1081 Carling Avenue

TIA Strategy Report

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STRATEGY REPORT

Parsons has been retained by 1081 Carling Avenue Co-Tenancy to prepare a Transportation Impact Assessment (TIA) in support of a Zoning By-Law Amendment (ZBLA) application for a mixed-use development located at 1081 Carling Avenue. This document follows the TIA process, as outlined in the City Transportation Impact Assessment (TIA) Guidelines (2017). The following report represents Step 4 – Strategy Report.

1. Screening Form

The screening form confirmed the need for a TIA Report based on the site meeting the trip generation, location and safety triggers. The trip generation trigger is met due to the number of person trips anticipated to be generated by the development exceeding 60 person trips per hour. The location trigger is met due to the site location in a Design Priority Area. The safety trigger is met due to the documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development. The Screening Form has been provided in Appendix A.

2. Scoping Report

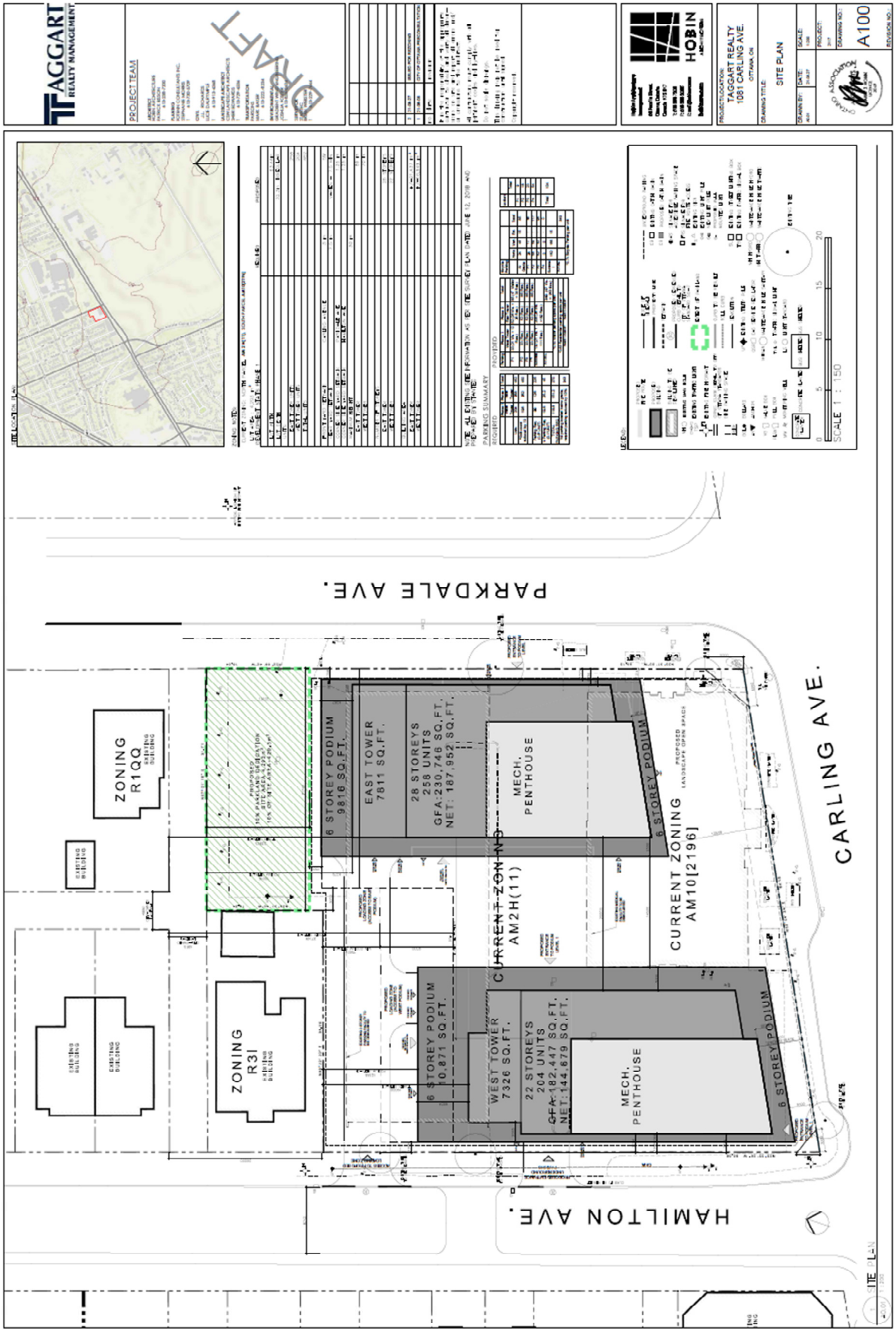
2.1. Existing and Planned Conditions

2.1.1. Proposed Development

The proposed development is located on Carling Avenue, at the municipal address of 1081 Carling Ave. It is understood that the development proposes two residential towers. The west tower is 22 storeys with approximately 204 units and the east tower is 28 storeys with approximately 258 units. Parking is proposed in an underground parking garage with access on Hamilton Avenue, where 340 vehicle and 342 bicycle parking spaces will be provided. The development is expected to be constructed in a single phase by 2023. The site is currently zoned as AM2 H(11) and AM10[2196]. The site is currently occupied by a multi-storey office building with attached parking garage and a surface parking lot. Local context is provided in Figure 1 and the proposed Site Plan is illustrated in Figure 2.

Figure 1: Local Context

Figure 2: Proposed Site Plan



2.1.2. Existing Conditions

Area Road Network

Carling Avenue is an east-west municipal road that extends from March Road in the west to Bronson Avenue in the east. Within the study area, Carling Avenue is classified as an arterial road and operates with a four-lane divided cross-section. Auxiliary turn lanes are provided at major intersections. The posted speed limit is 60km/h.

Parkdale Avenue is a north-south municipal road that extends from Carling Avenue in the south to the Sir John A. MacDonald Parkway in the north. Within the study area, Parkdale Avenue is classified as an arterial road and operates with a two-lane undivided cross-section. The posted speed limit is 40 km/h. On-street parking is provided on east side of the roadway within the study area.

Holland Avenue is a north-south municipal road that extends from Fisher Avenue in the south to Scott Street in the north where it continues as Tunney's Pasture Driveway. Within the study area, Parkdale Avenue is classified as a major collector road and operates with a two-lane undivided cross-section. The posted speed limit is 50 km/h. On-street parking is provided on both sides of the roadway within the study area.

Island Park Drive is a north-south federal road that extends from Holland Avenue in the south to the Sit John A. MacDonald Parkway in the north where it continues over the Champlain Bridge to Gatineau. Within the study area, Island Park Drive operates with a two-lane undivided cross-section. The posted speed limit is 40km/h.

Ruskin Street is an east-west municipal local road that extends from Island Park Drive in the west to Gwynne Avenue in the east. Ruskin Street operates with a two-lane cross-section with on-street parking provided on the south side of the road. The posted speed limit is 40 km/h.

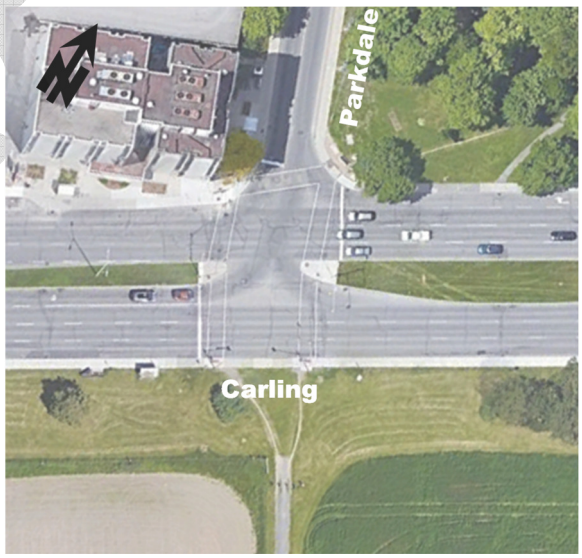
Hamilton Avenue S is a north-south municipal local road that extends from Carling Avenue in the south to Sherwood Drive in the north. Hamilton Avenue S operates with a two-lane cross-section with on-street parking provided on the east side of the road. The unposted speed limit is understood to be 50 km/h. Note that access to Carling Avenue is closed.

Existing Study Area Intersections

The following describes the existing physical geometry of the study area intersections.

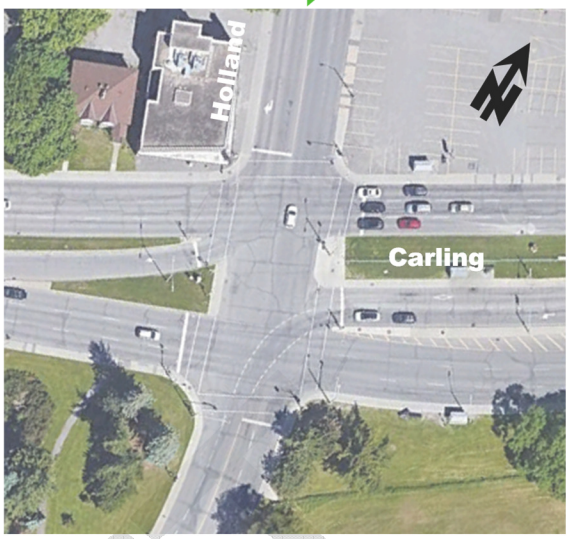
Parkdale/Carling

The Parkdale/Carling intersection is a signalized 'T' intersection. The eastbound approach consists of an auxiliary left-turn lane and three through lanes. The westbound approach consists of three through lanes and an auxiliary right-turn lane. The southbound approach consists of a single all-movement lane. All movements are permitted at this location. Painted crosswalks are provided on all legs of this intersection. Trucks are not permitted on Parkdale Avenue.



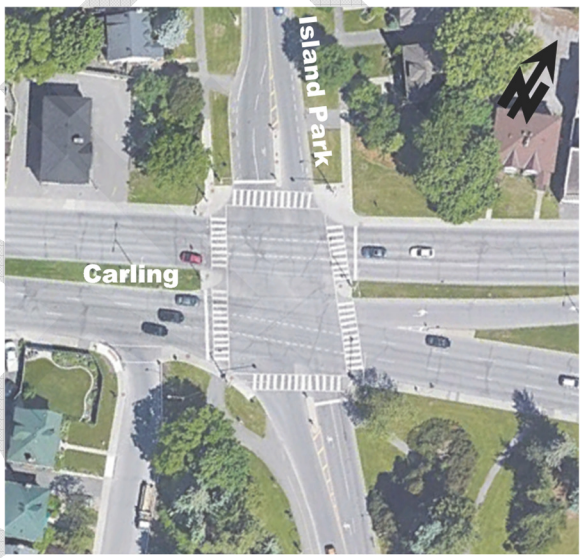
Holland/Carling

The Holland/Carling intersection is a signalized four-legged intersection. The eastbound approach consists of channelized left-turn lane, two through lanes and a shared through/right lane. The westbound approach consists of channelized dual left-turn lanes, two through lanes, and a shared through/right-turn lane. Note that the outside westbound left-turn lane is for transit only. The northbound approach consists of a shared left/through lane and a shared through/right lane. The southbound approach consists of a shared left/through lane and an auxiliary right-turn lane. All movements are permitted at this location. Painted crosswalks are provided on all legs of this intersection.



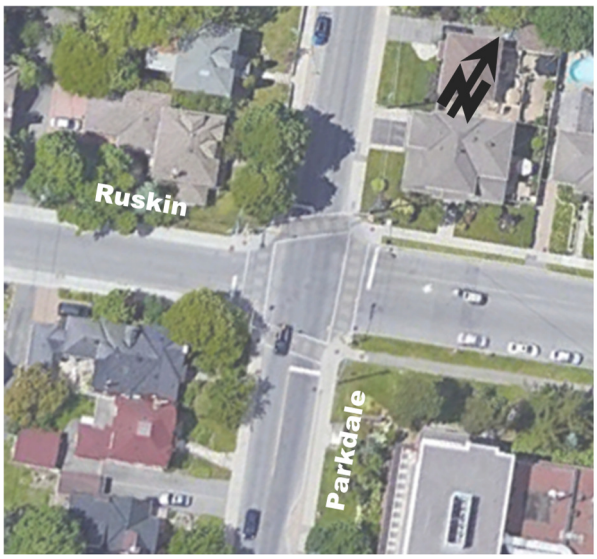
Island Park/Carling

The Island Park/Carling intersection is a signalized four-legged intersection. The east and westbound approaches consist of two through lanes and a shared through/right lane. The north and southbound approaches consist of an auxiliary left-turn lane and a shared through/right lane. The eastbound left-turn and westbound left-turn movements are prohibited at this location. Zebra stripe crosswalks are provided on all legs of this intersection.



Ruskin/Parkdale

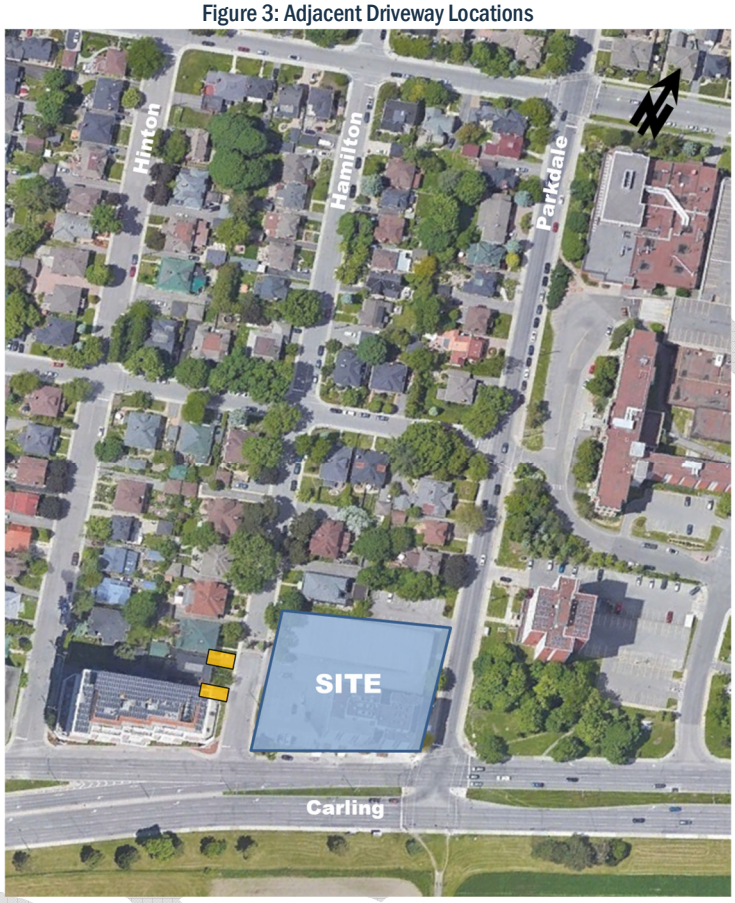
The Ruskin/Parkdale intersection is a signalized four-legged intersection. The eastbound approach consists of a shared all-movement lane. The westbound approach consists of an auxiliary left-turn lane and a shared through/right lane. The north and southbound approaches consist of a shared all-movement lane. All movements are permitted at this location. Textured crosswalks are provided on all legs of this intersection.



Existing Driveways to Adjacent Developments

The subject site is proposing a driveway to Hamilton Ave S, south of its road closure for residents to access the underground parking garage. Figure 3 illustrates adjacent driveways located within 200m of the proposed site access. There are 2 existing adjacent driveway accesses on the west side of the roadway. Another access to Hamilton Ave S is proposed for the development north of the road closure and will be utilized only by loading/unloading and garbage pick-up vehicles.

Figure 3: Adjacent Driveway Locations



Existing Area Traffic Management Measures

Existing area traffic management measures within the study area include:

- Sidewalks;
- Painted or textured crosswalks;
- Bulb-outs;
- On-street parking; and,
- Curbs.

Pedestrian/Cycling Network

Figure 4 illustrates active transportation facilities within the study area. Sidewalks are provided on both sides of the roadway on all study area roads. Cycle tracks are provided on Island Park Drive north of Carling Avenue and on Holland Avenue south of Carling Avenue. Access to the Experimental Farm Pathway is located between the Island Park/Carling and Holland/Carling intersections. A local pathway is available along an Experimental Farm service road and is accessed at the Parkdale/Carling intersection. Based on the City of Ottawa Transportation Master Plan (TMP), Carling Avenue, Holland Avenue, and Island Park Drive are classified as Spine Routes.

Figure 4: Existing Pedestrian and Cycling Network

Transit Network

The existing transit network surrounding the proposed development site is illustrated in Figure 5. Bus stops within walking distance are located adjacent to the site. Transit stop locations are shown highlighted blue in Figure 6. Currently, Frequent Route #85 and Local Routes #55, #56, and #114 service the site.

- **Route #55 (Westgate <-> Elmvale)**: Identified by OC Transpo as a 'local' route that operates approximately every 30 minutes or less. Nearest stops are located along Carling Avenue, adjacent to the proposed site.
- **Route #56 (King Edward <-> Tunney's Pasture)**: Identified by OC Transpo as a 'local' route that operates approximately every 30 minutes. Nearest stops are located along Parkdale Avenue, adjacent to the proposed site.
- **Route #85 (Bayshore <-> Gatineau)**: Identified by OC Transpo as a 'frequent' route that operates approximately every 15 minutes of less seven days a week during all time periods. Nearest stops are located along Carling Avenue, adjacent to the proposed site.
- **Route #114 (Carlington <-> Rideau)**: Identified by OC Transpo as a 'local' route that only operates during peak periods. It travels northbound during the morning peak period and southbound during the afternoon peak period. When in operation, the bus runs on a schedule of approximately 1-hr interval, arriving only twice during the morning and afternoon peak periods. Nearest stops are located along Parkdale Avenue, adjacent to the proposed site.

Figure 5: Area Transit Network

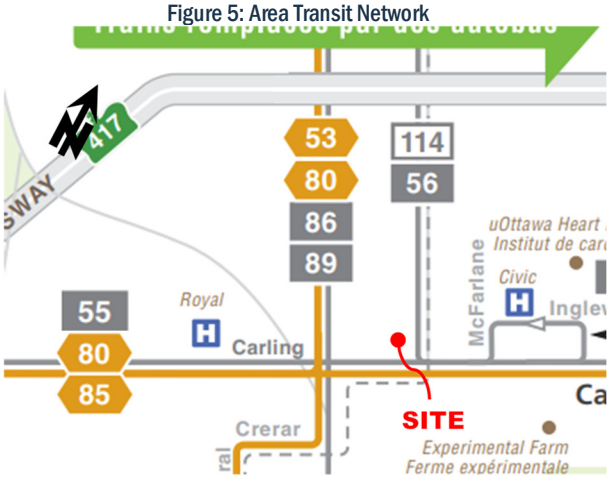
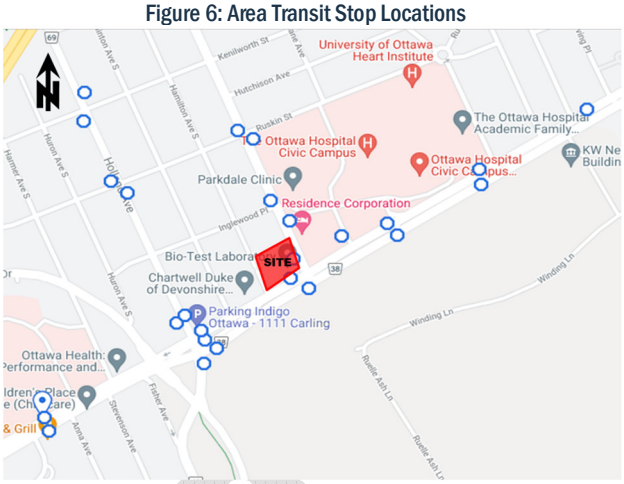


Figure 6: Area Transit Stop Locations



Peak Hour Travel Demands

The existing peak hour traffic volumes within the study area were obtained from the City of Ottawa for the following intersections:

- Carling/Parkdale – conducted Tuesday, January 21, 2020;
- Carling/Holland– conducted Tuesday, January 21, 2020;
- Carling/Island Park – conducted Wednesday, March 21, 2018; and,
- Ruskin/Parkdale – conducted Tuesday, January 21, 2020.

Figure 7 displays the existing vehicle traffic volumes while Figure 8 shows the existing pedestrian and cyclist volumes. Peak hour count data is provided in Appendix B.

Figure 7: Existing Peak Hour Vehicle Traffic Volumes

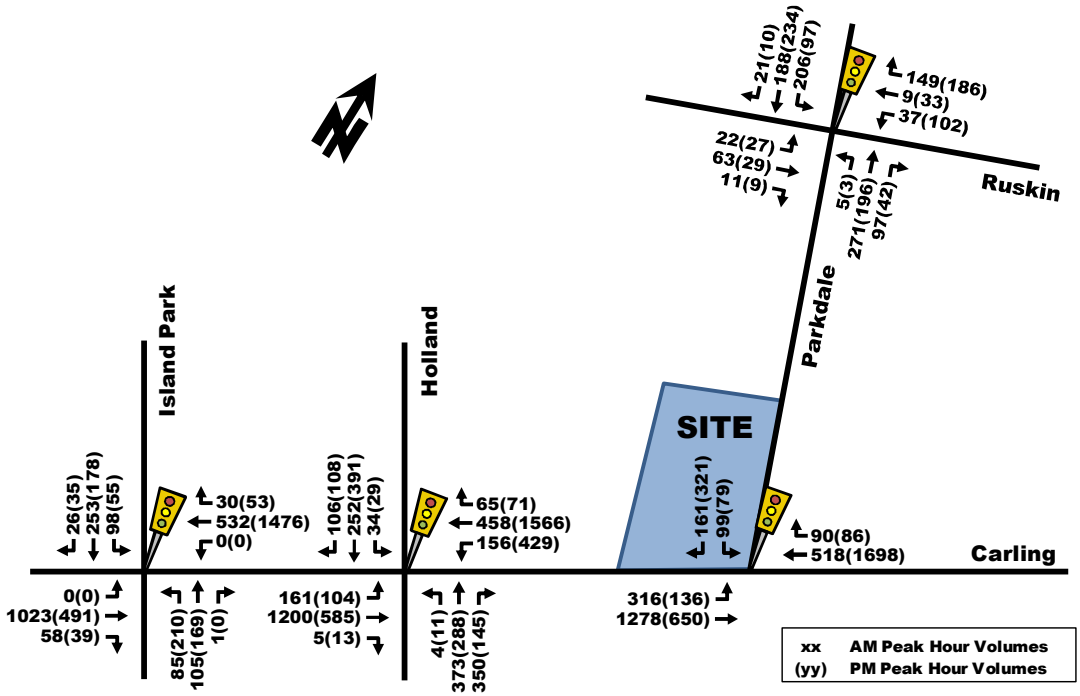
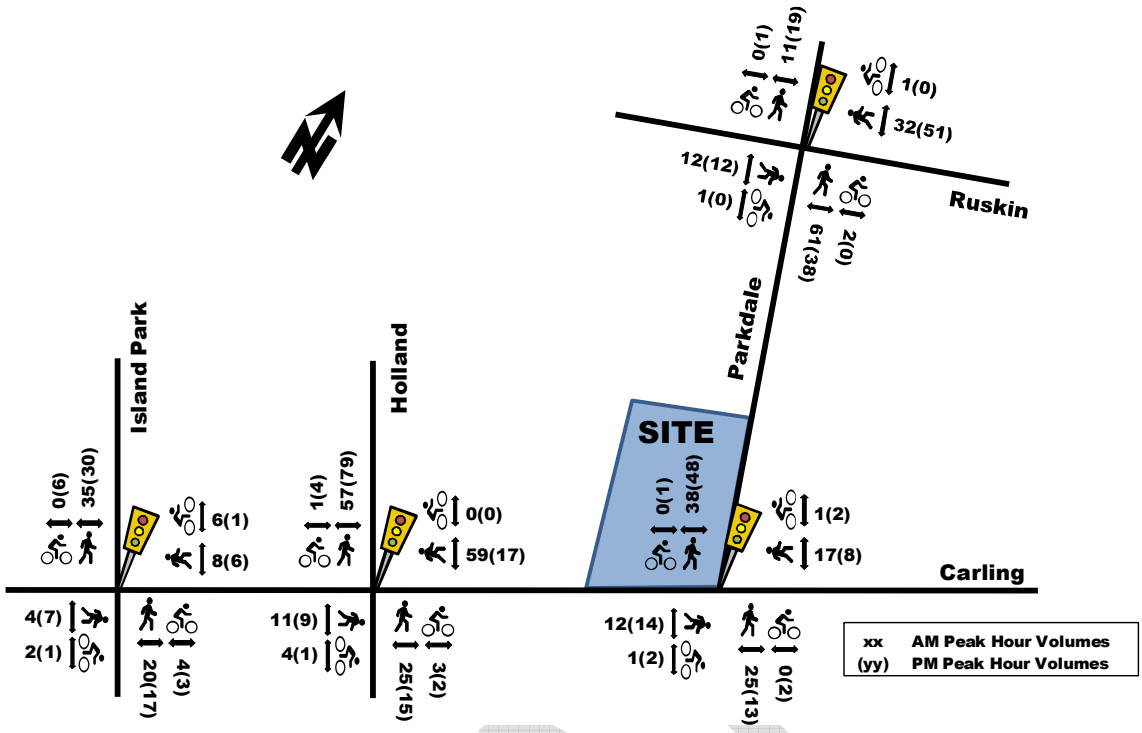


Figure 8: Existing Peak Hour Pedestrian and Cyclist Volumes



Existing Road Safety Conditions

A five-year collision history data (2015-2019, inclusive) was requested and obtained from the City of Ottawa for all intersections and road segments within the study area. Upon analyzing the collision data, the total number of collisions occurring within the study area was determined to be 151 collisions within the past five-years. Of the reported collisions, 119 (79%) resulted in property damage and 32 (21%) resulted in non-fatal injury. The types of impact were broken down into the following: 47 (31%) rear-end, 31 (21%) angle, 27 (18%) turning movement, 27 (18%) sideswipe, 11 (3%) single vehicle (unattended vehicle), 5 (3%) single vehicle (other), and 3 (2%) other. It is noted that of the total collisions, 2 collisions involved a pedestrian, and 7 collisions involved a cyclist, all which resulted in non-fatal injuries.

To help quantify the relative safety risk at intersections within the study area, an industry standard unit of measure for assessing collisions at an intersection was used based on the number of collisions per million entering vehicles (MEV). An MEV value greater than 1.00 indicates a relatively high frequency of collisions. Furthermore, the City of Ottawa TIA Guidelines identifies more than six collisions of the same nature occurring within a five-year period to be a collision pattern. Reported collisions have historically taken place at a rate of:

- Carling/Parkdale: 0.54 collisions/MEV, with a total of 34 collisions occurring within the five-year period. Of these 34 collisions, 15 were recorded as rear-ends and 7 were recorded as sideswipes. However, the rear-end and sideswipe collisions resulted from different combinations of movements, where no more than 5 rear-end and 4 sideswipe collisions have occurred for any single combination, indicating that no collision pattern is present.
- Carling/Holland: 0.65 collisions/MEV, with a total of 49 collisions occurring within the five-year period. Of these 49 collisions, 15 were recorded as rear-ends, 13 were recorded as turning movement, 9 collisions were recorded as sideswipes, and 9 collisions were recorded as angle. However, these collisions resulted from different combinations of movements, where no more than 6 rear-end, 5 turning movement, 3 sideswipe and 3 angled collisions have occurred for any single combination, indicating that no collision pattern is present.

- Carling/Island Park: 0.47 collisions/MEV, with a total of 24 collisions occurring within the five-year period. Of these 24 collisions, 12 were recorded as angled. However, the angled collisions resulted from different combinations of movements, where no more than 5 angled collisions have occurred for any single combination, indicating that no collision pattern is present.
- Ruskin/Parkdale: 0.34 collisions/MEV, with a total of 9 collisions occurring within the five-year period. There are no collision patterns apparent in the subject data.

With regards to road segments within the study area, the following collision data is identified:

- Carling Avenue between Parkdale Avenue and Holland Avenue: a total of 12 collisions occurred along this road segment within the past five-years. No particular collision pattern is present.
- Parkdale Avenue between Carling Avenue and Ruskin Street: a total of 13 collisions occurred along this road segment within the past five-years. No particular collision pattern is present.
- Holland Avenue between Carling Avenue and Inglewood Place: a total of 10 collisions occurred along this road segment within the past five-years. No particular collision pattern is present.

The source collision data as provided by the City of Ottawa and related analysis are provided as Appendix C.

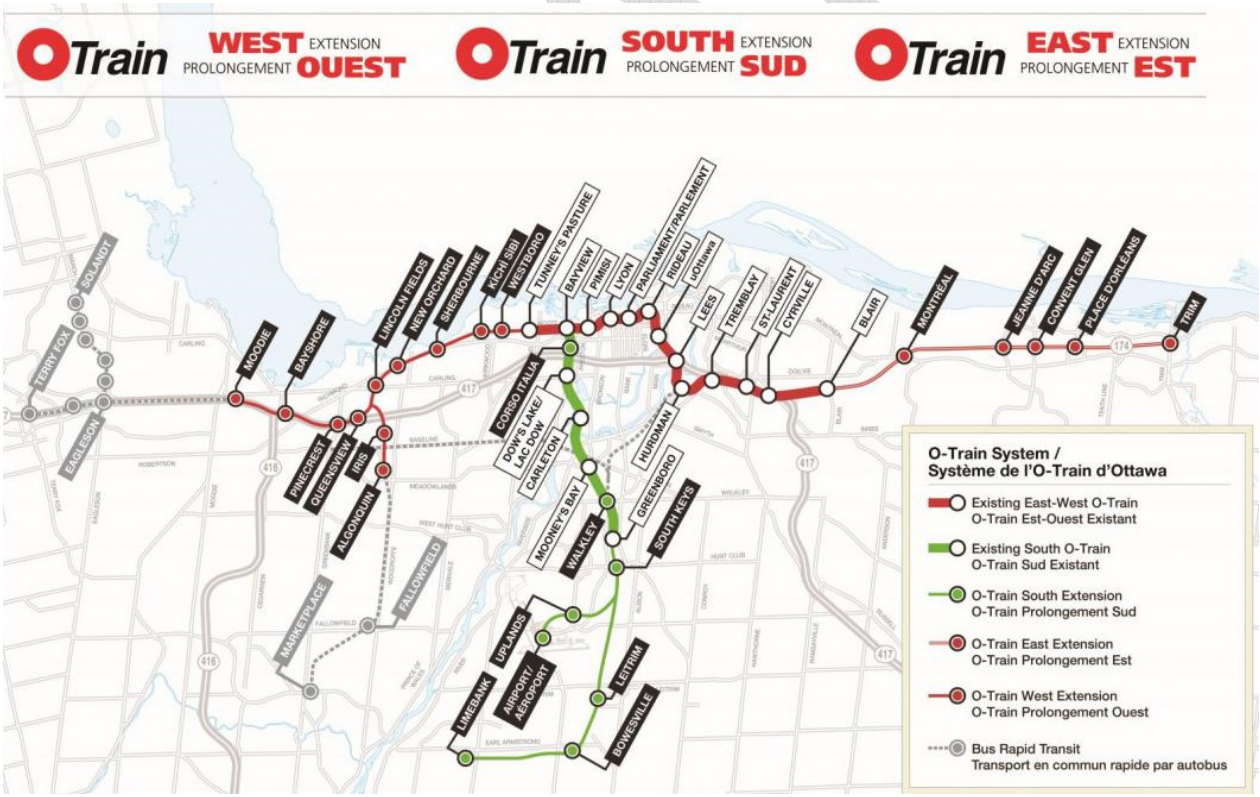
2.1.3. Planned Conditions

Planned Study Area Transportation Network Changes

LRT Stage 2

Stage 2 of the City of Ottawa LRT system is currently under construction. Stage 2, as shown in Figure 9, is a combination of three extensions – south, east and west – totaling 44 km of new rail and 24 new LRT stations. The proposed development site is located approximately 1.3km walking distance of the LRT's Dow's Lake Station (previously named Carling Station).

Figure 9: Stage 2 LRT System Map

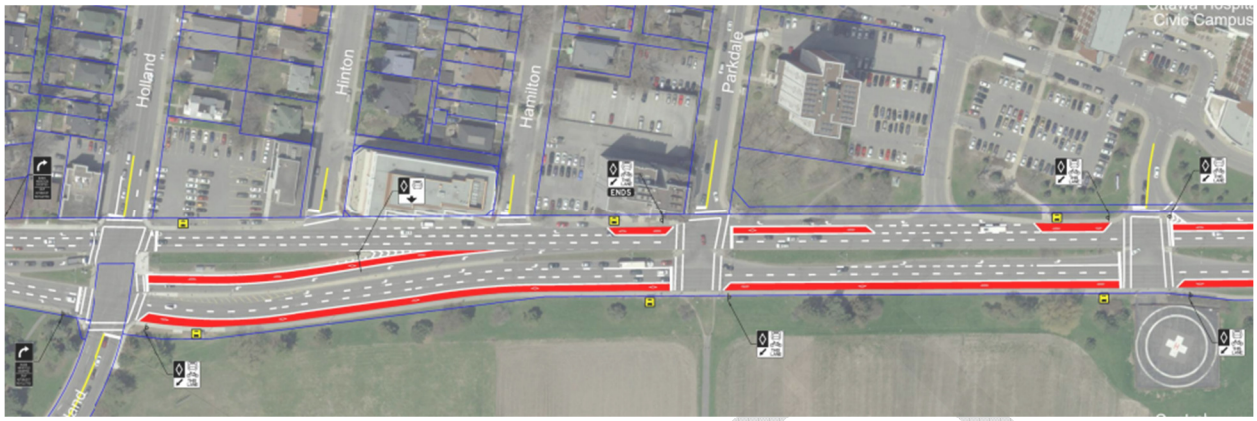


Carling Transit Priority Study

The Carling Avenue Transit Priority Study is currently underway to provide a Recommended Functional Design Plan. The current plan within the vicinity of the site is shown as Figure 10. The plan is to convert a general traffic lane to a transit lane in both travel directions of Carling Ave, along different sections between Lincoln Fields and

Bronson Ave. The timing of the planned modifications along Carling Ave are expected to take place by 2022 between Sherwood Dr and the project's western limit at Lincoln Fields. Whereas between Sherwood Dr and the eastern limit at Bronson Ave, the modifications are expected to take place sometime between 2026 and 2028.

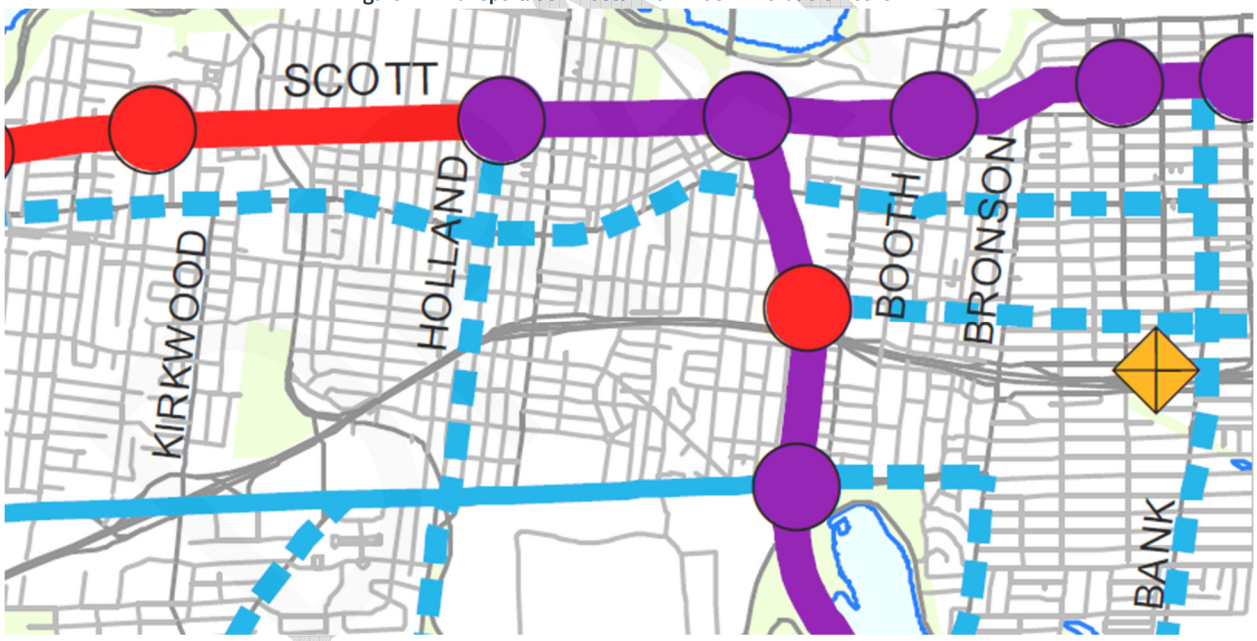
Figure 10: Carling Avenue Transit Priority Plan within Study Area



Holland Transit Priority

As seen in Figure 11, Holland Avenue is proposed a transit priority corridor with isolated measures as per the 2031 Affordable Network within the Transportation Master Plan. The isolated transit priority corridor measures are proposed from Scott Street to Carling Avenue and then continuing south on Fisher Avenue.

Figure 11: Transportation Master Plan: 2031 Affordable Network



Other Area Developments

The following section outlines adjacent developments in the general area that were considered in the TIA. The criteria for inclusion of other area developments is the proximity to the proposed development site and the potential impact to study area intersections. Developments that are either approved or have an active planning application in the City are included below.

The Ottawa Hospital

The new campus for the Ottawa Hospital is proposed to be located in close proximity to the subject development at 930 Carling Avenue and 520 Preston Street. No Transportation Impact Assessment Study has been completed at this stage; however, it is understood that there will be a focus on promoting active and transit modes of travel.

2.2. Study Area and Time Periods

Full buildout of the proposed residential development is assumed to be 2023. As such, the horizon years being analyzed in this report are 2023 and 2028 (five years after full buildout) horizon years, using the weekday morning and afternoon peak hour time periods.

Proposed study area intersections and boundary roads are outlined below and highlighted in Figure 12.

Figure 12: Study Area Intersections

- Carling/Parkdale (signalized)
- Carling/Holland (signalized)
- Carling/Island Park (signalized)
- Ruskin/Parkdale (signalized)
- Carling Avenue adjacent to the site
- Parkdale Avenue adjacent to the site
- Hamilton Avenue S adjacent to the site

2.3. Exemption Review

The following modules/elements of the TIA process recommended to be exempt in the subsequent steps of the TIA process, based on the City's TIA guidelines and the subject site:

Table 1: Exemptions Review Summary

Module	Element	Exemption Consideration
4.1 – 4.4 Design Review Component	All elements	Not required for applications involving ZBLA or OPA. However, a brief description may be provided.
4.8 Network Concept	4.8 Network Concept	Only required if proposed development is anticipated to generate more than 200 person-trips over the permitted zoning

3. Forecasting Report

3.1. Development Generated Travel Demand

3.1.1. Trip Generation and mode shares

Existing Development Trips

As mentioned previously, the site is currently occupied by an office building that is 7-storeys high. The trips that are currently generated by the office building are accounted for as they reduce the number of 'new' trips that

will be generated by the proposed development within the study area. Appropriate trip rates for an office building have been obtained from the ITE Trip Generation Manual (10th edition) and provided as shown in Table 2.

Table 2: Existing Office Building Trip Rates

Land Use	Data Source	Trip Rates	
		AM Peak Hour	PM Peak Hour
Office Building (7-Storey)	ITE 710	T = 1.16(x); T = 0.94(x) + 26.49;	T = 1.15(x); Ln(T) = 0.95Ln(x) + 0.36;
Notes: *T = Average Vehicle Trip Ends* *x = Gross Floor Area (GFA) (1000 ft²)*			

The gross floor area used for the office building were determined using the GeoOttawa measuring tool, as shown in Figure 13, which indicates a total area of approximately 7,515 ft² per floor (i.e. a total area of 52,600 ft² for 7 storeys).

Figure 13: Existing Office Building Area

Using the total gross floor area and the office building trip rates, the person trips generated by the existing office building can be calculated. Note that the trip rates are multiplied by a factor of 1.28, as per TIA standards, to account for typical North American auto occupancy values of approximately 1.15 and combined transit and non-

motorized modal shares of less than 10%. The resulting total person trips/hour for the existing office building are provided in Table 3. The inbound and outbound percentages were also obtained from the ITE Manual.

Table 3: Existing Office Building Peak Hour Person Trip Generation

Land Use	Area (ft²)	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In (86%)	Out (14%)	Total	In (16%)	Out (84%)	Total
Office Building (7-Storey)	52,600	83	14	97	12	67	79

As shown in Table 3, the existing office building generates a total of 97 and 79 person trips during the morning and afternoon peak hours. Mode shares for different travel modes were obtained from the 2020 TRANS Trip Generation Manual for Employment Generators in the Merivale district. As such, a breakdown of the trips generated by the different travel modes is provided in Table 4 below.

Table 4: Existing Office Building Morning and Afternoon Travel Mode Breakdown

Travel Mode	Mode Shares	AM Peak (Person Trips/h)			Mode Shares	PM Peak (Person Trips/h)		
		In (86%)	Out (14%)	Total		In (16%)	Out (84%)	Total
Auto Driver	70%	59	10	69	70%	9	47	56
Passenger	7%	6	1	7	7%	1	5	6
Transit	16%	13	3	16	16%	2	11	13
Bike	3%	2	0	2	3%	0	2	2
Walk	4%	3	0	3	4%	0	2	2
Total Person Trips	**100%**	**83**	**14**	**97**	**100%**	**12**	**67**	**79**

The existing office building generates a total of 69 and 56 vehicle trips during the morning and afternoon peak hours, respectively.

Proposed Development Trips

The proposed development will consist of 462 residential units within a 22 and 28-storey high-rise apartment buildings. The appropriate trip generation rates for a high-rise apartment land use were obtained from the 2020 TRANS Trip Generation Manual. Table 3 in the Manual provides person-trip rates during the peak AM and PM periods (7am-9:30am and 3:30PM-6PM). The trip rates are summarized in Table 5 below.

Table 5: Residential Trip Generation Trip Rates

Land Use	Data Source	Trip Rates	
		AM Peak Period (7-9:30am)	PM Peak Period (3:30-6pm)
High-Rise Apartment Buildings	TRANS 2020	T = 0.8(du);	T = 0.9(du);
Notes: *T = Average Vehicle Trip Ends* *du = Dwelling unit*			

Using the trip rates provided in Table 5, the total number of person trips generated during the morning and afternoon peak periods can be found in Table 6.

Table 6: Apartment Units Peak Period Person Trip Generation

Land Use	Dwelling Units	AM Peak Period Person Trips	PM Peak Period Person Trips
High-Rise Apartment Buildings	462	370	416

The proposed development is anticipated to generate 370 and 416 person trips during the morning and afternoon peak periods, respectively. The total peak period person trips in Table 6 are then divided into different travel modes, as shown in Table 7, using mode share percentages obtained from the 2020 TRANS Manual, which is aggregated for the Merivale zone.

Table 7: Peak Period Trips Mode Shares Breakdown

Travel Mode	Mode Share	AM Peak Period Person Trip	Mode Share	PM Peak Period Person Trips
Auto Driver	42%	155	41%	171
Auto Passenger	6%	22	11%	46
Transit	42%	155	33%	137
Cycling	2%	7	2%	8
Walking	8%	30	13%	54
Total Person Trips	**100%**	**370**	**100%**	**416**

Standard traffic analysis is usually conducted using the morning and afternoon peak hour trips as they represent a worst-case scenario. In the 2020 TRANS Manual, Table 4 provides conversions rates from peak period to peak hours for different mode shares. The conversion rates are provided in Table 8 below.

Table 8: Peak Period to Peak Hour Conversion Factors (2020 TRANS Manual)

Travel Mode	Peak Period to Peak Hour Conversion Factors	
	AM	PM
Auto Driver	0.48	0.44
Passenger	0.31	0.29
Transit	0.55	0.47
Bike	0.58	0.48
Walk	0.58	0.52

Note that conversion factors for auto passenger trips are not available in the 2020 TRANS Manual. To obtain the passenger trip factor it is assumed that the total person trip peak hour conversion factor is the average of the provided adjustment factors minus the passenger trip peak hour conversion factor and has been calculated as shown in the example below:

$$0.5 = \frac{x + 0.48 + 0.55 + 0.58 + 0.58}{5}$$

$$x = 2.5 - 0.48 - 0.55 - 0.58 - 0.58$$

$$x = 0.31 \rightarrow AM\ passenger\ trip\ peak\ hour\ conversion\ factor$$

Using the conversion rates in Table 8 and the peak period person trips for different travel modes in Table 7, the peak hour trips for different travel modes can be calculated as shown in Table 9. The actual peak hour mode share percentages can be reverse calculated using the percentage of each travel mode to the total person trips.

Table 9: Peak Hour Trips Mode Share Breakdown

Travel Mode	Mode Share	AM Peak Hour Trips	Mode Share	PM Peak Hour Trips
Auto Driver	40%	74	41%	75
Auto Passenger	4%	7	7%	13
Transit	45%	85	35%	64
Cycling	2%	4	2%	4
Walking	9%	17	15%	28
Total Person Trips	**100%**	**187**	**100%**	**184**

As shown in Table 9, the proposed development is anticipated to generate a total of 187 and 184 person trips during the morning and afternoon peak hours. Inbound and outbound percentages were obtained from Table 9 of the 2020 TRANS Manual and applied to each travel mode in Table 9 as shown in Table 10.

Table 10: Residential Site Trip Generation

Travel Mode	Mode Shares	AM Peak (Person Trips/h)			Mode Shares	PM Peak (Person Trips/h)		
		In (31%)	Out (69%)	Total		In (58%)	Out (42%)	Total
Auto Driver	40%	23	51	74	41%	44	32	75
Passenger	4%	2	5	7	7%	8	5	13
Transit	45%	26	59	85	35%	37	27	64
Bike	2%	1	3	4	2%	2	2	4
Walk	9%	5	12	17	15%	16	12	28
Total Person Trips	**100%**	**57**	**130**	**187**	**100%**	**107**	**78**	**184**

As shown in Table 10, approximately 75 new vehicular trips, 64 to 85 new transit trips, and 21 to 32 active transportation trips (walking and cycling) are expected in the morning and afternoon peak hours from the proposed development.

Net Total Trips Generated

The net 'new' number of trips that are anticipated to be generated by the proposed development are provided in Table 11, which reflect the difference between the total trips in Table 10 and the removed existing office building trips in Table 4.

Table 11: Net 'New' Site Trip Generation

Travel Mode	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
	In	Out	Total	In	Out	Total
Auto Driver	-36	41	5	35	-15	19
Passenger	-4	4	0	7	0	7
Transit	13	56	69	35	16	51
Bike	-1	3	2	2	0	2
Walk	2	12	14	16	10	26
Total Person Trips	**-26**	**116**	**90**	**95**	**11**	**105**

The total 'net' new person trips anticipated to be generated by the proposed development are 90 and 105 person trips during the morning and afternoon peak hours, respectively. The proposed development is anticipated to generate 5 and 19 new veh trips, as well as 69 and 51 new transit trips during the morning and afternoon peak hours, respectively.

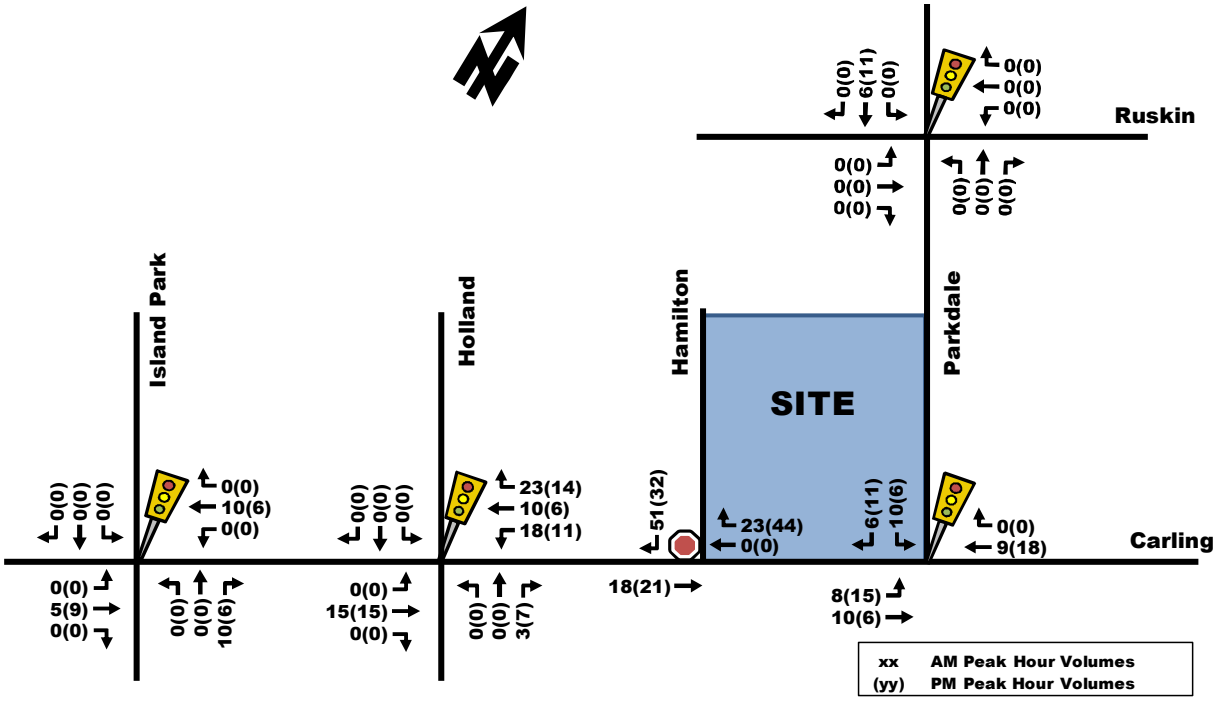
3.1.2. Trip Distribution and Assignment

Based on the 2011 OD Survey (Merivale district) and the location of adjacent arterial roadways and neighbourhoods, the distribution of site-generated traffic volumes was estimated as follows:

- 25% to/from the north
  - Arriving traffic travel SB on Parkdale Ave, followed by a right-turn onto Carling Ave, a right-turn onto Hamilton Ave and into the site.
  - Departing traffic turn right onto Carling Ave from Hamilton Ave, followed by right-turn onto Holland Ave to travel NB.
- 15% to/from the south
  - Arriving traffic travel NB on Fisher Ave/Holland Ave, turn right onto Carling Ave, make a U-turn at the Carling/Parkdale intersection and finally turn right onto Hamilton Ave and into the site.
  - Departing traffic turn right into the left-turn lane of the Carling/Holland intersection and travel SB on Holland Ave/Fisher Ave.
- 40% to/from the east
  - Arriving traffic travel WB via Carling Ave, followed by a right-turn onto Hamilton Ave and into the site.
  - Departing traffic turn right onto Carling Ave from Hamilton Ave, followed by 1 of 2 circuitous routes. Route 1 turns right onto Holland Ave, followed by a right-turn onto Inglewood Pl and a right-turn onto Parkdale Ave, to turn left onto Carling Ave and travel EB. Route 2 turns left onto Holland Ave, followed by a right-turn onto Island Park Dr to turn right onto Carling Ave and travel EB.
- 20% to/from the west
  - Arriving traffic travel EB on Carling Ave, make a U-turn at the Carling/Parkdale intersection and finally turn right onto Hamilton Ave and into the site.
  - Departing traffic turn right onto Carling Ave from Hamilton Ave and travel WB on Carling Ave.

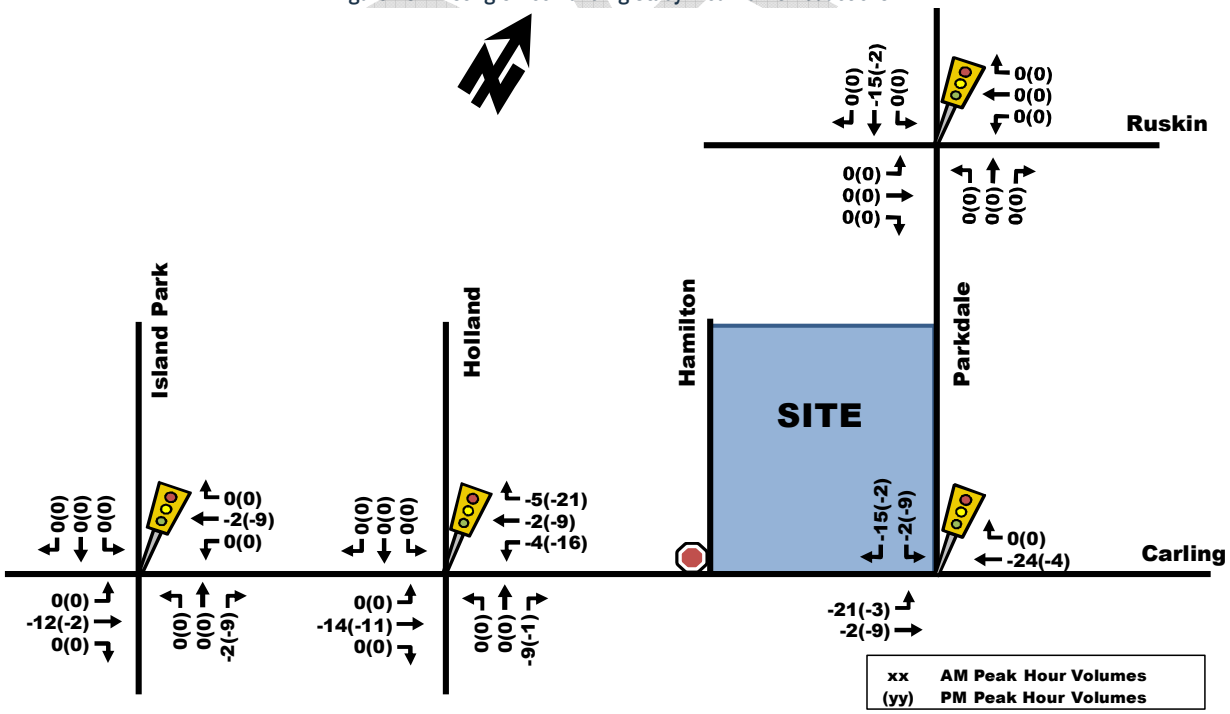
The anticipated site-generated auto trips for the proposed development from Table 10 were then assigned to the road networks as shown in Figure 14. As mentioned previously, these volumes reflect the total trips that are anticipated to be generated by the proposed development, without accounting for the reduction in overall study area traffic volumes due to the existing office building.

Figure 14: Proposed Development Site-Generated Traffic



Based on the site-generated vehicle trips of the existing office building (provided in Table 4), study area traffic volumes are expected to decrease as shown in Figure 15. A similar trip distribution and assignment has been assumed for the existing office building's vehicle trips as the proposed residential development. This reduction in traffic volumes will be applied to the total projected traffic volumes for horizon years 2023 and 2028.

Figure 15: Existing Office Building Study Area Traffic Reductions



3.2. Background Network Traffic

3.2.1. Transportation network plans

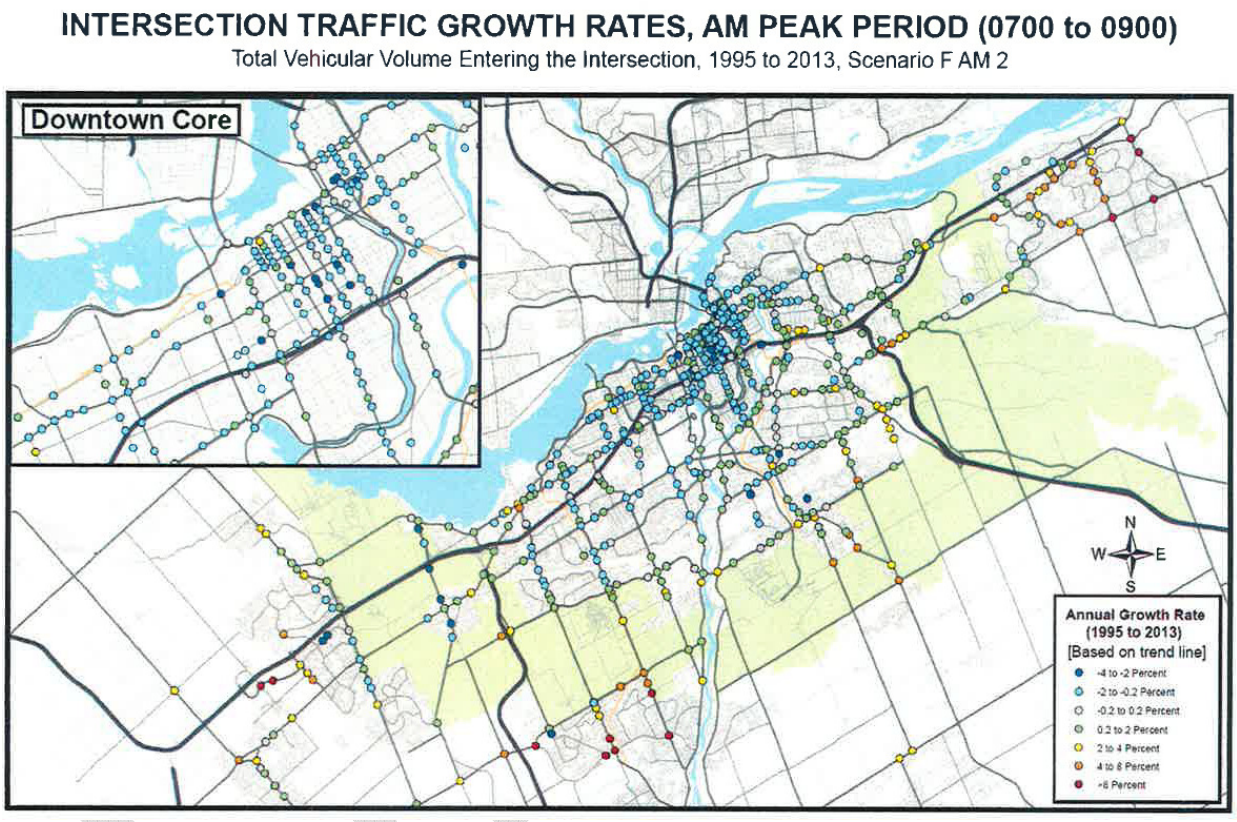
Refer to Section 2.1.3: Planned Study Area Transportation Network Changes. Major transportation network plans in the area include:

- LRT Stage 2 expansions with the nearby Dow's Lake station, and
- Carling Transit Priority Measures where transit lanes will be provided along Carling Ave.

3.2.2. Background Growth

The proposed development site is located in a well-developed area of the City of Ottawa that is near the downtown core. Historically, traffic within the study area has seen a decline in growth, as illustrated by the growth rates map obtained from the City of Ottawa in Figure 16.

Figure 16: Vehicle Growth Rates at Intersections within the City of Ottawa



In the near future, transit will be improved greatly in the area due to the Carling Transit Priority Measures, which will convert a general traffic lane in both directions of Carling Ave, to a dedicated transit lane along different sections of the corridor. This will result in increased transit usage along the corridor and surrounding areas, while simultaneously decreasing general traffic.

Due to the reduced capacity of the corridor, traffic may be further reduced along Carling Ave as some traffic will choose to reroute to Highway 417. Additionally, the LRT's Dow's Lake Station along the Trillium Line is located within a 1.3km distance from the proposed site and stage 2 of the LRT network is currently underway.

Based on the above, traffic volumes are anticipated to decrease along Carling Ave, which is further discussed in Section 3.3. The effects of this decrease in traffic is anticipated to be experienced at all study area roads and intersections. As such, a background growth rate of 0% has been assumed for the study area.

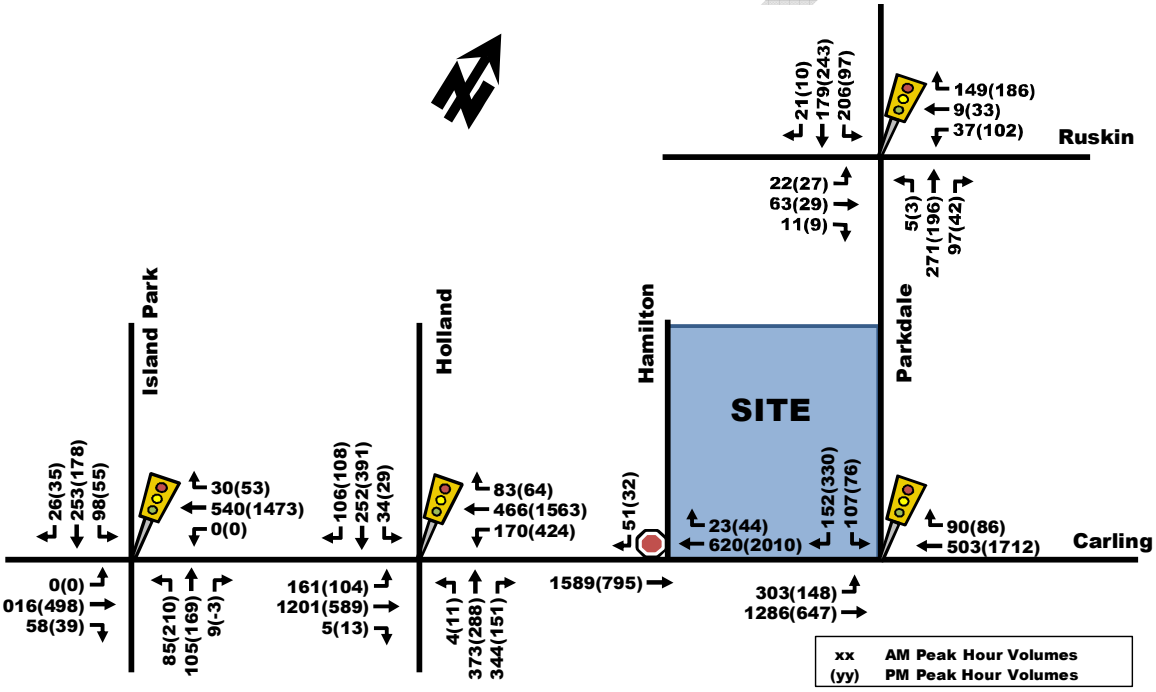
3.2.3. Other Developments

Description of other area developments taking place within the study area was provided in Section 2.1.3: Other Area Developments. Construction of the new Ottawa Hospital is anticipated to be beyond the horizon years of the proposed 1081 Carling Ave development. As such, there are currently no major adjacent developments in the area to be included in the analysis for future conditions.

3.3. Demand Rationalization

The purpose of this module is to provide a realistic projection of future traffic volumes, based on anticipated future network changes and potential capacity constraints. Figure 17 provides the initial projection of traffic volumes within the study area. These volumes are not expected to change between horizon years 2023 and 2028 as no background growth has been applied and no significant other area developments are located in the study area.

Figure 17: Total Projected 2023 and 2028 Traffic Volumes



The Carling Avenue Transit Priority Measures Study (WSP, June 2017) indicated that the transit priority measures will result in a decrease of up to 20% in the peak direction along Carling Ave. However, in the off-peak direction, an increase of 15% was anticipated along Carling Ave, between Merivale Rd and Sherwood Dr. Since these changes in general traffic volumes were expected to occur by 2031, reduced percentages have been applied to the through movements of Carling Ave, where:

- For horizon year 2023, a decrease of 10% has been applied to the general traffic in the peak direction and an increase of 5% has been applied in the off-peak direction.
- For horizon year 2028, a decrease of 15% has been applied to the general traffic in the peak direction and an increase of 10% has been applied in the off-peak direction.

Figure 18 and Figure 19 below illustrate the projected traffic volumes in the study area with the above noted changes to volumes along Carling Ave, for horizon years 2023 and 2028 respectively.

Figure 18: Total Projected 2023 Traffic Volumes – Adjusted Traffic Along Carling Ave

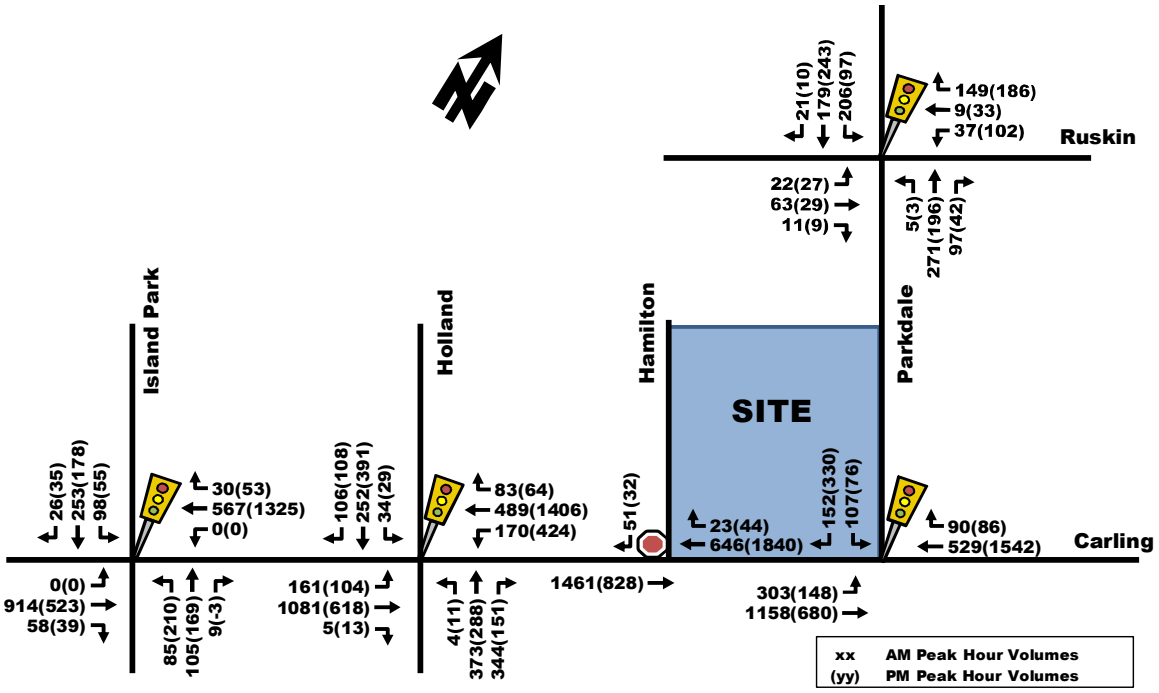
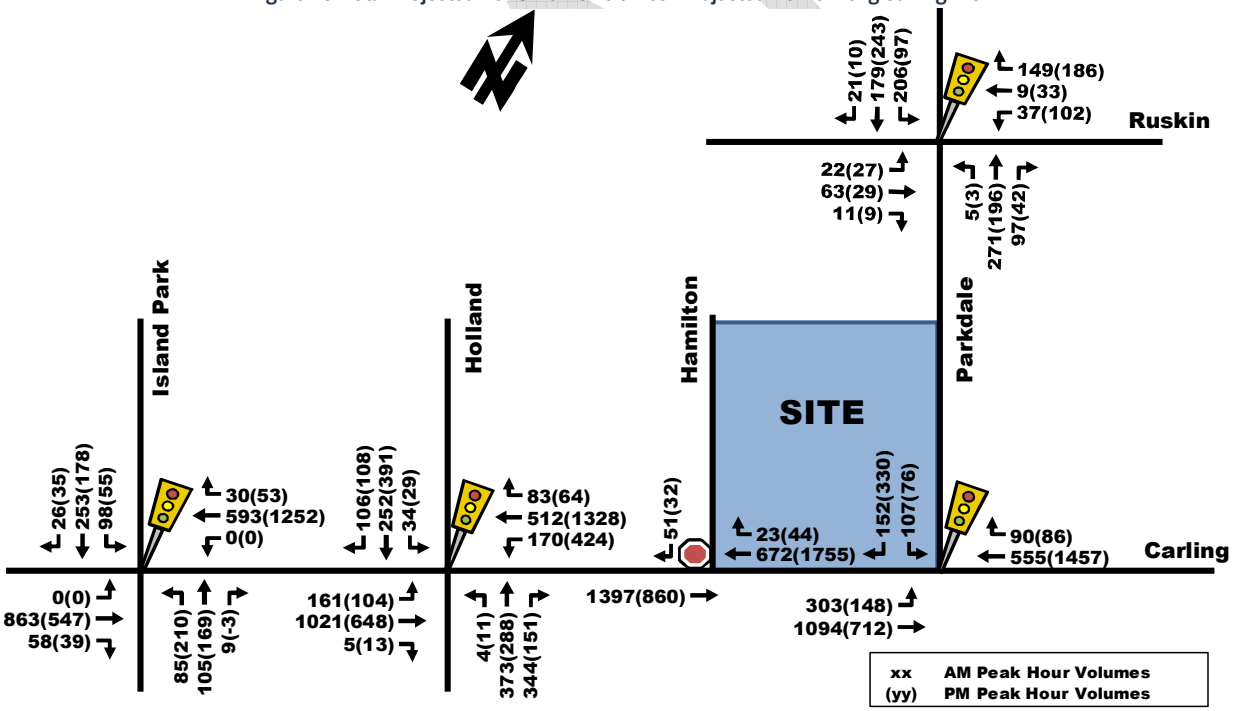


Figure 19: Total Projected 2028 Traffic Volumes – Adjusted Traffic Along Carling Ave



4. Analysis

4.1. Development Design

As this is a ZBLA, design related elements will be provided in more detail in the future Site Plan Application (SPA) submission of the proposed development. Vehicle and bicycle parking spaces will be provided in an underground parking garage. Existing pedestrian and cycling facilities will be maintained in the future.

Loading zones for the two proposed buildings will be located on the north side of the buildings, where trucks will be able to access these zones via an access that will be located on the north side of the dead-end structure on Hamilton Ave S (as shown in Figure 2). This access will also be used for garbage pick-up.

The City of Ottawa's TDM-supportive Development Design and Infrastructure has been provided in Appendix D.

Right of Way (ROW)

The proponent is pursuing a relief of the easement proposed for the future 44.5 m City Right of Way (ROW) along Carling Ave.

4.2. Parking

Based on City of Ottawa Parking Provisions, Schedule 1A, the proposed development is located in "Area Y". A total of 340 vehicle and 342 bicycle parking spaces will be provided for the proposed development, which will be located in an underground parking garage. Table 12 compares the parking requirements based on City of Ottawa Parking Provisions to the proposed number of parking spaces.

Table 12: The Required and Provided Vehicle and Bicycle Parking Supplys

Land Use	Size	Parking Rates			Required Spaces			Proposed Spaces		
		Base	Visitors	Bicycle	Base	Visitors	Bicycle	Base	Visitors	Bicycle
High-Rise Residential	462 Units	0.5 per unit, excluding first 12 units	0.1 per unit, max 30 spaces	0.5 per unit	225	30	231	340		342
				Total	**255**		**231**	**340**		**342**

As shown in Table 12, the proposed number of parking spaces meet the minimum parking requirements for vehicle and bicycle parking spaces.

4.3. Boundary Street Design

The detailed Multi-Modal Level of Service (MMLOS) analysis for boundary streets and signalized intersections will be provided in the future Site Plan Application.

4.4. Access Intersection Design

Vehicle access for residents and visitors to the proposed development's underground parking garage will be provided via a single access on Hamilton Ave S, which will be located south of the dead-end structure, approximately 40 m north of Carling Ave. The access will use Stop control for vehicles exiting the site. Another access will be provided north of the dead-end structure on Hamilton Ave S and will be used exclusively by trucks for loading/unloading, as well as garbage pick-up purposes.

Hamilton/Carling Intersection Sight Triangle

It is understood that the City has requested a 5mx5m site triangle at the northeast corner of the Hamilton/Carling intersection, however, the proponent is requesting a 3mx3m site triangle given that Hamilton Ave S is a short/dead-end local road with low traffic volumes.

4.5. Transportation Demand Management

4.5.1. Context for TDM

Based on the type of development, it is assumed that most trips generated by the proposed site will be residents leaving the site in the AM peak to go to work and returning from work to the proposed site in the PM peak. Sections 3.1.1 and 3.1.2 describe how many trips are anticipated per travel mode and anticipates the likely

locations that they will travel to and from based on the 2011 OD Survey. The site is located along Carling Avenue, which is designated as an Arterial Mainstreet according to the City of Ottawa Official Plan. Additionally, transit-oriented measures are being implemented along Carling Ave at the frontage of the site in 2022.

4.5.2. Need and Opportunity

As transit facilities develop along Carling Ave and the LRT Stage 2 construction nears completion, transit trips in the area are anticipated to increase, while vehicle trips are anticipated to decrease. In addition, the proposed development is expected to utilize measures to maintain sustainable transit and active mode shares, as described in more detail in Section 4.5.3 below.

4.5.3. TDM Program

The TDM Infrastructure and TDM Measures Checklists have been provided in Appendix D. The proposed measure for each respective checklist are provided below.

<u>Proposed measures identified in the TDM Measures Checklist are:</u>

- Display local area maps with walking/cycling access routes and key destinations at major entrances
- Display relevant transit schedules and route maps at entrances
- Contract with provider to install on-site carshare vehicles and promote their use by residents (note that this will be further investigated and confirmed as part of the future SPA)
- Unbundle parking cost from monthly rent
- Provide a multimodal travel option information package to new residents

<u>Proposed measures identified in the TDM-supportive Development Design and Infrastructure Checklist are:</u>

- Locate building close to the street, and do not locate parking areas between the street and building
- Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations
- Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort
- Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations
- Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible
- Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks
- Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps
- Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on- road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians
- Provide safe, direct and attractive walking routes from building entrances to nearby transit stops

- Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible
- Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible
- Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well- used areas
- Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored
- Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists
- Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers
- Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)
- Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for (note that parking is being provided at a rate of approximately 0.65 spaces per unit)

4.6. Neighbourhood Traffic Management

This module compares the maximum one-way traffic of a local or collector road during morning and afternoon peak hours, to the recommended thresholds outlined in the City of Ottawa TIA Guidelines. Traffic generated by the proposed development are anticipated to use local road Hamilton Ave S and major collector road Holland Ave as part of their access to/from the development.

The thresholds provided in the TIA Guidelines indicate a maximum one-way traffic of 120 veh/h for local roads and 600 veh/h for major collector roads. Using the total projected 2028 traffic volumes in Figure 19, future traffic volumes along the respective local and major collector roads can be compared to their thresholds as follows:

- For Hamilton Ave S, the maximum one-way traffic volume is approximately 51 veh/h, which occurs in the SB direction during the morning peak hour. This volume is well below the 120 veh/h threshold of a local road.

- For Holland Ave, the maximum one-way traffic volume is approximately 617 veh/h, which occurs in the NB direction during the morning peak hour. This volume slightly exceeds the 600 veh/h threshold of a major collector road.

4.7. Transit

Transit operations along Carling Ave will be improved in the future as a result of providing the dedicated transit lanes in both travel directions. There are no plans currently indicating the existing bus routes in the study area will be modified in the future. It is expected that the existing bus routes can accommodate the transit trips anticipated to be generated by the proposed development.

4.8. Review of Network Concept

Exempt – see Table 1. The proposed development is not anticipated to generate more than 200 person-trips over the permitted zoning.

4.9. Intersection Design

4.9.1. Intersection control

Since the access is located south of a dead-end, there is no conflicting traffic for vehicles entering and exiting the site. As such, free-flow of traffic in/out of the site access may be permissible. Nonetheless, it is assumed that stop control will be provided for vehicles exiting the proposed site access on Hamilton Ave S.

4.9.2. Intersection design

Synchro 10 Trafficware was used to analyze intersection performance of signalized and unsignalized intersections within the study area. Critical movements at each of the intersections were assessed based on either the movement with the highest volume-to-capacity ratio (at signalized intersections), or the movement experiencing the highest average delay (at unsignalized intersections).

It should be noted that, as per the TIA Guidelines, the Peak Hour Factor (PHF) used for analysis was 0.9 in existing conditions and 1.0 in all future scenario conditions. All Synchro reports for existing and future conditions have been provided in Appendix E.

Existing Conditions

Table 13 below summarizes the intersection performance of study area intersections, based on the existing conditions traffic volumes illustrated in Figure 7.

Table 13: Existing Conditions Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Carling Ave/Parkdale Ave (S)	D(D)	0.82(0.89)	SBL(SBL)	21.3(30.6)	A(C)	0.58(0.80)
Holland Ave/Carling Ave (S)	F(F)	1.78(1.07)	SBT(SBT)	93.1(52.0)	D(C)	0.86(0.77)
Island Park Dr/Carling Ave (S)	A(E)	0.55(0.91)	EBT(WBT)	57.0(63.3)	A(C)	0.51(0.79)
Parkdale Ave/Ruskin St (S)	A(B)	0.58(0.61)	SBT(WBT)	11.5(15.5)	A(A)	0.46(0.39)
Note: Analysis of signalized intersections assumes a PHF of 0.9 and a saturation flow rate of 1800 veh/h/lane. (S) – Signalized intersection, critical movement based on max v/c						

As shown in Table 13, all intersections 'as a whole' operate at a LOS 'D' or better during peak hours. With regards to critical movements, the SBT operates at capacity at the intersection of Holland/Carling, during both peak hours. These operations are the result of the SB approach's lane configuration, where the SBT and SBL movements share a single lane and the SBL movement operates on permissive timing. However, traffic operations are better in reality, as SBT traffic will maneuver around the SBL traffic to avoid the wait time. Additionally, the SBL traffic is relatively low with a maximum of 34 veh during peak hours. As such, there are no actual operational concerns at the SB approach of the intersection of Holland/Carling.

Total Projected 2023

Based on total projected 2023 traffic volumes in Figure 18, study area intersections were analyzed using Synchro, with results summarized in Table 14 below. Note that Carling Ave has been modified in the analysis based on the future plans for providing dedicated transit lanes in both travel directions (see Figure 10).

Table 14: Total Projected 2023 Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Carling Ave/Parkdale Ave (S)	C(D)	0.80(0.89)	SBL(SBL)	21.6(31.7)	A(D)	0.59(0.85)
Holland Ave/Carling Ave (S)	F(E)	1.20(0.91)	SBT(WBL)	68.6(51.1)	D(C)	0.81(0.73)
Island Park Dr/Carling Ave (S)	A(F)	0.59(1.01)	EBT(WBT)	49.1(64.6)	A(D)	0.52(0.84)
Parkdale Ave/Ruskin St (S)	A(A)	0.50(0.58)	SBT(WBT)	10.6(14.2)	A(A)	0.41(0.36)
Carling Ave/Hamilton Ave S (U)	A(B)	9.0(10.7)	SB(SB)	0.2(0.1)	A(A)	-
Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane. (S) – Signalized intersection, critical movement based on max v/c (U) – Unsignalized intersection, critical movement based on highest average delay						

As shown in Table 14, intersection operations are similar to existing conditions despite the future modifications to Carling Ave. This is due to increasing the PHF to 1.0 for future analysis, as well as the decrease applied to the peak direction traffic at the through movements along Carling Ave. Note that critical movement operations at Holland/Carling can be improved further by optimizing signal phasing in Synchro. Additionally, there are no traffic operation concerns at the unsignalized intersection of Carling/Hamilton.

Total Projected 2028

Based on total projected 2028 traffic volumes in Figure 19, study are intersections were analyzed using Synchro, with results summarized in Table 15 below.

Table 15: Total Projected 2028 Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Carling Ave/Parkdale Ave (S)	C(D)	0.80(0.89)	SBL(SBL)	21.6(31.7)	A(D)	0.59(0.85)
Holland Ave/Carling Ave (S)	F(E)	1.20(0.91)	SBT(WBL)	68.6(51.1)	D(C)	0.81(0.73)
Island Park Dr/Carling Ave (S)	A(F)	0.59(1.01)	EBT(WBT)	49.1(64.6)	A(D)	0.52(0.84)
Parkdale Ave/Ruskin St (S)	A(A)	0.50(0.58)	SBT(WBT)	10.6(14.2)	A(A)	0.41(0.36)
Carling Ave/Hamilton Ave S (U)	A(B)	9.0(10.4)	SB(SB)	0.2(0.1)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection, critical movement based on max v/c
(U) – Unsignalized intersection, critical movement based on highest average delay

As indicated by Table 15, traffic operations are anticipated to be similar to the total projected 2023 traffic operations.

5. Findings, Conclusions and Recommendations

Based on the results summarized herein, the following transportation related conclusions are offered:

Proposed Development

- The proposed development will be located at the municipal address of 1081 Carling Ave. The site is currently occupied by a multi-storey office building with an attached parking garage, which will be replaced by the proposed development.
- The development will consist of two residential towers. The west tower will be 22-storeys high with 204 apartment units and the east tower will 28-storeys high with 258 apartment units. The development will be constructed in a single phase by 2023.
- Vehicle access to the underground parking lot will be provided via a driveway on Hamilton Ave S, south of the dead-end structure.
- A loading/unloading zone on the north side of the buildings can be accessed via a driveway on Hamilton Ave S, north of the dead-end structure. The access will also be used for garbage pick-up.
- A total of 340 vehicle parking spaces and 342 bicycle parking spaces are proposed, which meets the requirements of City of Ottawa Parking Provisions.
- At full buildout in 2023, the development is expected approximately 187 and 184 person trips during the morning and afternoon peak hours respectively. Up to 75 vehicle trips and 85 transit trips are anticipated during peak hours. However, after accounting for existing trips from the existing office building, the proposed development is anticipated to generate up to 105 'new' total person trips, 19 'new' vehicle trips and 69 'new' transit trips during peak hours.
- The proponent is pursuing a relief of the easement proposed for the future 44.5 m City Right of Way (ROW) along Carling Ave.
- The proponent is requesting a 3mx3m site triangle.

Existing and Background Conditions

- In existing conditions, the following traffic operations are noted:
    - Study area intersections 'as a whole' operate at a LOS 'D' or better during peak hours.
    - The critical SBT movement at the intersection of Holland/Carling was determined to operate at capacity during both peak hours. This is the result of SBT traffic being delayed by SBL traffic in their shared lane. In reality, SBT traffic will bypass SBL traffic to avoid these delays. Notably, the SBL traffic volume is relatively low (up to 34 vehicles during peak hours).

Projected Conditions

- Using the Carling Avenue Transit Priority Measures Study (WSP, June 2017), the following changes to traffic volumes have been applied:
    - For horizon year 2023, a decrease of 10% has been applied to the general traffic in the peak direction and an increase of 5% has been applied in the off-peak direction.
    - For horizon year 2028, a decrease of 15% has been applied to the general traffic in the peak direction and an increase of 10% has been applied in the off-peak direction.
- Changes to lane configurations along Carling Ave were accounted for in Synchro analysis, along with modifications to the traffic volumes. The resulting total projected 2023 and 2028 traffic operations are similar to existing conditions.
- The maximum total projected 2028 traffic volume along Hamilton Ave S is approximately 51 veh/h, which does not exceed the 120 veh/h threshold of a local road set by the TIA Guidelines. The maximum total projected 2028 traffic volume along Holland Ave is approximately 617 veh/h, which slightly exceeds the 600 veh/h threshold of a major collector road set by the TIA Guidelines.

In summary, the adjacent road network is expected to accommodate anticipated development traffic in the future. Therefore, the proposed development is recommended to proceed from a transportation perspective.

APPENDIX A

SCREENING FORM

PARSONS

1223 Michael Street, Suite 100, Ottawa, Ontario, K1J 7T2
P: +1 613.738.4160 l F: +1 613.739.7105 l www.parsons.com

City of Ottawa 2017 TIA Guidelines

TIA Screening Form

Date	31-Aug-21
Project	1081 Carling Avenue
Project Number	477892-01000

Results of Screening	Yes/No
Development Satisfies the Trip Generation Trigger	Yes
Development Satisfies the Location Trigger	Yes
Development Satisfies the Safety Trigger	Yes

Module 1.1 - Description of Proposed Development	
Municipal Address	1081 Carling Avenue
Description of location	Bounded by Carling Avenue to the south, Hamiton Avenue to the west, and Parkdale Avenue to the east. Property currently occupied by a multi-storey office building with attached parking garage, a surface parking lot, and a private dwelling.
Land Use	Residential
Development Size	462 residential units total
Number of Accesses and Locations	2 driveways on Hamilton Ave S, one south of road block and one north fo road block.
Development Phasing	1 phase
Buildout Year	2023
Sketch Plan / Site Plan	See attached

Module 1.2 - Trip Generation Trigger		
Land Use Type	Townhomes or Apartments	
Development Size	462	Units
Trip Generation Trigger Met?	Yes	

Module 1.3 - Location Triggers	
Development Proposes a new driveway to a boundary street that is designated as part of the City's Transit Priority, Rapid Transit, or Spine Bicycle Networks (See Sheet 3)	No
Development is in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone. (See Sheet 3)	Yes
Location Trigger Met?	Yes

Module 1.4 - Safety Triggers		
Posted Speed Limit on any boundary road	<80	km/h
Horizontal / Vertical Curvature on a boundary street limits sight lines at a proposed driveway	Yes	
A proposed driveway is 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) or within auxiliary lanes of an intersection;	No	
A proposed driveway makes use of an existing median break that serves an existing site	No	
There is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development	Yes	
The development includes a drive-thru facility	No	
Safety Trigger Met?	Yes	

APPENDIX B

TRAFFIC COUNT DATA

Transportation Services - Traffic Services

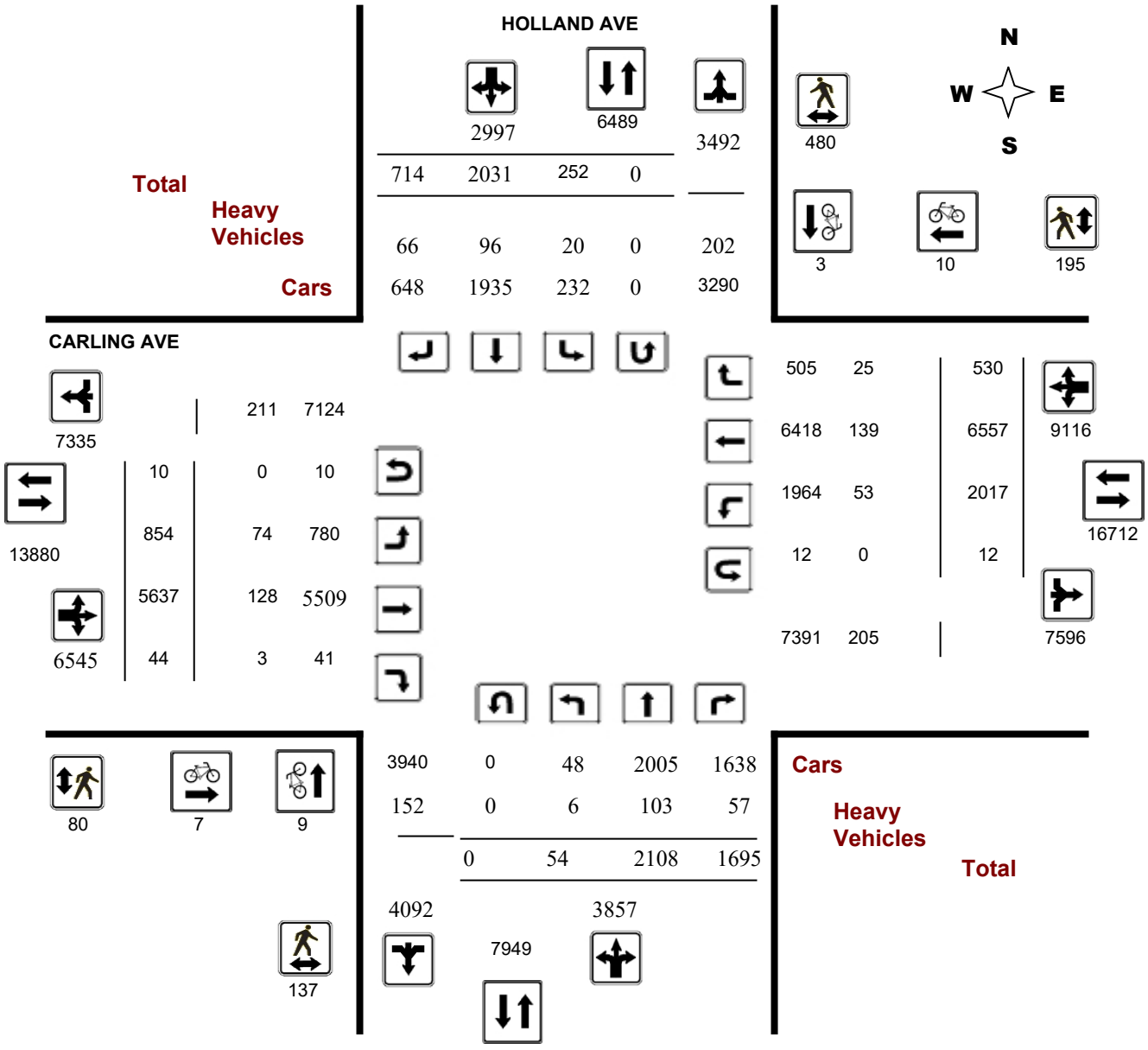
Turning Movement Count - Study Results

CARLING AVE @ HOLLAND AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39356

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

Full Study Diagram



5470808 - TUE JAN 21, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

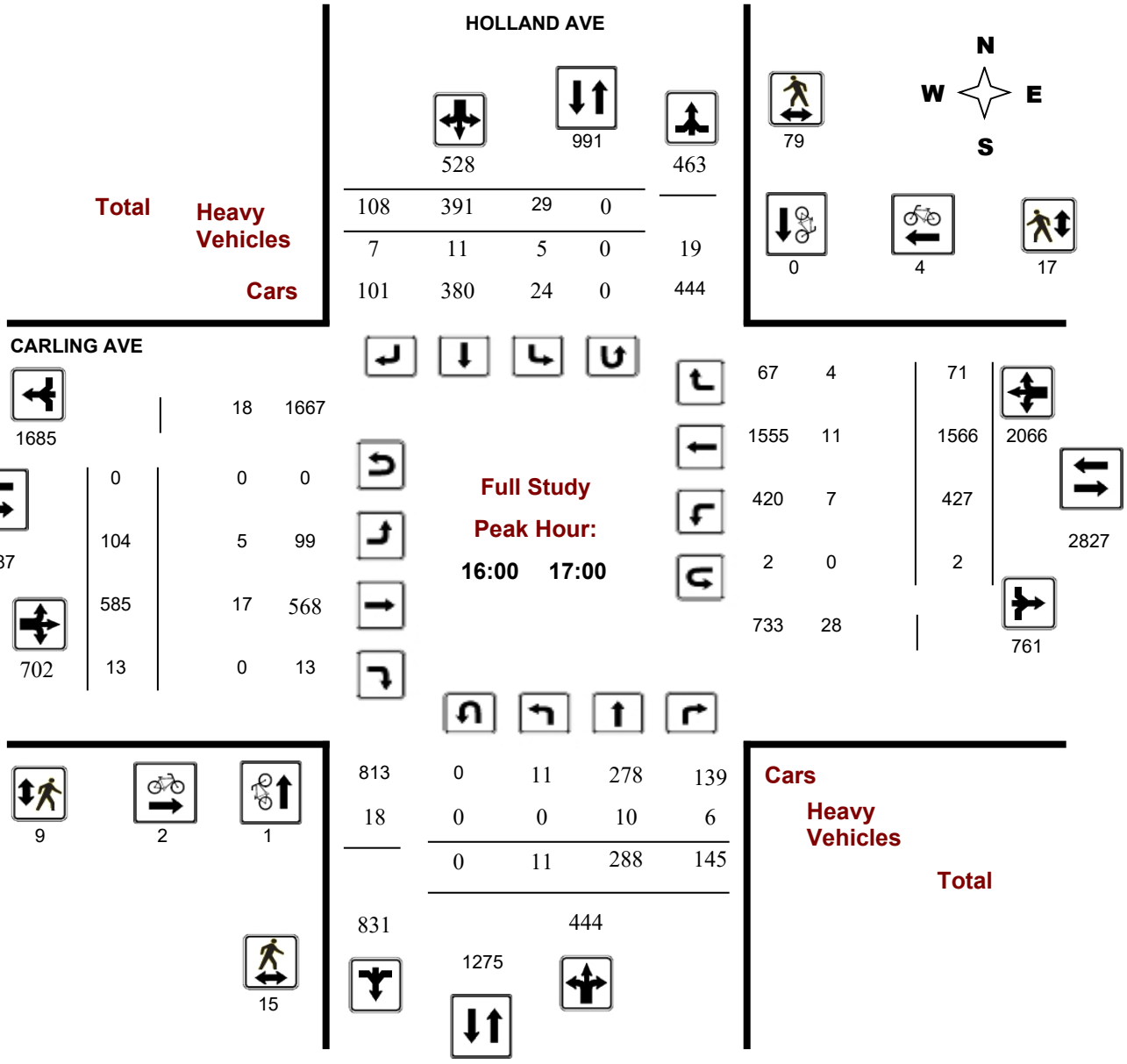
Turning Movement Count - Study Results

CARLING AVE @ HOLLAND AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39356

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

Full Study Peak Hour Diagram



5470808 - TUE JAN 21, 2020 - 8HRS - LORETTA

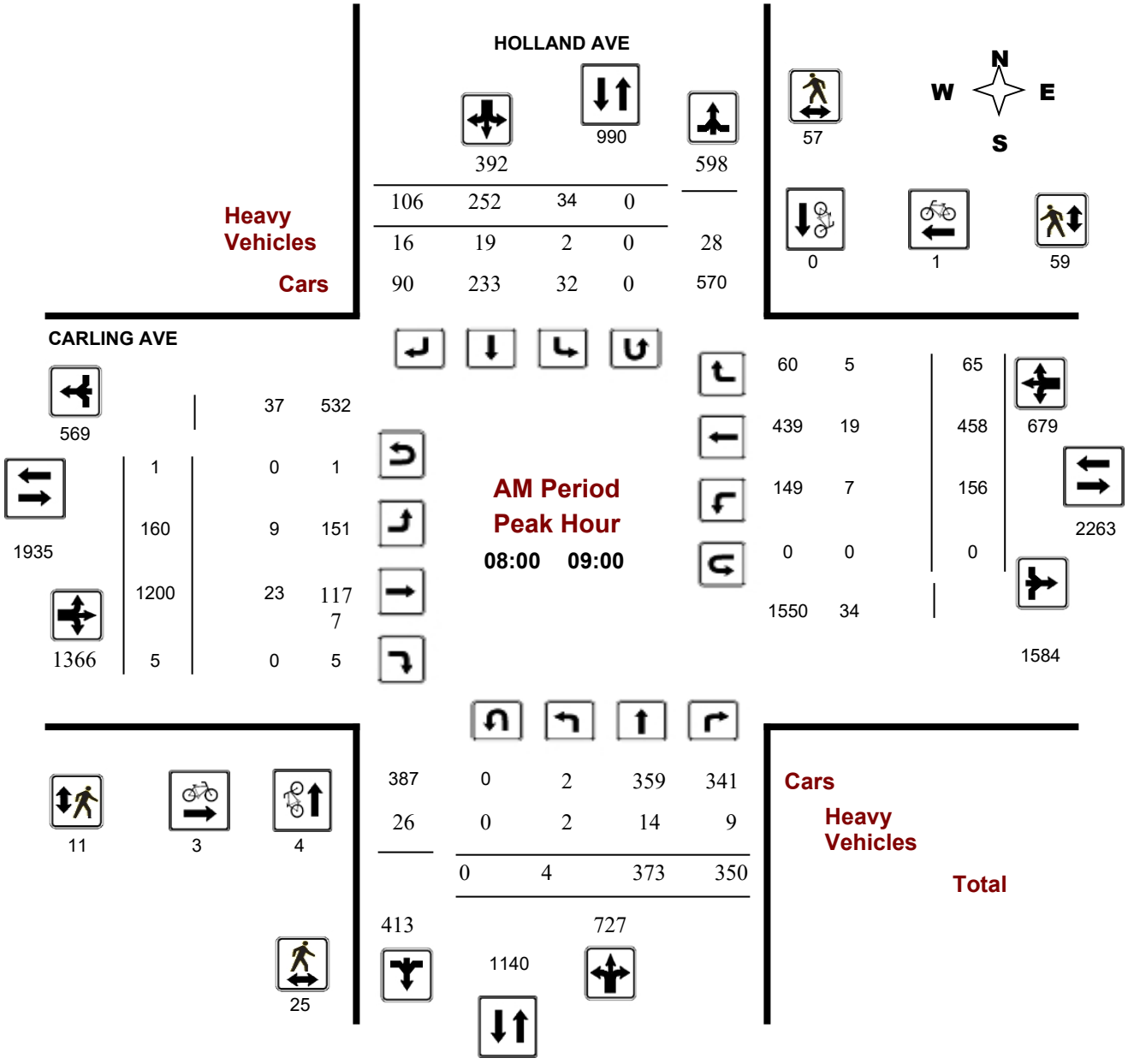
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CARLING AVE @ HOLLAND AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39356

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



Comments 5470808 - TUE JAN 21, 2020 - 8HRS - LORETTA

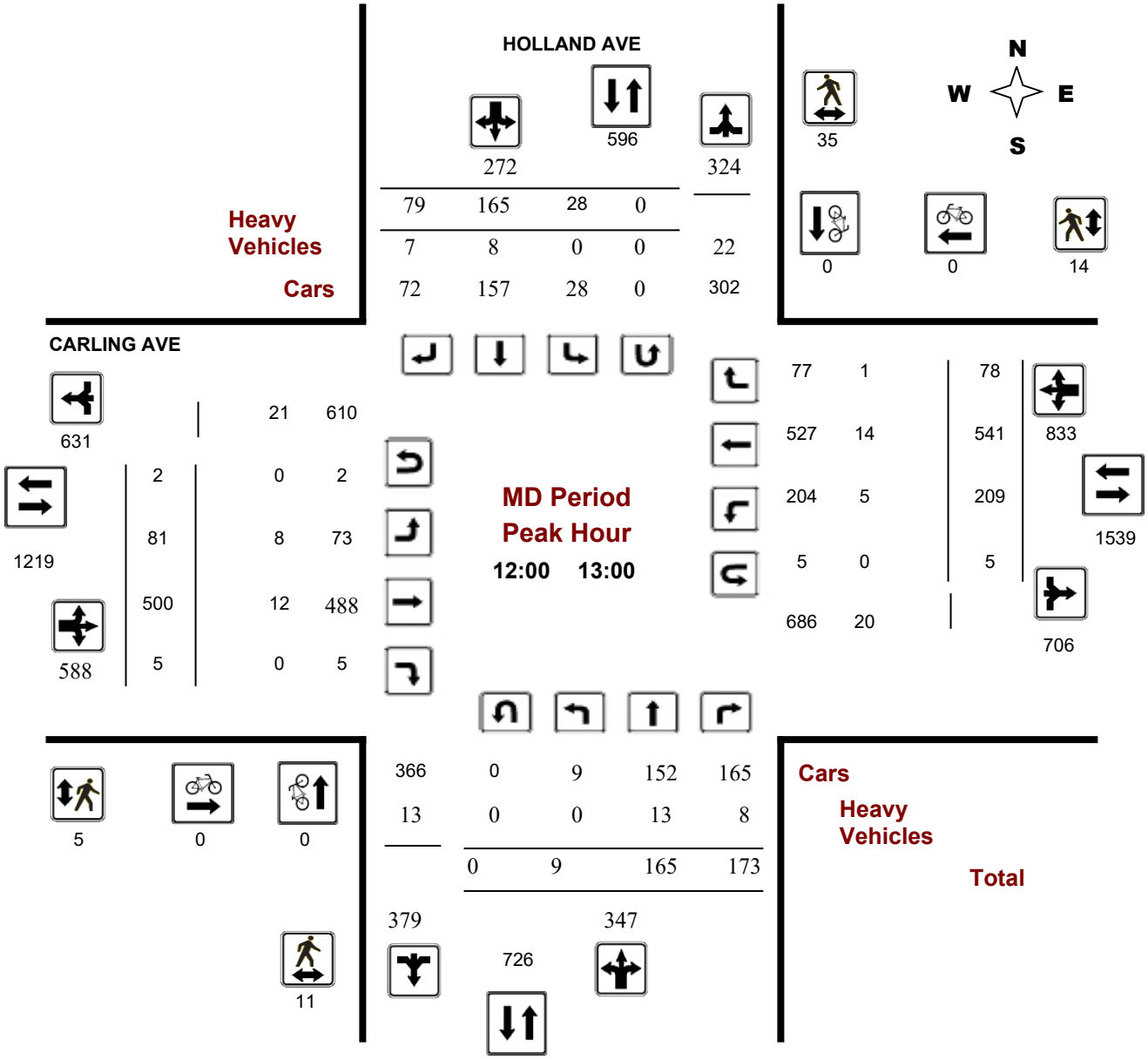
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CARLING AVE @ HOLLAND AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39356

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



Comments 5470808 - TUE JAN 21, 2020 - 8HRS - LORETTA

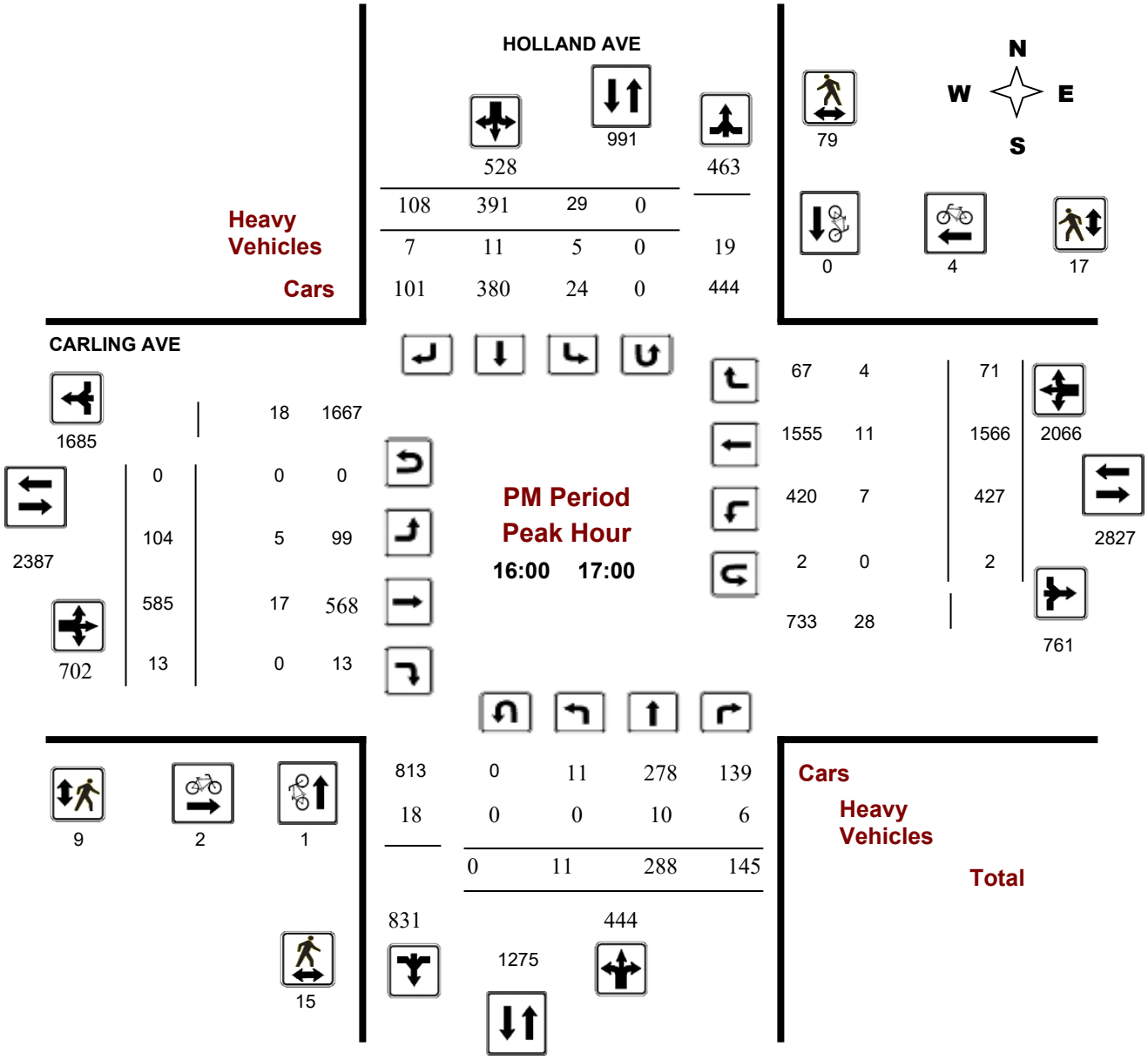
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CARLING AVE @ HOLLAND AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39356

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



Comments 5470808 - TUE JAN 21, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ HOLLAND AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39356

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

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, January 21, 2020

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 10 Westbound: 12

AADT Factor

1.10

	HOLLAND AVE								CARLING 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	4	324	282	**610**	24	197	51	**272**	**882**	122	944	3	**1069**	120	321	39	**480**	**1549**	**2431**
08:00 09:00	4	373	350	**727**	34	252	106	**392**	**1119**	160	1200	5	**1365**	156	458	65	**679**	**2044**	**3163**
09:00 10:00	5	247	251	**503**	36	175	74	**285**	**788**	109	793	10	**912**	149	480	55	**684**	**1596**	**2384**
11:30 12:30	9	152	158	**319**	29	157	81	**267**	**586**	82	473	3	**558**	231	560	71	**862**	**1420**	**2006**
12:30 13:30	8	151	191	**350**	33	148	72	**253**	**603**	74	500	4	**578**	187	523	66	**776**	**1354**	**1957**
15:00 16:00	6	306	160	**472**	43	357	115	**515**	**987**	111	580	3	**694**	393	1341	99	**1833**	**2527**	**3514**
16:00 17:00	11	288	145	**444**	29	391	108	**528**	**972**	104	585	13	**702**	427	1566	71	**2064**	**2766**	**3738**
17:00 18:00	7	267	158	**432**	24	354	107	**485**	**917**	92	562	3	**657**	354	1308	64	**1726**	**2383**	**3300**
Sub Total	54	2108	1695	**3857**	252	2031	714	**2997**	**6854**	854	5637	44	**6535**	2017	6557	530	**9104**	**15639**	**22493**
U Turns				**0**				**0**	**0**				**10**				**12**	**22**	**22**
Total	54	2108	1695	**3857**	252	2031	714	**2997**	**6854**	854	5637	44	**6545**	2017	6557	530	**9116**	**15661**	**22515**
EQ 12Hr	75	2930	2356	**5361**	350	2823	992	**4166**	**9527**	1187	7835	61	**9098**	2804	9114	737	**12671**	**21769**	**31296**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	78	3038	2442	**5558**	363	2927	1029	**4319**	**10480**	1231	8123	63	**9431**	2906	9449	764	**13136**	**23946**	**34426**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1.1**					
AVG 24Hr	102	3979	3200	**7281**	476	3834	1348	**5657**	**12938**	1612	10641	83	**12355**	3808	12378	1000	**17208**	**29563**	**42501**
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

CARLING AVE @ HOLLAND AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39356

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

Full Study 15 Minute Increments

		HOLLAND AVE									CARLING 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
09:15	09:30	0	63	64	127	11	45	17	73	376	29	214	4	248	25	122	10	157	376	605
09:30	09:45	2	41	47	90	10	45	26	81	344	22	177	2	201	50	107	13	171	344	543
09:45	10:00	2	56	48	106	5	37	11	53	339	28	161	2	193	39	121	18	178	339	530
11:30	11:45	2	45	54	101	8	41	24	73	349	20	117	0	137	58	129	11	198	349	509
11:45	12:00	4	34	32	70	6	32	11	49	287	23	110	0	133	63	155	16	236	287	488
12:00	12:15	2	34	29	65	5	49	28	82	331	19	133	3	156	50	121	29	201	331	504
12:15	12:30	1	39	43	83	10	35	18	63	315	20	113	0	133	60	155	15	232	315	511
12:30	12:45	4	53	54	111	5	45	16	66	364	27	115	0	142	51	129	11	191	364	510
12:45	13:00	2	39	47	88	8	36	17	61	312	15	139	2	157	48	136	23	209	312	515
13:00	13:15	1	33	45	79	12	35	19	66	275	16	134	2	152	32	109	12	153	275	450
13:15	13:30	1	26	45	72	8	32	20	60	282	16	112	0	129	56	149	20	226	282	487
15:00	15:15	3	79	36	118	14	94	23	131	572	27	137	0	165	97	269	26	392	572	806
15:15	15:30	2	71	35	108	11	80	27	118	530	29	144	0	173	95	317	29	441	530	840
15:30	15:45	0	75	43	118	10	90	37	137	569	29	165	1	195	95	366	24	485	569	935
15:45	16:00	1	81	46	128	8	93	28	129	585	26	134	2	162	106	389	20	515	585	934
16:00	16:15	2	73	35	110	7	89	31	127	554	24	129	6	159	106	387	19	513	554	909
16:15	16:30	4	66	35	105	7	107	16	130	559	28	151	5	184	98	387	20	505	559	924
16:30	16:45	3	73	45	121	7	104	25	136	596	24	146	1	171	117	394	20	531	596	959
16:45	17:00	2	76	30	108	8	91	36	135	557	28	159	1	188	106	398	12	517	557	948
17:00	17:15	2	65	33	100	6	94	33	133	534	25	139	1	165	95	365	21	481	534	879
17:15	17:30	2	71	41	114	6	94	20	120	530	28	143	1	173	87	356	15	458	530	865
17:30	17:45	2	81	45	128	6	87	25	118	544	19	138	0	157	98	312	13	423	544	826
17:45	18:00	1	50	39	90	6	79	29	114	443	20	142	1	163	74	275	15	364	443	731
07:00	07:15	0	73	41	114	4	37	6	47	330	28	166	0	194	25	57	6	89	330	444
07:15	07:30	1	83	82	166	4	38	15	57	408	21	233	2	256	30	69	11	110	408	589
07:30	07:45	2	72	78	152	8	67	14	89	451	29	257	0	286	31	71	11	113	451	640
07:45	08:00	1	96	81	178	8	55	16	79	498	44	288	1	333	34	124	11	169	498	759
08:00	08:15	0	89	106	195	6	63	19	88	522	43	318	3	364	31	109	10	150	522	797
08:15	08:30	2	79	74	155	10	56	29	95	480	26	318	1	345	49	124	19	192	480	787
08:30	08:45	1	106	84	191	8	80	30	118	586	43	276	0	319	36	114	12	162	586	790
08:45	09:00	1	99	86	186	10	53	28	91	542	48	288	1	338	40	111	24	175	542	790
09:00	09:15	1	87	92	180	10	48	20	78	474	30	241	2	274	35	130	14	179	474	711
Total:		54	2108	1695	3857	252	2031	714	2997	14438	854	5637	44	6545	2017	6557	530	9116	14438	22,515

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ HOLLAND AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39356

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

Full Study Cyclist Volume

Time Period		HOLLAND AVE			CARLING AVE			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
09:15	09:30	0	0	0	0	1	1	1
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	0	0	0
15:15	15:30	0	1	1	0	0	0	1
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	1	1	1
16:00	16:15	0	0	0	0	1	1	1
16:15	16:30	0	0	0	0	2	2	2
16:30	16:45	0	0	0	1	0	1	1
16:45	17:00	1	0	1	1	1	2	3
17:00	17:15	0	1	1	0	0	0	1
17:15	17:30	0	1	1	0	1	1	2
17:30	17:45	0	0	0	0	1	1	1
17:45	18:00	0	0	0	0	0	0	0
07:00	07:15	2	0	2	1	0	1	3
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	1	0	1	0	0	0	1
07:45	08:00	1	0	1	1	0	1	2
08:00	08:15	2	0	2	0	0	0	2
08:15	08:30	0	0	0	1	0	1	1
08:30	08:45	1	0	1	1	1	2	3
08:45	09:00	1	0	1	1	0	1	2
09:00	09:15	0	0	0	0	1	1	1
Total		9	3	**12**	7	10	17	29

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ HOLLAND AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39356

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

Full Study Pedestrian Volume

	HOLLAND AVE			CARLING 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
09:15 09:30	2	8	**10**	0	7	**7**	**17**
09:30 09:45	2	5	**7**	3	4	**7**	**14**
09:45 10:00	2	6	**8**	0	6	**6**	**14**
11:30 11:45	2	4	**6**	1	3	**4**	**10**
11:45 12:00	2	7	**9**	1	5	**6**	**15**
12:00 12:15	6	6	**12**	2	6	**8**	**20**
12:15 12:30	0	8	**8**	0	1	**1**	**9**
12:30 12:45	2	8	**10**	3	4	**7**	**17**
12:45 13:00	3	13	**16**	0	3	**3**	**19**
13:00 13:15	2	4	**6**	0	1	**1**	**7**
13:15 13:30	3	11	**14**	0	1	**1**	**15**
15:00 15:15	7	21	**28**	2	6	**8**	**36**
15:15 15:30	6	37	**43**	3	4	**7**	**50**
15:30 15:45	2	45	**47**	2	4	**6**	**53**
15:45 16:00	6	18	**24**	5	9	**14**	**38**
16:00 16:15	6	18	**24**	3	7	**10**	**34**
16:15 16:30	2	28	**30**	0	4	**4**	**34**
16:30 16:45	3	13	**16**	2	3	**5**	**21**
16:45 17:00	4	20	**24**	4	3	**7**	**31**
17:00 17:15	4	27	**31**	6	7	**13**	**44**
17:15 17:30	3	19	**22**	4	3	**7**	**29**
17:30 17:45	7	14	**21**	8	4	**12**	**33**
17:45 18:00	4	20	**24**	3	7	**10**	**34**
07:00 07:15	6	10	**16**	0	10	**10**	**26**
07:15 07:30	5	11	**16**	1	0	**1**	**17**
07:30 07:45	6	21	**27**	5	8	**13**	**40**
07:45 08:00	7	14	**21**	2	14	**16**	**37**
08:00 08:15	6	13	**19**	2	22	**24**	**43**
08:15 08:30	9	17	**26**	2	15	**17**	**43**
08:30 08:45	5	13	**18**	2	15	**17**	**35**
08:45 09:00	5	14	**19**	5	7	**12**	**31**
09:00 09:15	8	7	**15**	9	2	**11**	**26**
Total	137	480	**617**	80	195	**275**	**892**

5470808 - TUE JAN 21, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ HOLLAND AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39356

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

Full Study Heavy Vehicles

		HOLLAND AVE									CARLING 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
09:15	09:30	0	3	3	**12**	1	5	2	**15**	**27**	4	7	0	**18**	1	5	0	**17**	**35**	**31**
09:30	09:45	0	1	1	**12**	2	4	7	**19**	**31**	5	4	2	**22**	4	4	0	**15**	**37**	**34**
09:45	10:00	0	3	2	**9**	1	2	2	**18**	**27**	6	5	1	**20**	1	6	4	**19**	**39**	**33**
11:30	11:45	1	1	2	**8**	0	2	2	**6**	**14**	1	9	0	**20**	2	7	0	**20**	**40**	**27**
11:45	12:00	0	1	2	**8**	0	2	1	**8**	**16**	4	3	0	**11**	3	3	0	**11**	**22**	**19**
12:00	12:15	0	3	1	**6**	0	1	1	**6**	**12**	1	3	0	**9**	1	4	0	**9**	**18**	**15**
12:15	12:30	0	4	2	**11**	0	3	2	**10**	**21**	1	1	0	**8**	2	4	0	**9**	**17**	**19**
12:30	12:45	0	2	2	**8**	0	3	3	**12**	**20**	4	3	0	**13**	1	3	0	**9**	**22**	**21**
12:45	13:00	0	4	3	**9**	0	1	1	**9**	**18**	2	5	0	**11**	1	3	1	**13**	**24**	**21**
13:00	13:15	0	3	1	**7**	0	2	4	**10**	**17**	1	3	0	**14**	1	6	0	**11**	**25**	**21**
13:15	13:30	0	1	1	**6**	0	1	1	**5**	**11**	1	2	0	**10**	3	6	1	**13**	**23**	**17**
15:00	15:15	0	7	1	**11**	0	1	2	**14**	**25**	2	3	0	**10**	2	3	2	**11**	**21**	**23**
15:15	15:30	1	5	2	**15**	1	5	1	**17**	**32**	5	3	0	**17**	2	7	0	**15**	**32**	**32**
15:30	15:45	0	7	1	**12**	0	3	2	**15**	**27**	2	1	0	**12**	1	7	1	**11**	**23**	**25**
15:45	16:00	0	6	1	**12**	0	3	1	**14**	**26**	4	7	0	**18**	2	6	0	**16**	**34**	**30**
16:00	16:15	0	1	1	**8**	2	3	3	**13**	**21**	3	3	0	**10**	3	1	1	**11**	**21**	**21**
16:15	16:30	0	4	2	**10**	1	2	0	**8**	**18**	0	4	0	**10**	2	6	1	**16**	**26**	**22**
16:30	16:45	0	2	3	**9**	1	3	3	**12**	**21**	2	5	0	**11**	1	1	1	**12**	**23**	**22**
16:45	17:00	0	3	0	**7**	1	3	1	**9**	**16**	0	5	0	**9**	1	3	1	**11**	**20**	**18**
17:00	17:15	0	5	1	**9**	0	2	2	**12**	**21**	3	4	0	**12**	1	3	0	**9**	**21**	**21**
17:15	17:30	0	2	3	**10**	1	4	0	**8**	**18**	0	0	0	**5**	1	5	1	**11**	**16**	**17**
17:30	17:45	0	2	3	**8**	1	3	2	**9**	**17**	1	3	0	**11**	0	5	0	**12**	**23**	**20**
17:45	18:00	0	2	1	**7**	0	2	0	**7**	**14**	2	2	0	**13**	2	9	1	**15**	**28**	**21**
07:00	07:15	0	3	3	**9**	1	1	1	**9**	**18**	2	3	0	**9**	2	3	1	**13**	**22**	**20**
07:15	07:30	1	3	1	**8**	1	2	1	**8**	**16**	0	0	0	**4**	1	2	1	**6**	**10**	**13**
07:30	07:45	0	3	2	**12**	1	6	2	**18**	**30**	5	2	0	**11**	1	2	1	**9**	**20**	**25**
07:45	08:00	0	3	2	**13**	1	6	2	**14**	**27**	1	8	0	**14**	2	3	1	**17**	**31**	**29**
08:00	08:15	0	4	4	**11**	0	3	0	**12**	**23**	3	8	0	**16**	0	5	2	**19**	**35**	**29**
08:15	08:30	1	3	3	**15**	1	5	4	**16**	**31**	2	2	0	**11**	3	2	1	**12**	**23**	**27**
08:30	08:45	0	2	0	**8**	1	4	6	**16**	**24**	2	6	0	**22**	2	8	1	**18**	**40**	**32**
08:45	09:00	1	5	2	**17**	0	7	6	**21**	**38**	2	7	0	**20**	2	4	1	**16**	**36**	**37**
09:00	09:15	1	5	1	**11**	2	2	1	**14**	**25**	3	7	0	**15**	2	3	1	**16**	**31**	**28**
Total:	None	6	103	57	**318**	20	96	66	**384**	**702**	74	128	3	**416**	53	139	25	**422**	**838**	**770**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ HOLLAND AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39356

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

Full Study 15 Minute U-Turn Total

Time Period		HOLLAND AVE		CARLING AVE		
		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
09:15	09:30	0	0	1	0	1
09:30	09:45	0	0	0	1	1
09:45	10:00	0	0	2	0	2
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	2	2
12:00	12:15	0	0	1	1	2
12:15	12:30	0	0	0	2	2
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	1	2	3
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	1	1	2
15:00	15:15	0	0	1	0	1
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	1	1
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	0	0
17:15	17:30	0	0	1	0	1
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
07:00	07:15	0	0	0	1	1
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	1	0	1
09:00	09:15	0	0	1	0	1
Total		0	0	10	12	22

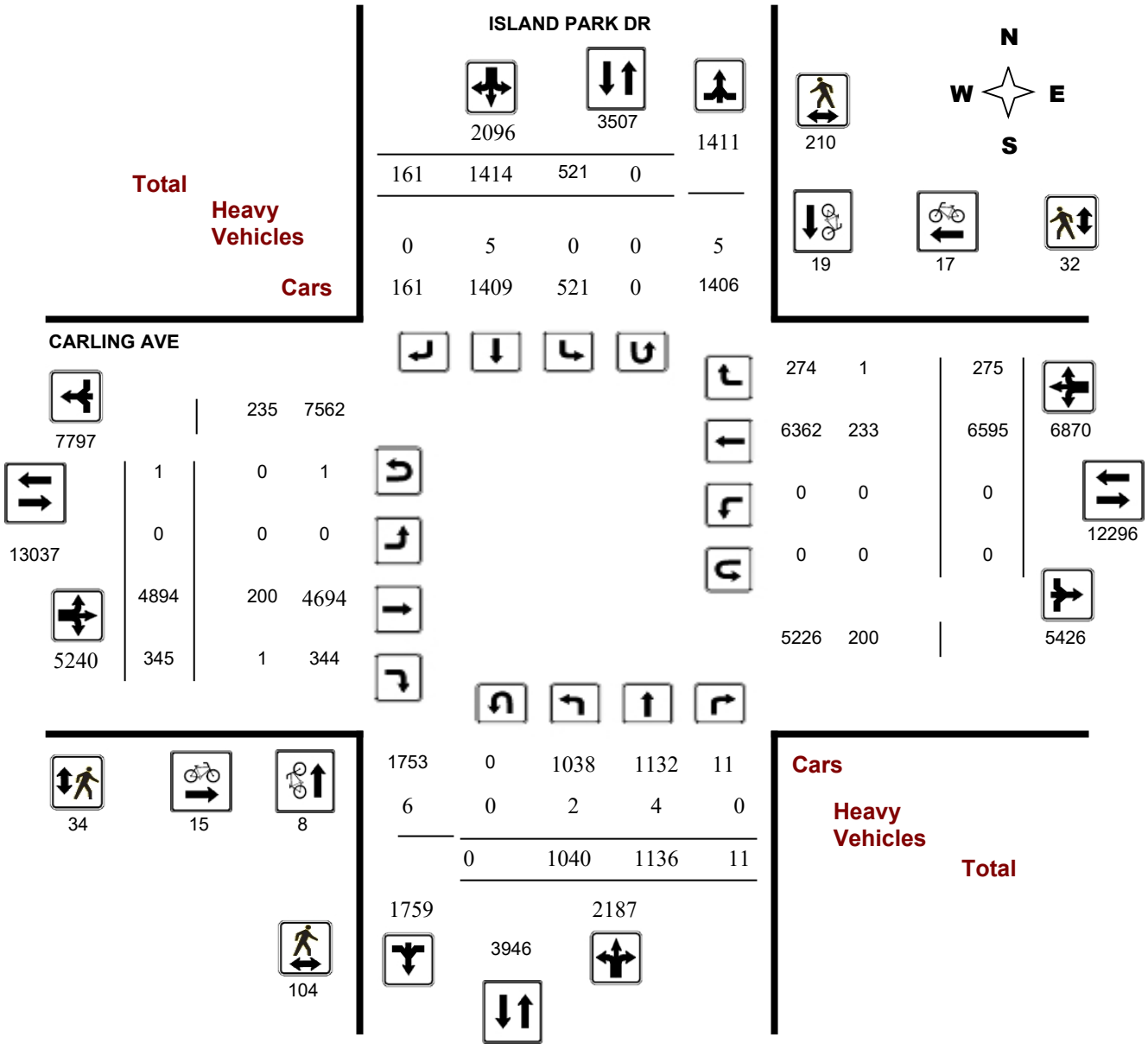
Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ ISLAND PARK DR

Survey Date: Wednesday, March 21, 2018
Start Time: 07:00
WO No: 37623
Device: Miovision

Full Study Diagram



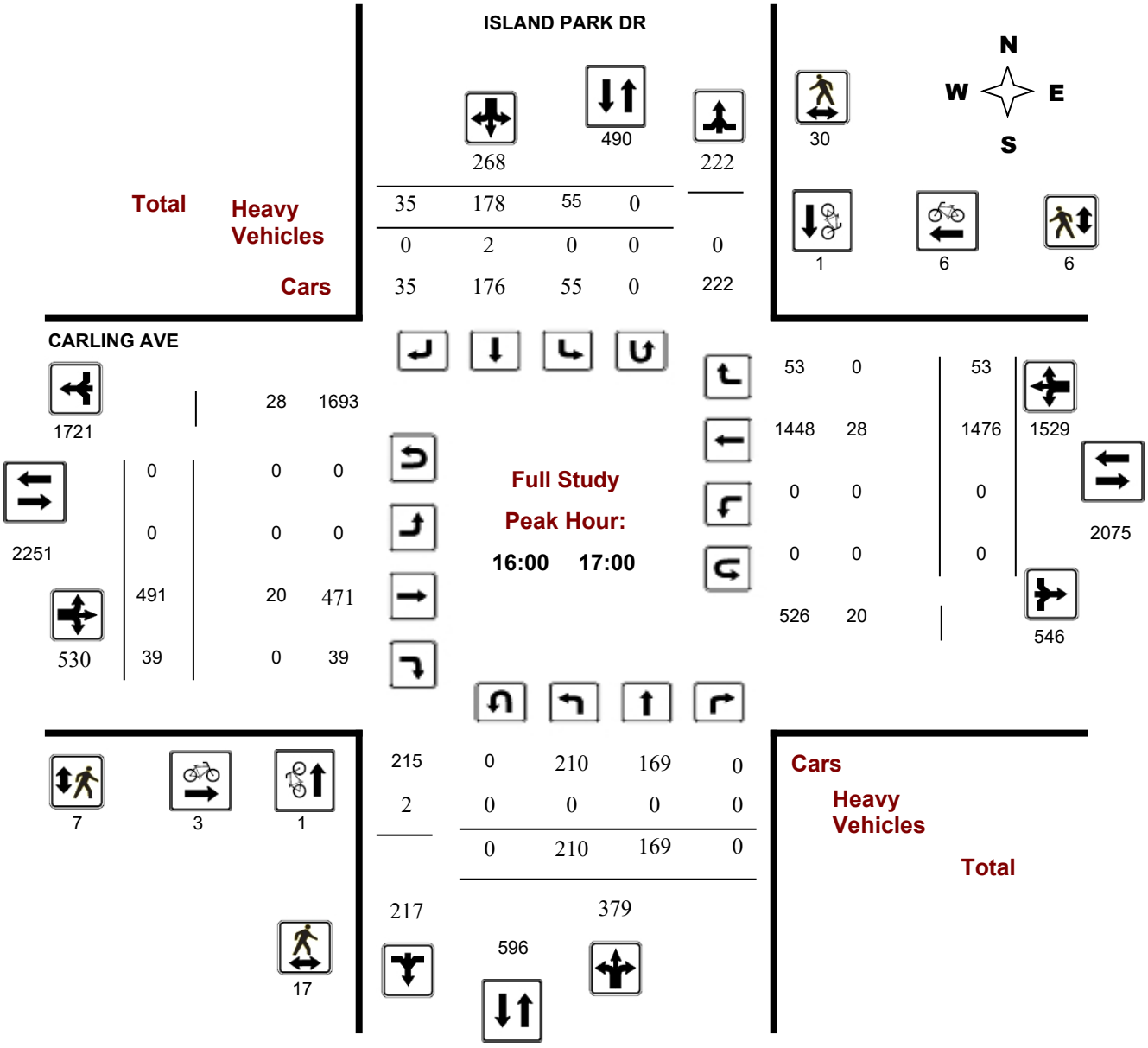
Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ ISLAND PARK DR

Survey Date: Wednesday, March 21, 2018
Start Time: 07:00
WO No: 37623
Device: Miovision

Full Study Peak Hour Diagram



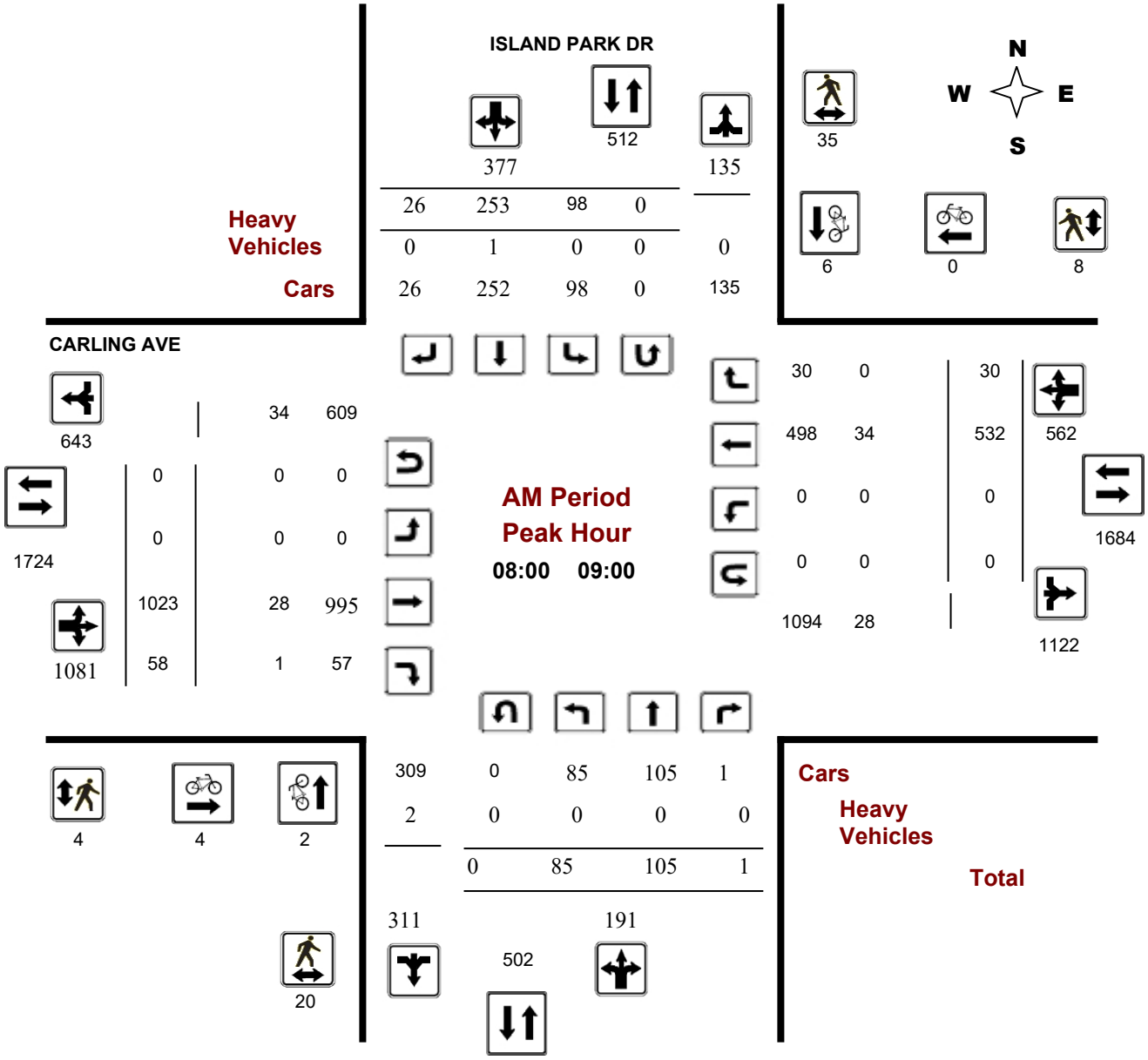
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CARLING AVE @ ISLAND PARK DR

Survey Date: Wednesday, March 21, 2018 **WO No:** 37623

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



Comments

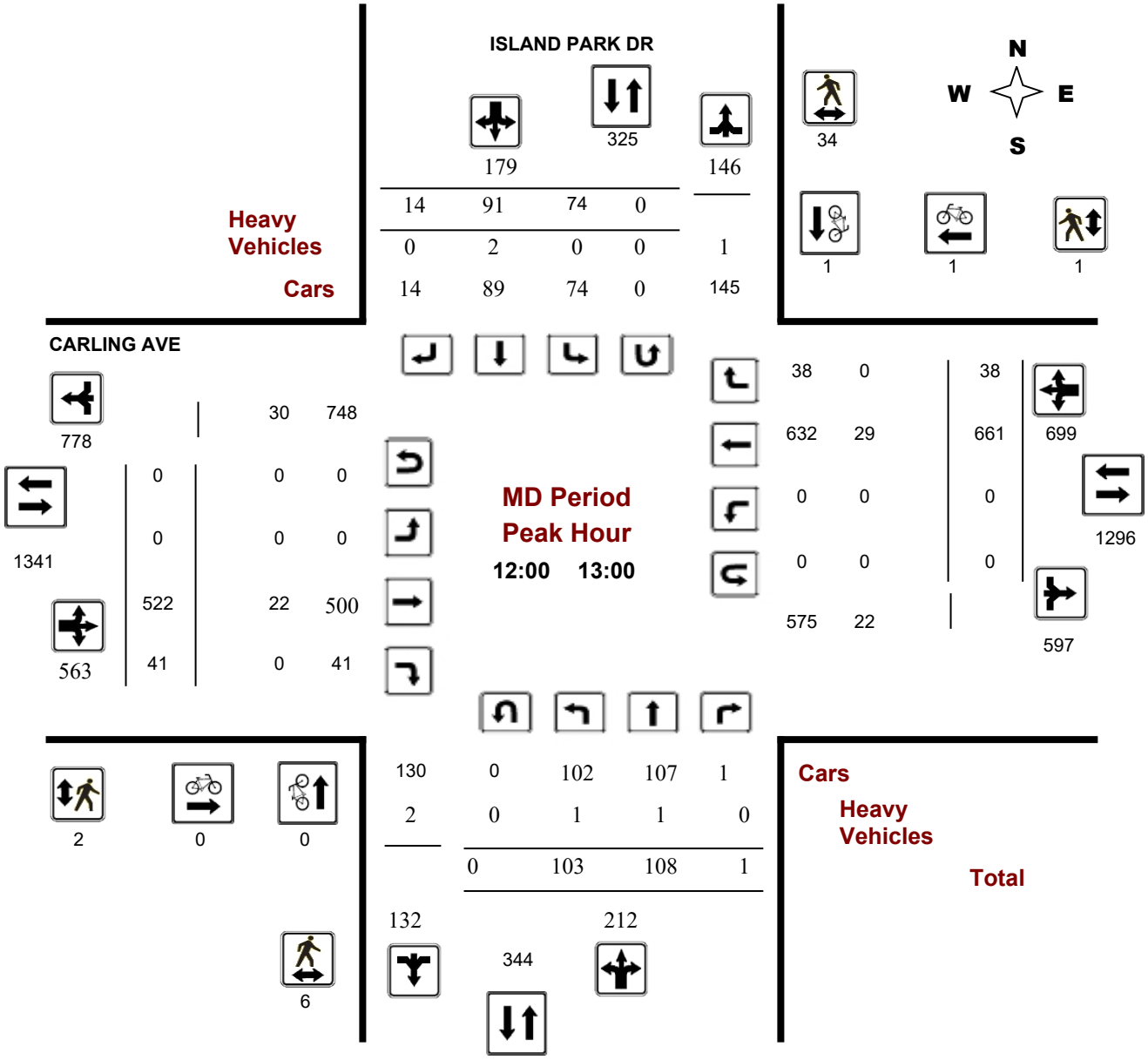
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CARLING AVE @ ISLAND PARK DR

Survey Date: Wednesday, March 21, 2018 **WO No:** 37623

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



Comments

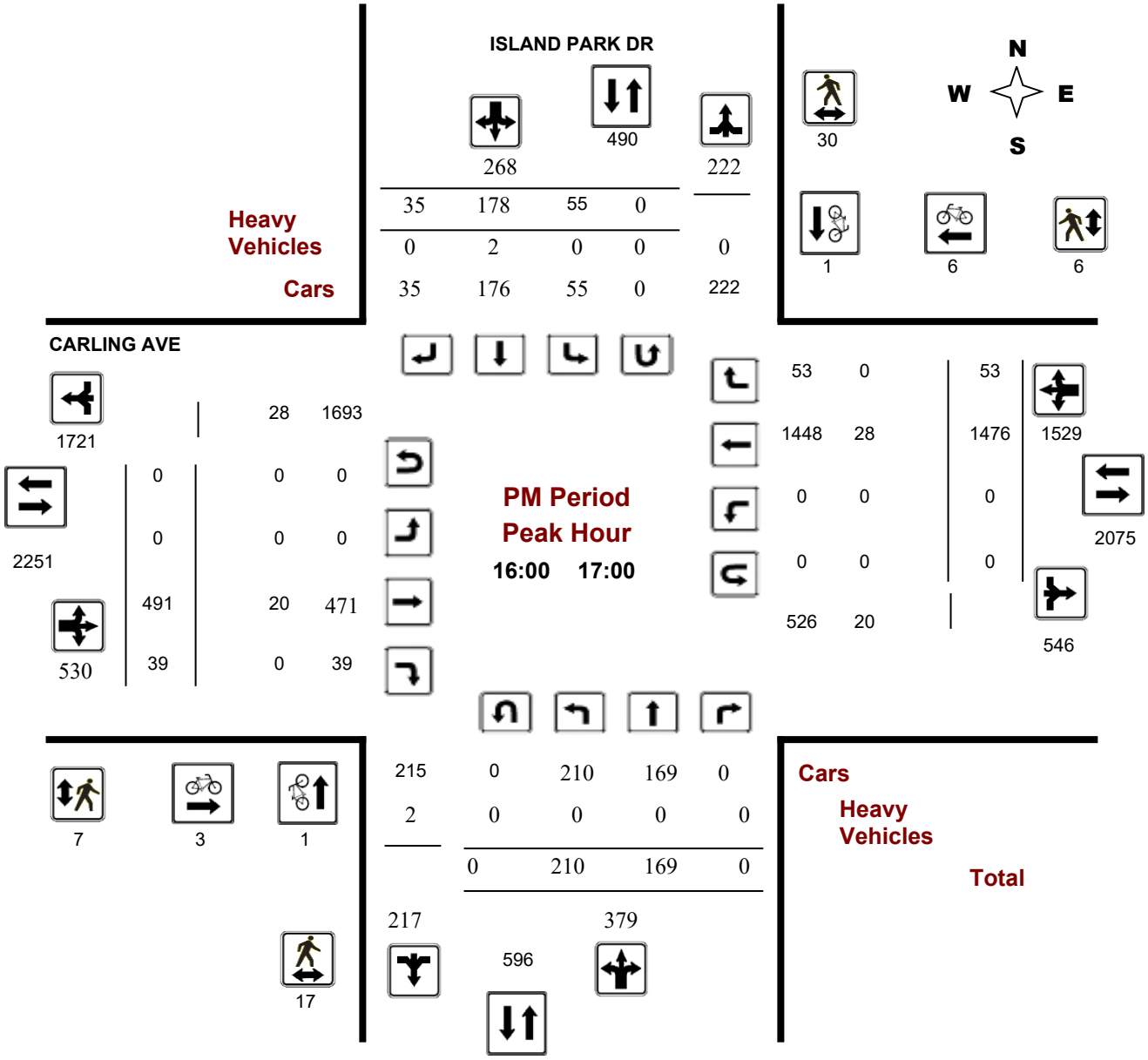
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CARLING AVE @ ISLAND PARK DR

Survey Date: Wednesday, March 21, 2018 **WO No:** 37623

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



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ ISLAND PARK DR

Survey Date: Wednesday, March 21, 2018 **WO No:** 37623

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

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, March 21, 2018

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 1 Westbound: 0

AADT Factor

1.00

	ISLAND PARK DR									CARLING 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	90	106	1	**197**	71	280	7	**358**	**555**	0	813	62	**875**	0	331	21	**352**	**1227**	**1782**
08:00 09:00	85	105	1	**191**	98	253	26	**377**	**568**	0	1023	58	**1081**	0	532	30	**562**	**1643**	**2211**
09:00 10:00	117	129	6	**252**	67	180	13	**260**	**512**	0	615	40	**655**	0	536	25	**561**	**1216**	**1728**
11:30 12:30	104	108	1	**213**	60	100	11	**171**	**384**	0	478	31	**509**	0	636	32	**668**	**1177**	**1561**
12:30 13:30	77	105	1	**183**	59	104	13	**176**	**359**	0	502	38	**540**	0	639	36	**675**	**1215**	**1574**
15:00 16:00	165	223	1	**389**	41	149	37	**227**	**616**	0	503	35	**538**	0	1342	45	**1387**	**1925**	**2541**
16:00 17:00	210	169	0	**379**	55	178	35	**268**	**647**	0	491	39	**530**	0	1476	53	**1529**	**2059**	**2706**
17:00 18:00	192	191	0	**383**	70	170	19	**259**	**642**	0	469	42	**511**	0	1103	33	**1136**	**1647**	**2289**
Sub Total	1040	1136	11	**2187**	521	1414	161	**2096**	**4283**	0	4894	345	**5239**	0	6595	275	**6870**	**12109**	**16392**
U Turns				**0**				**0**	**0**				**1**				**0**	**1**	**1**
Total	1040	1136	11	**2187**	521	1414	161	**2096**	**4283**	0	4894	345	**5240**	0	6595	275	**6870**	**12110**	**16393**
EQ 12Hr	1446	1579	15	**3040**	724	1965	224	**2913**	**5953**	0	6803	480	**7284**	0	9167	382	**9549**	**16833**	**22786**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	1362	1488	14	**2865**	683	1852	211	**2746**	**5953**	0	6411	452	**6864**	0	8639	360	**9000**	**16833**	**22786**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1**					
AVG 24Hr	1785	1949	19	**3753**	894	2427	276	**3597**	**7350**	0	8399	592	**8992**	0	11318	472	**11790**	**20782**	**28132**
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

CARLING AVE @ ISLAND PARK DR

Survey Date: Wednesday, March 21, 2018 **WO No:** 37623

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

Full Study 15 Minute Increments

		ISLAND PARK DR									CARLING AVE									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	10	18	0	28	22	63	3	88	206	0	155	7	162	0	71	2	73	206	351
07:15	07:30	19	28	0	47	12	71	0	83	249	0	181	15	196	0	80	5	85	249	411
07:30	07:45	21	22	0	43	14	68	2	84	244	0	234	19	253	0	83	8	91	244	471
07:45	08:00	40	38	1	79	23	78	2	103	325	0	243	21	264	0	97	6	103	325	549
08:00	08:15	19	21	0	40	20	61	4	85	231	0	241	17	258	0	110	7	117	231	500
08:15	08:30	30	35	1	66	34	64	7	105	292	0	246	20	266	0	137	2	139	292	576
08:30	08:45	10	19	0	29	27	61	4	92	230	0	292	14	306	0	112	15	127	230	554
08:45	09:00	26	30	0	56	17	67	11	95	261	0	244	7	251	0	173	6	179	261	581
09:00	09:15	28	35	2	65	20	66	4	90	270	0	196	7	203	0	130	7	137	270	495
09:15	09:30	38	39	2	79	16	39	3	58	234	0	140	12	152	0	133	7	140	234	429
09:30	09:45	26	28	1	55	13	48	3	64	208	0	142	10	152	0	144	3	147	208	418
09:45	10:00	25	27	1	53	18	27	3	48	174	0	137	11	148	0	129	8	137	174	386
11:30	11:45	28	22	1	51	16	29	3	48	171	0	121	9	130	0	147	12	159	171	388
11:45	12:00	19	37	0	56	8	24	2	34	163	0	115	7	122	0	169	5	174	163	386
12:00	12:15	31	20	0	51	15	31	4	50	166	0	120	7	127	0	164	7	171	166	399
12:15	12:30	26	29	0	55	21	16	2	39	155	0	122	8	130	0	156	8	164	155	388
12:30	12:45	21	31	0	52	18	22	4	44	167	0	150	9	159	0	147	9	156	167	411
12:45	13:00	25	28	1	54	20	22	4	46	181	0	130	17	147	0	194	14	208	181	455
13:00	13:15	19	20	0	39	11	37	4	52	162	0	125	6	131	0	137	8	145	162	367
13:15	13:30	12	26	0	38	10	23	1	34	132	0	97	6	104	0	161	5	166	132	342
15:00	15:15	30	50	1	81	12	47	6	65	258	0	160	9	169	0	256	6	262	258	577
15:15	15:30	36	77	0	113	12	34	6	52	298	0	102	7	109	0	349	15	364	298	638
15:30	15:45	43	46	0	89	12	37	15	64	255	0	136	11	147	0	352	8	360	255	660
15:45	16:00	56	50	0	106	5	31	10	46	257	0	105	8	113	0	385	16	401	257	666
16:00	16:15	47	43	0	90	13	51	11	75	285	0	136	9	145	0	370	17	387	285	697
16:15	16:30	46	38	0	84	11	47	9	67	261	0	111	11	122	0	394	14	408	261	681
16:30	16:45	44	46	0	90	18	41	6	65	262	0	127	9	136	0	347	11	358	262	649
16:45	17:00	73	42	0	115	13	39	9	61	278	0	117	10	127	0	365	11	376	278	679
17:00	17:15	58	44	0	102	20	41	8	69	276	0	133	10	143	0	345	10	355	276	669
17:15	17:30	57	62	0	119	21	43	3	67	304	0	119	7	126	0	316	6	322	304	634
17:30	17:45	49	50	0	99	12	46	6	64	281	0	107	13	120	0	253	9	262	281	545
17:45	18:00	28	35	0	63	17	40	2	59	217	0	110	12	122	0	189	8	197	217	441
Total:		1040	1136	11	2187	521	1414	161	2096	7453	0	4894	345	5240	0	6595	275	6870	7453	16,393

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ ISLAND PARK DR

Survey Date: Wednesday, March 21, 2018 **WO No:** 37623

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

Full Study Cyclist Volume

Time Period		ISLAND PARK DR			CARLING AVE			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	2	2	0	2	2	4
07:15	07:30	0	1	1	0	0	0	1
07:30	07:45	0	0	0	1	1	2	2
07:45	08:00	0	0	0	2	0	2	2
08:00	08:15	2	3	5	1	0	1	6
08:15	08:30	0	2	2	1	0	1	3
08:30	08:45	0	1	1	1	0	1	2
08:45	09:00	0	0	0	1	0	1	1
09:00	09:15	0	3	3	0	2	2	5
09:15	09:30	1	0	1	1	0	1	2
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	1	0	1	1
11:45	12:00	0	0	0	1	0	1	1
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	1	1	0	1	1	2
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	1	1	0	2	2	3
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	1	1	2	0	0	0	2
15:45	16:00	0	0	0	0	1	1	1
16:00	16:15	1	0	1	1	1	2	3
16:15	16:30	0	0	0	0	2	2	2
16:30	16:45	0	0	0	1	3	4	4
16:45	17:00	0	1	1	1	0	1	2
17:00	17:15	2	1	3	0	0	0	3
17:15	17:30	1	2	3	2	0	2	5
17:30	17:45	0	0	0	0	2	2	2
17:45	18:00	0	0	0	0	0	0	0
Total		8	19	**27**	15	17	32	59

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ ISLAND PARK DR

Survey Date: Wednesday, March 21, 2018 **WO No:** 37623

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

Full Study Pedestrian Volume

	ISLAND PARK DR			CARLING 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	0	3	**3**	1	1	**2**	**5**
07:15 07:30	1	3	**4**	2	0	**2**	**6**
07:30 07:45	4	4	**8**	1	1	**2**	**10**
07:45 08:00	1	9	**10**	1	1	**2**	**12**
08:00 08:15	7	9	**16**	0	2	**2**	**18**
08:15 08:30	6	9	**15**	2	1	**3**	**18**
08:30 08:45	5	9	**14**	2	1	**3**	**17**
08:45 09:00	2	8	**10**	0	4	**4**	**14**
09:00 09:15	1	7	**8**	0	0	**0**	**8**
09:15 09:30	2	6	**8**	0	1	**1**	**9**
09:30 09:45	4	8	**12**	2	1	**3**	**15**
09:45 10:00	1	5	**6**	1	2	**3**	**9**
11:30 11:45	1	4	**5**	1	0	**1**	**6**
11:45 12:00	1	7	**8**	1	0	**1**	**9**
12:00 12:15	3	4	**7**	1	0	**1**	**8**
12:15 12:30	0	7	**7**	1	0	**1**	**8**
12:30 12:45	2	10	**12**	0	0	**0**	**12**
12:45 13:00	1	13	**14**	0	1	**1**	**15**
13:00 13:15	4	4	**8**	2	0	**2**	**10**
13:15 13:30	2	7	**9**	0	1	**1**	**10**
15:00 15:15	4	8	**12**	1	2	**3**	**15**
15:15 15:30	4	5	**9**	1	1	**2**	**11**
15:30 15:45	2	8	**10**	0	0	**0**	**10**
15:45 16:00	3	6	**9**	1	1	**2**	**11**
16:00 16:15	4	5	**9**	0	1	**1**	**10**
16:15 16:30	6	11	**17**	2	3	**5**	**22**
16:30 16:45	5	6	**11**	2	0	**2**	**13**
16:45 17:00	2	8	**10**	3	2	**5**	**15**
17:00 17:15	1	3	**4**	0	1	**1**	**5**
17:15 17:30	4	5	**9**	1	0	**1**	**10**
17:30 17:45	12	7	**19**	5	1	**6**	**25**
17:45 18:00	9	2	**11**	0	3	**3**	**14**
Total	104	210	**314**	34	32	**66**	**380**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ ISLAND PARK DR

Survey Date: Wednesday, March 21, 2018 **WO No:** 37623

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

Full Study Heavy Vehicles

		ISLAND PARK DR									CARLING 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	1	0	**1**	0	0	0	**1**	**2**	0	6	0	**11**	0	5	0	**11**	**22**	**12**
07:15	07:30	0	0	0	**0**	0	0	0	**0**	**0**	0	4	0	**10**	0	6	0	**10**	**20**	**10**
07:30	07:45	0	0	0	**0**	0	0	0	**0**	**0**	0	8	0	**18**	0	10	0	**18**	**36**	**18**
07:45	08:00	0	0	0	**0**	0	0	0	**0**	**0**	0	5	0	**15**	0	10	0	**15**	**30**	**15**
08:00	08:15	0	0	0	**1**	0	0	0	**0**	**1**	0	7	1	**17**	0	9	0	**16**	**33**	**17**
08:15	08:30	0	0	0	**0**	0	0	0	**0**	**0**	0	7	0	**17**	0	10	0	**17**	**34**	**17**
08:30	08:45	0	0	0	**0**	0	0	0	**0**	**0**	0	8	0	**13**	0	5	0	**13**	**26**	**13**
08:45	09:00	0	0	0	**1**	0	1	0	**1**	**2**	0	6	0	**16**	0	10	0	**16**	**32**	**17**
09:00	09:15	0	0	0	**0**	0	0	0	**0**	**0**	0	10	0	**19**	0	9	0	**19**	**38**	**19**
09:15	09:30	0	1	0	**1**	0	0	0	**1**	**2**	0	6	0	**13**	0	7	0	**13**	**26**	**14**
09:30	09:45	1	1	0	**2**	0	0	0	**1**	**3**	0	8	0	**21**	0	12	0	**20**	**41**	**22**
09:45	10:00	0	0	0	**0**	0	0	0	**1**	**1**	0	11	0	**19**	0	8	1	**20**	**39**	**20**
11:30	11:45	0	0	0	**0**	0	0	0	**0**	**0**	0	5	0	**13**	0	8	0	**13**	**26**	**13**
11:45	12:00	0	0	0	**0**	0	0	0	**0**	**0**	0	8	0	**13**	0	5	0	**13**	**26**	**13**
12:00	12:15	1	1	0	**3**	0	1	0	**2**	**5**	0	5	0	**10**	0	4	0	**9**	**19**	**12**
12:15	12:30	0	0	0	**0**	0	0	0	**0**	**0**	0	7	0	**15**	0	8	0	**15**	**30**	**15**
12:30	12:45	0	0	0	**0**	0	0	0	**0**	**0**	0	7	0	**14**	0	7	0	**14**	**28**	**14**
12:45	13:00	0	0	0	**1**	0	1	0	**1**	**2**	0	3	0	**13**	0	10	0	**13**	**26**	**14**
13:00	13:15	0	0	0	**0**	0	0	0	**0**	**0**	0	7	0	**14**	0	7	0	**14**	**28**	**14**
13:15	13:30	0	0	0	**0**	0	0	0	**0**	**0**	0	7	0	**13**	0	6	0	**13**	**26**	**13**
15:00	15:15	0	0	0	**0**	0	0	0	**0**	**0**	0	6	0	**14**	0	8	0	**14**	**28**	**14**
15:15	15:30	0	0	0	**0**	0	0	0	**0**	**0**	0	4	0	**14**	0	10	0	**14**	**28**	**14**
15:30	15:45	0	0	0	**0**	0	0	0	**0**	**0**	0	8	0	**18**	0	10	0	**18**	**36**	**18**
15:45	16:00	0	0	0	**0**	0	0	0	**0**	**0**	0	10	0	**13**	0	3	0	**13**	**26**	**13**
16:00	16:15	0	0	0	**1**	0	1	0	**1**	**2**	0	7	0	**14**	0	7	0	**14**	**28**	**15**
16:15	16:30	0	0	0	**0**	0	0	0	**0**	**0**	0	5	0	**14**	0	9	0	**14**	**28**	**14**
16:30	16:45	0	0	0	**0**	0	0	0	**0**	**0**	0	6	0	**12**	0	6	0	**12**	**24**	**12**
16:45	17:00	0	0	0	**1**	0	1	0	**1**	**2**	0	2	0	**8**	0	6	0	**8**	**16**	**9**
17:00	17:15	0	0	0	**0**	0	0	0	**0**	**0**	0	6	0	**11**	0	5	0	**11**	**22**	**11**
17:15	17:30	0	0	0	**0**	0	0	0	**0**	**0**	0	3	0	**8**	0	5	0	**8**	**16**	**8**
17:30	17:45	0	0	0	**0**	0	0	0	**0**	**0**	0	4	0	**7**	0	3	0	**7**	**14**	**7**
17:45	18:00	0	0	0	**0**	0	0	0	**0**	**0**	0	4	0	**9**	0	5	0	**9**	**18**	**9**
Total:	None	2	4	0	**12**	0	5	0	**10**	**22**	0	200	1	**436**	0	233	1	**434**	**870**	**446**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ ISLAND PARK DR

Survey Date: Wednesday, March 21, 2018 **WO No:** 37623

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

Full Study 15 Minute U-Turn Total

Time Period		ISLAND PARK DR		CARLING 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	1	0	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	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	1	0	1

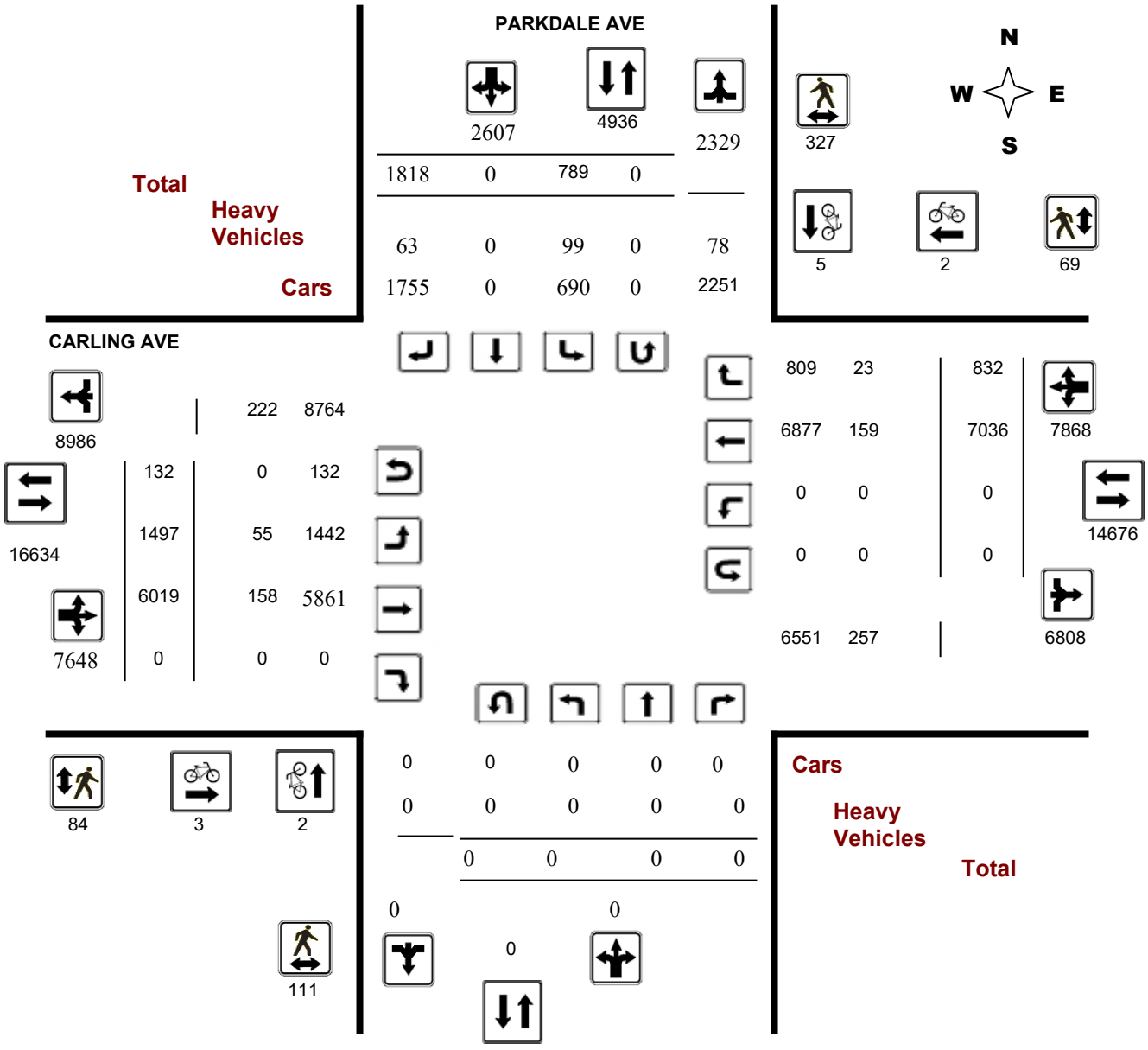
Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ PARKDALE AVE

Survey Date: Tuesday, January 21, 2020
Start Time: 07:00
WO No: 39354
Device: Miovision

Full Study Diagram



5470806 - TUE JAN 21, 2020 - 8HRS - LORETTA

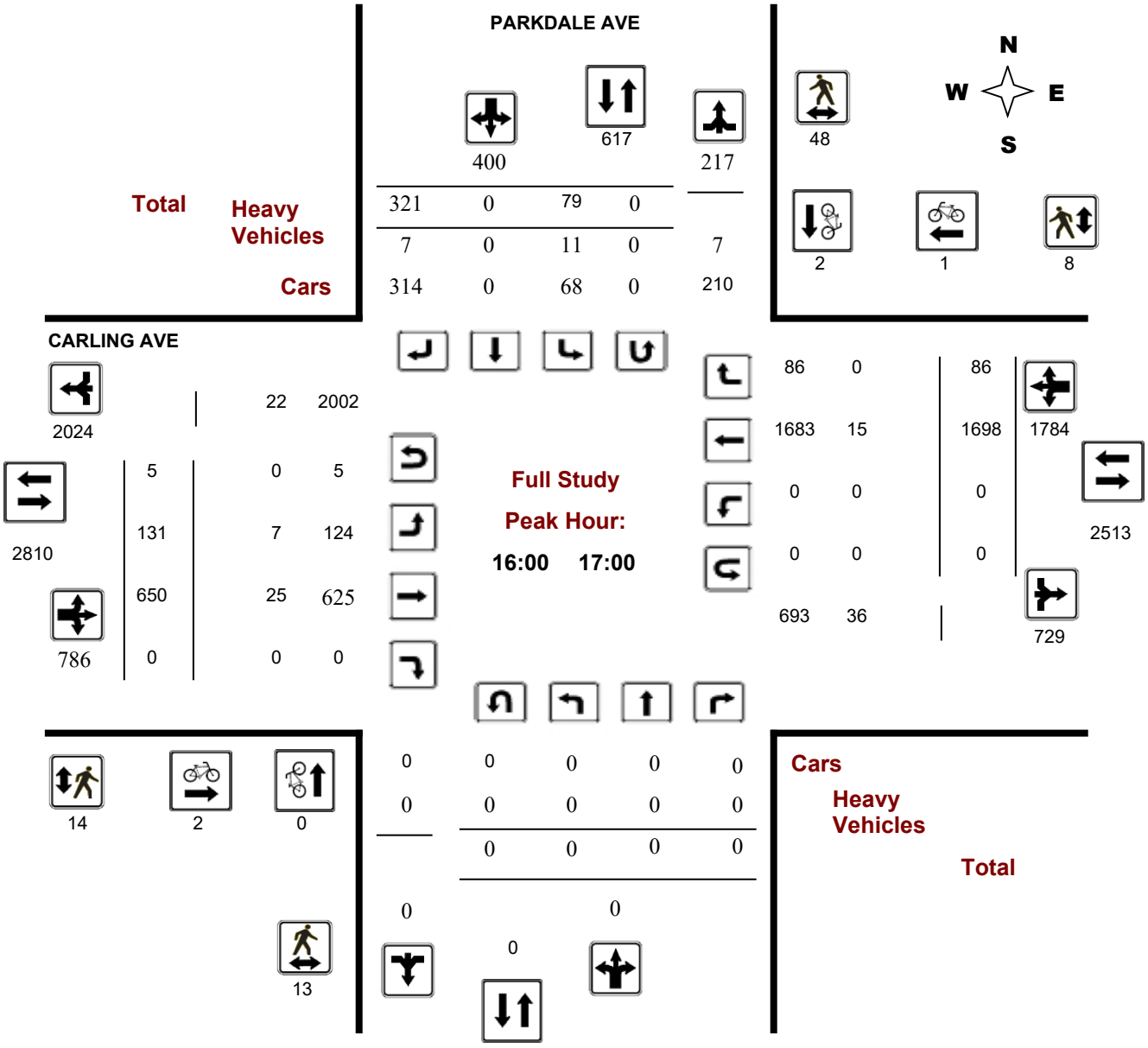
Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ PARKDALE AVE

Survey Date: Tuesday, January 21, 2020
Start Time: 07:00
WO No: 39354
Device: Miovision

Full Study Peak Hour Diagram



5470806 - TUE JAN 21, 2020 - 8HRS - LORETTA

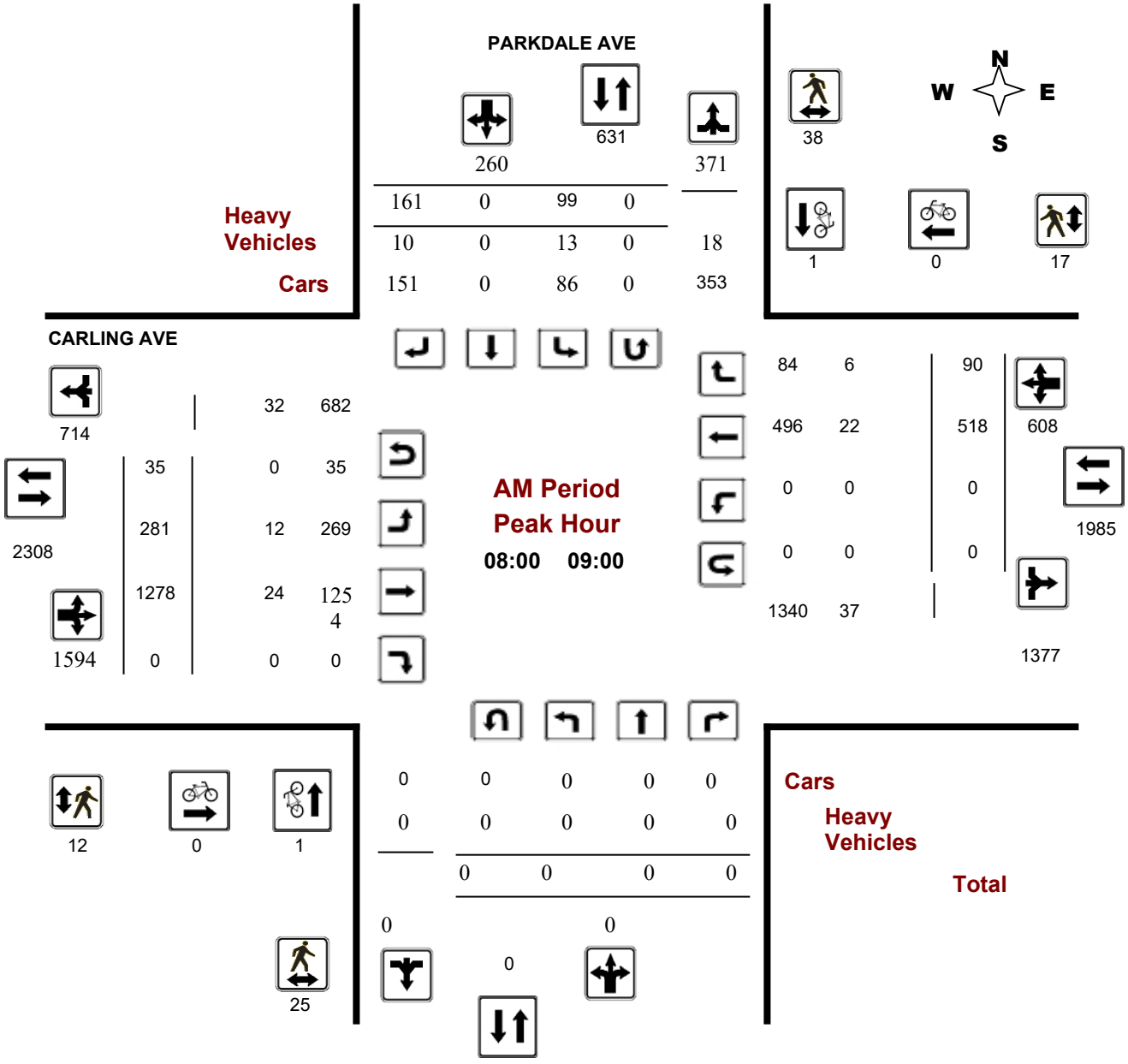
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CARLING AVE @ PARKDALE AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39354

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



Comments 5470806 - TUE JAN 21, 2020 - 8HRS - LORETTA

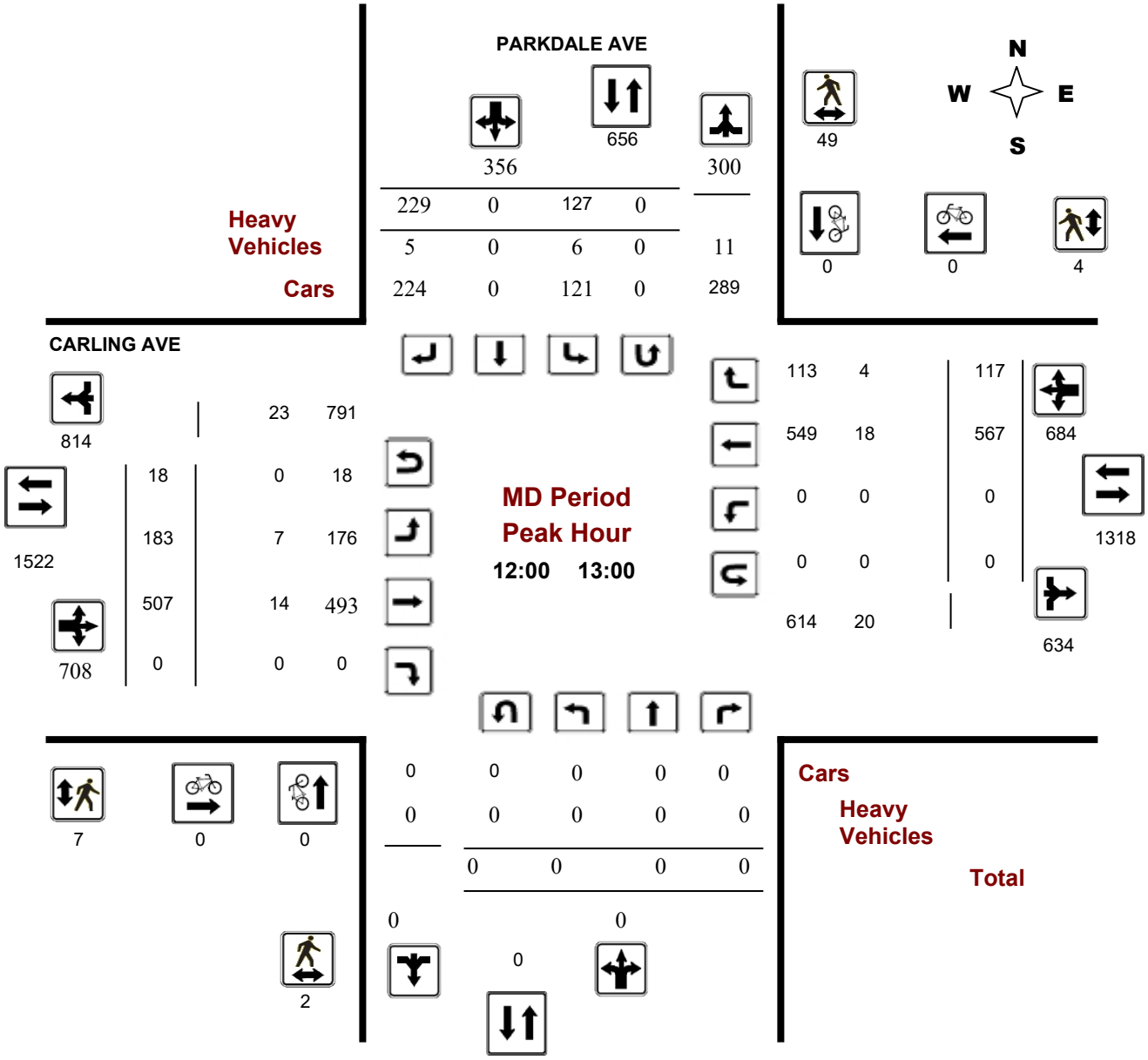
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CARLING AVE @ PARKDALE AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39354

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



Comments 5470806 - TUE JAN 21, 2020 - 8HRS - LORETTA

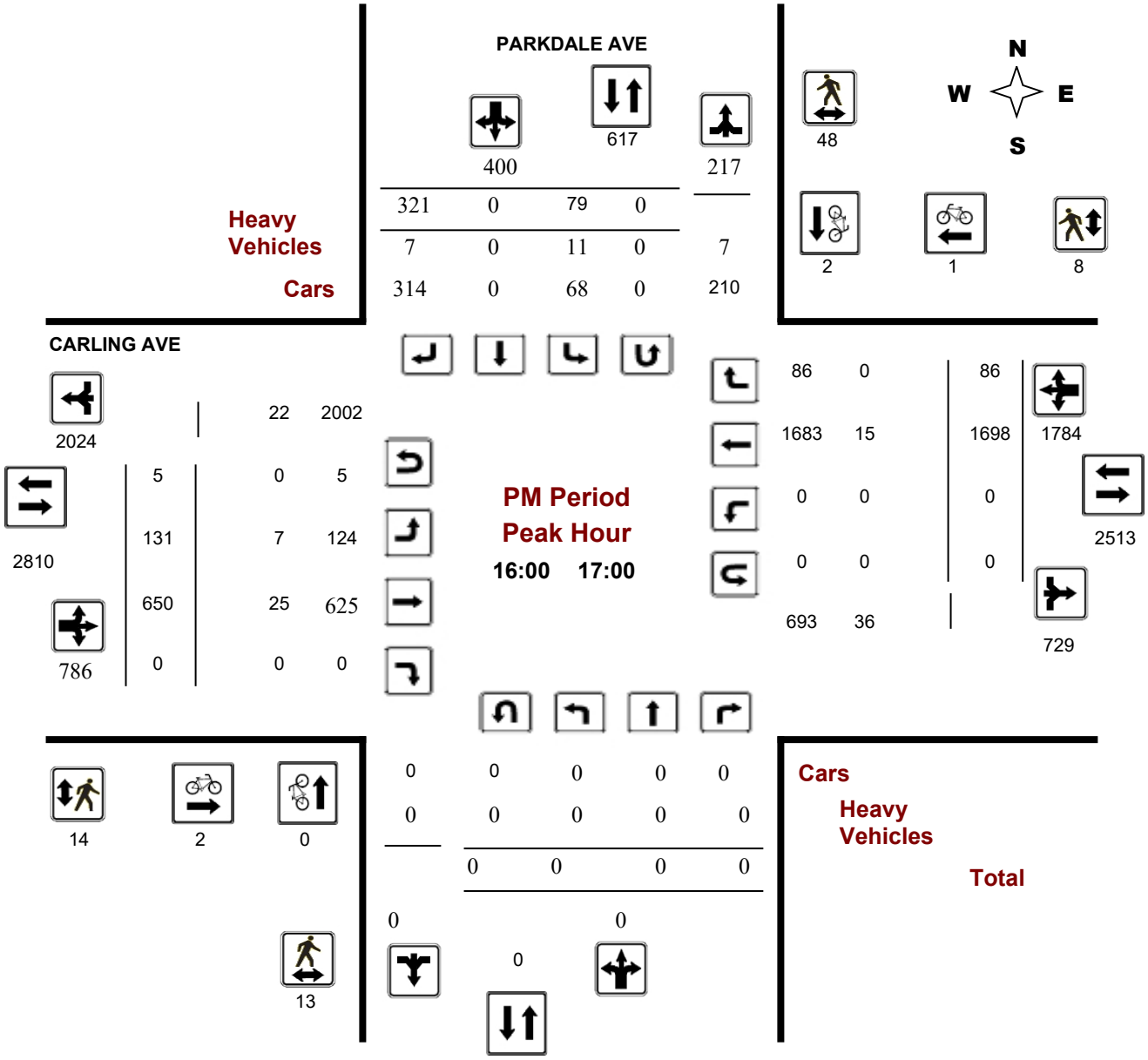
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CARLING AVE @ PARKDALE AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39354

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



Comments 5470806 - TUE JAN 21, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ PARKDALE AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39354

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

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, January 21, 2020

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 132 Westbound: 0

AADT Factor

1.10

	PARKDALE AVE									CARLING 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	0	0	**0**	104	0	132	**236**	**236**	261	980	0	**1241**	0	372	96	**468**	**1709**	**1945**
08:00 09:00	0	0	0	**0**	99	0	161	**260**	**260**	281	1278	0	**1559**	0	518	90	**608**	**2167**	**2427**
09:00 10:00	0	0	0	**0**	102	0	182	**284**	**284**	207	841	0	**1048**	0	490	123	**613**	**1661**	**1945**
11:30 12:30	0	0	0	**0**	127	0	226	**353**	**353**	164	486	0	**650**	0	585	121	**706**	**1356**	**1709**
12:30 13:30	0	0	0	**0**	109	0	213	**322**	**322**	186	542	0	**728**	0	542	119	**661**	**1389**	**1711**
15:00 16:00	0	0	0	**0**	94	0	275	**369**	**369**	132	644	0	**776**	0	1448	110	**1558**	**2334**	**2703**
16:00 17:00	0	0	0	**0**	79	0	321	**400**	**400**	131	650	0	**781**	0	1698	86	**1784**	**2565**	**2965**
17:00 18:00	0	0	0	**0**	75	0	308	**383**	**383**	135	598	0	**733**	0	1383	87	**1470**	**2203**	**2586**
Sub Total	0	0	0	**0**	789	0	1818	**2607**	**2607**	1497	6019	0	**7516**	0	7036	832	**7868**	**15384**	**17991**
U Turns				**0**				**0**	**0**				**132**				**0**	**132**	**132**
Total	0	0	0	**0**	789	0	1818	**2607**	**2607**	1497	6019	0	**7648**	0	7036	832	**7868**	**15516**	**18123**
EQ 12Hr	0	0	0	**0**	1097	0	2527	**3624**	**3624**	2081	8366	0	**10631**	0	9780	1156	**10937**	**21567**	**25191**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	0	0	0	**0**	1137	0	2620	**3757**	**3986**	2157	8673	0	**11021**	0	10139	1199	**11338**	**23724**	**27710**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1.1**					
AVG 24Hr	0	0	0	**0**	1489	0	3432	**4921**	**4921**	2826	11362	0	**14437**	0	13282	1571	**14853**	**29290**	**34211**
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

CARLING AVE @ PARKDALE AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39354

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

Full Study 15 Minute Increments

		PARKDALE AVE									CARLING 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	0	28	0	33	61	131	47	156	0	208	0	59	23	82	131	351
07:15	07:30	0	0	0	0	19	0	23	42	136	70	261	0	333	0	88	24	112	136	487
07:30	07:45	0	0	0	0	28	0	37	65	160	68	258	0	333	0	92	27	119	160	517
07:45	08:00	0	0	0	0	29	0	39	68	166	76	305	0	385	0	133	22	155	166	608
08:00	08:15	0	0	0	0	29	0	43	72	161	77	334	0	418	0	110	12	122	161	612
08:15	08:30	0	0	0	0	18	0	34	52	139	67	345	0	419	0	150	20	170	139	641
08:30	08:45	0	0	0	0	28	0	40	68	160	65	279	0	353	0	115	27	142	160	563
08:45	09:00	0	0	0	0	24	0	44	68	171	72	320	0	404	0	143	31	174	171	646
09:00	09:15	0	0	0	0	28	0	45	73	180	73	253	0	331	0	118	34	152	180	556
09:15	09:30	0	0	0	0	20	0	41	61	136	50	235	0	291	0	132	25	157	136	509
09:30	09:45	0	0	0	0	27	0	53	80	153	44	175	0	227	0	115	29	144	153	451
09:45	10:00	0	0	0	0	27	0	43	70	145	40	178	0	226	0	125	35	160	145	456
11:30	11:45	0	0	0	0	35	0	47	82	161	42	129	0	180	0	142	37	179	161	441
11:45	12:00	0	0	0	0	25	0	62	87	151	37	116	0	158	0	146	27	173	151	418
12:00	12:15	0	0	0	0	39	0	66	105	166	41	115	0	160	0	129	20	149	166	414
12:15	12:30	0	0	0	0	28	0	51	79	160	44	126	0	175	0	168	37	205	160	459
12:30	12:45	0	0	0	0	35	0	54	89	161	49	121	0	173	0	129	23	152	161	414
12:45	13:00	0	0	0	0	25	0	58	83	169	49	145	0	200	0	141	37	178	169	461
13:00	13:15	0	0	0	0	27	0	54	81	147	42	145	0	190	0	115	24	139	147	410
13:15	13:30	0	0	0	0	22	0	47	69	150	46	131	0	180	0	157	35	192	150	441
15:00	15:15	0	0	0	0	24	0	65	89	162	37	155	0	193	0	275	36	311	162	593
15:15	15:30	0	0	0	0	20	0	60	80	134	28	152	0	183	0	372	26	398	134	661
15:30	15:45	0	0	0	0	28	0	73	101	156	32	171	0	204	0	398	23	421	156	726
15:45	16:00	0	0	0	0	22	0	77	99	159	35	166	0	202	0	403	25	428	159	729
16:00	16:15	0	0	0	0	16	0	77	93	148	29	151	0	180	0	431	26	457	148	730
16:15	16:30	0	0	0	0	24	0	84	108	162	39	164	0	205	0	403	15	418	162	731
16:30	16:45	0	0	0	0	21	0	85	106	161	31	164	0	196	0	446	24	470	161	772
16:45	17:00	0	0	0	0	18	0	75	93	146	32	171	0	205	0	418	21	439	146	737
17:00	17:15	0	0	0	0	22	0	79	101	162	33	137	0	171	0	386	28	414	162	686
17:15	17:30	0	0	0	0	15	0	85	100	151	29	156	0	185	0	379	22	401	151	686
17:30	17:45	0	0	0	0	24	0	75	99	160	39	153	0	192	0	323	22	345	160	636
17:45	18:00	0	0	0	0	14	0	69	83	132	34	152	0	188	0	295	15	310	132	581
Total:		0	0	0	0	789	0	1818	2607	4936	1497	6019	0	7648	0	7036	832	7868	4936	18,123

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ PARKDALE AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39354

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

Full Study Cyclist Volume

Time Period		PARKDALE AVE			CARLING 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	1	1	0	0	0	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	1	0	1	0	0	0	1
08:30	08:45	0	1	1	0	0	0	1
08:45	09:00	0	0	0	0	0	0	0
09:00	09:15	0	1	1	0	0	0	1
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	0	0	0
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	1	0	1	0	0	0	1
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	1	1	2	1	3	4
16:45	17:00	0	1	1	0	0	0	1
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	1	1	1
17:45	18:00	0	0	0	0	0	0	0
Total		2	5	**7**	3	2	5	12

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ PARKDALE AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39354

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

Full Study Pedestrian Volume

	PARKDALE AVE			CARLING 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	5	11	**16**	2	3	**5**	**21**
07:15 07:30	4	6	**10**	1	2	**3**	**13**
07:30 07:45	10	8	**18**	3	4	**7**	**25**
07:45 08:00	5	15	**20**	3	4	**7**	**27**
08:00 08:15	9	4	**13**	2	4	**6**	**19**
08:15 08:30	6	11	**17**	3	3	**6**	**23**
08:30 08:45	5	10	**15**	4	5	**9**	**24**
08:45 09:00	5	13	**18**	3	5	**8**	**26**
09:00 09:15	9	10	**19**	2	4	**6**	**25**
09:15 09:30	5	5	**10**	1	5	**6**	**16**
09:30 09:45	1	3	**4**	3	0	**3**	**7**
09:45 10:00	2	6	**8**	2	2	**4**	**12**
11:30 11:45	1	9	**10**	1	1	**2**	**12**
11:45 12:00	1	16	**17**	0	3	**3**	**20**
12:00 12:15	1	14	**15**	4	0	**4**	**19**
12:15 12:30	0	12	**12**	1	1	**2**	**14**
12:30 12:45	0	10	**10**	2	2	**4**	**14**
12:45 13:00	1	13	**14**	0	1	**1**	**15**
13:00 13:15	0	5	**5**	1	0	**1**	**6**
13:15 13:30	3	9	**12**	3	2	**5**	**17**
15:00 15:15	4	13	**17**	3	4	**7**	**24**
15:15 15:30	3	15	**18**	11	0	**11**	**29**
15:30 15:45	4	14	**18**	1	0	**1**	**19**
15:45 16:00	3	14	**17**	6	3	**9**	**26**
16:00 16:15	6	12	**18**	6	1	**7**	**25**
16:15 16:30	4	15	**19**	1	5	**6**	**25**
16:30 16:45	2	11	**13**	4	1	**5**	**18**
16:45 17:00	1	10	**11**	3	1	**4**	**15**
17:00 17:15	4	12	**16**	3	1	**4**	**20**
17:15 17:30	3	5	**8**	1	1	**2**	**10**
17:30 17:45	4	8	**12**	2	1	**3**	**15**
17:45 18:00	0	8	**8**	2	0	**2**	**10**
Total	111	327	**438**	84	69	**153**	**591**

5470806 - TUE JAN 21, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ PARKDALE AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39354

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

Full Study Heavy Vehicles

		PARKDALE AVE									CARLING 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	**0**	4	0	1	**7**	**7**	1	6	0	**12**	0	4	1	**15**	**27**	**17**
07:15	07:30	0	0	0	**0**	3	0	1	**6**	**6**	2	1	0	**7**	0	3	0	**7**	**14**	**10**
07:30	07:45	0	0	0	**0**	3	0	1	**6**	**6**	2	2	0	**8**	0	3	0	**8**	**16**	**11**
07:45	08:00	0	0	0	**0**	4	0	2	**8**	**8**	1	9	0	**19**	0	7	1	**21**	**40**	**24**
08:00	08:15	0	0	0	**0**	4	0	0	**8**	**8**	4	10	0	**21**	0	7	0	**21**	**42**	**25**
08:15	08:30	0	0	0	**0**	2	0	3	**10**	**10**	3	4	0	**13**	0	3	2	**11**	**24**	**17**
08:30	08:45	0	0	0	**0**	3	0	5	**12**	**12**	1	5	0	**20**	0	9	3	**20**	**40**	**26**
08:45	09:00	0	0	0	**0**	4	0	2	**11**	**11**	4	5	0	**14**	0	3	1	**13**	**27**	**19**
09:00	09:15	0	0	0	**0**	5	0	1	**8**	**8**	2	8	0	**18**	0	7	0	**20**	**38**	**23**
09:15	09:30	0	0	0	**0**	3	0	2	**9**	**9**	2	6	0	**15**	0	5	2	**16**	**31**	**20**
09:30	09:45	0	0	0	**0**	3	0	5	**10**	**10**	1	5	0	**15**	0	4	1	**13**	**28**	**19**
09:45	10:00	0	0	0	**0**	3	0	2	**9**	**9**	2	7	0	**18**	0	7	2	**19**	**37**	**23**
11:30	11:45	0	0	0	**0**	4	0	3	**9**	**9**	2	9	0	**19**	0	5	0	**18**	**37**	**23**
11:45	12:00	0	0	0	**0**	3	0	3	**8**	**8**	2	3	0	**11**	0	3	0	**9**	**20**	**14**
12:00	12:15	0	0	0	**0**	3	0	1	**5**	**5**	1	3	0	**9**	0	4	0	**10**	**19**	**12**
12:15	12:30	0	0	0	**0**	1	0	3	**6**	**6**	1	1	0	**10**	0	5	1	**8**	**18**	**12**
12:30	12:45	0	0	0	**0**	2	0	0	**5**	**5**	1	6	0	**13**	0	6	2	**16**	**29**	**17**
12:45	13:00	0	0	0	**0**	0	0	1	**6**	**6**	4	4	0	**12**	0	3	1	**8**	**20**	**13**
13:00	13:15	0	0	0	**0**	3	0	2	**7**	**7**	2	3	0	**14**	0	7	0	**13**	**27**	**17**
13:15	13:30	0	0	0	**0**	3	0	3	**8**	**8**	1	3	0	**12**	0	5	1	**12**	**24**	**16**
15:00	15:15	0	0	0	**0**	5	0	3	**9**	**9**	1	3	0	**13**	0	6	0	**14**	**27**	**18**
15:15	15:30	0	0	0	**0**	4	0	2	**8**	**8**	1	3	0	**12**	0	6	1	**14**	**26**	**17**
15:30	15:45	0	0	0	**0**	3	0	1	**5**	**5**	1	4	0	**15**	0	9	0	**16**	**31**	**18**
15:45	16:00	0	0	0	**0**	3	0	2	**7**	**7**	1	7	0	**14**	0	4	1	**15**	**29**	**18**
16:00	16:15	0	0	0	**0**	3	0	3	**8**	**8**	2	6	0	**14**	0	3	0	**12**	**26**	**17**
16:15	16:30	0	0	0	**0**	3	0	1	**5**	**5**	1	6	0	**14**	0	6	0	**15**	**29**	**17**
16:30	16:45	0	0	0	**0**	3	0	1	**6**	**6**	2	7	0	**12**	0	2	0	**12**	**24**	**15**
16:45	17:00	0	0	0	**0**	2	0	2	**6**	**6**	2	6	0	**14**	0	4	0	**12**	**26**	**16**
17:00	17:15	0	0	0	**0**	3	0	2	**6**	**6**	1	4	0	**8**	0	1	0	**8**	**16**	**11**
17:15	17:30	0	0	0	**0**	4	0	1	**6**	**6**	1	3	0	**8**	0	3	0	**10**	**18**	**12**
17:30	17:45	0	0	0	**0**	4	0	1	**8**	**8**	1	7	0	**14**	0	5	2	**18**	**32**	**20**
17:45	18:00	0	0	0	**0**	2	0	3	**8**	**8**	2	2	0	**17**	0	10	1	**15**	**32**	**20**
Total:	None	0	0	0	**0**	99	0	63	**240**	**240**	55	158	0	**435**	0	159	23	**439**	**874**	**557**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARLING AVE @ PARKDALE AVE

Survey Date: Tuesday, January 21, 2020 **WO No:** 39354

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

Full Study 15 Minute U-Turn Total

Time Period		PARKDALE AVE		CARLING AVE		
		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	5	0	5
07:15	07:30	0	0	2	0	2
07:30	07:45	0	0	7	0	7
07:45	08:00	0	0	4	0	4
08:00	08:15	0	0	7	0	7
08:15	08:30	0	0	7	0	7
08:30	08:45	0	0	9	0	9
08:45	09:00	0	0	12	0	12
09:00	09:15	0	0	5	0	5
09:15	09:30	0	0	6	0	6
09:30	09:45	0	0	8	0	8
09:45	10:00	0	0	8	0	8
11:30	11:45	0	0	9	0	9
11:45	12:00	0	0	5	0	5
12:00	12:15	0	0	4	0	4
12:15	12:30	0	0	5	0	5
12:30	12:45	0	0	3	0	3
12:45	13:00	0	0	6	0	6
13:00	13:15	0	0	3	0	3
13:15	13:30	0	0	3	0	3
15:00	15:15	0	0	1	0	1
15:15	15:30	0	0	3	0	3
15:30	15:45	0	0	1	0	1
15:45	16:00	0	0	1	0	1
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	2	0	2
16:30	16:45	0	0	1	0	1
16:45	17:00	0	0	2	0	2
17:00	17:15	0	0	1	0	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	2	0	2
Total		0	0	132	0	132

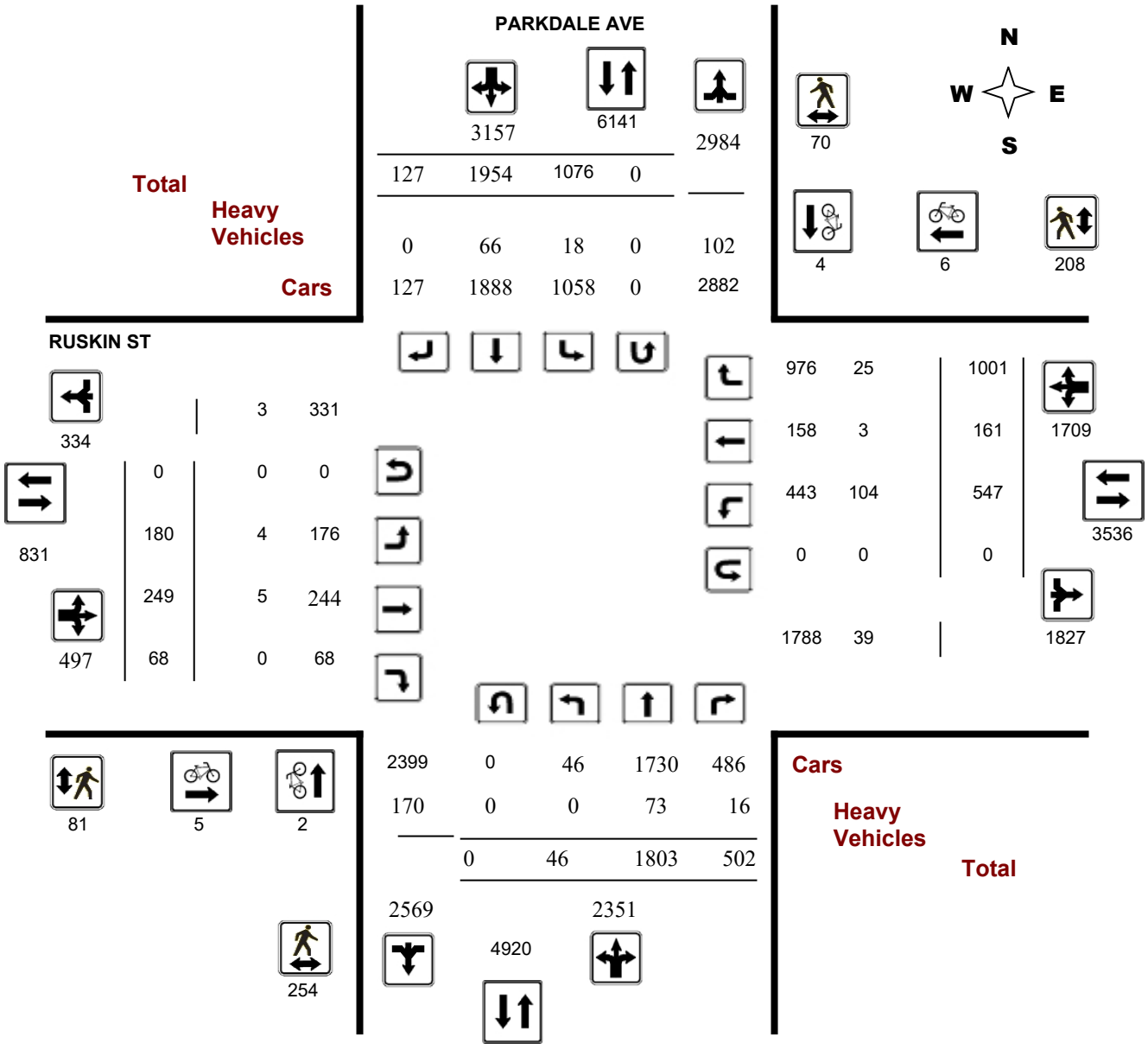
Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ RUSKIN ST

Survey Date: Tuesday, January 21, 2020
Start Time: 07:00
WO No: 39352
Device: Miovision

Full Study Diagram



5470804 - TUE JAN 21, 2020 - 8HRS - LORETTA

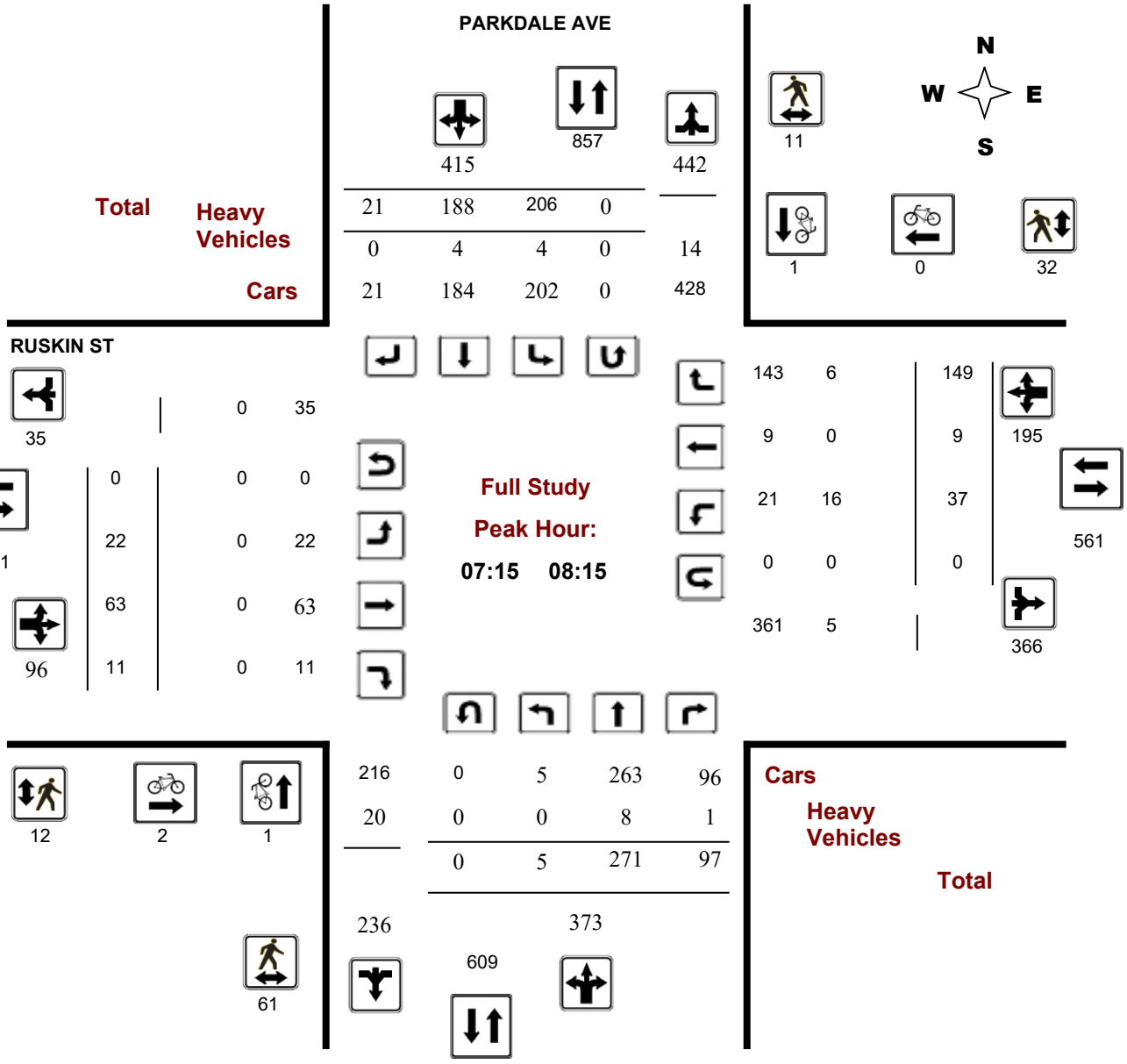
Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ RUSKIN ST

Survey Date: Tuesday, January 21, 2020
Start Time: 07:00
WO No: 39352
Device: Miovision

Full Study Peak Hour Diagram



5470804 - TUE JAN 21, 2020 - 8HRS - LORETTA

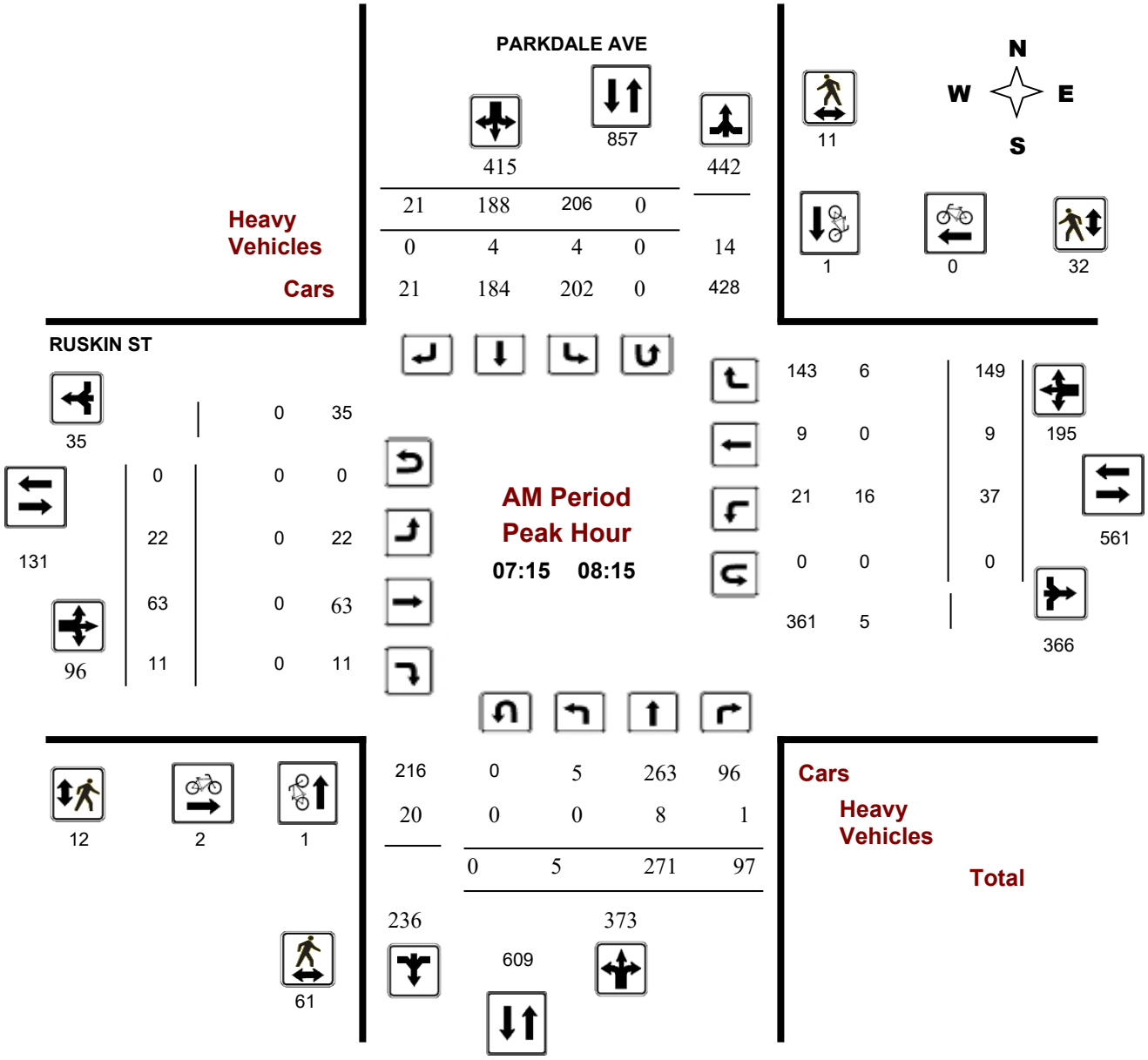
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

PARKDALE AVE @ RUSKIN ST

Survey Date: Tuesday, January 21, 2020 **WO No:** 39352

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



Comments 5470804 - TUE JAN 21, 2020 - 8HRS - LORETTA

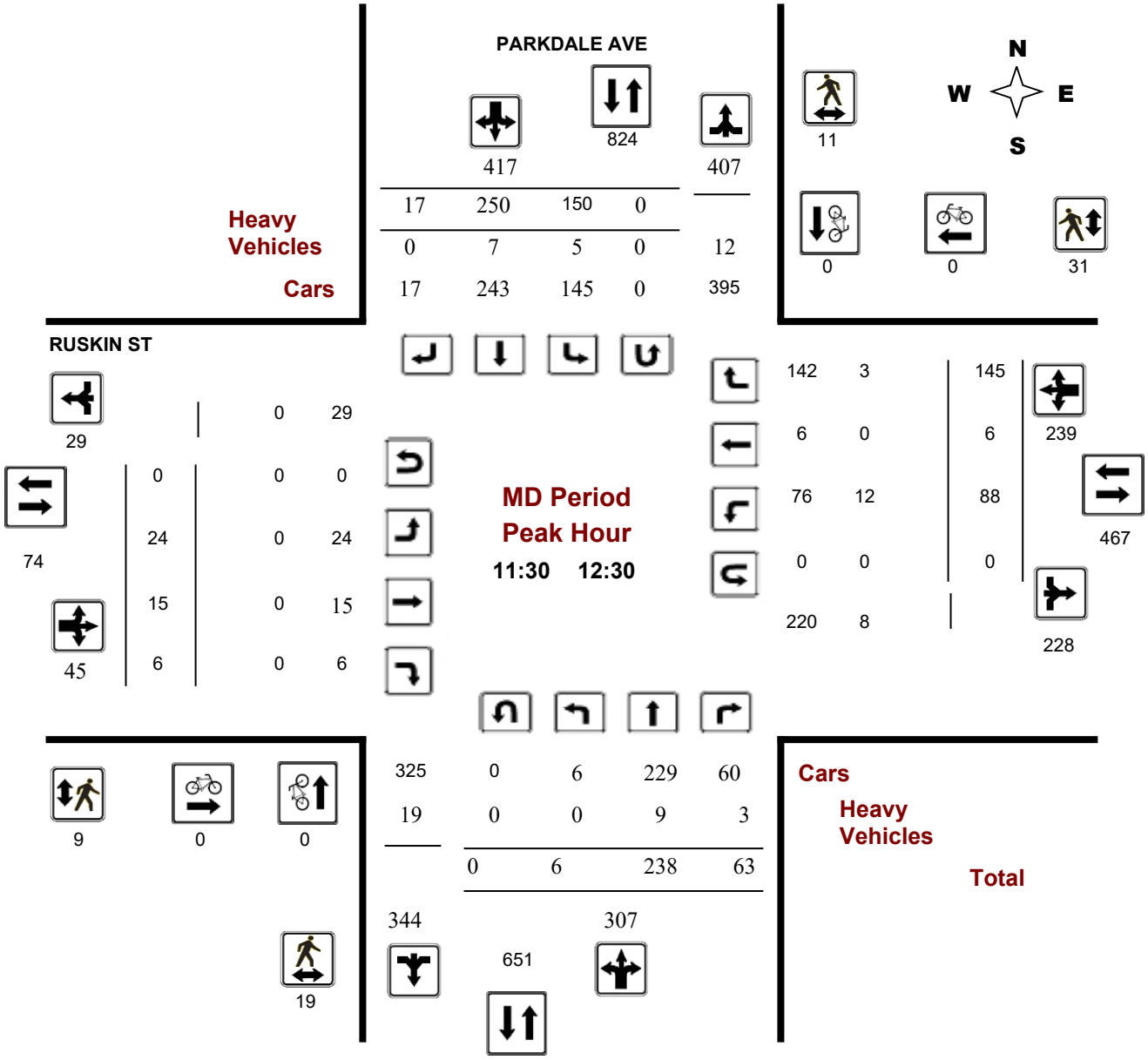
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

PARKDALE AVE @ RUSKIN ST

Survey Date: Tuesday, January 21, 2020 **WO No:** 39352

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



Comments 5470804 - TUE JAN 21, 2020 - 8HRS - LORETTA

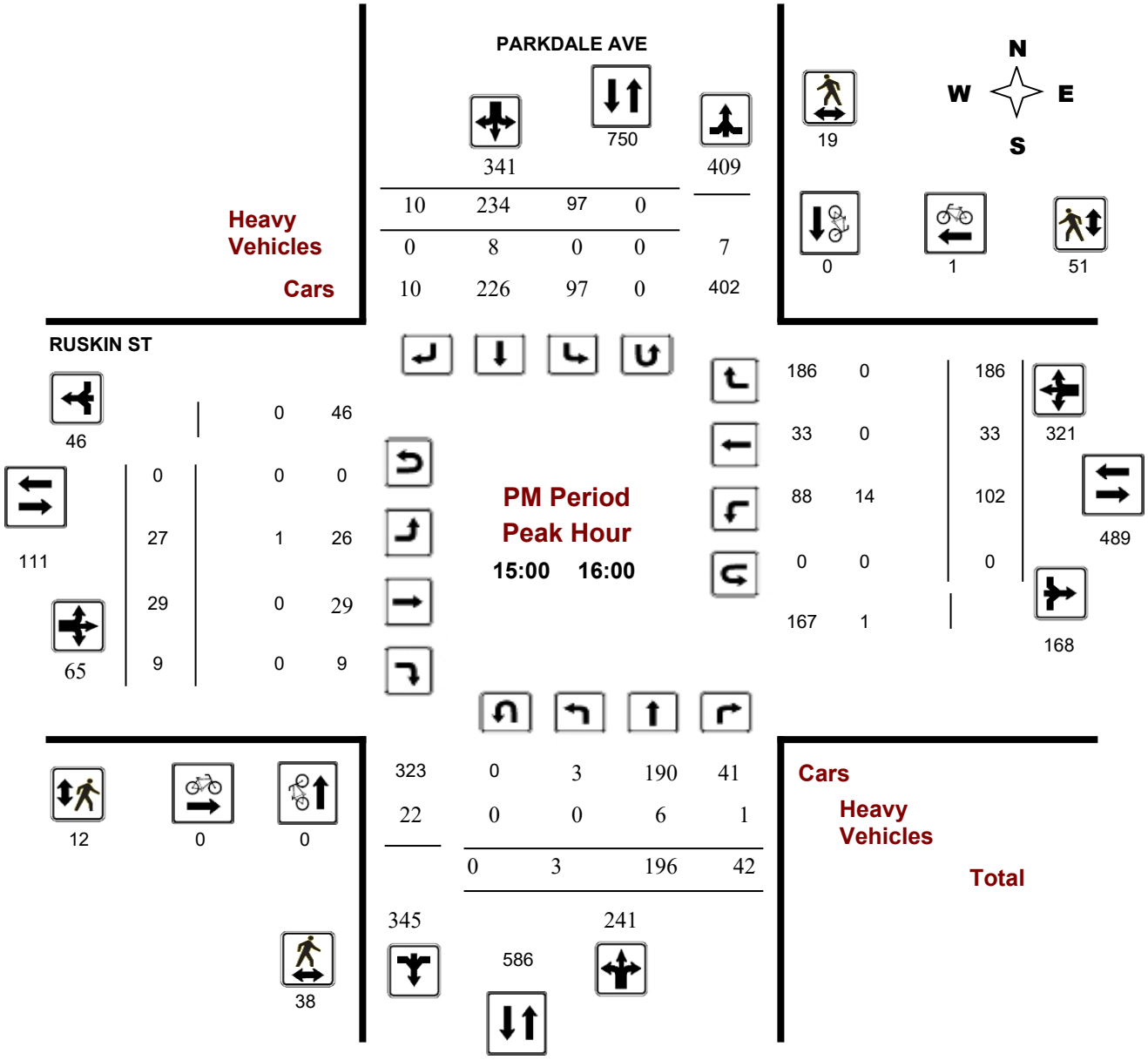
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

PARKDALE AVE @ RUSKIN ST

Survey Date: Tuesday, January 21, 2020 **WO No:** 39352

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



Comments 5470804 - TUE JAN 21, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ RUSKIN ST

Survey Date: Tuesday, January 21, 2020 **WO No:** 39352

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

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, January 21, 2020

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor

1.10

	PARKDALE AVE								RUSKIN 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	3	263	86	**352**	202	189	15	**406**	**758**	14	57	8	**79**	33	10	156	**199**	**278**	**1036**
08:00 09:00	5	263	80	**348**	201	202	17	**420**	**768**	42	42	10	**94**	41	14	75	**130**	**224**	**992**
09:00 10:00	6	246	90	**342**	165	215	12	**392**	**734**	25	32	12	**69**	64	13	89	**166**	**235**	**969**
11:30 12:30	6	238	63	**307**	150	250	17	**417**	**724**	24	15	6	**45**	88	6	145	**239**	**284**	**1008**
12:30 13:30	12	216	82	**310**	151	256	17	**424**	**734**	14	26	11	**51**	62	14	109	**185**	**236**	**970**
15:00 16:00	3	196	42	**241**	97	234	10	**341**	**582**	27	29	9	**65**	102	33	186	**321**	**386**	**968**
16:00 17:00	5	189	39	**233**	61	296	19	**376**	**609**	15	23	5	**43**	99	40	132	**271**	**314**	**923**
17:00 18:00	6	192	20	**218**	49	312	20	**381**	**599**	19	25	7	**51**	58	31	109	**198**	**249**	**848**
Sub Total	46	1803	502	**2351**	1076	1954	127	**3157**	**5508**	180	249	68	**497**	547	161	1001	**1709**	**2206**	**7714**
U Turns				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	46	1803	502	**2351**	1076	1954	127	**3157**	**5508**	180	249	68	**497**	547	161	1001	**1709**	**2206**	**7714**
EQ 12Hr	64	2506	698	**3268**	1496	2716	177	**4388**	**7656**	250	346	95	**691**	760	224	1391	**2376**	**3066**	**10722**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	66	2598	723	**3388**	1551	2816	183	**4549**	**8422**	259	359	98	**716**	788	232	1442	**2463**	**3373**	**11794**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1.1**					
AVG 24Hr	87	3404	948	**4438**	2031	3689	240	**5960**	**10398**	340	470	128	**938**	1033	304	1890	**3226**	**4164**	**14562**
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 @ RUSKIN ST

Survey Date: Tuesday, January 21, 2020 **WO No:** 39352

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

Full Study 15 Minute Increments

		PARKDALE AVE									RUSKIN 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	51	16	67	50	52	1	103	309	5	5	0	10	7	4	24	35	309	215
07:15	07:30	0	67	30	97	50	37	3	90	354	1	19	1	21	10	4	51	65	354	273
07:30	07:45	2	71	21	94	53	49	3	105	364	2	14	2	18	5	2	36	43	364	260
07:45	08:00	1	74	19	94	49	51	8	108	394	6	19	5	30	11	0	45	56	394	288
08:00	08:15	2	59	27	88	54	51	7	112	354	13	11	3	27	11	3	17	31	354	258
08:15	08:30	2	58	20	80	44	47	4	95	315	12	10	3	25	9	3	11	23	315	223
08:30	08:45	0	67	15	82	49	49	2	100	335	9	9	2	20	9	6	17	32	335	234
08:45	09:00	1	79	18	98	54	55	4	113	397	8	12	2	22	12	2	30	44	397	277
09:00	09:15	0	82	26	108	32	49	5	86	373	10	8	4	22	18	4	16	38	373	254
09:15	09:30	2	56	22	80	36	56	2	94	321	7	5	2	14	9	4	17	30	321	218
09:30	09:45	2	55	24	81	54	57	4	115	355	3	9	5	17	20	3	19	42	355	255
09:45	10:00	2	53	18	73	43	53	1	97	336	5	10	1	16	17	2	37	56	336	242
11:30	11:45	0	72	18	90	26	56	6	88	378	8	5	1	14	24	3	39	66	378	258
11:45	12:00	1	57	14	72	48	67	3	118	375	5	4	1	10	19	0	36	55	375	255
12:00	12:15	4	53	14	71	28	61	2	91	349	9	2	3	14	25	2	36	63	349	239
12:15	12:30	1	56	17	74	48	66	6	120	373	2	4	1	7	20	1	34	55	373	256
12:30	12:45	2	56	19	77	36	68	4	108	363	3	6	5	14	13	3	33	49	363	248
12:45	13:00	3	51	22	76	35	74	4	113	366	7	8	3	18	17	4	25	46	366	253
13:00	13:15	2	57	19	78	40	60	3	103	336	3	9	2	14	11	2	22	35	336	230
13:15	13:30	5	52	22	79	40	54	6	100	337	1	3	1	5	21	5	29	55	337	239
15:00	15:15	1	65	12	78	28	54	3	85	370	6	8	3	17	24	9	55	88	370	268
15:15	15:30	0	43	11	54	20	51	2	73	302	8	4	3	15	20	6	50	76	302	218
15:30	15:45	1	43	9	53	25	65	4	94	342	8	10	2	20	34	6	43	83	342	250
15:45	16:00	1	45	10	56	24	64	1	89	322	5	7	1	13	24	12	38	74	322	232
16:00	16:15	3	47	8	58	14	70	4	88	334	4	4	0	8	29	14	38	81	334	235
16:15	16:30	0	47	14	61	18	69	9	96	341	3	6	3	12	24	8	38	70	341	239
16:30	16:45	2	50	6	58	14	90	2	106	371	4	8	1	13	32	8	30	70	371	247
16:45	17:00	0	45	11	56	15	67	4	86	299	4	5	1	10	14	10	26	50	299	202
17:00	17:15	1	52	4	57	10	85	2	97	336	3	8	0	11	19	13	23	55	336	220
17:15	17:30	2	42	5	49	14	82	6	102	318	6	9	5	20	14	5	18	37	318	208
17:30	17:45	1	46	8	55	10	71	7	88	315	6	3	2	11	19	11	28	58	315	212
17:45	18:00	2	52	3	57	15	74	5	94	327	4	5	0	9	6	2	40	48	327	208
Total:		46	1803	502	2351	1076	1954	127	3157	11061	180	249	68	497	547	161	1001	1709	11061	7,714

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ RUSKIN ST

Survey Date: Tuesday, January 21, 2020 **WO No:** 39352

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

Full Study Cyclist Volume

Time Period		PARKDALE AVE			RUSKIN ST			
		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	1	0	1	1
07:30	07:45	0	1	1	0	0	0	1
07:45	08:00	1	0	1	0	0	0	1
08:00	08:15	0	0	0	1	0	1	1
08:15	08:30	0	0	0	1	0	1	1
08:30	08:45	0	0	0	1	0	1	1
08:45	09:00	1	0	1	0	0	0	1
09:00	09:15	0	1	1	1	0	1	2
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	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	1	1	1
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	1	1	0	0	0	1
16:45	17:00	0	1	1	0	0	0	1
17:00	17:15	0	0	0	0	2	2	2
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	2	2	2
Total		2	4	**6**	5	6	11	17

Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ RUSKIN ST

Survey Date: Tuesday, January 21, 2020 **WO No:** 39352

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

Full Study Pedestrian Volume

	PARKDALE AVE			RUSKIN 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	7	1	**8**	4	7	**11**	**19**
07:15 07:30	14	2	**16**	3	7	**10**	**26**
07:30 07:45	13	2	**15**	3	10	**13**	**28**
07:45 08:00	18	4	**22**	5	9	**14**	**36**
08:00 08:15	16	3	**19**	1	6	**7**	**26**
08:15 08:30	10	1	**11**	3	5	**8**	**19**
08:30 08:45	11	0	**11**	3	2	**5**	**16**
08:45 09:00	9	3	**12**	3	4	**7**	**19**
09:00 09:15	1	0	**1**	0	4	**4**	**5**
09:15 09:30	9	0	**9**	2	1	**3**	**12**
09:30 09:45	13	1	**14**	11	4	**15**	**29**
09:45 10:00	8	1	**9**	3	4	**7**	**16**
11:30 11:45	5	2	**7**	2	6	**8**	**15**
11:45 12:00	2	4	**6**	2	9	**11**	**17**
12:00 12:15	7	2	**9**	4	8	**12**	**21**
12:15 12:30	5	3	**8**	1	8	**9**	**17**
12:30 12:45	5	1	**6**	2	3	**5**	**11**
12:45 13:00	4	1	**5**	0	6	**6**	**11**
13:00 13:15	3	1	**4**	1	6	**7**	**11**
13:15 13:30	6	3	**9**	2	6	**8**	**17**
15:00 15:15	11	7	**18**	4	12	**16**	**34**
15:15 15:30	9	1	**10**	3	7	**10**	**20**
15:30 15:45	12	7	**19**	4	19	**23**	**42**
15:45 16:00	6	4	**10**	1	13	**14**	**24**
16:00 16:15	12	0	**12**	1	6	**7**	**19**
16:15 16:30	7	3	**10**	1	10	**11**	**21**
16:30 16:45	5	4	**9**	1	3	**4**	**13**
16:45 17:00	7	3	**10**	4	5	**9**	**19**
17:00 17:15	5	0	**5**	2	4	**6**	**11**
17:15 17:30	6	3	**9**	1	5	**6**	**15**
17:30 17:45	5	1	**6**	2	7	**9**	**15**
17:45 18:00	3	2	**5**	2	2	**4**	**9**
Total	254	70	**324**	81	208	**289**	**613**

5470804 - TUE JAN 21, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ RUSKIN ST

Survey Date: Tuesday, January 21, 2020 **WO No:** 39352

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

Full Study Heavy Vehicles

		PARKDALE AVE									RUSKIN 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	3	2	**10**	0	2	0	**6**	**16**	0	0	0	**1**	3	1	1	**7**	**8**	**12**
07:15	07:30	0	2	0	**8**	1	1	0	**6**	**14**	0	0	0	**0**	5	0	2	**8**	**8**	**11**
07:30	07:45	0	2	0	**6**	1	2	0	**5**	**11**	0	0	0	**0**	2	0	0	**3**	**3**	**7**
07:45	08:00	0	1	0	**7**	1	1	0	**6**	**13**	0	0	0	**0**	5	0	3	**9**	**9**	**11**
08:00	08:15	0	3	1	**8**	1	0	0	**5**	**13**	0	0	0	**0**	4	0	1	**7**	**7**	**10**
08:15	08:30	0	3	1	**13**	0	5	0	**8**	**21**	0	1	0	**1**	4	0	0	**6**	**7**	**14**
08:30	08:45	0	2	2	**11**	1	2	0	**6**	**17**	0	0	0	**0**	5	0	1	**9**	**9**	**13**
08:45	09:00	0	4	2	**10**	1	2	0	**10**	**20**	1	0	0	**1**	2	0	2	**7**	**8**	**14**
09:00	09:15	0	3	0	**8**	0	2	0	**5**	**13**	0	0	0	**0**	3	0	0	**3**	**3**	**8**
09:15	09:30	0	4	0	**11**	0	4	0	**9**	**20**	0	0	0	**0**	3	0	1	**4**	**4**	**12**
09:30	09:45	0	1	0	**8**	1	2	0	**4**	**12**	0	0	0	**0**	5	0	0	**6**	**6**	**9**
09:45	10:00	0	5	0	**9**	0	1	0	**9**	**18**	0	1	0	**1**	3	0	3	**7**	**8**	**13**
11:30	11:45	0	4	2	**11**	0	4	0	**9**	**20**	0	0	0	**0**	1	0	1	**4**	**4**	**12**
11:45	12:00	0	2	1	**10**	1	2	0	**5**	**15**	0	0	0	**0**	5	0	0	**7**	**7**	**11**
12:00	12:15	0	1	0	**4**	2	0	0	**3**	**7**	0	0	0	**0**	3	0	0	**5**	**5**	**6**
12:15	12:30	0	2	0	**6**	2	1	0	**7**	**13**	0	0	0	**0**	3	0	2	**7**	**7**	**10**
12:30	12:45	0	1	0	**2**	1	0	0	**5**	**7**	1	0	0	**1**	1	0	2	**4**	**5**	**6**
12:45	13:00	0	7	2	**16**	2	4	0	**13**	**29**	0	0	0	**0**	3	0	0	**7**	**7**	**18**
13:00	13:15	0	1	2	**7**	3	2	0	**9**	**16**	0	0	0	**0**	2	0	3	**10**	**10**	**13**
13:15	13:30	0	3	0	**11**	0	3	0	**8**	**19**	0	0	0	**0**	5	0	2	**7**	**7**	**13**
15:00	15:15	0	3	0	**12**	0	4	0	**8**	**20**	1	0	0	**1**	5	0	0	**5**	**6**	**13**
15:15	15:30	0	1	0	**5**	0	1	0	**2**	**7**	0	0	0	**0**	3	0	0	**3**	**3**	**5**
15:30	15:45	0	1	1	**6**	0	1	0	**2**	**8**	0	0	0	**0**	3	0	0	**4**	**4**	**6**
15:45	16:00	0	1	0	**6**	0	2	0	**3**	**9**	0	0	0	**0**	3	0	0	**3**	**3**	**6**
16:00	16:15	0	2	0	**7**	0	2	0	**4**	**11**	0	1	0	**2**	3	1	0	**5**	**7**	**9**
16:15	16:30	0	1	0	**6**	0	2	0	**3**	**9**	0	0	0	**0**	3	0	0	**3**	**3**	**6**
16:30	16:45	0	1	0	**7**	0	3	0	**4**	**11**	0	0	0	**0**	3	0	0	**3**	**3**	**7**
16:45	17:00	0	1	0	**5**	0	1	0	**3**	**8**	0	0	0	**0**	3	0	1	**4**	**4**	**6**
17:00	17:15	0	1	0	**6**	0	3	0	**4**	**10**	0	1	0	**1**	2	0	0	**3**	**4**	**7**
17:15	17:30	0	1	0	**6**	0	1	0	**3**	**9**	1	1	0	**2**	4	0	0	**5**	**7**	**8**
17:30	17:45	0	3	0	**9**	0	2	0	**5**	**14**	0	0	0	**1**	4	1	0	**5**	**6**	**10**
17:45	18:00	0	3	0	**8**	0	4	0	**7**	**15**	0	0	0	**0**	1	0	0	**1**	**1**	**8**
Total:	None	0	73	16	**259**	18	66	0	**186**	**445**	4	5	0	**12**	104	3	25	**171**	**183**	**314**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

PARKDALE AVE @ RUSKIN ST

Survey Date: Tuesday, January 21, 2020 **WO No:** 39352

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

Full Study 15 Minute U-Turn Total

Time Period		PARKDALE AVE Northbound U-Turn Total	PARKDALE AVE Southbound U-Turn Total	RUSKIN ST Eastbound U-Turn Total	RUSKIN ST 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 C

COLLISION DATA

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: CARLING AVE @ HAMILTON AVE

Traffic Control: Stop sign **Total Collisions:** 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Feb-19, Fri,16:53	Clear	Sideswipe	P.D. only	Wet	West	Overtaking	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Municipal transit bus	Other motor vehicle	
2017-Sep-07, Thu,15:05	Rain	Angle	Non-fatal injury	Wet	South	Turning right	Unknown	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	

Location: CARLING AVE @ HINTON AVE

Traffic Control: Stop sign **Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Nov-20, Mon,18:32	Clear	Rear end	P.D. only	Dry	West	Going ahead	Unknown	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	

Location: CARLING AVE @ HOLLAND AVE

Traffic Control: Traffic signal **Total Collisions:** 49

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-24, Sat,17:32	Clear	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Mar-28, Sat,20:00	Clear	Turning movement	P.D. only	Wet	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Municipal transit bus	Other motor vehicle	
2015-May-17, Sun,16:20	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Jun-04, Thu,08:53	Clear	Turning movement	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Municipal transit bus	Other motor vehicle	
2015-Jun-28, Sun,23:17	Rain	SMV other	P.D. only	Wet	West	Turning left	Pick-up truck	Ran off road	0
2015-Jul-16, Thu,14:45	Clear	Rear end	P.D. only	Dry	North	Turning left	Passenger van	Other motor vehicle	0
					North	Turning left	Delivery van	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: CARLING AVE @ HOLLAND AVE

Traffic Control: Traffic signal **Total Collisions:** 49

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Sep-14, Mon,14:19	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Oct-14, Wed,10:38	Clear	Rear end	Non-fatal injury	Dry	North	Stopped	Pick-up truck	Other motor vehicle	0
					North	Stopped	Passenger van	Other motor vehicle	
2015-Nov-30, Mon,09:45	Clear	Turning movement	P.D. only	Dry	South	Turning left	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Dec-02, Wed,12:04	Clear	Angle	Non-fatal injury	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jan-05, Tue,09:18	Clear	Angle	Non-fatal injury	Wet	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Passenger van	Other motor vehicle	
2016-Jan-23, Sat,18:24	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Mar-30, Wed,07:31	Clear	Rear end	P.D. only	Dry	West	Going ahead	Passenger van	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Apr-06, Wed,22:14	Snow	Angle	P.D. only	Packed snow	East	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Municipal transit bus	Other motor vehicle	
2016-Apr-25, Mon,14:14	Clear	Turning movement	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2016-May-05, Thu,15:34	Clear	Rear end	P.D. only	Dry	South	Unknown	Unknown	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2016-Sep-23, Fri,09:29	Clear	Turning movement	P.D. only	Wet	North	Turning right	Truck and trailer	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Oct-06, Thu,13:05	Clear	SMV other	Non-fatal injury	Dry	North	Turning right	Automobile, station wagon	Pedestrian	1

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: CARLING AVE @ HOLLAND AVE

Traffic Control: Traffic signal **Total Collisions:** 49

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Oct-09, Sun,18:53	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Dec-07, Wed,17:29	Clear	Turning movement	P.D. only	Dry	East	Turning left	Passenger van	Other motor vehicle	0
					West	Going ahead	Municipal transit bus	Other motor vehicle	
2017-Feb-07, Tue,17:22	Clear	Rear end	P.D. only	Wet	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2017-May-15, Mon,18:30	Clear	Angle	Non-fatal injury	Dry	North	Turning right	Automobile, station wagon	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	
2017-Jun-07, Wed,17:06	Clear	Sideswipe	Non-fatal injury	Dry	East	Overtaking	Bicycle	Other motor vehicle	0
					East	Going ahead	Municipal transit bus	Cyclist	
2017-Jun-20, Tue,16:18	Clear	Angle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jul-08, Sat,18:50	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Oct-05, Thu,08:51	Clear	Sideswipe	P.D. only	Dry	West	Unknown	Automobile, station wagon	Other motor vehicle	0
					West	Unknown	Passenger van	Other motor vehicle	
2017-Oct-11, Wed,09:53	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-12, Tue,20:02	Snow	SMV other	P.D. only	Loose snow	East	Changing lanes	Automobile, station wagon	Curb	0
2018-Jan-24, Wed,06:57	Clear	Rear end	Non-fatal injury	Ice	East	Slowing or stopping	Automobile, station wagon	Skidding/sliding	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: CARLING AVE @ HOLLAND AVE

Traffic Control: Traffic signal **Total Collisions:** 49

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Jan-31, Wed,14:19	Snow	Rear end	P.D. only	Loose snow	North	Slowing or stopping	Automobile, station wagon	Skidding/sliding	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Municipal transit bus	Other motor vehicle	
2018-Apr-04, Wed,09:23	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Apr-05, Thu,17:55	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jun-18, Mon,16:00	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jun-19, Tue,07:51	Clear	Angle	Non-fatal injury	Dry	South	Turning right	Automobile, station wagon	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	
2018-Jul-25, Wed,08:21	Rain	Turning movement	P.D. only	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Sep-08, Sat,14:34	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Oct-22, Mon,20:15	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Jan-16, Wed,14:14	Clear	Angle	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Feb-11, Mon,10:59	Clear	Turning movement	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Feb-20, Wed,12:08	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Municipal transit bus	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: CARLING AVE @ HOLLAND AVE

Traffic Control: Traffic signal **Total Collisions:** 49

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Mar-13, Wed,15:08	Snow	Rear end	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jun-26, Wed,15:58	Clear	Sideswipe	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jul-24, Wed,07:26	Clear	Angle	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Aug-07, Wed,02:32	Clear	Rear end	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Aug-24, Sat,16:33	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Oct-21, Mon,15:00	Clear	Turning movement	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-11, Wed,18:24	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-21, Sat,14:36	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-22, Sun,12:51	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Passenger van	Other motor vehicle	

Location: CARLING AVE @ ISLAND PARK DR

Traffic Control: Traffic signal **Total Collisions:** 24

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-08, Thu,07:42	Snow	Rear end	P.D. only	Loose snow	West	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: CARLING AVE @ ISLAND PARK DR

Traffic Control: Traffic signal **Total Collisions:** 24

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Feb-01, Sun,18:07	Clear	Turning movement	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2015-Feb-13, Fri,16:16	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Apr-17, Fri,21:18	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Jun-10, Wed,17:50	Rain	Rear end	P.D. only	Wet	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Jun-11, Thu,08:44	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Pick-up truck	Other motor vehicle	0
					East	Changing lanes	Automobile, station wagon	Other motor vehicle	
2015-Jun-24, Wed,00:24	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Oct-21, Wed,14:13	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Oct-28, Wed,23:25	Rain	Rear end	P.D. only	Wet	North	Stopped	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jan-29, Fri,14:03	Clear	Angle	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Apr-26, Tue,18:19	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Cyclist	0
					South	Going ahead	Bicycle	Other motor vehicle	
2016-May-11, Wed,05:43	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-May-14, Sat,21:01	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: CARLING AVE @ ISLAND PARK DR

Traffic Control: Traffic signal **Total Collisions:** 24

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Oct-07, Fri,18:03	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jan-16, Mon,17:36	Clear	Angle	Non-fatal injury	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Mar-09, Thu,11:46	Clear	Angle	P.D. only	Dry	West	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Oct-23, Mon,16:53	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-06, Wed,09:42	Clear	Angle	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jan-02, Tue,14:22	Clear	Rear end	Non-fatal injury	Slush	South	Turning left	Automobile, station wagon	Skidding/sliding	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Jan-19, Fri,09:07	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Apr-06, Fri,12:24	Clear	Other	P.D. only	Dry	West	Reversing	Unknown	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Aug-17, Fri,12:46	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Passenger van	Other motor vehicle	
2018-Dec-28, Fri,11:52	Rain	Angle	P.D. only	Slush	West	Going ahead	Delivery van	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jun-07, Fri,17:22	Clear	Angle	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: CARLING AVE @ PARKDALE AVE

Traffic Control: Traffic signal **Total Collisions:** 34

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-26, Mon,08:50	Clear	Rear end	P.D. only	Dry	East	Stopped	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Passenger van	Other motor vehicle	
					East	Stopped	Unknown	Other motor vehicle	
2015-May-06, Wed,16:12	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Passenger van	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Pick-up truck	Other motor vehicle	
2015-May-08, Fri,15:18	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2015-Jun-30, Tue,19:28	Clear	Angle	Non-fatal injury	Dry	East	Going ahead	Bicycle	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Cyclist	
2015-Jul-30, Thu,10:50	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Nov-30, Mon,10:44	Clear	Rear end	P.D. only	Dry	East	Turning left	Truck - closed	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Jan-11, Mon,15:18	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Feb-16, Tue,11:00	Snow	Rear end	P.D. only	Loose snow	East	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					East	Stopped	Pick-up truck	Other motor vehicle	
2016-Feb-18, Thu,15:54	Clear	Rear end	P.D. only	Packed snow	South	Turning right	Truck - dump	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Feb-23, Tue,18:35	Snow	Rear end	P.D. only	Ice	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: CARLING AVE @ PARKDALE AVE

Traffic Control: Traffic signal **Total Collisions:** 34

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Mar-10, Thu,15:23	Rain	Sideswipe	P.D. only	Wet	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Jun-21, Tue,16:56	Clear	Turning movement	P.D. only	Dry	East	Turning left	Passenger van	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Aug-08, Mon,22:02	Clear	Sideswipe	P.D. only	Dry	East	Turning left	Unknown	Other motor vehicle	0
					East	Turning left	Pick-up truck	Other motor vehicle	
2016-Aug-09, Tue,05:23	Clear	Sideswipe	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Aug-21, Sun,15:54	Clear	Angle	Non-fatal injury	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Pick-up truck	Other motor vehicle	
2016-Oct-04, Tue,21:45	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Pick-up truck	Other motor vehicle	
2016-Oct-20, Thu,13:15	Rain	Rear end	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Passenger van	Other motor vehicle	
2016-Nov-17, Thu,15:28	Clear	Rear end	P.D. only	Dry	West	Overtaking	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Municipal transit bus	Other motor vehicle	
2016-Dec-20, Tue,17:44	Clear	Turning movement	P.D. only	Wet	East	Turning left	Municipal transit bus	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Dec-23, Fri,14:46	Clear	Rear end	P.D. only	Wet	West	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2017-Feb-16, Thu,17:43	Snow	SMV unattended vehicle	P.D. only	Slush	Unknown	Unknown	Unknown	Unattended vehicle	0
2017-Jul-16, Sun,13:45	Clear	Angle	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: CARLING AVE @ PARKDALE AVE

Traffic Control: Traffic signal **Total Collisions:** 34

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Jan-11, Thu,07:25	Clear	Rear end	P.D. only	Slush	North	Overtaking	Unknown	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Feb-23, Fri,19:39	Snow	SMV other	P.D. only	Ice	East	Going ahead	Automobile, station wagon	Skidding/sliding	0
2018-Apr-06, Fri,13:10	Clear	Turning movement	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-May-10, Thu,14:16	Clear	Turning movement	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Pick-up truck	Other motor vehicle	
2018-May-16, Wed,23:09	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Sep-13, Thu,08:39	Clear	Turning movement	P.D. only	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Municipal transit bus	Other motor vehicle	
2018-Sep-13, Thu,13:42	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Dec-13, Thu,17:41	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Dec-13, Thu,22:38	Snow	Rear end	P.D. only	Loose snow	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Apr-23, Tue,09:07	Clear	Sideswipe	P.D. only	Dry	West	Unknown	Unknown	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Oct-12, Sat,17:28	Rain	Turning movement	P.D. only	Wet	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Oct-16, Wed,12:02	Rain	Rear end	P.D. only	Wet	East	Unknown	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: CARLING AVE EB btwn HOLLAND AVE & PARKDALE AVE

Traffic Control: No control **Total Collisions:** 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Oct-24, Tue,10:04	Rain	Sideswipe	P.D. only	Wet	East	Changing lanes	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2017-Dec-22, Fri,15:25	Snow	Rear end	P.D. only	Wet	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jun-28, Fri,15:45	Clear	Rear end	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	

Location: CARLING AVE WB btwn HAMILTON AVE S & PARKDALE AVE

Traffic Control: No control **Total Collisions:** 4

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Sep-23, Fri,12:07	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Oct-07, Fri,13:21	Clear	Sideswipe	P.D. only	Dry	West	Pulling away from shoulder or curb	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Nov-02, Wed,15:10	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Delivery van	Other motor vehicle	
2019-Nov-04, Mon,16:19	Clear	Rear end	Non-fatal injury	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	

Location: CARLING AVE WB btwn HINTON AVE S & HAMILTON AVE S

Traffic Control: No control **Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Mar-25, Fri,09:40	Clear	Rear end	Non-fatal injury	Dry	West	Slowing or stopping	Snow plow	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: CARLING AVE WB btwn HOLLAND AVE & HINTON AVE S

Traffic Control: No control **Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-May-29, Fri,07:45	Clear	Sideswipe	P.D. only	Dry	West	Going ahead	Unknown	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	

Location: HOLLAND AVE @ INGLEWOOD PL

Traffic Control: Stop sign **Total Collisions:** 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Dec-23, Wed,15:11	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Passenger van	Other motor vehicle	
2018-Jan-22, Mon,10:51	Clear	Angle	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jun-19, Tue,17:58	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: HOLLAND AVE btwn INGLEWOOD PL & CARLING AVE

Traffic Control: No control **Total Collisions:** 7

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Mar-03, Tue,12:00	Clear	Rear end	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Jul-16, Thu,00:00	Clear	SMV unattended vehicle	P.D. only	Dry	Unknown	Unknown	Unknown	Unattended vehicle	0
2016-Jan-21, Thu,03:35	Clear	SMV unattended vehicle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Unattended vehicle	0
2016-Feb-04, Thu,09:42	Clear	Turning movement	Non-fatal injury	Wet	South	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: HOLLAND AVE btwn INGLEWOOD PL & CARLING AVE

Traffic Control: No control **Total Collisions:** 7

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Jun-20, Tue,17:09	Clear	Sideswipe	P.D. only	Dry	North	Pulling away from shoulder or curb	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Jul-06, Thu,18:14	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Dec-13, Fri,12:42	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: INGLEWOOD PL @ PARKDALE AVE

Traffic Control: Traffic signal **Total Collisions:** 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Sep-16, Wed,15:24	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Aug-08, Mon,16:53	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: PARKDALE AVE @ RUSKIN ST

Traffic Control: Traffic signal **Total Collisions:** 9

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Oct-01, Thu,07:50	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Unknown	Unknown	Other motor vehicle	
2016-Nov-18, Fri,11:06	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: PARKDALE AVE @ RUSKIN ST

Traffic Control: Traffic signal **Total Collisions:** 9

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Dec-08, Thu,12:13	Clear	Sideswipe	P.D. only	Dry	West	Pulling away from shoulder or curb	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Jun-02, Fri,08:17	Clear	Sideswipe	P.D. only	Dry	South	Overtaking	Ambulance	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Dec-27, Wed,18:36	Clear	SMV unattended vehicle	P.D. only	Packed snow	Unknown	Going ahead	Unknown	Unattended vehicle	0
2018-May-09, Wed,09:21	Clear	Turning movement	P.D. only	Dry	West	Turning right	Delivery van	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jun-13, Wed,18:53	Rain	SMV other	Non-fatal injury	Wet	West	Turning left	Automobile, station wagon	Pedestrian	1
2019-Feb-26, Tue,08:37	Clear	Turning movement	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2019-May-07, Tue,08:29	Clear	Turning movement	Non-fatal injury	Dry	North	Turning right	Truck - closed	Cyclist	0
					North	Overtaking	Bicycle	Other motor vehicle	

Location: PARKDALE AVE btwn INGLEWOOD PL & CARLING AVE

Traffic Control: No control **Total Collisions:** 4

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Feb-02, Mon,13:15	Snow	Other	P.D. only	Packed snow	South	Reversing	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Apr-12, Tue,08:20	Clear	Angle	P.D. only	Dry	East	Turning left	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Aug-23, Wed,00:00	Clear	SMV unattended vehicle	P.D. only	Dry	North	Unknown	Unknown	Unattended vehicle	0

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: PARKDALE AVE btwn INGLEWOOD PL & CARLING AVE

Traffic Control: No control **Total Collisions:** 4

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Aug-23, Wed,16:21	Clear	Rear end	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	

Location: PARKDALE AVE btwn RUSKIN ST & INGLEWOOD PL

Traffic Control: No control **Total Collisions:** 7

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-May-15, Fri,09:38	Clear	SMV unattended vehicle	P.D. only	Dry	North	Going ahead	Municipal transit bus	Unattended vehicle	0
2015-Dec-11, Fri,12:15	Clear	SMV unattended vehicle	P.D. only	Dry	West	Reversing	Passenger van	Unattended vehicle	0
2018-Mar-18, Sun,23:00	Clear	SMV unattended vehicle	P.D. only	Dry	Unknown	Unknown	Unknown	Unattended vehicle	0
2018-May-04, Fri,01:23	Clear	SMV unattended vehicle	P.D. only	Dry	North	Going ahead	Unknown	Unattended vehicle	0
2018-Nov-28, Wed,13:20	Clear	Other	P.D. only	Dry	South	Reversing	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Other emergency vehicle	Other motor vehicle	
2019-Jan-17, Thu,09:00	Clear	SMV unattended vehicle	P.D. only	Packed snow	Unknown	Unknown	Unknown	Unattended vehicle	0
2019-Nov-25, Mon,00:00	Clear	SMV unattended vehicle	P.D. only	Dry	Unknown	Unknown	Unknown	Unattended vehicle	0

APPENDIX D

TDM CHECKLISTS

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

Legend

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

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	1.	**WALKING & CYCLING: ROUTES**	
	1.1	**Building location & access points**	
BASIC	1.1.1	Locate building close to the street, and do not locate parking areas between the street and building entrances	☑
BASIC	1.1.2	Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	☑
BASIC	1.1.3	Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	☑
	1.2	**Facilities for walking & cycling**	
REQUIRED	1.2.1	Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations *(see Official Plan policy 4.3.3)*	☑
REQUIRED	1.2.2	Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible *(see Official Plan policy 4.3.12)*	☑

	TDM-supportive design & infrastructure measures: *Residential developments*		Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3	Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks *(see Official Plan policy 4.3.10)*	☑
REQUIRED	1.2.4	Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps *(see Official Plan policy 4.3.10)*	☑
REQUIRED	1.2.5	Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians *(see Official Plan policy 4.3.11)*	☑
BASIC	1.2.6	Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	☑
BASIC	1.2.7	Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	☑
BASIC	1.2.8	Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility	☐
	1.3	**Amenities for walking & cycling**	
BASIC	1.3.1	Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails	☐
BASIC	1.3.2	Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious)	☐

	TDM-supportive design & infrastructure measures: *Residential developments*		Check if completed & add descriptions, explanations or plan/drawing references
	2.	**WALKING & CYCLING: END-OF-TRIP FACILITIES**	
	2.1	**Bicycle parking**	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)*	☑
REQUIRED	2.1.2	Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)*	☑
REQUIRED	2.1.3	Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)*	☑
BASIC	2.1.4	Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists	☑ Targeting a 0.75:1 bike locker to unit ratio
	2.2	**Secure bicycle parking**	
REQUIRED	2.2.1	Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers *(see Zoning By-law Section 111)*	☑
BETTER	2.2.2	Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	☐
	2.3	**Bicycle repair station**	
BETTER	2.3.1	Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☑ Bike wash and bike repair station proposed
	3.	**TRANSIT**	
	3.1	**Customer amenities**	
BASIC	3.1.1	Provide shelters, lighting and benches at any on-site transit stops	☐
BASIC	3.1.2	Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☐
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	4.	**RIDESHARING**	
	4.1	**Pick-up & drop-off facilities**	
BASIC	4.1.1	Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☐
	5.	**CARSHARING & BIKESHARING**	
	5.1	**Carshare parking spaces**	
BETTER	5.1.1	Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses *(see Zoning By-law Section 94)*	☐
	5.2	**Bikeshare station location**	
BETTER	5.2.1	Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☐
	6.	**PARKING**	
	6.1	**Number of parking spaces**	
REQUIRED	6.1.1	Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☐ We are currently providing a parking ratio of 0.65:1
BASIC	6.1.2	Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☐
BASIC	6.1.3	Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly *(see Zoning By-law Section 104)*	☐
BETTER	6.1.4	Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking *(see Zoning By-law Section 111)*	☐
	6.2	**Separate long-term & short-term parking areas**	
BETTER	6.2.1	Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa)	☐

TDM Measures Checklist:
Residential Developments (multi-family, condominium or subdivision)

Legend

BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users

BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance

★ — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

		TDM measures: *Residential developments*	Check if proposed & add descriptions
	1.	**TDM PROGRAM MANAGEMENT**	
	1.1	**Program coordinator**	
BASIC ★	1.1.1	Designate an internal coordinator, or contract with an external coordinator	☐
	1.2	**Travel surveys**	
BETTER	1.2.1	Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☐
	2.	**WALKING AND CYCLING**	
	2.1	**Information on walking/cycling routes & destinations**	
BASIC	2.1.1	Display local area maps with walking/cycling access routes and key destinations at major entrances *(multi-family, condominium)*	☑
	2.2	**Bicycle skills training**	
BETTER	2.2.1	Offer on-site cycling courses for residents, or subsidize off-site courses	☐

		TDM measures: *Residential developments*	Check if proposed & add descriptions
		3. TRANSIT	
		3.1 Transit information	
BASIC		3.1.1 Display relevant transit schedules and route maps at entrances *(multi-family, condominium)*	☑
BETTER		3.1.2 Provide real-time arrival information display at entrances *(multi-family, condominium)*	☐
		3.2 Transit fare incentives	
BASIC	★	3.2.1 Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit	☐
BETTER		3.2.2 Offer at least one year of free monthly transit passes on residence purchase/move-in	☐
		3.3 Enhanced public transit service	
BETTER	★	3.3.1 Contract with OC Transpo to provide early transit services until regular services are warranted by occupancy levels *(subdivision)*	☐
		3.4 Private transit service	
BETTER		3.4.1 Provide shuttle service for seniors homes or lifestyle communities (e.g. scheduled mall or supermarket runs)	☐
		4. CARSHARING & BIKESHARING	
		4.1 Bikeshare stations & memberships	
BETTER		4.1.1 Contract with provider to install on-site bikeshare station (*multi-family)*	☐
BETTER		4.1.2 Provide residents with bikeshare memberships, either free or subsidized *(multi-family)*	☐
		4.2 Carshare vehicles & memberships	
BETTER		4.2.1 Contract with provider to install on-site carshare vehicles and promote their use by residents	☑ Will investigate options for carsharing service in building
BETTER		4.2.2 Provide residents with carshare memberships, either free or subsidized	☐
		5. PARKING	
		5.1 Priced parking	
BASIC	★	5.1.1 Unbundle parking cost from purchase price *(condominium)*	☐
BASIC	★	5.1.2 Unbundle parking cost from monthly rent *(multi-family)*	☑

			TDM measures: *Residential developments*	Check if proposed & add descriptions
		6.	**TDM MARKETING & COMMUNICATIONS**	
		6.1	**Multimodal travel information**	
BASIC	★	6.1.1	Provide a multimodal travel option information package to new residents	☑
		6.2	**Personalized trip planning**	
BETTER	★	6.2.1	Offer personalized trip planning to new residents	☐

APPENDIX E

SYNCHRO ANALYSIS RESULTS

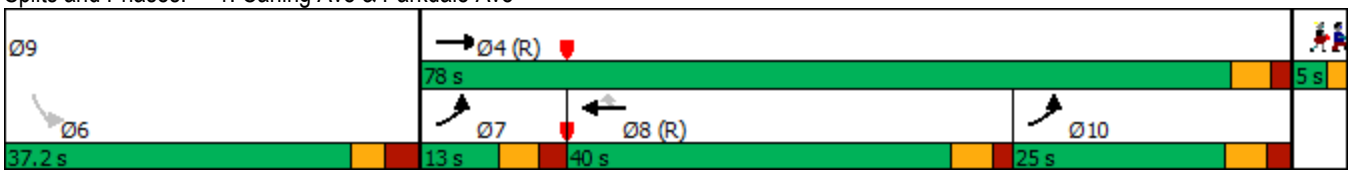
Existing Conditions

Lane Group	EBL	EBT	WBT	WBR	SBL	Ø7	Ø9	Ø10
Lane Configurations								
Traffic Volume (vph)	316	1278	518	90	99			
Future Volume (vph)	316	1278	518	90	99			
Lane Group Flow (vph)	351	1420	576	100	289			
Turn Type	Prot	NA	NA	Perm	Perm			
Protected Phases	7 10	4	8			7	9	10
Permitted Phases				8	6			
Detector Phase	7 10	4	8	8	6			
Switch Phase								
Minimum Initial (s)		10.0	10.0	10.0	10.0	5.0	3.0	5.0
Minimum Split (s)		15.6	26.6	26.6	37.2	11.1	5.0	24.1
Total Split (s)		78.0	40.0	40.0	37.2	13.0	5.0	25.0
Total Split (%)		64.9%	33.3%	33.3%	30.9%	11%	4%	21%
Yellow Time (s)		3.7	3.7	3.7	3.0	3.7	2.0	3.7
All-Red Time (s)		1.9	1.9	1.9	3.2	2.4	0.0	2.4
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			
Total Lost Time (s)		5.6	5.6	5.6	6.2			
Lead/Lag			Lag	Lag		Lead		
Lead-Lag Optimize?			Yes	Yes		Yes		
Recall Mode		C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	35.1	85.4	38.1	38.1	23.0			
Actuated g/C Ratio	0.29	0.71	0.32	0.32	0.19			
v/c Ratio	0.71	0.41	0.37	0.20	0.82			
Control Delay	31.1	8.2	33.5	7.3	53.6			
Queue Delay	0.0	0.0	0.0	0.0	0.0			
Total Delay	31.1	8.2	33.5	7.3	53.6			
LOS	C	A	C	A	D			
Approach Delay		12.8	29.7		53.6			
Approach LOS		B	C		D			
Queue Length 50th (m)	37.8	44.8	40.1	0.0	51.6			
Queue Length 95th (m)	#87.0	68.7	51.5	12.6	76.1			
Internal Link Dist (m)		62.8	152.3		285.1			
Turn Bay Length (m)	160.0			100.0				
Base Capacity (vph)	494	3459	1543	488	455			
Starvation Cap Reductn	0	0	0	0	0			
Spillback Cap Reductn	0	0	0	0	0			
Storage Cap Reductn	0	0	0	0	0			
Reduced v/c Ratio	0.71	0.41	0.37	0.20	0.64			

Intersection Summary	
Cycle Length: 120.2	
Actuated Cycle Length: 120.2	
Offset: 106 (88%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 21.3	Intersection LOS: C
Intersection Capacity Utilization 70.8%	ICU Level of Service C
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Carling Ave & Parkdale Ave

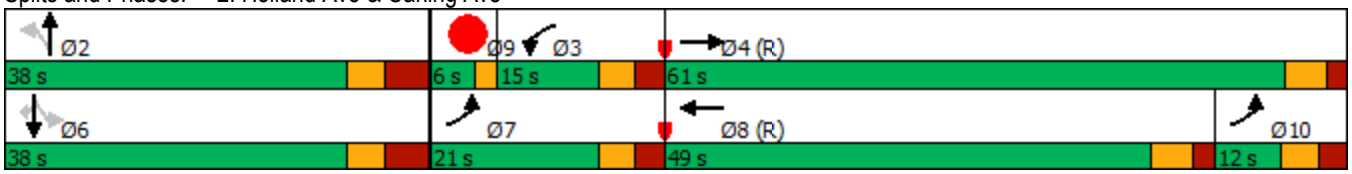


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø7	Ø9	Ø10
Lane Configurations												
Traffic Volume (vph)	161	1200	156	458	4	373	34	252	106			
Future Volume (vph)	161	1200	156	458	4	373	34	252	106			
Lane Group Flow (vph)	179	1339	173	581	0	807	0	318	118			
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	Perm			
Protected Phases	7 10	4	3	8		2		6		7	9	10
Permitted Phases					2		6		6			
Detector Phase	7 10	4	3	8	2	2	6	6	6			
Switch Phase												
Minimum Initial (s)		10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	5.0	1.0	5.0
Minimum Split (s)		26.7	11.0	26.7	31.4	31.4	31.4	31.4	31.4	11.0	3.0	11.0
Total Split (s)		61.0	15.0	49.0	38.0	38.0	38.0	38.0	38.0	21.0	6.0	12.0
Total Split (%)		50.8%	12.5%	40.8%	31.7%	31.7%	31.7%	31.7%	31.7%	18%	5%	10%
Yellow Time (s)		3.7	3.3	3.7	3.3	3.3	3.3	3.3	3.3	3.3	2.0	3.3
All-Red Time (s)		2.0	2.7	2.0	4.1	4.1	4.1	4.1	4.1	2.7	0.0	2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0	0.0			
Total Lost Time (s)		5.7	6.0	5.7		7.4		7.4	7.4			
Lead/Lag			Lag	Lag						Lead	Lead	
Lead-Lag Optimize?			Yes	Yes						Yes	Yes	
Recall Mode		C-Max	None	C-Max	Max	Max	Max	Max	Max	None	None	None
Act Effct Green (s)	17.7	55.3	15.0	46.6		30.6		30.6	30.6			
Actuated g/C Ratio	0.15	0.46	0.12	0.39		0.26		0.26	0.26			
v/c Ratio	0.72	0.60	0.82	0.31		0.93		1.78	0.24			
Control Delay	38.5	40.6	80.6	25.5		51.3		400.0	3.6			
Queue Delay	0.0	50.8	0.0	0.0		0.0		0.0	0.2			
Total Delay	38.5	91.4	80.6	25.5		51.3		400.0	3.8			
LOS	D	F	F	C		D		F	A			
Approach Delay		85.2		38.1		51.3		292.8				
Approach LOS		F		D		D		F				
Queue Length 50th (m)	30.4	116.4	40.3	33.1		78.1		~111.9	0.0			
Queue Length 95th (m)	48.5	131.7	#77.0	44.6		#116.3		#167.3	7.6			
Internal Link Dist (m)		54.2		141.1		91.1		155.7				
Turn Bay Length (m)			160.0						45.0			
Base Capacity (vph)	296	2242	211	1845		868		179	487			
Starvation Cap Reductn	0	1394	0	0		0		0	0			
Spillback Cap Reductn	0	0	0	125		0		0	77			
Storage Cap Reductn	0	0	0	0		0		0	0			
Reduced v/c Ratio	0.60	1.58	0.82	0.34		0.93		1.78	0.29			

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 79 (66%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.78	
Intersection Signal Delay: 93.1	Intersection LOS: F
Intersection Capacity Utilization 93.8%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

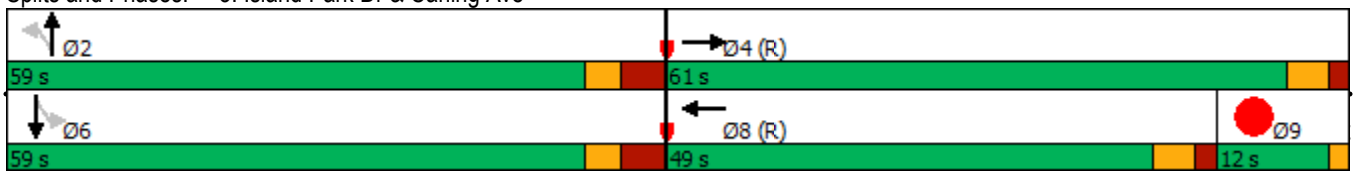
Splits and Phases: 2: Holland Ave & Carling Ave



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations							
Traffic Volume (vph)	1032	532	85	105	98	253	
Future Volume (vph)	1032	532	85	105	98	253	
Lane Group Flow (vph)	1211	624	94	118	109	310	
Turn Type	NA	NA	Perm	NA	Perm	NA	
Protected Phases	4	8		2		6	9
Permitted Phases			2		6		
Minimum Split (s)	26.7	26.7	31.4	31.4	31.4	31.4	3.0
Total Split (s)	61.0	49.0	59.0	59.0	59.0	59.0	12.0
Total Split (%)	50.8%	40.8%	49.2%	49.2%	49.2%	49.2%	10%
Yellow Time (s)	3.7	3.7	3.3	3.3	3.3	3.3	2.0
All-Red Time (s)	2.0	2.0	4.1	4.1	4.1	4.1	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	5.7	7.4	7.4	7.4	7.4	
Lead/Lag							
Lead-Lag Optimize?							
Act Effct Green (s)	55.3	43.3	51.6	51.6	51.6	51.6	
Actuated g/C Ratio	0.46	0.36	0.43	0.43	0.43	0.43	
v/c Ratio	0.55	0.36	0.25	0.15	0.21	0.41	
Control Delay	24.2	53.0	24.1	21.6	22.8	25.3	
Queue Delay	49.8	4.3	0.0	0.0	0.0	0.0	
Total Delay	74.0	57.2	24.1	21.6	22.9	25.3	
LOS	E	E	C	C	C	C	
Approach Delay	74.0	57.2		22.7		24.7	
Approach LOS	E	E		C		C	
Queue Length 50th (m)	72.8	53.6	13.9	16.7	15.8	48.7	
Queue Length 95th (m)	86.5	66.8	26.4	28.7	28.4	72.2	
Internal Link Dist (m)	193.8	54.2		75.6		106.6	
Turn Bay Length (m)			20.0		15.0		
Base Capacity (vph)	2222	1737	379	766	517	757	
Starvation Cap Reductn	0	1015	0	0	0	0	
Spillback Cap Reductn	1163	0	0	0	25	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.14	0.86	0.25	0.15	0.22	0.41	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 25.4 (21%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 57.0	Intersection LOS: E
Intersection Capacity Utilization 67.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Island Park Dr & Carling Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	22	63	37	9	5	271	206	188
Future Volume (vph)	22	63	37	9	5	271	206	188
Lane Group Flow (vph)	0	106	41	176	0	415	0	461
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Split (s)	19.4	19.4	19.4	19.4	31.8	31.8	31.8	31.8
Total Split (s)	20.0	20.0	20.0	20.0	65.0	65.0	65.0	65.0
Total Split (%)	23.5%	23.5%	23.5%	23.5%	76.5%	76.5%	76.5%	76.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.4	2.4	2.4	2.4	2.8	2.8	2.8	2.8
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.4	5.4	5.4		5.8		5.8
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		14.6	14.6	14.6		59.2		59.2
Actuated g/C Ratio		0.17	0.17	0.17		0.70		0.70
v/c Ratio		0.40	0.22	0.45		0.35		0.58
Control Delay		34.2	33.9	10.5		5.4		10.0
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay		34.2	33.9	10.5		5.4		10.0
LOS		C	C	B		A		A
Approach Delay		34.2		14.9		5.4		10.0
Approach LOS		C		B		A		A
Queue Length 50th (m)		14.4	5.8	1.4		19.6		31.7
Queue Length 95th (m)		29.0	14.8	17.8		32.1		56.2
Internal Link Dist (m)		131.2		126.1		285.1		76.0
Turn Bay Length (m)			40.0					
Base Capacity (vph)		267	184	387		1184		798
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.40	0.22	0.45		0.35		0.58

Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 85	
Offset: 45 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 11.5	Intersection LOS: B
Intersection Capacity Utilization 85.6%	ICU Level of Service E
Analysis Period (min) 15	

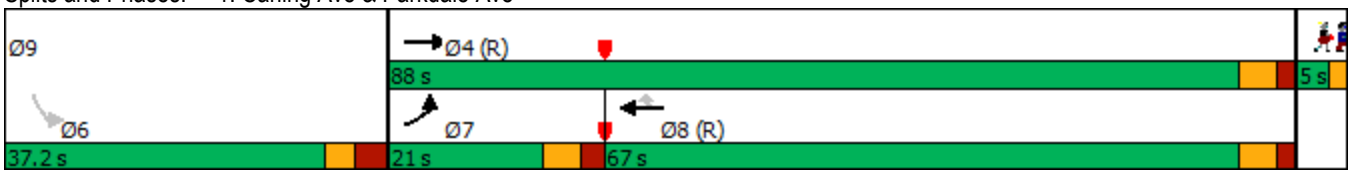
Splits and Phases: 4: Parkdale Ave & Ruskin St

Lane Group	EBL	EBT	WBT	WBR	SBL	Ø9
Lane Configurations						
Traffic Volume (vph)	136	650	1698	86	79	
Future Volume (vph)	136	650	1698	86	79	
Lane Group Flow (vph)	151	722	1887	96	445	
Turn Type	Prot	NA	NA	Perm	Perm	
Protected Phases	7	4	8			9
Permitted Phases				8	6	
Detector Phase	7	4	8	8	6	
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	3.0
Minimum Split (s)	11.1	15.6	26.6	26.6	37.2	5.0
Total Split (s)	21.0	88.0	67.0	67.0	37.2	5.0
Total Split (%)	16.1%	67.6%	51.5%	51.5%	28.6%	4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.0	2.0
All-Red Time (s)	2.4	1.9	1.9	1.9	3.2	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	5.6	5.6	5.6	6.2	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	14.2	85.4	65.0	65.0	33.0	
Actuated g/C Ratio	0.11	0.66	0.50	0.50	0.25	
v/c Ratio	0.82	0.23	0.78	0.14	0.89	
Control Delay	88.4	9.6	30.2	4.1	52.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	88.4	9.6	30.2	4.1	52.0	
LOS	F	A	C	A	D	
Approach Delay		23.3	29.0		52.0	
Approach LOS		C	C		D	
Queue Length 50th (m)	38.3	27.4	149.7	0.0	75.7	
Queue Length 95th (m)	#71.5	33.6	170.0	9.4	#130.4	
Internal Link Dist (m)		62.8	152.3		285.1	
Turn Bay Length (m)	160.0			100.0		
Base Capacity (vph)	194	3194	2433	679	511	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.78	0.23	0.78	0.14	0.87	

Intersection Summary	
Cycle Length: 130.2	
Actuated Cycle Length: 130.2	
Offset: 66 (51%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 30.6	Intersection LOS: C
Intersection Capacity Utilization 84.1%	ICU Level of Service E
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Carling Ave & Parkdale Ave

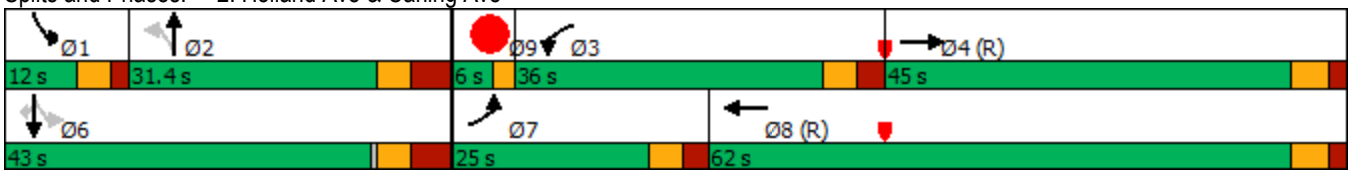


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	104	585	429	1566	11	288	29	391	108	
Future Volume (vph)	104	585	429	1566	11	288	29	391	108	
Lane Group Flow (vph)	116	664	477	1819	0	493	0	466	120	
Turn Type	Prot	NA	Prot	NA	Perm	NA	pm+pt	NA	Perm	
Protected Phases	7	4	3	8		2	1	6		9
Permitted Phases					2		6		6	
Detector Phase	7	4	3	8	2	2	1	6	6	
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	5.0	10.0	10.0	1.0
Minimum Split (s)	11.0	26.7	11.0	26.7	31.4	31.4	10.0	31.4	31.4	3.0
Total Split (s)	25.0	45.0	36.0	62.0	31.4	31.4	12.0	43.0	43.0	6.0
Total Split (%)	19.2%	34.5%	27.6%	47.5%	24.1%	24.1%	9.2%	33.0%	33.0%	5%
Yellow Time (s)	3.3	3.7	3.3	3.7	3.3	3.3	3.3	3.3	3.3	2.0
All-Red Time (s)	2.7	2.0	2.7	2.0	4.1	4.1	1.7	4.1	4.1	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.7	6.0	5.7		7.4		7.4	7.4	
Lead/Lag	Lead		Lag	Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes			Yes
Recall Mode	None	C-Max	None	C-Max	Max	Max	None	Max	Max	None
Act Effct Green (s)	14.0	39.3	36.0	61.3		36.0		36.0	36.0	
Actuated g/C Ratio	0.11	0.30	0.28	0.47		0.28		0.28	0.28	
v/c Ratio	0.64	0.45	1.02	0.80		0.67		1.07	0.24	
Control Delay	70.8	38.0	93.6	33.4		42.0		109.1	4.9	
Queue Delay	0.4	7.7	0.0	0.0		0.0		0.0	0.0	
Total Delay	71.3	45.7	93.6	33.4		42.0		109.1	4.9	
LOS	E	D	F	C		D		F	A	
Approach Delay		49.5		45.9		42.0		87.7		
Approach LOS		D		D		D		F		
Queue Length 50th (m)	29.0	50.5	~129.8	142.7		52.8		~132.7	0.0	
Queue Length 95th (m)	47.1	62.6	#194.9	175.0		72.3		#197.9	10.5	
Internal Link Dist (m)		54.2		141.1		91.1		155.7		
Turn Bay Length (m)			160.0						45.0	
Base Capacity (vph)	246	1463	467	2260		739		434	508	
Starvation Cap Reductn	16	749	0	0		0		0	0	
Spillback Cap Reductn	0	0	0	0		0		0	0	
Storage Cap Reductn	0	0	0	0		0		0	0	
Reduced v/c Ratio	0.50	0.93	1.02	0.80		0.67		1.07	0.24	

Intersection Summary	
Cycle Length: 130.4	
Actuated Cycle Length: 130.4	
Offset: 79 (61%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.07	
Intersection Signal Delay: 52.0	Intersection LOS: D
Intersection Capacity Utilization 105.4%	ICU Level of Service G
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

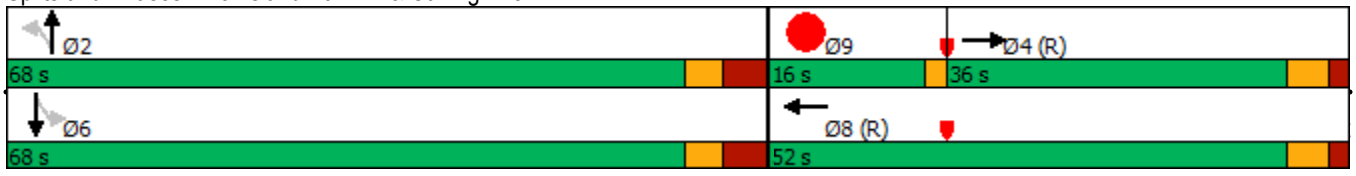
Splits and Phases: 2: Holland Ave & Carling Ave

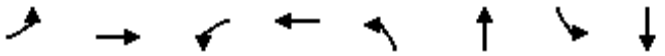


Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	Ø9
Lane Configurations							
Traffic Volume (vph)	491	1476	210	169	55	178	
Future Volume (vph)	491	1476	210	169	55	178	
Lane Group Flow (vph)	589	1699	233	188	61	237	
Turn Type	NA	NA	Perm	NA	Perm	NA	
Protected Phases	4	8		2		6	9
Permitted Phases			2		6		
Minimum Split (s)	26.7	26.7	31.4	31.4	31.4	31.4	3.0
Total Split (s)	36.0	52.0	68.0	68.0	68.0	68.0	16.0
Total Split (%)	30.0%	43.3%	56.7%	56.7%	56.7%	56.7%	13%
Yellow Time (s)	3.7	3.7	3.3	3.3	3.3	3.3	2.0
All-Red Time (s)	2.0	2.0	4.1	4.1	4.1	4.1	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	5.7	7.4	7.4	7.4	7.4	
Lead/Lag							
Lead-Lag Optimize?							
Act Effct Green (s)	30.3	46.3	60.6	60.6	60.6	60.6	
Actuated g/C Ratio	0.25	0.39	0.50	0.50	0.50	0.50	
v/c Ratio	0.48	0.91	0.44	0.21	0.11	0.27	
Control Delay	39.1	43.3	22.2	17.2	16.3	17.9	
Queue Delay	0.0	47.1	0.0	0.0	0.0	0.0	
Total Delay	39.1	90.5	22.2	17.2	16.3	17.9	
LOS	D	F	C	B	B	B	
Approach Delay	39.1	90.5		19.9		17.6	
Approach LOS	D	F		B		B	
Queue Length 50th (m)	42.7	136.8	33.7	23.7	7.3	30.7	
Queue Length 95th (m)	54.6	158.4	55.2	37.6	14.9	47.1	
Internal Link Dist (m)	193.8	54.2		75.6		106.6	
Turn Bay Length (m)			20.0		15.0		
Base Capacity (vph)	1217	1865	532	900	571	876	
Starvation Cap Reductn	0	773	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.48	1.56	0.44	0.21	0.11	0.27	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 100 (83%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 63.3	Intersection LOS: E
Intersection Capacity Utilization 80.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Island Park Dr & Carling Ave





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	27	29	102	33	3	196	97	234
Future Volume (vph)	27	29	102	33	3	196	97	234
Lane Group Flow (vph)	0	72	113	244	0	268	0	379
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Split (s)	19.4	19.4	19.4	19.4	31.8	31.8	31.8	31.8
Total Split (s)	20.0	20.0	20.0	20.0	75.0	75.0	75.0	75.0
Total Split (%)	21.1%	21.1%	21.1%	21.1%	78.9%	78.9%	78.9%	78.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.4	2.4	2.4	2.4	2.8	2.8	2.8	2.8
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.4	5.4	5.4		5.8		5.8
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		14.6	14.6	14.6		69.2		69.2
Actuated g/C Ratio		0.15	0.15	0.15		0.73		0.73
v/c Ratio		0.54	0.60	0.61		0.21		0.36
Control Delay		50.2	52.4	15.7		4.1		5.8
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay		50.2	52.4	15.7		4.1		5.8
LOS		D	D	B		A		A
Approach Delay		50.2		27.4		4.1		5.8
Approach LOS		D		C		A		A
Queue Length 50th (m)		11.1	19.5	6.0		11.6		21.2
Queue Length 95th (m)		#27.9	#40.4	29.0		19.2		33.4
Internal Link Dist (m)		131.2		126.1		285.1		76.0
Turn Bay Length (m)			40.0					
Base Capacity (vph)		133	187	397		1247		1054
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.54	0.60	0.61		0.21		0.36

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 95	
Offset: 40 (42%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 15.5	Intersection LOS: B
Intersection Capacity Utilization 86.0%	ICU Level of Service E
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

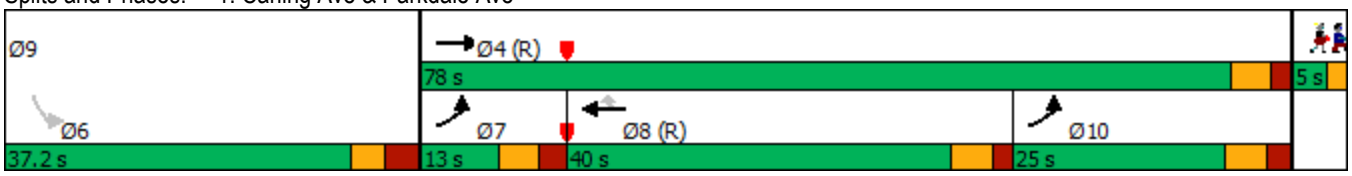
Splits and Phases: 4: Parkdale Ave & Ruskin St

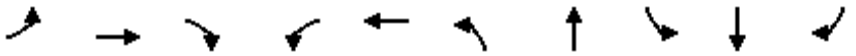
Total Projected 2023

Lane Group	EBL	EBT	WBT	WBR	SBL	Ø7	Ø9	Ø10
Lane Configurations								
Traffic Volume (vph)	303	1158	529	90	107			
Future Volume (vph)	303	1158	529	90	107			
Lane Group Flow (vph)	303	1158	529	90	259			
Turn Type	Prot	NA	NA	Perm	Perm			
Protected Phases	7 10	4	8			7	9	10
Permitted Phases				8	6			
Detector Phase	7 10	4	8	8	6			
Switch Phase								
Minimum Initial (s)		10.0	10.0	10.0	10.0	5.0	3.0	5.0
Minimum Split (s)		15.6	26.6	26.6	37.2	11.1	5.0	24.1
Total Split (s)		78.0	40.0	40.0	37.2	13.0	5.0	25.0
Total Split (%)		64.9%	33.3%	33.3%	30.9%	11%	4%	21%
Yellow Time (s)		3.7	3.7	3.7	3.0	3.7	2.0	3.7
All-Red Time (s)		1.9	1.9	1.9	3.2	2.4	0.0	2.4
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			
Total Lost Time (s)		5.6	5.6	5.6	6.2			
Lead/Lag			Lag	Lag		Lead		
Lead-Lag Optimize?			Yes	Yes		Yes		
Recall Mode		C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	32.1	87.2	42.9	42.9	21.2			
Actuated g/C Ratio	0.27	0.73	0.36	0.36	0.18			
v/c Ratio	0.67	0.47	0.44	0.17	0.80			
Control Delay	29.2	8.4	32.6	7.3	54.1			
Queue Delay	0.0	0.0	0.0	0.0	0.0			
Total Delay	29.2	8.4	32.6	7.3	54.1			
LOS	C	A	C	A	D			
Approach Delay		12.7	28.9		54.1			
Approach LOS		B	C		D			
Queue Length 50th (m)	37.0	52.9	50.5	0.0	46.6			
Queue Length 95th (m)	48.4	85.5	73.0	12.1	70.2			
Internal Link Dist (m)		62.8	152.3		285.1			
Turn Bay Length (m)	160.0			100.0				
Base Capacity (vph)	452	2458	1209	530	447			
Starvation Cap Reductn	0	0	0	0	0			
Spillback Cap Reductn	0	0	0	0	0			
Storage Cap Reductn	0	0	0	0	0			
Reduced v/c Ratio	0.67	0.47	0.44	0.17	0.58			

Intersection Summary	
Cycle Length: 120.2	
Actuated Cycle Length: 120.2	
Offset: 106 (88%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 21.6	Intersection LOS: C
Intersection Capacity Utilization 69.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Carling Ave & Parkdale Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø7	Ø9
Lane Configurations												
Traffic Volume (vph)	161	1081	5	170	489	4	373	34	252	106		
Future Volume (vph)	161	1081	5	170	489	4	373	34	252	106		
Lane Group Flow (vph)	161	1081	5	170	572	0	721	0	286	106		
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA	Perm		
Protected Phases	7 10	4		3	8		2		6		7	9
Permitted Phases			4			2		6		6		
Detector Phase	7 10	4	4	3	8	2	2	6	6	6		
Switch Phase												
Minimum Initial (s)		10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	5.0	1.0
Minimum Split (s)		26.7	26.7	11.0	26.7	31.4	31.4	31.4	31.4	31.4	11.0	3.0
Total Split (s)		61.0	61.0	15.0	49.0	38.0	38.0	38.0	38.0	38.0	21.0	6.0
Total Split (%)		50.8%	50.8%	12.5%	40.8%	31.7%	31.7%	31.7%	31.7%	31.7%	18%	5%
Yellow Time (s)		3.7	3.7	3.3	3.7	3.3	3.3	3.3	3.3	3.3	3.3	2.0
All-Red Time (s)		2.0	2.0	2.7	2.0	4.1	4.1	4.1	4.1	4.1	2.7	0.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0		0.0	0.0		
Total Lost Time (s)		5.7	5.7	6.0	5.7		7.4		7.4	7.4		
Lead/Lag				Lag	Lag						Lead	Lead
Lead-Lag Optimize?				Yes	Yes						Yes	Yes
Recall Mode		C-Max	C-Max	None	C-Max	Max	Max	Max	Max	Max	None	None
Act Effct Green (s)	17.0	55.3	55.3	15.0	47.3		30.6		30.6	30.6		
Actuated g/C Ratio	0.14	0.46	0.46	0.12	0.39		0.26		0.26	0.26		
v/c Ratio	0.67	0.69	0.01	0.81	0.31		0.83		1.20	0.22		
Control Delay	35.7	43.4	0.0	78.8	24.6		40.7		161.5	2.7		
Queue Delay	0.0	52.4	0.0	0.0	0.2		0.0		0.0	0.5		
Total Delay	35.7	95.8	0.0	78.8	24.8		40.7		161.5	3.2		
LOS	D	F	A	E	C		D		F	A		
Approach Delay		87.6			37.2		40.7		118.7			
Approach LOS		F			D		D		F			
Queue Length 50th (m)	26.5	136.1	0.0	39.5	31.4		64.8		~81.5	0.0		
Queue Length 95th (m)	43.2	158.0	m0.0	#74.5	43.4		#89.1		#134.5	4.8		
Internal Link Dist (m)		54.2			141.1		91.1		155.7			
Turn Bay Length (m)				160.0						45.0		
Base Capacity (vph)	296	1562	695	211	1866		866		239	487		
Starvation Cap Reductn	0	948	0	0	0		0		0	0		
Spillback Cap Reductn	0	0	0	0	573		0		0	159		
Storage Cap Reductn	0	0	0	0	0		0		0	0		
Reduced v/c Ratio	0.54	1.76	0.01	0.81	0.44		0.83		1.20	0.32		

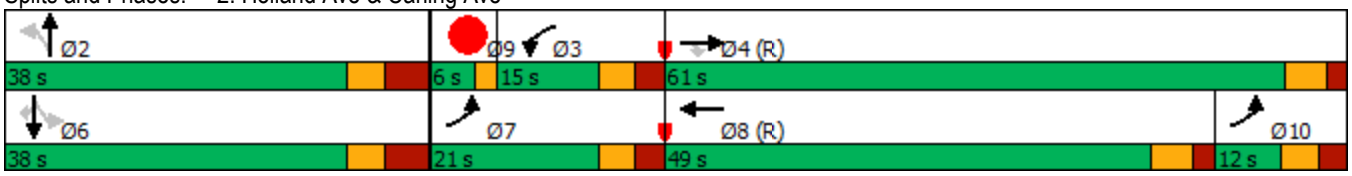
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 79 (66%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 68.6	Intersection LOS: E
Intersection Capacity Utilization 101.6%	ICU Level of Service G
Analysis Period (min) 15	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	12.0
Total Split (%)	10%
Yellow Time (s)	3.3
All-Red Time (s)	2.7
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

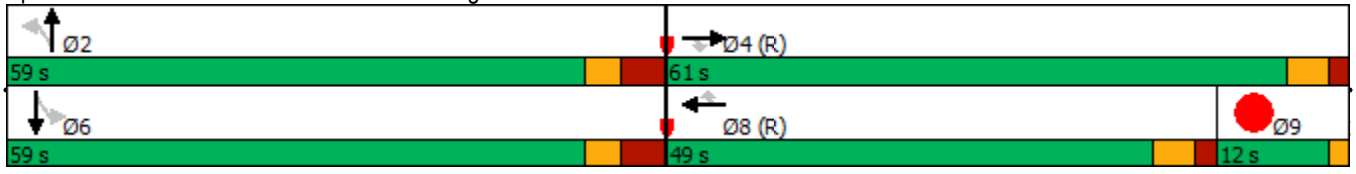
Splits and Phases: 2: Holland Ave & Carling Ave



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	914	58	567	30	85	105	98	253	
Future Volume (vph)	914	58	567	30	85	105	98	253	
Lane Group Flow (vph)	914	58	567	30	85	114	98	279	
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm	NA	
Protected Phases	4		8			2		6	9
Permitted Phases		4		8	2		6		
Minimum Split (s)	26.7	26.7	26.7	26.7	31.4	31.4	31.4	31.4	3.0
Total Split (s)	61.0	61.0	49.0	49.0	59.0	59.0	59.0	59.0	12.0
Total Split (%)	50.8%	50.8%	40.8%	40.8%	49.2%	49.2%	49.2%	49.2%	10%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.3	3.3	3.3	3.3	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	4.1	4.1	4.1	4.1	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	5.7	5.7	5.7	7.4	7.4	7.4	7.4	
Lead/Lag									
Lead-Lag Optimize?									
Act Effct Green (s)	55.3	55.3	43.3	43.3	51.6	51.6	51.6	51.6	
Actuated g/C Ratio	0.46	0.46	0.36	0.36	0.43	0.43	0.43	0.43	
v/c Ratio	0.59	0.09	0.46	0.06	0.21	0.15	0.19	0.37	
Control Delay	25.8	4.9	56.7	13.2	23.2	20.6	22.5	24.5	
Queue Delay	5.2	0.0	54.3	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.0	4.9	111.0	13.2	23.2	20.6	22.5	24.5	
LOS	C	A	F	B	C	C	C	C	
Approach Delay	29.4		106.1			21.7		24.0	
Approach LOS	C		F			C		C	
Queue Length 50th (m)	81.6	0.0	71.3	0.9	12.3	15.3	14.1	42.8	
Queue Length 95th (m)	101.6	7.2	90.1	6.0	23.7	27.1	25.7	64.3	
Internal Link Dist (m)	193.8		54.2			75.6		106.6	
Turn Bay Length (m)		60.0			20.0		15.0		
Base Capacity (vph)	1562	675	1223	541	405	759	519	757	
Starvation Cap Reductn	0	0	721	0	0	0	0	0	
Spillback Cap Reductn	573	0	0	0	0	0	14	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.92	0.09	1.13	0.06	0.21	0.15	0.19	0.37	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 25.4 (21%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 49.1	Intersection LOS: D
Intersection Capacity Utilization 72.1%	ICU Level of Service C
Analysis Period (min) 15	

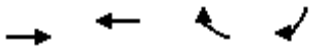
Splits and Phases: 3: Island Park Dr & Carling Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	22	63	37	9	5	271	206	179
Future Volume (vph)	22	63	37	9	5	271	206	179
Lane Group Flow (vph)	0	96	37	158	0	373	0	406
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Split (s)	19.4	19.4	19.4	19.4	31.8	31.8	31.8	31.8
Total Split (s)	20.0	20.0	20.0	20.0	65.0	65.0	65.0	65.0
Total Split (%)	23.5%	23.5%	23.5%	23.5%	76.5%	76.5%	76.5%	76.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.4	2.4	2.4	2.4	2.8	2.8	2.8	2.8
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.4	5.4	5.4		5.8		5.8
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		14.6	14.6	14.6		59.2		59.2
Actuated g/C Ratio		0.17	0.17	0.17		0.70		0.70
v/c Ratio		0.36	0.19	0.42		0.31		0.50
Control Delay		33.1	33.2	10.4		5.1		8.4
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay		33.1	33.2	10.4		5.1		8.4
LOS		C	C	B		A		A
Approach Delay		33.1		14.8		5.1		8.4
Approach LOS		C		B		A		A
Queue Length 50th (m)		12.9	5.2	1.2		16.8		25.4
Queue Length 95th (m)		26.7	13.6	17.0		27.8		44.3
Internal Link Dist (m)		131.2		126.1		285.1		76.0
Turn Bay Length (m)			40.0					
Base Capacity (vph)		269	190	373		1187		814
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.36	0.19	0.42		0.31		0.50

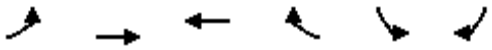
Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 85	
Offset: 45 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 10.6	Intersection LOS: B
Intersection Capacity Utilization 85.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Parkdale Ave & Ruskin St



Lane Group	EBT	WBT	WBR	SBR
Lane Configurations				
Traffic Volume (vph)	1461	646	23	51
Future Volume (vph)	1461	646	23	51
Lane Group Flow (vph)	1461	646	23	51
Sign Control	Free	Free		

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	46.0%	ICU Level of Service A
Analysis Period (min)	15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Volume (veh/h)	0	1461	646	23	0	51
Future Volume (Veh/h)	0	1461	646	23	0	51
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)	0	1461	646	23	0	51
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		165	87			
pX, platoon unblocked	0.89				0.80	0.89
vC, conflicting volume	669				1376	323
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	371				345	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	1050				503	962

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	730	730	323	323	23	51
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	23	51
cSH	1700	1700	1700	1700	1700	962
Volume to Capacity	0.43	0.43	0.19	0.19	0.01	0.05
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	1.3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.0
Lane LOS						A
Approach Delay (s)	0.0		0.0			9.0
Approach LOS						A

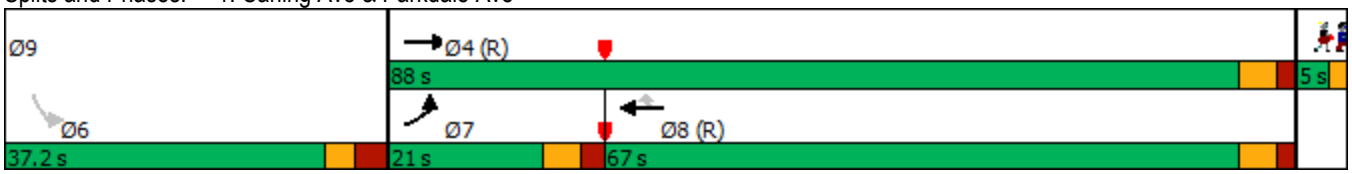
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

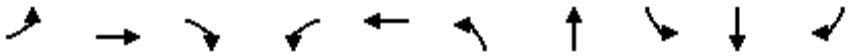
Lane Group	EBL	EBT	WBT	WBR	SBL	Ø9
Lane Configurations						
Traffic Volume (vph)	148	680	1524	86	76	
Future Volume (vph)	148	680	1524	86	76	
Lane Group Flow (vph)	148	680	1524	86	406	
Turn Type	Prot	NA	NA	Perm	Perm	
Protected Phases	7	4	8			9
Permitted Phases				8	6	
Detector Phase	7	4	8	8	6	
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	3.0
Minimum Split (s)	11.1	15.6	26.6	26.6	37.2	5.0
Total Split (s)	21.0	88.0	67.0	67.0	37.2	5.0
Total Split (%)	16.1%	67.6%	51.5%	51.5%	28.6%	4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.0	2.0
All-Red Time (s)	2.4	1.9	1.9	1.9	3.2	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	5.6	5.6	5.6	6.2	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	14.8	89.9	68.9	68.9	28.5	
Actuated g/C Ratio	0.11	0.69	0.53	0.53	0.22	
v/c Ratio	0.77	0.29	0.85	0.12	0.89	
Control Delay	81.2	9.0	33.5	5.2	50.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	81.2	9.0	33.5	5.2	50.5	
LOS	F	A	C	A	D	
Approach Delay		21.9	32.0		50.5	
Approach LOS		C	C		D	
Queue Length 50th (m)	36.7	33.7	181.6	0.9	64.5	
Queue Length 95th (m)	#69.8	49.8	#245.9	9.9	99.8	
Internal Link Dist (m)		62.8	152.3		285.1	
Turn Bay Length (m)	160.0			100.0		
Base Capacity (vph)	202	2339	1794	706	502	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.73	0.29	0.85	0.12	0.81	

Intersection Summary	
Cycle Length: 130.2	
Actuated Cycle Length: 130.2	
Offset: 66 (51%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 31.7	Intersection LOS: C
Intersection Capacity Utilization 95.1%	ICU Level of Service F
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Carling Ave & Parkdale Ave



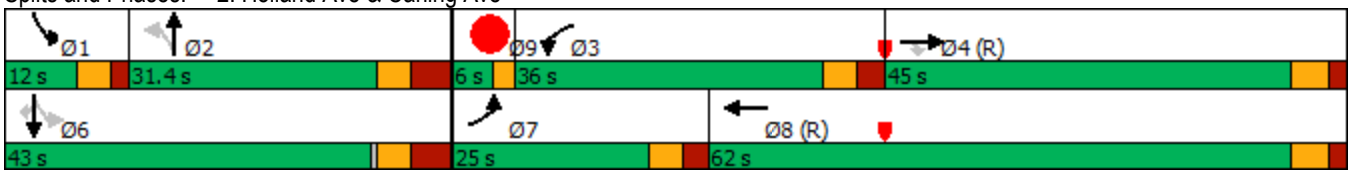


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations											
Traffic Volume (vph)	104	618	13	424	1406	11	288	29	391	108	
Future Volume (vph)	104	618	13	424	1406	11	288	29	391	108	
Lane Group Flow (vph)	104	618	13	424	1470	0	450	0	420	108	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	pm+pt	NA	Perm	
Protected Phases	7	4		3	8		2	1	6		9
Permitted Phases			4			2		6		6	
Detector Phase	7	4	4	3	8	2	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	5.0	10.0	10.0	1.0
Minimum Split (s)	11.0	26.7	26.7	11.0	26.7	31.4	31.4	10.0	31.4	31.4	3.0
Total Split (s)	25.0	45.0	45.0	36.0	62.0	31.4	31.4	12.0	43.0	43.0	6.0
Total Split (%)	19.2%	34.5%	34.5%	27.6%	47.5%	24.1%	24.1%	9.2%	33.0%	33.0%	5%
Yellow Time (s)	3.3	3.7	3.7	3.3	3.7	3.3	3.3	3.3	3.3	3.3	2.0
All-Red Time (s)	2.7	2.0	2.0	2.7	2.0	4.1	4.1	1.7	4.1	4.1	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.7	5.7	6.0	5.7		7.4		7.4	7.4	
Lead/Lag	Lead			Lag	Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes			Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	None	Max	Max	None
Act Effct Green (s)	13.3	39.3	39.3	36.0	62.0		36.0		36.0	36.0	
Actuated g/C Ratio	0.10	0.30	0.30	0.28	0.48		0.28		0.28	0.28	
v/c Ratio	0.60	0.61	0.02	0.91	0.64		0.56		0.91	0.21	
Control Delay	69.9	41.9	0.1	70.1	27.9		38.1		70.8	3.4	
Queue Delay	0.3	53.7	0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	70.2	95.7	0.1	70.1	27.9		38.1		70.8	3.4	
LOS	E	F	A	E	C		D		E	A	
Approach Delay		90.4			37.3		38.1		57.0		
Approach LOS		F			D		D		E		
Queue Length 50th (m)	26.0	71.5	0.0	105.5	101.7		45.4		104.7	0.0	
Queue Length 95th (m)	43.1	91.0	0.0	#164.5	127.3		62.9		#163.6	7.3	
Internal Link Dist (m)		54.2			141.1		91.1		155.7		
Turn Bay Length (m)				160.0						45.0	
Base Capacity (vph)	246	1021	563	467	2287		798		461	508	
Starvation Cap Reductn	14	508	0	0	0		0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0		0	0	
Storage Cap Reductn	0	0	0	0	0		0		0	0	
Reduced v/c Ratio	0.45	1.20	0.02	0.91	0.64		0.56		0.91	0.21	

Intersection Summary	
Cycle Length: 130.4	
Actuated Cycle Length: 130.4	
Offset: 79 (61%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 51.1	Intersection LOS: D
Intersection Capacity Utilization 105.7%	ICU Level of Service G
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Holland Ave & Carling Ave



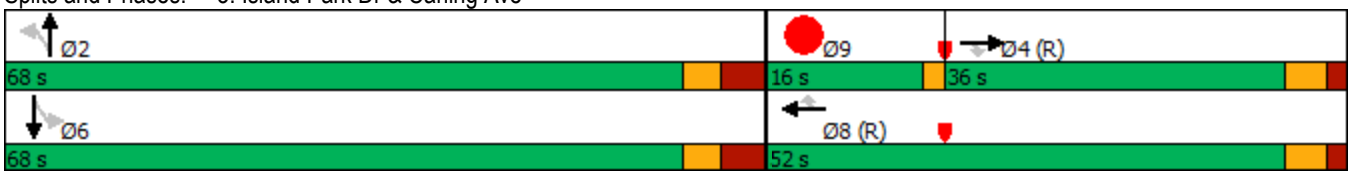
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	523	39	1325	53	210	169	55	178	
Future Volume (vph)	523	39	1325	53	210	169	55	178	
Lane Group Flow (vph)	523	39	1325	53	210	169	55	213	
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm	NA	
Protected Phases	4		8			2		6	9
Permitted Phases		4		8	2		6		
Minimum Split (s)	26.7	26.7	26.7	26.7	31.4	31.4	31.4	31.4	3.0
Total Split (s)	36.0	36.0	52.0	52.0	68.0	68.0	68.0	68.0	16.0
Total Split (%)	30.0%	30.0%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%	13%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.3	3.3	3.3	3.3	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	4.1	4.1	4.1	4.1	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	5.7	5.7	5.7	7.4	7.4	7.4	7.4	
Lead/Lag									
Lead-Lag Optimize?									
Act Effct Green (s)	30.3	30.3	46.3	46.3	60.6	60.6	60.6	60.6	
Actuated g/C Ratio	0.25	0.25	0.39	0.39	0.50	0.50	0.50	0.50	
v/c Ratio	0.61	0.10	1.01	0.10	0.38	0.19	0.09	0.24	
Control Delay	43.3	4.7	65.2	9.9	20.7	16.9	16.1	17.0	
Queue Delay	0.0	0.0	34.4	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.3	4.7	99.6	9.9	20.7	16.9	16.1	17.0	
LOS	D	A	F	A	C	B	B	B	
Approach Delay	40.6		96.2			19.1		16.8	
Approach LOS	D		F			B		B	
Queue Length 50th (m)	57.5	0.0	~167.2	1.7	29.3	21.1	6.5	26.3	
Queue Length 95th (m)	75.6	5.1	#215.1	9.9	48.1	33.8	13.7	41.4	
Internal Link Dist (m)	193.8		54.2			75.6		106.6	
Turn Bay Length (m)		60.0			20.0		15.0		
Base Capacity (vph)	855	398	1307	546	553	900	581	879	
Starvation Cap Reductn	0	0	518	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.61	0.10	1.68	0.10	0.38	0.19	0.09	0.24	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 100 (83%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 64.6	Intersection LOS: E
Intersection Capacity Utilization 88.0%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

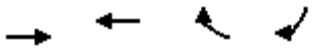
Splits and Phases: 3: Island Park Dr & Carling Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	27	29	102	33	3	196	97	243
Future Volume (vph)	27	29	102	33	3	196	97	243
Lane Group Flow (vph)	0	65	102	219	0	241	0	350
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Split (s)	19.4	19.4	19.4	19.4	31.8	31.8	31.8	31.8
Total Split (s)	20.0	20.0	20.0	20.0	75.0	75.0	75.0	75.0
Total Split (%)	21.1%	21.1%	21.1%	21.1%	78.9%	78.9%	78.9%	78.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.4	2.4	2.4	2.4	2.8	2.8	2.8	2.8
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.4	5.4	5.4		5.8		5.8
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		14.6	14.6	14.6		69.2		69.2
Actuated g/C Ratio		0.15	0.15	0.15		0.73		0.73
v/c Ratio		0.41	0.53	0.58		0.19		0.33
Control Delay		41.5	48.2	15.3		4.0		5.5
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay		41.5	48.2	15.3		4.0		5.5
LOS		D	D	B		A		A
Approach Delay		41.5		25.8		4.0		5.5
Approach LOS		D		C		A		A
Queue Length 50th (m)		9.7	17.5	5.3		10.2		19.0
Queue Length 95th (m)		22.5	33.9	26.7		17.1		29.9
Internal Link Dist (m)		131.2		126.1		285.1		76.0
Turn Bay Length (m)			40.0					
Base Capacity (vph)		160	192	379		1247		1074
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.41	0.53	0.58		0.19		0.33

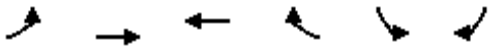
Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 95	
Offset: 40 (42%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 14.2	Intersection LOS: B
Intersection Capacity Utilization 86.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Parkdale Ave & Ruskin St



Lane Group	EBT	WBT	WBR	SBR
Lane Configurations				
Traffic Volume (vph)	828	1840	44	32
Future Volume (vph)	828	1840	44	32
Lane Group Flow (vph)	828	1840	44	32
Sign Control	Free	Free		

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	63.7%	ICU Level of Service B
Analysis Period (min)	15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Volume (veh/h)	0	828	1840	44	0	32
Future Volume (Veh/h)	0	828	1840	44	0	32
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)	0	828	1840	44	0	32
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		165	87			
pX, platoon unblocked	0.61				0.69	0.61
vC, conflicting volume	1884				2254	920
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1175				924	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	361				184	663

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	414	414	920	920	44	32
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	44	32
cSH	1700	1700	1700	1700	1700	663
Volume to Capacity	0.24	0.24	0.54	0.54	0.03	0.05
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	1.2
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.7
Lane LOS						B
Approach Delay (s)	0.0		0.0			10.7
Approach LOS						B

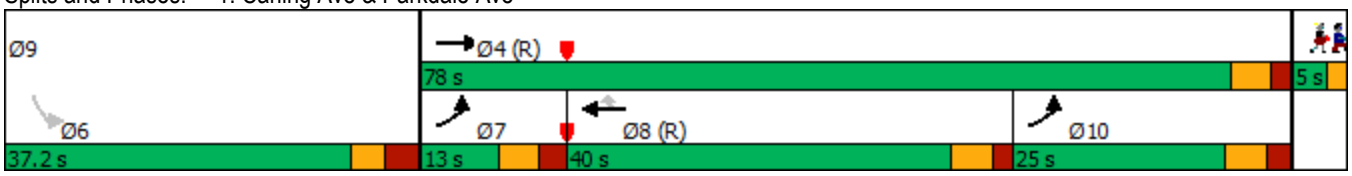
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

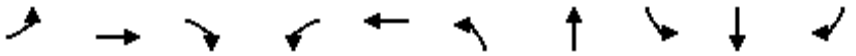
Total Projected 2028

Lane Group	EBL	EBT	WBT	WBR	SBL	Ø7	Ø9	Ø10
Lane Configurations								
Traffic Volume (vph)	303	1094	555	90	107			
Future Volume (vph)	303	1094	555	90	107			
Lane Group Flow (vph)	303	1094	555	90	259			
Turn Type	Prot	NA	NA	Perm	Perm			
Protected Phases	7 10	4	8			7	9	10
Permitted Phases				8	6			
Detector Phase	7 10	4	8	8	6			
Switch Phase								
Minimum Initial (s)		10.0	10.0	10.0	10.0	5.0	3.0	5.0
Minimum Split (s)		15.6	26.6	26.6	37.2	11.1	5.0	24.1
Total Split (s)		78.0	40.0	40.0	37.2	13.0	5.0	25.0
Total Split (%)		64.9%	33.3%	33.3%	30.9%	11%	4%	21%
Yellow Time (s)		3.7	3.7	3.7	3.0	3.7	2.0	3.7
All-Red Time (s)		1.9	1.9	1.9	3.2	2.4	0.0	2.4
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			
Total Lost Time (s)		5.6	5.6	5.6	6.2			
Lead/Lag			Lag	Lag		Lead		
Lead-Lag Optimize?			Yes	Yes		Yes		
Recall Mode		C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	32.1	87.2	42.9	42.9	21.2			
Actuated g/C Ratio	0.27	0.73	0.36	0.36	0.18			
v/c Ratio	0.67	0.45	0.46	0.17	0.80			
Control Delay	29.2	8.1	32.9	7.3	54.1			
Queue Delay	0.0	0.0	0.0	0.0	0.0			
Total Delay	29.2	8.1	32.9	7.3	54.1			
LOS	C	A	C	A	D			
Approach Delay		12.7	29.4		54.1			
Approach LOS		B	C		D			
Queue Length 50th (m)	37.0	48.6	53.4	0.0	46.6			
Queue Length 95th (m)	48.4	78.8	76.8	12.1	70.2			
Internal Link Dist (m)		62.8	152.3		285.1			
Turn Bay Length (m)	160.0			100.0				
Base Capacity (vph)	452	2458	1209	530	447			
Starvation Cap Reductn	0	0	0	0	0			
Spillback Cap Reductn	0	0	0	0	0			
Storage Cap Reductn	0	0	0	0	0			
Reduced v/c Ratio	0.67	0.45	0.46	0.17	0.58			

Intersection Summary	
Cycle Length: 120.2	
Actuated Cycle Length: 120.2	
Offset: 106 (88%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 22.0	Intersection LOS: C
Intersection Capacity Utilization 69.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Carling Ave & Parkdale Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø7	Ø9
Lane Configurations												
Traffic Volume (vph)	161	1021	5	170	512	4	373	34	252	106		
Future Volume (vph)	161	1021	5	170	512	4	373	34	252	106		
Lane Group Flow (vph)	161	1021	5	170	595	0	721	0	286	106		
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA	Perm		
Protected Phases	7 10	4		3	8		2		6		7	9
Permitted Phases			4			2		6		6		
Detector Phase	7 10	4	4	3	8	2	2	6	6	6		
Switch Phase												
Minimum Initial (s)		10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	5.0	1.0
Minimum Split (s)		26.7	26.7	11.0	26.7	31.4	31.4	31.4	31.4	31.4	11.0	3.0
Total Split (s)		61.0	61.0	15.0	49.0	38.0	38.0	38.0	38.0	38.0	21.0	6.0
Total Split (%)		50.8%	50.8%	12.5%	40.8%	31.7%	31.7%	31.7%	31.7%	31.7%	18%	5%
Yellow Time (s)		3.7	3.7	3.3	3.7	3.3	3.3	3.3	3.3	3.3	3.3	2.0
All-Red Time (s)		2.0	2.0	2.7	2.0	4.1	4.1	4.1	4.1	4.1	2.7	0.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0		0.0	0.0		
Total Lost Time (s)		5.7	5.7	6.0	5.7		7.4		7.4	7.4		
Lead/Lag				Lag	Lag						Lead	Lead
Lead-Lag Optimize?				Yes	Yes						Yes	Yes
Recall Mode		C-Max	C-Max	None	C-Max	Max	Max	Max	Max	Max	None	None
Act Effct Green (s)	17.0	55.3	55.3	15.0	47.3		30.6		30.6	30.6		
Actuated g/C Ratio	0.14	0.46	0.46	0.12	0.39		0.26		0.26	0.26		
v/c Ratio	0.67	0.65	0.01	0.81	0.32		0.83		1.20	0.22		
Control Delay	36.2	42.2	0.0	78.8	24.9		40.7		161.5	2.7		
Queue Delay	0.0	52.6	0.0	0.0	0.3		0.0		0.0	0.5		
Total Delay	36.2	94.8	0.0	78.8	25.2		40.7		161.5	3.2		
LOS	D	F	A	E	C		D		F	A		
Approach Delay		86.5			37.1		40.7		118.7			
Approach LOS		F			D		D		F			
Queue Length 50th (m)	26.4	127.7	0.0	39.5	33.0		64.8		~81.5	0.0		
Queue Length 95th (m)	42.7	149.3	m0.0	#74.5	45.5		#89.1		#134.5	4.8		
Internal Link Dist (m)		54.2			141.1		91.1		155.7			
Turn Bay Length (m)				160.0						45.0		
Base Capacity (vph)	296	1562	695	211	1868		866		239	487		
Starvation Cap Reductn	0	952	0	0	0		0		0	0		
Spillback Cap Reductn	0	0	0	0	650		0		0	161		
Storage Cap Reductn	0	0	0	0	0		0		0	0		
Reduced v/c Ratio	0.54	1.67	0.01	0.81	0.49		0.83		1.20	0.33		

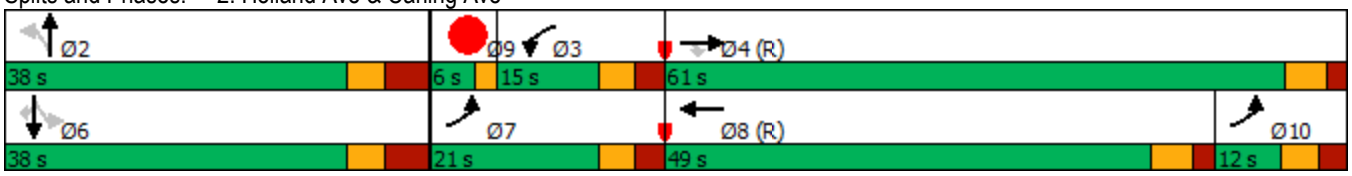
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 79 (66%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 67.5	Intersection LOS: E
Intersection Capacity Utilization 99.8%	ICU Level of Service F
Analysis Period (min) 15	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	12.0
Total Split (%)	10%
Yellow Time (s)	3.3
All-Red Time (s)	2.7
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

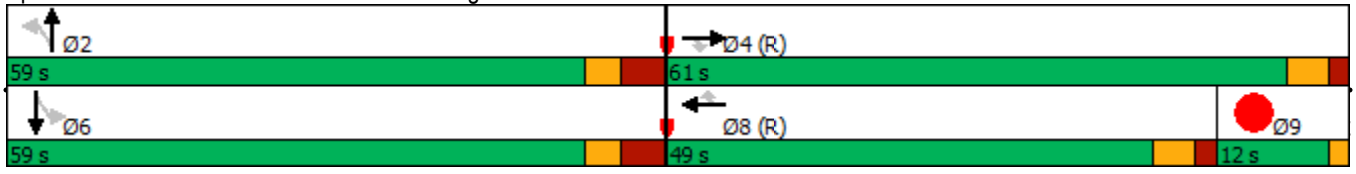
Splits and Phases: 2: Holland Ave & Carling Ave



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	863	58	593	30	85	105	98	253	
Future Volume (vph)	863	58	593	30	85	105	98	253	
Lane Group Flow (vph)	863	58	593	30	85	114	98	279	
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm	NA	
Protected Phases	4		8			2		6	9
Permitted Phases		4		8	2		6		
Minimum Split (s)	26.7	26.7	26.7	26.7	31.4	31.4	31.4	31.4	3.0
Total Split (s)	61.0	61.0	49.0	49.0	59.0	59.0	59.0	59.0	12.0
Total Split (%)	50.8%	50.8%	40.8%	40.8%	49.2%	49.2%	49.2%	49.2%	10%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.3	3.3	3.3	3.3	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	4.1	4.1	4.1	4.1	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	5.7	5.7	5.7	7.4	7.4	7.4	7.4	
Lead/Lag									
Lead-Lag Optimize?									
Act Effct Green (s)	55.3	55.3	43.3	43.3	51.6	51.6	51.6	51.6	
Actuated g/C Ratio	0.46	0.46	0.36	0.36	0.43	0.43	0.43	0.43	
v/c Ratio	0.55	0.09	0.48	0.06	0.21	0.15	0.19	0.37	
Control Delay	25.1	4.9	57.4	13.3	23.2	20.6	22.5	24.5	
Queue Delay	3.0	0.0	54.3	0.0	0.0	0.0	0.0	0.0	
Total Delay	28.1	4.9	111.7	13.3	23.2	20.6	22.5	24.5	
LOS	C	A	F	B	C	C	C	C	
Approach Delay	26.7		107.0			21.7		24.0	
Approach LOS	C		F			C		C	
Queue Length 50th (m)	75.5	0.0	74.9	1.0	12.3	15.3	14.1	42.8	
Queue Length 95th (m)	94.5	7.2	93.7	6.2	23.7	27.1	25.7	64.3	
Internal Link Dist (m)	193.8		54.2			75.6		106.6	
Turn Bay Length (m)		60.0			20.0		15.0		
Base Capacity (vph)	1562	675	1223	541	405	759	519	757	
Starvation Cap Reductn	0	0	721	0	0	0	0	0	
Spillback Cap Reductn	571	0	0	0	0	0	13	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.87	0.09	1.18	0.06	0.21	0.15	0.19	0.37	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 25.4 (21%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 49.3	Intersection LOS: D
Intersection Capacity Utilization 70.6%	ICU Level of Service C
Analysis Period (min) 15	

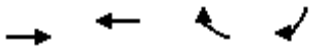
Splits and Phases: 3: Island Park Dr & Carling Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	22	63	37	9	5	271	206	179
Future Volume (vph)	22	63	37	9	5	271	206	179
Lane Group Flow (vph)	0	96	37	158	0	373	0	406
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Split (s)	19.4	19.4	19.4	19.4	31.8	31.8	31.8	31.8
Total Split (s)	20.0	20.0	20.0	20.0	65.0	65.0	65.0	65.0
Total Split (%)	23.5%	23.5%	23.5%	23.5%	76.5%	76.5%	76.5%	76.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.4	2.4	2.4	2.4	2.8	2.8	2.8	2.8
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.4	5.4	5.4		5.8		5.8
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		14.6	14.6	14.6		59.2		59.2
Actuated g/C Ratio		0.17	0.17	0.17		0.70		0.70
v/c Ratio		0.36	0.19	0.42		0.31		0.50
Control Delay		33.1	33.2	10.4		5.1		8.4
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay		33.1	33.2	10.4		5.1		8.4
LOS		C	C	B		A		A
Approach Delay		33.1		14.8		5.1		8.4
Approach LOS		C		B		A		A
Queue Length 50th (m)		12.9	5.2	1.2		16.8		25.4
Queue Length 95th (m)		26.7	13.6	17.0		27.8		44.3
Internal Link Dist (m)		131.2		126.1		285.1		76.0
Turn Bay Length (m)			40.0					
Base Capacity (vph)		269	190	373		1187		814
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.36	0.19	0.42		0.31		0.50

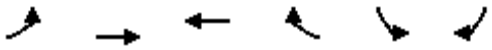
Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 85	
Offset: 45 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 10.6	Intersection LOS: B
Intersection Capacity Utilization 85.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Parkdale Ave & Ruskin St



Lane Group	EBT	WBT	WBR	SBR
Lane Configurations				
Traffic Volume (vph)	1397	672	23	51
Future Volume (vph)	1397	672	23	51
Lane Group Flow (vph)	1397	672	23	51
Sign Control	Free	Free		

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	44.1%	ICU Level of Service A
Analysis Period (min)	15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Volume (veh/h)	0	1397	672	23	0	51
Future Volume (Veh/h)	0	1397	672	23	0	51
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)	0	1397	672	23	0	51
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		165	87			
pX, platoon unblocked	0.88				0.83	0.88
vC, conflicting volume	695				1370	336
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	379				378	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	1034				494	954

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	698	698	336	336	23	51
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	23	51
cSH	1700	1700	1700	1700	1700	954
Volume to Capacity	0.41	0.41	0.20	0.20	0.01	0.05
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	1.3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.0
Lane LOS						A
Approach Delay (s)	0.0		0.0			9.0
Approach LOS						A

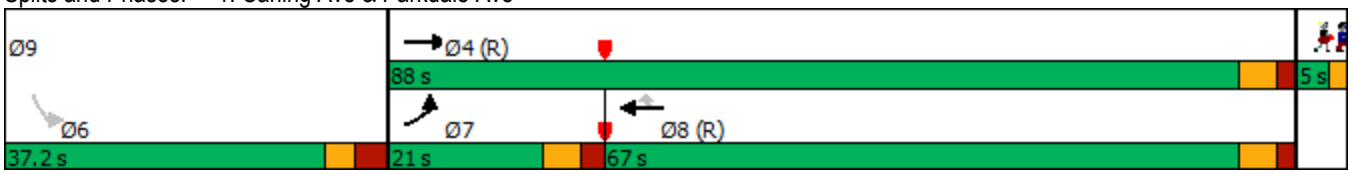
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

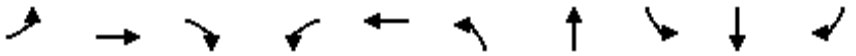
Lane Group	EBL	EBT	WBT	WBR	SBL	Ø9
Lane Configurations						
Traffic Volume (vph)	148	712	1457	86	76	
Future Volume (vph)	148	712	1457	86	76	
Lane Group Flow (vph)	148	712	1457	86	406	
Turn Type	Prot	NA	NA	Perm	Perm	
Protected Phases	7	4	8			9
Permitted Phases				8	6	
Detector Phase	7	4	8	8	6	
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	3.0
Minimum Split (s)	11.1	15.6	26.6	26.6	37.2	5.0
Total Split (s)	21.0	88.0	67.0	67.0	37.2	5.0
Total Split (%)	16.1%	67.6%	51.5%	51.5%	28.6%	4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.0	2.0
All-Red Time (s)	2.4	1.9	1.9	1.9	3.2	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	5.6	5.6	5.6	6.2	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	14.8	89.9	68.9	68.9	28.5	
Actuated g/C Ratio	0.11	0.69	0.53	0.53	0.22	
v/c Ratio	0.77	0.30	0.81	0.12	0.89	
Control Delay	81.2	9.1	31.5	4.7	50.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	81.2	9.1	31.5	4.7	50.5	
LOS	F	A	C	A	D	
Approach Delay		21.5	30.0		50.5	
Approach LOS		C	C		D	
Queue Length 50th (m)	36.7	35.7	167.4	0.4	64.5	
Queue Length 95th (m)	#69.8	52.5	#215.8	9.2	99.8	
Internal Link Dist (m)		62.8	152.3		285.1	
Turn Bay Length (m)	160.0			100.0		
Base Capacity (vph)	202	2339	1794	708	502	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.73	0.30	0.81	0.12	0.81	

Intersection Summary	
Cycle Length: 130.2	
Actuated Cycle Length: 130.2	
Offset: 66 (51%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 30.4	Intersection LOS: C
Intersection Capacity Utilization 93.2%	ICU Level of Service F
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Carling Ave & Parkdale Ave



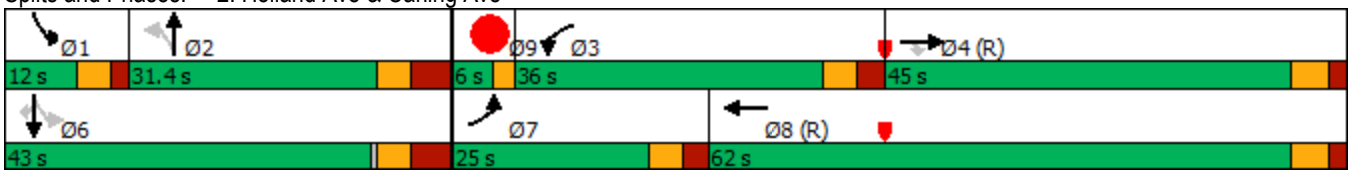


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations											
Traffic Volume (vph)	104	648	13	424	1328	11	288	29	391	108	
Future Volume (vph)	104	648	13	424	1328	11	288	29	391	108	
Lane Group Flow (vph)	104	648	13	424	1392	0	450	0	420	108	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	pm+pt	NA	Perm	
Protected Phases	7	4		3	8		2	1	6		9
Permitted Phases			4			2		6		6	
Detector Phase	7	4	4	3	8	2	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	5.0	10.0	10.0	1.0
Minimum Split (s)	11.0	26.7	26.7	11.0	26.7	31.4	31.4	10.0	31.4	31.4	3.0
Total Split (s)	25.0	45.0	45.0	36.0	62.0	31.4	31.4	12.0	43.0	43.0	6.0
Total Split (%)	19.2%	34.5%	34.5%	27.6%	47.5%	24.1%	24.1%	9.2%	33.0%	33.0%	5%
Yellow Time (s)	3.3	3.7	3.7	3.3	3.7	3.3	3.3	3.3	3.3	3.3	2.0
All-Red Time (s)	2.7	2.0	2.0	2.7	2.0	4.1	4.1	1.7	4.1	4.1	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.7	5.7	6.0	5.7		7.4		7.4	7.4	
Lead/Lag	Lead			Lag	Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes			Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max	None	Max	Max	None
Act Effct Green (s)	13.3	39.3	39.3	36.0	62.0		36.0		36.0	36.0	
Actuated g/C Ratio	0.10	0.30	0.30	0.28	0.48		0.28		0.28	0.28	
v/c Ratio	0.60	0.63	0.02	0.91	0.61		0.56		0.91	0.21	
Control Delay	69.9	42.7	0.1	70.1	27.0		38.1		70.8	3.4	
Queue Delay	0.3	53.5	0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	70.2	96.3	0.1	70.1	27.0		38.1		70.8	3.4	
LOS	E	F	A	E	C		D		E	A	
Approach Delay		91.1			37.1		38.1		57.0		
Approach LOS		F			D		D		E		
Queue Length 50th (m)	26.0	75.7	0.0	105.5	94.1		45.4		104.7	0.0	
Queue Length 95th (m)	43.1	95.9	0.0	#164.5	118.2		62.9		#163.6	7.3	
Internal Link Dist (m)		54.2			141.1		91.1		155.7		
Turn Bay Length (m)				160.0						45.0	
Base Capacity (vph)	246	1021	563	467	2286		798		461	508	
Starvation Cap Reductn	14	502	0	0	0		0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0		0	0	
Storage Cap Reductn	0	0	0	0	0		0		0	0	
Reduced v/c Ratio	0.45	1.25	0.02	0.91	0.61		0.56		0.91	0.21	

Intersection Summary	
Cycle Length: 130.4	
Actuated Cycle Length: 130.4	
Offset: 79 (61%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 51.8	Intersection LOS: D
Intersection Capacity Utilization 106.5%	ICU Level of Service G
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Holland Ave & Carling Ave

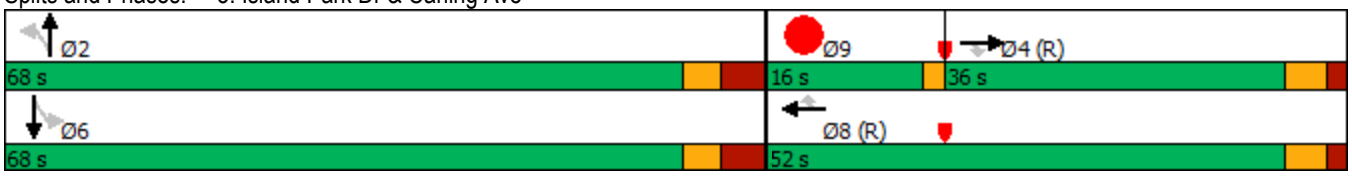


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	547	39	1252	53	210	169	55	178	
Future Volume (vph)	547	39	1252	53	210	169	55	178	
Lane Group Flow (vph)	547	39	1252	53	210	169	55	213	
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm	NA	
Protected Phases	4		8			2		6	9
Permitted Phases		4		8	2		6		
Minimum Split (s)	26.7	26.7	26.7	26.7	31.4	31.4	31.4	31.4	3.0
Total Split (s)	36.0	36.0	52.0	52.0	68.0	68.0	68.0	68.0	16.0
Total Split (%)	30.0%	30.0%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%	13%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.3	3.3	3.3	3.3	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	4.1	4.1	4.1	4.1	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	5.7	5.7	5.7	7.4	7.4	7.4	7.4	
Lead/Lag									
Lead-Lag Optimize?									
Act Effct Green (s)	30.3	30.3	46.3	46.3	60.6	60.6	60.6	60.6	
Actuated g/C Ratio	0.25	0.25	0.39	0.39	0.50	0.50	0.50	0.50	
v/c Ratio	0.64	0.10	0.96	0.10	0.38	0.19	0.09	0.24	
Control Delay	44.0	4.7	53.0	9.4	20.7	16.9	16.1	16.8	
Queue Delay	0.0	0.0	44.8	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.0	4.7	97.8	9.4	20.7	16.9	16.1	16.8	
LOS	D	A	F	A	C	B	B	B	
Approach Delay	41.4		94.2			19.1		16.7	
Approach LOS	D		F			B		B	
Queue Length 50th (m)	60.6	0.0	149.3	1.4	29.3	21.1	6.5	26.0	
Queue Length 95th (m)	79.3	5.1	#196.0	9.6	48.1	33.8	13.7	41.1	
Internal Link Dist (m)	193.8		54.2			75.6		106.6	
Turn Bay Length (m)		60.0			20.0		15.0		
Base Capacity (vph)	855	398	1307	547	553	900	581	880	
Starvation Cap Reductn	0	0	538	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.64	0.10	1.63	0.10	0.38	0.19	0.09	0.24	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 100 (83%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 62.6	Intersection LOS: E
Intersection Capacity Utilization 85.9%	ICU Level of Service E
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

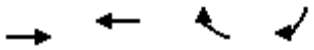
Splits and Phases: 3: Island Park Dr & Carling Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	27	29	102	33	3	196	97	243
Future Volume (vph)	27	29	102	33	3	196	97	243
Lane Group Flow (vph)	0	65	102	219	0	241	0	350
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Minimum Split (s)	19.4	19.4	19.4	19.4	31.8	31.8	31.8	31.8
Total Split (s)	20.0	20.0	20.0	20.0	75.0	75.0	75.0	75.0
Total Split (%)	21.1%	21.1%	21.1%	21.1%	78.9%	78.9%	78.9%	78.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.4	2.4	2.4	2.4	2.8	2.8	2.8	2.8
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		5.4	5.4	5.4		5.8		5.8
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)		14.6	14.6	14.6		69.2		69.2
Actuated g/C Ratio		0.15	0.15	0.15		0.73		0.73
v/c Ratio		0.41	0.53	0.58		0.19		0.33
Control Delay		41.5	48.2	15.3		4.0		5.5
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay		41.5	48.2	15.3		4.0		5.5
LOS		D	D	B		A		A
Approach Delay		41.5		25.8		4.0		5.5
Approach LOS		D		C		A		A
Queue Length 50th (m)		9.7	17.5	5.3		10.2		19.0
Queue Length 95th (m)		22.5	33.9	26.7		17.1		29.9
Internal Link Dist (m)		131.2		126.1		285.1		76.0
Turn Bay Length (m)			40.0					
Base Capacity (vph)		160	192	379		1247		1074
Starvation Cap Reductn		0	0	0		0		0
Spillback Cap Reductn		0	0	0		0		0
Storage Cap Reductn		0	0	0		0		0
Reduced v/c Ratio		0.41	0.53	0.58		0.19		0.33

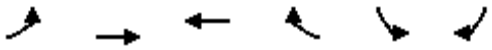
Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 95	
Offset: 40 (42%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 14.2	Intersection LOS: B
Intersection Capacity Utilization 86.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Parkdale Ave & Ruskin St



Lane Group	EBT	WBT	WBR	SBR
Lane Configurations				
Traffic Volume (vph)	860	1755	44	32
Future Volume (vph)	860	1755	44	32
Lane Group Flow (vph)	860	1755	44	32
Sign Control	Free	Free		

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	61.2%	ICU Level of Service B
Analysis Period (min)	15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Volume (veh/h)	0	860	1755	44	0	32
Future Volume (Veh/h)	0	860	1755	44	0	32
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)	0	860	1755	44	0	32
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		165	87			
pX, platoon unblocked	0.64				0.72	0.64
vC, conflicting volume	1799				2185	878
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1130				871	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	394				210	696

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	430	430	878	878	44	32
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	44	32
cSH	1700	1700	1700	1700	1700	696
Volume to Capacity	0.25	0.25	0.52	0.52	0.03	0.05
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	1.1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.4
Lane LOS						B
Approach Delay (s)	0.0		0.0			10.4
Approach LOS						B

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	61.2%	ICU Level of Service		B
Analysis Period (min)	15			