at Churchill Avenue and Scott Street between Monday and Saturday. The route has headways of 30 minutes. Route 16 operates from 06:10 to 24:00 during the week.

Route 54 Tunney's Pasture: The bus route operates on Parkdale Avenue and Scott Street through the study area, looping around the adjacent neighborhood clockwise, starting and ending at Tunney's Pasture transit station. The route has headways of 30 minutes, between 07:00 and 22:40 during the week.

Route 57 Tunney's Pasture & N Rideau – Bell's Corners: The bus route operates along Scott Street through the study area. The route operates between Tunney's Pasture transit station and Bell's Corners in western Ottawa. Overnight, the route extends east of Tunney's Pasture to Rideau Station to compensate for the lack of O Train service. The route has headways of 15 minutes and operates between 04:50 and 03:30 during the week.

Route 61 Tunney's Pasture & N Rideau & Gatineau – Stittsville: The bus route operates along Scott Street through the study area. The route operates between Tunney's Pasture transit station and Stittsville in western Ottawa. During peak hours, the route extends north to Gatineau. Overnight, the route extends east of Tunney's Pasture to Rideau Station to compensate for the

lack of O Train service. The route has headways of approximately 9 minutes during peak hours and 15 minutes outside of peak hours. The route operates between 03:50 and 03:30 during the week.

Route 63 Briarbrook – Tunney's Pasture: The bus route operates along Scott Street through the study area. The route operates between Tunney's Pasture transit station and Carp in northwestern Ottawa. During peak hours, the route extends north to Gatineau. The route has headways of approximately 15 minutes during peak hours and 30 minutes outside of peak hours. The route operates between 05:10 and 00:50 during the week.

Route 66 Kanata-Solandt – Tunney's Pasture: The bus route operates along Scott Street through the study area. The route operates between Kanata and Tunney's Pasture with some trips extending to Gatineau. During the morning, the route operates westbound towards Kanata. During the afternoon, the route operates eastbound to Tunney's Pasture and Gatineau. The route has headways of approximately 15 minutes. The route operates between 05:30 and 09:50, 14:20 and 20:00 during the week.

Route 75 Tunney's Pasture & N Rideau & Gatineau – Barrhaven Centre: The bus route operates along Scott Street through the study area. The route operates between Tunney's Pasture transit station and the Minto Recreation Complex in Barrhaven. During peak hours, the route extends north to Gatineau. Overnight, the route extends east of Tunney's Pasture to Rideau Station to compensate for the lack of O Train service. The route has headways of approximately 8 minutes. The route operates a full 24 hours during the week.

2.2.1.6 Existing Area Traffic Management Measures

The existing traffic control measures for each of the boundary streets are as follows:

Sir John A. MacDonald Parkway

- Divided Roadway
- Traffic signal at Slidell Street/Onigam Street
- Turning Movement Restrictions at Slidell Street/Onigam Street
  - EB Vehicles cannot turn left or right in either direction (7:00-9:00, 16:00-18:00).
  - WB Vehicles cannot turn left, or right (7:00-9:00, 16:00-18:00).
- Pedestrian and Cycling pathways nearby and fully separated.

Burnside Avenue

- 40 km/h roadway
- Roundabout with Full Pedestrian Crossings at Slidell Street and Bayview Station Road
- Traffic signal at Parkdale Avenue
- Median flex stakes indicating posted speed
- Speed board between Hinchey Avenue and Carruthers Avenue
- On street parking
- Sidewalk (South)

Slidell Street

- Roundabout with Full Pedestrian Crossings at Burnside Avenue and Bayview Station Road
- Traffic signal at Sir John A. MacDonald Parkway
- Turning Movement Restrictions at Slidell Street/Onigam Street
  - Vehicles cannot turn left or right in either direction on Slidell Street;
  - Vehicles cannot turn left on Onigam Street.
- Sidewalk (West)

Hinchey Avenue

- 40 km/h roadway
- Stop controlled at Burnside Avenue
- On street parking

Sidewalk (West)

Forward Avenue

- 40 km/h roadway
- Stop controlled at Burnside Avenue
- On street parking
- Sidewalk (East and West)

2.2.1.7 Peak Hour Travel Demands

Traffic volumes and signal timings were collected from the City of Ottawa in preparation of the study. The information is provided in **Appendix D**.

As the traffic counts were conducted at different times and in different years, a uniform growth rate was applied to each intersection. An annual growth rate of 2.0% was applied to each intersection not counted within 2020 to grow to a uniform 2020 existing traffic horizon.

Additionally, the Scott Street/Albert Street / Bayview Station Road intersection count was conducted in September 2016 and included bus volumes from the Transitway detour. These buses were removed from the 2020 horizon by reducing the number of heavy vehicles through the intersection.

Typically, the weekday morning and afternoon peak hours on adjacent streets will constitute the "worst case" of the combination of development-generated and background traffic. The time periods for analysis should be confirmed by the City as part of the pre-consultation process for the development of the site plans for each parcel.

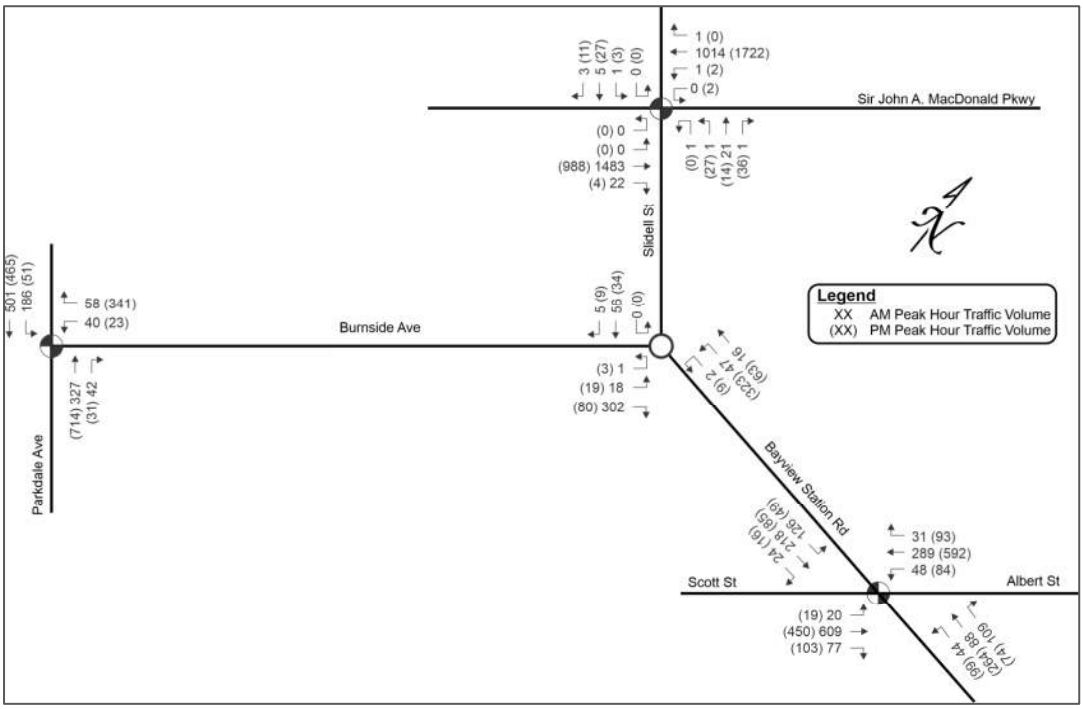


Figure 4 - Existing (2020) Volumes

The existing traffic operations were assessed using Synchro software and the results provided in **Appendix E** summarized in **Table 3**. Critical movements are determined based on the MMLOS Guidelines, wherein movements are deemed critical if the LOS is equal to E or worse. Overall intersection LOS is based on the v/c threshold as per the MMLOS Guidelines.

Table 3 - Existing (2020) Traffic Operations Analysis

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement(s)			Overall		
	LoS	v/c	Movement	Delay (s)	v/c	LOS
Signalized						
Parkdale Ave & Burnside Ave	-	-	-	12.1 (19.2)	0.68 (0.74)	B (C)
Sir John A MacDonald Parkway & Slidell St / Onigam St	-	-	-	5.7 (9.2)	0.59 (0.72)	A (C)
Scott St / Albert St & Bayview Station Rd	E (E)	0.88 (0.72)	SBL	30.5 (26.7)	0.89 (0.81)	D (D)
Unsignalized						
Burnside Ave & Slidell St & Bayview Station Rd	-	-	-	3.6 (5.8)	0.260 (0.335)	A (A)

2.2.1.8 Existing Road Safety Conditions

Collision history for the study area intersections (2014-2018, inclusive) was obtained from the City of Ottawa. Refer to **Appendix I** for the collision diagrams and details report. The City requires a safety review to be conducted if at least four (4) collisions have occurred for any one movement or of a discernible pattern over a five (5) year period. A review of the boundary streets' historical collision records indicates collisions at the following intersections include:

- **Bayview Road & Scott Street / Albert Street** – a total of twenty-nine (29) collisions were recorded. The impact types were five (5 or 17%) angled, seven (7 or 24%) rear-end, two (2 or 7%) sideswipe, thirteen (13 or 45%) turning movement and two (2 or 7%) single vehicle. Nine (9 or 31%) collisions were classified as non-fatal, all others were property damage only.
- **Bayview Road & Burnside Avenue & Slidell Street** – a total of five (5) collisions were recorded. The impact types were two (2 or 40%) angled, two (2 or 40%) sideswipe, one (1 or 20%) single vehicle. Three (3 or 67%) collisions are classified as non-fatal, all others were property damage only.
- **Sir John A MacDonald Pkwy & Slidell St / Onigam St** – a total of eighteen (18) collisions were recorded. The impact types were six (6 or 33%) angled, nine (9 or 50%) rear end, one (1 or 6%) turning movement and two (2 or 11%) single vehicle. Two collisions (2 or 11%) resulted in a fatal injury, another two resulted in a non-fatal injury and three (3 or 17%) were non-reportable.
- **Parkdale Avenue & Burnside Avenue** – a total of two (2) collisions were recorded. The impact types were one (1 or 50%) rear end and one turning movement. Both collisions were property damage only.

2.2.2 Planning Conditions

2.2.2.1 Planned Study Area Transportation Network

The Ottawa River South Shore Riverfront Park Plan proposes improvements of the at-grade crossing at Slidell Street in addition to the reconfiguration of the Parkdale on-ramp. As these improvements are conceptual, they will need to be re-evaluated as part of the pre-consultation for the site plan applications of the individual parcels.

With the completion of the LRT to Tunney's Pasture, Scott Street and Albert Street will be reconfigured through the study area. The bus lane along Scott Street and Albert Street will be removed and replaced with hatched pavement, provided greater separation between the vehicle and cycling lanes. Functionally, the geometrics of the road will be the same for vehicular traffic.

2.2.2.2 Other Area Development

Several developments have been identified within the surrounding area. The list below outlines their location, purpose, buildout year and number of trips.

- **111, 115, 121 Parkdale Avenue and 51 Burnside Avenue**: A 32-storey residential building, containing 218 condominium units, and 450m^2 of retail space. Based on the traffic impact assessment prepared by Stantec in 2012, the build-out year is slated for 2020. The TIA added 67 AM vehicular trips and 78 PM vehicular trips to the network.
- **99 Parkdale Avenue**: A 28-storey residential building, containing 238 condominium units. Based on the traffic impact assessment prepared by J.L. Richards & Associates in 2019, the build out year is slated for 2023. The TIA added 36 AM vehicular trips and 29 PM vehicular trips to the network.
- **175 Carruthers Avenue**: A 18-storey residential building containing 187 apartment units, and a 3.5-storey residential building containing 12 units. Based on the traffic impact brief addendum prepared by Parsons in 2017, a build out year has not been provided, but is assumed to be completed by 2023. The traffic impact brief added 59 AM vehicular trips and 69 PM vehicular trips to the network.
- **900 Albert Street**: A mixed use development, containing 1241 residential units, 8124m^2 of retail space and 37745m^2 of office space. Based on the traffic impact assessment addendum prepared by Parsons in 2020, the build out year is slated for 2025. The TIA added 398 AM vehicular trips and 613 PM vehicular trips to the network. Trips routed on the north leg of Bayview Station Road at Scott Street/Albert Street are assumed to be assuming the Sir John A MacDonald Parkway, and are routed along Burnside Avenue as well.

2.3 Study Area

The proposed study area is as outlined below, illustrated in **Figure 5** and as highlighted in Section 2.2.1 of this report:

- Sir John A. MacDonald Parkway/Slidell Street;
- Slidell Street/Burnside Avenue/Bayview Station Road (roundabout);
- Scott Street/Bayview Station Road;
- Parkdale Avenue/Burnside Avenue; and
- All boundary streets surrounding the proposed development including Slidell Street, Burnside Avenue, Hinchey Avenue, Forward Avenue and the Sir John A. MacDonald Parkway.

Figure 5 - Study Area

2.4 Time Periods

It is proposed that the residential development will generate peak traffic volumes during the weekday in the AM and PM peak periods.

2.5 Horizon Years

Based upon the anticipated size of the proposed development, it is anticipated both of the horizon periods (full occupancy and 5 years following full occupancy) will be required for analysis. The full occupancy of the development is anticipated for 2023. Therefore, the horizon years are for 2023 and 2028.

2.6 Exemptions Review

Based upon Table 4 in the City of Ottawa TIA Guidelines, the following exemptions apply to the proposed development:

- Modules 4.1.2 'Circulation and Access' – The module is only required for site plans; and
- Modules 4.2 'Parking' – The module is only required for site plans; and

3. Forecasting

3.1 Proposed Development

3.1.1 Development-Generated Travel Demand

Trip generation for the proposed development was derived from ITE Trip Generation Manual 10th Edition. The land use used for is Government Office Building (ITE #730). In occurrence with City of Ottawa standards, person trips were determined by multiplying the ITE trips by 1.28. The breakdown of trip generation is provided in **Table 4**.

Table 4 - Trip Generation

Land Use	Parcel	Independent Variable	Parameters	AM Peak Hour		PM Peak Hour	
				In	Out	In	Out
Government Office Building (ITE #730)	Scenario			Peak Hour of Adjacent Street		Peak Hour of Adjacent Street	
	Rate / Eq.			3.34		1.71	
	Distribution			75%	25%	25%	75%
	1	26156 sq. ft GFA	ITE Trips	87		45	
			Person Trips (1.28)	112		57	
			Distributed Trips	84	28	14	43
	2	23024 sq. ft GFA	ITE Trips	77		39	
			Person Trips (1.28)	98		50	
			Distributed Trips	74	24	13	38
	3	22852 sq. ft GFA	ITE Trips	76		39	
			Person Trips (1.28)	98		50	
			Distributed Trips	74	24	13	38
	4	25403 sq. ft GFA	ITE Trips	85		43	
			Person Trips (1.28)	109		56	
			Distributed Trips	82	27	14	42
	5	22497 sq. ft GFA	ITE Trips	75		38	
			Person Trips (1.28)	96		49	
			Distributed Trips	72	24	12	37
	6	23110 sq. ft GFA	ITE Trips	77		40	
			Person Trips (1.28)	99		51	
			Distributed Trips	74	25	13	38
TOTAL NEW PERSON TRIPS				612		313	
				460	152	79	236

The proposed development is expected to generate 612 two-way person trips during the AM peak, and 313 two-way person trips during the PM peak.

3.1.2 Mode Share

The proposed development is located within the Ottawa West neighbourhood and its existing and proposed modal split for the development is provided in **Table 5**. The information source, from the 2011 Origin-Destination Survey by Trans Committee, is included as **Appendix F**.

Table 5 – Existing and Travel Mode Proportions

Mode	AM Peak Hour				PM Peak Hour			
	From District	Within District	Total	Proportion	To District	Within District	Total	Proportion
Auto Driver	53530	22130	75660	49%	53730	22130	75860	50%
Auto Passenger	14560	6300	20860	14%	14560	6300	20860	14%
Transit	18670	2810	21480	14%	18820	2810	21630	14%
Bicycle	3120	3110	6230	4%	3140	3110	6250	4%
Walk	2780	21610	24390	16%	2750	21610	24360	16%
Other	2340	1910	4250	3%	2430	1910	4340	3%

The modal split for the development is expected to change based on the targets in the City's Transportation Master Plan. These modal split targets at associated trip generation are provided in **Table 6**.

Table 6 - Development Trips Targeted Modal Split

Travel Mode	Proportion	AM Peak Hour		PM Peak Hour	
		In	Out	In	Out
Auto Driver	46%	211	68	36	109
Auto Passenger	9%	41	14	7	21
Transit	26%	120	40	21	61
Bicycle	5%	23	8	4	12
Walk	11%	51	17	9	26
Other	3%	14	5	2	7

The proposed development will add an estimated 318 new two-way automobile trips during the AM peak, and 164 new two-way automobile trips during the PM peak.

3.1.3 Trip Distribution

Trip distribution was devised by determining the proportions of the original TMC volumes. A uniform proportion was determined by totaling the entries and exits from each study area access point for both peak hours. **Table 7** outlines the proportions for each access point, as well as the total trips entering and exiting.

Table 7 - Trip Distribution

Access Point	Proportion	AM Peak Hour		PM Peak Hour	
		In	Out	In	Out
West on Sir John A MacDonald Pkwy	28%	61	18	12	31
East on Sir John A MacDonald Pkwy	28%	58	18	12	31
South on Parkdale	12%	24	6	0	12
West on Scott	12%	27	8	6	13
East on Scott	13%	30	12	6	14
South on Bayview Station	7%	14	6	0	6

3.1.4 Trip Assignment

Trips were assigned to each of the planned parcel buildings, based on the person trips provided in **Table 4**. Trip distribution was assumed to be uniform across all parcels. **Figure 6** illustrates the trip assignment for the total development. The breakdown of the calculations for determining trip distribution is provided in **Appendix G**.

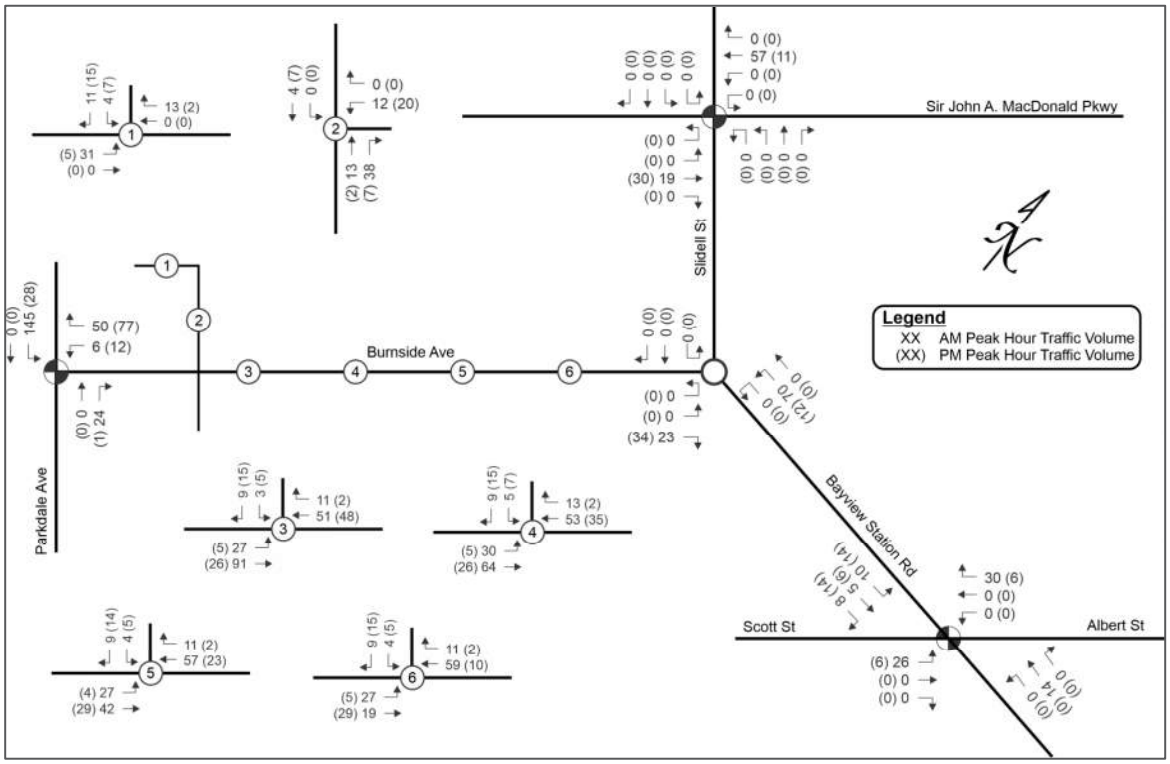


Figure 6 - Site Trip Assignment

3.2 Background Network Travel Demands

3.2.1 Transportation Network Plans

The City of Ottawa Transportation Master Plan consulted to determine the road network changes in the study area. No changes are proposed in the study area within the horizon years.

The Ottawa River South Shore Riverfront Park Plan was also consulted to determine changes to the study area. While improvements to the Parkdale Avenue interchange and Slidell Street intersection on Sir John A MacDonald Parkway are proposed, all plans are currently conceptual, and implementation is likely beyond the study horizon years.

3.2.2 Background Traffic Growth

Background growth was estimated using a 2.0% annual vehicular growth rate.

3.2.3 Other Developments

As outlined in Section 2.2.2.2, four other developments have been identified within the study area.

The trips from 111 Parkdale Avenue, 99 Parkdale Avenue and 175 Carruthers Avenue have been included in both 2023 and 2028 background conditions. The trips from 900 Albert Street have been included in the 2028 background conditions.

3.3 Demand Rationalization

3.3.1 Future Background (2023) Traffic

The future background traffic volumes for 2023 are provided in **Figure 7.**

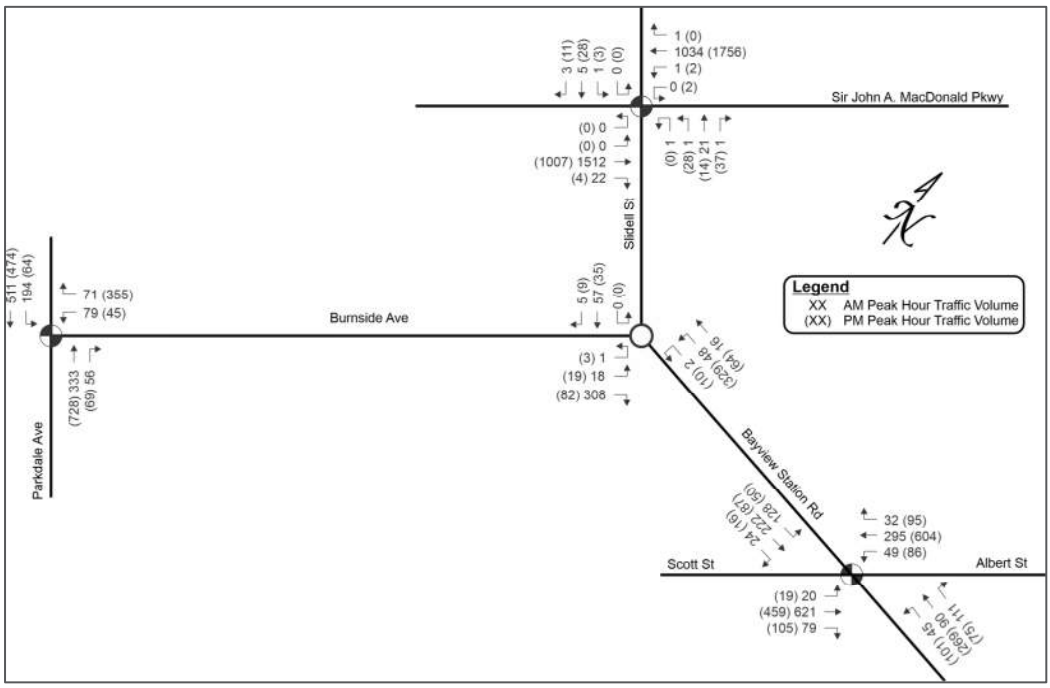


Figure 7 - Future Background (2023) Traffic Volumes

The future background traffic operations analysis for 2023 is provided as **Table 8.** Full outputs are provided in **Appendix H**.

Table 8 - Future Background (2023) Traffic Operations Analysis

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement(s)			Overall		
	LoS	v/c	Movement	Delay (s)	v/c	LOS
Signalized						
Parkdale Ave & Burnside Ave	-	-	-	11.9 (16.0)	0.69 (0.67)	B (B)
Sir John A MacDonald Parkway & Slidell St / Onigam St	-	-	-	5.4 (7.8)	0.56 (0.64)	A (B)
Scott St / Albert St & Bayview Station Rd	E	0.83	SBL	27.5 (21.9)	0.85 (0.70)	D (B)
Unsignalized						
Burnside Ave & Slidell St & Bayview Station Rd	-	-	-	3.6 (5.9)	0.276 (0.356)	A (A)

3.3.2 Future Background (2028) Traffic

The future background traffic volumes for 2028 are provided in **Figure 8**.

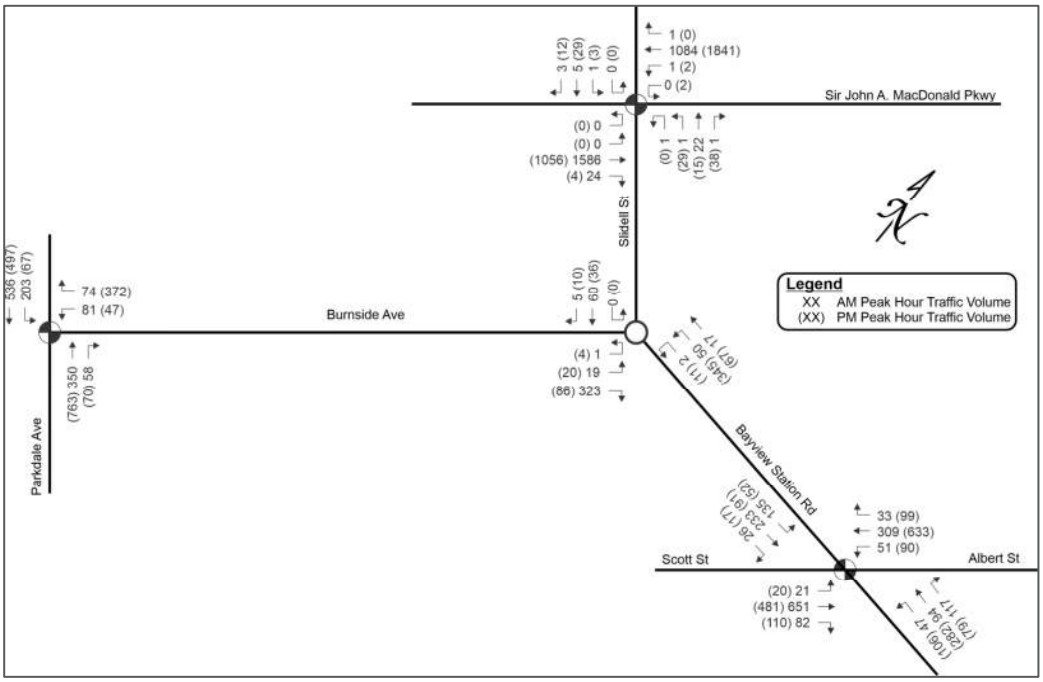


Figure 8 - Future Background (2028) Traffic Volumes

The future background traffic operations analysis for 2028 is provided as **Table 9.** Full outputs are provided in **Appendix H**.

Table 9 - Future Background (2028) Traffic Operations Analysis

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement(s)			Overall		
	LoS	v/c	Movement	Delay (s)	v/c	LOS
Signalized						
Parkdale Ave & Burnside Ave	(E)	(0.99)	WBLR	32.0 (101.5)	0.86 (1.32)	D (F)
	(F)	(1.49)	SBLT			
Sir John A MacDonald Parkway & Slidell St / Onigam St	-	-	-	6.1 (10.4)	0.62 (0.77)	B (C)
Scott St / Albert St & Bayview Station Rd	F	1.15	EBLTR	61.8 (50.0)	1.09 (1.01)	F (F)
	(E)	(1.03)	WBT			
	F (F)	0.98 (0.99)	SBL			
Unsignalized						
Burnside Ave & Slidell St & Bayview Station Rd	-	-	-	3.6 (5.9)	0.324 (0.420)	A (A)

Based on our analysis of future background conditions, there are several critical movements at the Parkdale Avenue & Burnside Avenue, Sir John A MacDonald Parkway & Slidell Street / Onigam Street, and Scott Street / Albert Street & Bayview Station Road intersection, which will require transportation demand rationalization for each site plan application.

4. Analysis

4.1 Development Design

Each parcel will contain a single driveway access point. Parcel 1 will be accessed from a proposed extension of Hinchey Avenue, just east of Forward Avenue where the road extension will connect to. Parcel 2 will be accessed from Hinchey Avenue, along the existing roadway. Parcel 3 will be accessed from Burnside Avenue between Hinchey Avenue and Carruthers Avenue. Parcel 4 will be accessed from Burnside Avenue, offset from the pre-existing intersection with Carruthers Avenue. Parcel 5 will be accessed from Burnside Avenue between Carruthers Avenue and Stonehurst Avenue. Parcel 6 will be accessed from Burnside Avenue between Stonehurst Avenue and Bayview Station Road. No parcels will interconnect.

Site plans for each parcel are still to be developed, however, each parcel will have a direct pedestrian connection to the public road network. Additionally, the developer of each parcel will install a new municipal sidewalk along the frontage of their parcel at the time of construction at the following locations:

- Along the east side of Hinchey Avenue north of Burnside Avenue;
- Along the north side of Burnside Avenue between Hinchey Avenue and;
- Along the west side of Slidell Street between Burnside Avenue / Bayview Road and Sir John A. Macdonald.

Additionally, pedestrian connections are to be provided between Hinchey Avenue and Sir John A. Macdonald Parkway and between Carruthers Avenue and Sir John A. Macdonald Parkway.

The proposed sidewalk location is illustrated in **Figure 9**.

Figure 9 Proposed Sidewalk Locations

4.2 Parking

All parcels will have a separate parking area. According to Schedule 1A in the City of Ottawa Zoning By-Law, the development is situated in "Area Z". This zone designates areas where off-street vehicle parking does not have any provisions. Therefore, no minimum space requirements apply to the development. However, parking will be reviewed for each site at the time of application.

4.3 Boundary Streets

The boundary streets for the development are Parkdale Avenue, Burnside Avenue, Slidell Street and Sir John A MacDonald Parkway. The proposed development will not change the configuration of boundary street roads. The Multimodal Level of Service for the boundary roads segments are summarized in Section 4.9.2. The truck level of service (TkLOS) analysis is included only for Sir John A MacDonald Parkway as it is the only boundary road that is classified as an arterial road. The target levels of service for pedestrians, cyclists, transit and trucks are determined as per the minimum desirable MMLOS targets by the City of Ottawa's Official Plan designation/policy area.

4.4 Access Intersections

Accesses for each parcel will be designed to City of Ottawa standards at the time of site plan application.

4.5 Transportation Demand Management

The proposed development is expected to have a non-auto modal split of 34%, due to the nature of the development and availability of transit and other facilities. The development will coincide with pedestrian improvements to the north side of Burnside Avenue, with the addition of new sidewalks along the developments border. A multi-use path is planned to be implemented along Sir John A MacDonald Parkway along the development. Connections will be established between Parcels 1 and 2 on Hinchey Avenue, and between Parcels 3 and 4 on Burnside Avenue.

4.6 Neighborhood Traffic Management

No road modifications are necessary for existing neighborhood roads to accommodate the development traffic. However, Hinchey Avenue will be connected with Forward Avenue.

Additionally, sidewalks are recommended at the following locations:

- Along the east side of Hinchey Avenue north of Burnside Avenue;
- Along the north side of Burnside Avenue between Hinchey Avenue and;
- Along the west side of Slidell Street between Burnside Avenue / Bayview Road and Sir John A. Macdonald.

4.7 Transit

The development is not expected to necessitate any increase in transit requirements within the area.

4.8 Network Concept

One change to the road network will be implemented as a result of the development – the extension of Hinchey Avenue to connect with Forward Avenue. This road extension is not expected to have a major impact on the rest of the network.

4.9 Network Intersections

4.9.1 Vehicular Level of Service

4.9.1.1 Future Total (2023) Traffic

The future total traffic volumes for 2023 are provided in **Figure 9**.

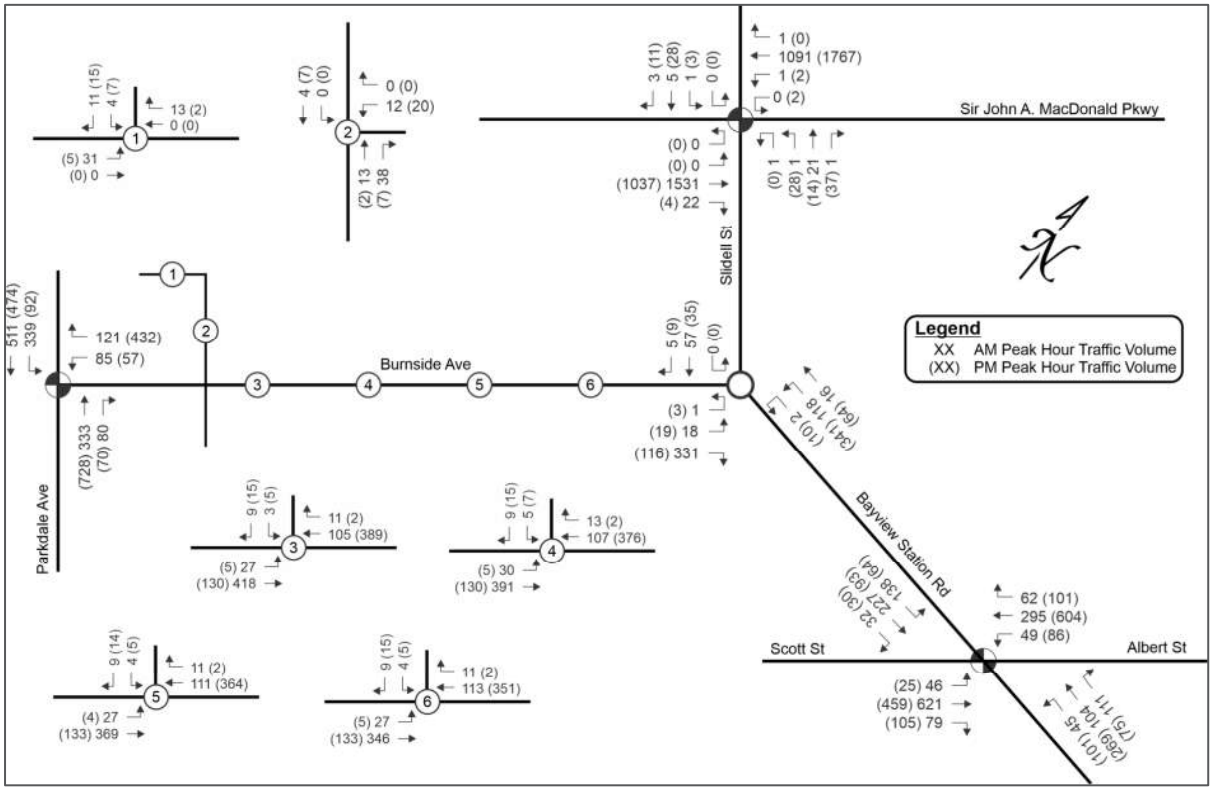


Figure 10- Future Total (2023) Traffic Volumes

The future total traffic operations analysis for 2023 is provided as **Table 9**. Full outputs are provided in **Appendix I**.

Table 10 - Future Total (2023) Traffic Operations Analysis

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement(s)			Overall		
	LoS	v/c	Movement	Delay (s)	v/c	LOS
Signalized						
Parkdale Ave & Burnside Ave	E (F)	1.09 (1.08)	WBLR	46.1 (56.6)	0.95 (1.09)	E (F)
	(F)	(1.10)	SBLT			
Sir John A MacDonald Parkway & Slidell St / Onigam St	-	-	-	5.5 (8.7)	0.57 (0.70)	A (B)
Scott St / Albert St & Bayiew Station Rd	E (E)	0.85 (0.73)	SBL	31.7 (25.6)	0.91 (0.79)	E (C)
Unsignalized						

Burnside Ave & Slidell St & Bayview Station Rd	-	-	-	4.1 (5.7)	0.303 (0.365)	A (A)
Hinchey Ave & Parcel 1	-	-	-	5.8 (7.7)	-	A (A)
Hinchey Ave & Parcel 2	-	-	-	1.5 (4.8)	-	A (A)
Burnside Ave & Parcel 3	-	-	-	0.6 (0.5)	-	A (A)
Burnside Ave & Parcel 4	-	-	-	0.7 (0.5)	-	A (A)
Burnside Ave & Parcel 5	-	-	-	0.6 (0.5)	-	A (A)
Burnside Ave & Parcel 6	-	-	-	0.6 (0.5)	-	A (A)

4.9.1.2 Future Total (2028) Traffic

The future total traffic volumes for 2028 are provided in **Figure 10**.

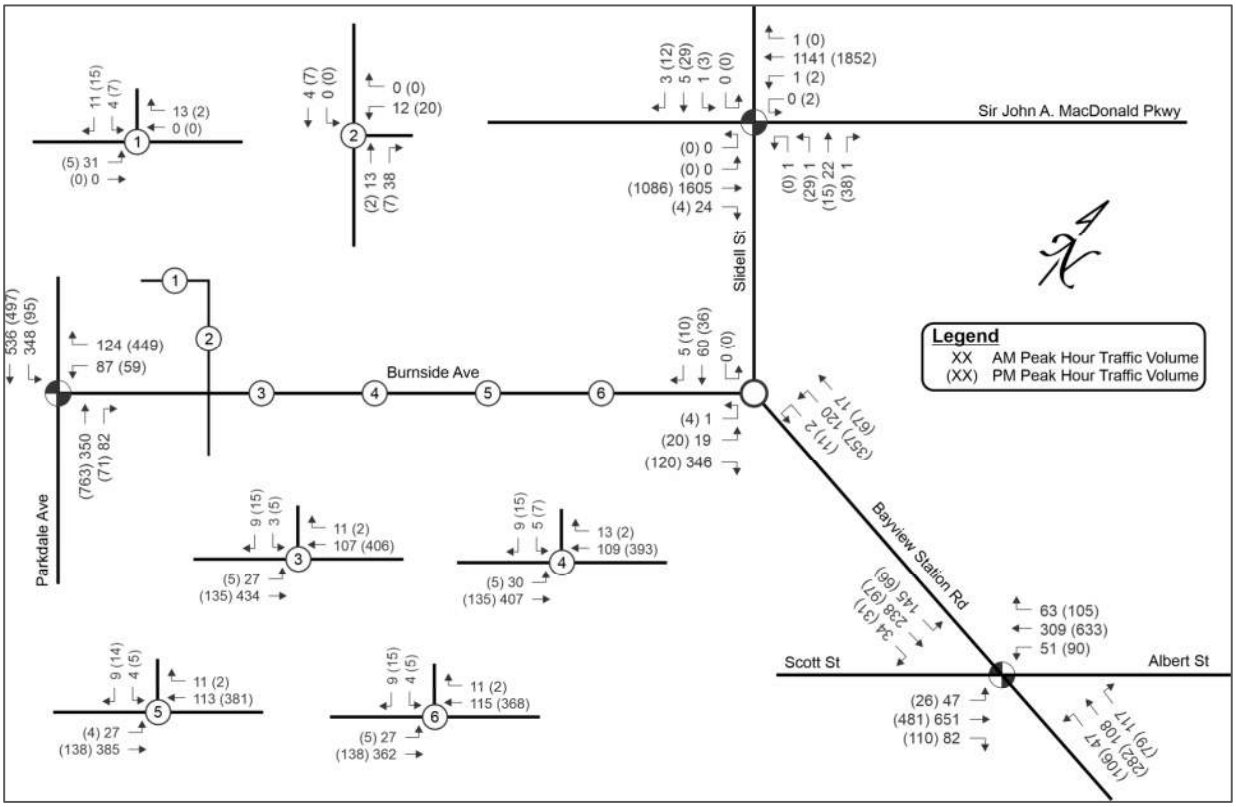


Figure 11 - Future Total (2028) Traffic Volumes

The future total traffic operations analysis for 2028 is provided as **Table 11**. Full outputs are provided in **Appendix I**.

Table 11 - Future Total (2028) Traffic Operations Analysis

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement(s)			Overall		
	LoS	v/c	Movement	Delay (s)	v/c	LOS
Signalized						
Parkdale Ave & Burnside Ave	(F)	(1.38)	WBLR	94.6 (191.0)	1.11 (1.70)	F (F)
	F (F)	1.30 (1.86)	SBLT			
Sir John A MacDonald Parkway & Slidell St / Onigam St	-	-	-	6.2 (10.5)	0.63 (0.77)	B (C)
Scott St / Albert St & Bayview Station Rd	F (E)	1.21 (1.07)	EBLTR	75.5 (58.7)	1.17 (1.10)	F (F)
	(E)	(1.03)	WBT			
	F (F)	1.10 (1.17)	SBL			
Unsignalized						
Burnside Ave & Slidell St & Bayview Station Rd	-	-	-	4.0 (5.8)	0.353 (0.430)	A (A)
Hinchey Ave & Parcel 1	-	-	-	5.8 (7.6)	-	A (A)
Hinchey Ave & Parcel 2	-	-	-	1.5 (4.7)	-	A (A)
Burnside Ave & Parcel 3	-	-	-	0.6 (0.4)	-	A (A)
Burnside Ave & Parcel 4	-	-	-	0.7 (0.4)	-	A (A)
Burnside Ave & Parcel 5	-	-	-	0.6 (0.4)	-	A (A)
Burnside Ave & Parcel 6	-	-	-	0.6 (0.4)	-	A (A)

4.9.2 Multimodal Level of Service

Parkdale Avenue

The existing roadway geometry consists of the following features:

- Approximate 20m R.O.W. road allowance, street width of 11m;
- One (1) vehicular traffic lane in each direction;
- Sidewalk width of 2.0m;
- More than 3,000 annual average daily traffic (AADT);
- Posted speed limit of 50km/h;
- No dedicated transit facilities;
- Dedicated cycling facilities on both sides of the roadway between Colombine Driveway and Sir John A. MacDonald;
- No shoulder of road; and
- No on-street parking between Burnside Avenue and Sir John A. MacDonald.

Table 12 - Parkdale Avenue Projected MMLOS

Road Segment	Level of Service					
	Pedestrian (PLOS)		Bicycle (BLOS)		Transit (TLOS)	
	PLOS	Target	BLOS	Target	TLOS	Target
Parkdale Avenue (between Sir John A MacDonald Parkway & Burnside Avenue)	**C**	**C**	**C**	**C**	**D**	**D**

Based upon the location of the property in a general urban area, adjacent to an arterial roadway with pedestrian facilities, and dedicated bike facilities with a Level of Traffic Stress (LTS) score of LTS3, the determined level of service for pedestrians is PLOS 'C' and cyclists is BLOS 'C' for the road segment of Parkdale Avenue between Burnside Avenue and Sir John A. MacDonald Parkway. The road currently does not have dedicated transit facilities or transit priority plans; however, there is low friction on the road and the ratio of the average transit travel speed to the posted speed limit is equal to or greater than 80%. Therefore, the determined level of service for transit is TLOS 'D'.

Burnside Avenue

The existing roadway geometry consists of the following features:

- Approximate 18m R.O.W. road allowance, street width of 9m;
- One (1) vehicular traffic lane in each direction;
- Sidewalk width of 1.8m on both sides of the road between Parkdale Avenue and Hinchey Avenue and along the south side of the road between Hinchey Avenue and Slidell Street;
- More than 3,000 annual average daily traffic (AADT);
- Posted speed limit of 40km/h;
- No dedicated transit facilities;
- No dedicated cycling facilities;
- No shoulder of road; and
- On-street parking on the north side of the road between Parkdale Avenue and Stonehurst Avenue.

Table 13 - Projected MMLOS Burnside Avenue between Parkdale Avenue & Slidell Street (Both Sides of the Roadway)

Road Segment	Level of Service					
	Pedestrian (PLOS)		Bicycle (BLOS)		Transit (TLOS)	
	PLOS	Target	BLOS	Target	TLOS	Target
Burnside Avenue	**C**	**C**	**B**	**B**	**E**	**D**

Based upon the location of the property in a general urban area, adjacent to a local roadway with pedestrian facilities, and no dedicated bike facilities with a Level of Traffic Stress (LTS) score of LTS3, the determined level of service for pedestrians is PLOS 'C' and cyclists is BLOS 'B' for the road segment of Burnside Avenue between Parkdale Avenue and Slidell Street. The road currently does not have dedicated transit facilities or transit priority plans; however, there is a medium friction on the road and the ratio of the average transit travel speed to the posted speed limit is equal to or greater than 60%. Therefore, the determined level of service for transit is TLOS 'E'.

Slidell Street

The existing roadway geometry consists of the following features:

- Approximate 20m R.O.W. road allowance, street width that transitions from 11m to 8.5m;
- One (1) vehicular traffic lane in each direction;
- Sidewalk width of 1.8m along the east side of the road;
- Less than 3,000 annual average daily traffic (AADT);
- Assumed speed limit of 50km/h as per the Highway Traffic Act;
- No dedicated transit facilities;
- No dedicated cycling facilities;
- No shoulder of road; and
- No on-street parking.

Table 14 - Slidell Street Projected MMLOS

Road Segment	Level of Service					
	Pedestrian (PLOS)		Bicycle (BLOS)		Transit (TLOS)	
	PLOS	Target	BLOS	Target	TLOS	Target
Slidell Street (between Sir John A MacDonald Parkway and Burnside Avenue / Bayview Station Road)	**B**	**C**	**D**	**C**	**D**	**D**

Based upon the location of the property in a general urban area, adjacent to a collector roadway with pedestrian facilities, and no dedicated bike facilities with a Level of Traffic Stress (LTS) score of LTS3, the determined level of service for pedestrians is PLOS 'B' and cyclists is BLOS 'D' for the road segment of Slidell Street between Burnside Avenue, Bayview Station Road and Sir John A. MacDonald Parkway. The road currently does not have dedicated transit facilities or transit priority plans; however, there is a low friction on the road and the ratio of the average transit travel speed to the posted speed limit is equal to or greater than 80%. Therefore, the determined level of service for transit is TLOS 'D'.

Sir John A. MacDonald Parkway

The existing roadway geometry consists of the following features:

- Approximate 34m R.O.W. road allowance, street width of 26m;
- Two (2) vehicular traffic lanes in each direction;
- No sidewalks on either side of road; 4.0m multi-use pathway on north side of road, grade-separated
- More than 3,000 annual average daily traffic (AADT);'
- A median width of approximately 7.75m;
- Posted speed limit of 60km/h;
- No dedicated transit facilities;
- No cycling facilities;
- No shoulder of road; and
- No on-street parking.

The Multi-Modal Level of Service (MMLOS) analysis for the road segment along Hazeldean Road was thoroughly conducted and is summarized below in **Table 15**. The truck level of service is included in the analysis as Hazeldean Road is classified as an arterial road.

Table 15 –Sir John A MacDonald Parkway Projected MMLOS

Road Segment	Level of Service							
	Pedestrian (PLOS)		Bicycle (BLOS)		Transit (TLOS)		Truck (TkLOS)	
	PLOS	Target	BLOS	Target	TLOS	Target	TkLOS	Target
Sir John A MacDonald Parkway	**F**	**C**	**C**	**C**	**N/A**	**B**	**A**	**D**

Based upon the location of the property in a general urban area, adjacent to an arterial roadway with ni pedestrian facilities, and dedicated bike facilities with a Level of Traffic Stress (LTS) score of LTS1, the determined level of service for pedestrians is PLOS 'F' and cyclists is BLOS 'C' for the road segment of Sir John A MacDonald Parkway through the intersection of Slidell Street and Onigam Street. The road currently does not have dedicated transit facilities or transit priority plans; and any transit routes along this road do not make stops, therefore transit level of service is TLOS 'N/A'. As there are more than two (2) travel lanes and the curb lane width is greater than 3.7m, the determined level of service for trucks is TkLOS 'A'.

Bayview Station Road

The existing roadway geometry consists of the following features:

- Approximate 30m R.O.W. road allowance, street width of 14m;
- One (1) vehicular traffic lanes in each direction;
- Sidewalk width of 1.8m on both sides of the road;
- More than 3,000 annual average daily traffic (AADT);'
- Posted speed limit of 50km/h;
- No dedicated transit facilities;
- No cycling facilities;
- No shoulder of road; and
- On-street parking.

Table 16 – Bayview Station Road Projected MMLOS

Road Segment	Level of Service					
	Pedestrian (PLOS)		Bicycle (BLOS)		Transit (TLOS)	
	PLOS	Target	BLOS	Target	TLOS	Target
Bayview Station Road (between Burnside Ave / Slidell Street and Scott Street / Albert Street)	**D**	**C**	**D**	**C**	**D**	**D**

Based upon the location of the property in a general urban area, adjacent to a collector roadway with pedestrian facilities, and no dedicated bike facilities with a Level of Traffic Stress (LTS) score of LTS3, the determined level of service for pedestrians is PLOS 'D' and cyclists is BLOS 'D' for the road segment of Bayview Station Road between Burnside Avenue / Slidell Street and Scott Street / Albert Street The road currently does not have dedicated transit facilities or transit priority plans; however, there is a low friction on the road and the ratio of the average transit travel speed to the posted speed limit is equal to or greater than 80%. Therefore, the determined level of service for transit is TLOS 'D'.

Scott Street

The existing roadway geometry consists of the following features:

- Approximate 24m R.O.W. road allowance, street width of 18m;
- One (1) vehicular traffic lanes in each direction;
- Sidewalk width of 1.8m on the south side; Multi-use trail width of 3.2m on the north side.
- More than 3,000 annual average daily traffic (AADT);'
- Posted speed limit of 50km/h;
- Dedicated transit lanes in both directions;
- Dedicated cycling facilities on both sides of the roadway, multi-use trail on the north side, separating cycling lane on the south side;
- No shoulder of road; and
- No on-street parking.

Table 17 – Scott Street Projected MMLOS

Road Segment	Level of Service					
	Pedestrian (PLOS)		Bicycle (BLOS)		Transit (TLOS)	
	PLOS	Target	BLOS	Target	TLOS	Target
Scott Street (between Merton Street and Bayview Station Road)	**D**	**C**	**A**	**B**	**B**	**B**

Based upon the location of the property in a general urban area, adjacent to a arterial roadway with pedestrian facilities, and no dedicated bike facilities with a Level of Traffic Stress (LTS) score of LTS2, the determined level of service for pedestrians is PLOS 'D' and cyclists is BLOS 'A' for the road segment of Scott Street between Merton Street and Bayview Station Road. The road currently had dedicated bus lanes with limited driveway friction. Therefore, the determined level of service for transit is TLOS 'B'.

Appendix A – TIA Screening Form

City of Ottawa 2017 TIA Guidelines Screening Form

1. Description of Proposed Development

Municipal Address	1+19 Sir John A. Macdonald Parkway
Description of Location	Naturalized area between SJAMP and Brunside Ave/Hinchey Ave
Land Use Classification	Residential (R1)
Development Size (units)	To be determined
Development Size (m^2)	6 Parcels - 13,289 sq.m
Number of Accesses and Locations	6 Access - 4 Burnside Avenue, 2 Hinchey Avenue
Phase of Development	Conceptual - Rezoning application
Buildout Year	To be determined

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

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.

Land Use Type	Minimum Development Size
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.

3. Location Triggers

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

**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.

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

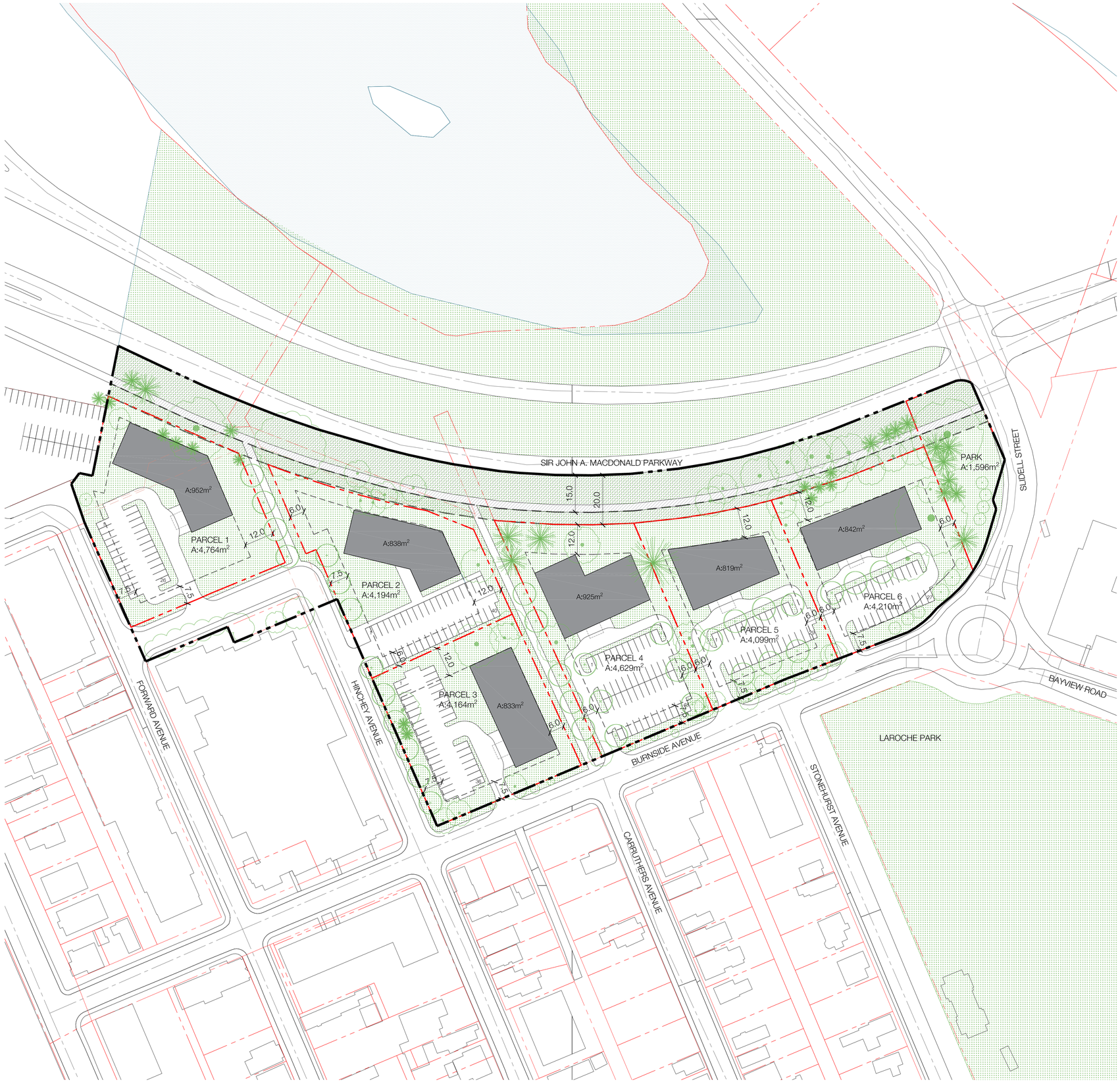
If any of the above questions were answered with 'Yes,' the Safety Trigger is satisfied.

5. Summary

	Yes	No
Does the development satisfy the Trip Generation Trigger?	X	
Does the development satisfy the Location Trigger?		X
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).

Appendix B – Site Plan



SITE INFORMATION

PROPOSED ZONING	R1
SITE AREA	
Total Site Area:	37,385m²
HEIGHT	
Maximum	3 Storeys (11m)

PARKING RATES	REQUIRED
Office:	N/A
Visitor:	Not more the 30

MAXIMUM OF LOT COVERAGE	20%

SETBACKS	F.Y.	C.Y.S.	S.Y.	R.Y.
	7,5m	7,5m	6m	12m

DEVELOPMENT STATISTICS

PARCELS	LOT SIZE	FOOTPRINT	GFA
Parcel 1	4,764 m²	952 m²	2,430 m²
Parcel 2	4,194 m²	838 m²	2,139 m²
Parcel 3	4,164 m²	833 m²	2,123 m²
Parcel 4	4,629 m²	925 m²	2,360 m²
Parcel 5	4,099 m²	819 m²	2,090 m²
Parcel 6	4,210 m²	842 m²	2,147 m²

PARK AREA	
	1,596 m²

NOTES

1. For the purpose of this study it is assumed a typical floor height of 3m and that each building would have 3 storeys.

2. It is proposed a zoning change from General Open Space and R5 to an R1 zone.

3. GFA: as defined in the City of Ottawa Zoning By-law. Areas are approximate and assumes 85% efficiency.

3.The base plan (lot lines, existing roads and surrounding areas) is based on the City's Open Data and aerial images. The site area is approximate and all dimensions need to be confirmed by a proper survey.

1+19 SIR JOHN A MACDONALD PKY

CONCEPT PLAN OPTION 1

LEGEND

- 20m BUFFER FROM SIR JOHN A. MACDONALD PARKWAY
- PROPOSED BUILDINGS
- LANDSCAPE/ PARK
- WATER
- PROPERTY BOUNDARY
- STUDY AREA
- SETBACKS
- ROW CENTERLINE
- PROPOSED DECIDUOUS TREES
- EXISTING DECIDUOUS TREES
- EXISTING CONIFEROUS TREES
- EXISTING TREE GROUPINGS

0 5 10 25 50m

No.	REVISION	DATE	BY
2	CONCEPT PLANS	2018.07.06	RP
1	BASE PLAN	2018.06.20	RP

CLIENT
NATIONAL CAPITAL COMMISSION

National Capital Commission / Commission de la capitale nationale

FOTENN Planning + Design
223 McLeod Street, Ottawa ON K2P 0Z8
613.730.5709 www.fotenn.com

DESIGNED	RP
REVIEWED	MS
DATE	2018.06.05

P1

Appendix C – Scoping Email with City of Ottawa

Phil Desmarais

From: Dubyk, Wally <Wally.Dubyk@ottawa.ca>
Sent: Wednesday, February 21, 2018 1:03 PM
To: Phil Desmarais
Cc: Nitsche, Kersten; Chantal Miner (chantal.miner@ncc-ccn.ca); Carl Furney (furney@fotenn.com)
Subject: RE: Traffic Impact Study - NCC Embassy OPA & ZBA Burnside, Emmerson, Forward

Phil,

I concur.

Thank you,

Wally Dubyk
Project Manager - Transportation Approvals
Development Review, Central & South Branches
613-580-2424 x13783

From: Phil Desmarais [mailto:Phil.Desmarais@exp.com]
Sent: Wednesday, February 21, 2018 12:25 PM
To: Dubyk, Wally <Wally.Dubyk@ottawa.ca>
Cc: Nitsche, Kersten <Kersten.Nitsche@ottawa.ca>; Chantal Miner (chantal.miner@ncc-ccn.ca) <chantal.miner@ncc-ccn.ca>; Carl Furney (furney@fotenn.com) <furney@fotenn.com>
Subject: Traffic Impact Study - NCC Embassy OPA & ZBA Burnside, Emmerson, Forward

Thanks for taking my call this morning. The NCC has expressed an interest in retaining EXP to complete the required transportation studies to support the NCC's Official Plan Amendment (OPA) and Zoning By-law Amendment (ZBA) for their lands abutting the Sir John A. MacDonald (SJAM) Parkway. The NCC will be developing a framework, and detailed design for each site within the parcel will be advanced at a later date.

From our discussion, we understand that the City will require the preparation of a screening and scoping document per the 2017 City TIA guidelines to support the application. Also, we suggest that the following intersections study area delimit the study area for screening and scoping report:

- SJAM Parkway / Slidell Street
- Slidell Street / Burnside Ave./ Bayview Road
- Scott Street / Bayview Road
- Parkdale Avenue / Burnside Avenue

Following successful completion of the OPA and ZBA process, individual developments will need to undergo a site plan process wherein individual TIA's will be required under site plan approval.

Please confirm that this meets the City's requirements from a transportation perspective.

Phil Desmarais, P.Eng.
EXP | Senior Project Manager
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2650 Queensview Drive
Suite 100
Ottawa, ON K2B 8H6
CANADA

exp.com | legal disclaimer
keep it green, read from the screen

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Appendix D – Traffic Data

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

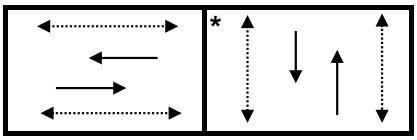
Intersection:	***Main:*** Albert / Scott	***Side:***	Bayview
Controller:	**MS 3200**	**TSD:**	**5613**
Author:	Ahmed Abdullah	**Date:**	20-Jan-2020

Existing Timing Plans†

	Plan						**Ped Minimum Time**		
	Early AM 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	**AM Peak** 21	***Walk***	***DW***	***A+R***
Cycle	95	65	100	70	65	100			
Offset	40	54	65	X	54	40			
EB Thru	63	33	68	38	33	68	7	19	3.3+3.2
WB Thru	63	33	68	38	33	68	7	19	3.3+3.2
NB Thru	32	32	32	32	32	32	7	19	3.3+3.1
SB Thru	32	32	32	32	32	32	7	19	3.3+3.1

Phasing Sequence‡

Plan: All



Schedule

Weekday

Time	Plan
0:15	4
6:30	1
7:45	21
9:30	2
15:00	3
18:30	2
22:30	4

Saturday

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

Sunday

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

Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

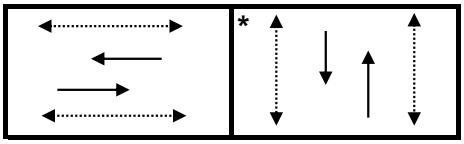
Intersection:	***Main:***	SJAM	***Side:***	Slidell
Controller:	**ATC 3**		**TSD:**	**5890**
Author:	Ahmed Abdullah		**Date:**	20-Jan-2020

Existing Timing Plans†

	Plan				**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	***Walk***	***DW***	***A+R***
Cycle	95	Free	95	Free			
Offset	0	X	0	X			
EB Thru	61	max = 53.5	61	max = 54.5	15	10	3.7+1.8
WB Thru	61	max = 53.5	61	max = 54.5	15	10	3.7+1.8
NB Thru	34	max = 31.3	34	max = 31.3	7	20	3.3+3.0
SB Thru	34	max = 31.3	34	max = 31.3	7	20	3.3+3.0

Phasing Sequence‡

Plan: All



Notes: 1) Plans 2 & 4, have a max and ped recall on the EW movements

Schedule

Weekday

Time	Plan
0:15	4
6:30	1
9:00	2
15:00	3
18:30	2
21:00	4

Weekend

Time	Plan
0:10	4
7:00	2
19:00	4

Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

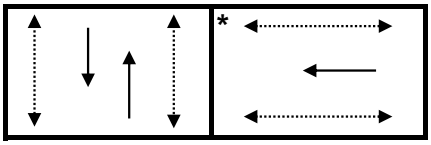
Intersection:	***Main:*** Parkdale	***Side:***	Burnside
Controller:	**MS 3200**	**TSD:**	**6108**
Author:	Ahmed Abdullah	**Date:**	20-Jan-2020

Existing Timing Plans†

	Plan					**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	***Walk***	***DW***	***A+R***
Cycle	60	55	70	50	55			
Offset	18	18	23	19	18			
NB Thru	40	35	45	30	35	15	6	3.3+1.9
SB Thru	40	35	45	30	35	15	6	3.3+1.9
WB Thru	20	20	25	20	20	7	7	3.0+2.4

Phasing Sequence‡

Plan: All



Schedule

Weekday

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

Saturday

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

Sunday

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

Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

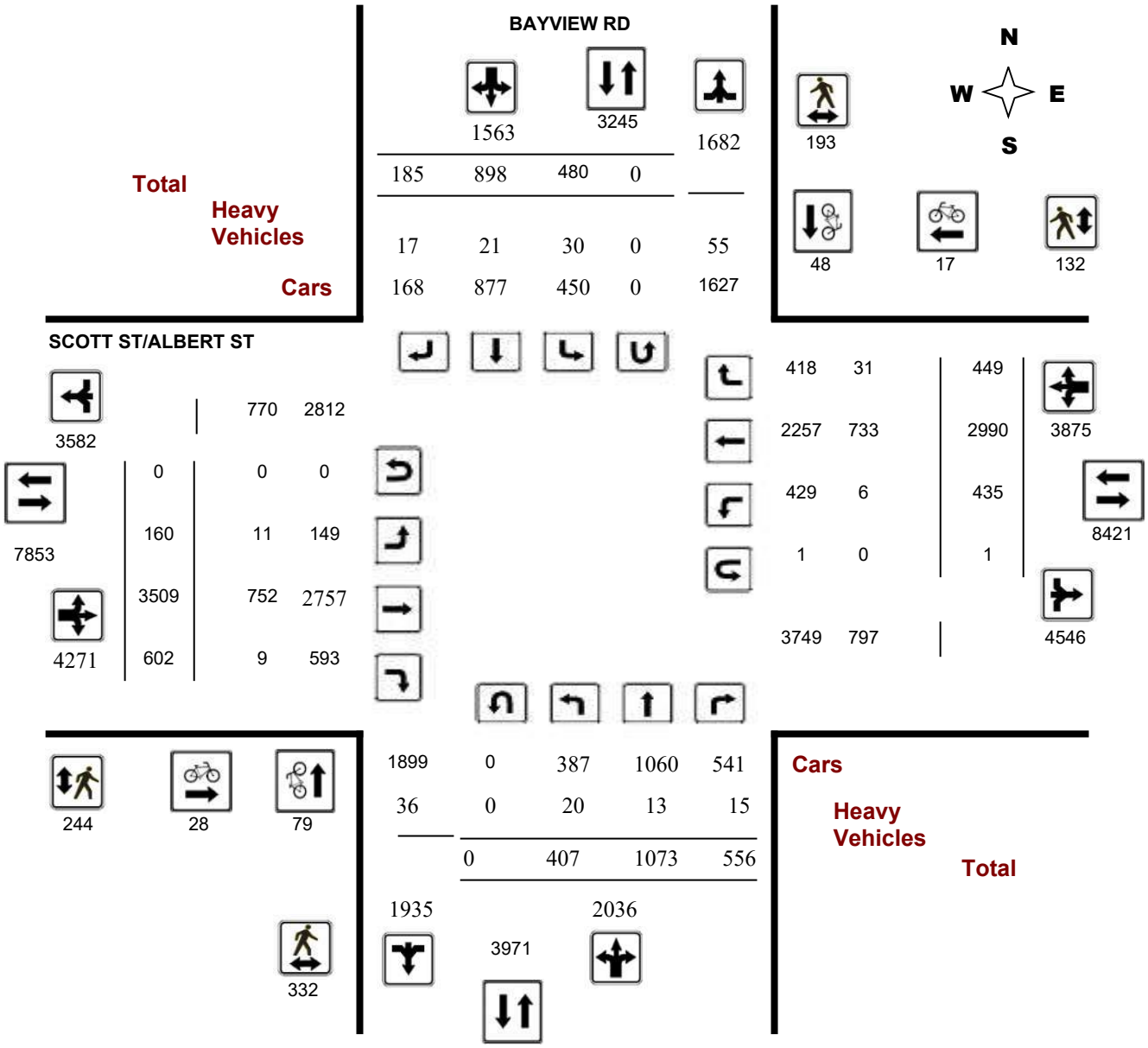
Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD @ SCOTT ST/ALBERT ST

Survey Date: Wednesday, September 07, 2016
Start Time: 07:00
WO No: 36277
Device: Miovision

Full Study Diagram



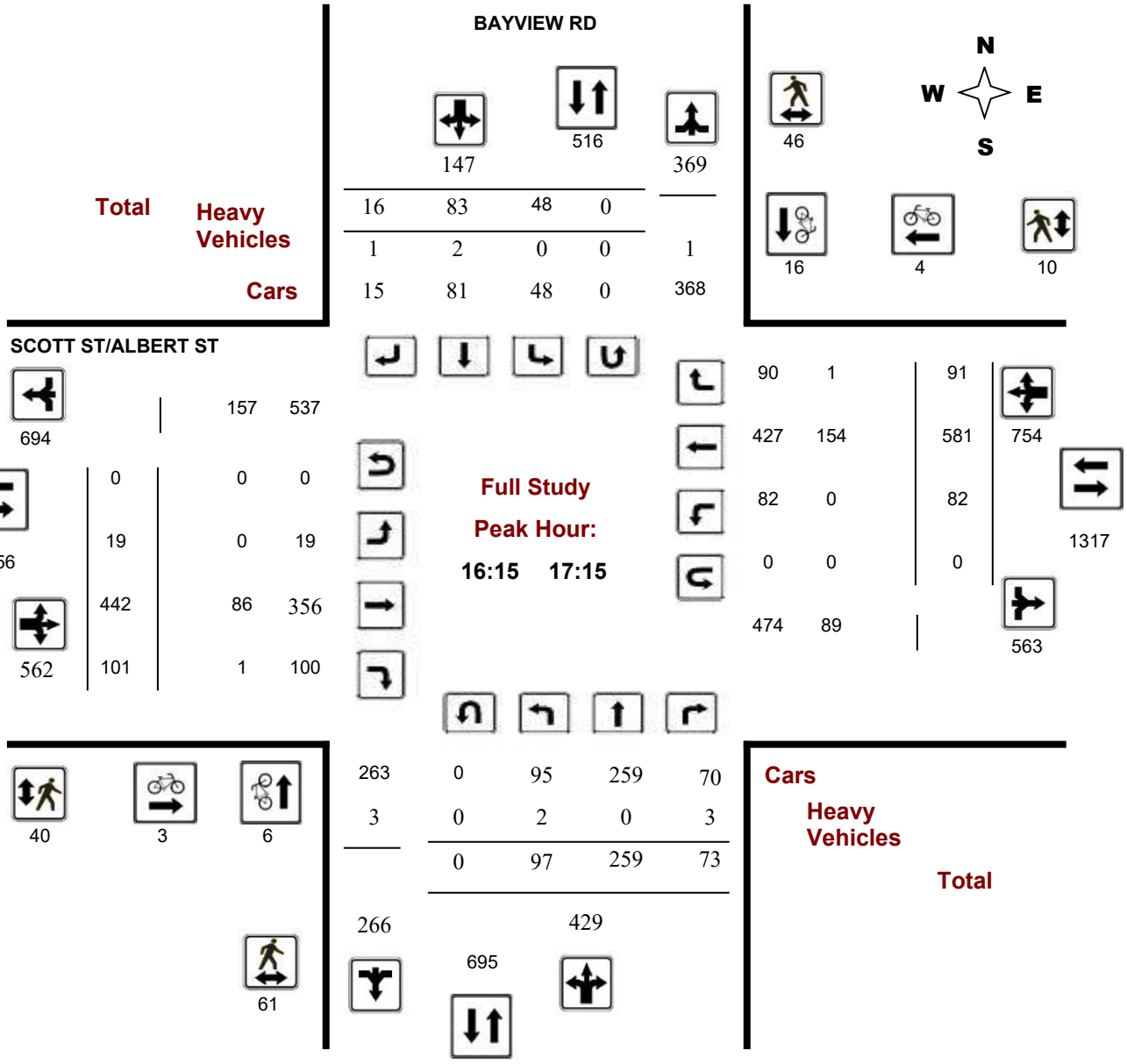
Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD @ SCOTT ST/ALBERT ST

Survey Date: Wednesday, September 07, 2016
Start Time: 07:00
WO No: 36277
Device: Miovision

Full Study Peak Hour Diagram



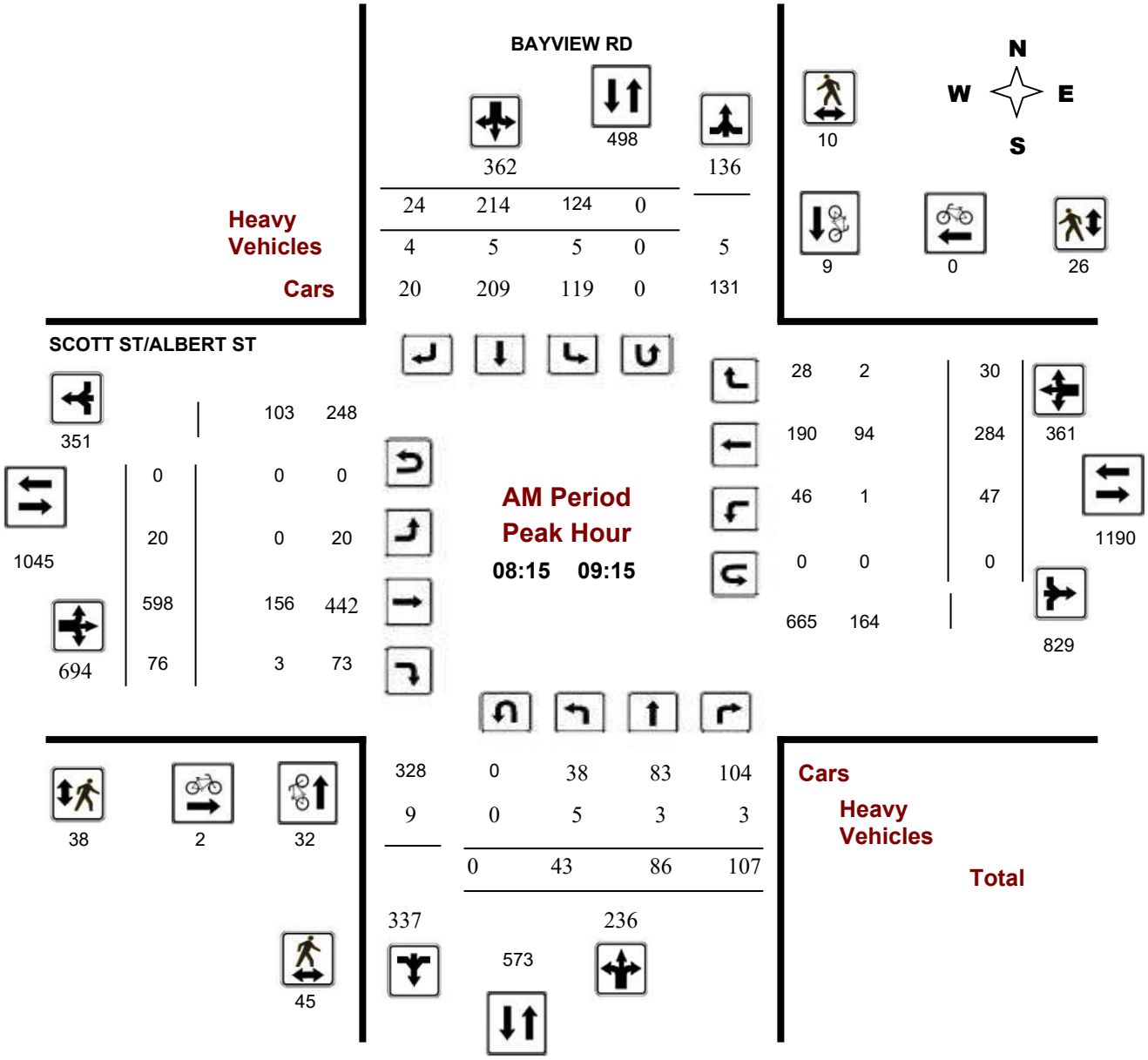
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYVIEW RD @ SCOTT ST/ALBERT ST

Survey Date: Wednesday, September 07, 2016 **WO No:** 36277

Start Time: 07:00 **Device:** Miovision



Comments

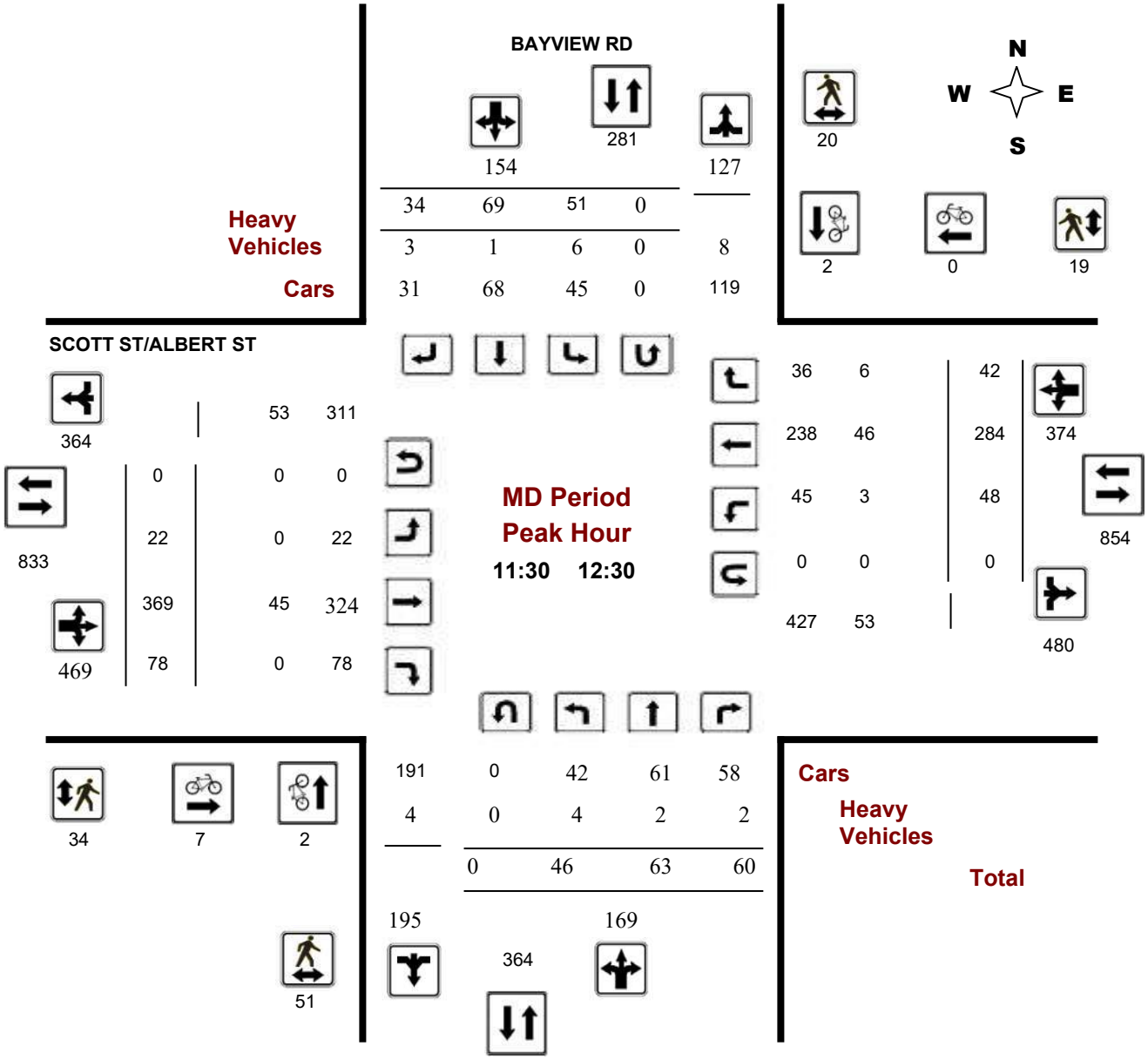
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYVIEW RD @ SCOTT ST/ALBERT ST

Survey Date: Wednesday, September 07, 2016 **WO No:** 36277

Start Time: 07:00 **Device:** Miovision



Comments

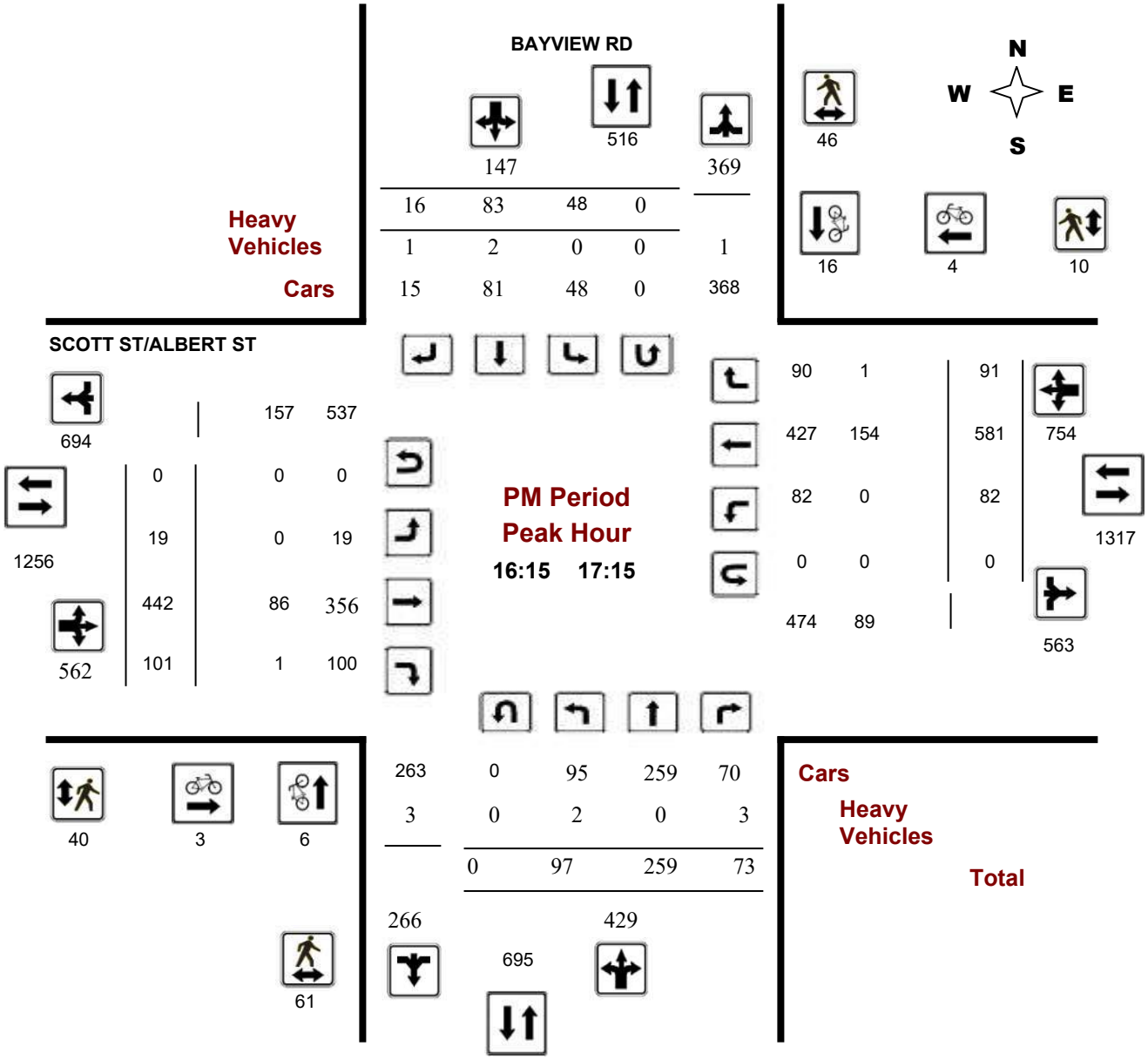
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYVIEW RD @ SCOTT ST/ALBERT ST

Survey Date: Wednesday, September 07, 2016 **WO No:** 36277

Start Time: 07:00 **Device:** Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD @ SCOTT ST/ALBERT ST

Survey Date: Wednesday, September 07, 2016 **WO No:** 36277

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, September 07, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 1

AADT Factor

1.39

	BAYVIEW RD								SCOTT ST/ALBERT ST									
	Northbound				Southbound				Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	24	49	60	**133**	71	177	17	**265**	**398**	19	453	51	**523**	40	221	37	**298**	**821**	**1219**
08:00 09:00	45	68	116	**229**	126	207	30	**363**	**592**	16	609	76	**701**	45	276	35	**356**	**1057**	**1649**
09:00 10:00	30	65	49	**144**	81	134	24	**239**	**383**	25	443	72	**540**	40	282	42	**364**	**904**	**1287**
11:30 12:30	46	63	60	**169**	51	69	34	**154**	**323**	22	369	78	**469**	48	284	42	**374**	**843**	**1166**
12:30 13:30	42	84	63	**189**	33	53	18	**104**	**293**	24	320	75	**419**	42	275	43	**360**	**779**	**1072**
15:00 16:00	69	263	67	**399**	33	99	26	**158**	**557**	25	449	64	**538**	75	490	90	**655**	**1193**	**1750**
16:00 17:00	83	271	68	**422**	46	87	19	**152**	**574**	20	438	95	**553**	69	580	96	**745**	**1298**	**1872**
17:00 18:00	68	210	73	**351**	39	72	17	**128**	**479**	9	428	91	**528**	76	582	64	**722**	**1250**	**1729**
Sub Total	407	1073	556	**2036**	480	898	185	**1563**	**3599**	160	3509	602	**4271**	435	2990	449	**3874**	**8145**	**11744**
U Turns				**0**				**0**	**0**				**0**				**1**	**1**	**1**
Total	407	1073	556	**2036**	480	898	185	**1563**	**3599**	160	3509	602	**4271**	435	2990	449	**3875**	**8146**	**11745**
EQ 12Hr	566	1491	773	**2830**	667	1248	257	**2173**	**5003**	222	4878	837	**5937**	605	4156	624	**5386**	**11323**	**16326**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	566	1491	773	**2830**	667	1248	257	**2173**	**5003**	222	4878	837	**5937**	605	4156	624	**5386**	**11323**	**16326**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1**					
AVG 24Hr	741	1954	1012	**3707**	874	1635	337	**2846**	**6553**	291	6390	1096	**7777**	792	5444	818	**7056**	**14833**	**21386**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														**1.31**					

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

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD @ SCOTT ST/ALBERT ST

Survey Date: Wednesday, September 07, 2016 **WO No:** 36277

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

		BAYVIEW RD									SCOTT ST/ALBERT ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	2	8	4	14	21	39	6	66	158	5	77	7	89	8	57	11	76	158	245
07:15	07:30	12	16	14	42	9	47	3	59	197	4	94	10	108	9	35	10	54	197	263
07:30	07:45	2	12	20	34	23	41	3	67	187	2	135	13	150	12	59	6	77	187	328
07:45	08:00	8	13	22	43	18	50	5	73	229	8	147	21	176	11	70	10	92	229	384
08:00	08:15	14	6	24	44	27	46	8	81	216	4	142	19	165	5	64	11	80	216	370
08:15	08:30	10	17	31	58	25	46	6	77	239	2	145	16	163	15	73	8	96	239	394
08:30	08:45	7	25	39	71	36	44	7	87	268	5	159	17	181	11	69	8	88	268	427
08:45	09:00	14	20	22	56	38	71	9	118	316	5	163	24	192	14	70	8	92	316	458
09:00	09:15	12	24	15	51	25	53	2	80	248	8	131	19	158	7	72	6	85	248	374
09:15	09:30	2	13	16	31	17	33	12	62	186	7	114	24	145	7	75	9	91	186	329
09:30	09:45	9	17	7	33	23	32	4	59	184	5	106	12	123	10	63	16	89	184	304
09:45	10:00	7	11	11	29	16	16	6	38	143	5	92	17	114	16	72	11	99	143	280
11:30	11:45	10	11	12	33	15	17	8	40	146	6	101	23	130	8	68	8	84	146	287
11:45	12:00	12	19	11	42	13	22	10	45	172	3	94	16	113	15	64	10	89	172	289
12:00	12:15	14	19	22	55	12	18	11	41	196	8	84	25	117	14	65	16	95	196	308
12:15	12:30	10	14	15	39	11	12	5	28	131	5	90	14	109	11	87	8	106	131	282
12:30	12:45	12	23	17	52	4	15	3	22	159	8	71	21	100	11	70	7	88	159	262
12:45	13:00	13	22	15	50	10	16	8	34	166	5	93	19	117	8	66	12	86	166	287
13:00	13:15	11	21	16	48	8	8	3	19	135	8	88	17	113	7	74	7	88	135	268
13:15	13:30	6	18	15	39	11	14	4	29	154	3	68	18	89	16	65	17	98	154	255
15:00	15:15	15	40	21	76	10	28	11	49	243	4	115	12	131	17	99	17	133	243	389
15:15	15:30	16	64	13	93	10	25	3	38	292	7	107	17	131	27	126	21	174	292	436
15:30	15:45	19	79	18	116	4	22	8	34	320	8	115	19	142	19	125	23	167	320	459
15:45	16:00	19	80	15	114	9	24	4	37	318	6	112	16	134	12	140	29	181	318	466
16:00	16:15	18	75	19	112	9	28	7	44	326	4	104	24	132	12	140	27	179	326	467
16:15	16:30	20	68	15	103	8	25	4	37	298	7	117	22	146	14	144	22	180	298	466
16:30	16:45	21	58	17	96	20	21	7	48	305	5	100	30	135	28	157	19	204	305	483
16:45	17:00	24	70	17	111	9	13	1	23	283	4	117	19	140	15	139	28	182	283	456
17:00	17:15	32	63	24	119	11	24	4	39	325	3	108	30	141	25	141	22	188	325	487
17:15	17:30	12	53	17	82	10	24	5	39	265	1	103	26	130	20	145	20	185	265	436
17:30	17:45	17	59	20	96	14	11	4	29	239	4	112	18	134	13	158	9	180	239	439
17:45	18:00	7	35	12	54	4	13	4	21	172	1	105	17	123	18	138	13	169	172	367
Total:		407	1073	556	2036	480	898	185	1563	7216	160	3509	602	4271	435	2990	449	3875	7216	11,745

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD @ SCOTT ST/ALBERT ST

Survey Date: Wednesday, September 07, 2016 **WO No:** 36277

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		BAYVIEW RD			SCOTT ST/ALBERT ST			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	1	1	2	0	0	0	2
07:15	07:30	5	2	7	0	0	0	7
07:30	07:45	6	2	8	0	0	0	8
07:45	08:00	3	1	4	1	1	2	6
08:00	08:15	8	2	10	2	0	2	12
08:15	08:30	11	1	12	0	0	0	12
08:30	08:45	12	0	12	1	0	1	13
08:45	09:00	6	4	10	0	0	0	10
09:00	09:15	3	4	7	1	0	1	8
09:15	09:30	0	0	0	2	1	3	3
09:30	09:45	0	0	0	0	1	1	1
09:45	10:00	1	0	1	0	0	0	1
11:30	11:45	1	0	1	3	0	3	4
11:45	12:00	0	1	1	0	0	0	1
12:00	12:15	0	0	0	1	0	1	1
12:15	12:30	1	1	2	3	0	3	5
12:30	12:45	2	0	2	1	1	2	4
12:45	13:00	0	0	0	2	0	2	2
13:00	13:15	1	0	1	1	0	1	2
13:15	13:30	1	2	3	3	0	3	6
15:00	15:15	0	1	1	0	0	0	1
15:15	15:30	1	3	4	0	4	4	8
15:30	15:45	3	0	3	0	0	0	3
15:45	16:00	4	1	5	1	1	2	7
16:00	16:15	0	0	0	1	0	1	1
16:15	16:30	2	1	3	0	0	0	3
16:30	16:45	0	5	5	0	1	1	6
16:45	17:00	2	8	10	1	0	1	11
17:00	17:15	2	2	4	2	3	5	9
17:15	17:30	1	0	1	0	4	4	5
17:30	17:45	2	4	6	1	0	1	7
17:45	18:00	0	2	2	1	0	1	3
Total		79	48	**127**	28	17	45	172

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD @ SCOTT ST/ALBERT ST

Survey Date: Wednesday, September 07, 2016 **WO No:** 36277

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

	BAYVIEW RD			SCOTT ST/ALBERT ST			
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	**Total**	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	**Total**	**Grand Total**
07:00 07:15	12	6	**18**	5	6	**11**	**29**
07:15 07:30	5	4	**9**	3	4	**7**	**16**
07:30 07:45	10	11	**21**	4	1	**5**	**26**
07:45 08:00	7	6	**13**	9	5	**14**	**27**
08:00 08:15	16	9	**25**	12	3	**15**	**40**
08:15 08:30	4	3	**7**	10	12	**22**	**29**
08:30 08:45	10	3	**13**	8	10	**18**	**31**
08:45 09:00	11	2	**13**	11	2	**13**	**26**
09:00 09:15	20	2	**22**	9	2	**11**	**33**
09:15 09:30	6	1	**7**	4	1	**5**	**12**
09:30 09:45	6	2	**8**	0	7	**7**	**15**
09:45 10:00	2	1	**3**	2	2	**4**	**7**
11:30 11:45	17	5	**22**	4	4	**8**	**30**
11:45 12:00	7	4	**11**	7	3	**10**	**21**
12:00 12:15	8	1	**9**	9	3	**12**	**21**
12:15 12:30	19	10	**29**	14	9	**23**	**52**
12:30 12:45	22	7	**29**	16	13	**29**	**58**
12:45 13:00	4	1	**5**	7	2	**9**	**14**
13:00 13:15	10	2	**12**	2	3	**5**	**17**
13:15 13:30	3	1	**4**	0	2	**2**	**6**
15:00 15:15	1	6	**7**	11	2	**13**	**20**
15:15 15:30	5	1	**6**	4	3	**7**	**13**
15:30 15:45	8	1	**9**	8	1	**9**	**18**
15:45 16:00	6	3	**9**	3	2	**5**	**14**
16:00 16:15	7	18	**25**	5	7	**12**	**37**
16:15 16:30	17	16	**33**	10	3	**13**	**46**
16:30 16:45	19	9	**28**	11	0	**11**	**39**
16:45 17:00	8	10	**18**	6	0	**6**	**24**
17:00 17:15	17	11	**28**	13	7	**20**	**48**
17:15 17:30	11	16	**27**	10	6	**16**	**43**
17:30 17:45	14	12	**26**	18	3	**21**	**47**
17:45 18:00	20	9	**29**	9	4	**13**	**42**
Total	332	193	**525**	244	132	**376**	**901**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD @ SCOTT ST/ALBERT ST

Survey Date: Wednesday, September 07, 2016 **WO No:** 36277

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		BAYVIEW RD									SCOTT ST/ALBERT ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	0	0	**0**	3	0	2	**7**	**7**	2	26	0	**45**	0	15	0	**44**	**89**	**48**
07:15	07:30	2	0	0	**3**	0	1	1	**2**	**5**	0	31	0	**55**	0	21	0	**52**	**107**	**56**
07:30	07:45	0	0	2	**5**	1	2	1	**5**	**10**	0	34	1	**58**	0	22	1	**60**	**118**	**64**
07:45	08:00	0	0	1	**3**	0	1	1	**2**	**5**	0	45	1	**72**	0	25	0	**71**	**143**	**74**
08:00	08:15	0	0	1	**3**	2	2	0	**7**	**10**	1	49	0	**73**	0	23	2	**77**	**150**	**80**
08:15	08:30	2	1	1	**5**	1	1	0	**3**	**8**	0	43	0	**68**	0	23	0	**68**	**136**	**72**
08:30	08:45	2	0	2	**6**	0	2	2	**6**	**12**	0	44	0	**69**	0	21	2	**69**	**138**	**75**
08:45	09:00	0	1	0	**5**	3	2	1	**7**	**12**	0	36	2	**68**	0	29	0	**68**	**136**	**74**
09:00	09:15	1	1	0	**4**	1	0	1	**3**	**7**	0	33	1	**57**	1	21	0	**56**	**113**	**60**
09:15	09:30	0	0	0	**2**	1	1	1	**9**	**11**	3	20	1	**47**	0	22	3	**46**	**93**	**52**
09:30	09:45	1	2	0	**4**	0	0	1	**9**	**13**	2	21	1	**44**	0	18	4	**43**	**87**	**50**
09:45	10:00	1	0	0	**1**	4	0	1	**7**	**8**	0	21	0	**43**	0	20	2	**47**	**90**	**49**
11:30	11:45	1	0	1	**2**	2	0	0	**4**	**6**	0	7	0	**19**	0	11	2	**23**	**42**	**24**
11:45	12:00	2	1	0	**6**	1	1	1	**4**	**10**	0	15	0	**27**	2	9	0	**27**	**54**	**32**
12:00	12:15	1	1	1	**3**	0	0	0	**5**	**8**	0	9	0	**25**	0	15	4	**29**	**54**	**31**
12:15	12:30	0	0	0	**1**	3	0	2	**5**	**6**	0	14	0	**27**	1	11	0	**29**	**56**	**31**
12:30	12:45	0	1	2	**4**	1	1	0	**7**	**11**	2	13	0	**28**	0	13	2	**31**	**59**	**35**
12:45	13:00	1	0	0	**1**	2	0	0	**4**	**5**	0	16	0	**26**	0	9	2	**29**	**55**	**30**
13:00	13:15	0	1	0	**2**	1	0	0	**3**	**5**	0	17	0	**29**	1	12	1	**32**	**61**	**33**
13:15	13:30	1	0	0	**4**	1	1	0	**6**	**10**	0	16	1	**28**	1	10	4	**32**	**60**	**35**
15:00	15:15	0	1	0	**2**	0	1	1	**3**	**5**	0	16	0	**40**	0	23	0	**39**	**79**	**42**
15:15	15:30	0	1	0	**1**	1	0	0	**2**	**3**	0	14	0	**38**	0	24	0	**39**	**77**	**40**
15:30	15:45	1	1	0	**3**	0	1	0	**4**	**7**	1	19	0	**56**	0	35	1	**55**	**111**	**59**
15:45	16:00	1	0	1	**2**	1	0	0	**1**	**3**	0	22	0	**48**	0	25	0	**49**	**97**	**50**
16:00	16:15	0	0	0	**1**	0	1	0	**1**	**2**	0	25	0	**56**	0	31	0	**56**	**112**	**57**
16:15	16:30	0	0	0	**1**	0	1	0	**1**	**2**	0	22	0	**57**	0	35	0	**57**	**114**	**58**
16:30	16:45	2	0	2	**5**	0	1	1	**3**	**8**	0	17	0	**64**	0	44	1	**64**	**128**	**68**
16:45	17:00	0	0	0	**1**	0	0	0	**0**	**1**	0	29	1	**64**	0	34	0	**63**	**127**	**64**
17:00	17:15	0	0	1	**1**	0	0	0	**0**	**1**	0	18	0	**59**	0	41	0	**60**	**119**	**60**
17:15	17:30	0	1	0	**2**	0	1	0	**2**	**4**	0	20	0	**51**	0	31	0	**51**	**102**	**53**
17:30	17:45	0	0	0	**0**	1	0	0	**1**	**1**	0	25	0	**59**	0	34	0	**60**	**119**	**60**
17:45	18:00	1	0	0	**1**	0	0	0	**0**	**1**	0	15	0	**42**	0	26	0	**41**	**83**	**42**
Total:	None	20	13	15	**84**	30	21	17	**123**	**207**	11	752	9	**1542**	6	733	31	**1567**	**3109**	**1,658**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD @ SCOTT ST/ALBERT ST

Survey Date: Wednesday, September 07, 2016 **WO No:** 36277

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

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

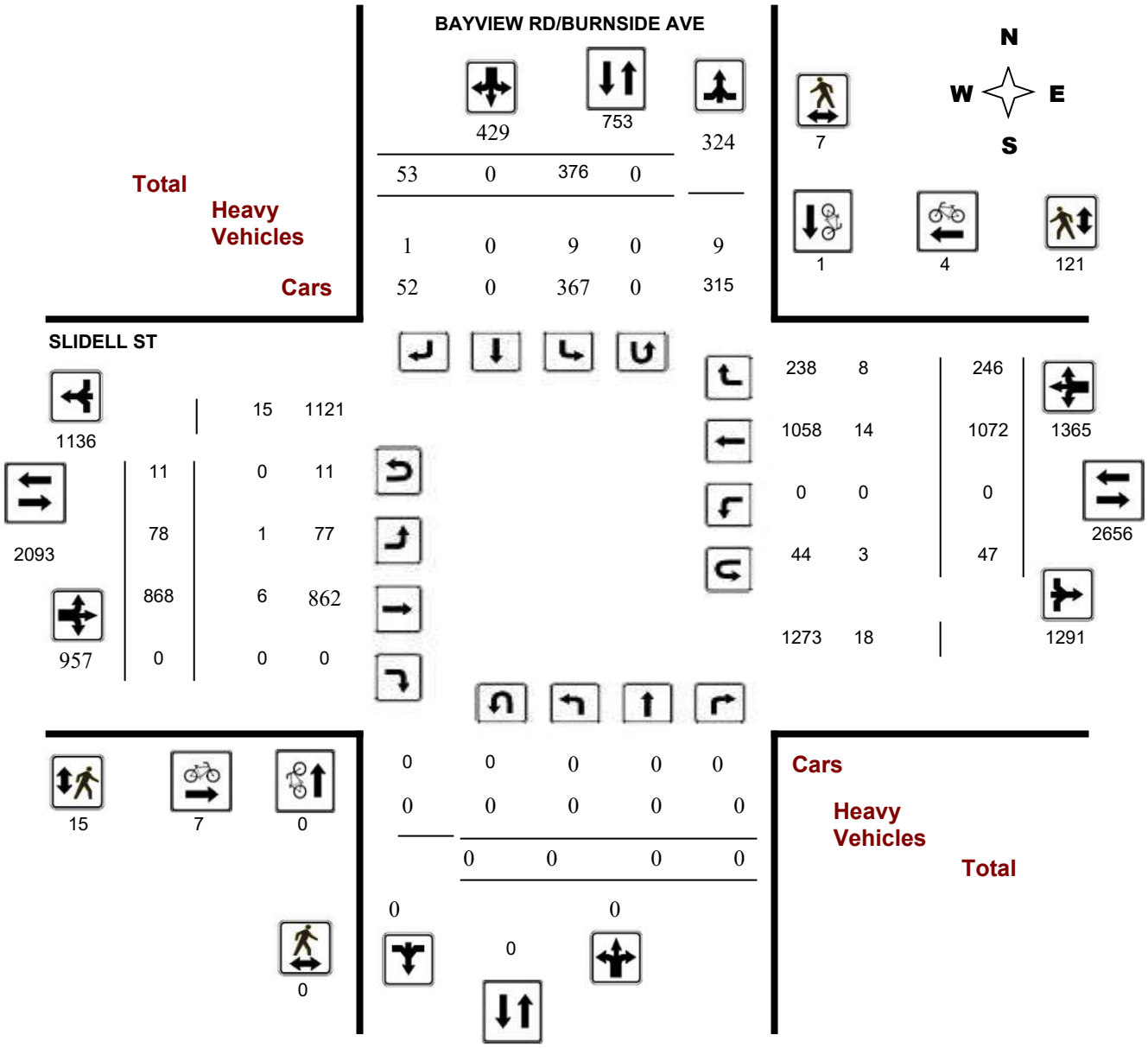
Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD/BURNSIDE AVE @ SLIDELL ST

Survey Date: Wednesday, February 26, 2020
Start Time: 07:00
WO No: 39631
Device: Miovision

Full Study Diagram



5478555 - FEB 26 2020 - 8HRS

Transportation Services - Traffic Services

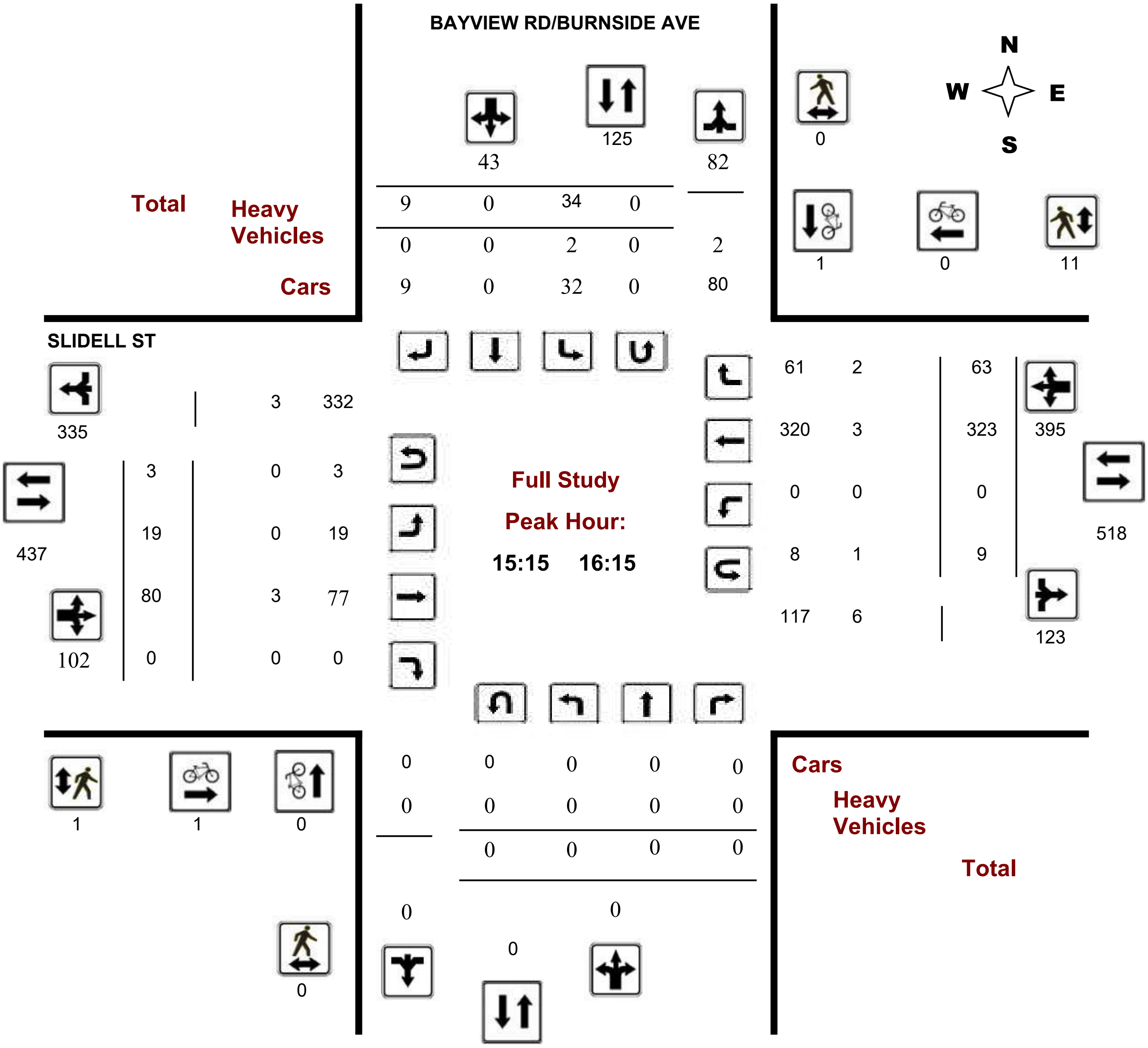
Turning Movement Count - Study Results

BAYVIEW RD/BURNSIDE AVE @ SLIDELL ST

Survey Date: Wednesday, February 26, 2020 **WO No:** 39631

Start Time: 07:00 **Device:** Miovision

Full Study Peak Hour Diagram



5478555 - FEB 26 2020 - 8HRS

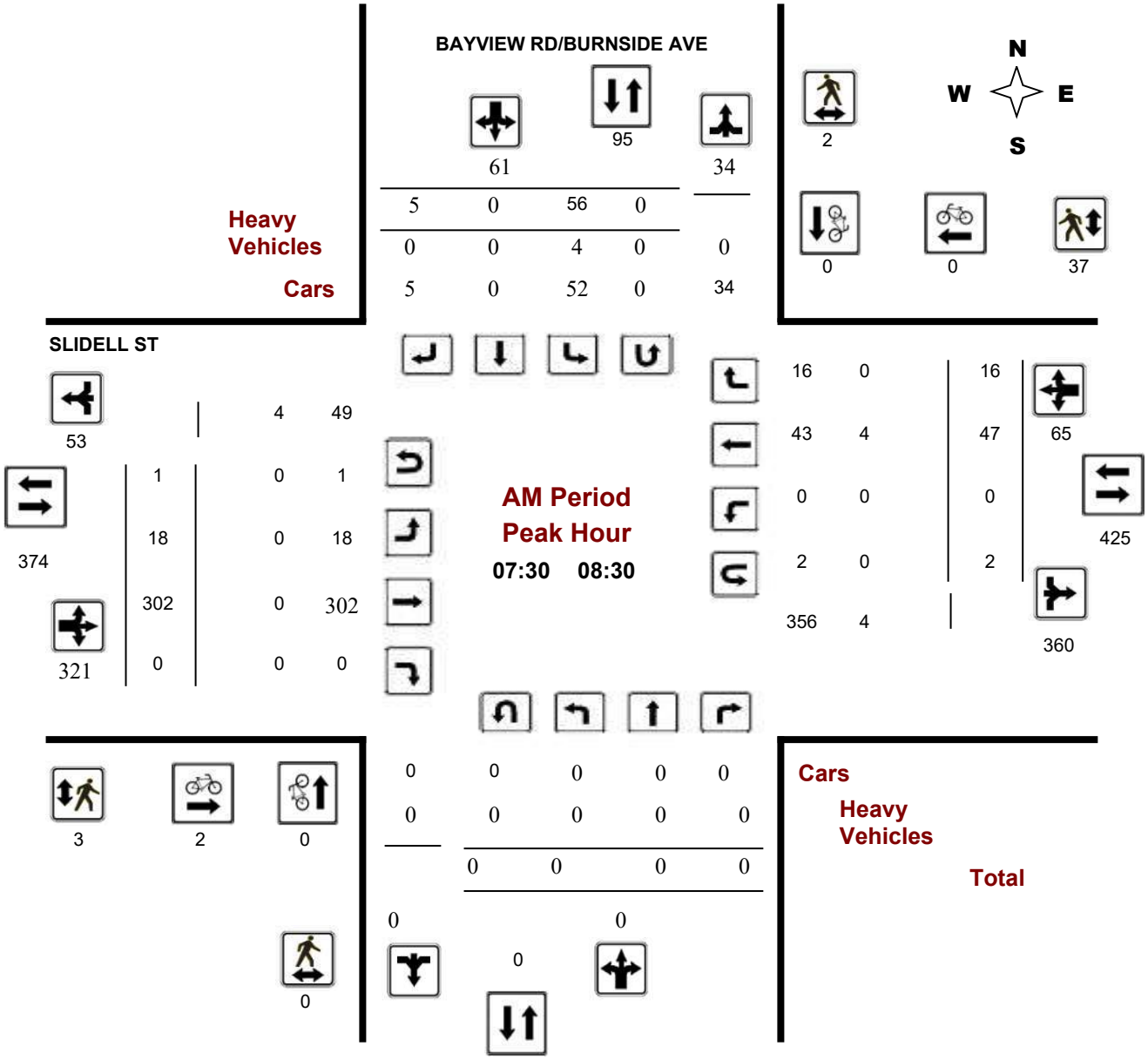
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYVIEW RD/BURNSIDE AVE @ SLIDELL ST

Survey Date: Wednesday, February 26, 2020 **WO No:** 39631

Start Time: 07:00 **Device:** Miovision



Comments 5478555 - FEB 26 2020 - 8HRS

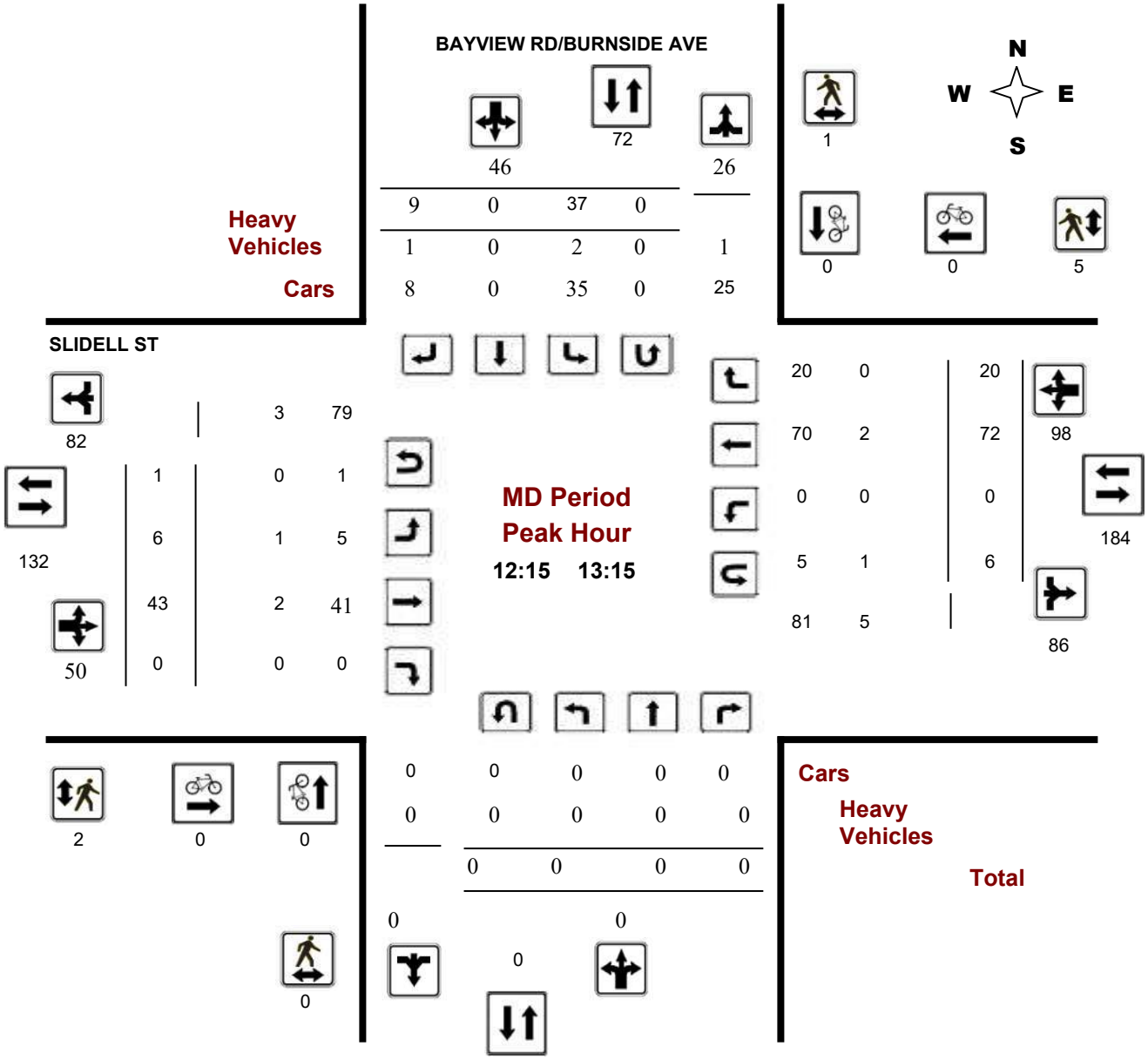
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYVIEW RD/BURNSIDE AVE @ SLIDELL ST

Survey Date: Wednesday, February 26, 2020 **WO No:** 39631

Start Time: 07:00 **Device:** Miovision



Comments 5478555 - FEB 26 2020 - 8HRS

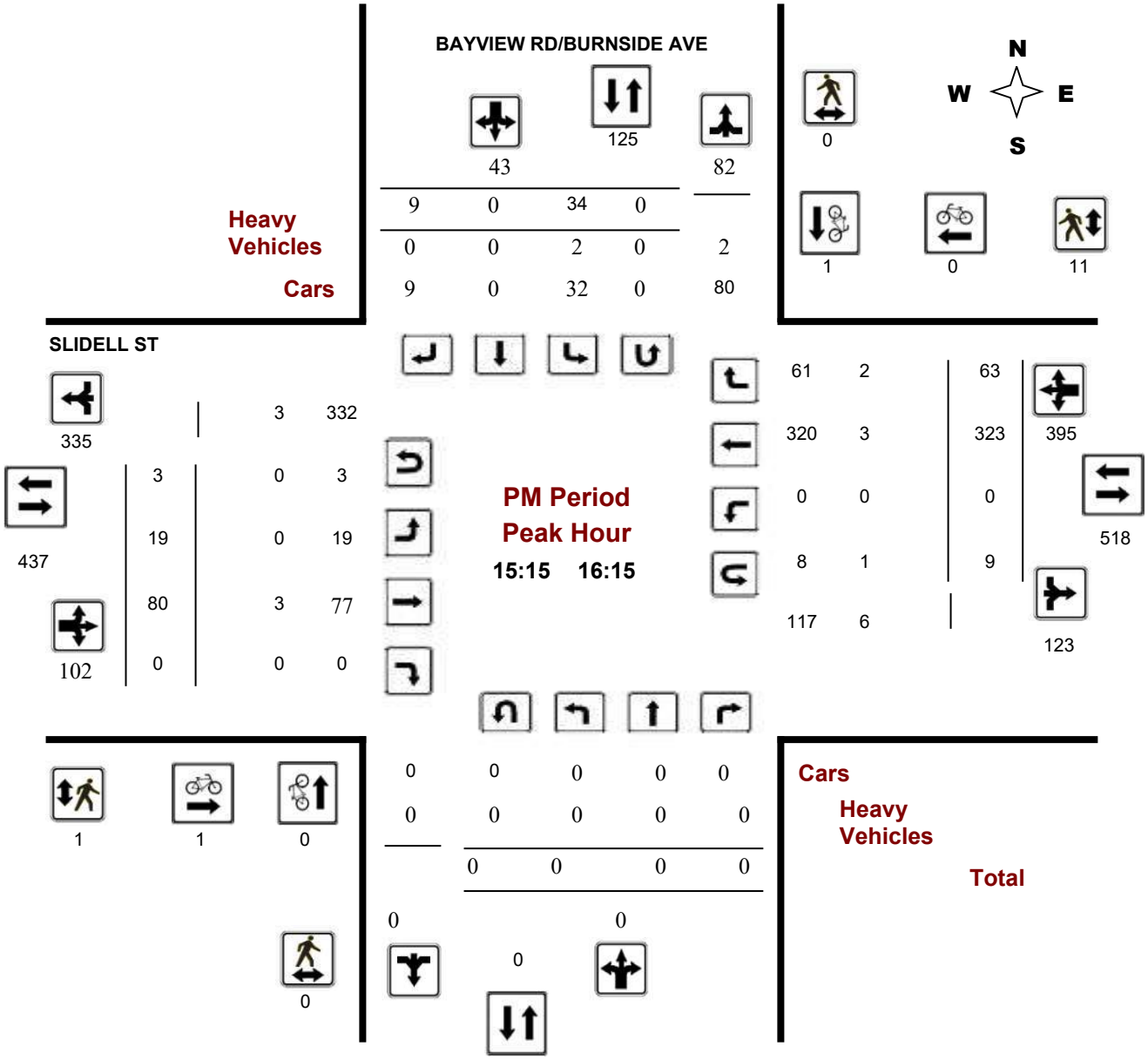
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYVIEW RD/BURNSIDE AVE @ SLIDELL ST

Survey Date: Wednesday, February 26, 2020 **WO No:** 39631

Start Time: 07:00 **Device:** Miovision



Comments 5478555 - FEB 26 2020 - 8HRS

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD/BURNSIDE AVE @ SLIDELL ST

Survey Date: Wednesday, February 26, 2020 **WO No:** 39631

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, February 26, 2020

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 11 Westbound: 47

AADT Factor

1.00

	BAYVIEW RD/BURNSIDE AVE									SLIDELL ST									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	0	0	0	**0**	36	0	6	**42**	**42**	16	242	0	**258**	0	41	8	**49**	**307**	**349**
08:00 09:00	0	0	0	**0**	66	0	3	**69**	**69**	18	256	0	**274**	0	54	19	**73**	**347**	**416**
09:00 10:00	0	0	0	**0**	110	0	6	**116**	**116**	6	62	0	**68**	0	50	14	**64**	**132**	**248**
11:30 12:30	0	0	0	**0**	50	0	9	**59**	**59**	6	50	0	**56**	0	54	18	**72**	**128**	**187**
12:30 13:30	0	0	0	**0**	30	0	6	**36**	**36**	5	38	0	**43**	0	76	22	**98**	**141**	**177**
15:00 16:00	0	0	0	**0**	39	0	8	**47**	**47**	20	72	0	**92**	0	319	54	**373**	**465**	**512**
16:00 17:00	0	0	0	**0**	27	0	8	**35**	**35**	4	74	0	**78**	0	296	73	**369**	**447**	**482**
17:00 18:00	0	0	0	**0**	18	0	7	**25**	**25**	3	74	0	**77**	0	182	38	**220**	**297**	**322**
Sub Total	0	0	0	**0**	376	0	53	**429**	**429**	78	868	0	**946**	0	1072	246	**1318**	**2264**	**2693**
U Turns				**0**				**0**	**0**				**11**				**47**	**58**	**58**
Total	0	0	0	**0**	376	0	53	**429**	**429**	78	868	0	**957**	0	1072	246	**1365**	**2322**	**2751**
EQ 12Hr	0	0	0	**0**	523	0	74	**596**	**596**	108	1207	0	**1330**	0	1490	342	**1897**	**3228**	**3824**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	0	0	0	**0**	493	0	69	**562**	**596**	102	1137	0	**1254**	0	1404	322	**1788**	**3228**	**3824**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**1**						
AVG 24Hr	0	0	0	**0**	645	0	91	**736**	**736**	134	1490	0	**1642**	0	1840	422	**2342**	**3984**	**4720**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.													**1.31**						

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

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD/BURNSIDE AVE @ SLIDELL ST

Survey Date: Wednesday, February 26, 2020 **WO No:** 39631

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

BAYVIEW RD/BURNSIDE AVE **SLIDELL ST**

		Northbound				Southbound					Eastbound				Westbound					
Time Period		**LT**	**ST**	**RT**	**N TOT**	**LT**	**ST**	**RT**	**S TOT**	**STR TOT**	**LT**	**ST**	**RT**	**E TOT**	**LT**	**ST**	**RT**	**W TOT**	**STR TOT**	**Grand Total**
07:00	07:15	0	0	0	0	8	0	2	10	0	5	31	0	36	0	9	0	10	0	56
07:15	07:30	0	0	0	0	3	0	1	4	0	5	56	0	61	0	9	3	13	0	78
07:30	07:45	0	0	0	0	12	0	2	14	3	3	73	0	76	0	12	3	15	3	105
07:45	08:00	0	0	0	0	13	0	1	14	0	3	82	0	85	0	11	2	14	0	113
08:00	08:15	0	0	0	0	10	0	1	11	0	4	73	0	77	0	15	6	21	0	109
08:15	08:30	0	0	0	0	21	0	1	22	1	8	74	0	83	0	9	5	15	1	120
08:30	08:45	0	0	0	0	10	0	0	10	0	4	64	0	68	0	16	5	22	0	100
08:45	09:00	0	0	0	0	25	0	1	26	0	2	45	0	47	0	14	3	20	0	93
09:00	09:15	0	0	0	0	44	0	1	45	0	3	19	0	22	0	10	4	18	0	85
09:15	09:30	0	0	0	0	23	0	1	24	0	0	19	0	19	0	15	3	19	0	62
09:30	09:45	0	0	0	0	28	0	3	31	0	3	12	0	15	0	14	6	21	0	67
09:45	10:00	0	0	0	0	15	0	1	16	0	0	12	0	12	0	11	1	13	0	41
11:30	11:45	0	0	0	0	11	0	1	12	0	2	13	0	17	0	11	3	16	0	45
11:45	12:00	0	0	0	0	16	0	1	17	1	2	18	0	20	0	12	10	23	1	60
12:00	12:15	0	0	0	0	12	0	2	14	0	1	6	0	7	0	15	1	17	0	38
12:15	12:30	0	0	0	0	11	0	5	16	2	1	13	0	14	0	16	4	21	2	51
12:30	12:45	0	0	0	0	10	0	0	10	0	2	13	0	16	0	15	3	18	0	44
12:45	13:00	0	0	0	0	8	0	4	12	0	1	8	0	9	0	18	5	27	0	48
13:00	13:15	0	0	0	0	8	0	0	8	1	2	9	0	11	0	23	8	32	1	51
13:15	13:30	0	0	0	0	4	0	2	6	0	0	8	0	8	0	20	6	27	0	41
15:00	15:15	0	0	0	0	7	0	1	8	0	2	10	0	14	0	74	13	88	0	110
15:15	15:30	0	0	0	0	15	0	4	19	1	9	25	0	34	0	80	17	99	1	152
15:30	15:45	0	0	0	0	9	0	1	10	0	4	20	0	26	0	67	11	78	0	114
15:45	16:00	0	0	0	0	8	0	2	10	1	5	17	0	23	0	98	13	114	1	147
16:00	16:15	0	0	0	0	2	0	2	4	0	1	18	0	19	0	78	22	104	0	127
16:15	16:30	0	0	0	0	9	0	3	12	0	2	20	0	22	0	70	24	96	0	130
16:30	16:45	0	0	0	0	8	0	1	9	0	1	19	0	20	0	78	18	97	0	126
16:45	17:00	0	0	0	0	8	0	2	10	0	0	17	0	18	0	70	9	80	0	108
17:00	17:15	0	0	0	0	2	0	2	4	0	1	24	0	25	0	65	14	81	0	110
17:15	17:30	0	0	0	0	3	0	1	4	0	1	23	0	24	0	46	12	60	0	88
17:30	17:45	0	0	0	0	6	0	2	8	0	0	16	0	16	0	43	6	49	0	73
17:45	18:00	0	0	0	0	7	0	2	9	0	1	11	0	13	0	28	6	37	0	59
Total:		0	0	0	0	376	0	53	429	10	78	868	0	957	0	1072	246	1365	10	2,751

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD/BURNSIDE AVE @ SLIDELL ST

Survey Date: Wednesday, February 26, 2020 **WO No:** 39631

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		BAYVIEW RD/BURNSIDE AVE			SLIDELL ST			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	0	1	1	2	2
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	0	0	0	1	0	1	1
07:45	08:00	0	0	0	1	0	1	1
08:00	08:15	0	0	0	0	0	0	0
08:15	08:30	0	0	0	0	0	0	0
08:30	08:45	0	0	0	2	0	2	2
08:45	09:00	0	0	0	1	0	1	1
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	0	0	0	0	0	0
11:30	11:45	0	0	0	0	0	0	0
11:45	12:00	0	0	0	0	0	0	0
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	0	0	0	0	0	0	0
12:45	13:00	0	0	0	0	0	0	0
13:00	13:15	0	0	0	0	0	0	0
13:15	13:30	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	1	1	1
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	0	0	0	1	0	1	1
15:45	16:00	0	1	1	0	0	0	1
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	1	1	1
17:30	17:45	0	0	0	0	1	1	1
17:45	18:00	0	0	0	0	0	0	0
Total		0	1	**1**	7	4	11	12

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD/BURNSIDE AVE @ SLIDELL ST

Survey Date: Wednesday, February 26, 2020 **WO No:** 39631

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

BAYVIEW RD/BURNSIDE AVE **SLIDELL ST**

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	0	**0**	0	2	**2**	**2**
07:15 07:30	0	0	**0**	0	6	**6**	**6**
07:30 07:45	0	0	**0**	0	5	**5**	**5**
07:45 08:00	0	0	**0**	1	13	**14**	**14**
08:00 08:15	0	1	**1**	2	7	**9**	**10**
08:15 08:30	0	1	**1**	0	12	**12**	**13**
08:30 08:45	0	0	**0**	0	7	**7**	**7**
08:45 09:00	0	0	**0**	0	2	**2**	**2**
09:00 09:15	0	0	**0**	0	3	**3**	**3**
09:15 09:30	0	1	**1**	0	2	**2**	**3**
09:30 09:45	0	0	**0**	0	2	**2**	**2**
09:45 10:00	0	0	**0**	2	2	**4**	**4**
11:30 11:45	0	0	**0**	0	0	**0**	**0**
11:45 12:00	0	1	**1**	1	3	**4**	**5**
12:00 12:15	0	0	**0**	0	1	**1**	**1**
12:15 12:30	0	1	**1**	2	2	**4**	**5**
12:30 12:45	0	0	**0**	0	0	**0**	**0**
12:45 13:00	0	0	**0**	0	2	**2**	**2**
13:00 13:15	0	0	**0**	0	1	**1**	**1**
13:15 13:30	0	0	**0**	0	1	**1**	**1**
15:00 15:15	0	0	**0**	0	2	**2**	**2**
15:15 15:30	0	0	**0**	0	2	**2**	**2**
15:30 15:45	0	0	**0**	0	3	**3**	**3**
15:45 16:00	0	0	**0**	0	4	**4**	**4**
16:00 16:15	0	0	**0**	1	2	**3**	**3**
16:15 16:30	0	0	**0**	2	2	**4**	**4**
16:30 16:45	0	0	**0**	0	4	**4**	**4**
16:45 17:00	0	0	**0**	1	7	**8**	**8**
17:00 17:15	0	0	**0**	0	6	**6**	**6**
17:15 17:30	0	0	**0**	0	2	**2**	**2**
17:30 17:45	0	0	**0**	0	9	**9**	**9**
17:45 18:00	0	2	**2**	3	5	**8**	**10**
Total	0	7	**7**	15	121	**136**	**143**

5478555 - FEB 26 2020 - 8HRS

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD/BURNSIDE AVE @ SLIDELL ST

Survey Date: Wednesday, February 26, 2020 **WO No:** 39631

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

BAYVIEW RD/BURNSIDE AVE **SLIDELL ST**

Time Period		Northbound				Southbound					Eastbound				Westbound					
		LT	ST	RT	**N TOT**	LT	ST	RT	**S TOT**	**STR TOT**	LT	ST	RT	**E TOT**	LT	ST	RT	**W TOT**	**STR TOT**	**Grand Total**
07:00	07:15	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
07:15	07:30	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
07:30	07:45	0	0	0	**0**	3	0	0	**3**	**3**	0	0	0	**0**	0	1	0	**1**	**1**	**4**
07:45	08:00	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
08:00	08:15	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	2	0	**2**	**2**	**2**
08:15	08:30	0	0	0	**0**	1	0	0	**1**	**1**	0	0	0	**0**	0	1	0	**1**	**1**	**2**
08:30	08:45	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
08:45	09:00	0	0	0	**0**	0	0	0	**0**	**0**	0	1	0	**1**	0	0	0	**0**	**1**	**1**
09:00	09:15	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
09:15	09:30	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
09:30	09:45	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	1	**1**	**1**	**1**
09:45	10:00	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
11:30	11:45	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	1	**2**	**2**	**2**
11:45	12:00	0	0	0	**0**	1	0	0	**1**	**1**	0	0	0	**0**	0	1	0	**1**	**1**	**2**
12:00	12:15	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	1	**1**	**1**	**1**
12:15	12:30	0	0	0	**0**	1	0	1	**2**	**2**	0	1	0	**1**	0	1	0	**1**	**2**	**4**
12:30	12:45	0	0	0	**0**	0	0	0	**0**	**0**	0	1	0	**1**	0	1	0	**1**	**2**	**2**
12:45	13:00	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**1**	**1**	**1**
13:00	13:15	0	0	0	**0**	1	0	0	**1**	**1**	1	0	0	**1**	0	0	0	**0**	**1**	**2**
13:15	13:30	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	1	1	**2**	**2**	**2**
15:00	15:15	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	1	1	**2**	**2**	**2**
15:15	15:30	0	0	0	**0**	1	0	0	**1**	**1**	0	3	0	**3**	0	2	2	**5**	**8**	**9**
15:30	15:45	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
15:45	16:00	0	0	0	**0**	1	0	0	**1**	**1**	0	0	0	**0**	0	1	0	**1**	**1**	**2**
16:00	16:15	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
16:15	16:30	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	1	1	**2**	**2**	**2**
16:30	16:45	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
16:45	17:00	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	1	0	**1**	**1**	**1**
17:00	17:15	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
17:15	17:30	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
17:30	17:45	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
17:45	18:00	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
Total:	None	0	0	0	**0**	9	0	1	**10**	**10**	1	6	0	**7**	0	14	8	**25**	**32**	**42**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BAYVIEW RD/BURNSIDE AVE @ SLIDELL ST

Survey Date: Wednesday, February 26, 2020 **WO No:** 39631

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

BAYVIEW RD/BURNSIDE AVE **SLIDELL ST**

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	1	1
07:15	07:30	0	0	0	1	1
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	1	1
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	1	1	2
08:30	08:45	0	0	0	1	1
08:45	09:00	0	0	0	3	3
09:00	09:15	0	0	0	4	4
09:15	09:30	0	0	0	1	1
09:30	09:45	0	0	0	1	1
09:45	10:00	0	0	0	1	1
11:30	11:45	0	0	2	2	4
11:45	12:00	0	0	0	1	1
12:00	12:15	0	0	0	1	1
12:15	12:30	0	0	0	1	1
12:30	12:45	0	0	1	0	1
12:45	13:00	0	0	0	4	4
13:00	13:15	0	0	0	1	1
13:15	13:30	0	0	0	1	1
15:00	15:15	0	0	2	1	3
15:15	15:30	0	0	0	2	2
15:30	15:45	0	0	2	0	2
15:45	16:00	0	0	1	3	4
16:00	16:15	0	0	0	4	4
16:15	16:30	0	0	0	2	2
16:30	16:45	0	0	0	1	1
16:45	17:00	0	0	1	1	2
17:00	17:15	0	0	0	2	2
17:15	17:30	0	0	0	2	2
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	1	3	4
Total		0	0	11	47	58

Transportation Services - Traffic Services

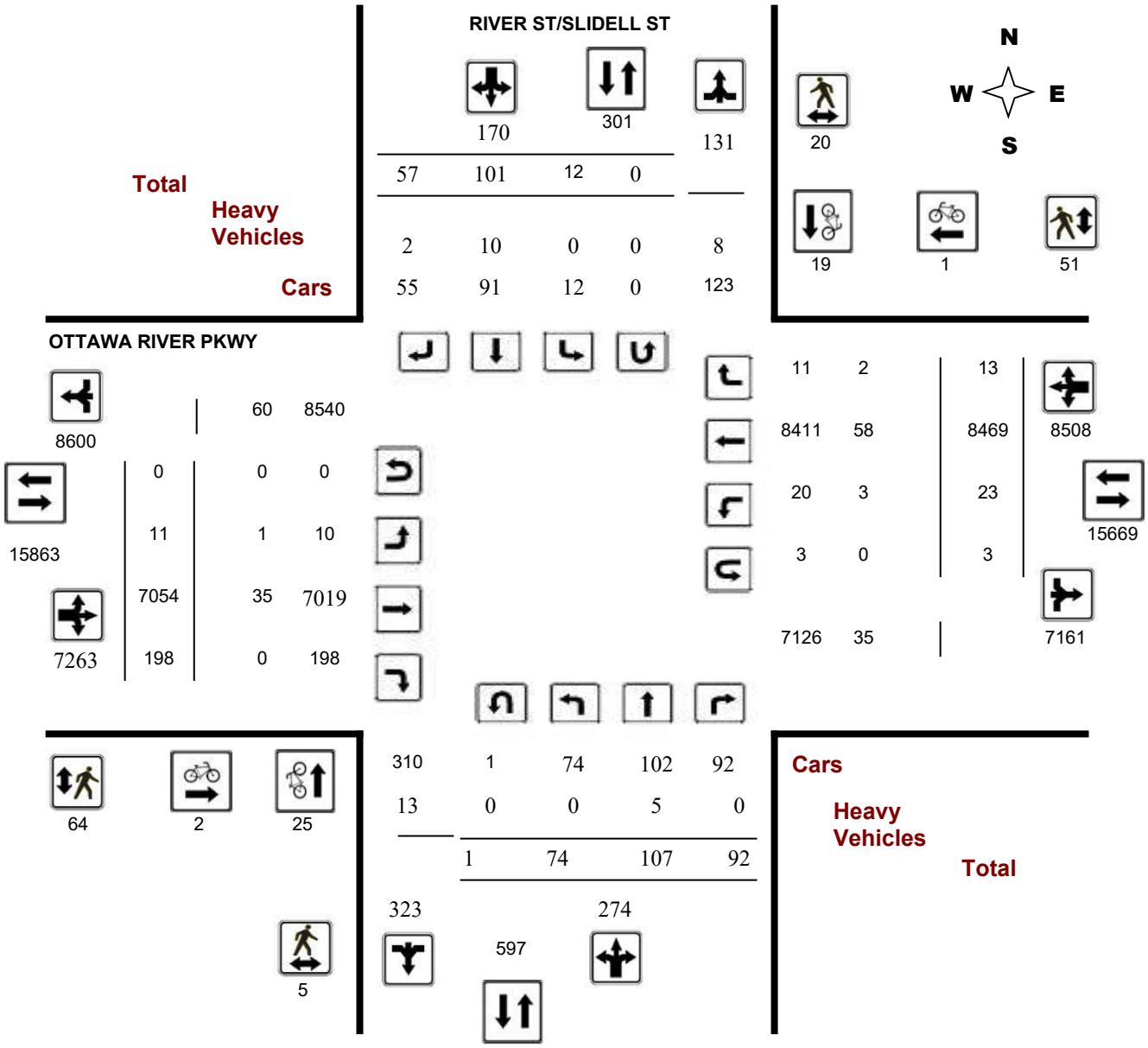
Turning Movement Count - Study Results

OTTAWA RIVER PKWY @ RIVER ST/SLIDELL ST

Survey Date: Tuesday, April 25, 2017
Start Time: 07:00

WO No: 36950
Device: Miovision

Full Study Diagram



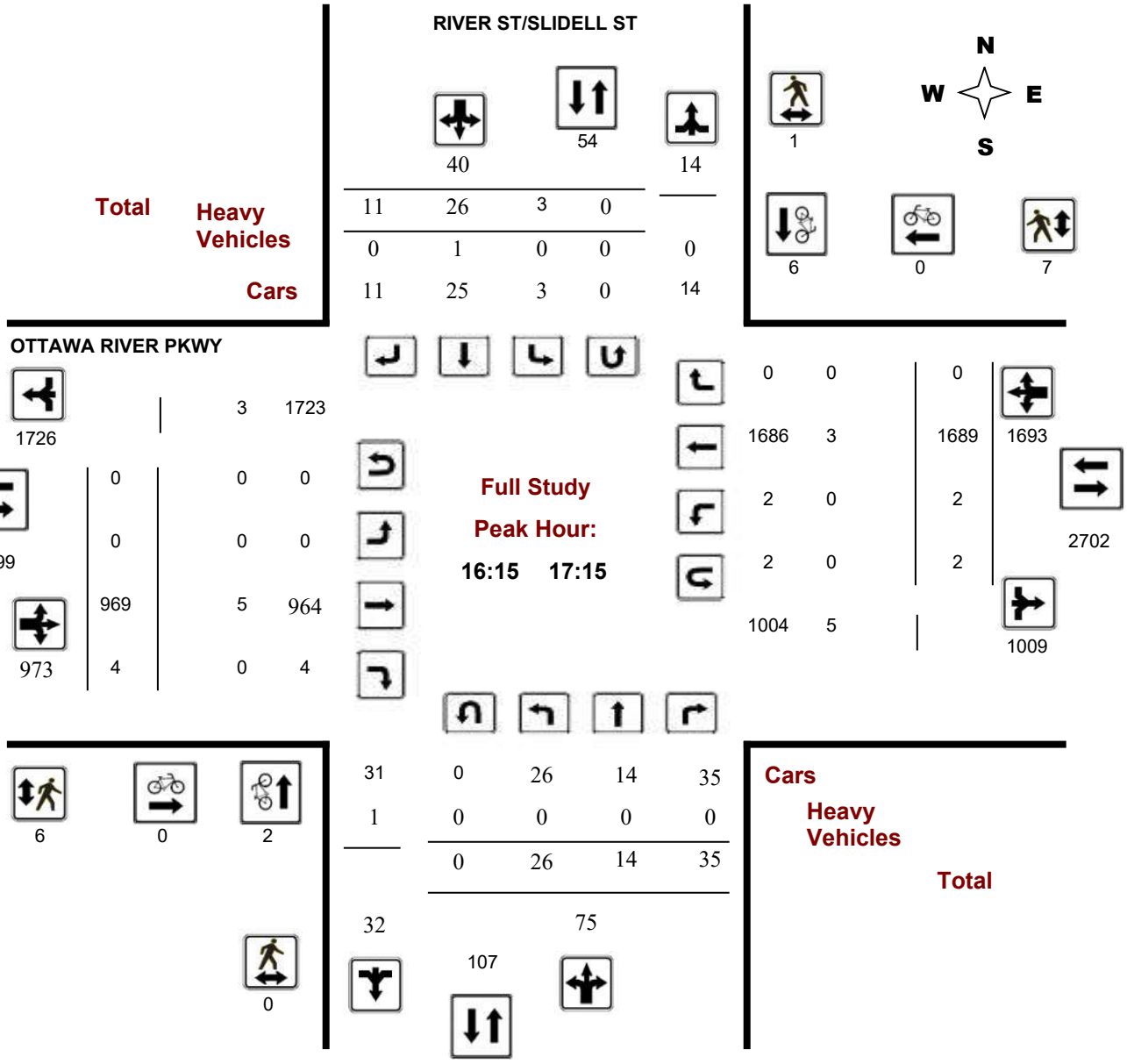
Transportation Services - Traffic Services

Turning Movement Count - Study Results

OTTAWA RIVER PKWY @ RIVER ST/SLIDELL ST

Survey Date: Tuesday, April 25, 2017
Start Time: 07:00
WO No: 36950
Device: Miovision

Full Study Peak Hour Diagram



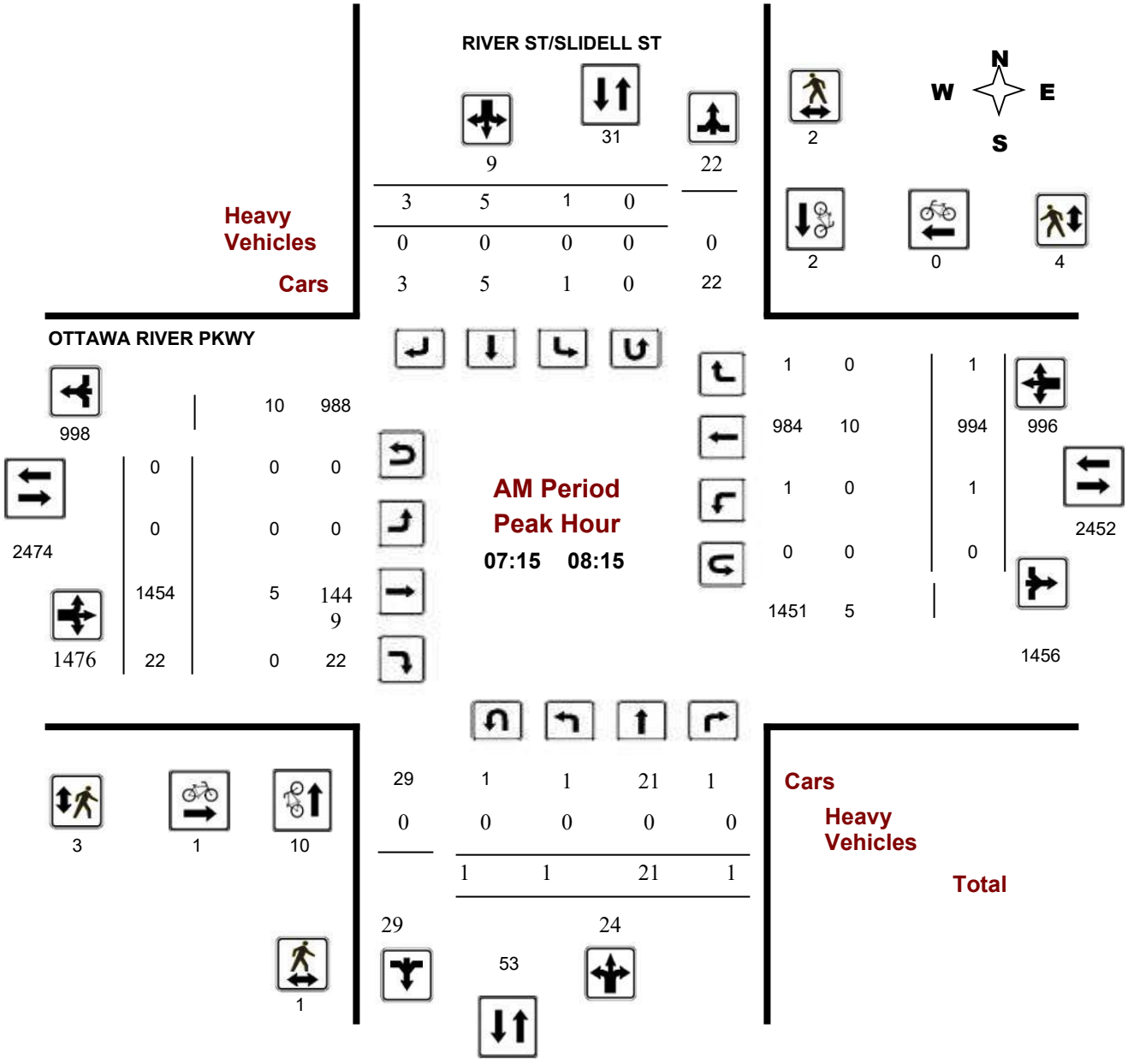
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

OTTAWA RIVER PKWY @ RIVER ST/SLIDELL ST

Survey Date: Tuesday, April 25, 2017
Start Time: 07:00

WO No: 36950
Device: Miovision



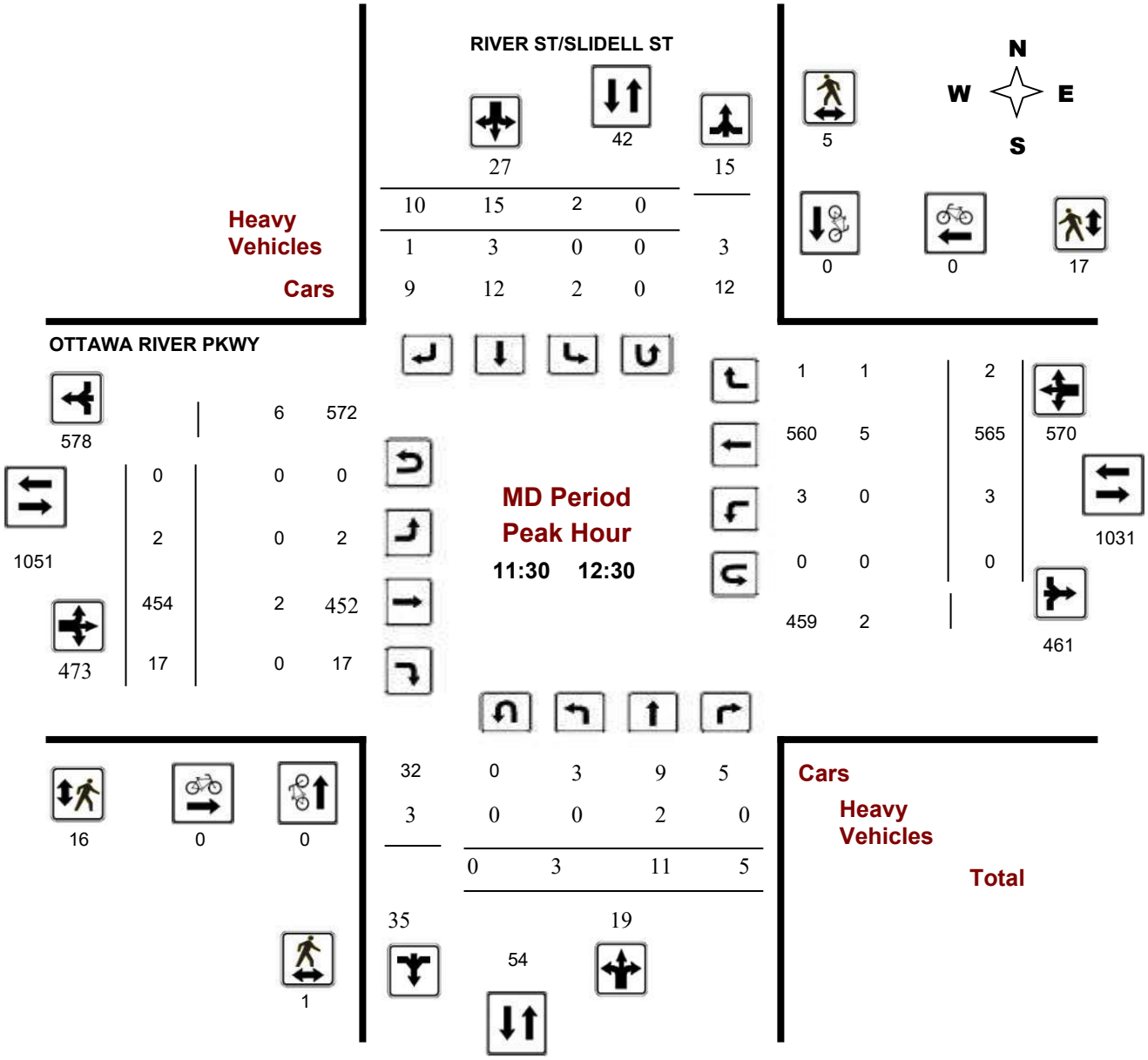
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

OTTAWA RIVER PKWY @ RIVER ST/SLIDELL ST

Survey Date: Tuesday, April 25, 2017
Start Time: 07:00

WO No: 36950
Device: Miovision



Comments

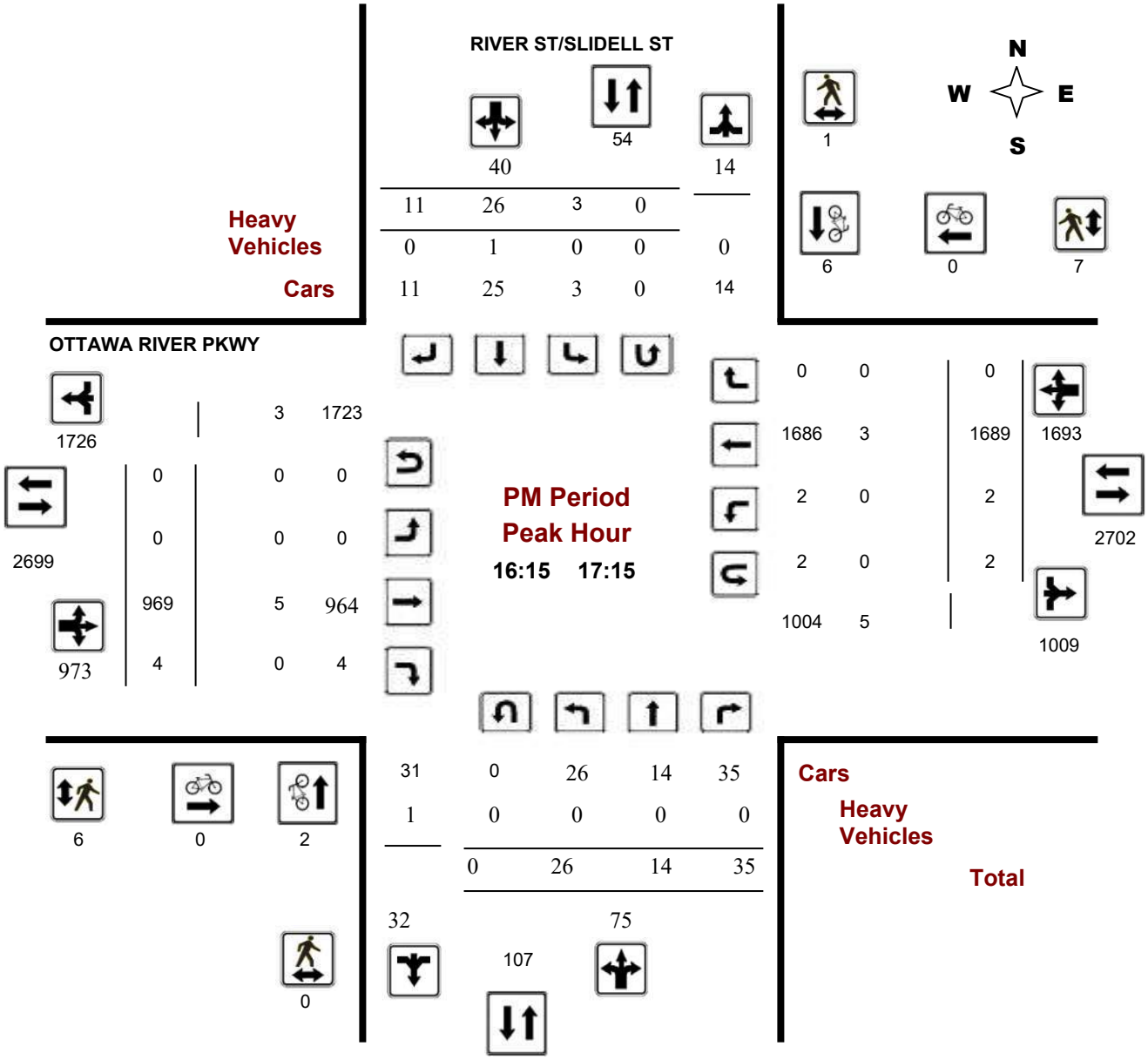
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

OTTAWA RIVER PKWY @ RIVER ST/SLIDELL ST

Survey Date: Tuesday, April 25, 2017
Start Time: 07:00

WO No: 36950
Device: Miovision



Transportation Services - Traffic Services

Turning Movement Count - Study Results

OTTAWA RIVER PKWY @ RIVER ST/SLIDELL ST

Survey Date: Tuesday, April 25, 2017 **WO No:** 36950

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, April 25, 2017

Total Observed U-Turns

Northbound: 1 Southbound: 0

Eastbound: 0 Westbound: 3

AADT Factor

1.25

	RIVER ST/SLIDELL ST									OTTAWA RIVER PKWY									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	1	22	0	**23**	1	4	2	**7**	**30**	0	1315	21	**1336**	0	986	1	**987**	**2323**	**2353**
08:00 09:00	0	28	4	**32**	0	8	4	**12**	**44**	1	1401	39	**1441**	1	909	1	**911**	**2352**	**2396**
09:00 10:00	2	15	2	**19**	0	14	5	**19**	**38**	2	698	80	**780**	3	693	5	**701**	**1481**	**1519**
11:30 12:30	3	11	5	**19**	2	15	10	**27**	**46**	2	454	17	**473**	3	565	2	**570**	**1043**	**1089**
12:30 13:30	4	7	7	**18**	3	11	6	**20**	**38**	6	418	20	**444**	10	529	1	**540**	**984**	**1022**
15:00 16:00	10	2	22	**34**	3	9	10	**22**	**56**	0	993	12	**1005**	2	1502	0	**1504**	**2509**	**2565**
16:00 17:00	27	15	38	**80**	3	24	11	**38**	**118**	0	954	3	**957**	0	1684	0	**1684**	**2641**	**2759**
17:00 18:00	27	7	14	**48**	0	16	9	**25**	**73**	0	821	6	**827**	4	1601	3	**1608**	**2435**	**2508**
Sub Total	74	107	92	**273**	12	101	57	**170**	**443**	11	7054	198	**7263**	23	8469	13	**8505**	**15768**	**16211**
U Turns				**1**				**0**	**1**				**0**				**3**	**3**	**4**
Total	74	107	92	**274**	12	101	57	**170**	**444**	11	7054	198	**7263**	23	8469	13	**8508**	**15771**	**16215**
EQ 12Hr	103	149	128	**381**	17	140	79	**236**	**617**	15	9805	275	**10096**	32	11772	18	**11826**	**21922**	**22539**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	93	134	115	**343**	15	126	71	**213**	**555**	14	8825	248	**9086**	29	10595	16	**10644**	**19730**	**20285**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**0.9**					
AVG 24Hr	121	175	151	**449**	20	166	93	**279**	**728**	18	11560	324	**11903**	38	13879	21	**13943**	**25846**	**26574**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														**1.31**					

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

Transportation Services - Traffic Services

Turning Movement Count - Study Results

OTTAWA RIVER PKWY @ RIVER ST/SLIDELL ST

Survey Date: Tuesday, April 25, 2017 **WO No:** 36950

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

		RIVER ST/SLIDELL ST									OTTAWA RIVER PKWY									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	10	0	10	0	0	0	0	28	0	268	8	276	0	246	0	246	28	532
07:15	07:30	1	2	0	3	1	0	1	2	11	0	360	3	363	0	234	1	235	11	603
07:30	07:45	0	2	0	3	0	1	1	2	17	0	312	8	320	0	271	0	271	17	596
07:45	08:00	0	8	0	8	0	3	0	3	24	0	375	2	377	0	235	0	235	24	623
08:00	08:15	0	9	1	10	0	1	1	2	32	0	407	9	416	1	254	0	255	32	683
08:15	08:30	0	11	1	12	0	3	1	4	38	0	338	8	346	0	221	0	221	38	583
08:30	08:45	0	2	0	2	0	2	2	4	19	0	351	9	360	0	193	0	193	19	559
08:45	09:00	0	6	2	8	0	2	0	2	33	1	305	13	319	0	241	1	242	33	571
09:00	09:15	1	3	1	5	0	4	2	6	47	0	249	27	276	1	241	1	243	47	530
09:15	09:30	0	5	0	5	0	2	1	3	43	0	170	24	194	2	171	2	175	43	377
09:30	09:45	0	4	1	5	0	4	1	5	36	1	154	17	172	0	135	0	135	36	317
09:45	10:00	1	3	0	4	0	4	1	5	31	1	125	12	138	0	146	2	148	31	295
11:30	11:45	1	4	2	7	0	4	3	7	28	0	120	5	125	1	126	0	127	28	266
11:45	12:00	0	0	0	0	0	3	5	8	16	2	117	3	122	0	138	0	138	16	268
12:00	12:15	1	4	1	6	0	6	1	7	32	0	121	5	126	2	149	2	153	32	292
12:15	12:30	1	3	2	6	2	2	1	5	20	0	96	4	100	0	152	0	152	20	263
12:30	12:45	1	0	2	3	1	1	1	3	19	2	112	7	121	3	132	0	135	19	262
12:45	13:00	1	1	0	2	1	8	3	12	33	2	92	6	100	2	130	0	132	33	246
13:00	13:15	1	3	2	6	1	2	0	3	20	1	100	4	105	1	137	0	138	20	252
13:15	13:30	1	3	3	7	0	0	2	2	21	1	114	3	118	4	130	1	136	21	263
15:00	15:15	1	1	4	6	3	3	2	8	24	0	262	5	267	1	309	0	310	24	591
15:15	15:30	1	0	8	9	0	5	3	8	23	0	235	1	236	0	424	0	424	23	677
15:30	15:45	4	0	6	10	0	1	1	2	16	0	241	3	244	0	370	0	370	16	626
15:45	16:00	4	1	4	9	0	0	4	4	18	0	255	3	258	1	399	0	400	18	671
16:00	16:15	9	5	9	23	0	1	2	3	32	0	213	0	213	0	450	0	450	32	689
16:15	16:30	6	3	9	18	3	6	4	13	42	0	255	2	257	0	412	0	412	42	700
16:30	16:45	6	4	13	23	0	12	5	17	56	0	245	0	245	0	432	0	432	56	717
16:45	17:00	6	3	7	16	0	5	0	5	30	0	241	1	242	0	390	0	391	30	654
17:00	17:15	8	4	6	18	0	3	2	5	33	0	228	1	229	2	455	0	458	33	710
17:15	17:30	11	1	4	16	0	8	2	10	41	0	221	4	225	1	388	1	390	41	641
17:30	17:45	4	0	1	5	0	4	4	8	18	0	209	0	209	0	420	1	421	18	643
17:45	18:00	4	2	3	9	0	1	1	2	17	0	163	1	164	1	338	1	340	17	515
Total:		74	107	92	274	12	101	57	170	898	11	7054	198	7263	23	8469	13	8508	898	16,215

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

OTTAWA RIVER PKWY @ RIVER ST/SLIDELL ST

Survey Date: Tuesday, April 25, 2017 **WO No:** 36950

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		RIVER ST/SLIDELL ST			OTTAWA RIVER PKWY			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	1	1	0	0	0	1
07:15	07:30	1	1	2	0	0	0	2
07:30	07:45	2	1	3	1	0	1	4
07:45	08:00	3	0	3	0	0	0	3
08:00	08:15	4	0	4	0	0	0	4
08:15	08:30	1	0	1	0	0	0	1
08:30	08:45	1	0	1	0	0	0	1
08:45	09:00	1	0	1	0	0	0	1
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	2	0	2	0	0	0	2
09:30	09:45	2	0	2	0	0	0	2
09:45	10:00	0	0	0	0	0	0	0
11:30	11:45	0	0	0	0	0	0	0
11:45	12:00	0	0	0	0	0	0	0
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	0	0	0	0	0	0	0
12:45	13:00	0	0	0	1	0	1	1
13:00	13:15	0	0	0	0	0	0	0
13:15	13:30	0	0	0	0	0	0	0
15:00	15:15	0	2	2	0	0	0	2
15:15	15:30	1	0	1	0	0	0	1
15:30	15:45	0	1	1	0	1	1	2
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	1	3	4	0	0	0	4
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	2	2	0	0	0	2
16:45	17:00	1	3	4	0	0	0	4
17:00	17:15	1	1	2	0	0	0	2
17:15	17:30	1	0	1	0	0	0	1
17:30	17:45	1	1	2	0	0	0	2
17:45	18:00	2	3	5	0	0	0	5
Total		25	19	**44**	2	1	3	47

Transportation Services - Traffic Services

Turning Movement Count - Study Results

OTTAWA RIVER PKWY @ RIVER ST/SLIDELL ST

Survey Date: Tuesday, April 25, 2017 **WO No:** 36950

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

	RIVER ST/SLIDELL ST			OTTAWA RIVER PKWY			
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	**Total**	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	**Total**	**Grand Total**
07:00 07:15	0	0	**0**	2	0	**2**	**2**
07:15 07:30	0	0	**0**	0	2	**2**	**2**
07:30 07:45	0	2	**2**	2	0	**2**	**4**
07:45 08:00	1	0	**1**	1	2	**3**	**4**
08:00 08:15	0	0	**0**	0	0	**0**	**0**
08:15 08:30	0	1	**1**	2	1	**3**	**4**
08:30 08:45	0	0	**0**	3	3	**6**	**6**
08:45 09:00	0	0	**0**	1	0	**1**	**1**
09:00 09:15	2	0	**2**	0	2	**2**	**4**
09:15 09:30	0	0	**0**	0	0	**0**	**0**
09:30 09:45	0	0	**0**	1	1	**2**	**2**
09:45 10:00	0	0	**0**	0	3	**3**	**3**
11:30 11:45	0	0	**0**	1	3	**4**	**4**
11:45 12:00	0	2	**2**	3	4	**7**	**9**
12:00 12:15	1	2	**3**	3	6	**9**	**12**
12:15 12:30	0	1	**1**	9	4	**13**	**14**
12:30 12:45	0	4	**4**	7	4	**11**	**15**
12:45 13:00	0	3	**3**	9	0	**9**	**12**
13:00 13:15	0	2	**2**	4	1	**5**	**7**
13:15 13:30	0	1	**1**	3	0	**3**	**4**
15:00 15:15	0	0	**0**	0	0	**0**	**0**
15:15 15:30	0	0	**0**	0	2	**2**	**2**
15:30 15:45	0	0	**0**	2	1	**3**	**3**
15:45 16:00	0	0	**0**	0	1	**1**	**1**
16:00 16:15	0	1	**1**	1	0	**1**	**2**
16:15 16:30	0	0	**0**	2	2	**4**	**4**
16:30 16:45	0	1	**1**	1	2	**3**	**4**
16:45 17:00	0	0	**0**	0	1	**1**	**1**
17:00 17:15	0	0	**0**	3	2	**5**	**5**
17:15 17:30	0	0	**0**	2	0	**2**	**2**
17:30 17:45	1	0	**1**	1	1	**2**	**3**
17:45 18:00	0	0	**0**	1	3	**4**	**4**
Total	5	20	**25**	64	51	**115**	**140**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

OTTAWA RIVER PKWY @ RIVER ST/SLIDELL ST

Survey Date: Tuesday, April 25, 2017 **WO No:** 36950

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		RIVER ST/SLIDELL ST									OTTAWA RIVER PKWY									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	1	0	**1**	0	0	0	**1**	**2**	0	0	0	**3**	0	3	0	**3**	**6**	**4**
07:15	07:30	0	0	0	**0**	0	0	0	**0**	**0**	0	3	0	**5**	0	2	0	**5**	**10**	**5**
07:30	07:45	0	0	0	**0**	0	0	0	**0**	**0**	0	1	0	**2**	0	1	0	**2**	**4**	**2**
07:45	08:00	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**3**	0	3	0	**3**	**6**	**3**
08:00	08:15	0	0	0	**0**	0	0	0	**0**	**0**	0	1	0	**5**	0	4	0	**5**	**10**	**5**
08:15	08:30	0	0	0	**0**	0	0	0	**0**	**0**	0	2	0	**5**	0	3	0	**5**	**10**	**5**
08:30	08:45	0	0	0	**0**	0	0	0	**0**	**0**	0	1	0	**1**	0	0	0	**1**	**2**	**1**
08:45	09:00	0	1	0	**2**	0	1	0	**3**	**5**	1	3	0	**8**	0	4	0	**7**	**15**	**10**
09:00	09:15	0	0	0	**0**	0	0	0	**0**	**0**	0	3	0	**7**	0	4	0	**7**	**14**	**7**
09:15	09:30	0	1	0	**2**	0	0	0	**1**	**3**	0	2	0	**4**	1	2	0	**5**	**9**	**6**
09:30	09:45	0	0	0	**0**	0	0	0	**0**	**0**	0	5	0	**8**	0	3	0	**8**	**16**	**8**
09:45	10:00	0	0	0	**1**	0	1	1	**3**	**4**	0	0	0	**7**	0	6	1	**7**	**14**	**9**
11:30	11:45	0	0	0	**1**	0	1	0	**1**	**2**	0	0	0	**1**	0	1	0	**1**	**2**	**2**
11:45	12:00	0	0	0	**0**	0	0	0	**0**	**0**	0	2	0	**4**	0	2	0	**4**	**8**	**4**
12:00	12:15	0	2	0	**4**	0	2	0	**5**	**9**	0	0	0	**2**	0	2	1	**3**	**5**	**7**
12:15	12:30	0	0	0	**0**	0	0	1	**1**	**1**	0	0	0	**1**	0	0	0	**0**	**1**	**1**
12:30	12:45	0	0	0	**2**	0	1	0	**1**	**3**	0	1	0	**3**	1	2	0	**4**	**7**	**5**
12:45	13:00	0	0	0	**1**	0	1	0	**1**	**2**	0	1	0	**1**	0	0	0	**1**	**2**	**2**
13:00	13:15	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**1**	0	1	0	**1**	**2**	**1**
13:15	13:30	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
15:00	15:15	0	0	0	**1**	0	1	0	**1**	**2**	0	0	0	**1**	0	1	0	**1**	**2**	**2**
15:15	15:30	0	0	0	**1**	0	1	0	**1**	**2**	0	0	0	**1**	0	1	0	**1**	**2**	**2**
15:30	15:45	0	0	0	**0**	0	0	0	**0**	**0**	0	2	0	**6**	0	4	0	**6**	**12**	**6**
15:45	16:00	0	0	0	**0**	0	0	0	**0**	**0**	0	2	0	**6**	0	4	0	**6**	**12**	**6**
16:00	16:15	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**1**	0	1	0	**1**	**2**	**1**
16:15	16:30	0	0	0	**1**	0	1	0	**1**	**2**	0	1	0	**1**	0	0	0	**1**	**2**	**2**
16:30	16:45	0	0	0	**0**	0	0	0	**0**	**0**	0	1	0	**1**	0	0	0	**1**	**2**	**1**
16:45	17:00	0	0	0	**0**	0	0	0	**0**	**0**	0	2	0	**3**	0	1	0	**3**	**6**	**3**
17:00	17:15	0	0	0	**0**	0	0	0	**0**	**0**	0	1	0	**3**	0	2	0	**3**	**6**	**3**
17:15	17:30	0	0	0	**0**	0	0	0	**0**	**0**	0	1	0	**1**	0	0	0	**1**	**2**	**1**
17:30	17:45	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
17:45	18:00	0	0	0	**1**	0	0	0	**0**	**1**	0	0	0	**1**	1	1	0	**2**	**3**	**2**
Total:	None	0	5	0	**18**	0	10	2	**20**	**38**	1	35	0	**96**	3	58	2	**98**	**194**	**116**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

OTTAWA RIVER PKWY @ RIVER ST/SLIDELL ST

Survey Date: Tuesday, April 25, 2017 **WO No:** 36950

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

Time Period		RIVER ST/SLIDELL ST		OTTAWA RIVER PKWY		
		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	1	0	0	0	1
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	1	1
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	1	1
17:00	17:15	0	0	0	1	1
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
Total		1	0	0	3	4

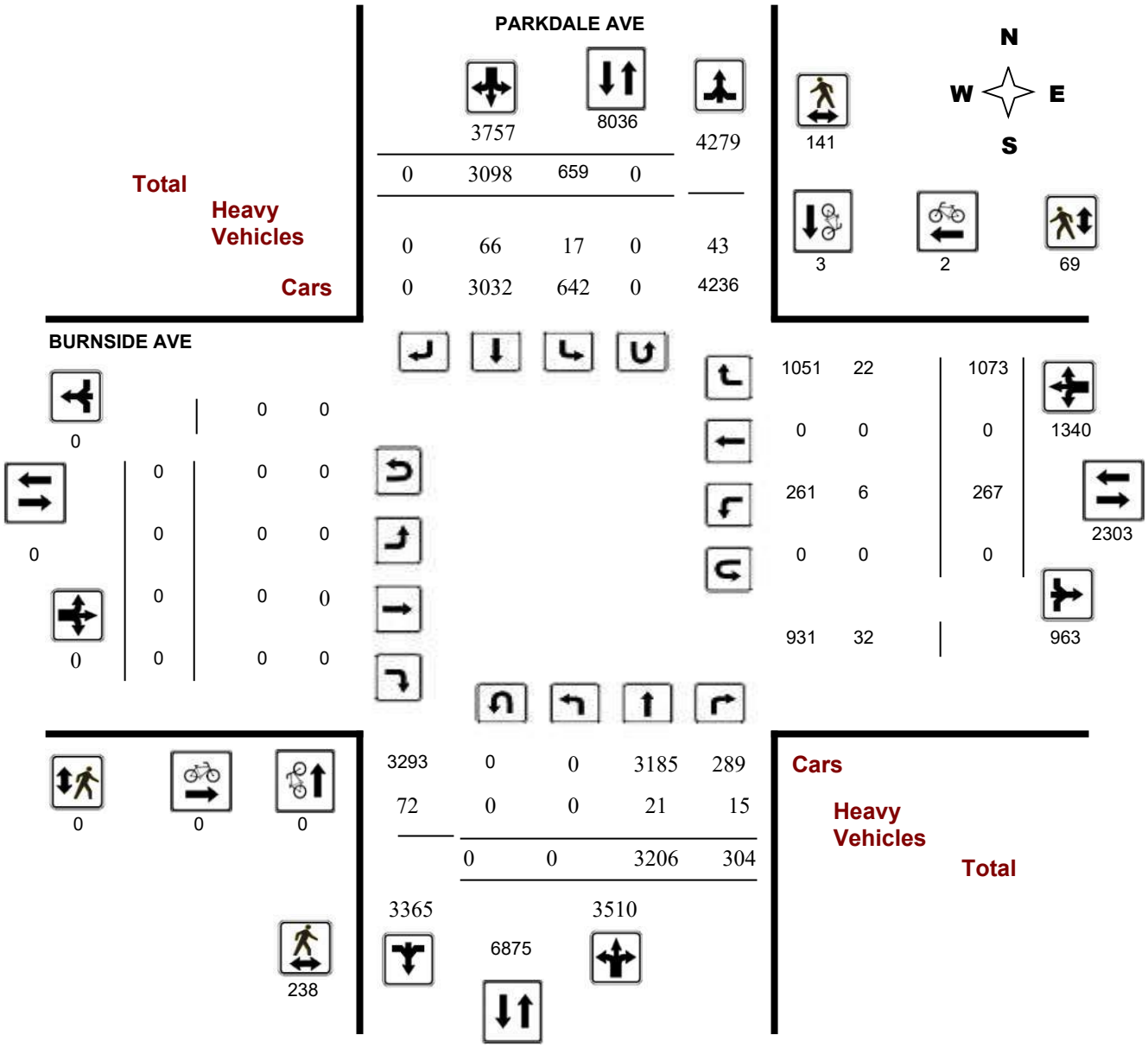
Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ BURNSIDE AVE

Survey Date: Thursday, February 22, 2018
Start Time: 07:00
WO No: 37573
Device: Miovision

Full Study Diagram



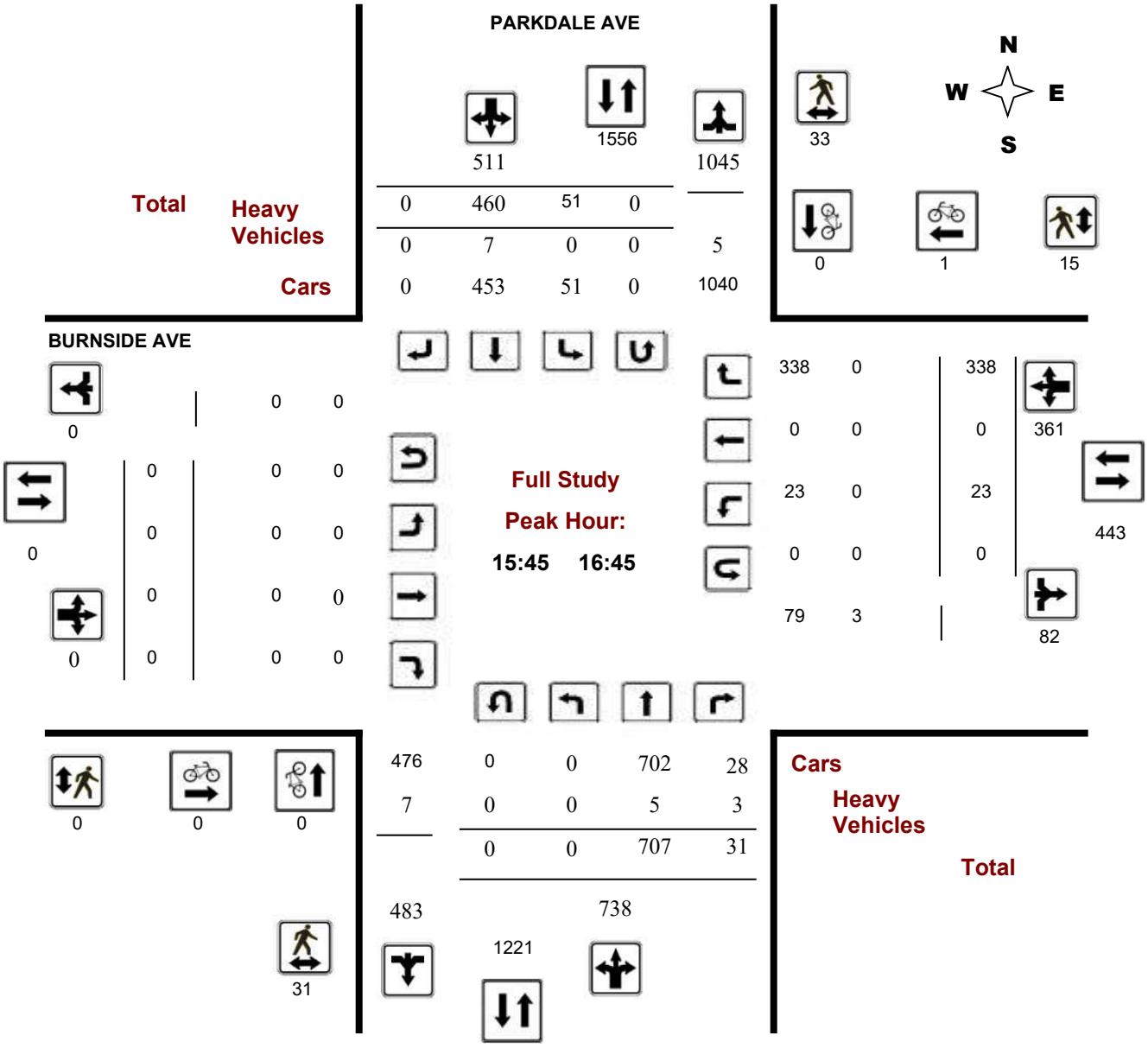
Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ BURNSIDE AVE

Survey Date: Thursday, February 22, 2018
Start Time: 07:00
WO No: 37573
Device: Miovision

Full Study Peak Hour Diagram



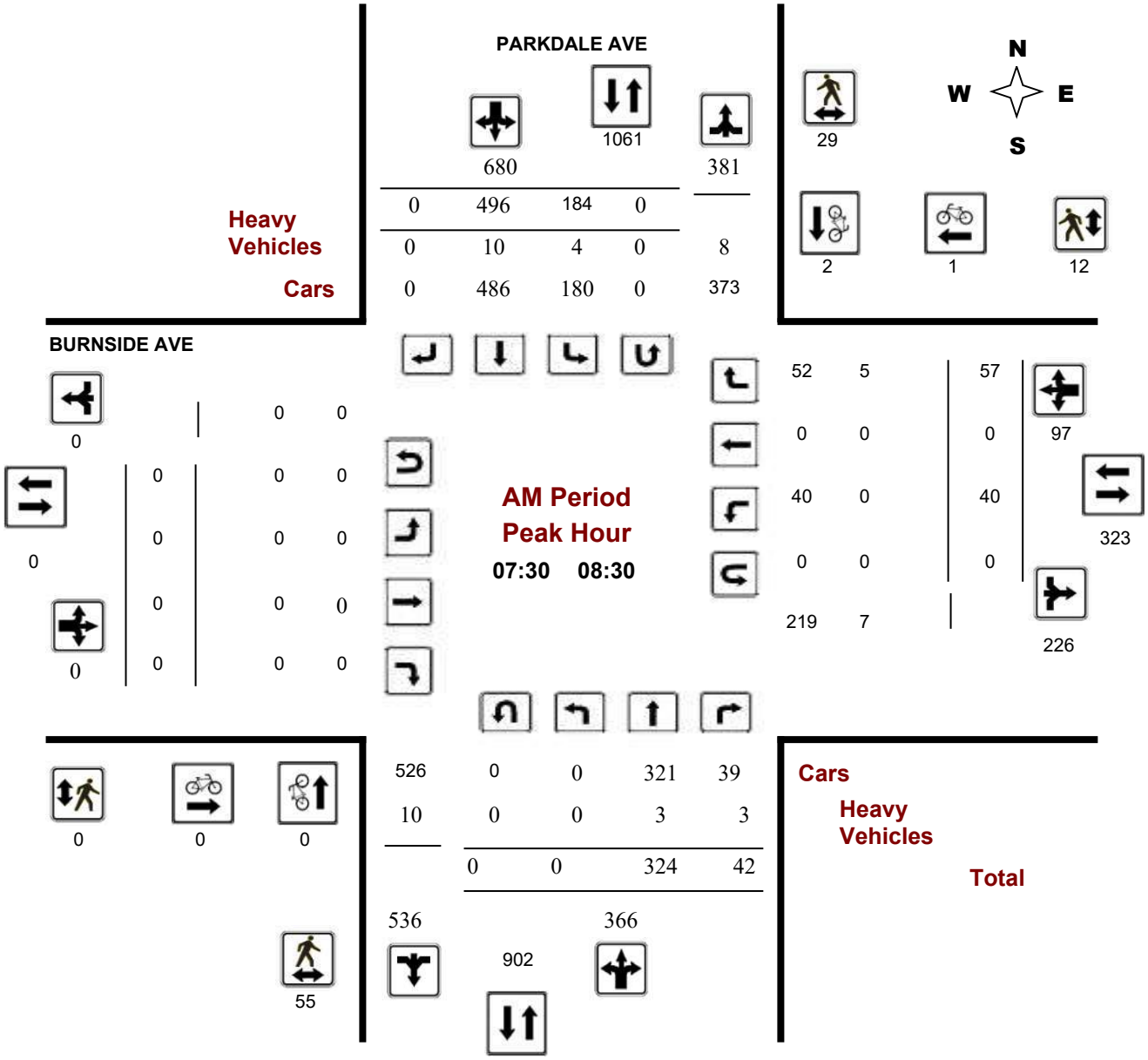
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

PARKDALE AVE @ BURNSIDE AVE

Survey Date: Thursday, February 22, 2018 **WO No:** 37573

Start Time: 07:00 **Device:** Miovision



Cars

Heavy Vehicles

Total

Comments

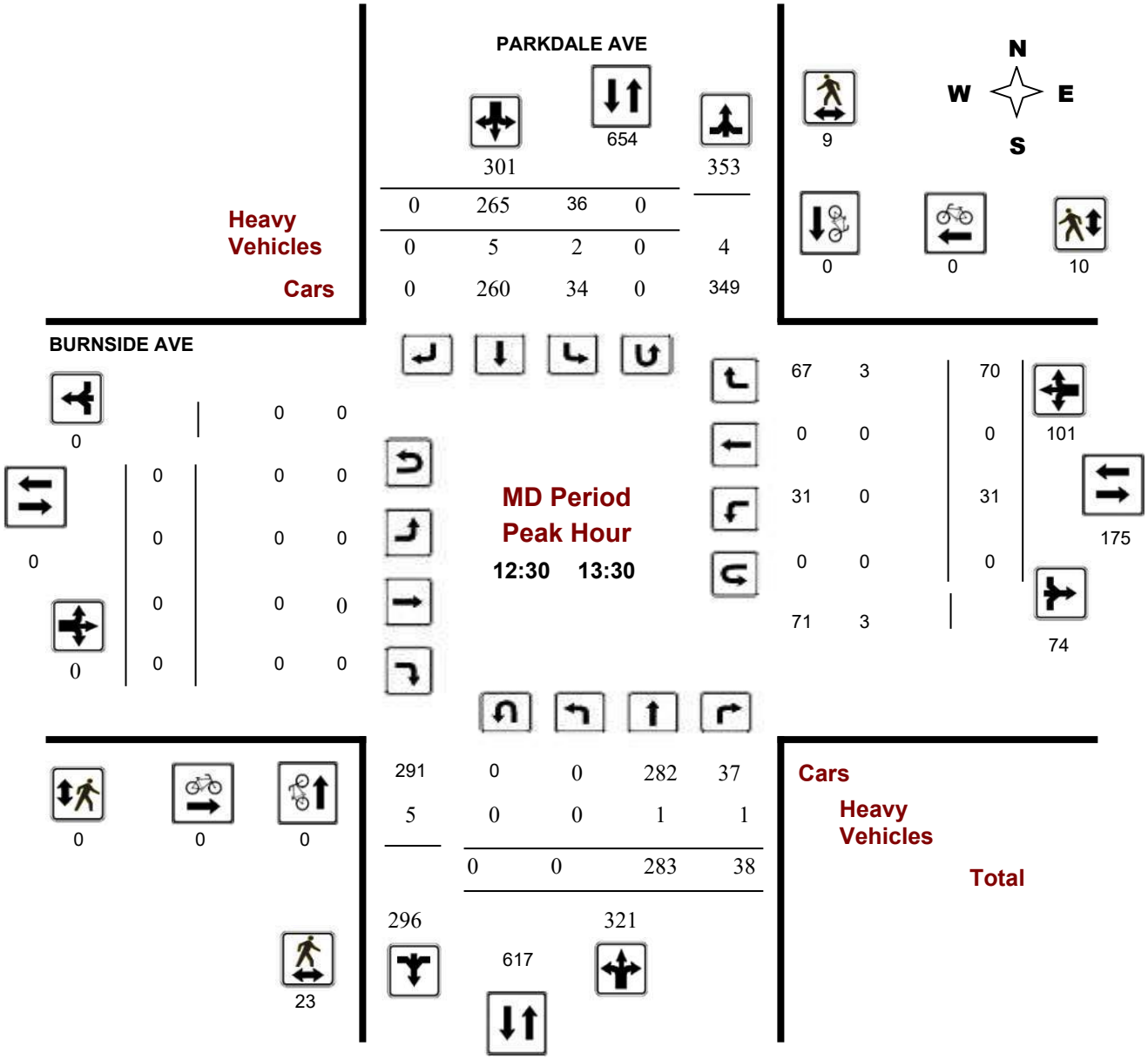
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

PARKDALE AVE @ BURNSIDE AVE

Survey Date: Thursday, February 22, 2018 **WO No:** 37573

Start Time: 07:00 **Device:** Miovision



Comments

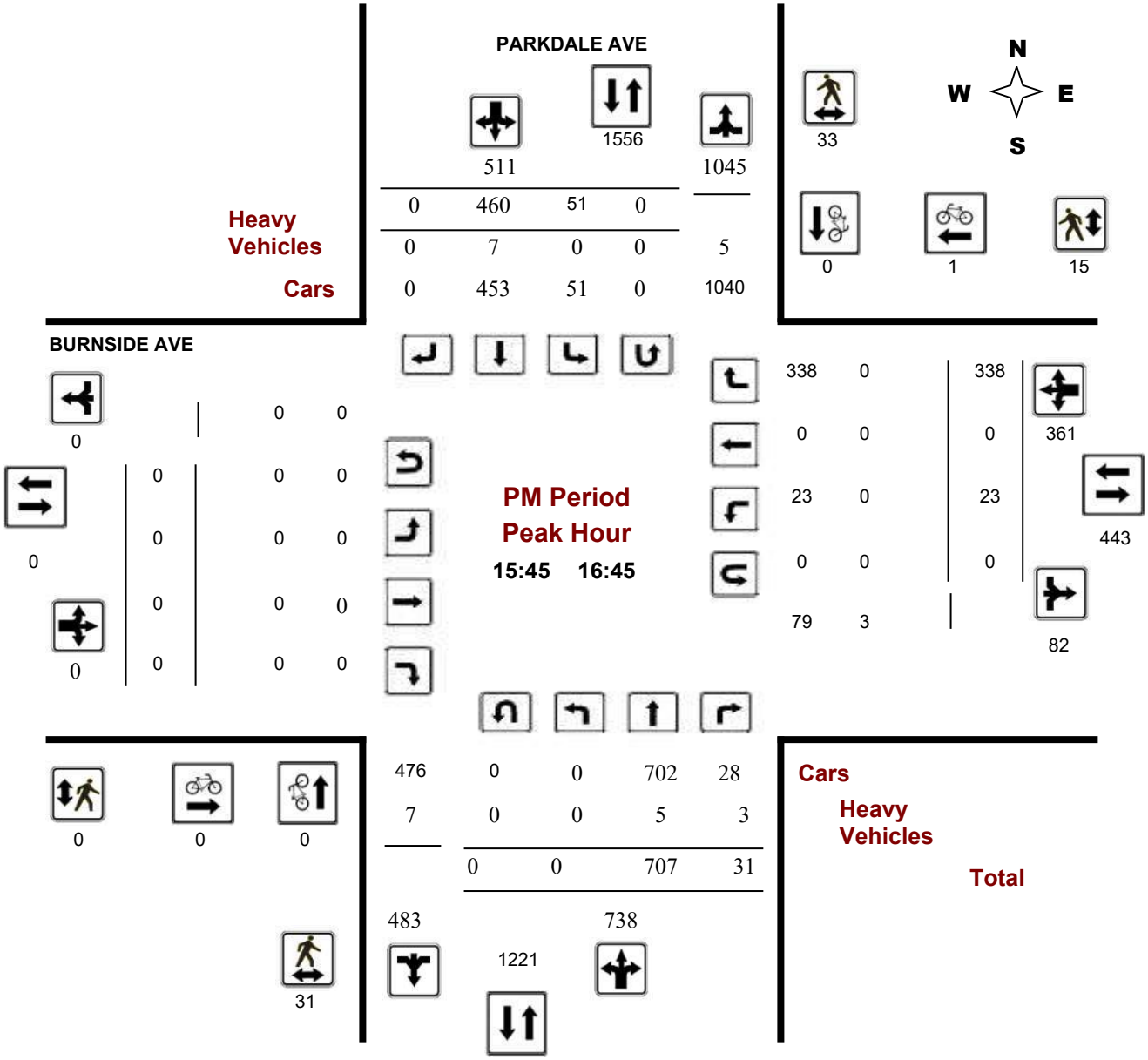
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

PARKDALE AVE @ BURNSIDE AVE

Survey Date: Thursday, February 22, 2018 **WO No:** 37573

Start Time: 07:00 **Device:** Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ BURNSIDE AVE

Survey Date: Thursday, February 22, 2018 **WO No:** 37573

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Thursday, February 22, 2018

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor

1.25

	PARKDALE AVE									BURNSIDE AVE									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	0	301	27	**328**	164	504	0	**668**	**996**	0	0	0	**0**	38	0	39	**77**	**77**	**1073**
08:00 09:00	0	308	50	**358**	189	466	0	**655**	**1013**	0	0	0	**0**	37	0	65	**102**	**102**	**1115**
09:00 10:00	0	204	49	**253**	70	338	0	**408**	**661**	0	0	0	**0**	33	0	32	**65**	**65**	**726**
11:30 12:30	0	214	37	**251**	43	257	0	**300**	**551**	0	0	0	**0**	33	0	59	**92**	**92**	**643**
12:30 13:30	0	283	38	**321**	36	265	0	**301**	**622**	0	0	0	**0**	31	0	70	**101**	**101**	**723**
15:00 16:00	0	718	28	**746**	42	360	0	**402**	**1148**	0	0	0	**0**	29	0	274	**303**	**303**	**1451**
16:00 17:00	0	659	30	**689**	61	497	0	**558**	**1247**	0	0	0	**0**	28	0	326	**354**	**354**	**1601**
17:00 18:00	0	519	45	**564**	54	411	0	**465**	**1029**	0	0	0	**0**	38	0	208	**246**	**246**	**1275**
Sub Total	0	3206	304	**3510**	659	3098	0	**3757**	**7267**	0	0	0	**0**	267	0	1073	**1340**	**1340**	**8607**
U Turns				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	0	3206	304	**3510**	659	3098	0	**3757**	**7267**	0	0	0	**0**	267	0	1073	**1340**	**1340**	**8607**
EQ 12Hr	0	4456	423	**4879**	916	4306	0	**5222**	**10101**	0	0	0	**0**	371	0	1491	**1863**	**1863**	**11964**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	0	4011	380	**4391**	824	3876	0	**4700**	**9091**	0	0	0	**0**	334	0	1342	**1676**	**1677**	**10768**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**0.9**					
AVG 24Hr	0	5254	498	**5752**	1080	5077	0	**6157**	**11909**	0	0	0	**0**	438	0	1758	**2196**	**2196**	**14105**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														**1.31**					

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

Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ BURNSIDE AVE

Survey Date: Thursday, February 22, 2018 **WO No:** 37573

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

		PARKDALE AVE									BURNSIDE AVE									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	75	6	81	39	142	0	181	493	0	0	0	0	9	0	5	14	493	276
07:15	07:30	0	67	6	73	45	116	0	161	439	0	0	0	0	11	0	11	22	439	256
07:30	07:45	0	80	8	88	42	137	0	179	500	0	0	0	0	8	0	8	16	500	283
07:45	08:00	0	79	7	86	38	109	0	147	446	0	0	0	0	10	0	15	25	446	258
08:00	08:15	0	80	15	95	58	121	0	179	507	0	0	0	0	14	0	18	32	507	306
08:15	08:30	0	85	12	97	46	129	0	175	510	0	0	0	0	8	0	16	24	510	296
08:30	08:45	0	67	9	76	46	128	0	174	462	0	0	0	0	4	0	13	17	462	267
08:45	09:00	0	76	14	90	39	88	0	127	410	0	0	0	0	11	0	18	29	410	246
09:00	09:15	0	62	20	82	21	90	0	111	364	0	0	0	0	9	0	10	19	364	212
09:15	09:30	0	48	13	61	23	95	0	118	337	0	0	0	0	5	0	10	15	337	194
09:30	09:45	0	49	10	59	16	89	0	105	319	0	0	0	0	10	0	7	17	319	181
09:45	10:00	0	45	6	51	10	64	0	74	248	0	0	0	0	9	0	5	14	248	139
11:30	11:45	0	53	8	61	10	63	0	73	275	0	0	0	0	11	0	14	25	275	159
11:45	12:00	0	48	10	58	12	58	0	70	253	0	0	0	0	5	0	14	19	253	147
12:00	12:15	0	62	11	73	15	74	0	89	317	0	0	0	0	8	0	11	19	317	181
12:15	12:30	0	51	8	59	6	62	0	68	269	0	0	0	0	9	0	20	29	269	156
12:30	12:45	0	74	15	89	7	82	0	89	362	0	0	0	0	9	0	19	28	362	206
12:45	13:00	0	64	10	74	13	68	0	81	312	0	0	0	0	5	0	20	25	312	180
13:00	13:15	0	78	9	87	9	62	0	71	319	0	0	0	0	10	0	11	21	319	179
13:15	13:30	0	67	4	71	7	53	0	60	278	0	0	0	0	7	0	20	27	278	158
15:00	15:15	0	168	3	171	12	77	0	89	567	0	0	0	0	8	0	54	62	567	322
15:15	15:30	0	183	12	195	12	92	0	104	646	0	0	0	0	5	0	67	72	646	371
15:30	15:45	0	179	4	183	12	89	0	101	635	0	0	0	0	11	0	72	83	635	367
15:45	16:00	0	188	9	197	6	102	0	108	681	0	0	0	0	5	0	81	86	681	391
16:00	16:15	0	166	7	173	17	111	0	128	678	0	0	0	0	6	0	94	100	678	401
16:15	16:30	0	175	10	185	9	118	0	127	709	0	0	0	0	8	0	96	104	709	416
16:30	16:45	0	178	5	183	19	129	0	148	709	0	0	0	0	4	0	67	71	709	402
16:45	17:00	0	140	8	148	16	139	0	155	661	0	0	0	0	10	0	69	79	661	382
17:00	17:15	0	147	11	158	16	108	0	124	605	0	0	0	0	14	0	54	68	605	350
17:15	17:30	0	134	6	140	18	104	0	122	567	0	0	0	0	6	0	61	67	567	329
17:30	17:45	0	130	13	143	14	103	0	117	551	0	0	0	0	9	0	49	58	551	318
17:45	18:00	0	108	15	123	6	96	0	102	482	0	0	0	0	9	0	44	53	482	278
Total:		0	3206	304	3510	659	3098	0	3757	14911	0	0	0	0	267	0	1073	1340	14911	8,607

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ BURNSIDE AVE

Survey Date: Thursday, February 22, 2018 **WO No:** 37573

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		PARKDALE AVE			BURNSIDE AVE			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	0	0	0	0	0
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	0	0	0	0	1	1	1
07:45	08:00	0	0	0	0	0	0	0
08:00	08:15	0	1	1	0	0	0	1
08:15	08:30	0	1	1	0	0	0	1
08:30	08:45	0	0	0	0	0	0	0
08:45	09:00	0	0	0	0	0	0	0
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	1	1	0	0	0	1
09:45	10:00	0	0	0	0	0	0	0
11:30	11:45	0	0	0	0	0	0	0
11:45	12:00	0	0	0	0	0	0	0
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	0	0	0	0	0	0	0
12:45	13:00	0	0	0	0	0	0	0
13:00	13:15	0	0	0	0	0	0	0
13:15	13:30	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	1	1	1
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0
Total		0	3	**3**	0	2	2	5

Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ BURNSIDE AVE

Survey Date: Thursday, February 22, 2018 **WO No:** 37573

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

	PARKDALE AVE			BURNSIDE AVE			
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	**Total**	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	**Total**	**Grand Total**
07:00 07:15	10	8	**18**	0	1	**1**	**19**
07:15 07:30	9	4	**13**	0	2	**2**	**15**
07:30 07:45	8	4	**12**	0	4	**4**	**16**
07:45 08:00	18	9	**27**	0	3	**3**	**30**
08:00 08:15	14	10	**24**	0	2	**2**	**26**
08:15 08:30	15	6	**21**	0	3	**3**	**24**
08:30 08:45	13	8	**21**	0	3	**3**	**24**
08:45 09:00	13	4	**17**	0	0	**0**	**17**
09:00 09:15	6	5	**11**	0	1	**1**	**12**
09:15 09:30	5	3	**8**	0	2	**2**	**10**
09:30 09:45	4	3	**7**	0	2	**2**	**9**
09:45 10:00	4	1	**5**	0	0	**0**	**5**
11:30 11:45	1	1	**2**	0	2	**2**	**4**
11:45 12:00	6	1	**7**	0	3	**3**	**10**
12:00 12:15	7	2	**9**	0	2	**2**	**11**
12:15 12:30	1	3	**4**	0	2	**2**	**6**
12:30 12:45	6	0	**6**	0	4	**4**	**10**
12:45 13:00	9	3	**12**	0	0	**0**	**12**
13:00 13:15	6	4	**10**	0	2	**2**	**12**
13:15 13:30	2	2	**4**	0	4	**4**	**8**
15:00 15:15	5	7	**12**	0	1	**1**	**13**
15:15 15:30	4	2	**6**	0	2	**2**	**8**
15:30 15:45	9	2	**11**	0	0	**0**	**11**
15:45 16:00	6	3	**9**	0	4	**4**	**13**
16:00 16:15	8	14	**22**	0	3	**3**	**25**
16:15 16:30	7	5	**12**	0	5	**5**	**17**
16:30 16:45	10	11	**21**	0	3	**3**	**24**
16:45 17:00	7	5	**12**	0	3	**3**	**15**
17:00 17:15	10	3	**13**	0	3	**3**	**16**
17:15 17:30	9	2	**11**	0	2	**2**	**13**
17:30 17:45	4	4	**8**	0	0	**0**	**8**
17:45 18:00	2	2	**4**	0	1	**1**	**5**
Total	238	141	**379**	0	69	**69**	**448**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ BURNSIDE AVE

Survey Date: Thursday, February 22, 2018 **WO No:** 37573

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		PARKDALE AVE									BURNSIDE AVE									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	0	0	**4**	0	4	0	**5**	**9**	0	0	0	**0**	0	0	1	**1**	**1**	**5**
07:15	07:30	0	1	0	**5**	0	3	0	**4**	**9**	0	0	0	**0**	1	0	0	**1**	**1**	**5**
07:30	07:45	0	1	1	**6**	1	4	0	**8**	**14**	0	0	0	**0**	0	0	2	**4**	**4**	**9**
07:45	08:00	0	0	0	**2**	1	2	0	**4**	**6**	0	0	0	**0**	0	0	1	**2**	**2**	**4**
08:00	08:15	0	0	2	**4**	1	2	0	**5**	**9**	0	0	0	**0**	0	0	2	**5**	**5**	**7**
08:15	08:30	0	2	0	**4**	1	2	0	**5**	**9**	0	0	0	**0**	0	0	0	**1**	**1**	**5**
08:30	08:45	0	0	0	**3**	0	3	0	**4**	**7**	0	0	0	**0**	0	0	1	**1**	**1**	**4**
08:45	09:00	0	0	1	**8**	0	6	0	**7**	**15**	0	0	0	**0**	1	0	1	**3**	**3**	**9**
09:00	09:15	0	1	1	**8**	1	5	0	**10**	**18**	0	0	0	**0**	1	0	3	**6**	**6**	**12**
09:15	09:30	0	2	2	**5**	2	1	0	**7**	**12**	0	0	0	**0**	0	0	2	**6**	**6**	**9**
09:30	09:45	0	2	0	**6**	1	2	0	**5**	**11**	0	0	0	**0**	2	0	0	**3**	**3**	**7**
09:45	10:00	0	1	0	**1**	1	0	0	**2**	**3**	0	0	0	**0**	0	0	0	**1**	**1**	**2**
11:30	11:45	0	0	0	**3**	1	2	0	**5**	**8**	0	0	0	**0**	1	0	2	**4**	**4**	**6**
11:45	12:00	0	1	1	**2**	2	0	0	**4**	**6**	0	0	0	**0**	0	0	1	**4**	**4**	**5**
12:00	12:15	0	1	1	**6**	0	4	0	**6**	**12**	0	0	0	**0**	0	0	1	**2**	**2**	**7**
12:15	12:30	0	0	0	**0**	1	0	0	**1**	**1**	0	0	0	**0**	0	0	0	**1**	**1**	**1**
12:30	12:45	0	1	1	**3**	0	1	0	**2**	**5**	0	0	0	**0**	0	0	0	**1**	**1**	**3**
12:45	13:00	0	0	0	**2**	1	2	0	**5**	**7**	0	0	0	**0**	0	0	2	**3**	**3**	**5**
13:00	13:15	0	0	0	**1**	1	1	0	**2**	**3**	0	0	0	**0**	0	0	0	**1**	**1**	**2**
13:15	13:30	0	0	0	**1**	0	1	0	**2**	**3**	0	0	0	**0**	0	0	1	**1**	**1**	**2**
15:00	15:15	0	0	0	**4**	1	4	0	**7**	**11**	0	0	0	**0**	0	0	2	**3**	**3**	**7**
15:15	15:30	0	1	1	**4**	1	2	0	**4**	**8**	0	0	0	**0**	0	0	0	**2**	**2**	**5**
15:30	15:45	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
15:45	16:00	0	4	1	**7**	0	2	0	**6**	**13**	0	0	0	**0**	0	0	0	**1**	**1**	**7**
16:00	16:15	0	0	1	**3**	0	2	0	**2**	**5**	0	0	0	**0**	0	0	0	**1**	**1**	**3**
16:15	16:30	0	1	0	**2**	0	1	0	**2**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**2**
16:30	16:45	0	0	1	**3**	0	2	0	**2**	**5**	0	0	0	**0**	0	0	0	**1**	**1**	**3**
16:45	17:00	0	1	0	**3**	0	2	0	**3**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
17:00	17:15	0	1	0	**3**	0	2	0	**3**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
17:15	17:30	0	0	1	**2**	0	1	0	**1**	**3**	0	0	0	**0**	0	0	0	**1**	**1**	**2**
17:30	17:45	0	0	0	**2**	0	2	0	**2**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**2**
17:45	18:00	0	0	0	**1**	0	1	0	**1**	**2**	0	0	0	**0**	0	0	0	**0**	**0**	**1**
Total:	None	0	21	15	**108**	17	66	0	**126**	**234**	0	0	0	**0**	6	0	22	**60**	**60**	**147**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ BURNSIDE AVE

Survey Date: Thursday, February 22, 2018 **WO No:** 37573

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

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

Appendix E – Existing (2020) Synchro and SIDRA Outputs

MOVEMENT SUMMARY

Site: 1 [Burnside Roundabout - Existing (2020) - AM]

Burnside Roundabout - Existing (2020) - AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Bayview Station Road												
21u	U	2	0.0	0.066	9.2	LOS A	0.2	1.3	0.08	0.55	0.08	47.6
21	L2	60	9.0	0.066	7.4	LOS A	0.2	1.3	0.08	0.55	0.08	42.8
23a	R1	24	0.0	0.066	2.5	LOS A	0.2	1.3	0.08	0.55	0.08	43.7
Approach		86	6.3	0.066	6.1	LOS A	0.2	1.3	0.08	0.55	0.08	43.1
North: Slidell Street												
7u	U	1	0.0	0.071	9.2	LOS A	0.2	1.4	0.11	0.55	0.11	21.4
7a	L1	84	7.0	0.071	6.6	LOS A	0.2	1.4	0.11	0.55	0.11	43.4
9a	R1	8	0.0	0.071	2.6	LOS A	0.2	1.4	0.11	0.55	0.11	38.2
Approach		93	6.3	0.071	6.2	LOS A	0.2	1.4	0.11	0.55	0.11	42.6
SouthWest: Burnside Avenue												
30u	U	1	0.0	0.260	7.1	LOS A	0.9	6.1	0.15	0.35	0.15	41.7
30a	L1	32	0.0	0.260	5.0	LOS A	0.9	6.1	0.15	0.35	0.15	25.8
32	R2	328	0.0	0.260	2.0	LOS A	0.9	6.1	0.15	0.35	0.15	42.3
Approach		361	0.0	0.260	2.3	LOS A	0.9	6.1	0.15	0.35	0.15	40.8
All Vehicles		540	2.1	0.260	3.6	LOS A	0.9	6.1	0.13	0.42	0.13	41.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Burnside Roundabout - Existing (2020) - PM]

Burnside Roundabout - Existing (2020) - PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Bayview Station Road												
21u	U	10	11.0	0.335	9.3	LOS A	1.2	8.6	0.10	0.57	0.10	46.9
21	L2	394	1.0	0.335	7.4	LOS A	1.2	8.6	0.10	0.57	0.10	42.5
23a	R1	88	3.0	0.335	2.6	LOS A	1.2	8.6	0.10	0.57	0.10	42.9
Approach		492	1.6	0.335	6.6	LOS A	1.2	8.6	0.10	0.57	0.10	42.6
North: Slidell Street												
7u	U	1	0.0	0.069	10.1	LOS B	0.2	1.7	0.33	0.60	0.33	21.1
7a	L1	60	6.0	0.069	7.4	LOS A	0.2	1.7	0.33	0.60	0.33	42.9
9a	R1	16	0.0	0.069	3.5	LOS A	0.2	1.7	0.33	0.60	0.33	37.8
Approach		77	4.7	0.069	6.7	LOS A	0.2	1.7	0.33	0.60	0.33	41.4
SouthWest: Burnside Avenue												
30u	U	3	0.0	0.105	7.1	LOS A	0.3	2.3	0.13	0.38	0.13	41.3
30a	L1	36	0.0	0.105	4.9	LOS A	0.3	2.3	0.13	0.38	0.13	27.9
32	R2	100	4.0	0.105	2.0	LOS A	0.3	2.3	0.13	0.38	0.13	41.9
Approach		139	2.9	0.105	2.8	LOS A	0.3	2.3	0.13	0.38	0.13	38.4
All Vehicles		708	2.2	0.335	5.8	LOS A	1.2	8.6	0.13	0.54	0.13	41.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	42	59	337	44	191	516
Future Volume (vph)	42	59	337	44	191	516
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	4.2	3.7	4.8	3.7	3.7	4.8
Total Lost time (s)	5.4		5.2			5.2
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	0.95		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.92		0.98			1.00
Flt Protected	0.98		1.00			0.99
Satd. Flow (prot)	1564		1966			1968
Flt Permitted	0.98		1.00			0.76
Satd. Flow (perm)	1564		1966			1511
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	47	66	374	49	212	573
RTOR Reduction (vph)	55	0	7	0	0	0
Lane Group Flow (vph)	58	0	416	0	0	785
Confl. Peds. (#/hr)	57	30		12	12	
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	0%	9%	1%	7%	2%	2%
Turn Type	pm+pt		NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases	8				6	
Actuated Green, G (s)	10.4		39.0			39.0
Effective Green, g (s)	10.4		39.0			39.0
Actuated g/C Ratio	0.17		0.65			0.65
Clearance Time (s)	5.4		5.2			5.2
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	271		1277			982
v/s Ratio Prot	c0.04		0.21			
v/s Ratio Perm						c0.52
v/c Ratio	0.22		0.33			0.80
Uniform Delay, d1	21.3		4.7			7.6
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.4		0.7			6.8
Delay (s)	21.7		5.3			14.4
Level of Service	C		A			B
Approach Delay (s)	21.7		5.3			14.4
Approach LOS	C		A			B

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	1541	23	1	1054	1	1	1	22	1	1	5
Future Volume (vph)	0	1541	23	1	1054	1	1	1	22	1	1	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.8	3.7	3.7	3.8	3.7	3.7	3.7	3.9	3.7	3.7	4.0
Total Lost time (s)		5.5			5.5				6.3			6.3
Lane Util. Factor		0.95			0.95				1.00			1.00
Frpb, ped/bikes		1.00			1.00				1.00			0.99
Flpb, ped/bikes		1.00			1.00				1.00			1.00
Frt		1.00			1.00				0.99			0.96
Flt Protected		1.00			1.00				1.00			1.00
Satd. Flow (prot)		3487			3461				1841			1784
Flt Permitted		1.00			0.95				0.98			0.97
Satd. Flow (perm)		3487			3302				1806			1739
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1712	26	1	1171	1	1	1	24	1	1	6
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	1	0	0	3
Lane Group Flow (vph)	0	1737	0	0	1173	0	0	0	26	0	0	7
Confl. Peds. (#/hr)	2		1	1		2	1	3		4	4	
Confl. Bikes (#/hr)			1							11		
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA		Perm	NA		Perm	Perm	NA		Perm	NA
Protected Phases		2			6				8			4
Permitted Phases	2			6			8	8			4	
Actuated Green, G (s)		73.8			73.8				9.4			9.4
Effective Green, g (s)		73.8			73.8				9.4			9.4
Actuated g/C Ratio		0.78			0.78				0.10			0.10
Clearance Time (s)		5.5			5.5				6.3			6.3
Vehicle Extension (s)		3.0			3.0				3.0			3.0
Lane Grp Cap (vph)		2708			2565				178			172
v/s Ratio Prot		c0.50										
v/s Ratio Perm					0.36				c0.01			0.00
v/c Ratio		0.64			0.46				0.15			0.04
Uniform Delay, d1		4.7			3.7				39.1			38.7
Progression Factor		1.00			1.00				1.00			1.00
Incremental Delay, d2		1.2			0.6				0.4			0.1
Delay (s)		5.9			4.3				39.5			38.8
Level of Service		A			A				D			D
Approach Delay (s)		5.9			4.3				39.5			38.8
Approach LOS		A			A				D			D

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	3
Future Volume (vph)	3
Ideal Flow (vphpl)	1800
Lane Width	3.7
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	3
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	3
Confl. Bikes (#/hr)	2
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	636	82	51	297	32	46	93	116	134	231	26
Future Volume (vph)	22	636	82	51	297	32	46	93	116	134	231	26
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.6	3.7	3.2	3.5	3.8	3.0	4.3	3.7	3.3	4.5	3.7
Total Lost time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99		1.00	1.00	0.96	1.00	0.93		1.00	0.99	
Flpb, ped/bikes		1.00		0.98	1.00	1.00	0.96	1.00		0.96	1.00	
Frt		0.99		1.00	1.00	0.85	1.00	0.92		1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1423		1564	1338	1402	1349	1597		1534	1862	
Flt Permitted		0.98		0.33	1.00	1.00	0.37	1.00		0.47	1.00	
Satd. Flow (perm)		1403		540	1338	1402	520	1597		763	1862	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	24	707	91	57	330	36	51	103	129	149	257	29
RTOR Reduction (vph)	0	4	0	0	0	13	0	47	0	0	4	0
Lane Group Flow (vph)	0	818	0	57	330	23	51	185	0	149	282	0
Confl. Peds. (#/hr)	11		49	49		11	41		28	28		41
Confl. Bikes (#/hr)			2						35			10
Heavy Vehicles (%)	0%	26%	4%	2%	33%	7%	13%	4%	3%	4%	2%	17%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		64.9		64.9	64.9	64.9	22.2	22.2		22.2	22.2	
Effective Green, g (s)		64.9		64.9	64.9	64.9	22.2	22.2		22.2	22.2	
Actuated g/C Ratio		0.65		0.65	0.65	0.65	0.22	0.22		0.22	0.22	
Clearance Time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		910		350	868	909	115	354		169	413	
v/s Ratio Prot					0.25			0.12			0.15	
v/s Ratio Perm		c0.58		0.11		0.02	0.10			c0.20		
v/c Ratio		0.90		0.16	0.38	0.03	0.44	0.52		0.88	0.68	
Uniform Delay, d1		14.8		6.9	8.2	6.3	33.6	34.2		37.6	35.7	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		13.5		1.0	1.3	0.1	2.7	1.4		37.6	4.6	
Delay (s)		28.3		7.9	9.4	6.3	36.3	35.6		75.2	40.3	
Level of Service		C		A	A	A	D	D		E	D	
Approach Delay (s)		28.3			9.0			35.7			52.3	
Approach LOS		C			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	24	352	735	32	53	478
Future Volume (vph)	24	352	735	32	53	478
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	4.2	3.7	4.8	3.7	3.7	4.8
Total Lost time (s)	5.4		5.2			5.2
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	0.90		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.87		0.99			1.00
Flt Protected	1.00		1.00			1.00
Satd. Flow (prot)	1508		1997			1993
Flt Permitted	1.00		1.00			0.71
Satd. Flow (perm)	1508		1997			1428
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	27	391	817	36	59	531
RTOR Reduction (vph)	116	0	2	0	0	0
Lane Group Flow (vph)	302	0	851	0	0	590
Confl. Peds. (#/hr)	32	34		16	16	
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	0%	0%	1%	10%	0%	2%
Turn Type	pm+pt		NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases	8				6	
Actuated Green, G (s)	16.8		42.6			42.6
Effective Green, g (s)	16.8		42.6			42.6
Actuated g/C Ratio	0.24		0.61			0.61
Clearance Time (s)	5.4		5.2			5.2
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	361		1215			869
v/s Ratio Prot	c0.20		c0.43			
v/s Ratio Perm						0.41
v/c Ratio	0.84		0.70			0.68
Uniform Delay, d1	25.3		9.3			9.1
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	15.3		3.4			4.3
Delay (s)	40.6		12.7			13.4
Level of Service	D		B			B
Approach Delay (s)	40.6		12.7			13.4
Approach LOS	D		B			B

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	109.3%	ICU Level of Service	H
Analysis Period (min)	15		

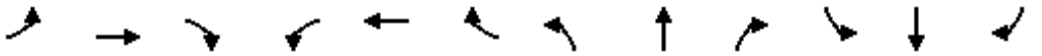
c Critical Lane Group

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	1027	4	2	2	1790	0	28	15	37	3	28
Future Volume (vph)	0	1027	4	2	2	1790	0	28	15	37	3	28
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.8	3.7	3.7	3.7	3.8	3.7	3.7	3.9	3.7	3.7	4.0
Total Lost time (s)		5.5				5.5			6.3			6.3
Lane Util. Factor		0.95				0.95			1.00			1.00
Frpb, ped/bikes		1.00				1.00			0.99			0.99
Flpb, ped/bikes		1.00				1.00			1.00			1.00
Frt		1.00				1.00			0.94			0.96
Flt Protected		1.00				1.00			0.98			1.00
Satd. Flow (prot)		3460				3496			1693			1743
Flt Permitted		1.00				0.95			0.87			0.98
Satd. Flow (perm)		3460				3332			1491			1709
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1141	4	2	2	1989	0	31	17	41	3	31
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	36	0	0	9
Lane Group Flow (vph)	0	1145	0	0	0	1993	0	0	53	0	0	38
Confl. Peds. (#/hr)	1			7			1	6		7	7	
Confl. Bikes (#/hr)										2		
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
Turn Type		NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2			6	6			8			4	
Actuated Green, G (s)		71.8				71.8			11.4			11.4
Effective Green, g (s)		71.8				71.8			11.4			11.4
Actuated g/C Ratio		0.76				0.76			0.12			0.12
Clearance Time (s)		5.5				5.5			6.3			6.3
Vehicle Extension (s)		3.0				3.0			3.0			3.0
Lane Grp Cap (vph)		2615				2518			178			205
v/s Ratio Prot		0.33										
v/s Ratio Perm						c0.60			c0.04			0.02
v/c Ratio		0.44				0.79			0.30			0.19
Uniform Delay, d1		4.2				7.1			38.1			37.6
Progression Factor		1.00				1.00			1.00			1.00
Incremental Delay, d2		0.5				2.6			0.9			0.4
Delay (s)		4.8				9.7			39.1			38.1
Level of Service		A				A			D			D
Approach Delay (s)		4.8				9.7			39.1			38.1
Approach LOS		A				A			D			D

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	12
Future Volume (vph)	12
Ideal Flow (vphpl)	1800
Lane Width	3.7
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	13
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	6
Confl. Bikes (#/hr)	6
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	468	109	89	618	98	105	280	79	52	90	17
Future Volume (vph)	21	468	109	89	618	98	105	280	79	52	90	17
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.6	3.7	3.2	3.5	3.8	3.0	4.3	3.7	3.3	4.5	3.7
Total Lost time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97		1.00	1.00	0.88	1.00	0.99		1.00	0.98	
Flpb, ped/bikes		1.00		0.96	1.00	1.00	0.93	1.00		0.99	1.00	
Frt		0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1481		1566	1402	1368	1455	1839		1639	1845	
Flt Permitted		0.97		0.39	1.00	1.00	0.68	1.00		0.19	1.00	
Satd. Flow (perm)		1434		635	1402	1368	1042	1839		335	1845	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	23	520	121	99	687	109	117	311	88	58	100	19
RTOR Reduction (vph)	0	8	0	0	0	37	0	11	0	0	7	0
Lane Group Flow (vph)	0	656	0	99	687	72	117	388	0	58	112	0
Confl. Peds. (#/hr)	50		66	66		50	43		11	11		43
Confl. Bikes (#/hr)			3			4			6			17
Heavy Vehicles (%)	0%	19%	1%	0%	27%	1%	2%	0%	4%	0%	2%	6%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		63.0		63.0	63.0	63.0	24.1	24.1		24.1	24.1	
Effective Green, g (s)		63.0		63.0	63.0	63.0	24.1	24.1		24.1	24.1	
Actuated g/C Ratio		0.63		0.63	0.63	0.63	0.24	0.24		0.24	0.24	
Clearance Time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		903		400	883	861	251	443		80	444	
v/s Ratio Prot					c0.49			c0.21			0.06	
v/s Ratio Perm		0.46		0.16		0.05	0.11			0.17		
v/c Ratio		0.73		0.25	0.78	0.08	0.47	0.88		0.72	0.25	
Uniform Delay, d1		12.6		8.1	13.4	7.2	32.4	36.5		34.9	30.7	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.1		1.5	6.7	0.2	1.4	17.4		27.6	0.3	
Delay (s)		17.7		9.6	20.1	7.4	33.8	53.9		62.5	31.0	
Level of Service		B		A	C	A	C	D		E	C	
Approach Delay (s)		17.7			17.4			49.4			41.3	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Appendix F – Ottawa 2011 O-D Survey, Ottawa West

Ottawa West

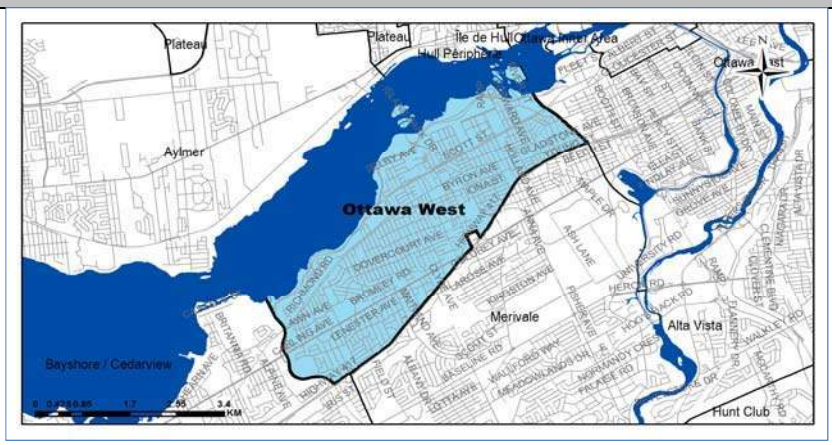
Demographic Characteristics

Population	50,410	Actively Travelled	40,800
Employed Population	22,930	Number of Vehicles	23,590
Households	24,070	Area (km^2)	18.3

Occupation Status (age 5+)	Male	Female	Total
Full Time Employed	10,960	9,490	20,450
Part Time Employed	930	1,540	2,480
Student	4,680	4,690	9,370
Retiree	4,580	7,260	11,840
Unemployed	570	980	1,540
Homemaker	30	990	1,020
Other	670	600	1,270
Total:	22,410	25,560	47,970

Traveller Characteristics	Male	Female	Total
Transit Pass Holders	4,120	5,780	9,900
Licensed Drivers	17,020	17,720	34,740
Telecommuters	140	250	390
Trips made by residents	65,610	75,080	140,690

Selected Indicators	
Daily Trips per Person (age 5+)	2.93
Vehicles per Person	0.47
Number of Persons per Household	2.09
Daily Trips per Household	5.85
Vehicles per Household	0.98
Workers per Household	0.95
Population Density (Pop/km2)	2760

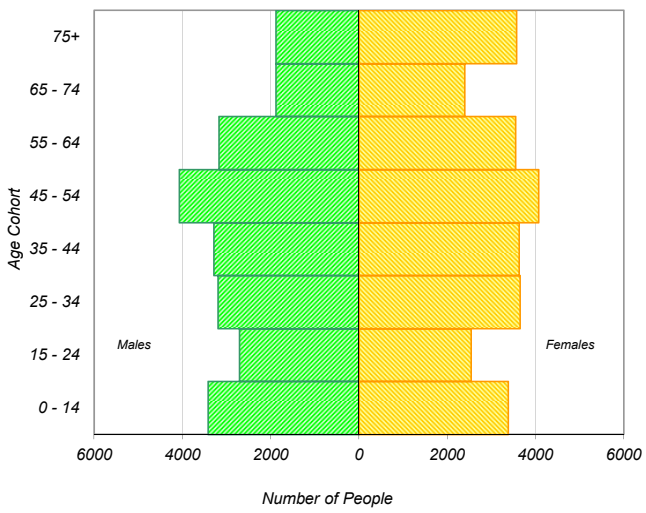


Household Size		
1 person	10,380	43%
2 persons	7,710	32%
3 persons	2,730	11%
4 persons	2,280	9%
5+ persons	970	4%
Total:	24,070	100%

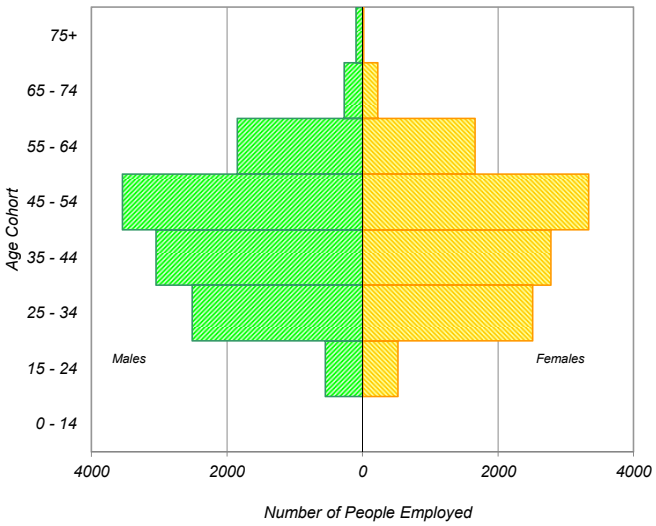
Households by Vehicle Availability		
0 vehicles	6,230	26%
1 vehicle	12,950	54%
2 vehicles	4,200	17%
3 vehicles	540	2%
4+ vehicles	140	1%
Total:	24,070	100%

Households by Dwelling Type		
Single-detached	8,320	35%
Semi-detached	1,780	7%
Townhouse	980	4%
Apartment/Condo	13,000	54%
Total:	24,070	100%

Population



Employed Population

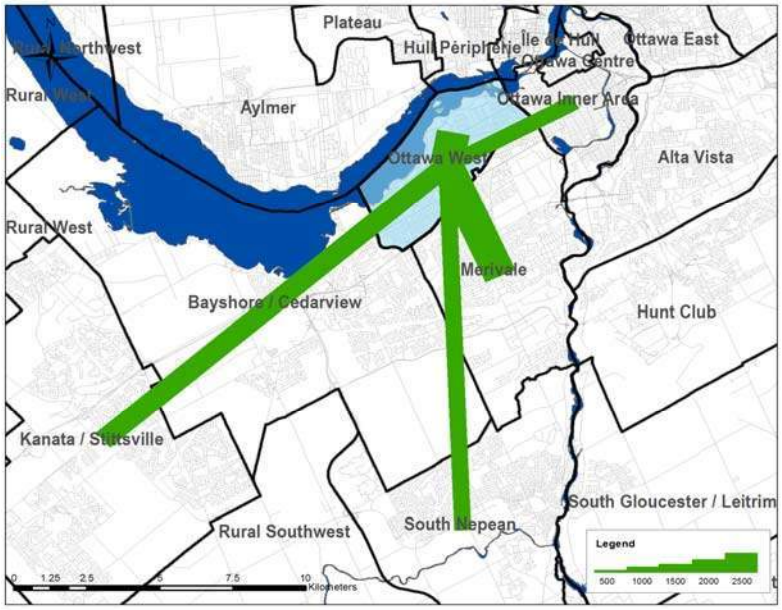


* In 2005 data was only collected for household members aged 11+ therefore these results cannot be compared to the 2011 data.

Travel Patterns

Top Five Origins of Trips to Ottawa West

AM Peak Period



Summary of Trips to and from Ottawa West

AM Peak Period (6:30 - 8:59)	Destinations of Trips From		Origins of Trips To	
Districts	District	% Total	District	% Total
Ottawa Centre	4,270	16%	340	1%
Ottawa Inner Area	3,080	12%	1,750	5%
Ottawa East	310	1%	460	1%
Beacon Hill	150	1%	610	2%
Alta Vista	1,550	6%	1,160	4%
Hunt Club	360	1%	580	2%
Merivale	3,340	13%	4,960	15%
Ottawa West	8,280	32%	8,280	25%
Bayshore / Cedarview	1,940	7%	4,870	15%
Orléans	220	1%	1,460	4%
Rural East	40	0%	60	0%
Rural Southeast	50	0%	190	1%
South Gloucester / Leitrim	0	0%	290	1%
South Nepean	160	1%	1,830	6%
Rural Southwest	80	0%	400	1%
Kanata / Stittsvile	840	3%	2,020	6%
Rural West	70	0%	170	1%
Île de Hull	730	3%	170	1%
Hull Périphérie	170	1%	360	1%
Plateau	40	0%	760	2%
Aylmer	60	0%	770	2%
Rural Northwest	20	0%	310	1%
Pointe Gatineau	30	0%	450	1%
Gatineau Est	70	0%	310	1%
Rural Northeast	60	0%	170	1%
Buckingham / Masson-Angers	70	0%	140	0%
Ontario Sub-Total:	24,740	95%	29,430	90%
Québec Sub-Total:	1,250	5%	3,440	10%
Total:	25,990	100%	32,870	100%

Trips by Trip Purpose

24 Hours	From District		To District		Within District	
Work or related	17,850	19%	24,050	25%	4,670	8%
School	3,820	4%	4,540	5%	4,230	7%
Shopping	9,960	10%	10,800	11%	10,260	18%
Leisure	9,570	10%	9,420	10%	6,520	11%
Medical	2,740	3%	2,190	2%	1,140	2%
Pick-up / drive passenger	6,010	6%	7,490	8%	4,320	7%
Return Home	40,560	43%	32,380	34%	23,230	40%
Other	4,500	5%	4,550	5%	3,520	6%
Total:	95,010	100%	95,420	100%	57,890	100%

AM Peak (06:30 - 08:59)	From District		To District		Within District	
Work or related	11,500	65%	16,000	65%	1,900	23%
School	2,450	14%	4,090	17%	3,260	39%
Shopping	120	1%	250	1%	270	3%
Leisure	720	4%	450	2%	340	4%
Medical	470	3%	330	1%	60	1%
Pick-up / drive passenger	1,110	6%	1,880	8%	1,400	17%
Return Home	790	4%	530	2%	560	7%
Other	540	3%	1,060	4%	490	6%
Total:	17,700	100%	24,590	100%	8,280	100%

PM Peak (15:30 - 17:59)	From District		To District		Within District	
Work or related	590	2%	550	3%	300	2%
School	180	1%	10	0%	110	1%
Shopping	2,510	10%	2,680	12%	1,940	14%
Leisure	2,090	8%	2,220	10%	1,780	13%
Medical	200	1%	270	1%	120	1%
Pick-up / drive passenger	1,970	8%	2,350	11%	1,030	7%
Return Home	17,330	68%	12,540	58%	8,090	57%
Other	790	3%	870	4%	850	6%
Total:	25,660	100%	21,490	100%	14,220	100%

Peak Period (%)	Total:	% of 24 Hours	Within District (%)
24 Hours	248,320		23%
AM Peak Period	50,570	20%	16%
PM Peak Period	61,370	25%	23%

Trips by Primary Travel Mode

24 Hours	From District		To District		Within District	
Auto Driver	53,530	56%	53,730	56%	22,130	38%
Auto Passenger	14,560	15%	14,560	15%	6,300	11%
Transit	18,670	20%	18,820	20%	2,810	5%
Bicycle	3,120	3%	3,140	3%	3,110	5%
Walk	2,780	3%	2,750	3%	21,610	37%
Other	2,340	2%	2,430	3%	1,910	3%
Total:	95,000	100%	95,430	100%	57,870	100%

AM Peak (06:30 - 08:59)	From District		To District		Within District	
Auto Driver	8,230	46%	12,650	51%	2,740	33%
Auto Passenger	1,910	11%	3,800	15%	1,220	15%
Transit	5,490	31%	5,550	23%	370	4%
Bicycle	1,050	6%	710	3%	500	6%
Walk	650	4%	770	3%	2,770	33%
Other	370	2%	1,110	5%	690	8%
Total:	17,700	100%	24,590	100%	8,290	100%

PM Peak (15:30 - 17:59)	From District		To District		Within District	
Auto Driver	14,180	55%	11,370	53%	4,550	32%
Auto Passenger	4,060	16%	3,010	14%	1,370	10%
Transit	5,400	21%	5,090	24%	570	4%
Bicycle	750	3%	1,250	6%	1,000	7%
Walk	690	3%	620	3%	6,400	45%
Other	570	2%	160	1%	320	2%
Total:	25,650	100%	21,500	100%	14,210	100%

Avg Vehicle Occupancy	From District	To District	Within District
24 Hours	1.27	1.27	1.28
AM Peak Period	1.23	1.30	1.45
PM Peak Period	1.29	1.26	1.30

Transit Modal Split	From District	To District	Within District
24 Hours	22%	22%	9%
AM Peak Period	35%	25%	9%
PM Peak Period	23%	26%	9%

Appendix G – Trip Assignment Calculations

		Parcel 1			
		AM Peak Hour		PM Peak Hour	
		In	Out	In	Out
West on Sir John A MacDonald Pkwy	24%	11	4	2	5
East on Sir John A MacDonald Pkwy	24%	11	4	2	5
North on Parkdale	12%	5	2	1	3
South on Parkdale	10%	4	1	0	2
West on Scott	11%	5	2	1	3
East on Scott	12%	5	2	1	3
South on Bayview Station	6%	3	0	0	1

		Parcel 2			
		AM Peak Hour		PM Peak Hour	
		In	Out	In	Out
West on Sir John A MacDonald Pkwy	24%	9	3	2	5
East on Sir John A MacDonald Pkwy	24%	9	3	2	5
North on Parkdale	12%	5	2	1	3
South on Parkdale	10%	4	1	0	2
West on Scott	11%	4	1	1	2
East on Scott	12%	5	1	1	2
South on Bayview Station	6%	2	1	0	1

		Parcel 3			
		AM Peak Hour		PM Peak Hour	
		In	Out	In	Out
West on Sir John A MacDonald Pkwy	24%	9	3	2	5
East on Sir John A MacDonald Pkwy	24%	9	3	2	5
North on Parkdale	12%	5	2	1	3
South on Parkdale	10%	4	1	0	2
West on Scott	11%	4	1	1	2
East on Scott	12%	5	1	1	2
South on Bayview Station	6%	2	1	0	1

		Parcel 4			
		AM Peak Hour		PM Peak Hour	
		In	Out	In	Out
West on Sir John A MacDonald Pkwy	24%	11	3	2	5
East on Sir John A MacDonald Pkwy	24%	10	3	2	5
North on Parkdale	12%	5	2	1	3
South on Parkdale	10%	4	1	0	2
West on Scott	11%	5	2	1	3
East on Scott	12%	5	2	1	3
South on Bayview Station	6%	3	1	0	1

		Parcel 5			
		AM Peak Hour		PM Peak Hour	
		In	Out	In	Out
West on Sir John A MacDonald Pkwy	24%	9	3	1	5
East on Sir John A MacDonald Pkwy	24%	9	3	1	5
North on Parkdale	12%	5	2	1	2
South on Parkdale	10%	4	1	1	2
West on Scott	11%	4	1	1	2
East on Scott	12%	5	2	1	2
South on Bayview Station	6%	2	1	0	1

		Parcel 6			
		AM Peak Hour		PM Peak Hour	
		In	Out	In	Out
West on Sir John A MacDonald Pkwy	24%	9	3	2	5
East on Sir John A MacDonald Pkwy	24%	9	3	2	5
North on Parkdale	12%	5	2	1	3
South on Parkdale	10%	4	1	0	2
West on Scott	11%	4	1	1	2
East on Scott	12%	5	2	1	2
South on Bayview Station	6%	2	1	0	1

Appendix H – Future Background (2023, 2028) Synchro and SIDRA Outputs

MOVEMENT SUMMARY

Site: 1 [Burnside Roundabout - Background (2023) - AM]

Burnside Roundabout - Background (2023) - AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Bayview Station Road												
21u	U	2	0.0	0.071	9.2	LOS A	0.2	1.4	0.08	0.54	0.08	47.6
21	L2	64	9.0	0.071	7.4	LOS A	0.2	1.4	0.08	0.54	0.08	42.8
23a	R1	25	0.0	0.071	2.5	LOS A	0.2	1.4	0.08	0.54	0.08	43.7
Approach		92	6.3	0.071	6.1	LOS A	0.2	1.4	0.08	0.54	0.08	43.1
North: Slidell Street												
7u	U	1	0.0	0.075	9.2	LOS A	0.2	1.5	0.11	0.55	0.11	21.4
7a	L1	88	7.0	0.075	6.6	LOS A	0.2	1.5	0.11	0.55	0.11	43.3
9a	R1	8	0.0	0.075	2.6	LOS A	0.2	1.5	0.11	0.55	0.11	38.1
Approach		97	6.4	0.075	6.3	LOS A	0.2	1.5	0.11	0.55	0.11	42.6
SouthWest: Burnside Avenue												
30u	U	1	0.0	0.276	7.2	LOS A	0.9	6.6	0.16	0.36	0.16	41.7
30a	L1	34	0.0	0.276	5.0	LOS A	0.9	6.6	0.16	0.36	0.16	25.7
32	R2	348	0.0	0.276	2.0	LOS A	0.9	6.6	0.16	0.36	0.16	42.3
Approach		383	0.0	0.276	2.3	LOS A	0.9	6.6	0.16	0.36	0.16	40.7
All Vehicles		572	2.1	0.276	3.6	LOS A	0.9	6.6	0.14	0.42	0.14	41.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Burnside Roundabout - Background (2023) - PM]

Burnside Roundabout - Background (2023) - PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Bayview Station Road												
21u	U	11	11.0	0.356	9.3	LOS A	1.3	9.4	0.11	0.57	0.11	46.8
21	L2	417	1.0	0.356	7.4	LOS A	1.3	9.4	0.11	0.57	0.11	42.5
23a	R1	93	3.0	0.356	2.6	LOS A	1.3	9.4	0.11	0.57	0.11	42.9
Approach		521	1.6	0.356	6.6	LOS A	1.3	9.4	0.11	0.57	0.11	42.6
North: Slidell Street												
7u	U	1	0.0	0.074	10.2	LOS B	0.3	1.8	0.35	0.61	0.35	21.1
7a	L1	63	6.0	0.074	7.5	LOS A	0.3	1.8	0.35	0.61	0.35	42.9
9a	R1	18	0.0	0.074	3.6	LOS A	0.3	1.8	0.35	0.61	0.35	37.8
Approach		82	4.6	0.074	6.7	LOS A	0.3	1.8	0.35	0.61	0.35	41.4
SouthWest: Burnside Avenue												
30u	U	3	0.0	0.112	7.1	LOS A	0.3	2.5	0.14	0.39	0.14	41.3
30a	L1	38	0.0	0.112	4.9	LOS A	0.3	2.5	0.14	0.39	0.14	27.9
32	R2	106	4.0	0.112	2.0	LOS A	0.3	2.5	0.14	0.39	0.14	41.9
Approach		147	2.9	0.112	2.8	LOS A	0.3	2.5	0.14	0.39	0.14	38.4
All Vehicles		751	2.2	0.356	5.9	LOS A	1.3	9.4	0.14	0.54	0.14	41.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Burnside Roundabout - Background (2028) - AM]

Burnside Roundabout - Background (2028) - AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Bayview Station Road												
21u	U	2	0.0	0.085	9.2	LOS A	0.2	1.8	0.09	0.55	0.09	47.5
21	L2	79	9.0	0.085	7.4	LOS A	0.2	1.8	0.09	0.55	0.09	42.8
23a	R1	28	0.0	0.085	2.5	LOS A	0.2	1.8	0.09	0.55	0.09	43.6
Approach		110	6.5	0.085	6.2	LOS A	0.2	1.8	0.09	0.55	0.09	43.0
North: Slidell Street												
7u	U	1	0.0	0.085	9.3	LOS A	0.2	1.7	0.13	0.55	0.13	21.4
7a	L1	99	7.0	0.085	6.6	LOS A	0.2	1.7	0.13	0.55	0.13	43.3
9a	R1	10	0.0	0.085	2.6	LOS A	0.2	1.7	0.13	0.55	0.13	38.1
Approach		109	6.3	0.085	6.3	LOS A	0.2	1.7	0.13	0.55	0.13	42.6
SouthWest: Burnside Avenue												
30u	U	1	0.0	0.324	7.2	LOS A	1.2	8.3	0.18	0.36	0.18	41.6
30a	L1	38	0.0	0.324	5.0	LOS A	1.2	8.3	0.18	0.36	0.18	25.7
32	R2	410	0.0	0.324	2.1	LOS A	1.2	8.3	0.18	0.36	0.18	42.2
Approach		448	0.0	0.324	2.3	LOS A	1.2	8.3	0.18	0.36	0.18	40.8
All Vehicles		667	2.1	0.324	3.6	LOS A	1.2	8.3	0.16	0.42	0.16	41.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Burnside Roundabout - Background (2028) - PM]

Burnside Roundabout - Background (2028) - PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Bayview Station Road												
21u	U	12	11.0	0.420	9.3	LOS A	1.7	12.2	0.13	0.57	0.13	46.7
21	L2	501	1.0	0.420	7.4	LOS A	1.7	12.2	0.13	0.57	0.13	42.4
23a	R1	103	3.0	0.420	2.6	LOS A	1.7	12.2	0.13	0.57	0.13	42.8
Approach		616	1.5	0.420	6.6	LOS A	1.7	12.2	0.13	0.57	0.13	42.5
North: Slidell Street												
7u	U	1	0.0	0.086	10.5	LOS B	0.3	2.3	0.40	0.63	0.40	20.9
7a	L1	70	6.0	0.086	7.9	LOS A	0.3	2.3	0.40	0.63	0.40	42.6
9a	R1	20	0.0	0.086	3.9	LOS A	0.3	2.3	0.40	0.63	0.40	37.6
Approach		91	4.6	0.086	7.0	LOS A	0.3	2.3	0.40	0.63	0.40	41.2
SouthWest: Burnside Avenue												
30u	U	4	0.0	0.138	7.1	LOS A	0.5	3.3	0.15	0.38	0.15	41.3
30a	L1	42	0.0	0.138	4.9	LOS A	0.5	3.3	0.15	0.38	0.15	27.9
32	R2	136	4.0	0.138	2.0	LOS A	0.5	3.3	0.15	0.38	0.15	41.9
Approach		182	3.0	0.138	2.8	LOS A	0.5	3.3	0.15	0.38	0.15	38.8
All Vehicles		890	2.1	0.420	5.9	LOS A	1.7	12.2	0.16	0.54	0.16	41.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	91	91	357	63	206	547
Future Volume (vph)	91	91	357	63	206	547
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	4.2	3.7	4.8	3.7	3.7	4.8
Total Lost time (s)	5.4		5.2			5.2
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	0.96		0.99			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.93		0.98			1.00
Flt Protected	0.98		1.00			0.99
Satd. Flow (prot)	1597		1950			1968
Flt Permitted	0.98		1.00			0.76
Satd. Flow (perm)	1597		1950			1521
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	91	91	357	63	206	547
RTOR Reduction (vph)	65	0	9	0	0	0
Lane Group Flow (vph)	117	0	411	0	0	753
Confl. Peds. (#/hr)	60	32		13	13	
Confl. Bikes (#/hr)		1		2		
Heavy Vehicles (%)	0%	9%	1%	7%	2%	2%
Turn Type	pm+pt		NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases	8				6	
Actuated Green, G (s)	10.4		39.0			39.0
Effective Green, g (s)	10.4		39.0			39.0
Actuated g/C Ratio	0.17		0.65			0.65
Clearance Time (s)	5.4		5.2			5.2
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	276		1267			988
v/s Ratio Prot	c0.07		0.21			
v/s Ratio Perm						c0.50
v/c Ratio	0.42		0.32			0.76
Uniform Delay, d1	22.1		4.7			7.3
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	1.0		0.7			5.5
Delay (s)	23.2		5.3			12.8
Level of Service	C		A			B
Approach Delay (s)	23.2		5.3			12.8
Approach LOS	C		A			B

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		

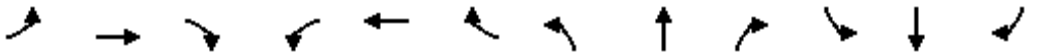
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	1647	24	1	1119	1	1	1	23	1	1	5
Future Volume (vph)	0	1647	24	1	1119	1	1	1	23	1	1	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.8	3.7	3.7	3.8	3.7	3.7	3.7	3.9	3.7	3.7	4.0
Total Lost time (s)		5.5			5.5				6.3			6.3
Lane Util. Factor		0.95			0.95				1.00			1.00
Frpb, ped/bikes		1.00			1.00				1.00			0.99
Flpb, ped/bikes		1.00			1.00				1.00			1.00
Frt		1.00			1.00				0.99			0.95
Flt Protected		1.00			1.00				1.00			0.99
Satd. Flow (prot)		3487			3461				1840			1773
Flt Permitted		1.00			0.95				0.98			0.97
Satd. Flow (perm)		3487			3302				1804			1724
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1647	24	1	1119	1	1	1	23	1	1	5
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	1	0	0	3
Lane Group Flow (vph)	0	1670	0	0	1121	0	0	0	25	0	0	6
Confl. Peds. (#/hr)	2		1	1		2	1	3		4	4	
Confl. Bikes (#/hr)			1							12		
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA		Perm	NA		Perm	Perm	NA		Perm	NA
Protected Phases		2			6				8			4
Permitted Phases	2			6			8	8			4	
Actuated Green, G (s)		73.8			73.8				9.4			9.4
Effective Green, g (s)		73.8			73.8				9.4			9.4
Actuated g/C Ratio		0.78			0.78				0.10			0.10
Clearance Time (s)		5.5			5.5				6.3			6.3
Vehicle Extension (s)		3.0			3.0				3.0			3.0
Lane Grp Cap (vph)		2708			2565				178			170
v/s Ratio Prot		c0.48										
v/s Ratio Perm					0.34				c0.01			0.00
v/c Ratio		0.62			0.44				0.14			0.04
Uniform Delay, d1		4.5			3.6				39.1			38.7
Progression Factor		1.00			1.00				1.00			1.00
Incremental Delay, d2		1.1			0.5				0.4			0.1
Delay (s)		5.6			4.1				39.5			38.8
Level of Service		A			A				D			D
Approach Delay (s)		5.6			4.1				39.5			38.8
Approach LOS		A			A				D			D

Intersection Summary			
HCM 2000 Control Delay	5.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	3
Future Volume (vph)	3
Ideal Flow (vphpl)	1800
Lane Width	3.7
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	3
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	3
Confl. Bikes (#/hr)	2
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	674	87	54	326	34	49	99	123	142	245	28
Future Volume (vph)	23	674	87	54	326	34	49	99	123	142	245	28
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.6	3.7	3.2	3.5	3.8	3.0	4.3	3.7	3.3	4.5	3.7
Total Lost time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99		1.00	1.00	0.96	1.00	0.92		1.00	0.99	
Flpb, ped/bikes		1.00		0.97	1.00	1.00	0.95	1.00		0.96	1.00	
Frt		0.99		1.00	1.00	0.85	1.00	0.92		1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1422		1559	1338	1399	1344	1590		1528	1860	
Flt Permitted		0.98		0.34	1.00	1.00	0.39	1.00		0.49	1.00	
Satd. Flow (perm)		1402		563	1338	1399	546	1590		786	1860	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	23	674	87	54	326	34	49	99	123	142	245	28
RTOR Reduction (vph)	0	4	0	0	0	12	0	47	0	0	5	0
Lane Group Flow (vph)	0	780	0	54	326	22	49	175	0	142	268	0
Confl. Peds. (#/hr)	12		52	52		12	43		30	30		43
Confl. Bikes (#/hr)			2						37			11
Heavy Vehicles (%)	0%	26%	4%	2%	33%	7%	13%	4%	3%	4%	2%	17%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		65.3		65.3	65.3	65.3	21.8	21.8		21.8	21.8	
Effective Green, g (s)		65.3		65.3	65.3	65.3	21.8	21.8		21.8	21.8	
Actuated g/C Ratio		0.65		0.65	0.65	0.65	0.22	0.22		0.22	0.22	
Clearance Time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		915		367	873	913	119	346		171	405	
v/s Ratio Prot					0.24			0.11			0.14	
v/s Ratio Perm		c0.56		0.10		0.02	0.09			c0.18		
v/c Ratio		0.85		0.15	0.37	0.02	0.41	0.51		0.83	0.66	
Uniform Delay, d1		13.6		6.7	8.0	6.1	33.6	34.4		37.3	35.7	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		9.9		0.8	1.2	0.0	2.3	1.2		27.6	4.0	
Delay (s)		23.5		7.5	9.2	6.2	35.9	35.5		64.9	39.8	
Level of Service		C		A	A	A	D	D		E	D	
Approach Delay (s)		23.5			8.7			35.6			48.4	
Approach LOS		C			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	108.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	45	355	728	69	64	474
Future Volume (vph)	45	355	728	69	64	474
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	4.2	3.7	4.8	3.7	3.7	4.8
Total Lost time (s)	5.4		5.2			5.2
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	0.90		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.88		0.99			1.00
Flt Protected	0.99		1.00			0.99
Satd. Flow (prot)	1517		1973			1991
Flt Permitted	0.99		1.00			0.77
Satd. Flow (perm)	1517		1973			1543
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	355	728	69	64	474
RTOR Reduction (vph)	146	0	4	0	0	0
Lane Group Flow (vph)	254	0	793	0	0	538
Confl. Peds. (#/hr)	34	36		17	17	
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	0%	0%	1%	10%	0%	2%
Turn Type	pm+pt		NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases	8				6	
Actuated Green, G (s)	15.6		43.8			43.8
Effective Green, g (s)	15.6		43.8			43.8
Actuated g/C Ratio	0.22		0.63			0.63
Clearance Time (s)	5.4		5.2			5.2
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	338		1234			965
v/s Ratio Prot	c0.17		c0.40			
v/s Ratio Perm						0.35
v/c Ratio	0.75		0.64			0.56
Uniform Delay, d1	25.4		8.2			7.5
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	9.1		2.6			2.3
Delay (s)	34.5		10.8			9.9
Level of Service	C		B			A
Approach Delay (s)	34.5		10.8			9.9
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		

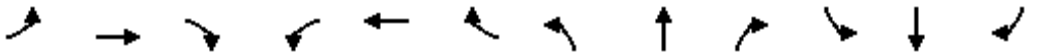
c Critical Lane Group

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	1007	4	2	2	1756	0	28	14	37	3	28
Future Volume (vph)	0	1007	4	2	2	1756	0	28	14	37	3	28
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.8	3.7	3.7	3.7	3.8	3.7	3.7	3.9	3.7	3.7	4.0
Total Lost time (s)		5.5				5.5			6.3			6.3
Lane Util. Factor		0.95				0.95			1.00			1.00
Frpb, ped/bikes		1.00				1.00			0.99			0.99
Flpb, ped/bikes		1.00				1.00			1.00			1.00
Frt		1.00				1.00			0.94			0.96
Flt Protected		1.00				1.00			0.98			1.00
Satd. Flow (prot)		3459				3496			1690			1746
Flt Permitted		1.00				0.95			0.87			0.98
Satd. Flow (perm)		3459				3333			1489			1709
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1007	4	2	2	1756	0	28	14	37	3	28
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	33	0	0	10
Lane Group Flow (vph)	0	1011	0	0	0	1760	0	0	46	0	0	32
Confl. Peds. (#/hr)	1			7			1	6		7	7	
Confl. Bikes (#/hr)										2		
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
Turn Type		NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2			6	6			8			4	
Actuated Green, G (s)		71.8				71.8			11.4			11.4
Effective Green, g (s)		71.8				71.8			11.4			11.4
Actuated g/C Ratio		0.76				0.76			0.12			0.12
Clearance Time (s)		5.5				5.5			6.3			6.3
Vehicle Extension (s)		3.0				3.0			3.0			3.0
Lane Grp Cap (vph)		2614				2519			178			205
v/s Ratio Prot		0.29										
v/s Ratio Perm						c0.53			c0.03			0.02
v/c Ratio		0.39				0.70			0.26			0.16
Uniform Delay, d1		4.0				6.0			38.0			37.5
Progression Factor		1.00				1.00			1.00			1.00
Incremental Delay, d2		0.4				1.6			0.8			0.4
Delay (s)		4.4				7.6			38.8			37.9
Level of Service		A				A			D			D
Approach Delay (s)		4.4				7.6			38.8			37.9
Approach LOS		A				A			D			D

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	11
Future Volume (vph)	11
Ideal Flow (vphpl)	1800
Lane Width	3.7
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	11
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	6
Confl. Bikes (#/hr)	6
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	459	105	86	604	95	101	269	75	50	87	16
Future Volume (vph)	19	459	105	86	604	95	101	269	75	50	87	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.6	3.7	3.2	3.5	3.8	3.0	4.3	3.7	3.3	4.5	3.7
Total Lost time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97		1.00	1.00	0.88	1.00	0.99		1.00	0.98	
Flpb, ped/bikes		1.00		0.95	1.00	1.00	0.92	1.00		0.99	1.00	
Frt		0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1479		1550	1402	1360	1445	1839		1635	1845	
Flt Permitted		0.97		0.43	1.00	1.00	0.69	1.00		0.26	1.00	
Satd. Flow (perm)		1443		696	1402	1360	1050	1839		455	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	459	105	86	604	95	101	269	75	50	87	16
RTOR Reduction (vph)	0	7	0	0	0	34	0	11	0	0	7	0
Lane Group Flow (vph)	0	576	0	86	604	61	101	333	0	50	96	0
Confl. Peds. (#/hr)	53		70	70		53	46		12	12		46
Confl. Bikes (#/hr)			3			4			6			18
Heavy Vehicles (%)	0%	19%	1%	0%	27%	1%	2%	0%	4%	0%	2%	6%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		64.4		64.4	64.4	64.4	22.7	22.7		22.7	22.7	
Effective Green, g (s)		64.4		64.4	64.4	64.4	22.7	22.7		22.7	22.7	
Actuated g/C Ratio		0.64		0.64	0.64	0.64	0.23	0.23		0.23	0.23	
Clearance Time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		929		448	902	875	238	417		103	418	
v/s Ratio Prot					c0.43			c0.18			0.05	
v/s Ratio Perm		0.40		0.12		0.04	0.10			0.11		
v/c Ratio		0.62		0.19	0.67	0.07	0.42	0.80		0.49	0.23	
Uniform Delay, d1		10.5		7.2	11.1	6.6	33.1	36.5		33.6	31.5	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.1		1.0	3.9	0.2	1.2	10.3		3.6	0.3	
Delay (s)		13.7		8.2	15.1	6.8	34.3	46.8		37.1	31.8	
Level of Service		B		A	B	A	C	D		D	C	
Approach Delay (s)		13.7			13.3			43.9			33.5	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	95	104	394	67	251	604
Future Volume (vph)	95	104	394	67	251	604
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	4.2	3.7	4.8	3.7	3.7	4.8
Total Lost time (s)	5.4		5.2			5.2
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	0.95		0.99			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.93		0.98			1.00
Flt Protected	0.98		1.00			0.99
Satd. Flow (prot)	1582		1952			1965
Flt Permitted	0.98		1.00			0.68
Satd. Flow (perm)	1582		1952			1361
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	95	104	394	67	251	604
RTOR Reduction (vph)	69	0	9	0	0	0
Lane Group Flow (vph)	130	0	452	0	0	855
Confl. Peds. (#/hr)	67	35		14	14	
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	0%	9%	1%	7%	2%	2%
Turn Type	pm+pt		NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases	8				6	
Actuated Green, G (s)	12.5		36.9			36.9
Effective Green, g (s)	12.5		36.9			36.9
Actuated g/C Ratio	0.21		0.61			0.61
Clearance Time (s)	5.4		5.2			5.2
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	329		1200			837
v/s Ratio Prot	c0.08		0.23			
v/s Ratio Perm						c0.63
v/c Ratio	0.40		0.38			1.02
Uniform Delay, d1	20.5		5.8			11.6
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.8		0.9			36.7
Delay (s)	21.3		6.7			48.2
Level of Service	C		A			D
Approach Delay (s)	21.3		6.7			48.2
Approach LOS	C		A			D

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

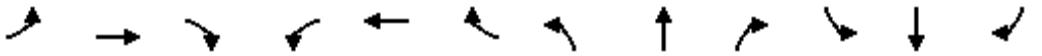
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	1824	27	1	1259	1	1	1	26	1	1	6
Future Volume (vph)	0	1824	27	1	1259	1	1	1	26	1	1	6
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.8	3.7	3.7	3.8	3.7	3.7	3.7	3.9	3.7	3.7	4.0
Total Lost time (s)		5.5			5.5				6.3			6.3
Lane Util. Factor		0.95			0.95				1.00			1.00
Frpb, ped/bikes		1.00			1.00				1.00			0.99
Flpb, ped/bikes		1.00			1.00				1.00			1.00
Frt		1.00			1.00				1.00			0.95
Flt Protected		1.00			1.00				1.00			1.00
Satd. Flow (prot)		3487			3461				1841			1765
Flt Permitted		1.00			0.95				0.98			0.97
Satd. Flow (perm)		3487			3302				1809			1724
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1824	27	1	1259	1	1	1	26	1	1	6
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	1	0	0	4
Lane Group Flow (vph)	0	1850	0	0	1261	0	0	0	28	0	0	7
Confl. Peds. (#/hr)	2		1	1		2	1	4		5	5	
Confl. Bikes (#/hr)			1							13		
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA		Perm	NA		Perm	Perm	NA		Perm	NA
Protected Phases		2			6				8			4
Permitted Phases	2			6			8	8			4	
Actuated Green, G (s)		73.8			73.8				9.4			9.4
Effective Green, g (s)		73.8			73.8				9.4			9.4
Actuated g/C Ratio		0.78			0.78				0.10			0.10
Clearance Time (s)		5.5			5.5				6.3			6.3
Vehicle Extension (s)		3.0			3.0				3.0			3.0
Lane Grp Cap (vph)		2708			2565				178			170
v/s Ratio Prot		c0.53										
v/s Ratio Perm					0.38				c0.02			0.00
v/c Ratio		0.68			0.49				0.16			0.04
Uniform Delay, d1		5.0			3.8				39.2			38.7
Progression Factor		1.00			1.00				1.00			1.00
Incremental Delay, d2		1.4			0.7				0.4			0.1
Delay (s)		6.5			4.5				39.6			38.8
Level of Service		A			A				D			D
Approach Delay (s)		6.5			4.5				39.6			38.8
Approach LOS		A			A				D			D

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	4
Future Volume (vph)	4
Ideal Flow (vphpl)	1800
Lane Width	3.7
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	4
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	4
Confl. Bikes (#/hr)	2
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	861	96	67	389	44	54	109	160	181	270	30
Future Volume (vph)	26	861	96	67	389	44	54	109	160	181	270	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.6	3.7	3.2	3.5	3.8	3.0	4.3	3.7	3.3	4.5	3.7
Total Lost time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99		1.00	1.00	0.96	1.00	0.92		1.00	0.99	
Flpb, ped/bikes		1.00		0.98	1.00	1.00	0.95	1.00		0.96	1.00	
Frt		0.99		1.00	1.00	0.85	1.00	0.91		1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1422		1571	1338	1397	1340	1570		1529	1861	
Flt Permitted		0.98		0.26	1.00	1.00	0.39	1.00		0.44	1.00	
Satd. Flow (perm)		1400		432	1338	1397	551	1570		713	1861	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	26	861	96	67	389	44	54	109	160	181	270	30
RTOR Reduction (vph)	0	4	0	0	0	17	0	53	0	0	4	0
Lane Group Flow (vph)	0	979	0	67	389	27	54	216	0	181	296	0
Confl. Peds. (#/hr)	13		57	57		13	48		33	33		48
Confl. Bikes (#/hr)			2						41			12
Heavy Vehicles (%)	0%	26%	4%	2%	33%	7%	13%	4%	3%	4%	2%	17%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		61.1		61.1	61.1	61.1	26.0	26.0		26.0	26.0	
Effective Green, g (s)		61.1		61.1	61.1	61.1	26.0	26.0		26.0	26.0	
Actuated g/C Ratio		0.61		0.61	0.61	0.61	0.26	0.26		0.26	0.26	
Clearance Time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		855		263	817	853	143	408		185	483	
v/s Ratio Prot					0.29			0.14			0.16	
v/s Ratio Perm		c0.70		0.15		0.02	0.10			c0.25		
v/c Ratio		1.15		0.25	0.48	0.03	0.38	0.53		0.98	0.61	
Uniform Delay, d1		19.4		9.0	10.7	7.7	30.4	31.8		36.7	32.6	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		79.0		2.3	2.0	0.1	1.7	1.3		59.2	2.3	
Delay (s)		98.5		11.3	12.7	7.8	32.0	33.1		95.9	34.9	
Level of Service		F		B	B	A	C	C		F	C	
Approach Delay (s)		98.5			12.0			32.9			57.8	
Approach LOS		F			B			C			E	

Intersection Summary			
HCM 2000 Control Delay	61.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	124.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	54	459	860	86	89	559
Future Volume (vph)	54	459	860	86	89	559
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	4.2	3.7	4.8	3.7	3.7	4.8
Total Lost time (s)	5.4		5.2			5.2
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	0.89		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.88		0.99			1.00
Flt Protected	0.99		1.00			0.99
Satd. Flow (prot)	1500		1970			1992
Flt Permitted	0.99		1.00			0.38
Satd. Flow (perm)	1500		1970			765
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	459	860	86	89	559
RTOR Reduction (vph)	98	0	5	0	0	0
Lane Group Flow (vph)	415	0	941	0	0	648
Confl. Peds. (#/hr)	37	40		19	19	
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	0%	0%	1%	10%	0%	2%
Turn Type	pm+pt		NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases	8				6	
Actuated Green, G (s)	19.6		39.8			39.8
Effective Green, g (s)	19.6		39.8			39.8
Actuated g/C Ratio	0.28		0.57			0.57
Clearance Time (s)	5.4		5.2			5.2
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	420		1120			434
v/s Ratio Prot	c0.28		0.48			
v/s Ratio Perm						c0.85
v/c Ratio	0.99		0.84			1.49
Uniform Delay, d1	25.1		12.5			15.1
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	40.4		7.6			233.8
Delay (s)	65.5		20.1			248.9
Level of Service	E		C			F
Approach Delay (s)	65.5		20.1			248.9
Approach LOS	E		C			F

Intersection Summary			
HCM 2000 Control Delay	101.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	139.0%	ICU Level of Service	H
Analysis Period (min)	15		

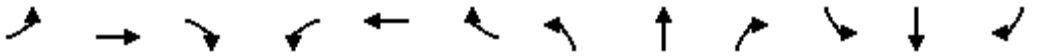
c Critical Lane Group

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	1242	5	2	2	2115	0	33	18	43	4	33
Future Volume (vph)	0	1242	5	2	2	2115	0	33	18	43	4	33
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.8	3.7	3.7	3.7	3.8	3.7	3.7	3.9	3.7	3.7	4.0
Total Lost time (s)		5.5				5.5			6.3			6.3
Lane Util. Factor		0.95				0.95			1.00			1.00
Frpb, ped/bikes		1.00				1.00			0.99			0.99
Flpb, ped/bikes		1.00				1.00			1.00			1.00
Frt		1.00				1.00			0.94			0.96
Flt Protected		1.00				1.00			0.98			1.00
Satd. Flow (prot)		3459				3496			1692			1741
Flt Permitted		1.00				0.95			0.86			0.97
Satd. Flow (perm)		3459				3332			1486			1698
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1242	5	2	2	2115	0	33	18	43	4	33
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	38	0	0	6
Lane Group Flow (vph)	0	1247	0	0	0	2119	0	0	56	0	0	45
Confl. Peds. (#/hr)	1			8			1	7		8	8	
Confl. Bikes (#/hr)										2		
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
Turn Type		NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2			6	6			8			4	
Actuated Green, G (s)		71.7				71.7			11.5			11.5
Effective Green, g (s)		71.7				71.7			11.5			11.5
Actuated g/C Ratio		0.75				0.75			0.12			0.12
Clearance Time (s)		5.5				5.5			6.3			6.3
Vehicle Extension (s)		3.0				3.0			3.0			3.0
Lane Grp Cap (vph)		2610				2514			179			205
v/s Ratio Prot		0.36										
v/s Ratio Perm						c0.64			c0.04			0.03
v/c Ratio		0.48				0.84			0.31			0.22
Uniform Delay, d1		4.5				7.9			38.1			37.7
Progression Factor		1.00				1.00			1.00			1.00
Incremental Delay, d2		0.6				3.7			1.0			0.5
Delay (s)		5.1				11.5			39.2			38.2
Level of Service		A				B			D			D
Approach Delay (s)		5.1				11.5			39.2			38.2
Approach LOS		A				B			D			D

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	14
Future Volume (vph)	14
Ideal Flow (vphpl)	1800
Lane Width	3.7
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	14
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	7
Confl. Bikes (#/hr)	7
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	632	128	137	880	148	123	328	107	76	105	20
Future Volume (vph)	25	632	128	137	880	148	123	328	107	76	105	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.6	3.7	3.2	3.5	3.8	3.0	4.3	3.7	3.3	4.5	3.7
Total Lost time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97		1.00	1.00	0.87	1.00	0.99		1.00	0.98	
Flpb, ped/bikes		1.00		0.96	1.00	1.00	0.92	1.00		0.99	1.00	
Frt		0.98		1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1481		1572	1402	1341	1438	1826		1638	1841	
Flt Permitted		0.86		0.33	1.00	1.00	0.68	1.00		0.17	1.00	
Satd. Flow (perm)		1278		544	1402	1341	1025	1826		298	1841	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	632	128	137	880	148	123	328	107	76	105	20
RTOR Reduction (vph)	0	7	0	0	0	41	0	12	0	0	7	0
Lane Group Flow (vph)	0	778	0	137	880	107	123	423	0	76	118	0
Confl. Peds. (#/hr)	59		77	77		59	50		13	13		50
Confl. Bikes (#/hr)			4			5			7			20
Heavy Vehicles (%)	0%	19%	1%	0%	27%	1%	2%	0%	4%	0%	2%	6%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		61.1		61.1	61.1	61.1	26.0	26.0		26.0	26.0	
Effective Green, g (s)		61.1		61.1	61.1	61.1	26.0	26.0		26.0	26.0	
Actuated g/C Ratio		0.61		0.61	0.61	0.61	0.26	0.26		0.26	0.26	
Clearance Time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		780		332	856	819	266	474		77	478	
v/s Ratio Prot					c0.63			0.23			0.06	
v/s Ratio Perm		0.61		0.25		0.08	0.12			c0.25		
v/c Ratio		1.00		0.41	1.03	0.13	0.46	0.89		0.99	0.25	
Uniform Delay, d1		19.4		10.1	19.4	8.2	31.1	35.7		36.8	29.3	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		31.6		3.8	38.1	0.3	1.3	18.8		97.4	0.3	
Delay (s)		51.0		13.9	57.6	8.6	32.4	54.4		134.2	29.5	
Level of Service		D		B	E	A	C	D		F	C	
Approach Delay (s)		51.0			46.2			49.6			69.1	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	50.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	131.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Appendix I – Future Total (2023, 2028) Synchro and SIDRA Outputs

MOVEMENT SUMMARY

Site: 1 [Burnside Roundabout - Total (2023) - AM]

Burnside Roundabout - Total (2023) - AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Bayview Station Road												
21u	U	2	0.0	0.136	9.2	LOS A	0.4	3.0	0.08	0.57	0.08	47.0
21	L2	155	9.0	0.136	7.4	LOS A	0.4	3.0	0.08	0.57	0.08	42.4
23a	R1	25	0.0	0.136	2.5	LOS A	0.4	3.0	0.08	0.57	0.08	43.0
Approach		183	7.6	0.136	6.8	LOS A	0.4	3.0	0.08	0.57	0.08	42.5
North: Slidell Street												
7u	U	1	0.0	0.079	9.4	LOS A	0.2	1.7	0.19	0.57	0.19	21.2
7a	L1	88	7.0	0.079	6.8	LOS A	0.2	1.7	0.19	0.57	0.19	43.0
9a	R1	8	0.0	0.079	2.8	LOS A	0.2	1.7	0.19	0.57	0.19	37.9
Approach		97	6.4	0.079	6.5	LOS A	0.2	1.7	0.19	0.57	0.19	42.3
SouthWest: Burnside Avenue												
30u	U	1	0.0	0.303	7.2	LOS A	1.1	7.5	0.17	0.36	0.17	41.7
30a	L1	34	0.0	0.303	5.0	LOS A	1.1	7.5	0.17	0.36	0.17	25.7
32	R2	376	0.0	0.303	2.0	LOS A	1.1	7.5	0.17	0.36	0.17	42.3
Approach		411	0.0	0.303	2.3	LOS A	1.1	7.5	0.17	0.36	0.17	40.8
All Vehicles		691	2.9	0.303	4.1	LOS A	1.1	7.5	0.15	0.44	0.15	41.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Burnside Roundabout - Total (2023) - PM]

Burnside Roundabout - Total (2023) - PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Bayview Station Road												
21u	U	11	11.0	0.365	9.3	LOS A	1.4	9.8	0.11	0.57	0.11	46.8
21	L2	432	1.0	0.365	7.4	LOS A	1.4	9.8	0.11	0.57	0.11	42.4
23a	R1	93	3.0	0.365	2.6	LOS A	1.4	9.8	0.11	0.57	0.11	42.9
Approach		536	1.6	0.365	6.6	LOS A	1.4	9.8	0.11	0.57	0.11	42.6
North: Slidell Street												
7u	U	1	0.0	0.075	10.2	LOS B	0.3	1.9	0.35	0.61	0.35	21.0
7a	L1	63	6.0	0.075	7.6	LOS A	0.3	1.9	0.35	0.61	0.35	42.8
9a	R1	18	0.0	0.075	3.6	LOS A	0.3	1.9	0.35	0.61	0.35	37.7
Approach		82	4.6	0.075	6.8	LOS A	0.3	1.9	0.35	0.61	0.35	41.3
SouthWest: Burnside Avenue												
30u	U	3	0.0	0.142	7.1	LOS A	0.5	3.3	0.14	0.37	0.14	41.4
30a	L1	38	0.0	0.142	4.9	LOS A	0.5	3.3	0.14	0.37	0.14	27.9
32	R2	148	4.0	0.142	2.0	LOS A	0.5	3.3	0.14	0.37	0.14	42.0
Approach		189	3.1	0.142	2.7	LOS A	0.5	3.3	0.14	0.37	0.14	39.3
All Vehicles		807	2.2	0.365	5.7	LOS A	1.4	9.8	0.14	0.53	0.14	41.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Burnside Roundabout - Total (2028) - AM]

Burnside Roundabout - Total (2028) - AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Bayview Station Road												
21u	U	2	0.0	0.150	9.2	LOS A	0.5	3.4	0.09	0.57	0.09	47.0
21	L2	171	9.0	0.150	7.4	LOS A	0.5	3.4	0.09	0.57	0.09	42.4
23a	R1	28	0.0	0.150	2.6	LOS A	0.5	3.4	0.09	0.57	0.09	43.0
Approach		201	7.6	0.150	6.8	LOS A	0.5	3.4	0.09	0.57	0.09	42.5
North: Slidell Street												
7u	U	1	0.0	0.089	9.5	LOS A	0.3	1.9	0.20	0.57	0.20	21.2
7a	L1	99	7.0	0.089	6.8	LOS A	0.3	1.9	0.20	0.57	0.20	42.9
9a	R1	10	0.0	0.089	2.9	LOS A	0.3	1.9	0.20	0.57	0.20	37.9
Approach		109	6.3	0.089	6.5	LOS A	0.3	1.9	0.20	0.57	0.20	42.2
SouthWest: Burnside Avenue												
30u	U	1	0.0	0.353	7.2	LOS A	1.3	9.4	0.19	0.36	0.19	41.6
30a	L1	38	0.0	0.353	5.0	LOS A	1.3	9.4	0.19	0.36	0.19	25.7
32	R2	438	0.0	0.353	2.1	LOS A	1.3	9.4	0.19	0.36	0.19	42.2
Approach		477	0.0	0.353	2.3	LOS A	1.3	9.4	0.19	0.36	0.19	40.9
All Vehicles		787	2.8	0.353	4.0	LOS A	1.3	9.4	0.17	0.45	0.17	41.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Burnside Roundabout - Total (2028) - PM]

Burnside Roundabout - Total (2028) - PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Bayview Station Road												
21u	U	12	11.0	0.430	9.3	LOS A	1.8	12.7	0.13	0.57	0.13	46.7
21	L2	516	1.0	0.430	7.4	LOS A	1.8	12.7	0.13	0.57	0.13	42.4
23a	R1	103	3.0	0.430	2.6	LOS A	1.8	12.7	0.13	0.57	0.13	42.7
Approach		631	1.5	0.430	6.7	LOS A	1.8	12.7	0.13	0.57	0.13	42.5
North: Slidell Street												
7u	U	1	0.0	0.086	10.6	LOS B	0.3	2.3	0.41	0.64	0.41	20.9
7a	L1	70	6.0	0.086	7.9	LOS A	0.3	2.3	0.41	0.64	0.41	42.6
9a	R1	20	0.0	0.086	3.9	LOS A	0.3	2.3	0.41	0.64	0.41	37.6
Approach		91	4.6	0.086	7.1	LOS A	0.3	2.3	0.41	0.64	0.41	41.1
SouthWest: Burnside Avenue												
30u	U	4	0.0	0.169	7.1	LOS A	0.6	4.1	0.16	0.38	0.16	41.4
30a	L1	42	0.0	0.169	4.9	LOS A	0.6	4.1	0.16	0.38	0.16	27.9
32	R2	178	4.0	0.169	2.0	LOS A	0.6	4.1	0.16	0.38	0.16	42.0
Approach		224	3.2	0.169	2.7	LOS A	0.6	4.1	0.16	0.38	0.16	39.4
All Vehicles		945	2.2	0.430	5.8	LOS A	1.8	12.7	0.16	0.53	0.16	41.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	97	127	357	87	325	547
Future Volume (vph)	97	127	357	87	325	547
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	4.2	3.7	4.8	3.7	3.7	4.8
Total Lost time (s)	5.4		5.2			5.2
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	0.81		0.99			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.92		0.97			1.00
Flt Protected	0.98		1.00			0.98
Satd. Flow (prot)	1330		1928			1956
Flt Permitted	0.98		1.00			0.65
Satd. Flow (perm)	1330		1928			1297
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	97	127	357	87	325	547
RTOR Reduction (vph)	82	0	13	0	0	0
Lane Group Flow (vph)	142	0	431	0	0	872
Confl. Peds. (#/hr)	60	151		13	13	
Confl. Bikes (#/hr)		5		6		
Heavy Vehicles (%)	0%	9%	1%	7%	2%	2%
Turn Type	pm+pt		NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases	8				6	
Actuated Green, G (s)	12.5		36.9			36.9
Effective Green, g (s)	12.5		36.9			36.9
Actuated g/C Ratio	0.21		0.61			0.61
Clearance Time (s)	5.4		5.2			5.2
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	277		1185			797
v/s Ratio Prot	c0.11		0.22			
v/s Ratio Perm						c0.67
v/c Ratio	0.51		0.36			1.09
Uniform Delay, d1	21.0		5.7			11.6
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	1.6		0.9			60.7
Delay (s)	22.6		6.6			72.2
Level of Service	C		A			E
Approach Delay (s)	22.6		6.6			72.2
Approach LOS	C		A			E

Intersection Summary			
HCM 2000 Control Delay	46.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

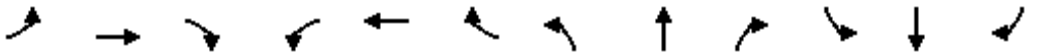
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	1665	24	1	1177	1	1	1	23	1	1	5
Future Volume (vph)	0	1665	24	1	1177	1	1	1	23	1	1	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.8	3.7	3.7	3.8	3.7	3.7	3.7	3.9	3.7	3.7	4.0
Total Lost time (s)		5.5			5.5				6.3			6.3
Lane Util. Factor		0.95			0.95				1.00			1.00
Frpb, ped/bikes		1.00			1.00				1.00			0.99
Flpb, ped/bikes		1.00			1.00				1.00			1.00
Frt		1.00			1.00				0.99			0.95
Flt Protected		1.00			1.00				1.00			0.99
Satd. Flow (prot)		3487			3461				1839			1765
Flt Permitted		1.00			0.95				0.98			0.97
Satd. Flow (perm)		3487			3302				1804			1716
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1665	24	1	1177	1	1	1	23	1	1	5
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	1	0	0	3
Lane Group Flow (vph)	0	1688	0	0	1179	0	0	0	25	0	0	6
Confl. Peds. (#/hr)	2		1	1		2	1	3		4	4	
Confl. Bikes (#/hr)			1							14		
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA		Perm	NA		Perm	Perm	NA		Perm	NA
Protected Phases		2			6				8			4
Permitted Phases	2			6			8	8			4	
Actuated Green, G (s)		73.8			73.8				9.4			9.4
Effective Green, g (s)		73.8			73.8				9.4			9.4
Actuated g/C Ratio		0.78			0.78				0.10			0.10
Clearance Time (s)		5.5			5.5				6.3			6.3
Vehicle Extension (s)		3.0			3.0				3.0			3.0
Lane Grp Cap (vph)		2708			2565				178			169
v/s Ratio Prot		c0.48										
v/s Ratio Perm					0.36				c0.01			0.00
v/c Ratio		0.62			0.46				0.14			0.04
Uniform Delay, d1		4.6			3.7				39.1			38.7
Progression Factor		1.00			1.00				1.00			1.00
Incremental Delay, d2		1.1			0.6				0.4			0.1
Delay (s)		5.7			4.3				39.5			38.8
Level of Service		A			A				D			D
Approach Delay (s)		5.7			4.3				39.5			38.8
Approach LOS		A			A				D			D

Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

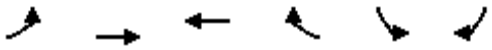
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	3
Future Volume (vph)	3
Ideal Flow (vphpl)	1800
Lane Width	3.7
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	3
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	3
Confl. Bikes (#/hr)	8
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	674	87	54	326	64	49	113	123	154	251	36
Future Volume (vph)	50	674	87	54	326	64	49	113	123	154	251	36
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.6	3.7	3.2	3.5	3.8	3.0	4.3	3.7	3.3	4.5	3.7
Total Lost time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99		1.00	1.00	0.78	1.00	0.93		1.00	0.98	
Flpb, ped/bikes		0.99		0.97	1.00	1.00	0.94	1.00		0.96	1.00	
Frt		0.99		1.00	1.00	0.85	1.00	0.92		1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1419		1562	1338	1136	1322	1607		1530	1835	
Flt Permitted		0.96		0.33	1.00	1.00	0.38	1.00		0.48	1.00	
Satd. Flow (perm)		1365		542	1338	1136	534	1607		771	1835	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	674	87	54	326	64	49	113	123	154	251	36
RTOR Reduction (vph)	0	4	0	0	0	23	0	40	0	0	5	0
Lane Group Flow (vph)	0	807	0	54	326	41	49	196	0	154	282	0
Confl. Peds. (#/hr)	107		52	52		107	59		30	30		59
Confl. Bikes (#/hr)			2			3			39			12
Heavy Vehicles (%)	0%	26%	4%	2%	33%	7%	13%	4%	3%	4%	2%	17%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		63.5		63.5	63.5	63.5	23.6	23.6		23.6	23.6	
Effective Green, g (s)		63.5		63.5	63.5	63.5	23.6	23.6		23.6	23.6	
Actuated g/C Ratio		0.64		0.64	0.64	0.64	0.24	0.24		0.24	0.24	
Clearance Time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		866		344	849	721	126	379		181	433	
v/s Ratio Prot					0.24			0.12			0.15	
v/s Ratio Perm		c0.59		0.10		0.04	0.09			c0.20		
v/c Ratio		0.93		0.16	0.38	0.06	0.39	0.52		0.85	0.65	
Uniform Delay, d1		16.3		7.4	8.8	6.9	32.1	33.2		36.5	34.5	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		17.9		1.0	1.3	0.1	2.0	1.2		29.8	3.5	
Delay (s)		34.2		8.4	10.1	7.1	34.1	34.4		66.4	38.0	
Level of Service		C		A	B	A	C	C		E	D	
Approach Delay (s)		34.2			9.5			34.4			47.9	
Approach LOS		C			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	118.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	26	0	0	12	5	7
Future Volume (Veh/h)	26	0	0	12	5	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	26	0	0	12	5	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	12				58	6
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	12				58	6
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	99
cM capacity (veh/h)	1607				934	1077

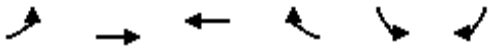
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	12	12
Volume Left	26	0	5
Volume Right	0	12	7
cSH	1607	1700	1012
Volume to Capacity	0.02	0.01	0.01
Queue Length 95th (m)	0.3	0.0	0.3
Control Delay (s)	7.3	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	7.3	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	0	12	35	0	5
Future Volume (Veh/h)	11	0	12	35	0	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	11	0	12	35	0	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	34	30			47	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	34	30			47	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	979	1045			1560	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	11	47	5
Volume Left	11	0	0
Volume Right	0	35	0
cSH	979	1700	1560
Volume to Capacity	0.01	0.03	0.00
Queue Length 95th (m)	0.2	0.0	0.0
Control Delay (s)	8.7	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.7	0.0	0.0
Approach LOS	A		

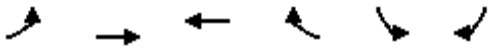
Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	420	101	12	4	7
Future Volume (Veh/h)	23	420	101	12	4	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	23	420	101	12	4	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		201				
pX, platoon unblocked						
vC, conflicting volume	113				573	107
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	113				573	107
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	99
cM capacity (veh/h)	1476				474	947

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	443	113	11
Volume Left	23	0	4
Volume Right	0	12	7
cSH	1476	1700	694
Volume to Capacity	0.02	0.07	0.02
Queue Length 95th (m)	0.3	0.0	0.3
Control Delay (s)	0.5	0.0	10.3
Lane LOS	A		B
Approach Delay (s)	0.5	0.0	10.3
Approach LOS			B

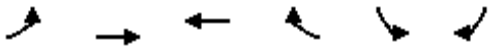
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	26	398	106	12	5	7
Future Volume (Veh/h)	26	398	106	12	5	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	26	398	106	12	5	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		256				
pX, platoon unblocked						
vC, conflicting volume	118				562	112
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	118				562	112
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	99
cM capacity (veh/h)	1470				480	941

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	424	118	12
Volume Left	26	0	5
Volume Right	0	12	7
cSH	1470	1700	672
Volume to Capacity	0.02	0.07	0.02
Queue Length 95th (m)	0.4	0.0	0.4
Control Delay (s)	0.6	0.0	10.5
Lane LOS	A		B
Approach Delay (s)	0.6	0.0	10.5
Approach LOS			B

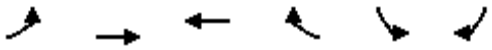
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	381	111	11	4	7
Future Volume (Veh/h)	22	381	111	11	4	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	22	381	111	11	4	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		298				
pX, platoon unblocked						
vC, conflicting volume	122				542	116
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	122				542	116
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	99
cM capacity (veh/h)	1465				494	936

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	403	122	11
Volume Left	22	0	4
Volume Right	0	11	7
cSH	1465	1700	706
Volume to Capacity	0.02	0.07	0.02
Queue Length 95th (m)	0.3	0.0	0.3
Control Delay (s)	0.5	0.0	10.2
Lane LOS	A		B
Approach Delay (s)	0.5	0.0	10.2
Approach LOS			B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	362	115	12	4	7
Future Volume (Veh/h)	23	362	115	12	4	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	23	362	115	12	4	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		344				
pX, platoon unblocked						
vC, conflicting volume	127				529	121
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	127				529	121
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	99
cM capacity (veh/h)	1459				502	930

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	385	127	11
Volume Left	23	0	4
Volume Right	0	12	7
cSH	1459	1700	710
Volume to Capacity	0.02	0.07	0.02
Queue Length 95th (m)	0.3	0.0	0.3
Control Delay (s)	0.6	0.0	10.1
Lane LOS	A		B
Approach Delay (s)	0.6	0.0	10.1
Approach LOS			B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	35	425	728	33	80	474
Future Volume (vph)	35	425	728	33	80	474
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	4.2	3.7	4.8	3.7	3.7	4.8
Total Lost time (s)	5.4		5.2			5.2
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	0.90		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.88		0.99			1.00
Flt Protected	1.00		1.00			0.99
Satd. Flow (prot)	1512		1996			1990
Flt Permitted	1.00		1.00			0.70
Satd. Flow (perm)	1512		1996			1397
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	425	728	33	80	474
RTOR Reduction (vph)	143	0	2	0	0	0
Lane Group Flow (vph)	317	0	759	0	0	554
Confl. Peds. (#/hr)	32	34		15	15	
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	0%	0%	1%	10%	0%	2%
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	17.2		42.2			42.2
Effective Green, g (s)	17.2		42.2			42.2
Actuated g/C Ratio	0.25		0.60			0.60
Clearance Time (s)	5.4		5.2			5.2
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	371		1203			842
v/s Ratio Prot	c0.21		0.38			
v/s Ratio Perm						c0.40
v/c Ratio	0.85		0.63			0.66
Uniform Delay, d1	25.2		8.9			9.1
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	17.1		2.5			4.0
Delay (s)	42.3		11.4			13.2
Level of Service	D		B			B
Approach Delay (s)	42.3		11.4			13.2
Approach LOS	D		B			B

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	119.3%	ICU Level of Service	H
Analysis Period (min)	15		

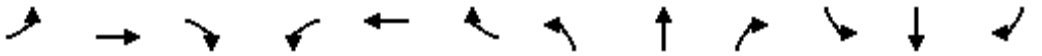
c Critical Lane Group

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	1037	4	2	2	1767	0	28	14	37	3	28
Future Volume (vph)	0	1037	4	2	2	1767	0	28	14	37	3	28
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.8	3.7	3.7	3.7	3.8	3.7	3.7	3.9	3.7	3.7	4.0
Total Lost time (s)		5.5				5.5			6.3			6.3
Lane Util. Factor		0.95				0.95			1.00			1.00
Frpb, ped/bikes		1.00				1.00			0.99			0.99
Flpb, ped/bikes		1.00				1.00			1.00			1.00
Frt		1.00				1.00			0.94			0.96
Flt Protected		1.00				1.00			0.98			1.00
Satd. Flow (prot)		3460				3496			1689			1744
Flt Permitted		1.00				0.95			0.87			0.98
Satd. Flow (perm)		3460				3333			1488			1708
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1037	4	2	2	1767	0	28	14	37	3	28
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	34	0	0	10
Lane Group Flow (vph)	0	1041	0	0	0	1771	0	0	45	0	0	32
Confl. Peds. (#/hr)	1			7			1	6		7	7	
Confl. Bikes (#/hr)										2		
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
Turn Type		NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2			6	6			8			4	
Actuated Green, G (s)		74.7				74.7			8.5			8.5
Effective Green, g (s)		74.7				74.7			8.5			8.5
Actuated g/C Ratio		0.79				0.79			0.09			0.09
Clearance Time (s)		5.5				5.5			6.3			6.3
Vehicle Extension (s)		3.0				3.0			3.0			3.0
Lane Grp Cap (vph)		2720				2620			133			152
v/s Ratio Prot		0.30										
v/s Ratio Perm						c0.53			c0.03			0.02
v/c Ratio		0.38				0.68			0.34			0.21
Uniform Delay, d1		3.1				4.6			40.6			40.1
Progression Factor		1.00				1.00			1.00			1.00
Incremental Delay, d2		0.4				1.4			1.5			0.7
Delay (s)		3.5				6.0			42.1			40.8
Level of Service		A				A			D			D
Approach Delay (s)		3.5				6.0			42.1			40.8
Approach LOS		A				A			D			D

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

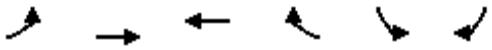
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	11
Future Volume (vph)	11
Ideal Flow (vphpl)	1800
Lane Width	3.7
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	11
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	6
Confl. Bikes (#/hr)	6
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	459	105	86	604	101	101	269	75	64	93	30
Future Volume (vph)	25	459	105	86	604	101	101	269	75	64	93	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.6	3.7	3.2	3.5	3.8	3.0	4.3	3.7	3.3	4.5	3.7
Total Lost time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.98		1.00	1.00	0.89	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		1.00		0.95	1.00	1.00	0.93	1.00		0.99	1.00	
Frt		0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.96	
Flt Protected		1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1484		1559	1402	1374	1458	1841		1638	1797	
Flt Permitted		0.96		0.43	1.00	1.00	0.68	1.00		0.25	1.00	
Satd. Flow (perm)		1433		699	1402	1374	1041	1841		436	1797	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	459	105	86	604	101	101	269	75	64	93	30
RTOR Reduction (vph)	0	7	0	0	0	35	0	11	0	0	12	0
Lane Group Flow (vph)	0	582	0	86	604	66	101	333	0	64	111	0
Confl. Peds. (#/hr)	48		63	63		48	42		10	10		42
Confl. Bikes (#/hr)			3			4			6			16
Heavy Vehicles (%)	0%	19%	1%	0%	27%	1%	2%	0%	4%	0%	2%	6%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		65.0		65.0	65.0	65.0	22.1	22.1		22.1	22.1	
Effective Green, g (s)		65.0		65.0	65.0	65.0	22.1	22.1		22.1	22.1	
Actuated g/C Ratio		0.65		0.65	0.65	0.65	0.22	0.22		0.22	0.22	
Clearance Time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		931		454	911	893	230	406		96	397	
v/s Ratio Prot					c0.43			c0.18			0.06	
v/s Ratio Perm		0.41		0.12		0.05	0.10			0.15		
v/c Ratio		0.63		0.19	0.66	0.07	0.44	0.82		0.67	0.28	
Uniform Delay, d1		10.3		7.0	10.8	6.4	33.6	37.1		35.6	32.3	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.2		0.9	3.8	0.2	1.3	12.5		16.1	0.4	
Delay (s)		13.5		7.9	14.6	6.6	34.9	49.6		51.7	32.7	
Level of Service		B		A	B	A	C	D		D	C	
Approach Delay (s)		13.5			12.8			46.2			39.2	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	0	0	2	7	15
Future Volume (Veh/h)	5	0	0	2	7	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	0	0	2	7	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	2				11	1
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2				11	1
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	1620				1006	1084

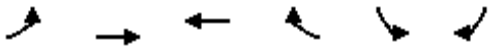
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	5	2	22
Volume Left	5	0	7
Volume Right	0	2	15
cSH	1620	1700	1058
Volume to Capacity	0.00	0.00	0.02
Queue Length 95th (m)	0.1	0.0	0.4
Control Delay (s)	7.2	0.0	8.5
Lane LOS	A		A
Approach Delay (s)	7.2	0.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay	7.7		
Intersection Capacity Utilization	14.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	0	2	7	0	7
Future Volume (Veh/h)	20	0	2	7	0	7
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	20	0	2	7	0	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	12	6			9	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	12	6			9	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	1007	1077			1611	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	9	7
Volume Left	20	0	0
Volume Right	0	7	0
cSH	1007	1700	1611
Volume to Capacity	0.02	0.01	0.00
Queue Length 95th (m)	0.4	0.0	0.0
Control Delay (s)	8.6	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.6	0.0	0.0
Approach LOS	A		

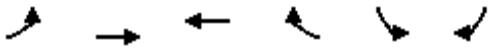
Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	130	389	2	5	15
Future Volume (Veh/h)	5	130	389	2	5	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	130	389	2	5	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		201				
pX, platoon unblocked						
vC, conflicting volume	391				530	390
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	391				530	390
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	98
cM capacity (veh/h)	1168				507	658

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	135	391	20
Volume Left	5	0	5
Volume Right	0	2	15
cSH	1168	1700	613
Volume to Capacity	0.00	0.23	0.03
Queue Length 95th (m)	0.1	0.0	0.7
Control Delay (s)	0.3	0.0	11.1
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	11.1
Approach LOS			B

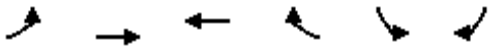
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	31.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	130	376	2	7	15
Future Volume (Veh/h)	5	130	376	2	7	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	130	376	2	7	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		256				
pX, platoon unblocked						
vC, conflicting volume	378				517	377
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	378				517	377
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	98
cM capacity (veh/h)	1180				516	670

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	135	378	22
Volume Left	5	0	7
Volume Right	0	2	15
cSH	1180	1700	612
Volume to Capacity	0.00	0.22	0.04
Queue Length 95th (m)	0.1	0.0	0.8
Control Delay (s)	0.3	0.0	11.1
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	11.1
Approach LOS			B

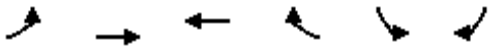
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	133	364	2	5	14
Future Volume (Veh/h)	4	133	364	2	5	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	133	364	2	5	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		298				
pX, platoon unblocked						
vC, conflicting volume	366				506	365
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	366				506	365
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	98
cM capacity (veh/h)	1193				524	680

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	137	366	19
Volume Left	4	0	5
Volume Right	0	2	14
cSH	1193	1700	631
Volume to Capacity	0.00	0.22	0.03
Queue Length 95th (m)	0.1	0.0	0.7
Control Delay (s)	0.3	0.0	10.9
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	10.9
Approach LOS			B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	30.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	133	351	2	5	15
Future Volume (Veh/h)	5	133	351	2	5	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	133	351	2	5	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		344				
pX, platoon unblocked						
vC, conflicting volume	353				495	352
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	353				495	352
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	98
cM capacity (veh/h)	1206				532	692

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	138	353	20
Volume Left	5	0	5
Volume Right	0	2	15
cSH	1206	1700	643
Volume to Capacity	0.00	0.21	0.03
Queue Length 95th (m)	0.1	0.0	0.7
Control Delay (s)	0.3	0.0	10.8
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	10.8
Approach LOS			B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	101	140	394	91	370	604
Future Volume (vph)	101	140	394	91	370	604
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	4.2	3.7	4.8	3.7	3.7	4.8
Total Lost time (s)	5.4		5.2			5.2
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	0.80		0.99			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.92		0.97			1.00
Flt Protected	0.98		1.00			0.98
Satd. Flow (prot)	1313		1931			1956
Flt Permitted	0.98		1.00			0.61
Satd. Flow (perm)	1313		1931			1223
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	101	140	394	91	370	604
RTOR Reduction (vph)	87	0	13	0	0	0
Lane Group Flow (vph)	154	0	472	0	0	974
Confl. Peds. (#/hr)	67	154		14	14	
Confl. Bikes (#/hr)		5		6		
Heavy Vehicles (%)	0%	9%	1%	7%	2%	2%
Turn Type	pm+pt		NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases	8				6	
Actuated Green, G (s)	12.6		36.8			36.8
Effective Green, g (s)	12.6		36.8			36.8
Actuated g/C Ratio	0.21		0.61			0.61
Clearance Time (s)	5.4		5.2			5.2
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	275		1184			750
v/s Ratio Prot	c0.12		0.24			
v/s Ratio Perm						c0.80
v/c Ratio	0.56		0.40			1.30
Uniform Delay, d1	21.2		5.9			11.6
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	2.6		1.0			144.1
Delay (s)	23.8		6.9			155.7
Level of Service	C		A			F
Approach Delay (s)	23.8		6.9			155.7
Approach LOS	C		A			F

Intersection Summary			
HCM 2000 Control Delay	94.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	115.5%	ICU Level of Service	H
Analysis Period (min)	15		

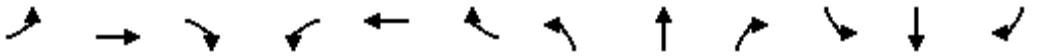
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	1842	27	1	1317	1	1	1	26	1	1	6
Future Volume (vph)	0	1842	27	1	1317	1	1	1	26	1	1	6
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.8	3.7	3.7	3.8	3.7	3.7	3.7	3.9	3.7	3.7	4.0
Total Lost time (s)		5.5			5.5				6.3			6.3
Lane Util. Factor		0.95			0.95				1.00			1.00
Frpb, ped/bikes		1.00			1.00				1.00			0.99
Flpb, ped/bikes		1.00			1.00				1.00			1.00
Frt		1.00			1.00				1.00			0.95
Flt Protected		1.00			1.00				1.00			1.00
Satd. Flow (prot)		3487			3461				1841			1757
Flt Permitted		1.00			0.95				0.98			0.97
Satd. Flow (perm)		3487			3302				1809			1716
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1842	27	1	1317	1	1	1	26	1	1	6
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	1	0	0	4
Lane Group Flow (vph)	0	1868	0	0	1319	0	0	0	28	0	0	7
Confl. Peds. (#/hr)	2		1	1		2	1	4		5	5	
Confl. Bikes (#/hr)			1							15		
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA		Perm	NA		Perm	Perm	NA		Perm	NA
Protected Phases		2			6				8			4
Permitted Phases	2			6			8	8			4	
Actuated Green, G (s)		73.8			73.8				9.4			9.4
Effective Green, g (s)		73.8			73.8				9.4			9.4
Actuated g/C Ratio		0.78			0.78				0.10			0.10
Clearance Time (s)		5.5			5.5				6.3			6.3
Vehicle Extension (s)		3.0			3.0				3.0			3.0
Lane Grp Cap (vph)		2708			2565				178			169
v/s Ratio Prot		c0.54										
v/s Ratio Perm					0.40				c0.02			0.00
v/c Ratio		0.69			0.51				0.16			0.04
Uniform Delay, d1		5.1			3.9				39.2			38.7
Progression Factor		1.00			1.00				1.00			1.00
Incremental Delay, d2		1.5			0.7				0.4			0.1
Delay (s)		6.6			4.7				39.6			38.8
Level of Service		A			A				D			D
Approach Delay (s)		6.6			4.7				39.6			38.8
Approach LOS		A			A				D			D

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

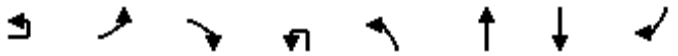
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	4
Future Volume (vph)	4
Ideal Flow (vphpl)	1800
Lane Width	3.7
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	4
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	4
Confl. Bikes (#/hr)	8
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	861	96	67	389	74	54	123	160	193	276	38
Future Volume (vph)	53	861	96	67	389	74	54	123	160	193	276	38
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.6	3.7	3.2	3.5	3.8	3.0	4.3	3.7	3.3	4.5	3.7
Total Lost time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99		1.00	1.00	0.78	1.00	0.92		1.00	0.98	
Flpb, ped/bikes		0.99		0.98	1.00	1.00	0.93	1.00		0.96	1.00	
Frt		0.99		1.00	1.00	0.85	1.00	0.92		1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1420		1573	1338	1133	1320	1581		1531	1837	
Flt Permitted		0.96		0.26	1.00	1.00	0.37	1.00		0.42	1.00	
Satd. Flow (perm)		1366		426	1338	1133	510	1581		676	1837	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	53	861	96	67	389	74	54	123	160	193	276	38
RTOR Reduction (vph)	0	4	0	0	0	29	0	47	0	0	5	0
Lane Group Flow (vph)	0	1006	0	67	389	45	54	236	0	193	309	0
Confl. Peds. (#/hr)	108		57	57		108	64		33	33		64
Confl. Bikes (#/hr)			2			3			43			13
Heavy Vehicles (%)	0%	26%	4%	2%	33%	7%	13%	4%	3%	4%	2%	17%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		61.1		61.1	61.1	61.1	26.0	26.0		26.0	26.0	
Effective Green, g (s)		61.1		61.1	61.1	61.1	26.0	26.0		26.0	26.0	
Actuated g/C Ratio		0.61		0.61	0.61	0.61	0.26	0.26		0.26	0.26	
Clearance Time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		834		260	817	692	132	411		175	477	
v/s Ratio Prot					0.29			0.15			0.17	
v/s Ratio Perm		c0.74		0.16		0.04	0.11			c0.29		
v/c Ratio		1.21		0.26	0.48	0.07	0.41	0.58		1.10	0.65	
Uniform Delay, d1		19.4		9.0	10.7	7.9	30.6	32.2		37.0	32.9	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		104.1		2.4	2.0	0.2	2.1	1.9		98.2	3.0	
Delay (s)		123.6		11.4	12.7	8.1	32.7	34.1		135.2	35.9	
Level of Service		F		B	B	A	C	C		F	D	
Approach Delay (s)		123.6			11.9			33.9			73.7	
Approach LOS		F			B			C			E	

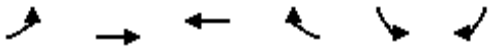
Intersection Summary			
HCM 2000 Control Delay	75.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	132.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Right Turn Channelized								
Traffic Volume (veh/h)	1	21	403	2	133	19	66	6
Future Volume (veh/h)	1	21	403	2	133	19	66	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1	21	403	2	133	19	66	6
Approach Volume (veh/h)		425				154	72	
Crossing Volume (veh/h)		68				22	136	
High Capacity (veh/h)		1313				1361	1245	
High v/c (veh/h)		0.32				0.11	0.06	
Low Capacity (veh/h)		1096				1140	1034	
Low v/c (veh/h)		0.39				0.14	0.07	

Intersection Summary				
Maximum v/c High	0.32			
Maximum v/c Low	0.39			
Intersection Capacity Utilization	53.2%	ICU Level of Service		A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	26	0	0	12	5	7
Future Volume (Veh/h)	26	0	0	12	5	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	26	0	0	12	5	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	12				58	6
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	12				58	6
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	99
cM capacity (veh/h)	1607				934	1077

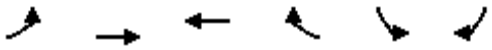
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	12	12
Volume Left	26	0	5
Volume Right	0	12	7
cSH	1607	1700	1012
Volume to Capacity	0.02	0.01	0.01
Queue Length 95th (m)	0.3	0.0	0.3
Control Delay (s)	7.3	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	7.3	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	0	12	35	0	5
Future Volume (Veh/h)	11	0	12	35	0	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	11	0	12	35	0	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	34	30			47	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	34	30			47	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	979	1045			1560	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	11	47	5
Volume Left	11	0	0
Volume Right	0	35	0
cSH	979	1700	1560
Volume to Capacity	0.01	0.03	0.00
Queue Length 95th (m)	0.2	0.0	0.0
Control Delay (s)	8.7	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.7	0.0	0.0
Approach LOS	A		

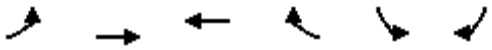
Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	479	114	12	4	7
Future Volume (Veh/h)	23	479	114	12	4	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	23	479	114	12	4	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		201				
pX, platoon unblocked						
vC, conflicting volume	126				645	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	126				645	120
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	99
cM capacity (veh/h)	1460				430	931

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	502	126	11
Volume Left	23	0	4
Volume Right	0	12	7
cSH	1460	1700	654
Volume to Capacity	0.02	0.07	0.02
Queue Length 95th (m)	0.3	0.0	0.4
Control Delay (s)	0.5	0.0	10.6
Lane LOS	A		B
Approach Delay (s)	0.5	0.0	10.6
Approach LOS			B

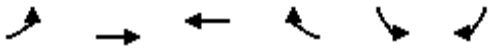
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	26	457	119	12	5	7
Future Volume (Veh/h)	26	457	119	12	5	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	26	457	119	12	5	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		256				
pX, platoon unblocked						
vC, conflicting volume	131				634	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	131				634	125
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	99
cM capacity (veh/h)	1454				435	926

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	483	131	12
Volume Left	26	0	5
Volume Right	0	12	7
cSH	1454	1700	630
Volume to Capacity	0.02	0.08	0.02
Queue Length 95th (m)	0.4	0.0	0.4
Control Delay (s)	0.6	0.0	10.8
Lane LOS	A		B
Approach Delay (s)	0.6	0.0	10.8
Approach LOS			B

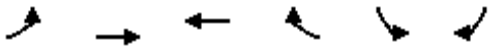
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	440	124	11	4	7
Future Volume (Veh/h)	22	440	124	11	4	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	22	440	124	11	4	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		298				
pX, platoon unblocked						
vC, conflicting volume	135				614	130
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	135				614	130
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	99
cM capacity (veh/h)	1449				449	920

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	462	135	11
Volume Left	22	0	4
Volume Right	0	11	7
cSH	1449	1700	666
Volume to Capacity	0.02	0.08	0.02
Queue Length 95th (m)	0.3	0.0	0.4
Control Delay (s)	0.5	0.0	10.5
Lane LOS	A		B
Approach Delay (s)	0.5	0.0	10.5
Approach LOS			B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	421	128	12	4	7
Future Volume (Veh/h)	23	421	128	12	4	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	23	421	128	12	4	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		344				
pX, platoon unblocked						
vC, conflicting volume	140				601	134
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	140				601	134
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	99
cM capacity (veh/h)	1443				456	915

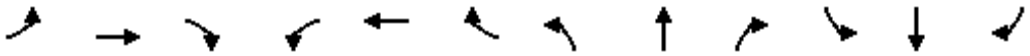
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	444	140	11
Volume Left	23	0	4
Volume Right	0	12	7
cSH	1443	1700	670
Volume to Capacity	0.02	0.08	0.02
Queue Length 95th (m)	0.3	0.0	0.4
Control Delay (s)	0.5	0.0	10.5
Lane LOS	A		B
Approach Delay (s)	0.5	0.0	10.5
Approach LOS			B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	0	0	26	0	0
Future Volume (Veh/h)	7	0	0	26	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	7	0	0	26	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	13	13			26	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	13	13			26	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	1006	1067			1588	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	7	26	0
Volume Left	7	0	0
Volume Right	0	26	0
cSH	1006	1700	1700
Volume to Capacity	0.01	0.02	0.00
Queue Length 95th (m)	0.1	0.0	0.0
Control Delay (s)	8.6	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.6	0.0	0.0
Approach LOS	A		

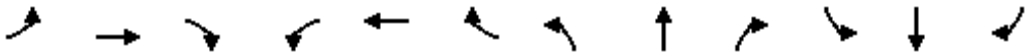
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	435	0	0	234	0	0	0	0	0	0	7
Future Volume (Veh/h)	26	435	0	0	234	0	0	0	0	0	0	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	26	435	0	0	234	0	0	0	0	0	0	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		81										
pX, platoon unblocked												
vC, conflicting volume	234			435			728	721	435	721	721	234
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	234			435			728	721	435	721	721	234
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			100	100	100	100	100	99
cM capacity (veh/h)	1333			1125			331	347	621	337	347	805

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	461	234	0	7
Volume Left	26	0	0	0
Volume Right	0	0	0	7
cSH	1333	1125	1700	805
Volume to Capacity	0.02	0.00	0.00	0.01
Queue Length 95th (m)	0.4	0.0	0.0	0.2
Control Delay (s)	0.6	0.0	0.0	9.5
Lane LOS	A		A	A
Approach Delay (s)	0.6	0.0	0.0	9.5
Approach LOS			A	A

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	52.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	493	0	0	97	24	0	0	0	9	0	7
Future Volume (Veh/h)	23	493	0	0	97	24	0	0	0	9	0	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	23	493	0	0	97	24	0	0	0	9	0	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		159										
pX, platoon unblocked												
vC, conflicting volume	121			493			655	660	493	648	648	109
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	121			493			655	660	493	648	648	109
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			100	100	100	98	100	99
cM capacity (veh/h)	1467			1071			372	377	576	379	383	945

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	516	121	0	16
Volume Left	23	0	0	9
Volume Right	0	24	0	7
cSH	1467	1071	1700	513
Volume to Capacity	0.02	0.00	0.00	0.03
Queue Length 95th (m)	0.3	0.0	0.0	0.7
Control Delay (s)	0.5	0.0	0.0	12.2
Lane LOS	A		A	B
Approach Delay (s)	0.5	0.0	0.0	12.2
Approach LOS			A	B

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	49.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	66	521	860	86	113	559
Future Volume (vph)	66	521	860	86	113	559
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	4.2	3.7	4.8	3.7	3.7	4.8
Total Lost time (s)	5.4		5.2			5.2
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	0.76		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.88		0.99			1.00
Flt Protected	0.99		1.00			0.99
Satd. Flow (prot)	1271		1970			1990
Flt Permitted	0.99		1.00			0.32
Satd. Flow (perm)	1271		1970			635
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	66	521	860	86	113	559
RTOR Reduction (vph)	98	0	5	0	0	0
Lane Group Flow (vph)	489	0	941	0	0	672
Confl. Peds. (#/hr)	37	101		19	19	
Confl. Bikes (#/hr)		7		1		
Heavy Vehicles (%)	0%	0%	1%	10%	0%	2%
Turn Type	pm+pt		NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases	8				6	
Actuated Green, G (s)	19.6		39.8			39.8
Effective Green, g (s)	19.6		39.8			39.8
Actuated g/C Ratio	0.28		0.57			0.57
Clearance Time (s)	5.4		5.2			5.2
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	355		1120			361
v/s Ratio Prot	c0.38		0.48			
v/s Ratio Perm						c1.06
v/c Ratio	1.38		0.84			1.86
Uniform Delay, d1	25.2		12.5			15.1
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	186.8		7.6			398.2
Delay (s)	212.0		20.1			413.3
Level of Service	F		C			F
Approach Delay (s)	212.0		20.1			413.3
Approach LOS	F		C			F

Intersection Summary			
HCM 2000 Control Delay	191.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	147.4%	ICU Level of Service	H
Analysis Period (min)	15		

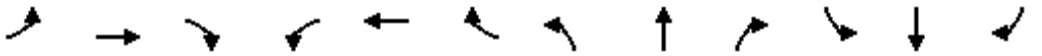
c Critical Lane Group

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	1273	5	2	2	2127	0	33	18	43	4	33
Future Volume (vph)	0	1273	5	2	2	2127	0	33	18	43	4	33
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.8	3.7	3.7	3.7	3.8	3.7	3.7	3.9	3.7	3.7	4.0
Total Lost time (s)		5.5				5.5			6.3			6.3
Lane Util. Factor		0.95				0.95			1.00			1.00
Frpb, ped/bikes		1.00				1.00			0.99			0.99
Flpb, ped/bikes		1.00				1.00			1.00			1.00
Frt		1.00				1.00			0.94			0.96
Flt Protected		1.00				1.00			0.98			1.00
Satd. Flow (prot)		3459				3496			1688			1741
Flt Permitted		1.00				0.95			0.86			0.97
Satd. Flow (perm)		3459				3332			1482			1697
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1273	5	2	2	2127	0	33	18	43	4	33
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	38	0	0	6
Lane Group Flow (vph)	0	1278	0	0	0	2131	0	0	56	0	0	45
Confl. Peds. (#/hr)	1			8			1	7		8	8	
Confl. Bikes (#/hr)										5		
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
Turn Type		NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2			6	6			8			4	
Actuated Green, G (s)		71.7				71.7			11.5			11.5
Effective Green, g (s)		71.7				71.7			11.5			11.5
Actuated g/C Ratio		0.75				0.75			0.12			0.12
Clearance Time (s)		5.5				5.5			6.3			6.3
Vehicle Extension (s)		3.0				3.0			3.0			3.0
Lane Grp Cap (vph)		2610				2514			179			205
v/s Ratio Prot		0.37										
v/s Ratio Perm						c0.64			c0.04			0.03
v/c Ratio		0.49				0.85			0.31			0.22
Uniform Delay, d1		4.5				7.9			38.1			37.7
Progression Factor		1.00				1.00			1.00			1.00
Incremental Delay, d2		0.7				3.8			1.0			0.5
Delay (s)		5.2				11.7			39.2			38.2
Level of Service		A				B			D			D
Approach Delay (s)		5.2				11.7			39.2			38.2
Approach LOS		A				B			D			D

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

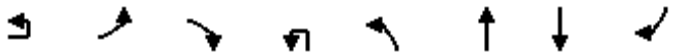
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	14
Future Volume (vph)	14
Ideal Flow (vphpl)	1800
Lane Width	3.7
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	14
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	7
Confl. Bikes (#/hr)	8
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	632	128	137	880	154	123	328	107	90	111	33
Future Volume (vph)	31	632	128	137	880	154	123	328	107	90	111	33
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	3.7	3.6	3.7	3.2	3.5	3.8	3.0	4.3	3.7	3.3	4.5	3.7
Total Lost time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Lane Util. Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97		1.00	1.00	0.78	1.00	0.99		1.00	0.96	
Flpb, ped/bikes		1.00		0.96	1.00	1.00	0.91	1.00		0.99	1.00	
Frt		0.98		1.00	1.00	0.85	1.00	0.96		1.00	0.97	
Flt Protected		1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1482		1573	1402	1201	1422	1826		1638	1791	
Flt Permitted		0.81		0.33	1.00	1.00	0.66	1.00		0.17	1.00	
Satd. Flow (perm)		1198		542	1402	1201	994	1826		298	1791	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	31	632	128	137	880	154	123	328	107	90	111	33
RTOR Reduction (vph)	0	7	0	0	0	42	0	12	0	0	10	0
Lane Group Flow (vph)	0	784	0	137	880	112	123	423	0	90	134	0
Confl. Peds. (#/hr)	107		77	77		107	58		13	13		58
Confl. Bikes (#/hr)			4			6			7			21
Heavy Vehicles (%)	0%	19%	1%	0%	27%	1%	2%	0%	4%	0%	2%	6%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		61.1		61.1	61.1	61.1	26.0	26.0		26.0	26.0	
Effective Green, g (s)		61.1		61.1	61.1	61.1	26.0	26.0		26.0	26.0	
Actuated g/C Ratio		0.61		0.61	0.61	0.61	0.26	0.26		0.26	0.26	
Clearance Time (s)		6.5		6.5	6.5	6.5	6.4	6.4		6.4	6.4	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		731		331	856	733	258	474		77	465	
v/s Ratio Prot					0.63			0.23			0.07	
v/s Ratio Perm		c0.65		0.25		0.09	0.12			c0.30		
v/c Ratio		1.07		0.41	1.03	0.15	0.48	0.89		1.17	0.29	
Uniform Delay, d1		19.4		10.1	19.4	8.3	31.3	35.7		37.0	29.6	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		54.5		3.8	38.1	0.4	1.4	18.8		155.2	0.3	
Delay (s)		73.9		13.9	57.6	8.8	32.6	54.4		192.2	29.9	
Level of Service		E		B	E	A	C	D		F	C	
Approach Delay (s)		73.9			46.1			49.6			92.3	
Approach LOS		E			D			D			F	

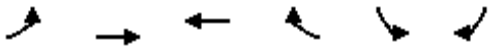
Intersection Summary			
HCM 2000 Control Delay	58.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	125.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Right Turn Channelized								
Traffic Volume (veh/h)	4	22	142	11	423	74	40	11
Future Volume (veh/h)	4	22	142	11	423	74	40	11
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	22	142	11	423	74	40	11
Approach Volume (veh/h)		168				508	51	
Crossing Volume (veh/h)		51				26	438	
High Capacity (veh/h)		1331				1357	981	
High v/c (veh/h)		0.13				0.37	0.05	
Low Capacity (veh/h)		1112				1136	797	
Low v/c (veh/h)		0.15				0.45	0.06	

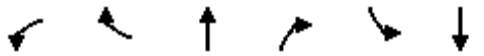
Intersection Summary				
Maximum v/c High	0.37			
Maximum v/c Low	0.45			
Intersection Capacity Utilization	55.2%	ICU Level of Service		B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	0	0	2	6	14
Future Volume (Veh/h)	4	0	0	2	6	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	0	0	2	6	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	2				9	1
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2				9	1
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	1620				1009	1084

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	4	2	20
Volume Left	4	0	6
Volume Right	0	2	14
cSH	1620	1700	1060
Volume to Capacity	0.00	0.00	0.02
Queue Length 95th (m)	0.1	0.0	0.4
Control Delay (s)	7.2	0.0	8.5
Lane LOS	A		A
Approach Delay (s)	7.2	0.0	8.5
Approach LOS			A

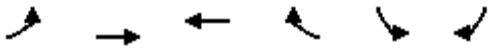
Intersection Summary			
Average Delay	7.6		
Intersection Capacity Utilization	13.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	17	0	2	6	0	6
Future Volume (Veh/h)	17	0	2	6	0	6
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	17	0	2	6	0	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	11	5			8	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	11	5			8	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	1009	1078			1612	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	17	8	6
Volume Left	17	0	0
Volume Right	0	6	0
cSH	1009	1700	1612
Volume to Capacity	0.02	0.00	0.00
Queue Length 95th (m)	0.4	0.0	0.0
Control Delay (s)	8.6	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.6	0.0	0.0
Approach LOS	A		

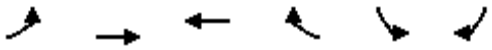
Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	158	466	2	5	12
Future Volume (Veh/h)	4	158	466	2	5	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	158	466	2	5	12
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		201				
pX, platoon unblocked						
vC, conflicting volume	468				633	467
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	468				633	467
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	98
cM capacity (veh/h)	1094				442	596

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	162	468	17
Volume Left	4	0	5
Volume Right	0	2	12
cSH	1094	1700	541
Volume to Capacity	0.00	0.28	0.03
Queue Length 95th (m)	0.1	0.0	0.7
Control Delay (s)	0.2	0.0	11.9
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	11.9
Approach LOS			B

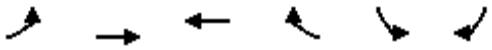
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	36.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	159	456	2	7	12
Future Volume (Veh/h)	4	159	456	2	7	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	159	456	2	7	12
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		256				
pX, platoon unblocked						
vC, conflicting volume	458				624	457
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	458				624	457
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	98
cM capacity (veh/h)	1103				448	604

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	163	458	19
Volume Left	4	0	7
Volume Right	0	2	12
cSH	1103	1700	535
Volume to Capacity	0.00	0.27	0.04
Queue Length 95th (m)	0.1	0.0	0.8
Control Delay (s)	0.2	0.0	12.0
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	12.0
Approach LOS			B

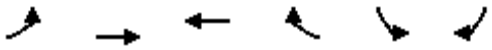
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	162	446	2	5	12
Future Volume (Veh/h)	4	162	446	2	5	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	162	446	2	5	12
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		298				
pX, platoon unblocked						
vC, conflicting volume	448				617	447
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	448				617	447
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	98
cM capacity (veh/h)	1112				452	612

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	166	448	17
Volume Left	4	0	5
Volume Right	0	2	12
cSH	1112	1700	554
Volume to Capacity	0.00	0.26	0.03
Queue Length 95th (m)	0.1	0.0	0.7
Control Delay (s)	0.2	0.0	11.7
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	11.7
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	163	436	2	5	12
Future Volume (Veh/h)	4	163	436	2	5	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	163	436	2	5	12
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		344				
pX, platoon unblocked						
vC, conflicting volume	438				608	437
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	438				608	437
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	98
cM capacity (veh/h)	1122				457	620

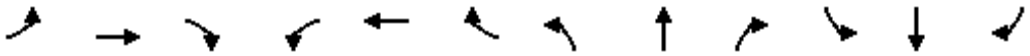
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	167	438	17
Volume Left	4	0	5
Volume Right	0	2	12
cSH	1122	1700	561
Volume to Capacity	0.00	0.26	0.03
Queue Length 95th (m)	0.1	0.0	0.7
Control Delay (s)	0.2	0.0	11.6
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	11.6
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	14	0	0	4	0	0
Future Volume (Veh/h)	14	0	0	4	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	14	0	0	4	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	2	2			4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2	2			4	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	1021	1082			1618	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	4	0
Volume Left	14	0	0
Volume Right	0	4	0
cSH	1021	1700	1700
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (m)	0.3	0.0	0.0
Control Delay (s)	8.6	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.6	0.0	0.0
Approach LOS	A		

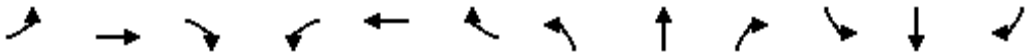
Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	195	0	0	573	0	0	0	0	0	0	14
Future Volume (Veh/h)	4	195	0	0	573	0	0	0	0	0	0	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	4	195	0	0	573	0	0	0	0	0	0	14
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		81										
pX, platoon unblocked												
vC, conflicting volume	573			195			790	776	195	776	776	573
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	573			195			790	776	195	776	776	573
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	97
cM capacity (veh/h)	1000			1378			299	327	846	314	327	519

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	199	573	0	14
Volume Left	4	0	0	0
Volume Right	0	0	0	14
cSH	1000	1378	1700	519
Volume to Capacity	0.00	0.00	0.00	0.03
Queue Length 95th (m)	0.1	0.0	0.0	0.6
Control Delay (s)	0.2	0.0	0.0	12.1
Lane LOS	A		A	B
Approach Delay (s)	0.2	0.0	0.0	12.1
Approach LOS			A	B

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	41.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	151	0	0	474	4	0	0	0	11	0	12
Future Volume (Veh/h)	4	151	0	0	474	4	0	0	0	11	0	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	4	151	0	0	474	4	0	0	0	11	0	12
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		159										
pX, platoon unblocked												
vC, conflicting volume	478			151			647	637	151	635	635	476
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	478			151			647	637	151	635	635	476
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	97	100	98
cM capacity (veh/h)	1084			1430			375	393	895	390	395	589

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	155	478	0	23
Volume Left	4	0	0	11
Volume Right	0	4	0	12
cSH	1084	1430	1700	473
Volume to Capacity	0.00	0.00	0.00	0.05
Queue Length 95th (m)	0.1	0.0	0.0	1.1
Control Delay (s)	0.2	0.0	0.0	13.0
Lane LOS	A		A	B
Approach Delay (s)	0.2	0.0	0.0	13.0
Approach LOS			A	B

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	36.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Appendix J – Certification Form

TIA Plan Reports

On 14 June 2017, the Council of the City of Ottawa adopted new Transportation Impact Assessment (TIA) Guidelines. In adopting the guidelines, Council established a requirement for those preparing and delivering transportation impact assessments and reports to sign a letter of certification.

Individuals submitting TIA reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Ottawa's Official Plan, the Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines.

By submitting the attached TIA report (and any associated documents) and signing this document, the individual acknowledges that s/he meets the four criteria listed below.

CERTIFICATION

1. I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines;
2. I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
3. I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and
4. I am either a licensed[1] or registered[2] professional in good standing, whose field of expertise [check √ appropriate field(s)] is either transportation engineering ☒ or transportation planning ☐.

[1,2] **License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.**

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Télécopieur: 613-560-6006

Dated at Ottawa (City) this 28th day of October, 2020.

Name: Louis P. Desmarais, P. Eng.
(Please Print)

Professional Title: Senior Project Manager

L P Desmarais
Signature of Individual certifier that s/he meets the above four criteria

Office Contact Information (Please Print)
Address: 100 - 2650 Queensview Road
City / Postal Code: Ottawa, ON K2B 8H6
Telephone / Extension: 613 688 1899 extension 3248
E-Mail Address: phil.desmarais@exp.com

Stamp