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Proposed Residential Development

1765 Montreal Road & Beckenham Lane

Transportation Impact Assessment

Proposed Residential Development

1765 Montreal Road & 9 Beckenham Lane

Transportation Impact Assessment

Prepared By:

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Suite 200, 240 Michael Cowpland Drive
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December 16, 2022
Revised: April 03, 2025

Novatech File: 121060
Ref: R-2021-159

April 03, 2025

City of Ottawa
Planning and Growth Management Department
110 Laurier Ave. W. 4th Floor
Ottawa, Ontario K1P 1J1

Attention: **Mr. Mike Giampa**
Project Manager, Infrastructure Approvals

Reference: **1765 Montreal Road & 9 Beckenham Lane**
TIA Report
Our File No.: 121060

We are pleased to submit the following revised Transportation Impact Assessment (TIA) Report in support of Zoning By-law Amendment application for the above noted properties, for your review and signoff. The structure and format of this report is in accordance with the City of Ottawa 2023 Transportation Impact Assessment Guidelines.

If you have any questions or comments regarding this report, please feel free to contact Brad Byvelds, or the undersigned.

Yours truly,

NOVATECH

Mohammed Talha, M.Eng.
Engineering Intern | Transportation

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TIA Plan Reports

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

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

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

CERTIFICATION

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

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

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Dated at Ottawa (City) this 3 day of April, 2025 .

Name: Brad Byvelds
(Please Print)

Professional Title: P. Eng. - Project Manager

B. Byvelds

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

Office Contact Information (Please Print)	
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EXECUTIVE SUMMARY

This revised Transportation Impact Assessment (TIA) Report has been prepared in support of Zoning By-law Amendment application for 1765 Montreal Road & 9 Beckenham Lane in Ward 11, Beacon Hill-Cyrville in Ottawa. The subject site has an area of approximately 0.80 hectares (1.98 acres) and is currently occupied by two single-family residential units.

The subject site is surrounded by the following:

- Cedar Road and existing residential developments to the north;
- Montfort Renaissance and existing residential developments to the east;
- Montreal Road and existing commercial developments to the south;
- Beckenham Lane and existing residential and commercial developments to the west.

The subject site has frontage on Montreal Road and is located in the Outer Urban Transect. Within the study area it has an Evolving Neighbourhood overlay and is classified as a 'Corridor - Mainstreet' within schedule B3 of the City of Ottawa's Official Plan.

The initial proposal was that the development will replace the two existing single-family residential units with a nine-storey building containing 159 condominium units and 12 townhouse units, for a total of 169 residential units. The revised proposal is to replace the two existing single-family residential units with one 17-storey high-rise building (Phase 1) containing 227 units and one 6-storey mid-rise building (Phase 2) containing 98 units. Combined, a total of 325 units are proposed. The development is anticipated to be constructed in two phases with full occupancy for Phase 1 and Phase 2 in 2028 and 2029 respectively. The proposed development will be accessed via two driveways, one to Montreal Road and one to Beckenham Lane. Montreal Road access will be constructed as part of Phase 1 and Beckenham Lane access as part of Phase 2. The site will include 25 surface parking spaces and an underground parking garage with 262 parking spaces, for a total of 287.

Based on the results of the analysis, the main conclusions and recommendations of this report are provided below.

The conclusions and recommendations of this TIA can be summarized as follows:

<u>Forecasting</u>

- The proposed residential development is expected to generate 136 person trips in the AM peak hour (51 vehicle trips) and 136 person trips in the PM peak hour (52 vehicle trips).

<u>Development Design</u>

- Sidewalk connections will be provided between the proposed development and the existing sidewalk along Montreal Road. Currently no sidewalks exist along Beckenham Lane; a new sidewalk is proposed from the proposed Beckenham Lane site access to connect the sidewalk at Montreal Road.
- The transit stops within 400m walking distance of the subject site provide service to Routes 23, 12, 615, and 616. The nearest transit stops to the proposed site are stops 2573, 2570, 2569 and 2572.
- Garbage will be stored in the garbage room within the underground parking and will be wheeled up to surface level parking for collection. One fire department connection for each of the proposed building is provided along Beckenham Lane.

- All required TDM-supportive design and infrastructure measures in the TDM checklist are met.

Parking

- In each building, 128 bicycle parking spaces will be provided within the underground parking garage level P1, for a total of 256 bicycle parking spaces.
- The site will include 25 surface parking spaces and an underground parking garage with 262 parking spaces for a total of 287 parking spaces. Of these 287 parking spaces, 222 are for residents and 65 are for visitors.
- The proposed bicycle parking will exceed the requirements of the City's ZBL. The proposed visitor parking spaces will meet the minimum requirements of the ZBL. However, relief of the minimum ZBL requirements for tenant parking spaces is being sought.

Boundary Street Design

- All boundary streets do not meet the target pedestrian level of service (PLOS);
- Beckenham Lane and Cedar Road meet the target bicycle level of service (BLOS), while Montreal Road does not;
- Montreal Road does not meet the target transit level of service (TLOS);
- Montreal Road meets the target TkLOS. There is no target TkLOS for Beckenham Lane and Cedar Road; and
- The City's planned Montreal-Blair Transit Priority Project is anticipated to provide improved pedestrian and cycling facilities along the sites Montreal Road frontage.

Access Design

- The proposed Montreal Road access is located 1.5m from the eastern property line and does not meet Section 25(p) of the Private Approach By-law. The proposed driveway location is recommended to maximize the distance to the Beckenham Lane intersection and to facilitate inbound/outbound movements through the existing median break along Montreal Road.
- It is requested that the requirements of Section 25(t) of the PABL be waived as the 6% grade towards the road (2.6% within the first 4m) at the Montreal Road access is not anticipated to impact sight lines or create a traffic hazard.
- The proposed accesses will be stop-controlled with free flow on Montreal Road and Beckenham Lane. It is anticipated that the proposed accesses will operate acceptably during both peak hours.
- As Beckenham Lane to the north of the Beckenham Lane/Cedar Road South intersection has an upwards grade and slight horizontal curvature, it is recommended that the city trim vegetation within the Right-of-Way on the west side of the road to improve sight lines for southbound traveling vehicles around the horizontal curve.

Transportation Demand Management

- The proponent has committed to providing the following TDM measures:
    - Display local area maps with walking/cycling access routes and key destinations at major entrances;
    - Display relevant transit schedules and route maps at entrances;
    - Unbundle parking cost from purchase price/monthly rent; and
    - Provide a multimodal travel option information package to new residents.

Existing/Background Intersection Operations

- All movements at the Montreal Road/Beckenham Lane intersection operate within acceptable conditions except the Northbound approach (Cardinal Heights Plaza access) during the PM peak. Should high delays be realized for vehicles exiting this plaza, vehicles can alternatively use Elwood Street access, which leads to an all-movement signalized intersection along Montreal Road.
- During the AM and PM peak hours, all southbound movements at the Montreal Road/Beckenham Lane intersection operate with a LOS C.

Total Intersection Operations

- Similar to the existing existing/background traffic conditions, all movements at the Montreal Road/Beckenham Lane intersection are anticipated to operate within acceptable conditions except the Northbound approach (Cardinal Heights Plaza access) during the PM peak.
- During the AM and PM peak hours, all southbound movements at the Montreal Road/Beckenham Lane intersection operate with a LOS D or better.

1.0 SCREENING

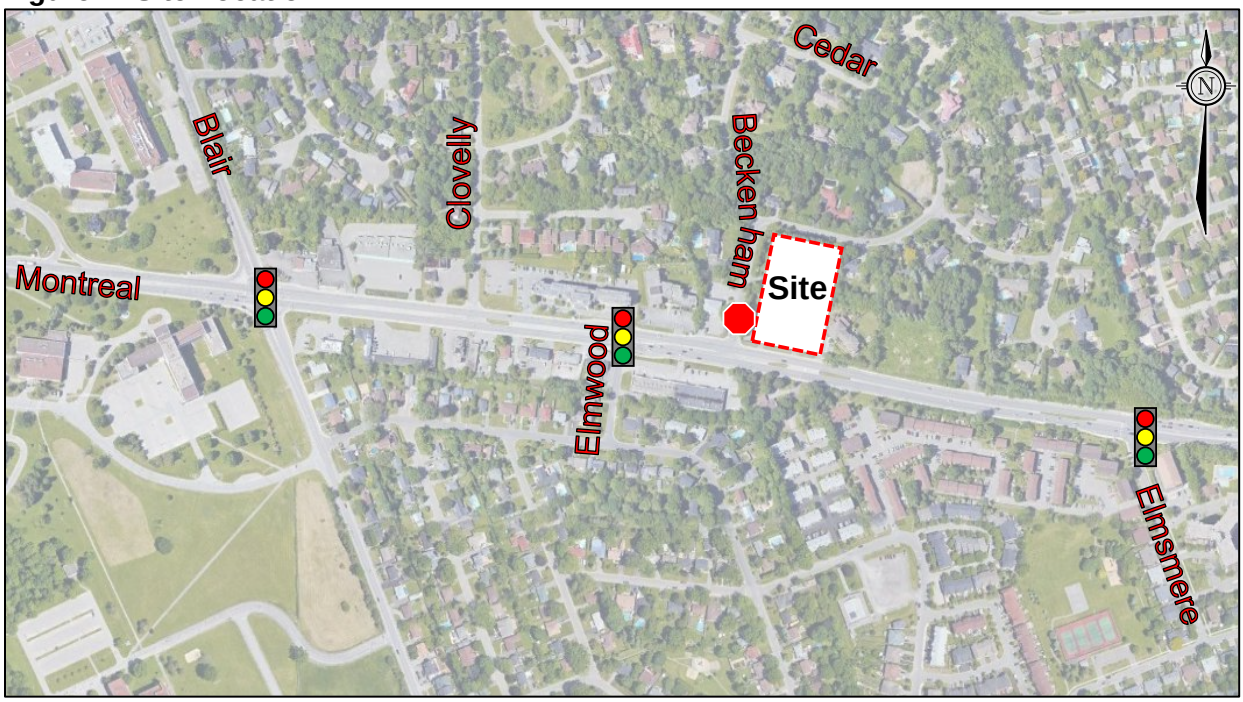
1.1 Introduction

This revised Transportation Impact Assessment (TIA) Report has been prepared in support of Zoning By-law Amendment application for 1765 Montreal Road & 9 Beckenham Lane in Ward 11, Beacon Hill-Cyrville in Ottawa. The subject site (location shown in **Figure 1**) has an area of approximately 0.80 hectares (1.98 acres) and currently is occupied by two single-family residential units.

The subject site is surrounded by the following:

- Cedar Road and existing residential developments to the north;
- Montfort Renaissance and existing residential developments to the east;
- Montreal Road and existing commercial developments to the south;
- Beckenham Lane and existing residential and commercial developments to the west.

Figure 1: Site Location



1.2 Proposed Development

The subject site has frontage on Montreal Road and is located in the Outer Urban Transect. Within the study area it has an Evolving Neighbourhood overlay and is classified as a 'Corridor - Mainstreet' within schedule B3 of the City of Ottawa's Official Plan.

The initial proposal was that the development will replace the two existing single-family residential units with a nine-storey building containing 159 condominium units and 12 townhouse units, for a total of 169 residential units. The revised proposal (See **Appendix A**) is to replace the two existing single-family residential units with one 17-storey high-rise building (Phase 1) containing 227 units and one 6-storey mid-rise building (Phase 2) containing 98 units. Combined, a total of 325 units are proposed. The development is anticipated to be constructed in two phases with full occupancy

for Phase 1 and Phase 2 in 2028 and 2029 respectively. The proposed development will be accessed via two driveways, one to Montreal Road and one to Beckenham Lane. The Montreal Road driveway will be servicing the Phase 1 after its buildout as the Beckenham Lane driveway will be built during Phase 2. The site will include 25 surface parking spaces and an underground parking garage with 262 parking spaces for a total of 287 parking spaces. Of these 287 parking spaces, 222 are for residents and 65 are for visitors.

1.3 Screening Form

The City's 2017 TIA Guidelines identify three triggers for completing a TIA report, including trip generation, location, and safety. The criteria for each trigger are outlined in the City's TIA Screening Form (See **Appendix B**). The trigger results are as follows:

- **Trip Generation Trigger** – The proposed development is anticipated to generate over 60 person-trips/peak hour; further assessment **is** required based on this trigger.

- **Location Triggers** – The proposed development is located within the City's 'Design Priority Area'; further assessment **is** required based on this trigger.

- **Safety Triggers** – The proposed development makes use of an existing median break; further assessment **is** required based on this trigger.

2.0 SCOPING

2.1 Existing Conditions

2.1.1 Roadways

All roadways within the study area fall under the jurisdiction of the City of Ottawa.

Montreal Road is an arterial roadway that runs on an east-west alignment between North River Road and Highway 174. Montreal Road continues as St Joseph Boulevard east of Highway 174, and as Rideau Street West of North River Road. Within the study area, Montreal Road has a four-lane divided urban cross-section, sidewalks on both sides, and a posted speed limit of 60 km/h. Montreal Road is classified as a full-load truck route within the study area. On-street parking is not permitted. The City of Ottawa's Official Plan identifies a right-of-way (ROW) protection of 37.5 metres for Montreal Road between St. Laurent Boulevard and Highway 174. Across the site frontage, Montreal Road has a ROW of approximately 33.8m and a widening is required.

Beckenham Lane is a local roadway that runs on a north-south alignment between Montreal Road and Cedar Road. It has a two-lane undivided rural cross-section, and a posted speed limit of 40 km/h. Within the study area, Beckenham Lane is not classified as a truck route. South of Cedar Road (south), on-street parking is prohibited on the east side of the road.

Blair Road generally runs on a north-south alignment between Massey Lane and Innes Road. North of Montreal Road, Blair Road is classified as a major collector road and an arterial road south of Montreal Road. In this area, Blair Road has a two-lane undivided semi-urban cross-section, a sidewalk on the east side of the road, and a posted speed limit of 50 km/h. South of Montreal Road, Blair Road is classified as a truck route.

Elwood Street is a local roadway that runs on a north-south alignment between Montreal Road and Seguin Street. It has a two-lane undivided urban cross-section, no sidewalks on either side of the road, and a posted speed limit of 40 km/h. Elwood Street is not a truck route and prohibits on-street parking on both side of the road.

Elmsmere Road is a local roadway that runs on a north-south alignment between Montreal Road and Elmridge Drive. It has a two-lane undivided urban cross-section, a sidewalk on the east side of the roadway, and a posted speed limit of 40 km/h. Elmsmere Road is not a truck route and parking is permitted on the east side of the road.

Cedar Road is a local roadway that loops off Beckenham Lane. Cedar Road has a two-lane undivided rural cross-section, and an posted regulatory speed limit of 40 km/h. Cedar Road is not a truck route, and parking is permitted on both sides of the road.

Rothwell Drive is a local roadway that runs on an east-west alignment between Cedar Road and Whippoorwill Drive. Within the study area, Rothwell Drive typically has a two-lane undivided urban cross-section, no sidewalks on both sides of the roadway, and an unposted regulatory speed limit of 50 km/h under the Highway Traffic Act. Rothwell Drive is not a truck route and permits on-street parking on both sides of the road.

Rothwell Circle is a local roadway that runs on a north-south alignment starting at Rothwell Drive and running south. Rothwell Circle has a two-lane undivided urban cross-section, no sidewalks on both sides of the roadway, and a posted speed limit of 40 km/h. It is not a truck route and permits on-street parking on both sides of the road.

2.1.2 Study Intersections

<u>Montreal Road & Blair Road</u>

- Signalized four-legged intersection
- North/South Approaches (Blair Road): One left-turn lane, one through lane, and one right-turn lane
- East/West Approaches (Montreal Road): One left-turn lane, two through lanes, and one right-turn lane
- Additional Information: Standard pedestrian crossing on all four legs; A pocket bike lane is provided on the north approach; Channelized islands for right turns on the north and west approaches

Montreal Road & Elwood Street

- Signalized four-legged intersection
- North/South Approaches: one left-turn/through/right-turn shared lane
- East/West Approaches: one left-turn lane, one through lane, and one through/right-turn shared lane
- Additional Information: standard pedestrian crossing on east, south and west legs and sidewalk crossing on the north leg

Montreal Road & Beckenham Lane

- Unsignalized four-legged intersection
- North/South Approaches: one left/through/right shared lane
- East/West Approaches: one left-turn lane, one through lane, and one through/right-turn shared lane
- Additional Information: standard pedestrian crossing on the north leg

Montreal Road & Elmsmere Road

- Signalized three-legged intersection
- East Approach: one left-turn lane, two through lanes
- South Approach: one left-turn/through/right-turn shared lane
- West Approach: two through lanes and one right-turn lane
- Additional Information: standard pedestrian crossing on the east, south and west legs; OC Transpo stop with a bus bay on the east leg; west leg has a left turn lane not in use

2.1.3 Driveways

In accordance with the City's 2017 TIA Guidelines, a review of driveways on the boundary streets within 200m of the proposed development is provided as follows:

Montreal Road (North Side)

- One private driveway to residential building at 1695 Montreal Road
- One private driveway to residential building at 1735 Montreal Road

Montreal Road (South Side)

- Two commercial driveways to businesses at 1730 Montreal Road
- Two commercial driveways to businesses at 1716 and 1722 Montreal Road

- One commercial driveway to dental clinic at 1743 Montreal Road
- One private driveway to the Montfort Renaissance at 1777 Montreal Road
- One private driveway to residential building at 1815 Montreal Road
- Two commercial driveways to business at 1770 Montreal Road

Beckenham Lane (East Side)

- One private driveway to residential building at 1 Beckenham Lane

Beckenham Lane (West Side)

- Four private driveways to residential buildings at 4-10 Beckenham Lane
- Two commercial driveways to businesses at 1743 Montreal Road

Cedar Road (North Side)

- Three Private Driveways to residential buildings at 14-22 Cedar Road

Cedar Road (South Side)

- Two Private Driveways to residential buildings at 41-49 Cedar Road

2.1.4 Pedestrian and Cycling Facilities

Concrete and/or unit paver sidewalks are provided on both sides of Montreal Road and the east side of Elmsmere Road, and Blair Road between Seguin Street and Nicol Street. Bike lanes or paved shoulders are also provided on Blair Road.

As per the *City of Ottawa's Active Transportation Network Map* from the *2024 Transportation Master Plan (TMP) Part 1 Update*, Montreal Road and Blair Road south of Montreal Road are classified as crosstown bikeways. Beckenham Lane, Elwood Street, Elmsmere Road, Cedar Road, Rothwell Drive, and Rothwell Circle do not have any classifications.

2.1.5 Area Traffic Management

The following traffic calming measures have been implemented within the study area:

- 40km/hr MAX markings are provided on Elmsmere Road; and,
- 50km/hr MAX markings are provided on Blair Road.

The City of Ottawa had initiated a Neighbourhood Traffic Calming Study along Naskapi Drive (north of the study area) due to traffic concerns raised by residents. In Spring 2021, the City conducted a survey to gather feedback from the community. The main concerns identified by residents were speeding and school safety. Following the survey, the City had developed a conceptual traffic calming plan for Naskapi Drive between Ogilvie Road and Rothwell Drive. In June 2022, the City conducted a second survey to gather feedback on the conceptual design. Following the second survey, the City prepared a final recommended traffic calming plan, which includes:

- four speed humps; and
- a raised pedestrian crosswalk at Naskapi Drive/Marquis Avenue and Naskapi Drive/Rothwell Drive

The recommended Naskapi Drive Traffic Calming Plan is included in **Appendix C**. The City of Ottawa website states that this project is under implementation phase, however details such as finalized plan etc. are not accessible.

2.1.6 Transit

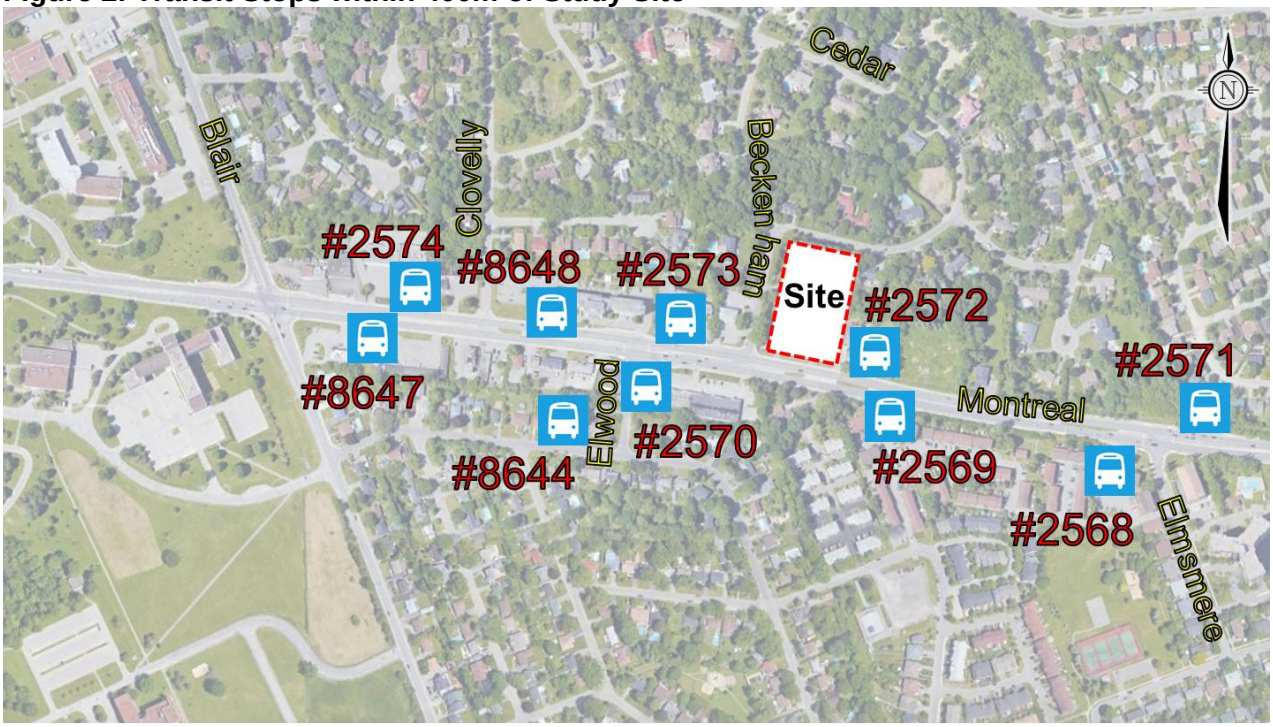
There are several OC transit and bus stops within 400 metres of the subject site. A summary of the closest bus stops and routes along Montreal Road is provided as follows:

Montreal Road:
- Stop #8647 – for Route 12, 23, 616
- Stop #2568 / Stop #2569 / Stop #2570 – for Route 12, 616
- Stop #2571 / Stop #2572 / Stop #2573 / Stop #8648 / Stop #2574– for Route 12, 615, 616

Elwood Street:
- Stop #8644: for Route 23

The locations of these transit stops are shown in **Figure 2**.

Figure 2: Transit Stops within 400m of Study Site



OC Transpo Route #12 is a frequent route and travels between Parliament Station and Blair Station. The route operates 7 days/week. On a weekday, there is a service every 15 minutes or less from 6:00 a.m. to 6:00 p.m.

Route #23 is a local route and travels between Rothwell Heights and Blair Station. The route operates every 30 to 120 minutes from 6:30 a.m. to 6:30 p.m. on weekdays. The route does not operate on the weekends.

Route #615 is a school route that runs from Lester B. Pearson High School to Parliament Station.

Route #616 is a school route that runs from Gloucester High School to Parliament Station.

OC Transpo maps for the routes outlined above and a portion of the OC Transpo System Map are included in **Appendix D**.

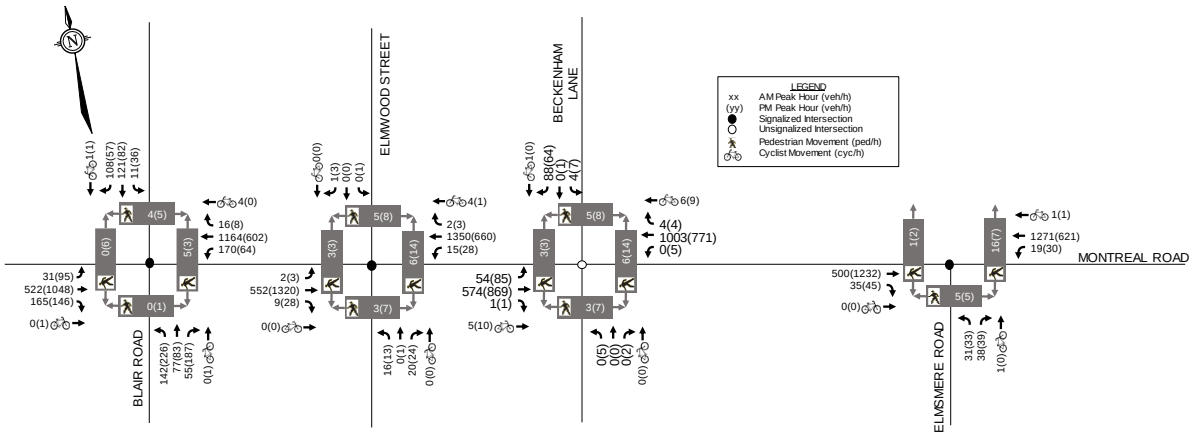
2.1.7 Existing Traffic Volumes

Weekday traffic count commissioned by Novatech was used to determine the existing pedestrian, cyclist and vehicular traffic volumes at the study area intersection, while the counts at the remaining intersections were obtained from the City of Ottawa. The traffic counts were completed on the following dates:

- Montreal Road & Beckenham Lane (Study Area Intersection) 2023-May-11
- Montreal Road & Blair Road 2018-Nov-15
- Montreal Road & Elwood Street 2018-Nov-15
- Montreal Road & Elmsmere Road 2018-Mar-15
- Beckenham Lane & Cedar Road South 2019-July-25
- Rothwell Circle & Rothwell Drive 2019-July-17

Traffic count data is included in **Appendix E**. Traffic volumes within the study area are shown in **Figure 3**.

Figure 3: Existing Traffic Volumes



2.1.8 Collision Records

Historical collision data from 2018-2022 was obtained from the City's Public Works and Service Department for the study area intersections. Copies of the collision summary reports are included in **Appendix F**.

The collision data has been evaluated to determine if there are any identifiable collision patterns. The number of collisions at each intersection from January 1, 2018, to December 31, 2022, is summarized in **Table 1** below.

Table 1: Collision History Summary

Intersection/ Roadway Segment	Impact Type					Total
	Angle	Rear-End	Sideswipe	Turning	SMV[1]/ Other	
Montreal Rd at Blair Road	3	16	2	9	2	**32**
Montreal Road at Elwood Street	0	2	0	0	3	**5**
Montreal Road at Elmsmere Road	1	2	0	0	2	**5**
Montreal Road at Beckenham Lane	0	0	0	1	1	**2**
Montreal – Blair to Clovelly	1	1	1	1	1	**5**
Montreal – Clovelly to Elwood	1	0	1	0	0	**2**
Montreal – Elwood to Beckenham	0	0	0	0	1	**1**
Montreal – Chimney Hill to Elmsmere	0	0	0	0	1	**1**

Montreal Road & Blair Road
Eleven of the thirty-two collisions caused injuries, but none caused fatalities. None of the collisions involved a cyclist or a pedestrian.

Of the thirty-two collisions, twenty-four occurred during clear conditions, eight in rain conditions. Additionally, of the thirty-two collisions, twenty-four of them occurred during daylight hours.

Of the rear-end collisions:
- two of the vehicles were heading northbound;
- one of the vehicles were heading southbound;
- nine of the vehicles were heading eastbound; and,
- four of the vehicles were heading westbound.

As there are clear sight lines on the eastbound approach to the intersection, the rear-end collision pattern on this approach is likely attributable to high traffic volumes.

Of the turning movement collisions:
- three involved westbound left turning vehicles;
- two involved northbound left turning vehicles; and

Montreal Road & Elwood Street
Three of the five collisions caused injuries, but none caused fatalities. None of the collisions involved a cyclist but three involved a pedestrian.

Montreal Road & Elmsmere Road
One of the five collisions caused injuries, but none caused fatalities. None of the collisions involved cyclists or pedestrians.

Montreal Road & Beckenham Lane
One of the two collisions caused injuries, but none caused fatalities. None of the collisions involved a cyclist or a pedestrian.

Montreal Road between Blair Road and Clovelly Road
Two of the five collisions caused injuries, but none caused fatalities. None of the collisions involved a cyclist or a pedestrian.

Montreal Road between Clovelly Road and Elwood Street
None of the two collisions caused injuries. None of the collisions involved a cyclist or a pedestrian.

Montreal Road between Elwood Street and Beckenham Lane
Only one collision and caused fatal injury. The collision involved a single motor vehicle collision between an eastbound travelling vehicle and a pedestrian and occurred in the dark.

Montreal Road between Chimney Hill Road and Elmsmere Road
Only one collision and did not cause an injury and neither involved a cyclist or a pedestrian.

2.2 Planned Conditions

2.2.1 Transportation Projects

The City of Ottawa's 2013 Transportation Master Plan (TMP) does not identify any upcoming roadway projects within the study area in its 2031 Affordable Road Network or Road Network Concept. The 2031 Affordable Rapid Transit and Transit Priority (RTTP) Network identifies Montreal Road as a Transit Priority Corridor with continuous lanes between Cummings Bridge and St Laurent Boulevard; and road widening to provide exclusive bus lanes and transit priority signal between Blair Road and Ogilvie Road. The RTTP Network Concept continues the Transit Priority Corridor from Blair Road to Ogilvie Road but is not anticipated to be complete until post 2031. The functional design developed by Parsons/City of Ottawa for the Montreal - Blair Transit Priority Corridor within the study area is shown from **Figure 4** to **Figure 9**.

Per the City's TMP Active Transportation Projects, following are the projects in the vicinity of the study area.

- Cardinal Heights Sidewalks – includes a sidewalk on Elwood St from Seguin St to Montreal Road.
- St-Laurent Blvd Cycling – feasibility study of cycling facilities on St-Laurent Blvd from Donald St to Montreal Rd, as a part of St-Laurent Boulevard Transit Priority Corridor Environmental Assessment Study.

2.2.2 Other Area Developments

In proximity of the proposed development, there are multiple other residential and mixed-use developments under construction, approved, or in the approval process, including:

- 741 Blair Road and 1649 Montreal Road: a proposed development with a 26-storey mixed-use building with a total of 252 residential dwelling units and 7,446 square feet of commercial/retail space at-grade. It's anticipated to be completed by 2024 in a single phase;
- 1815 Montreal Road: a proposed development with 21-storey residential building with 191 units with the development anticipated to be completed in 2028 in a single phase;
- 971 Montreal Road: a proposed development to construct a nine-storey residential apartment building, containing 78 units. The development is anticipated to be build-out by 2025 in a single phase, and the trip generation trigger for TIA was not met.

Figure 4: Montreal - Blair Transit Priority Corridor Functional Plan (STA 3+750 to 3+930)

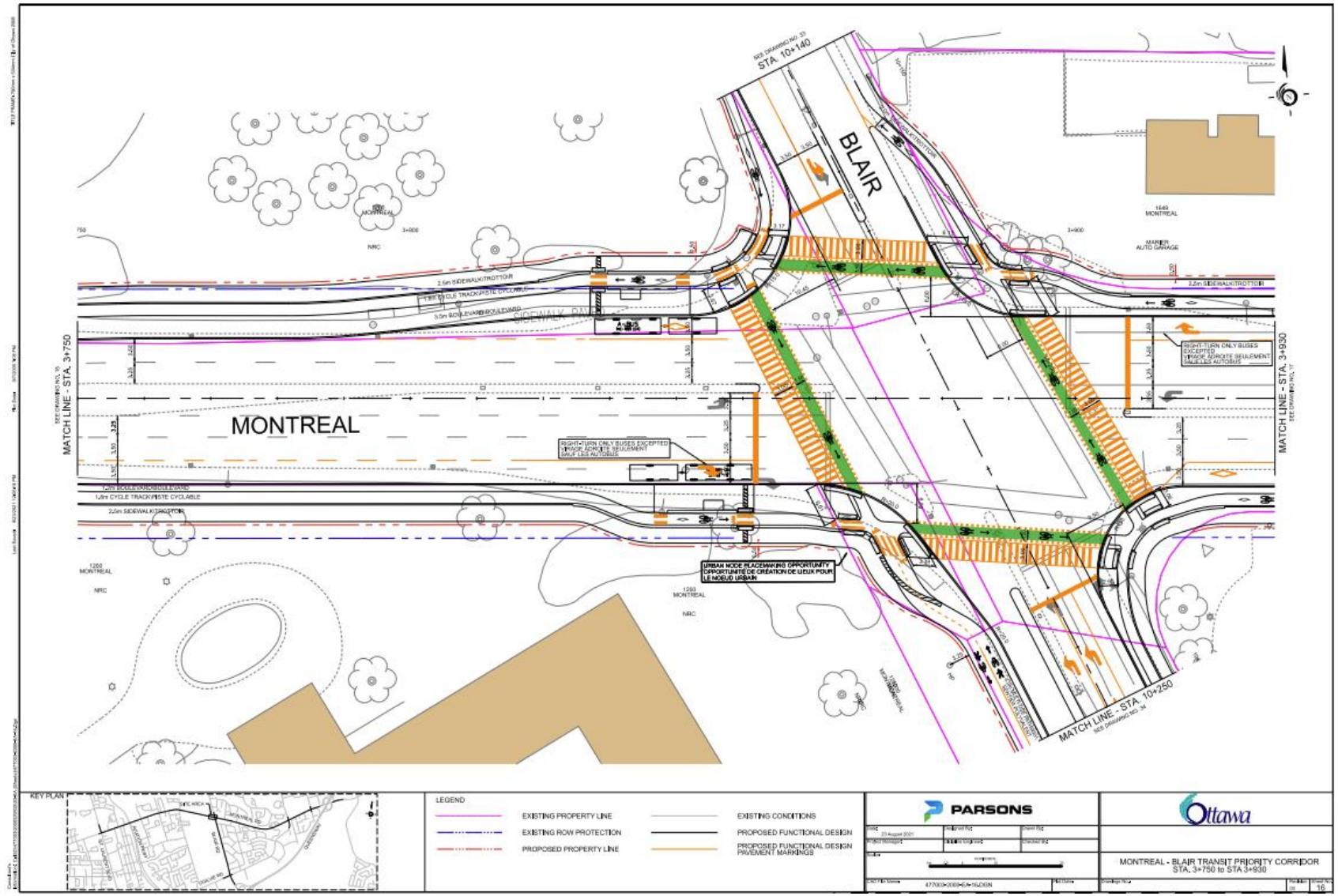


Figure 5: Montreal - Blair Transit Priority Corridor Functional Plan (STA 3+930 to 4+110)

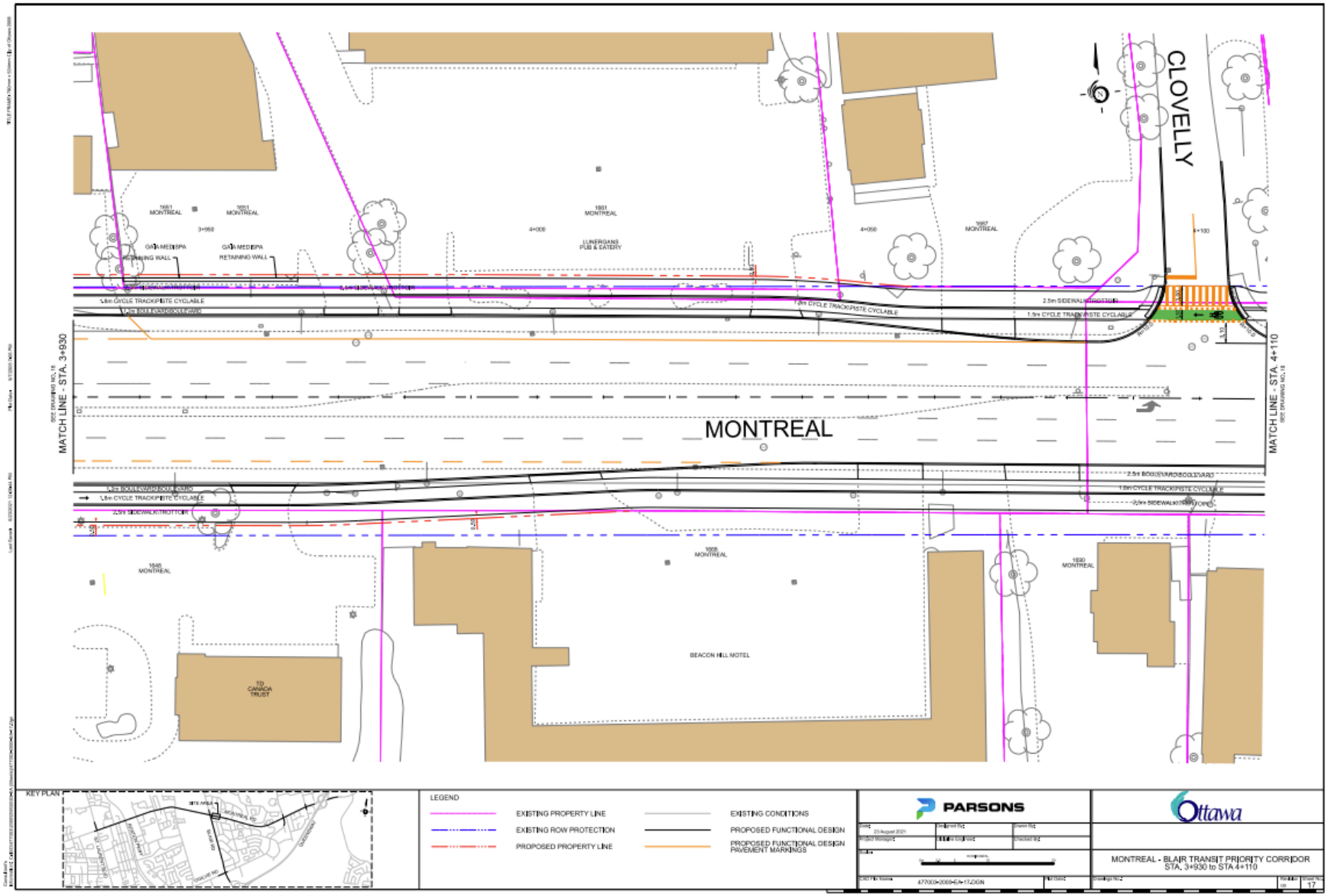


Figure 6: Montreal - Blair Transit Priority Corridor Functional Plan (STA 4+110 to 4+290)

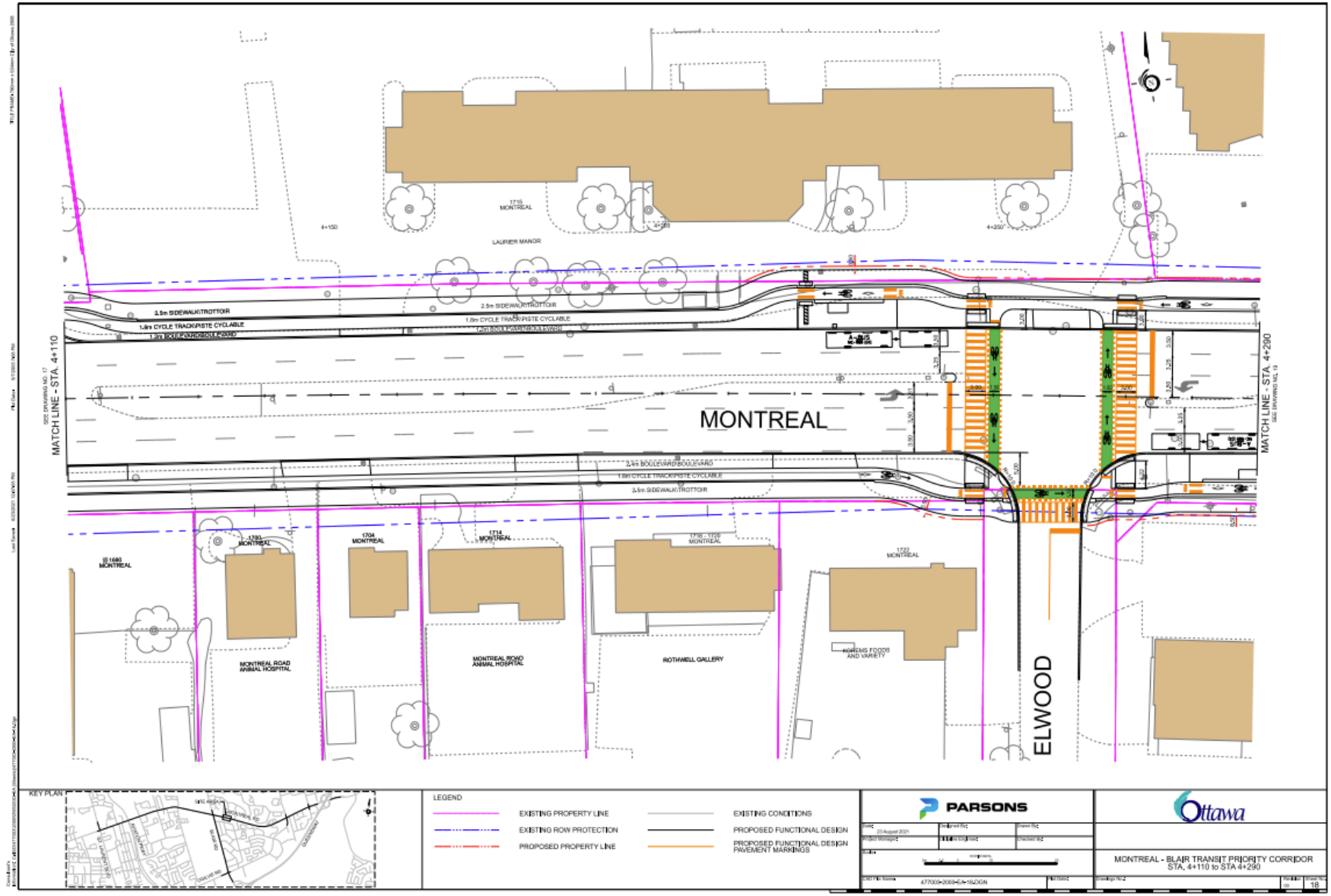


Figure 7: Montreal - Blair Transit Priority Corridor Functional Plan (STA 4+290 to 4+470)

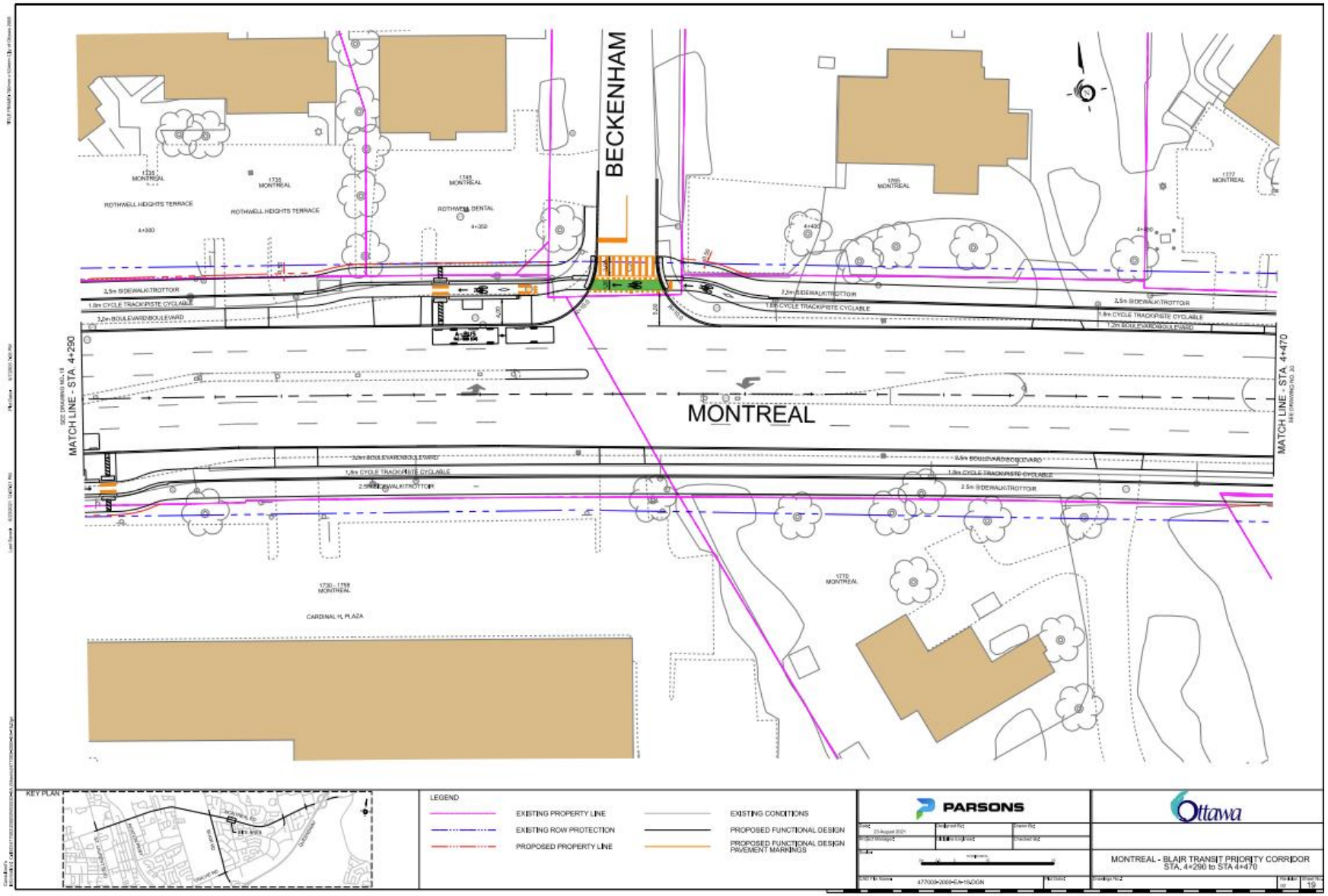


Figure 8: Montreal - Blair Transit Priority Corridor Functional Plan (STA 4+470 to 4+650)

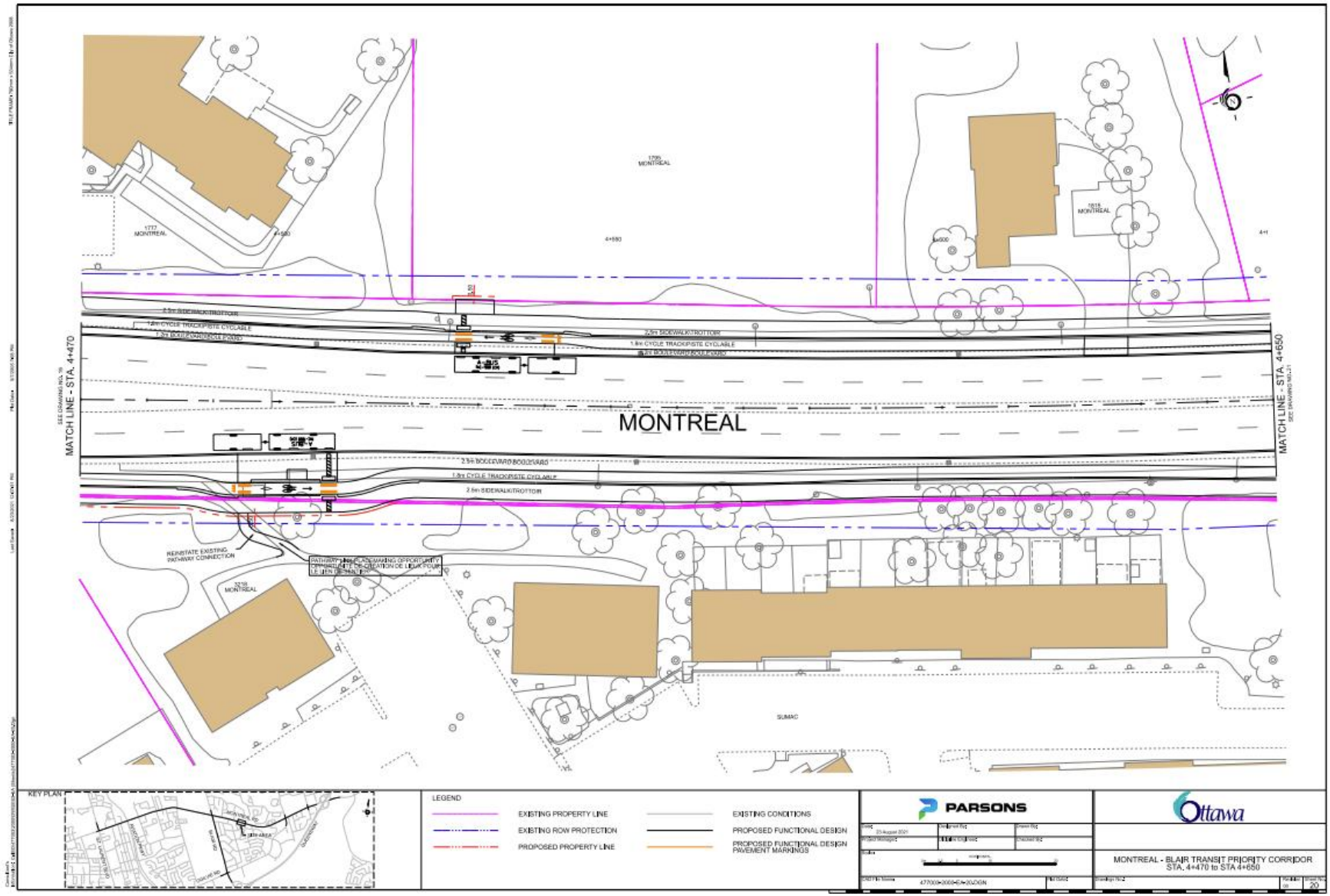
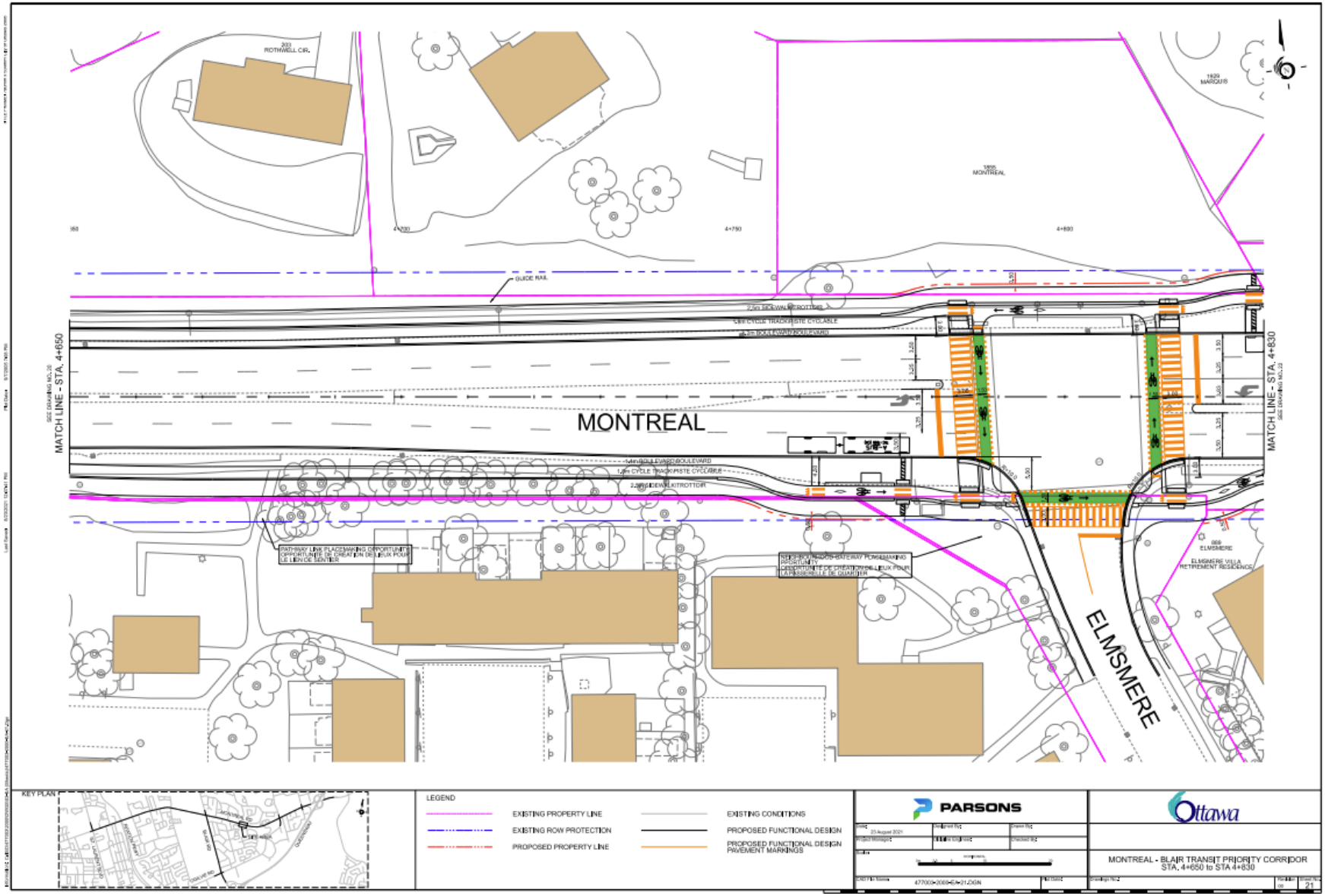


Figure 9: Montreal - Blair Transit Priority Corridor Functional Plan (STA 4+650 to 4+830)



2.3 Development-Generated Travel Demand

2.3.1 Trip Generation

Currently, the subject site is occupied by two single-family residential units and generates negligible traffic volumes during the AM and PM peak hours.

The *TRANS Trip Generation Manual Summary Report* (October 2020, WSP) was used to estimate traffic generated by the proposed development. Peak period person trips generated by the proposed development have been estimated based on the Multifamily Housing (High-Rise) rates presented in Table 3 of the *Trans Trip Generation Manual*. The directional distribution of the peak period trips is identified in Table 9 of *TRANS Trip Generation Manual*. The peak period person trips generated by the proposed residential development during the weekday AM and PM peak periods are estimated in **Table 2** below.

Table 2: Peak Period Person Trips Generated

Land Use	TRANS Rate per Unit	Units	AM Peak Period (ppp[1])			PM Peak Period (ppp[1])		
			IN	OUT	TOT	IN	OUT	TOT
High-Rise Multifamily Housing	AM: 0.80 PM: 0.90	325	81	179	*260*	170	123	*293*
TOTAL			**81**	**179**	***260***	**170**	**123**	***293***

1. PPP = Person Trips per Peak Period

Table 8 of *TRANS Trip Generation Manual* includes recommended AM and PM peak period modal shares for high-rise multifamily housing developments by district. Figure 1 of *TRANS Trip Generation Manual* identifies the subject site as being within the Beacon Hill district and therefore recommends the following modal shares for this high-rise residential development:

- Auto Driver: 48% AM, 52% PM
- Transit: 30% AM, 28% PM
- Pedestrian: 10% AM, 4% PM
- Auto Passenger: 9% AM, 16% PM
- Cyclist: 3% AM, 0% PM

As the subject site proposes 43% less parking spaces than required per the zoning by-law, the suggested auto mode share from the TRANS Trip Generation Manual was adjusted to reflect site conditions. The auto mode share was reduced to 40% from 50%. This 10% reduction was compensated with an increase of 5% for transit, and 5% for cyclists.

For the purposes of this report, the adjusted modal shares were used. A full breakdown by adjusted modal share of the projected peak period person trips generated by the proposed development is included in **Table 3**.

Table 3: Proposed Development - Peak Period Person Trips by Adjusted Modal Share

Travel Mode	Modal Share	AM Peak Period (ppp)			PM Peak Period (ppp)		
		IN	OUT	TOT	IN	OUT	TOT
Person Trips		*81*	*179*	*260*	*170*	*123*	*293*
Auto Driver	40%	33	72	105	68	49	117
Auto Passenger	10%	8	18	26	17	12	29
Transit	35%	28	63	91	60	43	103
Cyclist	5%	4	9	13	9	6	15
Pedestrian	10%	8	17	25	16	13	29

1. ppp = person trips per peak period

Table 4 of *TRANS Trip Generation Manual* includes adjustment factors to convert the estimated peak period person trips to peak hour person trips. A breakdown of the estimated peak hour person trips with site development is shown in **Table 4**.

Table 4: Peak Hour Person Trips Generated

Travel Mode	Peak Hour Factor	AM Peak Hour (pph[1])			PM Peak Hour (pph[1])		
		IN	OUT	TOT	IN	OUT	TOT
Auto Driver	AM: 0.48 PM: 0.44	**16**	**35**	***51***	**30**	**22**	***52***
Auto Passenger	AM: 0.48 PM: 0.44	4	9	*13*	8	5	*13*
Transit	AM: 0.55 PM: 0.47	15	35	*50*	28	20	*48*
Cyclist	AM: 0.58 PM: 0.48	2	5	*7*	4	3	*7*
Pedestrian	AM: 0.58 PM: 0.52	5	10	*15*	9	7	*16*
Total		**42**	**94**	***136***	**79**	**57**	***136***

1. pph = person trips per peak hour

Based on **Table 4**, the proposed residential development is expected to generate 136 person trips in the AM peak hour (51 vehicle trips) and 136 person trips in the PM peak hour (52 vehicle trips).

2.3.2 Trip Distribution

The assumed distribution of trips generated by the proposed development has been derived from the TRANS OD Survey data as well as a review of existing traffic movements exiting the study area during the AM peak hour and entering the study area during the PM peak hour. The anticipated trip distribution is:

- 25% to/from the east on Montreal Road
- 75% to/from the west on Montreal Road

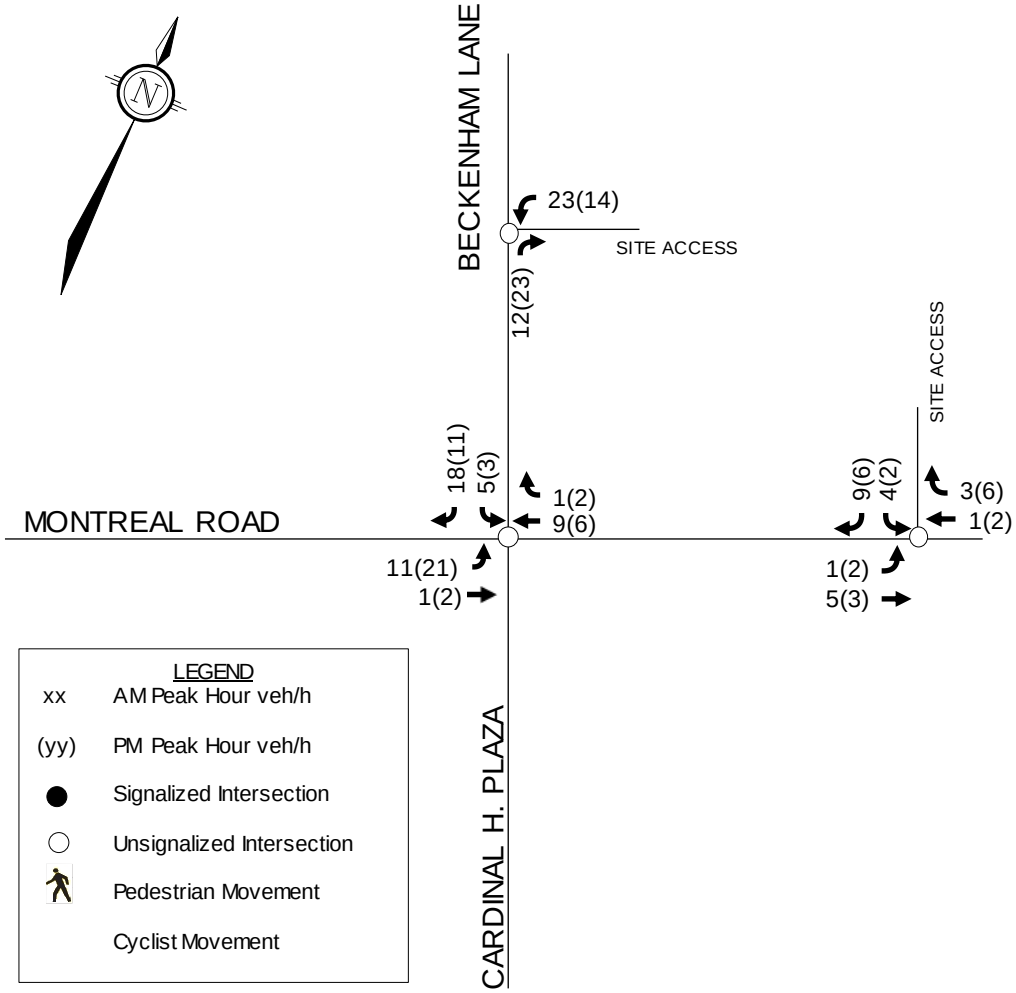
The subject site is accessible via proposed accesses on Montreal Road or Beckenham Lane. The assignment of trips to the accesses has been developed using the principles of logical trip routing, and the proposed development's underground garage design and ramp locations. The assignment of the trips generated by the development is summarized in the **Table 5** below.

Table 5: Trip Assignment

Distribution	Inbound		Outbound	
	Montreal Road	Beckenham	Montreal Road	Beckenham
25% to/from east via Montreal Road	20%	5%	10%	15%
75% to/from west via Montreal Road	5%	70%	25%	50%

Estimated trips generated by the proposed site are shown in **Figure 10**.

Figure 10: Site Generated Trips



2.4 Study Area and Time Periods

As the proposed development is not anticipated to generate 75 vehicle trips, the study area for this report has been limited to the site frontages. The study area includes the boundary streets Montreal Road, Beckenham Lane, and Cedar Road and the intersection at:

- Montreal Road & Beckenham Lane

Analysis will be completed for the weekday AM and PM peak hours, as they represent the worst-case combination of site generated traffic and adjacent street traffic. The proposed development is expected to be completed with full occupancy by the year 2028 for Phase 1 and 2029 for Phase 2. As such, this TIA considers the weekday AM and PM peak periods for the 2029 ultimate buildout year and the 2034 horizon year.

2.5 Access Design

The proposed development will be served by two full movement accesses, one along Montreal Road and one along Beckenham Lane. The two buildings and the underground parking garage will be constructed in two separate phases. Initially, the 17-storey building and a portion of the parking garage will be constructed with access on Montreal Road exclusively. As part of phase 2 building, the parking garage will be expanded and the second access to Beckenham Lane will be developed. This phasing and access configuration will allow residents of the first phase to be unimpeded by the construction of the second phase. Additionally, a secondary access to Montreal Road will allow for alternative routing and reduce the development's impacts on the existing unsignalized Montreal Road/Beckenham Lane intersection. The proposed access on Montreal Road will have a width of approximately 6.7m and will be located at the southeast corner of the property. The proposed access on Beckenham Lane will have a width of approximately 6.7m and will be located near the northwest corner of the property. The design of each access has been evaluated using the relevant provisions of the City's Private Approach By-law (PABL) and ZBL.

Section 25(a) of the PABL identifies that, for sites with 46-150m of frontage to a given roadway, two two-way private approaches to that roadway are permitted. As one two-way approach is proposed on to each Montreal Road and Beckenham Lane the proposed development meets these requirements.

Section 25(c) of the PABL states that two-way accesses to have a width no greater than 9m, as measured at the street line. Furthermore, the City of Ottawa's ZBL identifies a minimum width of 6.0m and maximum width of 6.7m for a two-way driveway leading to a residential parking garage/lot with more than 20 spaces. The width of the proposed driveway adheres to the requirements of the PABL and ZBL.

Section 25(m)(ii) of the PABL states where a property abuts an arterial roadway and has 200 to 299 parking spaces, that the distance between the private approach and nearest intersecting street line be 45 metres. This is applicable to both the proposed site accesses. The Montreal Road access is located approximately 60m east of Beckenham Lane Right-of-Way limit, conforming to PABL requirements. Beckenham Lane access is located approximately 80m north of the Montreal Road Right-of-Way limit and 17m from the Cedar Road Right-of-Way limit. As the proposed access meets the PABL requirements to Montreal Road and Beckenham Lane, this is considered appropriate.

Section 25(p) of the PABL identifies a minimum spacing requirement of 3.0m between the nearest limit of a private approach and the property line, as measured at the street line. The proposed Montreal Road access is located approximately 1.5m from the eastern property line. Section 25(r) identifies that despite paragraph (p), a private approach may be constructed in such a manner that it is less than 3 meters from an adjoining property measured at the highway line and at the curb line or edge of the roadway if it is approved through Site Plan Control in accordance with the provision of the Planning Act and the City's Site Plan Control By-law. The proposed driveway location is recommended to maximize the distance to the Beckenham Lane intersection and to facilitate inbound/outbound movements through the existing median break along Montreal Road.

Section 25(u) of the PABL identifies a requirement that any private approach serving a parking area with more than 50 parking spaces shall not have a grade exceeding 2% for the first 9m inside the property line. Beckenham Lane access adheres to this requirement. A 2.6% grade for the first 4m within the property, followed by a 6% grade towards the road is proposed at Montreal Road access. The proposed 6% grade is required to establish sufficient cover between the surface parking lot and the underground parking garage. Section 25(v) identifies that despite paragraph (u), the General Manager may issue a permit for a private approach subject to such conditions and restrictions as the General Manager may deem necessary provided that the proposed access is located:

- a safe distance from the access serving the adjacent;
- in such a manner that there are adequate sight lines for vehicles exiting the property; and
- in such a manner that it does not create a traffic hazard.

As the 6% grade downgrade is not anticipated to impact sight lines or create a traffic hazard, a waiver to Section 25(t) of the PABL is recommended.

The Transportation Association of Canada (TAC)'s *Geometric Design Guide for Canadian Roads* identifies minimum intersection sight distance (ISD) and stopping sight distance (SSD) requirements, based on the roadway grade and design speed (taken as the speed limit plus 10 km/h). The required ISD and SSD for the two accesses is summarized as follows:

Beckenham Lane:
ISD: 105m to turn left
95m to turn right
SSD: 65m

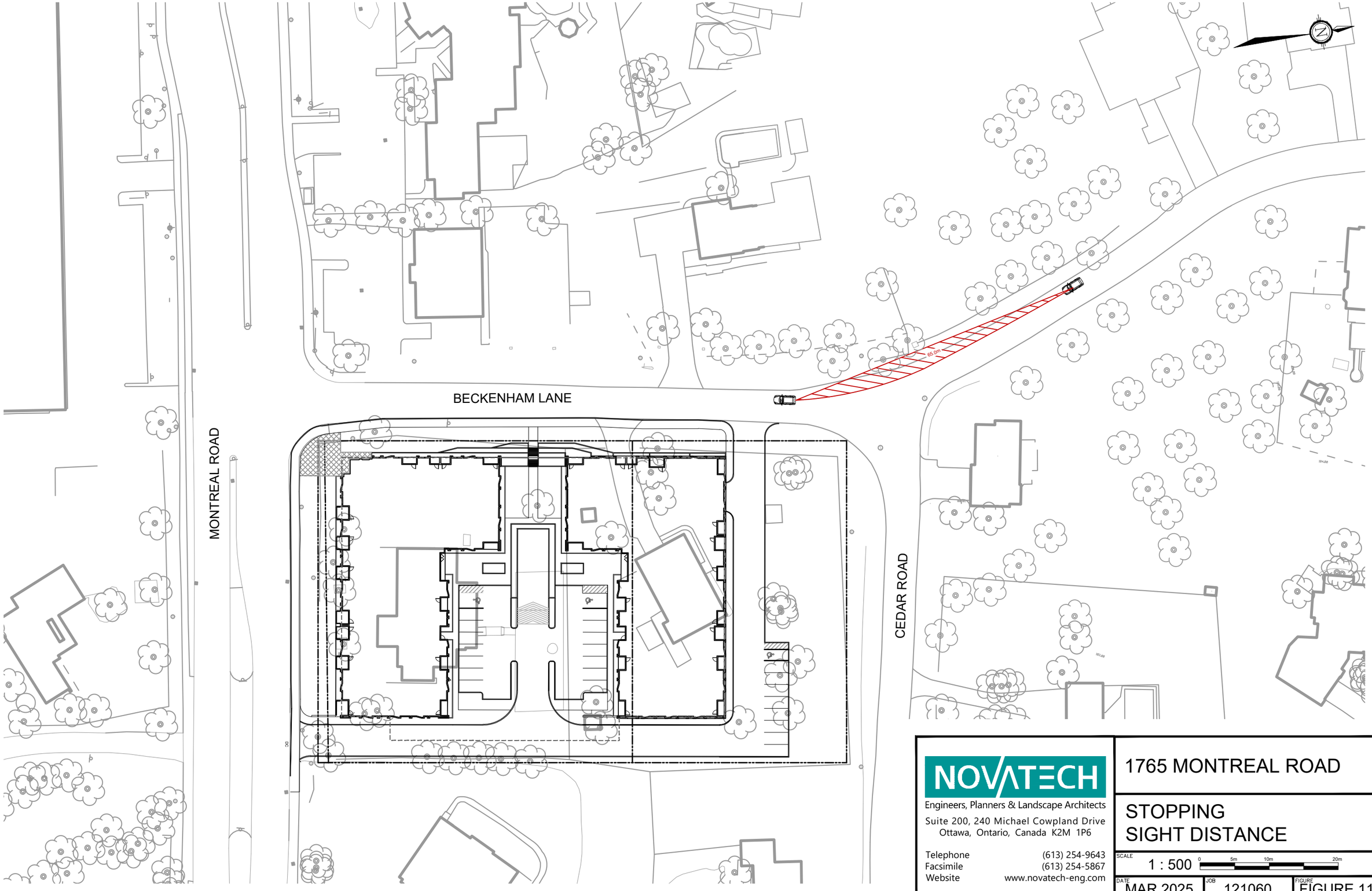
Montreal Road:
ISD: 150m to turn left
130m to turn right
SSD: 105m

As the access to Montreal Road meets the roadway at a perpendicular angle and no vertical or horizontal curves impact sightlines these requirements are met at this location. As Beckenham Lane to the north of the Beckenham Lane/Cedar Road South intersection has an upwards grade and slight horizontal curvature, it is recommended that the city trim vegetation within the Right-of-Way on the west side of the road to improve sight lines for southbound traveling vehicles around the horizontal curve. The required SSD and ISD at Beckenham Lane access is shown in **Figure 11** and **Figure 12** respectively. Additionally, a screenshot from Google Streetview is provided in **Appendix G** to demonstrate the overgrown vegetation in the City ROW.

The TAC *Geometric Design Guide for Canadian Roads* identifies minimum clear throat lengths based on road classification and land use. For an Apartment land use with more than 200 units a minimum clear throat length of 40m is required for arterial roads. The requirement is met as roughly 44m is provided at the Montreal Road access.

2.6 Exemptions Review

This section reviews possible exemptions from the final Transportation Impact Assessment, as outlined in the updated 2017 TIA Guidelines. The applicable exemptions for the site are shown below in **Table 6**.



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1765 MONTREAL ROAD

STOPPING SIGHT DISTANCE

SCALE 1 : 500 (0, 5m, 10m, 20m)

DATE MAR 2025 | JOB 121060 | FIGURE FIGURE 11

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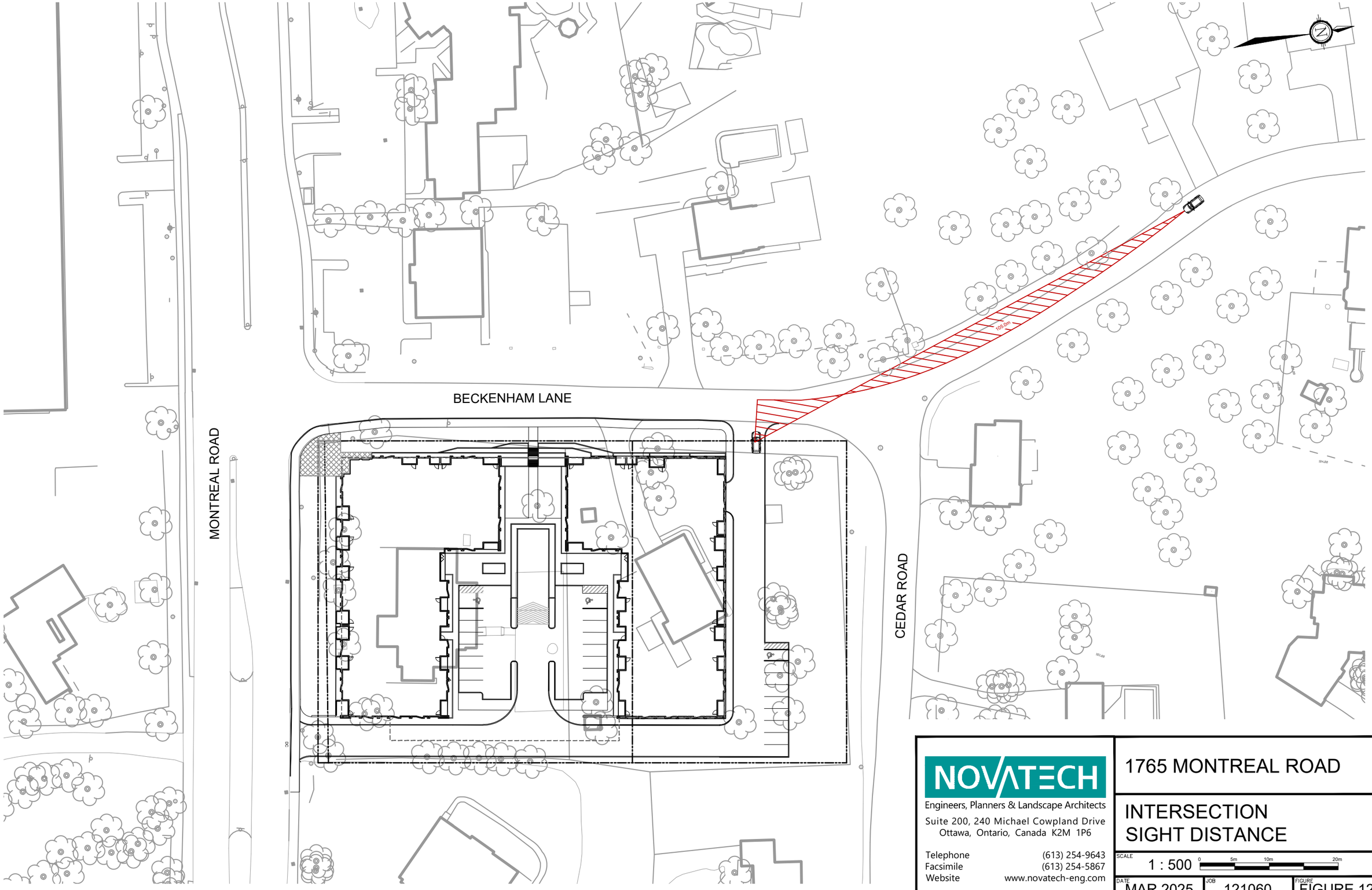

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1765 MONTREAL ROAD

INTERSECTION SIGHT DISTANCE

SCALE 1 : 500 (0, 5m, 10m, 20m)

DATE MAR 2025 | JOB 121060 | FIGURE FIGURE 12

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Table 6: City of Ottawa Exemptions Review

Module	Element	Exemption Criteria	Exemption Status
Design Review Component			
4.1 Development Design	*4.1.2* Circulation and Access	• Required for site plan control and zoning by-law amendment applications	Not exempt
	4.1.3 New Street Networks	• Required for draft plan of subdivision applications	Exempt
4.2 Parking	*All elements*	• Required for site plan control and zoning by-law amendment applications	Not exempt
Network Impact Component			
4.6 Neighbourhood Traffic Calming	*All elements*	• If all the following criteria are met: 1. Access is provided to a collector or local roadway 2. Application is for zoning by-law amendment or draft plan of subdivision 3. Proposed development generated more than 75 vehicle trips 4. Site trip infiltration is expected, and site-generated traffic will increase peak hour volumes by 50%+ along the route between the site and an arterial road 5. The subject street segment is adjacent to two or more of the following significant sensitive land uses: ○ School (within 250m walking distance) ○ Park ○ Retirement/older adult facility ○ Licensed childcare centre ○ Community centre ○ 50+% of adjacent properties along the route(s) are occupied by residential lands and at least ten dwellings are occupied	Exempt
4.7 Transit	*4.7.1 Transit Route Capacity*	• Required when proposed development generates more than 75 transit trips	Exempt
	4.7.2 Transit Priority Requirements	• Required when proposed development generates more than 75 vehicle trips	Exempt
4.8 Network Concept	*All elements*	• Required when proposed development generates 200+ person trips during the peak hour in excess of the equivalent volume permitted by the established zoning	Exempt
4.9 Intersection Design	*All elements*	• Required when proposed development generates more than 75 vehicle trips	Exempt

Although the intersection design element is exempt based on the requirements in above table, intersection capacity analysis has been completed for Montreal Rd/Beckenham Ln intersection.

3.0 FORECASTING

3.1 Background Traffic

3.1.1 Other Area Developments

A description of other study area developments is included in Section 2.2.2.

A TIA (December 2021) was prepared for the proposed 9-storey apartment building at 971 Montreal Road. A review of the of the report suggests that the proposed development does not meet the City's trip generation trigger and is expected to have a negligible impact on the study area roadways.

A TIA (September 2024) was prepared for the proposed 26-storey mixed-use building at 741 Blair Road & 1649 Montreal Road. Traffic volumes generated by that development have been added to the background traffic at all relevant intersections within the study area for this TIA.

A TIA (December 2024) was prepared for the proposed 21-storey residential building comprising of 191 dwelling units at 1815 Montreal Road. Traffic volumes generated by that development have been added to the background traffic at all relevant intersections within the study area for this TIA

Relevant excerpts from the respective traffic studies for the above developments are included in **Appendix H**.

3.1.2 Background Growth Rate

A rate of background growth for the arterial road network within the study area has been established through a review of the city of Ottawa's Strategic Long-Range Model (comparing snapshots of 2011 and 2031 AM peak hour volumes) and the City of Ottawa's Historic Intersection Traffic Growth Rate figures (comparing traffic growth from 2000 and 2016 AM and PM peak hour volumes). The City's long range model snapshots suggest a growth rate of 1% per year for Montreal Road.

For the purposes of this report, a 1% per annum growth rate has been applied to traffic along Montreal Road.

3.1.3 Future Traffic Conditions

The figures listed below present the following future traffic conditions:

- Background traffic volumes in 2029 are shown in **Figure 13**;
- Background traffic volumes in 2034 are shown in **Figure 14**;
- Total traffic volumes in 2029 are shown in **Figure 15**; and
- Total traffic volumes in 2034 are shown in **Figure 16**.

Figure 13: 2029 Background Traffic Volumes

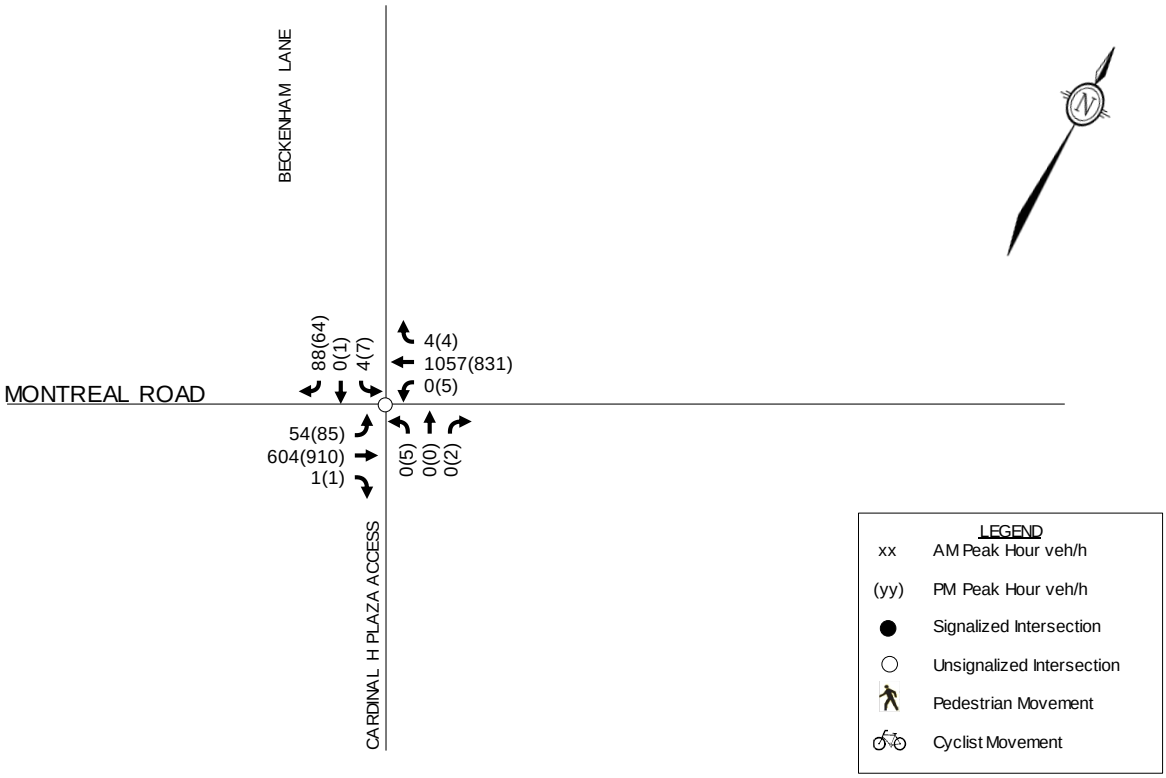


Figure 14: 2034 Background Traffic Volumes

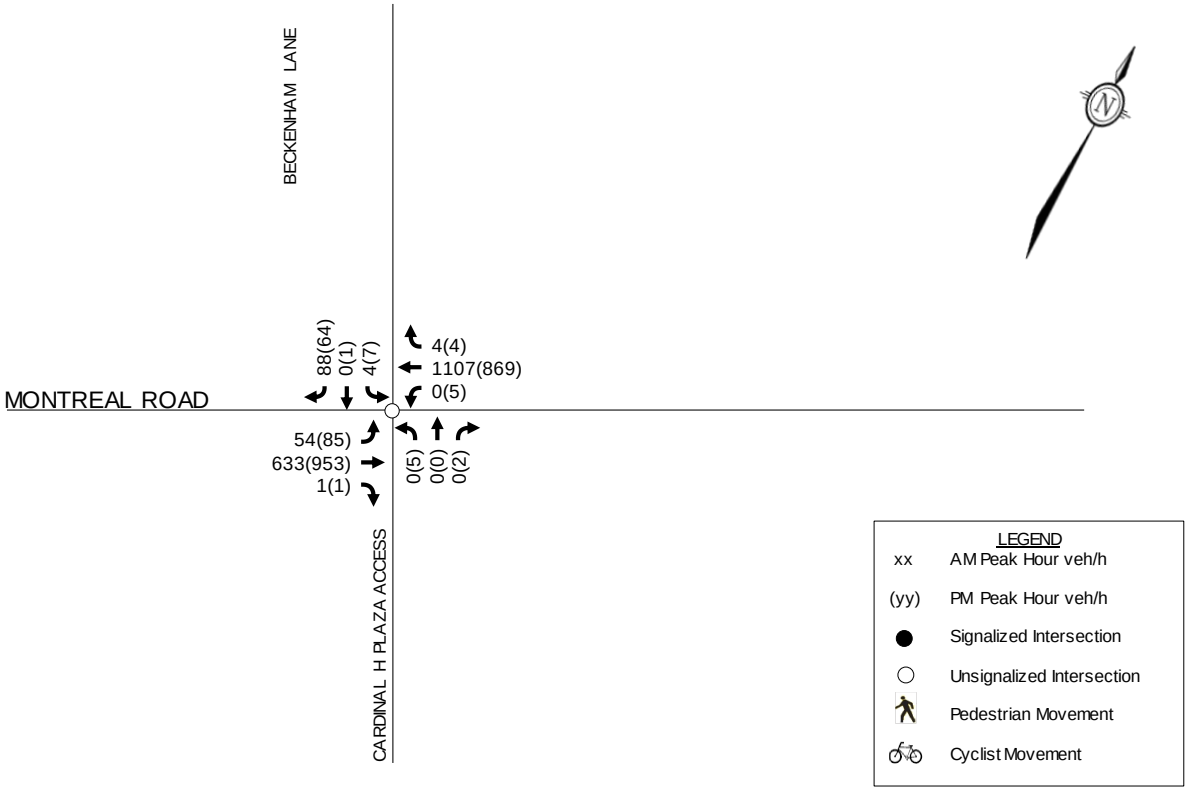


Figure 15: 2029 Total Traffic Volumes

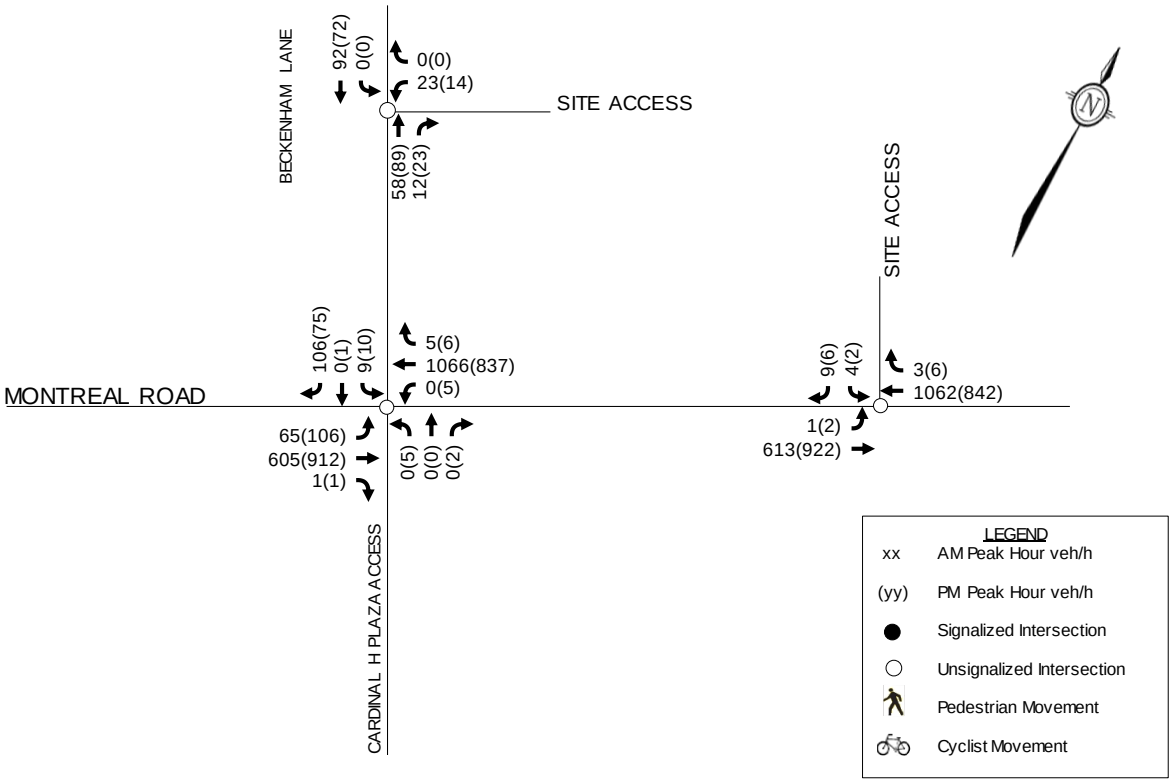
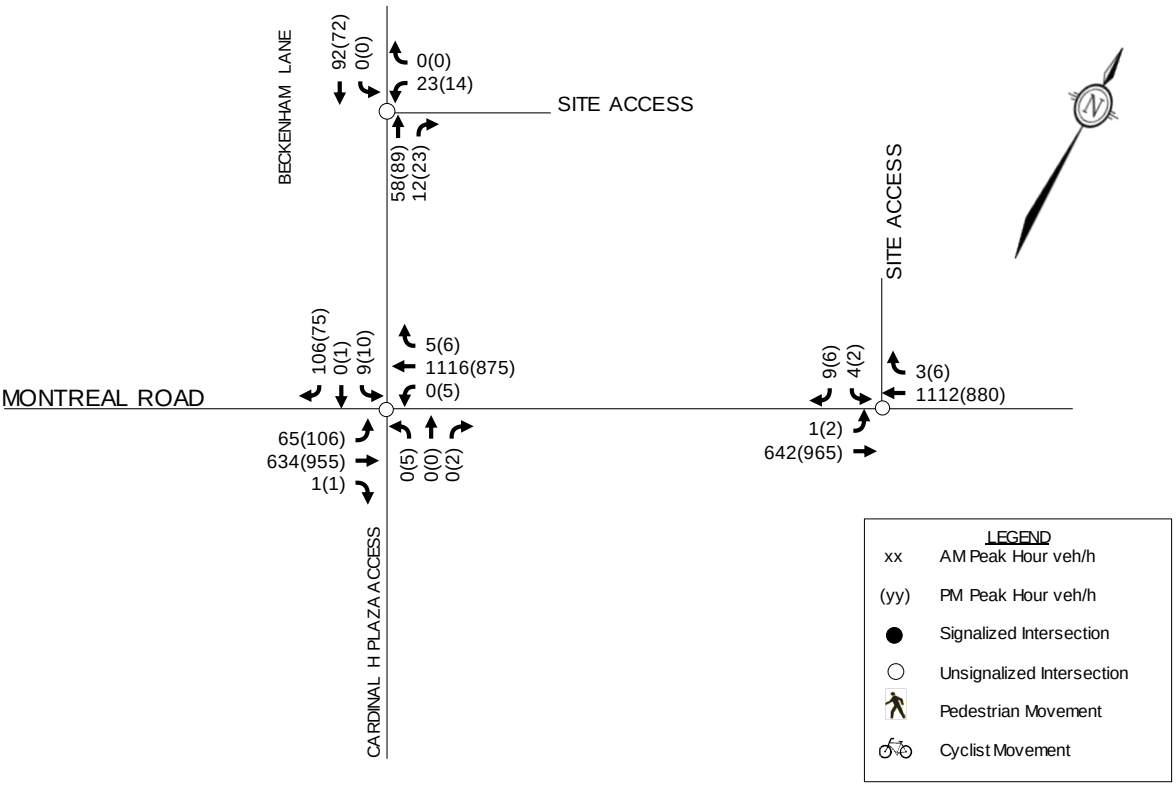


Figure 16: 2034 Total Traffic Volumes



3.2 Demand Rationalization

A review of the existing and background intersection operations has been conducted to determine if and when the traffic volumes exceed capacity within the study area. Intersection parameters in the analysis are consistent with the City's TIA guidelines (saturation flow rate: 1800 vphpl, existing conditions PHF: 0.9, future conditions PHF: 1.0).

Per the City's 2024 TMP Part 1, the city-wide target vehicular level of service (Auto LOS) is an Auto LOS E, which equates to a maximum delay of 50 seconds at unsignalized intersections.

Detailed *Synchro 11* analysis reports are included in **Appendix I**.

3.2.1 Existing Conditions

Intersection capacity analysis has been completed for the existing traffic volumes (See **Figure 3**) and summarized in **Table 7**.

Table 7: Existing Traffic Operations

Intersection	AM Peak			PM Peak		
	Delay	LOS	Mvmt	Delay	LOS	Mvmt
Montreal Rd & Beckenham Ln	N/A	N/A	NB	**74 sec.**	**F**	**NB**
	21 sec.	C	SB	22 sec.	C	SB
	12 sec.	B	EBL	10 sec.	B	EBL
	0 sec.	A	WB	10 sec.	B	WBL

All movements are currently operating within acceptable conditions except the Northbound approach during the PM peak. During the PM peak hour, the northbound approach (Cardinal Heights Plaza access) on Beckenham Lane at Montreal Road operates with a LOS F and an average delay of 74 seconds. Should high delays be realized for vehicles exiting this plaza, vehicles can alternatively use Elwood Street access which leads to an all-movement signalized intersection along Montreal Road. During the AM and PM peak hours, all southbound movements operate with a delay of 21-22 seconds which is equivalent to LOS C.

3.2.2 2029 Background Traffic – Intersection Operations

Intersection capacity analysis has been conducted for the 2029 background traffic volumes (See **Figure 13**). The results of the analysis are summarized in **Table 8** for the weekday AM and PM peak hours.

Table 8: 2029 Future Background Traffic Operations

Intersection	AM Peak			PM Peak		
	Delay	LOS	Mvmt	Delay	LOS	Mvmt
Montreal Rd & Beckenham Ln	N/A	N/A	NB	**57 sec.**	**F**	**NB**
	19 sec.	C	SB	19 sec.	C	SB
	11 sec.	B	EBL	10 sec.	B	EBL
	0 sec.	A	WB	10 sec.	B	WBL

Based on the previous tables, some of the background traffic conditions appear to improve when compared to the existing traffic conditions. This can be attributed to differences in the Peak Hour

Factor (set to 0.90 in existing conditions and 1.0 in future conditions, as per the 2017 TIA Guidelines).

Similar to the existing traffic conditions, all movements are anticipated to operate within acceptable conditions except the Northbound approach during the PM peak. During the AM and PM peak hours, all southbound movements operate with a delay of 19 seconds which is equivalent to LOS C.

3.2.3 2034 Background Traffic – Intersection Operations

Intersection capacity analysis has been conducted for the 2034 background traffic volumes (See **Figure 14**). The results of the analysis are summarized in **Table 9** for the weekday AM and PM peak hours.

Table 9: 2034 Future Background Traffic Operations

Intersection	AM Peak			PM Peak		
	Delay	LOS	Mvmt	Delay	LOS	Mvmt
Montreal Rd & Beckenham Ln	N/A	N/A	NB	**64 sec.**	**F**	**NB**
	20 sec.	C	SB	21 sec.	C	SB
	12 sec.	B	EBL	10 sec.	B	EBL
	0 sec.	A	WB	10 sec.	B	WBL

There is a marginal increase in the delays at the study intersection during the AM and PM peak hours compared to the 2029 background operations.

Similar to the existing traffic condition, all movements are anticipated to operate within acceptable conditions except the Northbound approach during the PM peak. During the AM and PM peak hours, all southbound movements operate with a delay of 20-21 seconds which is equivalent to LOS C.

4.0 ANALYSIS

4.1 Development Design

4.1.1 Design for Sustainable Modes

Sidewalk connections will be provided between the proposed development and the existing sidewalk along Montreal Road. Currently, no sidewalks exist along Beckenham Lane; a new sidewalk is proposed from the from the proposed Beckenham Lane site access to connect the sidewalk on the Montreal Road.

A total of 256 bicycle parking spaces will be provided within the underground parking garage level P1. Further review of the number of bicycle parking spaces is included in Section 4.2: Parking.

OC Transpo guidelines recommend that all developments within the vicinity of a bus route should have at least one bus stop within a walking distance of 400m, roughly a 5-minute walk. All the transit stops outlined in Section 2.1.6 are within the 400m distance. The stops within 400m walking distance of the subject site provide service to Routes 12 and 23.

A review of the Transportation Demand Management (TDM) – Supportive Development Design and Infrastructure Checklist has been conducted. A copy of the TDM checklist is included in

Appendix J. All required TDM-supportive design and infrastructure measures in the TDM checklist are met. In addition to the required measures, the proposed development also meets the following 'basic' or 'better' measures as defined on the TDM - Supportive Development Design and Infrastructure Checklist:

- The building will be located near the street and have no parking areas between the street and building entrances
- The location of the building entrances will minimize the walking distance to sidewalks and transit stops/stations
- The location of building doors and windows will ensure visibility of pedestrians from the building
- Walking routes from the development to nearby transit stops will be safe, direct, and attractive
- Walking routes from the development to nearby transit stops will be secure, visible, lighted, shaded, and wind protected whenever possible

4.1.2 Circulation and Access

Garbage will be stored in the garbage room within the underground parking and will be wheeled up to surface level parking for collection. Fire route access is provided along both Montreal Road and Beckenham Lane accesses.

4.2 Parking

The subject site is located in Area C of Schedule 1 and Schedule 1A of the City of Ottawa's *Zoning By-Law* (ZBL).

Section 101,102, and 111 of the ZBL summarizes the minimum vehicle and bicycle parking space rates for various land uses. The minimum required vehicle and bicycle parking spaces for the proposed development is summarized in **Table 10**.

Table 10: Minimum Required Vehicle Parking Spaces

Land Use	Rate	Units	Required	Provided
Minimum Vehicle Parking				
Mid & High Rise	Tenant: 1.2 per dwelling unit	325	390	222
	Visitor: 0.2 per dwelling unit		65	65
		Total	**455**	**287**
Minimum Bicycle Parking				
Mid & High Rise	0.5 per dwelling unit	325	163	256
		Total	**163**	**256**

The proposed bicycle parking will exceed the requirements of the City's ZBL. The proposed visitor parking spaces will meet the minimum requirements of the ZBL. However, relief of the minimum ZBL requirements for tenant parking spaces is being sought.

4.3 Boundary Streets

This section provides a review of the boundary streets, Montreal Road, Beckenham Lane, and Cedar Road using complete streets principles. The Multi-Modal Level of Service (MMLOS)

guidelines produced by IBI Group in October 2015 have been used to evaluate the LOS of boundary roadways for each mode of transportation.

Each boundary road is located within the General Urban Area (per Schedule B of the City's previous Official Plan, which is referenced by the MMLOS Guidelines). Montreal Road is designated as an arterial mainstreet roadway and Beckenham Lane is classified as a local roadway.

A detailed segment MMLOS review of the boundary streets is located in **Appendix K**. A summary of the segment MMLOS analysis is provided in the **Table 11** below.

Table 11: Segment MMLOS Summary

Segment	PLOS		BLOS		TLOS		TkLOS	
	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Montreal Road	**F**	C	**F**	C	**E**	D	A	D
Beckenham Lane	**F**	C	B	D	-	-	D	-
Cedar Road	**F**	C	B	D	-	-	D	-

The results of the segment MMLOS analysis can be summarized as follows:

- All boundary streets do not meet the target pedestrian level of service (PLOS);
- Beckenham Lane and Cedar Road meet the target bicycle level of service (BLOS), while Montreal Road does not;
- Montreal Road does not meet the target transit level of service (TLOS); and
- Montreal Road meets the target TkLOS. There is no target TkLOS for Beckenham Lane and Cedar Road.

Pedestrian Level of Service

The target PLOS is not achieved along Montreal Road, Beckenham Lane, and Cedar Road. As described in Section 2.2.1, the City's planned Montreal-Blair Transit Priority Project is anticipated to provide a 2.5m sidewalk with 3.0-4m wide boulevard (including the proposed cycle track) along the site's frontage. The proposed pedestrian facility will provide an improved PLOS along Montreal Road adjacent to the site.

To achieve the target PLOS C along Beckenham Lane and Cedar Road, a 1.8m wide curbside sidewalk is required. A 1.8m wide sidewalk is proposed between the proposed Beckenham Lane access and Montreal Road.

Bicycle Level of Service

Within the study area Montreal Road operates with mixed traffic on a road with an assumed operating speed of 70km/h. As described in Section 2.2.1, the City's planned Montreal-Blair Transit Priority Project is anticipated to provide cycle tracks along Montreal Road. The future cycle tracks will achieve BLOS A along Montreal Road adjacent to the site.

Transit Level of Service

Within the study area Montreal Road operates with mixed traffic on a road with a medium exposure to driveway friction and potential incidents. As described in Section 2.2.1, the City's planned Montreal-Blair Transit Priority Project is anticipated to provide improved transit facilities along Montreal Road adjacent to the site.

4.4 Transportation Demand Management

4.4.1 Context for TDM

The proposed development consists of a total of 325 residential units. The residential unit breakdown is provided as follows:

- 227 dwelling units in the high-rise building comprising of:
  - 103 one-bed units;
  - 43 one-bed + den units;
  - 68 two-bed units;
  - 4 two-bed + den units;
  - 9 studio units.
- 98 dwelling units in the mid-rise building comprising of:
  - 27 one-bed units;
  - 25 one-bed + den units;
  - 37 two-bed units;
  - 9 studio units.

4.4.2 Need and Opportunity

As first discussed in Section 2.3.1, the 50% auto mode share for the Beacon Hill district outlined in the TRANS Trip Generation Manual was adjusted to 40% (a reduction of 10%), as the proposed development's parking spaces meet only 57% of the minimum parking space requirements per the City of Ottawa's Zoning By-law. This reduction was adjusted in transit and cyclist modal shares, with an increase of 5% for each of them.

The subject site is in proximity to nearby frequent transit service and the 2031 Affordable Rapid Transit and Transit Priority (RTTP) Network identifies Montreal Road as a Transit Priority Corridor with continuous lanes between Cummings Bridge and St Laurent Boulevard; and road widening to provide exclusive bus lanes and transit priority signal between Blair Road and Ogilvie Road. This shall promote transit and active modes of transport for the residents of the proposed development. Hence, failure to meet the driver mode share is not anticipated, due to the proximity of the subject site to the nearby frequent transit service and the reduced number of on-site parking spaces. Should the development only meet the 50% auto-modal share associated with the Beacon Hill area, an additional 11-12 vehicles (two-way) area anticipated to be added to the study area.

4.4.3 TDM Program

A review of the Transportation Demand Management (TDM) – Measures Checklist has been conducted by the proponent, who has committed to providing the following TDM measures within this development:

- Display local area maps with walking/cycling access routes and key destinations at major entrances;
- Display relevant transit schedules and route maps at entrances:
- Unbundle parking cost from purchase price/monthly rent;
- Provide a multimodal travel option information package to new residents.

A copy of the TDM checklist is included in **Appendix J**.

4.5 Access Operations

Analysis of the access intersection operations has been conducted in Synchro, with the results summarized in **Table 12**. The intersection parameters used in the analysis are consistent with the *2017 TIA Guidelines* (Saturated Flow Rate: 1,800 vphpl, Peak Hour Factor: 1.0 in future conditions).

Table 12: 2029/2034 Access Intersection Operations

Access	AM Peak Hour			PM Peak Hour		
	Delay	LOS	Mvmt	Delay	LOS	Mvmt
2029 Traffic						
Montreal Road	19 sec.	C	SB	16 sec.	C	SB
Beckenham Lane	9 sec.	A	WBL	10 sec.	A	WBL
2034 Traffic						
Montreal Road	20 sec.	C	SB	17 sec.	C	SB
Beckenham Lane	9 sec.	A	WBL	10 sec.	A	WBL

Based on the foregoing, the proposed accesses to Montreal Road and Beckenham Lane are anticipated to operate with an acceptable vehicular level of service for the ultimate buildout year 2029 and horizon year 2034.

Based on the traffic projections presented in **Figure 10**, a total of one and two vehicles are anticipated to perform the eastbound left turn movement at the Montreal Road access during the AM and PM peak hours, respectively. Based on the Ministry of Transportation of Ontario (MTO) left turn storage lane warrants for four-lane divided roadways, a left turn lane is not required at this access. MTO left turn lane warrants are included in **Appendix L.**

4.6 Intersection Design

4.6.1 2029 Total Intersection Operations

Intersection capacity analysis has been conducted for the 2029 total traffic conditions. The results of the analysis are summarized in **Table 13** for the weekday AM and PM peak hours. Detailed reports are included in **Appendix I**.

Table 13: 2029 Total Traffic Operations

Intersection	AM Peak			PM Peak		
	Delay	LOS	Mvmt	Delay	LOS	Mvmt
Montreal Rd & Beckenham Ln	N/A	N/A	NB	**66 sec.**	**F**	**NB**
	27 sec.	D	SB	23 sec.	C	SB
	12 sec.	B	EBL	10 sec.	B	EBL
	0 sec.	A	WB	10 sec.	B	WBL

Similar to the existing traffic condition, all movements are anticipated to operate within acceptable conditions except the Northbound approach during the PM peak. During the PM peak hour, the northbound approach (Cardinal Heights Plaza access) on Beckenham Lane at Montreal Road operates with a LOS F and an average delay of 64 seconds. Should high delays be realized for vehicles exiting this plaza, vehicles can alternatively use Elwood Street access which leads to an all-movement signalized intersection along Montreal Road. During the AM and PM peak hours,

all southbound movements operate with a delay of 27 seconds and 23 seconds, which is equivalent to LOS D and C respectively.

4.6.2 2034 Total Intersection Operations

Intersection capacity analysis has been conducted for the 2034 total traffic conditions. The results of the analysis are summarized in **Table 14** for the weekday AM and PM peak hours. Detailed reports are included in **Appendix I**.

Table 14: 2034 Total Traffic Operations

Intersection	AM Peak			PM Peak		
	Delay	LOS	Mvmt	Delay	LOS	Mvmt
Montreal Rd & Beckenham Ln	N/A	N/A	NB	**74 sec.**	**F**	**NB**
	30 sec.	D	SB	25 sec.	C	SB
	12 sec.	B	EBL	11 sec.	B	EBL
	0 sec.	A	WB	10 sec.	B	WBL

Similar to the existing traffic condition, all movements are anticipated to operate within acceptable conditions except the Northbound approach during the PM peak. During the PM peak hour, the northbound approach (Cardinal Heights Plaza access) on Beckenham Lane at Montreal Road operates with a LOS F and an average delay of 74 seconds. During the AM and PM peak hour, all southbound movements operate with a delay of 30 seconds and 25 seconds, which is equivalent to LOS D and C respectively.

Traffic signal warrants were reviewed and are included in **Appendix M**. Based on the warrants; traffic signals are not warranted at the Montreal Road/Beckenham Lane intersection.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing, the conclusions and recommendations of this TIA can be summarized as follows:

Forecasting

- The proposed residential development is expected to generate 136 person trips in the AM peak hour (51 vehicle trips) and 136 person trips in the PM peak hour (52 vehicle trips).

Development Design

- Sidewalk connections will be provided between the proposed development and the existing sidewalk along Montreal Road. Currently no sidewalks exist along Beckenham Lane; a new sidewalk is proposed from the proposed Beckenham Lane site access to connect the sidewalk at Montreal Road.
- The transit stops within 400m walking distance of the subject site provide service to Routes 23, 12, 615, and 616. The nearest transit stops to the proposed site are stops 2573, 2570, 2569 and 2572.
- Garbage will be stored in the garbage room within the underground parking and will be wheeled up to surface level parking for collection. One fire department connection for each of the proposed building is provided along Beckenham Lane.
- All required TDM-supportive design and infrastructure measures in the TDM checklist are met.

Parking

- In each building, 128 bicycle parking spaces will be provided within the underground parking garage level P1, for a total of 256 bicycle parking spaces.
- The site will include 25 surface parking spaces and an underground parking garage with 262 parking spaces for a total of 287 parking spaces. Of these 287 parking spaces, 222 are for residents and 65 are for visitors.
- The proposed bicycle parking will exceed the requirements of the City's ZBL. The proposed visitor parking spaces will meet the minimum requirements of the ZBL. However, relief of the minimum ZBL requirements for tenant parking spaces is being sought.

Boundary Street Design

- All boundary streets do not meet the target pedestrian level of service (PLOS);
- Beckenham Lane and Cedar Road meet the target bicycle level of service (BLOS), while Montreal Road does not;
- Montreal Road does not meet the target transit level of service (TLOS);
- Montreal Road meets the target TkLOS. There is no target TkLOS for Beckenham Lane and Cedar Road; and
- The City's planned Montreal-Blair Transit Priority Project is anticipated to provide improved pedestrian and cycling facilities along the sites Montreal Road frontage.

Access Design

- The proposed Montreal Road access is located 1.5m from the eastern property line and does not meet Section 25(p) of the Private Approach By-law. The proposed driveway location is recommended to maximize the distance to the Beckenham Lane intersection and to facilitate inbound/outbound movements through the existing median break along Montreal Road.
- It is requested that the requirements of Section 25(t) of the PABL be waived as the 6% grade towards the road (2.6% within the first 4m) at the Montreal Road access is not anticipated to impact sight lines or create a traffic hazard.
- The proposed accesses will be stop-controlled with free flow on Montreal Road and Beckenham Lane. It is anticipated that the proposed accesses will operate acceptably during both peak hours.
- As Beckenham Lane to the north of the Beckenham Lane/Cedar Road South intersection has an upwards grade and slight horizontal curvature, it is recommended that the city trim vegetation within the Right-of-Way on the west side of the road to improve sight lines for southbound traveling vehicles around the horizontal curve.

Transportation Demand Management

- The proponent has committed to providing the following TDM measures:
    - Display local area maps with walking/cycling access routes and key destinations at major entrances;
    - Display relevant transit schedules and route maps at entrances;
    - Unbundle parking cost from purchase price/monthly rent; and
    - Provide a multimodal travel option information package to new residents.

Existing/Background Intersection Operations

- All movements at the Montreal Road/Beckenham Lane intersection operate within acceptable conditions except the Northbound approach (Cardinal Heights Plaza access) during the PM peak. Should high delays be realized for vehicles exiting this plaza, vehicles

can alternatively use Elwood Street access, which leads to an all-movement signalized intersection along Montreal Road.
- During the AM and PM peak hours, all southbound movements at the Montreal Road/Beckenham Lane intersection operate with a LOS C.

Total Intersection Operations
- Similar to the existing existing/background traffic conditions, all movements at the Montreal Road/Beckenham Lane intersection are anticipated to operate within acceptable conditions except the Northbound approach (Cardinal Heights Plaza access) during the PM peak.
- During the AM and PM peak hours, all southbound movements at the Montreal Road/Beckenham Lane intersection operate with a LOS D or better.

Based on the foregoing, the proposed development is recommended from transportation perspective.

NOVATECH

Prepared by:

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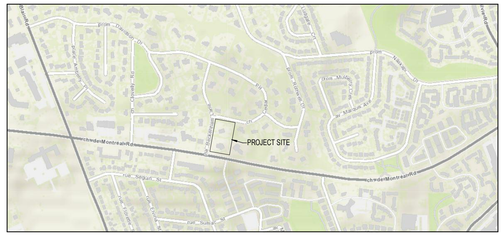
Engineering Intern | Transportation

Reviewed by:

Brad Byvelds, P.Eng.
Senior Project Manager | Transportation

APPENDIX A

Site Plan



2 SP-01 **LOCATION PLAN**
SCALE: NTS

SURVEY INFO
PART OF LOT 31, REGISTERED PLAN 126 &
PART OF LOT 20, CONCESSION 1 AND
PART OF BLOCK 2, REGISTERED PLAN 118
CITY OF OTTAWA

PREPARED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
FIELD WORK COMPLETED ON NOVEMBER 24, 2021

SITE PLAN SYMBOLS LEGEND

- BUILDING ENTRANCE
- BUILDING EXIT
- BICYCLE PARKING
- PROPERTY LINE
- SETBACK LINE
- OHW — OVERHEAD WIRES
- INTERLOCKING STONE PAVERS
- EXISTING TRAFFIC SIGNAL POST
- FDC — FIRE DEPARTMENT CONNECTION
- FH — FIRE HYDRANT
- NEW STREET LIGHT
- STREET LIGHT TO BE REMOVED
- EXISTING STREET LIGHT TO REMAIN
- UP — EXISTING UTILITY POLE TO REMAIN
- UP — UTILITY POLE TO BE REMOVED/RELOCATED
- R.P. — RAISED PLANTER

SITE PLAN NOTES

S1 ASPHALT
S2 EXISTING STRUCTURE TO BE DEMOLISHED
S3 CONCRETE SIDEWALK
S4 SOFT LANDSCAPING
S5 DEPRESSED CURB
S6 LINE OF CANOPY ABOVE
S7 3m x 9m CORNER SIGHT TRIANGLE
S8 CURB TRANSITION
S9 CONCRETE RAMP
S10 PLANTING BED

GENERAL ARCHITECTURAL NOTES:

1. This drawing is the property of the Architect and may not be reproduced or used without the expressed consent of the Architect.
2. Drawings are not to be scaled. The Contractor is responsible for checking and verifying all levels and dimensions and shall report all discrepancies to the Architect and obtain clarification prior to commencing work.
3. Upon notice in writing, the Architect will provide written/graphic clarification or supplementary information regarding the intent of the Contract Documents.
4. The Architectural drawings are to be read in conjuction with all other Contract Documents including Project Manuals and the Structural, Mechanical and Electrical Drawings.
5. Positions of exposed or finished Mechanical or Electrical devices, fittings and fixtures are indicated on the Architectural Drawings. Locations shown on the Architectural Drawings shall govern over Mechanical and Electrical Drawings. Mechanical and Electrical items not clearly located will be located as directed by the Architect.
6. These documents are not to be used for construction unless specifically noted for such purpose.

1 SP-01 **SITE PLAN**
SCALE: 1 : 200

1 ISSUED FOR ZONING BY-LAW AMEND. 2025-03-19

ISSUE RECORD

project1 studio
Project1 Studio Incorporated
| 613.884.3939 | mail@project1studio.ca

1765 MONTREAL RD

1765 Montreal Road
Ottawa, ON

PROJ	SCALE	DRAWN	REVIEWED
2107	NOTED	BH	JH

SITE PLAN

SP-01

UNIT COUNT

NAME	LVL 01	LVL 02	LVL 03	LVL 04	LVL 05	LVL 06	LVL 07	LVL 08	LVL 09	LVL 10	LVL 11	LVL 12	LVL 13	LVL 14	LVL 15	LVL 16	LVL 17	TOTAL COUNT	PERCENTAGE
1-BED	6	10	10	10	9	9	6	7	7	7	7	7	7	7	7	7	7	130	40%
1-BED + DEN	12	10	10	10	8	8	0	1	1	1	1	1	1	1	1	1	1	68	21%
2-BED	12	14	14	14	9	10	2	3	3	3	3	3	3	3	3	3	3	105	32%
2-BED + DEN	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4	1%
STUDIO	6	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	18	6%
TOTAL	36	38	38	38	28	29	8	11	11	11	11	11	11	11	11	11	11	325	100%

BLDG 'B' UNIT BREAKDOWN

NO.	BEDS	AREA	AREA (SF)
LEVEL 01			
B101	1-BED + DEN	66.49 m²	715.64 ft²
B102	STUDIO	45.91 m²	494.22 ft²
B103	2-BED	86.11 m²	926.92 ft²
B104	2-BED	88.15 m²	948.86 ft²
B105	2-BED	84.11 m²	905.36 ft²
B106	1-BED	57.69 m²	620.96 ft²
B107	1-BED + DEN	66.74 m²	718.36 ft²
B108	1-BED + DEN	68.51 m²	737.46 ft²
B109	1-BED + DEN	68.27 m²	734.80 ft²
B110	1-BED + DEN	66.87 m²	719.73 ft²
B111	1-BED + DEN	65.52 m²	705.29 ft²
B112	2-BED	87.47 m²	941.48 ft²
B113	2-BED	79.05 m²	850.87 ft²
B114	STUDIO	47.22 m²	508.25 ft²
B115	STUDIO	47.17 m²	507.77 ft²
B116	2-BED	79.26 m²	853.09 ft²
B117	2-BED	73.75 m²	793.81 ft²
B118	1-BED	55.29 m²	595.17 ft²
LEVEL 02			
B201	1-BED	54.66 m²	588.30 ft²
B202	1-BED	61.67 m²	663.84 ft²
B203	1-BED	54.91 m²	591.05 ft²
B204	2-BED	85.79 m²	923.40 ft²
B205	2-BED	88.15 m²	948.86 ft²
B206	2-BED	84.11 m²	905.36 ft²
B207	1-BED	57.69 m²	620.96 ft²
B208	1-BED + DEN	66.74 m²	718.36 ft²
B209	1-BED + DEN	68.51 m²	737.46 ft²
B210	1-BED + DEN	68.27 m²	734.80 ft²
B211	1-BED + DEN	66.87 m²	719.73 ft²
B212	1-BED + DEN	65.52 m²	705.29 ft²
B213	2-BED	87.47 m²	941.48 ft²
B214	2-BED	79.05 m²	850.87 ft²
B215	STUDIO	47.22 m²	508.25 ft²
B216	STUDIO	47.17 m²	507.77 ft²
B217	2-BED	79.26 m²	853.09 ft²
B218	2-BED	73.75 m²	793.81 ft²
B219	1-BED	52.56 m²	565.73 ft²
LEVEL 03			
B301	1-BED	54.18 m²	583.17 ft²
B302	1-BED	61.67 m²	663.84 ft²
B303	1-BED	54.91 m²	591.05 ft²
B304	2-BED	85.79 m²	923.40 ft²
B305	2-BED	88.15 m²	948.86 ft²
B306	2-BED	84.11 m²	905.36 ft²
B307	1-BED	57.69 m²	620.96 ft²
B308	1-BED + DEN	66.74 m²	718.36 ft²
B309	1-BED + DEN	68.51 m²	737.46 ft²
B310	1-BED + DEN	68.27 m²	734.80 ft²
B311	1-BED + DEN	66.87 m²	719.73 ft²
B312	1-BED + DEN	65.52 m²	705.29 ft²
B313	2-BED	87.47 m²	941.48 ft²
B314	2-BED	79.05 m²	850.87 ft²
B315	STUDIO	47.22 m²	508.25 ft²
B316	STUDIO	47.17 m²	507.77 ft²
B317	2-BED	79.26 m²	853.09 ft²
B318	2-BED	73.75 m²	793.81 ft²
B319	1-BED	52.57 m²	565.81 ft²
LEVEL 04			
B401	1-BED	54.18 m²	583.17 ft²
B402	1-BED	61.67 m²	663.84 ft²
B403	1-BED	54.91 m²	591.05 ft²
B404	2-BED	85.79 m²	923.40 ft²
B405	2-BED	88.15 m²	948.86 ft²
B406	2-BED	84.11 m²	905.36 ft²
B407	1-BED	57.69 m²	620.96 ft²
B408	1-BED + DEN	66.74 m²	718.36 ft²
B409	1-BED + DEN	68.51 m²	737.46 ft²
B410	1-BED + DEN	68.27 m²	734.80 ft²
B411	1-BED + DEN	66.87 m²	719.73 ft²
B412	1-BED + DEN	65.52 m²	705.29 ft²
B413	2-BED	87.47 m²	941.48 ft²
B414	2-BED	79.05 m²	850.87 ft²
B415	STUDIO	47.22 m²	508.25 ft²
B416	STUDIO	47.17 m²	507.77 ft²
B417	2-BED	79.26 m²	853.09 ft²
B418	2-BED	73.75 m²	793.81 ft²
B419	1-BED	52.57 m²	565.81 ft²
LEVEL 05			
B501	1-BED + DEN	64.34 m²	692.55 ft²
B502	2-BED	85.11 m²	916.15 ft²
B503	2-BED	77.45 m²	833.61 ft²
B504	2-BED	82.93 m²	892.64 ft²
B505	1-BED	58.72 m²	632.07 ft²
B506	1-BED	58.93 m²	634.31 ft²
B507	1-BED	58.83 m²	633.19 ft²
B508	1-BED	58.83 m²	633.19 ft²
B509	1-BED	58.83 m²	633.19 ft²
B510	2-BED	84.11 m²	905.32 ft²
B512	1-BED + DEN	67.72 m²	728.98 ft²
LEVEL 06			
B601	1-BED + DEN	64.34 m²	692.55 ft²
B602	2-BED	85.11 m²	916.15 ft²
B603	2-BED	77.45 m²	833.61 ft²
B604	2-BED	82.93 m²	892.64 ft²
B605	1-BED	58.72 m²	632.07 ft²
B606	1-BED	58.93 m²	634.31 ft²
B607	1-BED	58.83 m²	633.19 ft²
B608	1-BED	58.83 m²	633.19 ft²
B609	1-BED	58.83 m²	633.19 ft²
B610	2-BED	84.11 m²	905.32 ft²
B611	2-BED	78.71 m²	847.21 ft²
B612	1-BED + DEN	67.72 m²	728.98 ft²

TOTAL UNITS: 98

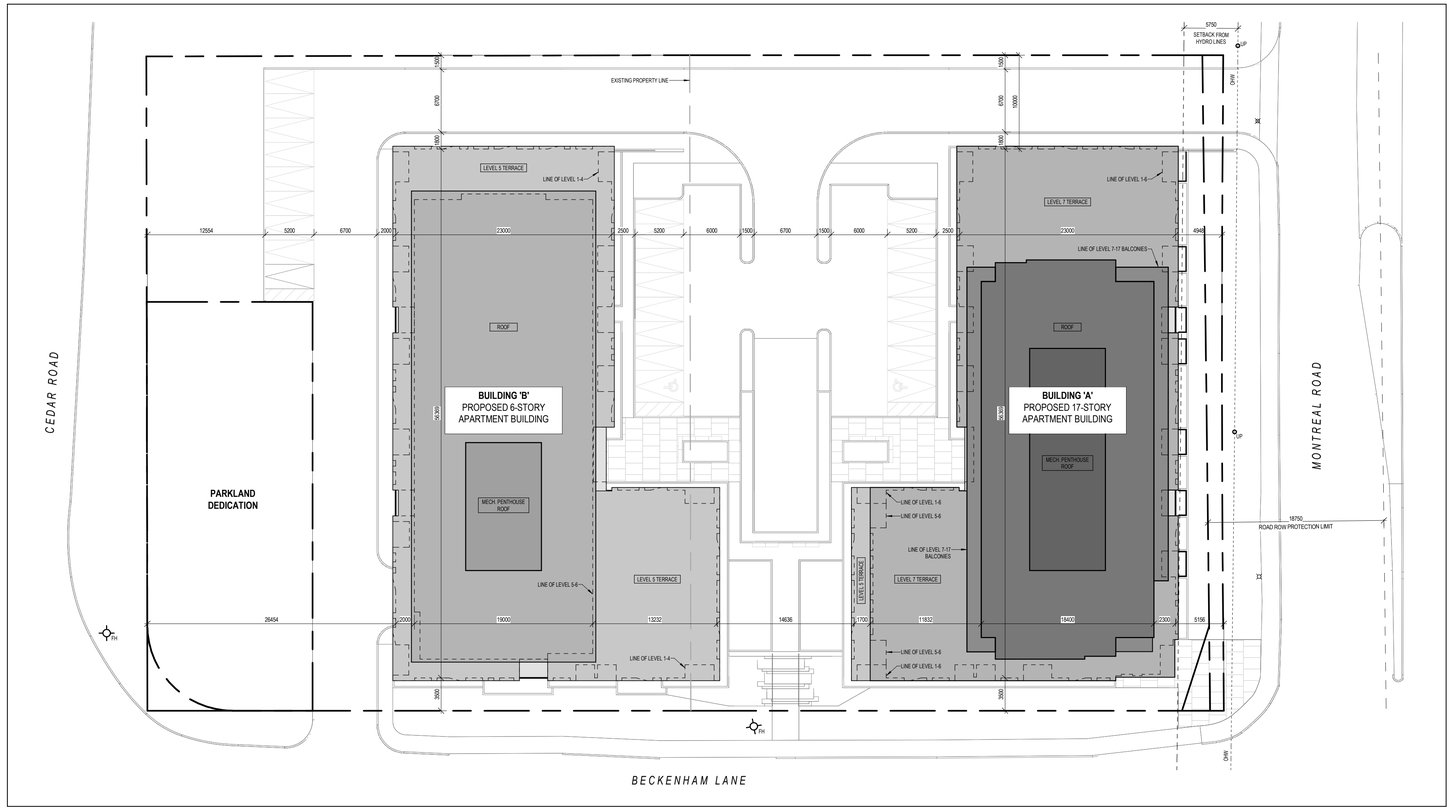
BLDG 'A' UNIT BREAKDOWN

NO.	BEDS	AREA	AREA (SF)
LEVEL 01			
A101	1-BED + DEN	66.49 m²	715.64 ft²
A102	STUDIO	45.91 m²	494.22 ft²
A103	2-BED	86.11 m²	926.92 ft²
A104	2-BED	88.15 m²	948.86 ft²
A105	2-BED	84.11 m²	905.36 ft²
A106	1-BED	57.69 m²	620.96 ft²
A107	1-BED + DEN	68.20 m²	734.08 ft²
A108	1-BED + DEN	68.51 m²	737.46 ft²
A109	1-BED + DEN	68.27 m²	734.80 ft²
A110	1-BED + DEN	68.33 m²	735.45 ft²
A111	1-BED + DEN	69.42 m²	747.18 ft²
A112	1-BED	53.57 m²	576.60 ft²
A113	1-BED	61.33 m²	660.18 ft²
A114	STUDIO	47.22 m²	508.25 ft²
A115	STUDIO	47.22 m²	508.29 ft²
A116	2-BED	79.21 m²	852.57 ft²
A117	2-BED	73.74 m²	793.77 ft²
A118	1-BED	55.39 m²	596.25 ft²
LEVEL 02			
A201	1-BED	57.63 m²	620.33 ft²
A202	1-BED	61.67 m²	663.84 ft²
A203	1-BED	54.91 m²	591.05 ft²
A204	2-BED	85.81 m²	923.69 ft²
A205	2-BED	88.12 m²	948.57 ft²
A206	2-BED	84.11 m²	905.36 ft²
A207	1-BED	57.69 m²	620.96 ft²
A208	1-BED + DEN	68.20 m²	734.08 ft²
A209	1-BED + DEN	68.51 m²	737.46 ft²
A210	1-BED + DEN	68.27 m²	734.80 ft²
A211	1-BED + DEN	68.33 m²	735.45 ft²
A212	1-BED + DEN	65.32 m²	703.07 ft²
A213	2-BED	77.64 m²	835.69 ft²
A214	2-BED	80.70 m²	868.69 ft²
A215	STUDIO	47.22 m²	508.25 ft²
A216	STUDIO	47.22 m²	508.29 ft²
A217	2-BED	79.21 m²	852.57 ft²
A218	2-BED	73.74 m²	793.77 ft²
A219	1-BED	52.66 m²	566.81 ft²
LEVEL 03			
A301	1-BED	52.10 m²	560.82 ft²
A302	1-BED	61.67 m²	663.84 ft²
A303	1-BED	54.91 m²	591.05 ft²
A304	2-BED	85.81 m²	923.69 ft²
A305	2-BED	88.12 m²	948.57 ft²
A306	2-BED	84.11 m²	905.36 ft²
A307	1-BED	57.69 m²	620.96 ft²
A308	1-BED + DEN	68.20 m²	734.08 ft²
A309	1-BED + DEN	68.51 m²	737.46 ft²
A310	1-BED + DEN	68.27 m²	734.80 ft²
A311	1-BED + DEN	68.33 m²	735.45 ft²
A312	1-BED + DEN	65.32 m²	703.07 ft²
A313	2-BED	83.86 m²	902.69 ft²
A314	2-BED	80.70 m²	868.69 ft²
A315	STUDIO	47.22 m²	508.25 ft²
A316	STUDIO	47.22 m²	508.29 ft²
A317	2-BED	79.21 m²	852.57 ft²
A318	2-BED	73.74 m²	793.77 ft²
A319	1-BED	52.75 m²	567.78 ft²
LEVEL 04			
A401	1-BED	52.10 m²	560.82 ft²
A402	1-BED	61.67 m²	663.84 ft²
A403	1-BED	54.91 m²	591.05 ft²
A404	2-BED	85.81 m²	923.69 ft²
A405	2-BED	88.12 m²	948.57 ft²
A406	2-BED	84.11 m²	905.36 ft²
A407	1-BED	57.69 m²	620.96 ft²
A408	1-BED + DEN	68.20 m²	734.08 ft²
A409	1-BED + DEN	68.51 m²	737.46 ft²
A410	1-BED + DEN	68.27 m²	734.80 ft²
A411	1-BED + DEN	68.33 m²	735.45 ft²
A412	1-BED + DEN	65.32 m²	703.07 ft²
A413	2-BED	83.86 m²	902.69 ft²
A414	2-BED	80.70 m²	868.69 ft²
A415	STUDIO	47.22 m²	508.25 ft²
A416	STUDIO	47.22 m²	508.29 ft²
A417	2-BED	79.21 m²	852.57 ft²
A418	2-BED	73.74 m²	793.77 ft²
A419	1-BED	52.75 m²	567.78 ft²
LEVEL 05			
A501	1-BED	52.84 m²	568.79 ft²
A502	1-BED	61.67 m²	663.84 ft²
A503	1-BED	54.91 m²	591.05 ft²
A504	2-BED	85.81 m²	923.69 ft²
A505	2-BED	88.12 m²	948.57 ft²
A506	2-BED	84.11 m²	905.36 ft²
A507	1-BED	57.69 m²	620.96 ft²
A508	1-BED + DEN	68.20 m²	734.08 ft²
A509	1-BED + DEN	68.51 m²	737.46 ft²
A510	1-BED + DEN	68.27 m²	734.80 ft²
A511	1-BED + DEN	68.33 m²	735.45 ft²
A512	1-BED + DEN	65.32 m²	703.07 ft²
A513	2-BED	83.86 m²	902.69 ft²
A514	2-BED	80.70 m²	868.69 ft²
A515	1-BED + DEN	68.79 m²	740.46 ft²
A516	2-BED + DEN	93.91 m²	1,010.84 ft²
A517	2-BED + DEN	101.02 m²	1,087.36 ft²
LEVEL 06			
A601	1-BED	52.84 m²	568.79 ft²
A602	1-BED	61.67 m²	663.84 ft²
A603	1-BED	54.91 m²	591.05 ft²
A604	2-BED	85.81 m²	923.69 ft²
A605	2-BED	88.12 m²	948.57 ft²
A606	2-BED	84.11 m²	905.36 ft²
A607	1-BED	57.69 m²	620.96 ft²
A608	1-BED + DEN	68.20 m²	734.08 ft²
A609	1-BED + DEN	68.51 m²	737.46 ft²
A610	1-BED + DEN	68.27 m²	734.80 ft²
A611	1-BED + DEN	68.33 m²	735.45 ft²
A612	1-BED + DEN	65.32 m²	703.07 ft²
A613	2-BED	83.86 m²	902.69 ft²
A614	2-BED	80.70 m²	868.69 ft²
A615	1-BED + DEN	68.79 m²	740.46 ft²
A616	2-BED + DEN	93.91 m²	1,010.84 ft²
A617	2-BED + DEN	101.02 m²	1,087.36 ft²
LEVEL 07			
A701	1-BED	48.71 m²	524.28 ft²
A702	1-BED	50.10 m²	539.27 ft²
A703	2-BED	69.61 m²	749.29 ft²
A705	1-BED	57.14 m²	615.07 ft²
A706	1-BED	56.88 m²	612.20 ft²
A707	1-BED	56.88 m²	612.20 ft²
A708	1-BED	56.88 m²	612.20 ft²
A709	2-BED	73.30 m²	788.96 ft²

BLDG 'A' UNIT BREAKDOWN

NO.	BEDS	AREA	AREA (SF)
LEVEL 08			
A801	1-BED	48.11 m²	517.84 ft²
A802	1-BED	50.10 m²	539.27 ft²
A803	2-BED	69.61 m²	749.29 ft²
A804	1-BED + DEN	66.76 m²	718.56 ft²
A805	1-BED	56.88 m²	612.20 ft²
A806	1-BED	56.88 m²	612.20 ft²
A807	1-BED	56.88 m²	612.20 ft²
A808	1-BED	56.88 m²	612.20 ft²
A809	2-BED	72.57 m²	781.09 ft²
A810	2-BED	75.52 m²	812.86 ft²
A811	1-BED	51.56 m²	554.97 ft²
LEVEL 09			
A901	1-BED	48.11 m²	517.84 ft²
A902	1-BED	50.10 m²	539.27 ft²
A903	2-BED	69.61 m²	749.29 ft²
A904	1-BED + DEN	66.76 m²	718.56 ft²
A905	1-BED	56.88 m²	612.20 ft²
A906	1-BED	56.88 m²	612.20 ft²
A907	1-BED	56.88 m²	612.20 ft²
A908	1-BED	56.88 m²	612.20 ft²
A909	2-BED	72.57 m²	781.09 ft²
A910	2-BED	75.52 m²	812.86 ft²
A911	1-BED	51.56 m²	554.97 ft²
LEVEL 10			
A1001	1-BED	48.11 m²	517.84 ft²
A1002	1-BED	50.10 m²	539.27 ft²
A1003	2-BED	69.61 m²	749.29 ft²
A1004	1-BED + DEN	66.76 m²	718.56 ft²
A1005	1-BED	56.88 m²	612.20 ft²
A1006	1-BED	56.88 m²	612.20 ft²
A1007	1-BED	56.88 m²	612.20 ft²
A1008	1-BED	56.88 m²	612.20 ft²
A1009	2-BED	72.57 m²	781.09 ft²
A1010	2-BED	75.52 m²	812.86 ft²
A1011	1-BED	51.56 m²	554.97 ft²
LEVEL 11			
A1101	1-BED	48.11 m²	517.84 ft²
A1102	1-BED	50.10 m²	539.27 ft²
A1103	2-BED	69.61 m²	749.29 ft²
A1104	1-BED + DEN	66.76 m²	718.56 ft²
A1105	1-BED	56.88 m²	612.20 ft²
A1106	1-BED	56.88 m²	612.20 ft²
A1107	1-BED	56.88 m²	612.20 ft²
A1108	1-BED	56.88 m²	612.20 ft²
A1109	2-BED	72.57 m²	781.09 ft²
A1110	2-BED	75.52 m²	812.86 ft²
A1111	1-BED	51.56 m²	554.97 ft²
LEVEL 12			
A1201	1-BED	48.11 m²	517.84 ft²
A1202	1-BED	50.10 m²	539.27 ft²
A1203	2-BED	69.61 m²	749.29 ft²
A1204	1-BED + DEN	66.76 m²	718.56 ft²
A1205	1-BED	56.88 m²	612.20 ft²
A1206	1-BED	56.88 m²	612.20 ft²
A1207	1-BED	56.88 m²	612.20 ft²
A1208	1-BED	56.88 m²	612.20 ft²
A1209	2-BED	72.57 m²	781.09 ft²
A1210	2-BED	75.52 m²	812.86 ft²
A1211	1-BED	51.56 m²	554.97 ft²
LEVEL 13			
A1301	1-BED	48.11 m²	517.84 ft²
A1302	1-BED	50.10 m²	539.27 ft²
A1303	2-BED	69.61 m²	749.29 ft²
A1304	1-BED + DEN	66.76 m²	718.56 ft²
A1305	1-BED	56.88 m²	612.20 ft²
A1306	1-BED	56.88 m²	612.20 ft²
A1307	1-BED	56.88 m²	612.20 ft²
A1308	1-BED	56.88 m²	612.20 ft²
A1309	2-BED	72.57 m²	781.09 ft²
A1310	2-BED	75.52 m²	812.86 ft²
A1311	1-BED	51.56 m²	554.97 ft²
LEVEL 14			
A1401	1-BED	48.11 m²	517.84 ft²
A1402	1-BED	50.10 m²	539.27 ft²
A1403	2-BED	69.61 m²	749.29 ft²
A1404	1-BED + DEN	66.76 m²	718.56 ft²
A1405	1-BED	56.88 m²	612.20 ft²
A1406	1-BED	56.88 m²	612.20 ft²
A1407	1-BED	56.88 m²	612.20 ft²
A1408	1-BED	56.88 m²	612.20 ft²
A1409	2-BED	72.57 m²	781.09 ft²
A1410	2-BED	75.52 m²	812.86 ft²
A1411	1-BED	51.56 m²	554.97 ft²
LEVEL 15			
A1501	1-BED	48.11 m²	517.84 ft²
A1502	1-BED	50.10 m²	539.27 ft²
A1503	2-BED	69.61 m²	749.29 ft²
A1504	1-BED + DEN	66.76 m²	718.56 ft²
A1505	1-BED	56.88 m²	612.20 ft²
A1506	1-BED	56.88 m²	612.20 ft²
A1507	1-BED	56.88 m²	612.20 ft²
A1508	1-BED	56.88 m²	612.20 ft²
A1509	2-BED	72.57 m²	781.09 ft²
A1510	2-BED	75.52 m²	812.86 ft²
A1511	1-BED	51.56 m²	554.97 ft²
LEVEL 16			
A1601	1-BED	48.11 m²	517.84 ft²
A1602	1-BED	50.10 m²	539.27 ft²
A1603	2-BED	69.61 m²	749.29 ft²
A1604	1-BED + DEN	66.76 m²	718.56 ft²
A1605	1-BED	56.88 m²	612.20 ft²
A1606	1-BED	56.88 m²	612.20 ft²
A1607	1-BED	56.88 m²	612.20 ft²
A1608	1-BED	56.88 m²	612.20 ft²
A1609	2-BED	72.57 m²	781.09 ft²
A1610	2-BED	75.52 m²	812.86 ft²
A1611	1-BED	51.56 m²	554.97 ft²
LEVEL 17			
A1701	1-BED	48.11 m²	517.84 ft²
A1702	1-BED	50.10 m²	539.27 ft²
A1703	2-BED	69.61 m²	749.29 ft²
A1704	1-BED + DEN	66.76 m²	718.56 ft²
A1705	1-BED	56.88 m²	612.20 ft²
A1706	1-BED	56.88 m²	612.20 ft²
A1707	1-BED	56.88 m²	612.20 ft²
A1708	1-BED	56.88 m²	612.20 ft²
A1709	2-BED	72.57 m²	781.09 ft²
A1710	2-BED	75.52 m²	812.86 ft²
A1711	1-BED	51.56 m²	554.97 ft²

TOTAL UNITS: 227



1 SITE SETBACK PLAN
SP-02 SCALE: 1 : 300

LEASABLE AREA

LEVEL	AREA	AREA (SF)
LEVEL 01	2,422.44 m²	26,075 SF
LEVEL 02	2,576.31 m²	27,731 SF
LEVEL 03	2,576.63 m²	27,735 SF
LEVEL 04	2,576.63 m²	27,735 SF
LEVEL 05	2,007.86 m²	21,612 SF
LEVEL 06	2,086.56 m²	22,460 SF
LEVEL 07	469.48 m²	5,053 SF
LEVEL 08	661.72 m²	7,123 SF
LEVEL 09	661.72 m²	7,123 SF
LEVEL 10	661.72 m²	7,123 SF
LEVEL 11	661.72 m²	7,123 SF
LEVEL 12	661.72 m²	7,123 SF
LEVEL 13	661.72 m²	7,123 SF
LEVEL 14	661.72 m²	7,123 SF
LEVEL 15	661.72 m²	7,123 SF
LEVEL 16	661.72 m²	7,123 SF
LEVEL 17	661.72 m²	7,123 SF
TOTAL	21,333.08 m²	229,627 SF

PRIVATE AMENITY

LEVEL	AREA	AREA (SF)
LEVEL 01	149.41 m²	1,608 SF
LEVEL 02	132.59 m²	1,427 SF
LEVEL 03	155.94 m²	1,679 SF
LEVEL 04	155.94 m²	1,679 SF
LEVEL 05	160.44 m²	1,727 SF
LEVEL 06	138.53 m²	1,491 SF
LEVEL 07	92.13 m²	992 SF
LEVEL 08	124.27 m²	1,338 SF
LEVEL 09	124.27 m²	1,338 SF
LEVEL 10	124.27 m²	1,338 SF
LEVEL 11	124.27 m²	1,338 SF
LEVEL 12	124.27 m²	1,338 SF
LEVEL 13	124.27 m²	1,338 SF
LEVEL 14	124.27 m²	1,338 SF
LEVEL 15	124.27 m²	1,338 SF
LEVEL 16	124.27 m²	1,338 SF
LEVEL 17	124.27 m²	1,338 SF
TOTAL	2,227.64 m²	23,978 SF

COMMUNAL AMENITY

LEVEL	NAME	AREA	AREA (SF)
LEVEL 05	AMENITY ROOM	78.71 m²	847 SF
LEVEL 05	AMENITY TERRACE	270.66 m²	2,913 SF
LEVEL 07	AMENITY ROOM	58.70 m²	632 SF
LEVEL 07	AMENITY ROOM	112.19 m²	1,208 SF
LEVEL 07	AMENITY TERRACE	260.00 m²	2,799 SF
LEVEL 07	AMENITY TERRACE	296.28 m²	3,189 SF
TOTAL		1,076.54 m²	11,588 SF

VEHICLE PARKING

TYPE	COUNT
RESIDENT	222
VISITOR	65
TOTAL	287

BICYCLE PARKING

LEVEL	COUNT
LEVEL P1	256
TOTAL	256

GROSS FLOOR AREA (BLD A.)

LEVEL	AREA	AREA (SF)
LEVEL 01	1,448.68 m²	15,593 SF
LEVEL 02	1,448.95 m²	15,596 SF
LEVEL 03	1,449.74 m²	15,605 SF
LEVEL 04	1,449.74 m²	15,605 SF
LEVEL 05	1,405.44 m²	15,128 SF
LEVEL 06	1,405.44 m²	15,128 SF
LEVEL 07	749.61 m²	8,069 SF
LEVEL 08	749.61 m²	8,069 SF
LEVEL 09	749.61 m²	8,069 SF
LEVEL 10	749.61 m²	8,069 SF
LEVEL 11	749.61 m²	8,069 SF
LEVEL 12	749.61 m²	8,069 SF
LEVEL 13	749.61 m²	8,069 SF
LEVEL 14	749.61 m²	8,069 SF
LEVEL 15	749.61 m²	8,069 SF
LEVEL 16	749.61 m²	8,069 SF
LEVEL 17	749.61 m²	8,069 SF
TOTAL	16,853.65 m²	181,411 SF

GROSS FLOOR AREA (BLD B.)

LEVEL	AREA	AREA (SF)
LEVEL 01	1,451.48 m²	15,624 SF
LEVEL 02	1,451.48 m²	15,624 SF
LEVEL 03	1,451.01 m²	15,619 SF
LEVEL 04	1,451.01 m²	15,619 SF
LEVEL 05	930.16 m²	10,012 SF
LEVEL 06	930.16 m²	10,012 SF
TOTAL	7,665.32 m²	82,509 SF

SITE & PROJECT STATISTICS

Current Zoning Designation:	R1AA (Proposed Rezoning to AM10)
Lot Width:	69.9m
Total Lot Area:	8,004.4m²

Proposed Development - 17 Storey High-Rise Apartment Building & 6 Storey Mid-Rise Apartment Building

No. of units 325 Units Total (High-Rise Building 'A' = 227 Units + Mid-Rise Building 'B' = 98 Units)

Zoning Mechanism	Required	Provided
Minimum Lot Width *T-185(b)*	-	69.9m
Minimum Lot Area *T-185(a)*	-	8,004.4m²
Min. Front Yard Setback *S. 185(10)(b)(i)*	5m	5.09m
Corner Side Yard Setback *S. 185(10)(b)(i)*	5m	3.5m
Min. Interior Side Yard Setback *S. 185(10)(d)*	3m	10m
Min. Rear Yard Setback *S. 185(10)(d)*	7m	26.45m
Maximum Building Height *S. 185(10)(j)*	11m	18.55m (BUILDING 'B') 51.75m (BUILDING 'A')
Parking Space Rates (Residents) *101 (Sch. 1A - Area C)*	390 Spaces *1.2 spaces / unit for 325 units - Table 101(R1S)*	222 Spaces *0.68 Spaces / unit*
Minimum Visitor Parking Rates *102 (Sch. 1A - Area C)*	65 Spaces *0.2 spaces / unit for 325 units - Table 102(iii)*	65 Spaces *0.2 Spaces / unit*
Bicycle Parking Rates (Residents) *Table 111A (Sch. 1 - Area C)*	163 Spaces *0.5 spaces / unit for 325 units[111A(b)(i)]*	256 Spaces *0.79 Spaces / unit*
Total Amenity Area *Table 137(4)(ii)*	1,950m² *6m² / unit for 325 units*	3,304.2m²
Communal Amenity Area *Table 137(4)(ii)*	975m² *Min. 50% of Total Amenity Area*	1,076.5m²

GENERAL ARCHITECTURAL NOTES:

1. This drawing is the property of the Architect and may not be reproduced or used without the expressed consent of the Architect.
2. Drawings are not to be scaled. The Contractor is responsible for checking and verifying all levels and dimensions and shall report all discrepancies to the Architect and obtain clarification prior to commencing work.
3. Upon notice in writing, the Architect will provide written/graphic clarification or supplementary information regarding the intent of the Contract Documents.
4. The Architectural drawings are to be read in conjuction with all other Contract Documents including Project Manuals and the Structural, Mechanical and Electrical Drawings.
5. Positions of exposed or finished Mechanical or Electrical devices, fittings and fixtures are indicated on the Architectural Drawings. Locations shown on the Architectural Drawings shall govern over Mechanical and Electrical Drawings. Mechanical and Electrical items not clearly located will be located as directed by the Architect.
6. These documents are not to be used for construction unless specifically noted for such purpose.

OWNER
LANDRIC HOMES
63 MONTRÉAL ROAD,
GATINEAU, QC, J8M 1K3

ARCHITECT
PROJECT1 STUDIO
300 - 260 ST-PATRICK STREET
OTTAWA, ON, K1N 5K5

PLANNER
ROBINSON CONSULTANTS INC.
100 PALOMINO DRIVE
OTTAWA, ON, K2M 1N3

LANDSCAPE ARCHITECT
NOVATECH
200 - 240 MICHAEL COWPLAND DRIVE
OTTAWA, ON, K2M 1P6

CIVIL ENGINEER
NOVATECH
200 - 240 MICHAEL COWPLAND DRIVE
OTTAWA, ON, K2M 1P6

SURVEYOR
ANNIS O'SULLIVAN VOLLEBEKK LTD.
165 BAY STREET
EMBRUN, ON, K0A 1W1

1 ISSUED FOR ZONING BY-LAW AMEND. 2025-03-19
ISSUE RECORD

project1 studio
Project1 Studio Incorporated
| 613.884.3939 | mail@project1studio.ca

1765 MONTREAL RD

1765 Montreal Road
Ottawa, ON

PROJ	SCALE	DRAWN	REVIEWED
2107	NOTED	BH	JH

PROJECT STATISTICS AND ZONING INFORMATION

SP-02

APPENDIX B

TIA Screening Form

City of Ottawa 2017 TIA Guidelines TIA Screening

1. Description of Proposed Development

Municipal Address	1765 Montreal Road & 9 Beckenham Lane
Description of Location	Northeast Corner of Montreal Rd at Beckenham Lane
Land Use Classification	Residential
Development Size (units)	325 Residential Units
Development Size square metre (m^2)	
Number of Accesses and Locations	1 connection to Montreal Rd & 1 connection to Beckenham Lane
Phase of Development	2 Phases
Buildout Year	Ultimate Buildout in 2029

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

2. Trip Generation Trigger

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

Table notes:

1. Table 2, Table 3 & Table 4 TRANS Trip Generation Manual
2. Institute of Transportation Engineers (ITE) Trip Generation Manual 11.1 Ed.

Land Use Type	Minimum Development Size
Single-family homes	**60 units**
Multi-Use Family (Low-Rise)[1]	**90 units**
Multi-Use Family (High-Rise)[1]	**150 units**
Office[2]	**1,400 m^2**
Industrial[2]	**7,000 m^2**
Fast-food restaurant or coffee shop[2]	**110 m^2**
Destination retail[2]	**1,800 m^2**
Gas station or convenience market[2]	**90 m^2**

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

3. Location Triggers

	Yes	No
Does the development propose a new driveway to a boundary street that is designated as part of the Transit Priority Network, Rapid Transit network or Cross-Town Bikeways?	☑	☐
Is the development in a Hub, a Protected Major Transit Station Area (PMTSA), or a Design Priority Area (DPA)?[2]	☑	☐

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

4. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 kilometers per hour (km/h) or greater?	☐	☑
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?	☐	☑
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 metre [m] of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?	☐	☑
Is the proposed driveway within auxiliary lanes of an intersection?	☐	☑
Does the proposed driveway make use of an existing median break that serves an existing site?	☑	☐

[2] Hubs are identified in Schedules B1 to B8 of the City of Ottawa Official Plan. PMTSAs are identified in Schedule C1 of the Official Plan. DPAs are identified in Schedule C7A and C7B of the Official. See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA.

	Yes	No
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?	☐	☑
Does the development include a drive-thru facility?	☐	☑

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

5. Summary

Results of Screening	Yes	No
Does the development satisfy the Trip Generation Trigger?	☑	☐
Does the development satisfy the Location Trigger?	☑	☐
Does the development satisfy the Safety Trigger?	☑	☐

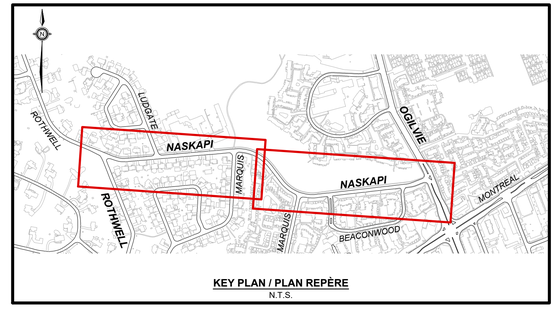
If none of the triggers are satisfied, the TIA Study is complete. If one or more of the triggers is satisfied, the TIA Study must continue into the next stage (Screening and Scoping).

APPENDIX C

Naskapi Drive Recommended Traffic Calming Plan

Planning, Infrastructure and Economic Development Department
Direction générale de la planification, de l'infrastructure et du développement économique

LOCAL TRAFFIC CALMING - NASKAPI DRIVE
MODÉRATION DE LA CIRCULATION LOCALE - PROMENADE NASKAPI



Stantec

Scale / Échelle
22.5m 11.25 0 7.5 15 30m

April 26, 2022

APPENDIX D

OC Transpo Route Maps

12

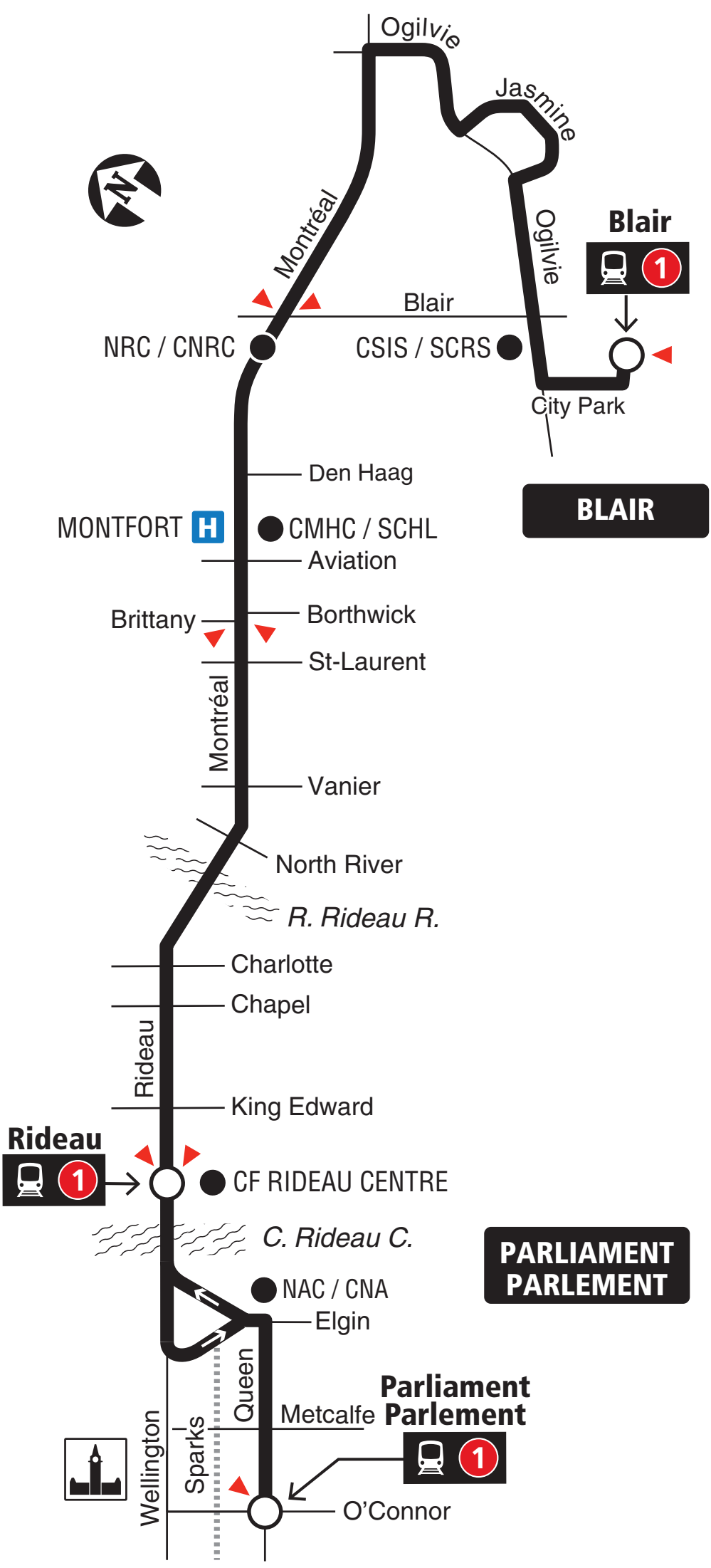
PARLIAMENT
PARLEMENT
BLAIR

Fréquent

7 days a week / 7 jours par semaine

All day service

Service toute la journée



04.2023

Station

Timepoint / Heures de passage

04.2023

Schedule / Horaire 613-560-1000

Text / Texto* 560560

plus your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

*Standard message rates may apply / Les tarifs réguliers de messagerie texte peuvent s'appliquer

Customer Service
Service à la clientèle **613-560-5000**

Lost and Found / Objets perdus..... **613-563-4011**

Security / Sécurité **613-741-2478**

Effective April 23, 2023

En vigueur 23 avril 2023

OC Transpo

INFO 613-560-5000
octranspo.com

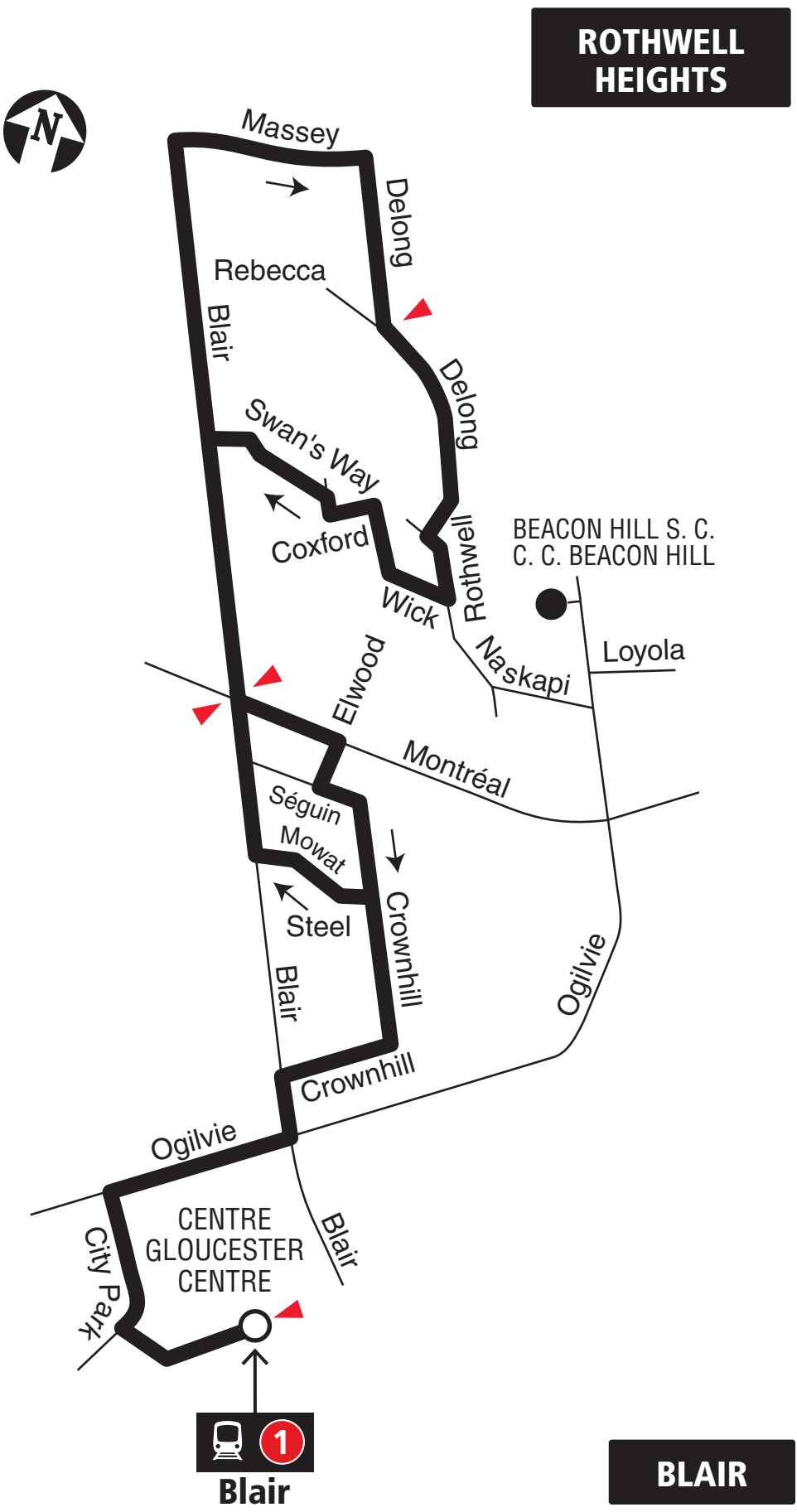
23

ROTHWELL HEIGHTS

BLAIR

Local

Monday to Friday / Lundi au vendredi
Limited Service. No weekend service
Service limité. Aucun service la fin de semaine



Station

Timepoint / Heures de passage

2019.06

Schedule / Horaire 613-560-1000
Text / Texto 560560
plus your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Customer Service
Service à la clientèle **613-741-4390**

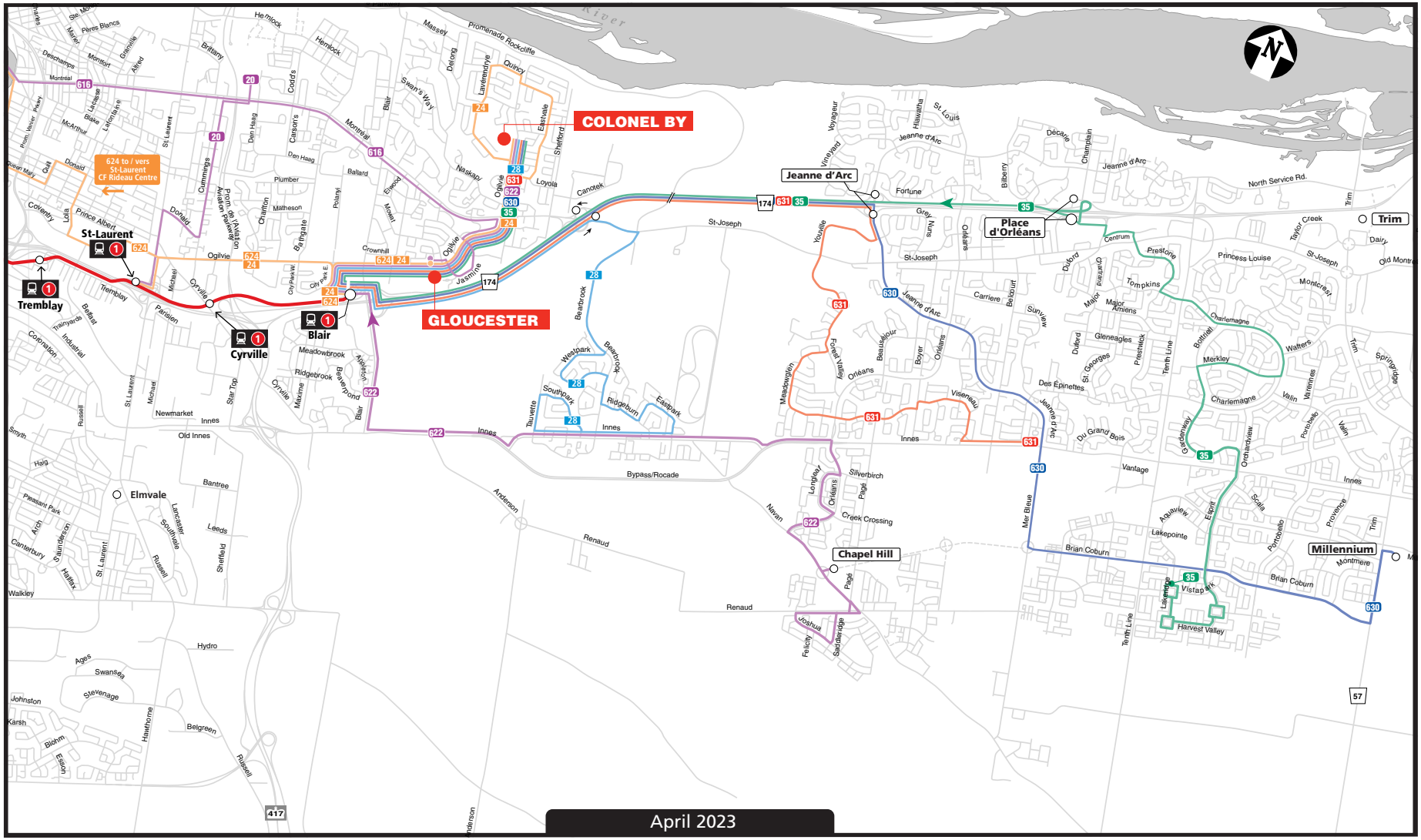
Lost and Found / Objets perdus..... **613-563-4011**

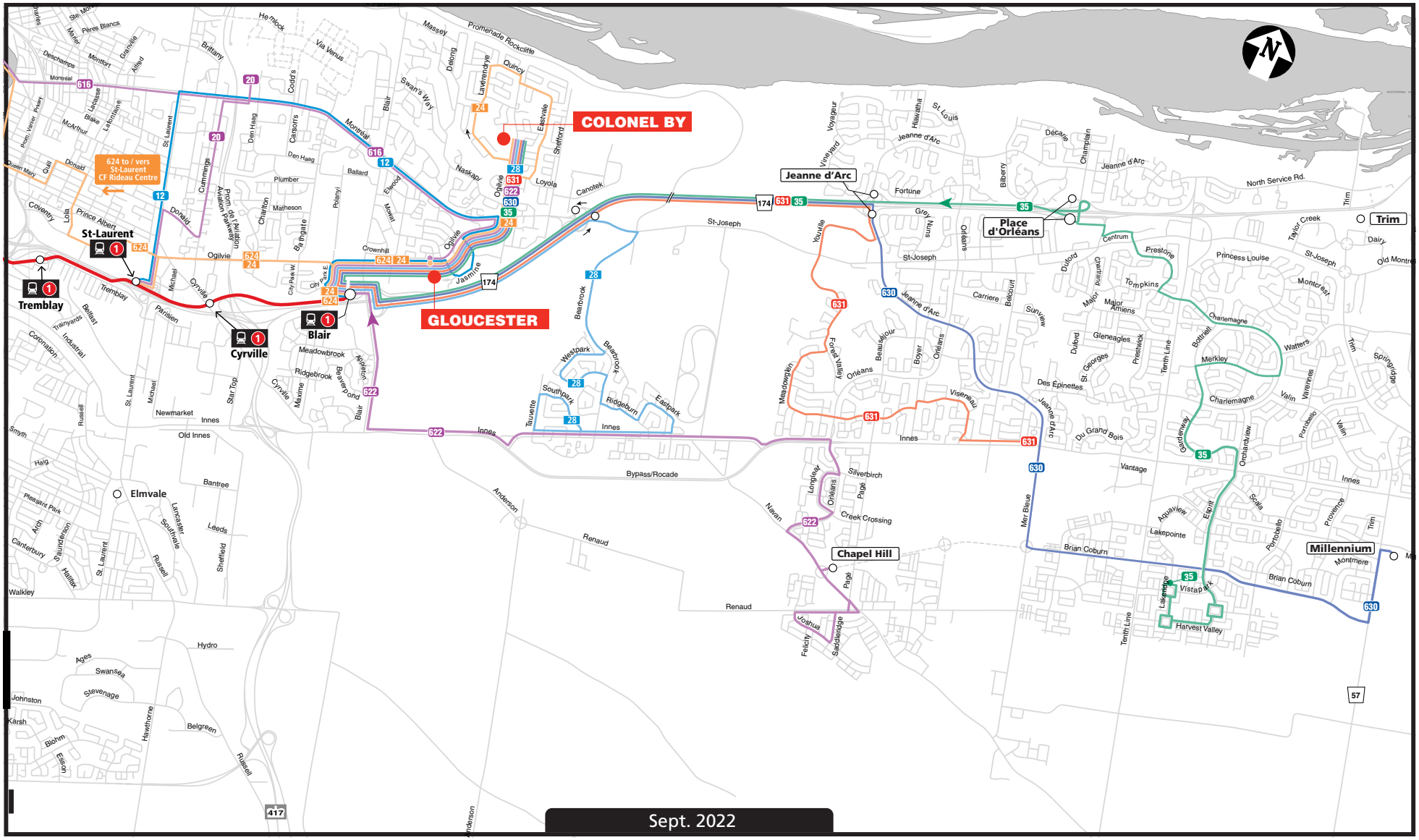
Security / Sécurité **613-741-2478**

Effective April 23, 2018
En vigueur 23 avril 2018

OC Transpo

INFO 613-741-4390
octranspo.com


COLONEL BY
GLOUCESTER
Jeanne d'Arc
Place d'Orléans
Trim
Millennium
Chapel Hill
St-Laurent
Tremblay
Cyrville
Blair
Elmvale
624 to / vers St-Laurent CF Rideau Centre
April 2023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GLOUCESTER
Jeanne d'Arc
Place d'Orléans
St-Laurent
Tremblay
Cyrville
Blair
Elmvale
Chapel Hill
Millennium
Trim
624 to / vers St-Laurent CF Rideau Centre
Sept. 2022

APPENDIX E

Traffic Count Data

ACCURATE TRUSTED TRAFFIC DATA

Turning Movement Count

Summary Report Including Peak Hours, AADT and Expansion Factors

All Vehicles Except Bicycles

Beckenham Lane & Montreal Road — Gloucester, ON

Survey Date: Thursday, May 11, 2023 **Start Time:** 0700 **AADT Factor:** 0.9

Weather AM: Mostly Sunny 13° C **Survey Duration:** 8 Hrs. **Survey Hours:** 0700-1000, 1130-1330 & 1500-1800

Weather PM: Cloudy 25° C **Surveyor(s):** T. Carmody

	Montreal Rd.					Montreal Rd.						Cardinal Hts. Plaza					Beckenham Ln.						
	Eastbound					Westbound						Northbound					Southbound						
Time Period	LT	ST	RT	UT	E/B Tot	LT	ST	RT	UT	W/B Tot	Street Total	LT	ST	RT	UT	N/B Tot	LT	ST	RT	UT	S/B Tot	Street Total	Grand Total
0700-0800	19	443	0	1	463	2	814	6	0	822	1285	1	1	0	0	2	3	0	61	0	64	66	1351
0800-0900	53	543	1	0	597	1	961	7	0	969	1566	0	0	0	0	0	5	0	75	0	80	80	1646
0900-1000	34	476	2	1	513	9	710	4	0	723	1236	2	1	0	0	3	2	1	43	0	46	49	1285
1130-1230	41	508	1	4	554	11	682	9	1	703	1257	1	2	8	0	11	5	2	40	0	47	58	1315
1230-1330	48	549	3	3	603	6	814	9	1	830	1433	4	1	1	0	6	5	1	37	0	43	49	1482
1500-1600	54	841	0	0	895	3	772	10	0	785	1680	1	2	4	0	7	3	0	52	0	55	62	1742
1600-1700	83	928	0	0	1011	2	716	2	0	720	1731	4	0	2	0	6	7	0	56	0	63	69	1800
1700-1800	76	718	3	2	799	8	732	4	0	744	1543	4	0	3	0	7	7	1	49	0	57	64	1607
Totals	408	5006	10	11	5435	42	6201	51	2	6296	11731	17	7	18	0	42	37	5	413	0	455	497	12228

Equivalent 12 & 24-hour Vehicle Volumes Including the Annual Average Daily Traffic (AADT) Factor Applicable to the Day and Month of the Turning Movement Count

Expansion factors are applied exclusively to standard weekday 8-hour turning movement counts conducted during the hours of 0700h - 1000h, 1130h - 1330h and 1500h - 1800h

Equivalent 12-hour vehicle volumes. These volumes are calculated by multiplying the 8-hour totals by the 8 ➡12 expansion factor of 1.39

Equ. 12 Hr	567	6958	14	15	7555	58	8619	71	3	8751	16306	24	10	25	0	58	51	7	574	0	632	691	16997

Average daily 12-hour vehicle volumes. These volumes are calculated by multiplying the equivalent 12-hour totals by the AADT factor of: 0.9

AADT 12-hr	510	6263	13	14	6799	53	7757	64	3	7876	14675	21	9	23	0	53	46	6	517	0	569	622	15297

24-Hour AADT. These volumes are calculated by multiplying the average daily 12-hour vehicle volumes by the 12 ➡24 expansion factor of 1.31

AADT 24 Hr	669	8204	16	18	8907	69	10162	84	3	10318	19225	28	11	29	0	69	61	8	677	0	746	814	20039

AADT and expansion factors provided by the City of Ottawa

AM Peak Hour Factor ➡ 0.94												Highest Hourly Vehicle Volume Between 0700h & 1000h										
AM Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
0745-0845	54	574	1	0	629	0	1003	4	0	1007	1636	0	0	0	0	0	4	0	88	0	92	92	1728
OFF Peak Hour Factor ➡ 0.94												Highest Hourly Vehicle Volume Between 1130h & 1330h										
OFF Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
1215-1315	45	553	1	3	602	9	834	9	2	854	1456	4	1	4	0	9	5	1	35	0	41	50	1506
PM Peak Hour Factor ➡ 0.96												Highest Hourly Vehicle Volume Between 1500h & 1800h										
PM Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
1630-1730	85	869	1	0	955	5	771	4	0	780	1735	5	0	2	0	7	7	1	64	0	72	79	1814

Comments:

OC Transpo and Para Transpo buses, private buses and school buses comprise 39.22% of the heavy vehicle traffic. There were 2 conflicts - one at 1247h between a S/B left turn and E/B through vehicle and the other at 1313h between a N/B left turn and an E/B cyclist on the south sidewalk. All pedestrians in the south crossing are walking on the sidewalk crossing the east access to Cardinal Heights Plaza.

Notes:

1. Includes all vehicle types except bicycles, electric bicycles, and electric scooters.
2. When expansion and AADT factors are applied, the results will differ slightly due to rounding.

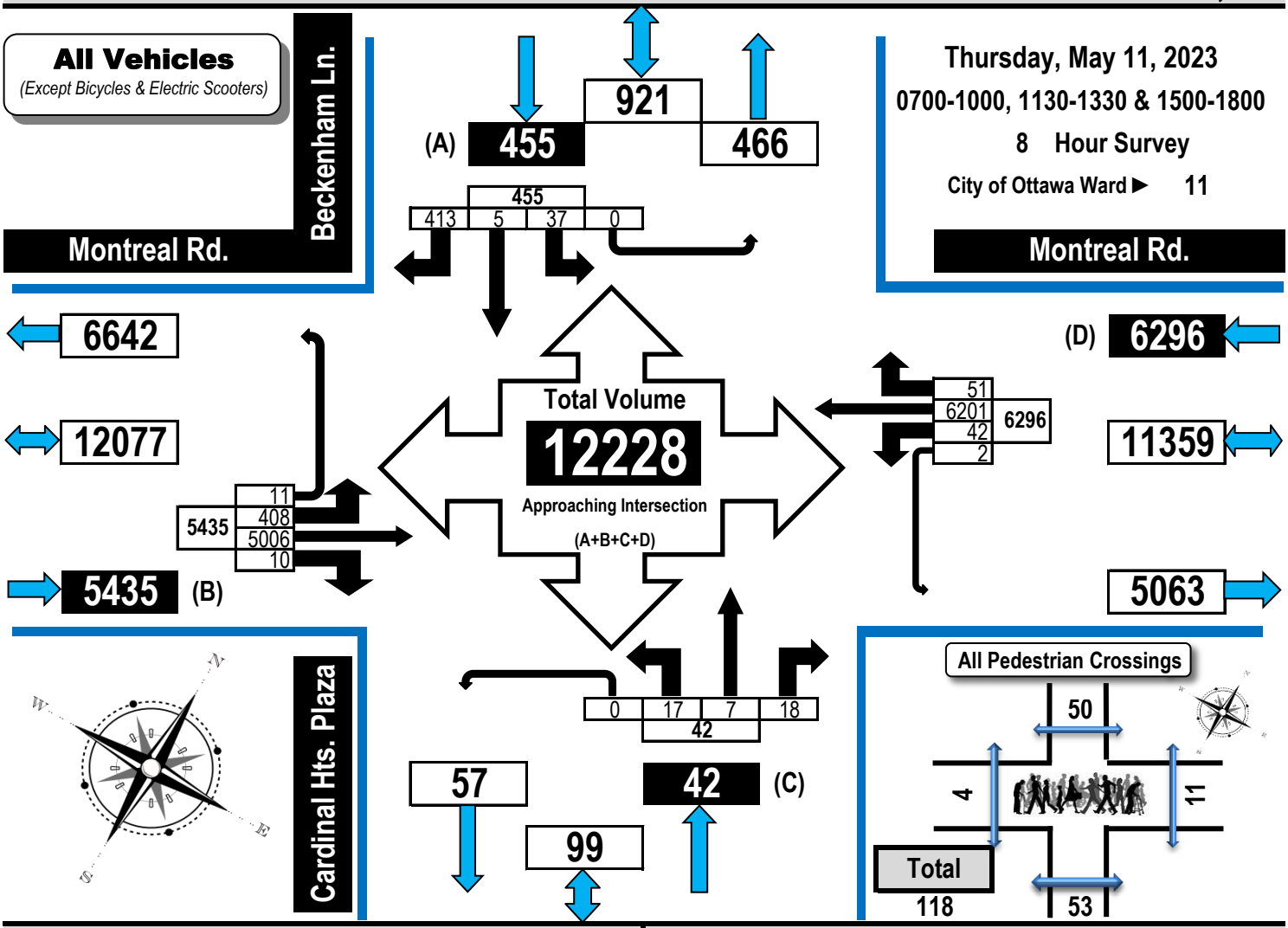
ACCURATE TRUSTED TRAFFIC DATA

Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles

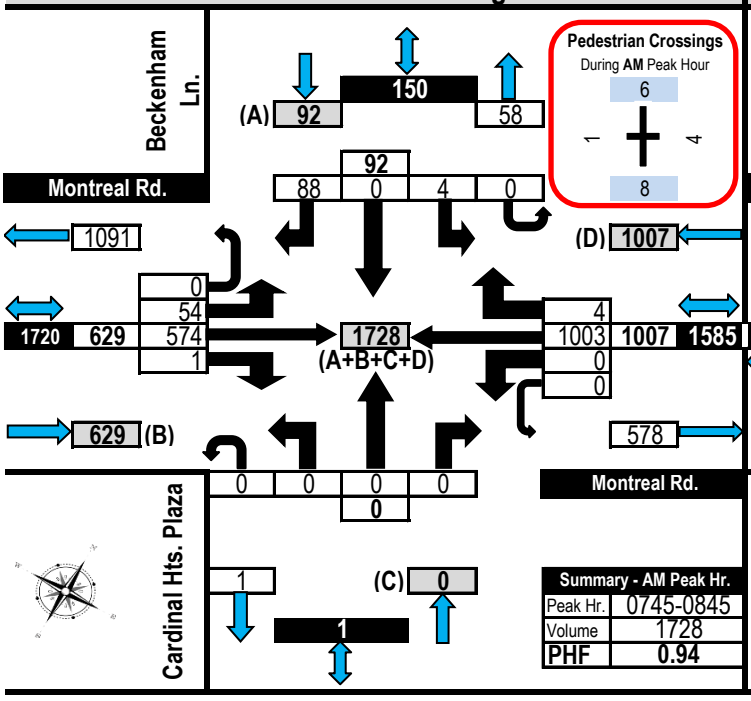
Beckenham Lane & Montreal Road — Gloucester, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Thursday, May 11, 2023
0700-1000, 1130-1330 & 1500-1800
8 Hour Survey
City of Ottawa Ward ► 11

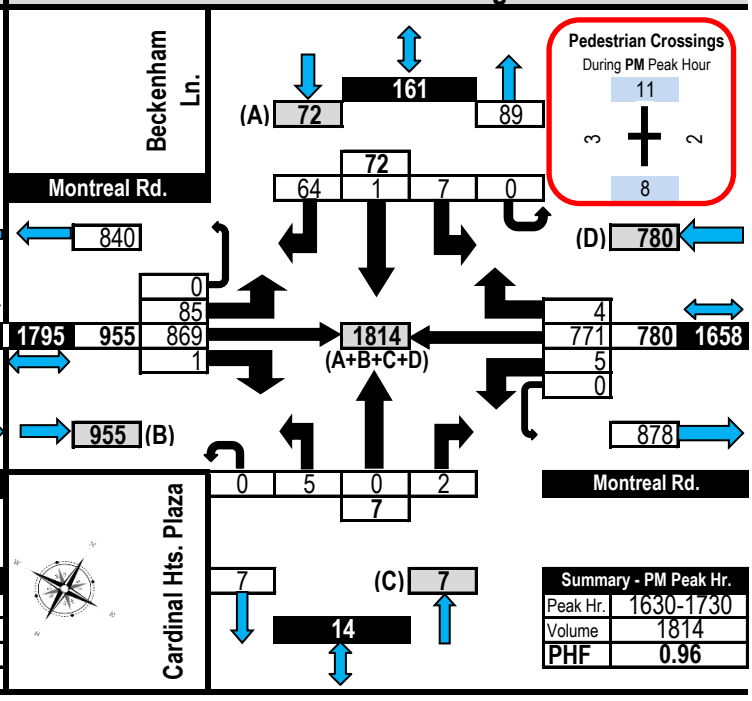


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0745-0845
Volume	1728
PHF	0.94

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1630-1730
Volume	1814
PHF	0.96

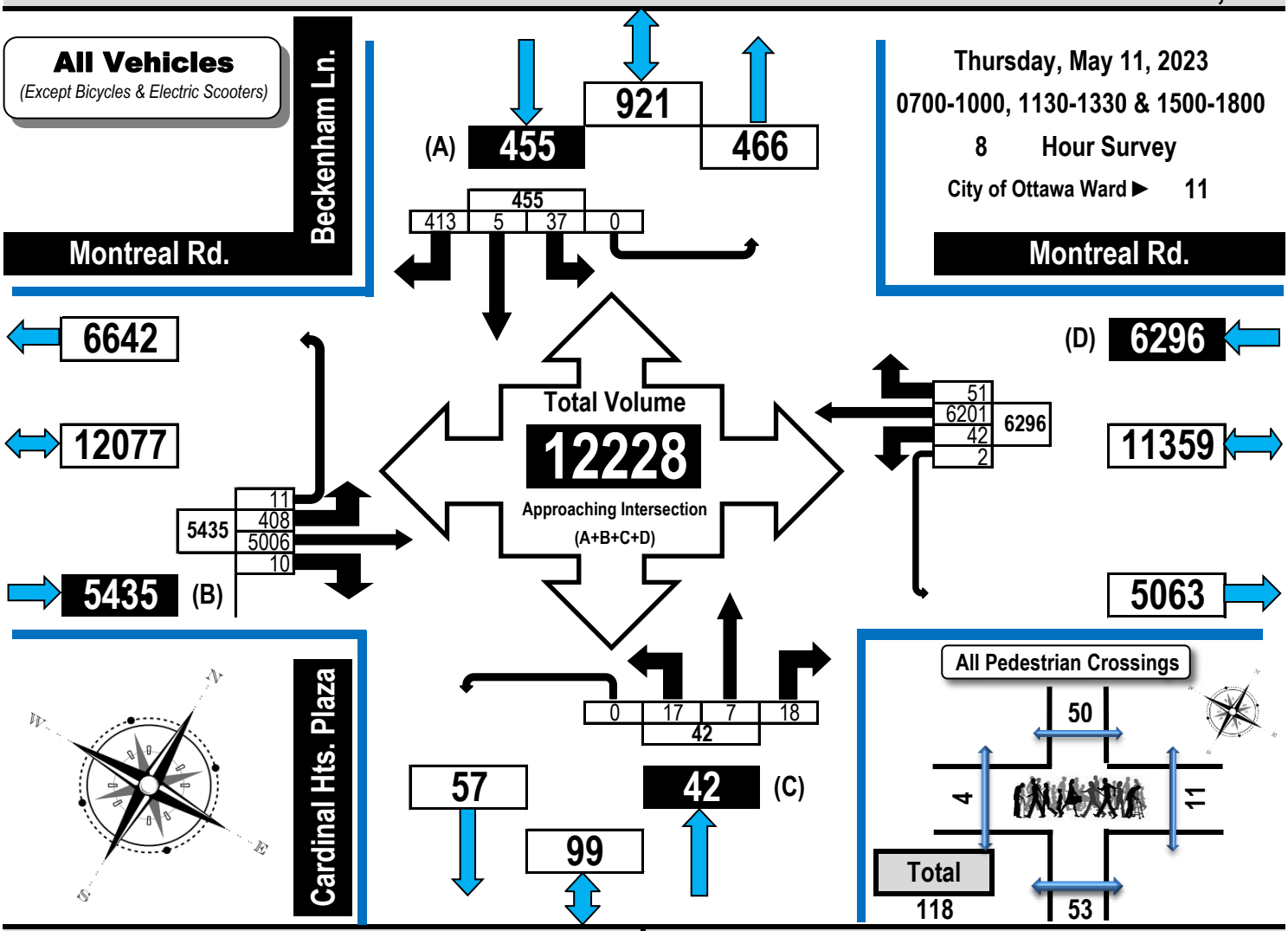
ACCURATE TRUSTED TRAFFIC DATA

Turning Movement Count
Summary, OFF and EVENING Peak Hour Flow Diagrams
All Vehicles Except Bicycles

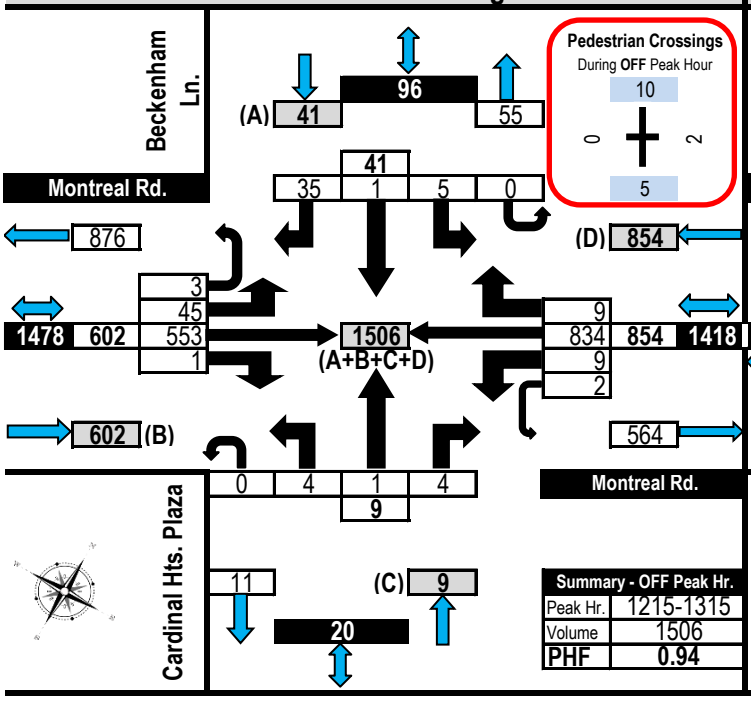
Beckenham Lane & Montreal Road — Gloucester, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Thursday, May 11, 2023
0700-1000, 1130-1330 & 1500-1800
8 Hour Survey
City of Ottawa Ward ▶ 11

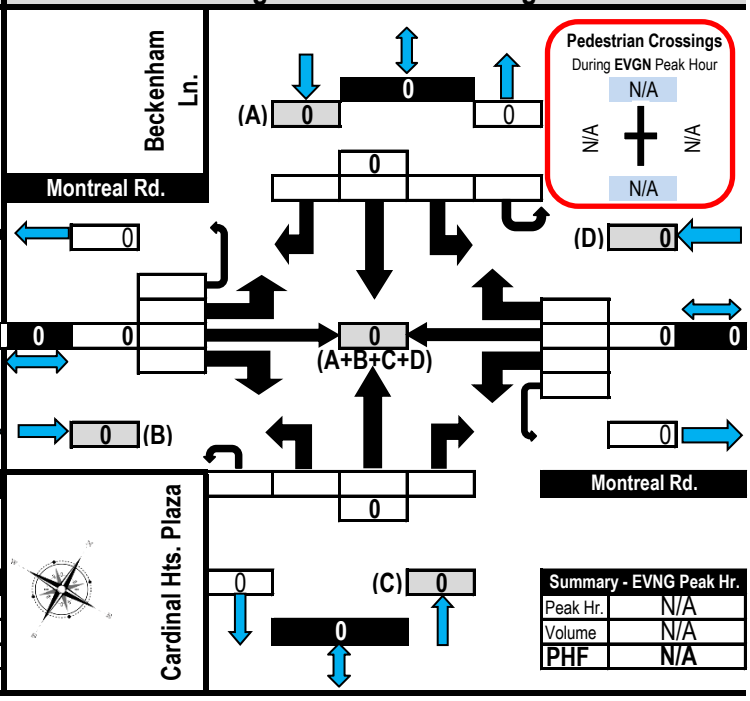


Off Peak Hour Flow Diagram



Summary - OFF Peak Hr.	
Peak Hr.	1215-1315
Volume	1506
PHF	0.94

Evening Peak Hour Flow Diagram



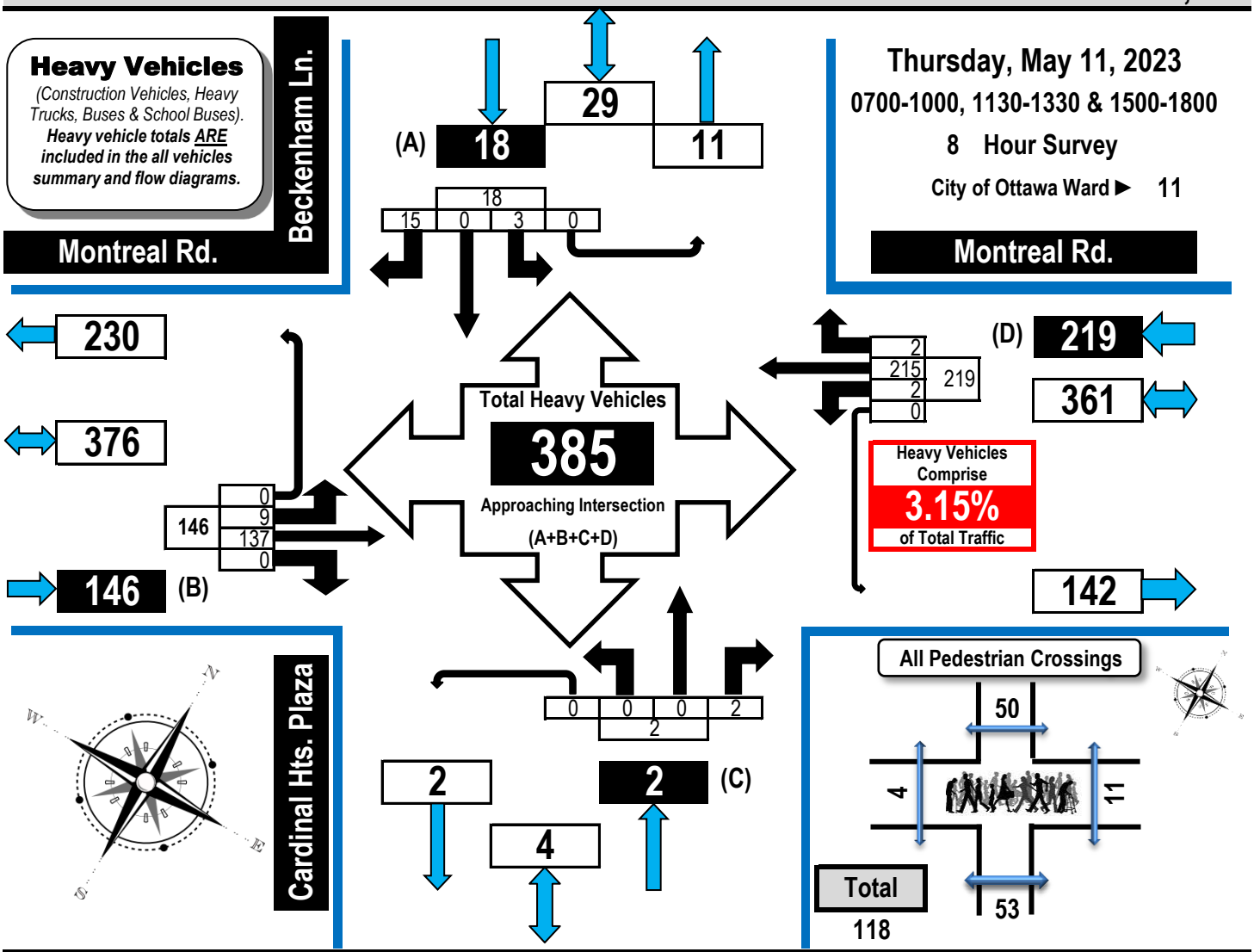
Summary - EVNG Peak Hr.	
Peak Hr.	N/A
Volume	N/A
PHF	N/A

ACCURATE TRUSTED TRAFFIC DATA

Turning Movement Count
Heavy Vehicle Summary (FHWA Class 4-13)
Flow Diagram

Beckenham Lane & Montreal Road — Gloucester, ON

Heavy Vehicles
(Construction Vehicles, Heavy Trucks, Buses & School Buses).
Heavy vehicle totals ARE included in the all vehicles summary and flow diagrams.



	Montreal Rd. Eastbound					Montreal Rd. Westbound					Cardinal Hts. Plaza Northbound					Beckenham Ln. Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800	2	12	0	0	14	0	32	0	0	32	0	0	0	0	0	1	0	2	0	3	49
0800-0900	4	15	0	0	19	0	40	0	0	40	0	0	0	0	0	2	0	4	0	6	65
0900-1000	0	21	0	0	21	1	32	0	0	33	0	0	0	0	0	0	0	0	0	0	54
1130-1230	1	25	0	0	26	1	27	1	0	29	0	0	1	0	1	0	0	2	0	2	58
1230-1330	2	24	0	0	26	0	29	0	0	29	0	0	1	0	1	0	0	1	0	1	57
1500-1600	0	19	0	0	19	0	28	1	0	29	0	0	0	0	0	0	0	5	0	5	53
1600-1700	0	14	0	0	14	0	16	0	0	16	0	0	0	0	0	0	0	1	0	1	31
1700-1800	0	7	0	0	7	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	18
Totals	9	137	0	0	146	2	215	2	0	219	0	0	2	0	2	3	0	15	0	18	385

Comments:

OC Transpo and Para Transpo buses, private buses and school buses comprise 39.22% of the heavy vehicle traffic. There were 2 conflicts - one at 1247h between a S/B left turn and E/B through vehicle and the other at 1313h between a N/B left turn and an E/B cyclist on the south sidewalk. All pedestrians in the south crossing are walking on the sidewalk crossing the

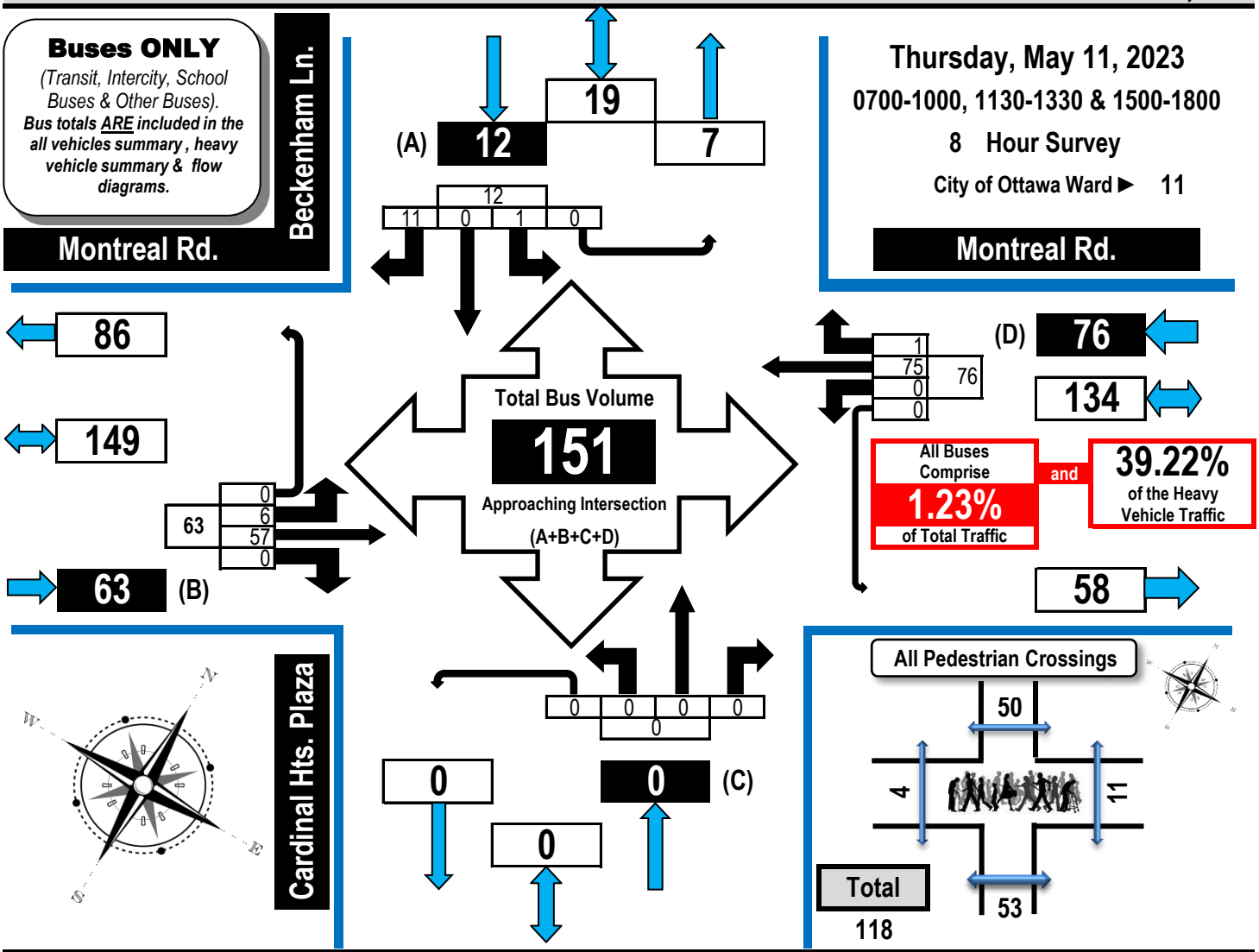
ACCURATE TRUSTED TRAFFIC DATA

Turning Movement Count
All Buses Summary (FHWA Class 4 ONLY)
Flow Diagram

Beckenham Lane & Montreal Road — Gloucester, ON

Buses ONLY
(Transit, Intercity, School Buses & Other Buses).
Bus totals ARE included in the all vehicles summary , heavy vehicle summary & flow diagrams.

Thursday, May 11, 2023
0700-1000, 1130-1330 & 1500-1800
8 Hour Survey
City of Ottawa Ward ► 11



	Montreal Rd.					Montreal Rd.					Cardinal Hts. Plaza					Beckenham Ln.				
	Eastbound					Westbound					Northbound					Southbound				
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800	2	8	0	0	10	0	13	0	0	13	0	0	0	0	0	0	0	2	0	2	25
0800-0900	4	7	0	0	11	0	17	0	0	17	0	0	0	0	0	1	0	4	0	5	33
0900-1000	0	10	0	0	10	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	19
1130-1230	0	7	0	0	7	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	11
1230-1330	0	5	0	0	5	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	10
1500-1600	0	8	0	0	8	0	14	1	0	15	0	0	0	0	0	0	0	5	0	5	28
1600-1700	0	8	0	0	8	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	16
1700-1800	0	4	0	0	4	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	9
Totals	6	57	0	0	63	0	75	1	0	76	0	0	0	0	0	1	0	11	0	12	151

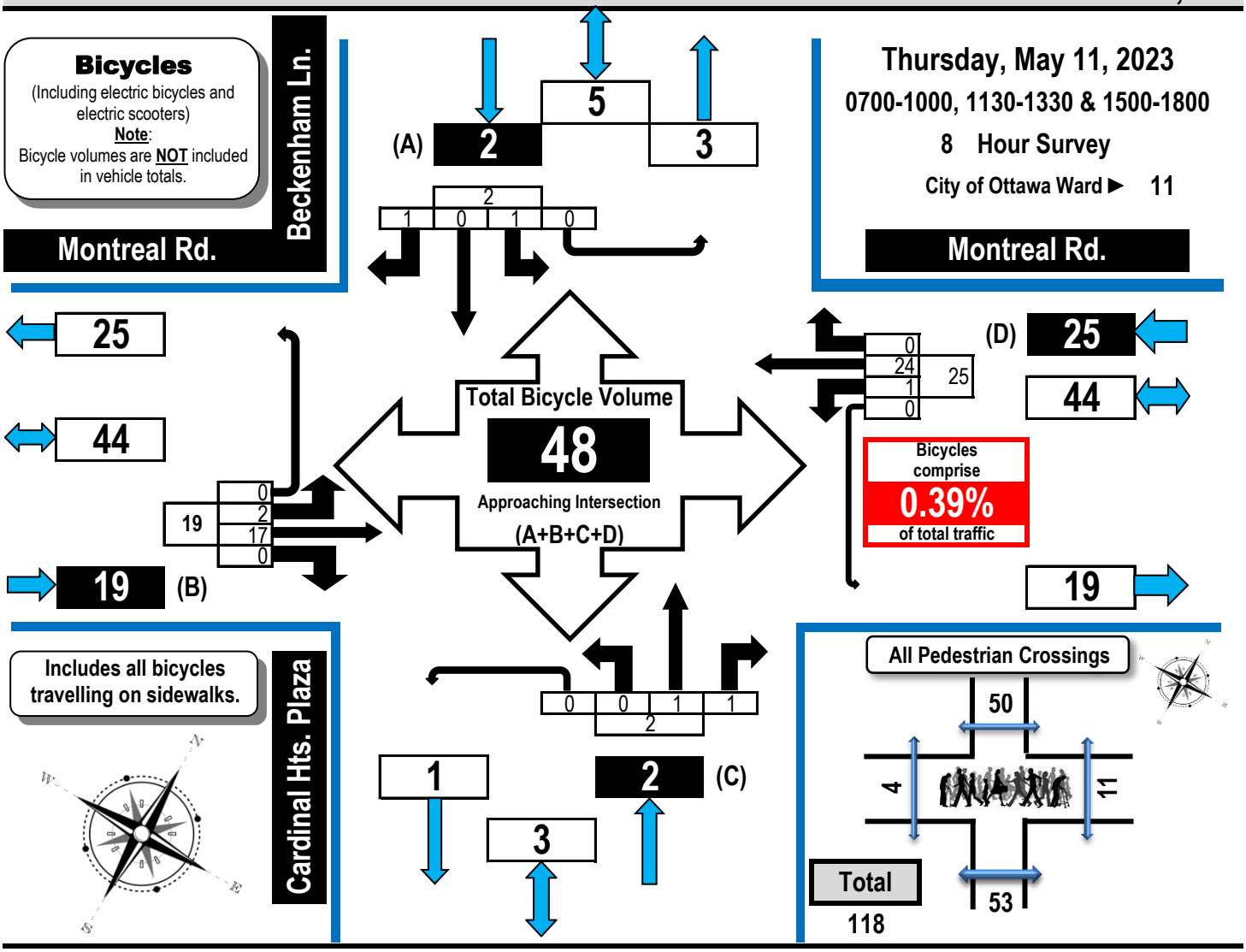
Comments:

OC Transpo and Para Transpo buses, private buses and school buses comprise 39.22% of the heavy vehicle traffic. There were 2 conflicts - one at 1247h between a S/B left turn and E/B through vehicle and the other at 1313h between a N/B left turn and an E/B cyclist on the south sidewalk. All pedestrians in the south crossing are walking on the sidewalk crossing the east access to Cardinal Heights Plaza.

ACCURATE TRUSTED TRAFFIC DATA

Turning Movement Count
Bicycle Summary
Flow Diagram

Beckenham Lane & Montreal Road — Gloucester, ON



	Montreal Rd. Eastbound					Montreal Rd. Westbound					Cardinal Hts. Plaza Northbound					Beckenham Ln. Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800	0	1	0	0	1	1	4	0	0	5	0	0	0	0	0	0	0	1	0	1	7
0800-0900	0	4	0	0	4	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	5
0900-1000	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
1130-1230	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
1230-1330	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
1500-1600	0	3	0	0	3	0	3	0	0	3	0	1	1	0	2	1	0	0	0	1	9
1600-1700	2	6	0	0	8	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	13
1700-1800	0	2	0	0	2	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	6
Totals	2	17	0	0	19	1	24	0	0	25	0	1	1	0	2	1	0	1	0	2	48

Comments:

OC Transpo and Para Transpo buses, private buses and school buses comprise 39.22% of the heavy vehicle traffic. There were 2 conflicts - one at 1247h between a S/B left turn and E/B through vehicle and the other at 1313h between a N/B left turn and an E/B cyclist on the south sidewalk. All pedestrians in the south crossing are walking on the sidewalk crossing the east access to Cardinal Heights Plaza.

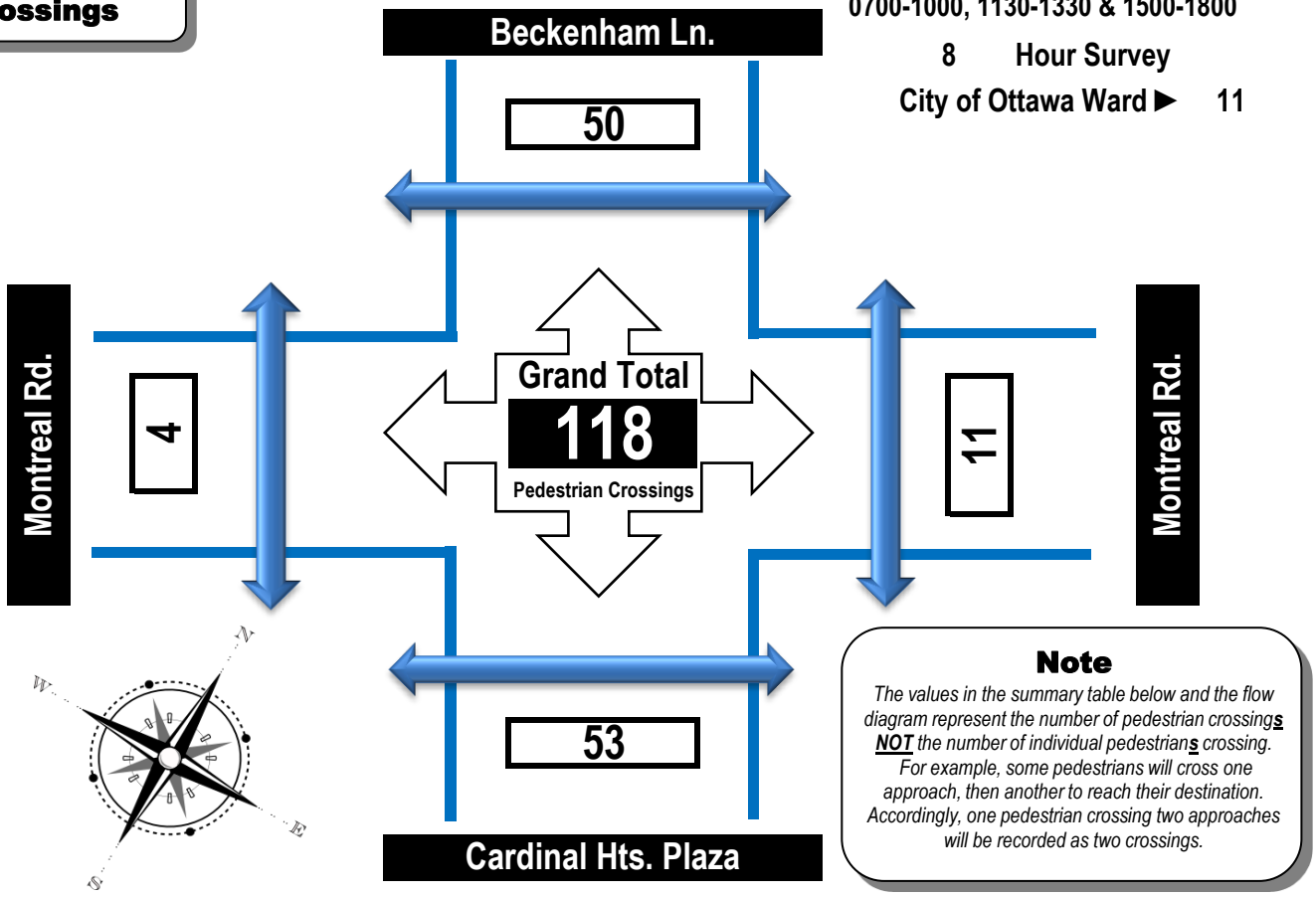
ACCURATE TRUSTED TRAFFIC DATA

Turning Movement Count
Pedestrian Crossings Summary and Flow Diagram

Beckenham Lane & Montreal Road — Gloucester, ON

Pedestrian Crossings

Thursday, May 11, 2023
0700-1000, 1130-1330 & 1500-1800
8 Hour Survey
City of Ottawa Ward ► 11



Note

*The values in the summary table below and the flow diagram represent the number of pedestrian crossing**s** **NOT** the number of individual pedestrian**s** crossing. For example, some pedestrians will cross one approach, then another to reach their destination. Accordingly, one pedestrian crossing two approaches will be recorded as two crossings.*

Time Period	West Side Crossing Montreal Rd.	East Side Crossing Montreal Rd.	Street Total	South Side Crossing Cardinal Hts. Plaza	North Side Crossing Beckenham Ln.	Street Total	Grand Total
0700-0800	0	1	1	3	5	8	9
0800-0900	1	4	5	8	2	10	15
0900-1000	0	1	1	3	8	11	12
1130-1230	0	1	1	6	7	13	14
1230-1330	0	1	1	4	11	15	16
1500-1600	0	0	0	10	3	13	13
1600-1700	3	2	5	10	8	18	23
1700-1800	0	1	1	9	6	15	16
Totals	**4**	**11**	**15**	**53**	**50**	**103**	**118**

Comments:

OC Transpo and Para Transpo buses, private buses and school buses comprise 39.22% of the heavy vehicle traffic. There were 2 conflicts - one at 1247h between a S/B left turn and E/B through vehicle and the other at 1313h between a N/B left turn and an E/B cyclist on the south sidewalk. All pedestrians in the south crossing are walking on the sidewalk crossing the east access to Cardinal Heights Plaza.

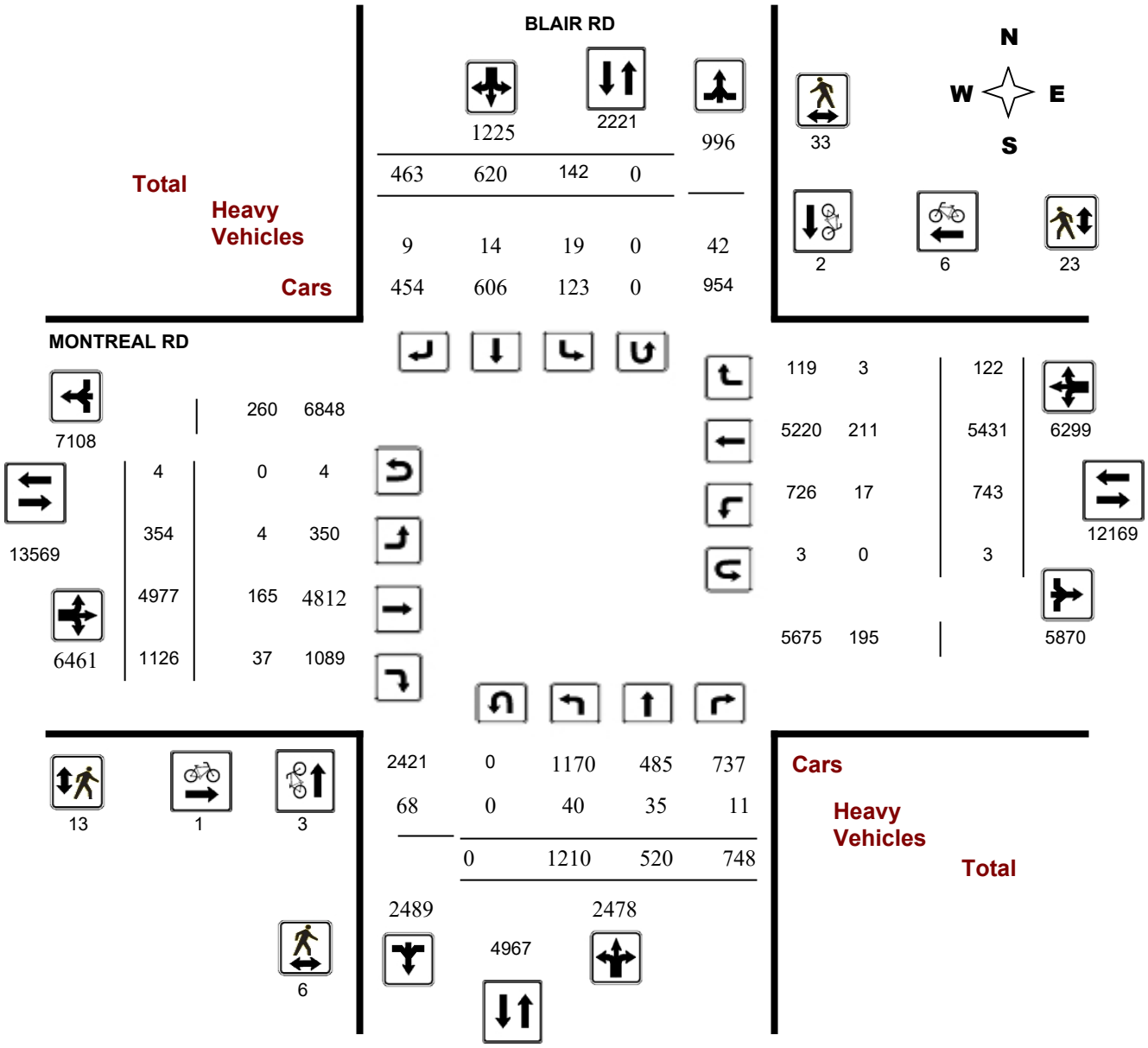
Transportation Services - Traffic Services

Turning Movement Count - Study Results

BLAIR RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018
Start Time: 07:00
WO No: 38125
Device: Miovision

Full Study Diagram



Transportation Services - Traffic Services

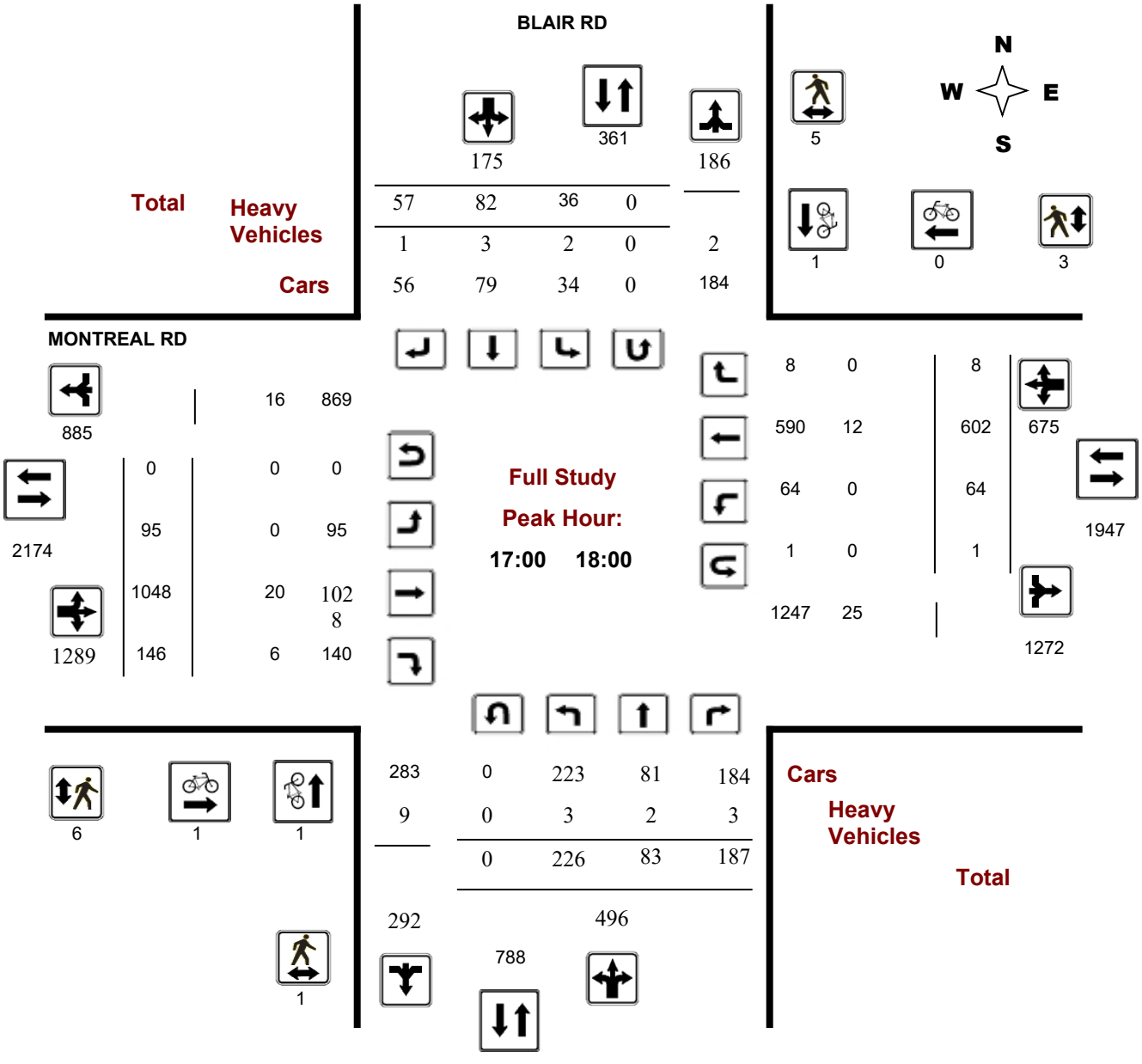
Turning Movement Count - Study Results

BLAIR RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38125

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

Full Study Peak Hour Diagram



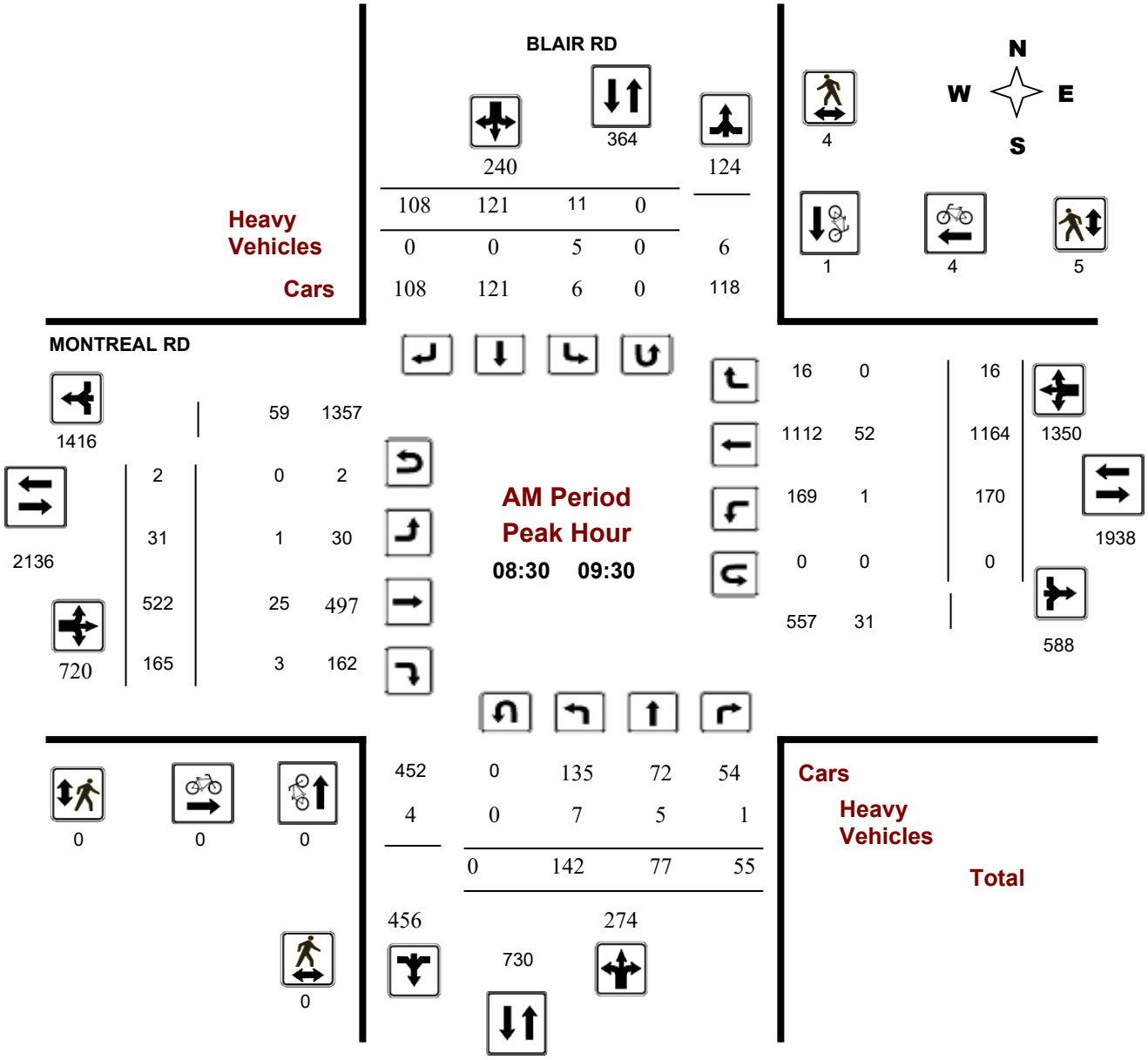
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BLAIR RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38125

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



Comments

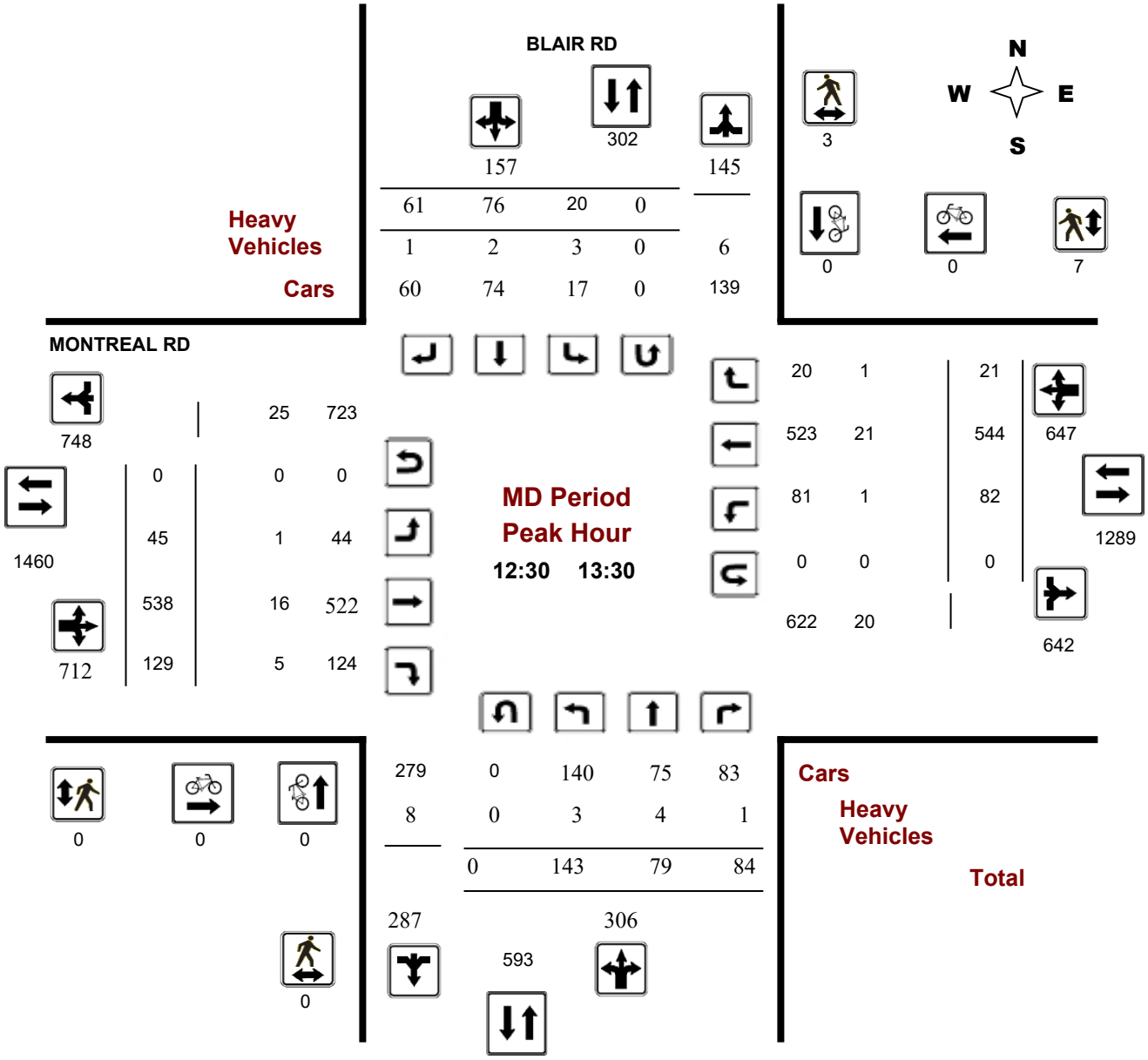
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BLAIR RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38125

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



Comments

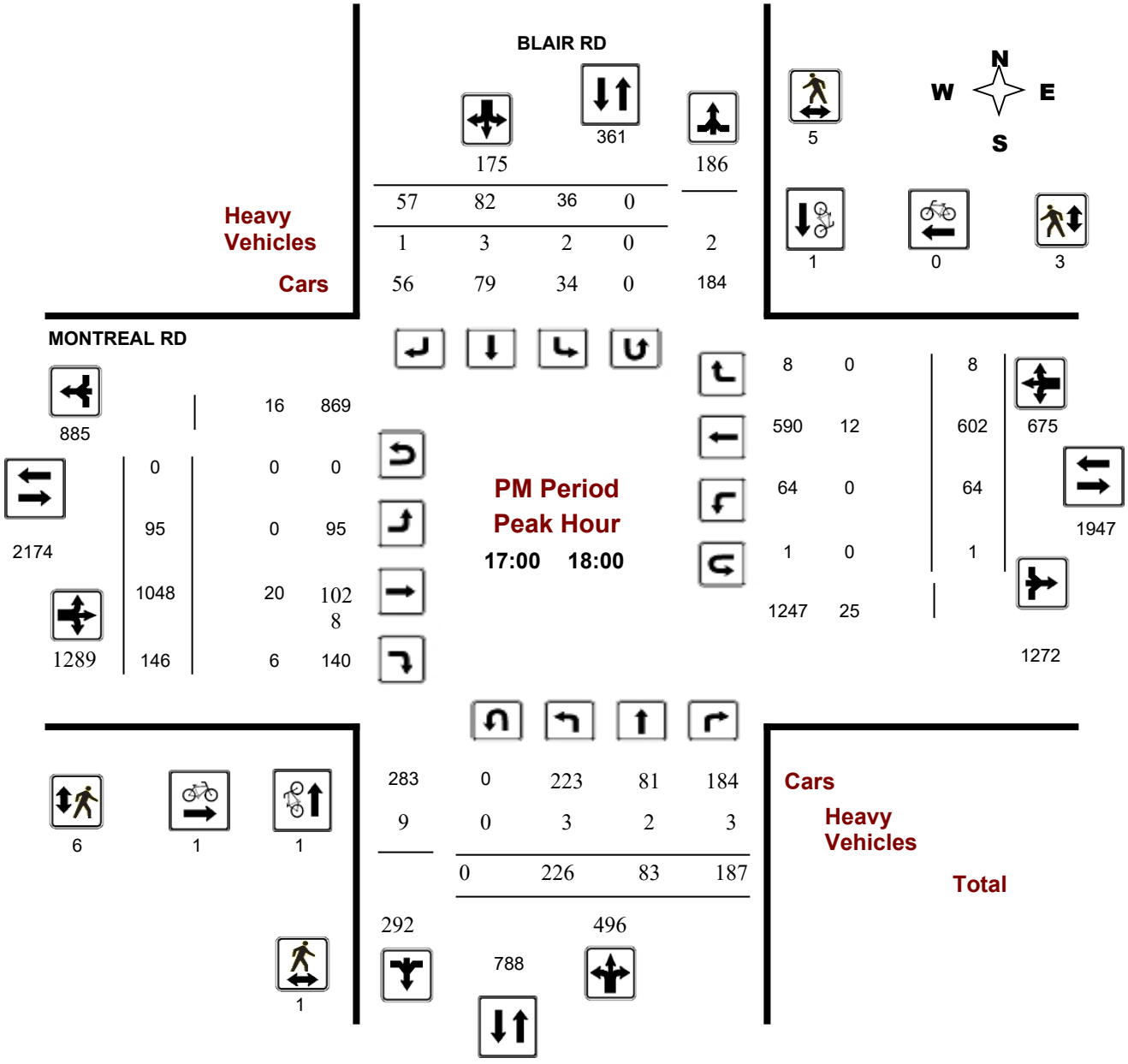
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BLAIR RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38125

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



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BLAIR RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38125

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

Full Study Summary (8 HR Standard)

Survey Date: Thursday, November 15, 2018

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 4 Westbound: 3

AADT Factor

.90

	BLAIR RD								MONTREAL RD									
	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	79	41	26	**146**	2	30	25	**57**	**203**	14	228	113	**355**	51	465	10	**526**	**881**	**1084**
08:00 09:00	154	67	51	**272**	12	93	89	**194**	**466**	27	491	137	**655**	162	1086	24	**1272**	**1927**	**2393**
09:00 10:00	136	82	55	**273**	16	105	74	**195**	**468**	36	520	196	**752**	144	994	20	**1158**	**1910**	**2378**
11:30 12:30	100	48	65	**213**	14	91	47	**152**	**365**	32	544	128	**704**	70	526	12	**608**	**1312**	**1677**
12:30 13:30	143	79	84	**306**	20	76	61	**157**	**463**	45	538	129	**712**	82	544	21	**647**	**1359**	**1822**
15:00 16:00	128	64	96	**288**	15	64	49	**128**	**416**	41	720	145	**906**	93	572	14	**679**	**1585**	**2001**
16:00 17:00	244	56	184	**484**	27	79	61	**167**	**651**	64	888	132	**1084**	77	642	13	**732**	**1816**	**2467**
17:00 18:00	226	83	187	**496**	36	82	57	**175**	**671**	95	1048	146	**1289**	64	602	8	**674**	**1963**	**2634**
Sub Total	1210	520	748	**2478**	142	620	463	**1225**	**3703**	354	4977	1126	**6457**	743	5431	122	**6296**	**12753**	**16456**
U Turns	0			**0**	0			**0**	**0**	**4**			**4**	3			**3**	**7**	**7**
Total	1210	520	748	**2478**	142	620	463	**1225**	**3703**	358	4977	1126	**6461**	746	5431	122	**6299**	**12760**	**16463**
EQ 12Hr	1682	723	1040	**3445**	197	862	644	**1703**	**5148**	498	6918	1565	**8981**	1037	7549	170	**8756**	**17737**	**22885**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	1514	651	936	**3101**	177	776	580	**1533**	**4634**	448	6226	1408	**8082**	933	6794	153	**7880**	**15962**	**20596**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**.90**					
AVG 24Hr	1983	853	1226	**4062**	232	1017	760	**2009**	**6071**	587	8156	1844	**10587**	1222	8900	200	**10322**	**20909**	**26980**
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

BLAIR RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38125

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

Full Study 15 Minute Increments

		BLAIR RD									MONTREAL RD									
		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	9	4	6	19	0	1	1	2	**21**	1	32	21	54	8	52	1	61	**115**	**136**
07:15	07:30	15	10	13	38	0	7	3	10	**48**	4	56	13	73	12	110	1	123	**196**	**244**
07:30	07:45	31	9	3	43	1	11	10	22	**65**	3	73	35	111	12	127	2	141	**252**	**317**
07:45	08:00	24	18	4	46	1	11	11	23	**69**	6	67	44	117	21	176	6	203	**320**	**389**
08:00	08:15	39	13	4	56	4	14	18	36	**92**	8	90	30	128	35	218	11	264	**392**	**484**
08:15	08:30	39	18	14	71	2	18	9	29	**100**	4	115	34	153	34	264	5	303	**456**	**556**
08:30	08:45	42	16	15	73	3	29	22	54	**127**	7	129	35	171	43	287	2	332	**503**	**630**
08:45	09:00	34	20	18	72	3	32	40	75	**147**	9	157	38	204	50	317	6	373	**577**	**724**
09:00	09:15	29	17	9	55	2	28	24	54	**109**	10	96	44	150	34	303	3	340	**490**	**599**
09:15	09:30	37	24	13	74	3	32	22	57	**131**	7	140	48	195	43	257	5	305	**500**	**631**
09:30	09:45	32	24	13	69	7	21	14	42	**111**	11	150	48	209	39	209	5	253	**462**	**573**
09:45	10:00	38	17	20	75	4	24	14	42	**117**	9	134	56	199	28	225	7	260	**459**	**576**
11:30	11:45	16	6	10	32	4	34	15	53	**85**	6	131	39	176	21	130	7	158	**334**	**419**
11:45	12:00	33	17	13	63	5	19	12	36	**99**	10	135	28	173	13	136	1	150	**323**	**422**
12:00	12:15	28	14	19	61	4	17	12	33	**94**	8	139	31	178	15	132	1	148	**326**	**420**
12:15	12:30	23	11	23	57	1	21	8	30	**87**	9	139	30	178	21	128	3	152	**330**	**417**
12:30	12:45	32	20	13	65	5	22	14	41	**106**	7	122	37	166	22	124	5	151	**317**	**423**
12:45	13:00	40	18	11	69	6	19	13	38	**107**	11	147	26	184	18	123	5	146	**330**	**437**
13:00	13:15	40	23	32	95	4	23	18	45	**140**	16	140	36	192	21	136	3	160	**352**	**492**
13:15	13:30	31	18	28	77	5	12	16	33	**110**	11	129	30	170	21	161	8	190	**360**	**470**
15:00	15:15	28	23	23	74	2	18	9	29	**103**	9	179	32	220	16	113	3	132	**352**	**455**
15:15	15:30	30	10	29	69	5	14	16	35	**104**	9	153	27	189	24	118	4	146	**335**	**439**
15:30	15:45	35	15	17	67	3	14	13	30	**97**	11	193	44	248	29	171	4	204	**452**	**549**
15:45	16:00	35	16	27	78	5	18	11	34	**112**	12	195	42	249	24	170	3	197	**446**	**558**
16:00	16:15	72	12	44	128	3	17	15	35	**163**	16	239	37	292	31	167	1	199	**491**	**654**
16:15	16:30	63	13	40	116	11	17	16	44	**160**	10	211	29	250	17	155	2	174	**424**	**584**
16:30	16:45	45	15	54	114	7	19	14	40	**154**	16	223	39	278	16	153	4	173	**451**	**605**
16:45	17:00	64	16	46	126	6	26	16	48	**174**	23	215	27	265	13	167	6	186	**451**	**625**
17:00	17:15	59	9	52	120	11	28	16	55	**175**	16	292	45	353	13	139	0	152	**505**	**680**
17:15	17:30	54	22	48	124	9	22	15	46	**170**	23	262	37	322	12	160	2	174	**496**	**666**
17:30	17:45	55	26	50	131	8	9	13	30	**161**	23	256	29	308	19	144	3	166	**474**	**635**
17:45	18:00	58	26	37	121	8	23	13	44	**165**	33	238	35	306	21	159	3	183	**489**	**654**
Total:		1210	520	748	2478	142	620	463	1225	**3703**	358	4977	1126	6461	746	5431	122	6299	**3703**	**16,463**

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BLAIR RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38125

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

Full Study Cyclist Volume

Time Period		BLAIR RD			MONTREAL RD			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	**0**	0	0	**0**	**0**
07:15	07:30	0	0	**0**	0	0	**0**	**0**
07:30	07:45	0	0	**0**	0	0	**0**	**0**
07:45	08:00	0	0	**0**	0	0	**0**	**0**
08:00	08:15	0	0	**0**	0	0	**0**	**0**
08:15	08:30	0	0	**0**	0	0	**0**	**0**
08:30	08:45	0	0	**0**	0	2	**2**	**2**
08:45	09:00	0	1	**1**	0	2	**2**	**3**
09:00	09:15	0	0	**0**	0	0	**0**	**0**
09:15	09:30	0	0	**0**	0	0	**0**	**0**
09:30	09:45	0	0	**0**	0	0	**0**	**0**
09:45	10:00	0	0	**0**	0	0	**0**	**0**
11:30	11:45	0	0	**0**	0	0	**0**	**0**
11:45	12:00	0	0	**0**	0	0	**0**	**0**
12:00	12:15	0	0	**0**	0	0	**0**	**0**
12:15	12:30	2	0	**2**	0	2	**2**	**4**
12:30	12:45	0	0	**0**	0	0	**0**	**0**
12:45	13:00	0	0	**0**	0	0	**0**	**0**
13:00	13:15	0	0	**0**	0	0	**0**	**0**
13:15	13:30	0	0	**0**	0	0	**0**	**0**
15:00	15:15	0	0	**0**	0	0	**0**	**0**
15:15	15:30	0	0	**0**	0	0	**0**	**0**
15:30	15:45	0	0	**0**	0	0	**0**	**0**
15:45	16:00	0	0	**0**	0	0	**0**	**0**
16:00	16:15	0	0	**0**	0	0	**0**	**0**
16:15	16:30	0	0	**0**	0	0	**0**	**0**
16:30	16:45	0	0	**0**	0	0	**0**	**0**
16:45	17:00	0	0	**0**	0	0	**0**	**0**
17:00	17:15	0	1	**1**	0	0	**0**	**1**
17:15	17:30	0	0	**0**	0	0	**0**	**0**
17:30	17:45	1	0	**1**	0	0	**0**	**1**
17:45	18:00	0	0	**0**	1	0	**1**	**1**
Total		3	2	**5**	1	6	**7**	**12**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BLAIR RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38125

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

Full Study Pedestrian Volume

	BLAIR RD			MONTREAL RD			
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	**Total**	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	**Total**	**Grand Total**
07:00 07:15	0	0	**0**	0	0	**0**	**0**
07:15 07:30	1	0	**1**	1	0	**1**	**2**
07:30 07:45	0	1	**1**	0	0	**0**	**1**
07:45 08:00	0	1	**1**	0	1	**1**	**2**
08:00 08:15	0	1	**1**	0	0	**0**	**1**
08:15 08:30	0	1	**1**	0	1	**1**	**2**
08:30 08:45	0	0	**0**	0	0	**0**	**0**
08:45 09:00	0	2	**2**	0	2	**2**	**4**
09:00 09:15	0	1	**1**	0	1	**1**	**2**
09:15 09:30	0	1	**1**	0	2	**2**	**3**
09:30 09:45	1	2	**3**	2	0	**2**	**5**
09:45 10:00	0	2	**2**	1	2	**3**	**5**
11:30 11:45	0	1	**1**	0	0	**0**	**1**
11:45 12:00	0	0	**0**	0	0	**0**	**0**
12:00 12:15	0	3	**3**	0	0	**0**	**3**
12:15 12:30	0	0	**0**	0	1	**1**	**1**
12:30 12:45	0	2	**2**	0	3	**3**	**5**
12:45 13:00	0	0	**0**	0	1	**1**	**1**
13:00 13:15	0	1	**1**	0	1	**1**	**2**
13:15 13:30	0	0	**0**	0	2	**2**	**2**
15:00 15:15	0	3	**3**	1	0	**1**	**4**
15:15 15:30	1	0	**1**	0	0	**0**	**1**
15:30 15:45	0	0	**0**	0	1	**1**	**1**
15:45 16:00	0	0	**0**	0	0	**0**	**0**
16:00 16:15	0	1	**1**	0	0	**0**	**1**
16:15 16:30	0	1	**1**	1	0	**1**	**2**
16:30 16:45	1	1	**2**	1	0	**1**	**3**
16:45 17:00	1	3	**4**	0	2	**2**	**6**
17:00 17:15	0	3	**3**	3	1	**4**	**7**
17:15 17:30	0	0	**0**	0	0	**0**	**0**
17:30 17:45	1	1	**2**	2	1	**3**	**5**
17:45 18:00	0	1	**1**	1	1	**2**	**3**
Total	6	33	**39**	13	23	**36**	**75**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BLAIR RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38125

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

Full Study Heavy Vehicles

		BLAIR RD									MONTREAL RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	1	0	1	**2**	0	0	0	**0**	**2**	0	1	1	**2**	1	3	0	**4**	**6**	**8**
07:15	07:30	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	2	0	**2**	**2**	**2**
07:30	07:45	0	2	0	**2**	1	0	0	**1**	**3**	0	4	0	**4**	0	2	1	**3**	**7**	**10**
07:45	08:00	1	0	0	**1**	0	0	0	**0**	**1**	0	0	0	**0**	0	3	0	**3**	**3**	**4**
08:00	08:15	3	3	0	**6**	1	0	0	**1**	**7**	0	3	1	**4**	2	8	0	**10**	**14**	**21**
08:15	08:30	3	2	0	**5**	2	1	0	**3**	**8**	0	2	1	**3**	1	13	0	**14**	**17**	**25**
08:30	08:45	1	1	1	**3**	1	0	0	**1**	**4**	0	5	1	**6**	0	13	0	**13**	**19**	**23**
08:45	09:00	3	2	0	**5**	2	0	0	**2**	**7**	0	8	1	**9**	0	13	0	**13**	**22**	**29**
09:00	09:15	0	2	0	**2**	1	0	0	**1**	**3**	1	3	0	**4**	0	13	0	**13**	**17**	**20**
09:15	09:30	3	0	0	**3**	1	0	0	**1**	**4**	0	9	1	**10**	1	13	0	**14**	**24**	**28**
09:30	09:45	0	2	0	**2**	2	0	1	**3**	**5**	0	9	0	**9**	1	9	0	**10**	**19**	**24**
09:45	10:00	2	1	0	**3**	1	0	0	**1**	**4**	0	6	2	**8**	1	10	0	**11**	**19**	**23**
11:30	11:45	1	0	2	**3**	0	2	0	**2**	**5**	0	4	0	**4**	0	3	0	**3**	**7**	**12**
11:45	12:00	5	4	0	**9**	0	1	0	**1**	**10**	0	5	1	**6**	0	4	0	**4**	**10**	**20**
12:00	12:15	2	2	0	**4**	0	2	0	**2**	**6**	0	8	1	**9**	0	3	0	**3**	**12**	**18**
12:15	12:30	0	0	0	**0**	0	0	0	**0**	**0**	0	8	1	**9**	0	7	1	**8**	**17**	**17**
12:30	12:45	0	0	0	**0**	1	2	1	**4**	**4**	0	7	1	**8**	1	6	0	**7**	**15**	**19**
12:45	13:00	3	1	0	**4**	1	0	0	**1**	**5**	0	1	1	**2**	0	6	0	**6**	**8**	**13**
13:00	13:15	0	1	0	**1**	0	0	0	**0**	**1**	1	2	2	**5**	0	5	0	**5**	**10**	**11**
13:15	13:30	0	2	1	**3**	1	0	0	**1**	**4**	0	6	1	**7**	0	4	1	**5**	**12**	**16**
15:00	15:15	4	1	0	**5**	0	0	0	**0**	**5**	1	9	1	**11**	3	7	0	**10**	**21**	**26**
15:15	15:30	0	1	1	**2**	0	0	0	**0**	**2**	0	4	1	**5**	2	6	0	**8**	**13**	**15**
15:30	15:45	0	1	0	**1**	0	1	2	**3**	**4**	0	11	3	**14**	1	10	0	**11**	**25**	**29**
15:45	16:00	0	1	0	**1**	0	2	2	**4**	**5**	0	7	2	**9**	0	11	0	**11**	**20**	**25**
16:00	16:15	2	0	1	**3**	0	0	1	**1**	**4**	0	5	2	**7**	3	9	0	**12**	**19**	**23**
16:15	16:30	1	2	0	**3**	1	0	0	**1**	**4**	0	6	2	**8**	0	6	0	**6**	**14**	**18**
16:30	16:45	0	2	0	**2**	0	0	1	**1**	**3**	0	8	2	**10**	0	7	0	**7**	**17**	**20**
16:45	17:00	2	0	1	**3**	1	0	0	**1**	**4**	1	4	2	**7**	0	3	0	**3**	**10**	**14**
17:00	17:15	1	0	2	**3**	0	1	1	**2**	**5**	0	7	3	**10**	0	4	0	**4**	**14**	**19**
17:15	17:30	2	1	1	**4**	1	0	0	**1**	**5**	0	4	1	**5**	0	3	0	**3**	**8**	**13**
17:30	17:45	0	0	0	**0**	0	0	0	**0**	**0**	0	6	2	**8**	0	4	0	**4**	**12**	**12**
17:45	18:00	0	1	0	**1**	1	2	0	**3**	**4**	0	3	0	**3**	0	1	0	**1**	**4**	**8**
Total:	None	40	35	11	**86**	19	14	9	**42**	**128**	4	165	37	**206**	17	211	3	**231**	**437**	**565**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BLAIR RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38125

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

Full Study 15 Minute U-Turn Total

Time Period		BLAIR RD Northbound U-Turn Total	BLAIR RD Southbound U-Turn Total	MONTREAL RD Eastbound U-Turn Total	MONTREAL RD Westbound U-Turn Total	Total
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	1	**1**
08:00	08:15	0	0	0	0	**0**
08:15	08:30	0	0	0	0	**0**
08:30	08:45	0	0	0	0	**0**
08:45	09:00	0	0	1	0	**1**
09:00	09:15	0	0	1	0	**1**
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	1	0	**1**
12:30	12:45	0	0	0	0	**0**
12:45	13:00	0	0	0	0	**0**
13:00	13:15	0	0	0	0	**0**
13:15	13:30	0	0	0	0	**0**
15:00	15:15	0	0	0	0	**0**
15:15	15:30	0	0	0	0	**0**
15:30	15:45	0	0	0	0	**0**
15:45	16:00	0	0	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	1	0	**1**
16:45	17:00	0	0	0	0	**0**
17:00	17:15	0	0	0	0	**0**
17:15	17:30	0	0	0	0	**0**
17:30	17:45	0	0	0	1	**1**
17:45	18:00	0	0	0	0	**0**
Total		0	0	4	3	**7**

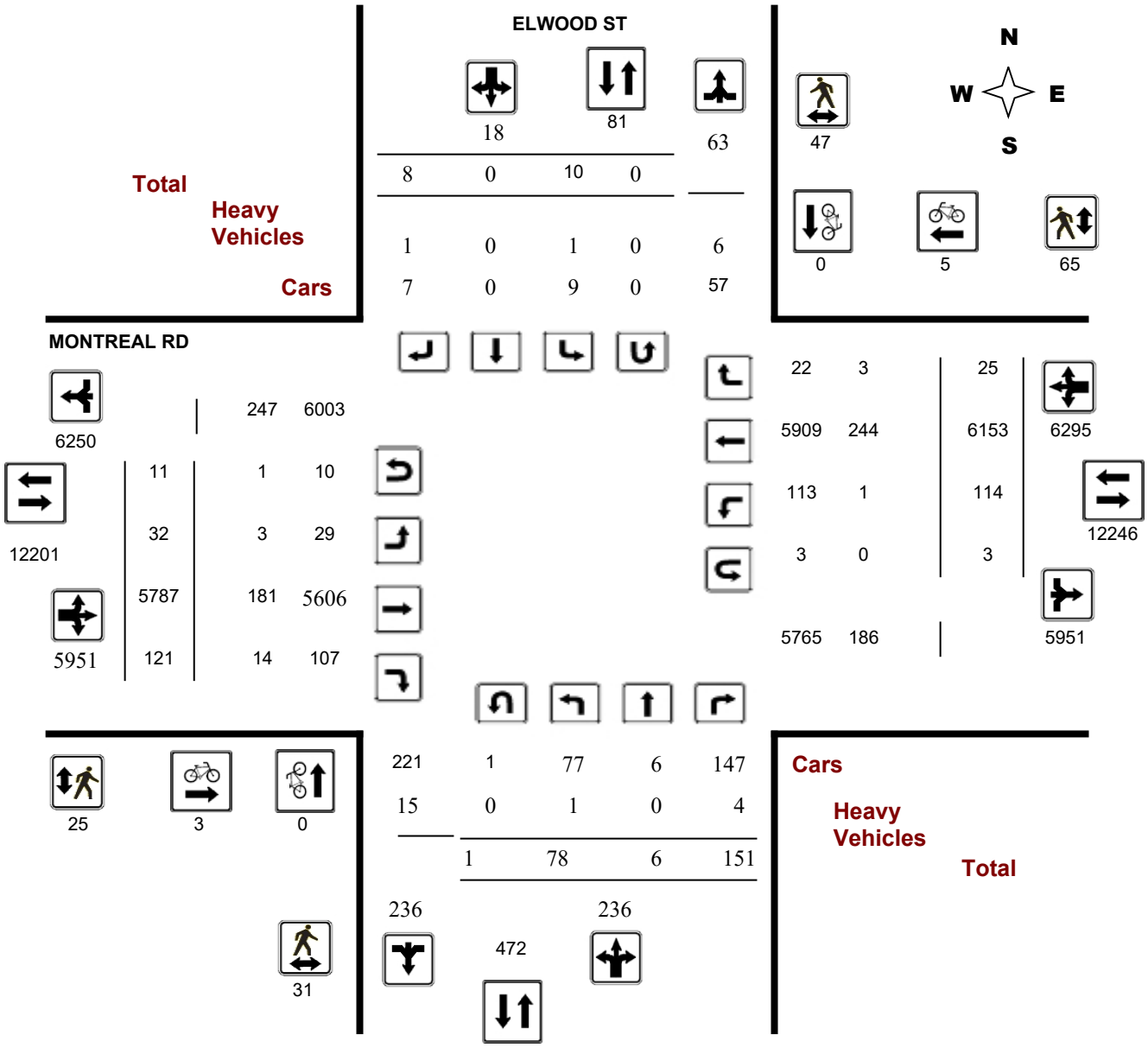
Transportation Services - Traffic Services

Turning Movement Count - Study Results

ELWOOD ST @ MONTREAL RD

Survey Date: Thursday, November 15, 2018
Start Time: 07:00
WO No: 38124
Device: Miovision

Full Study Diagram



Transportation Services - Traffic Services

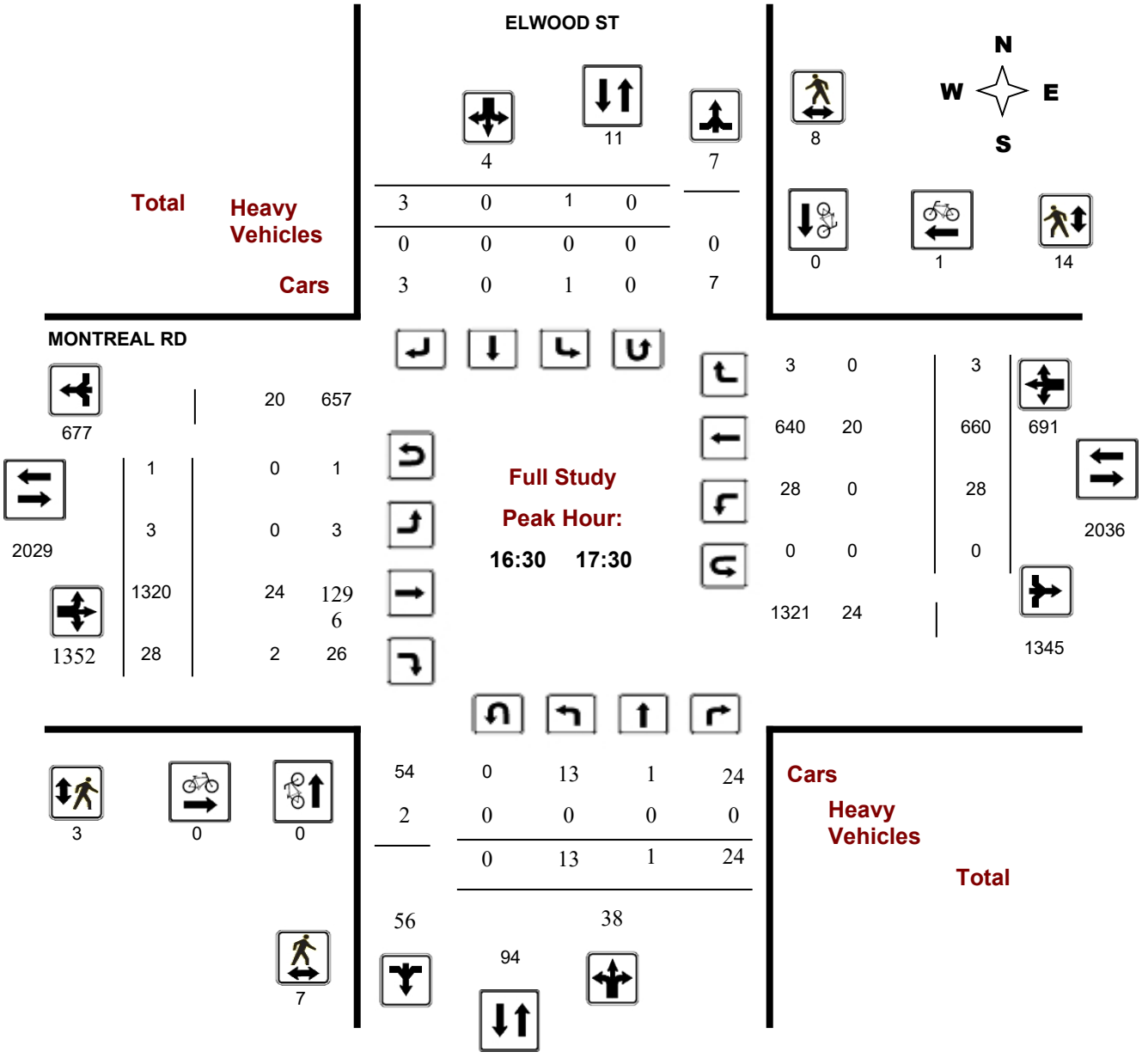
Turning Movement Count - Study Results

ELWOOD ST @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38124

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

Full Study Peak Hour Diagram



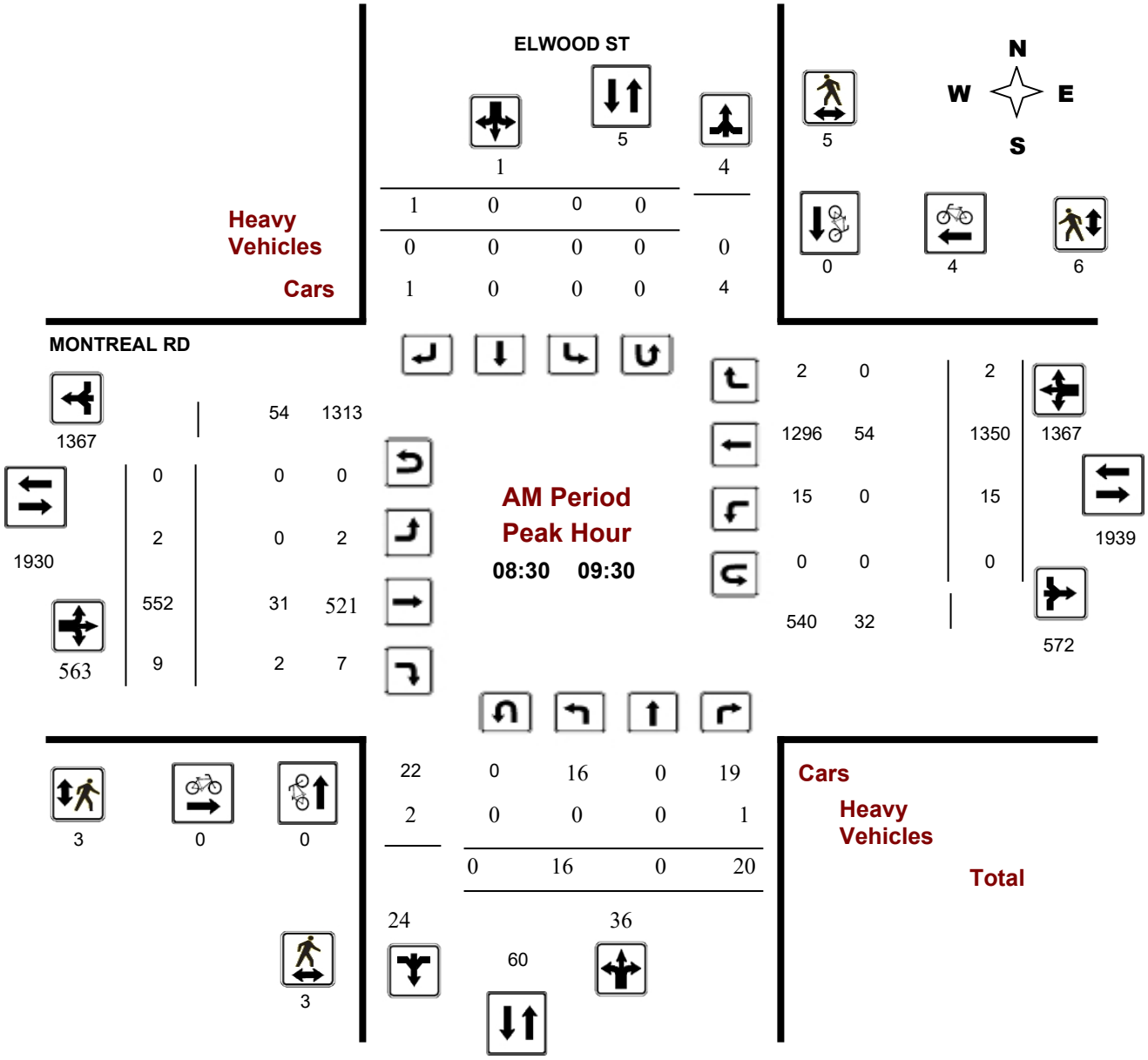
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ELWOOD ST @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38124

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



Comments

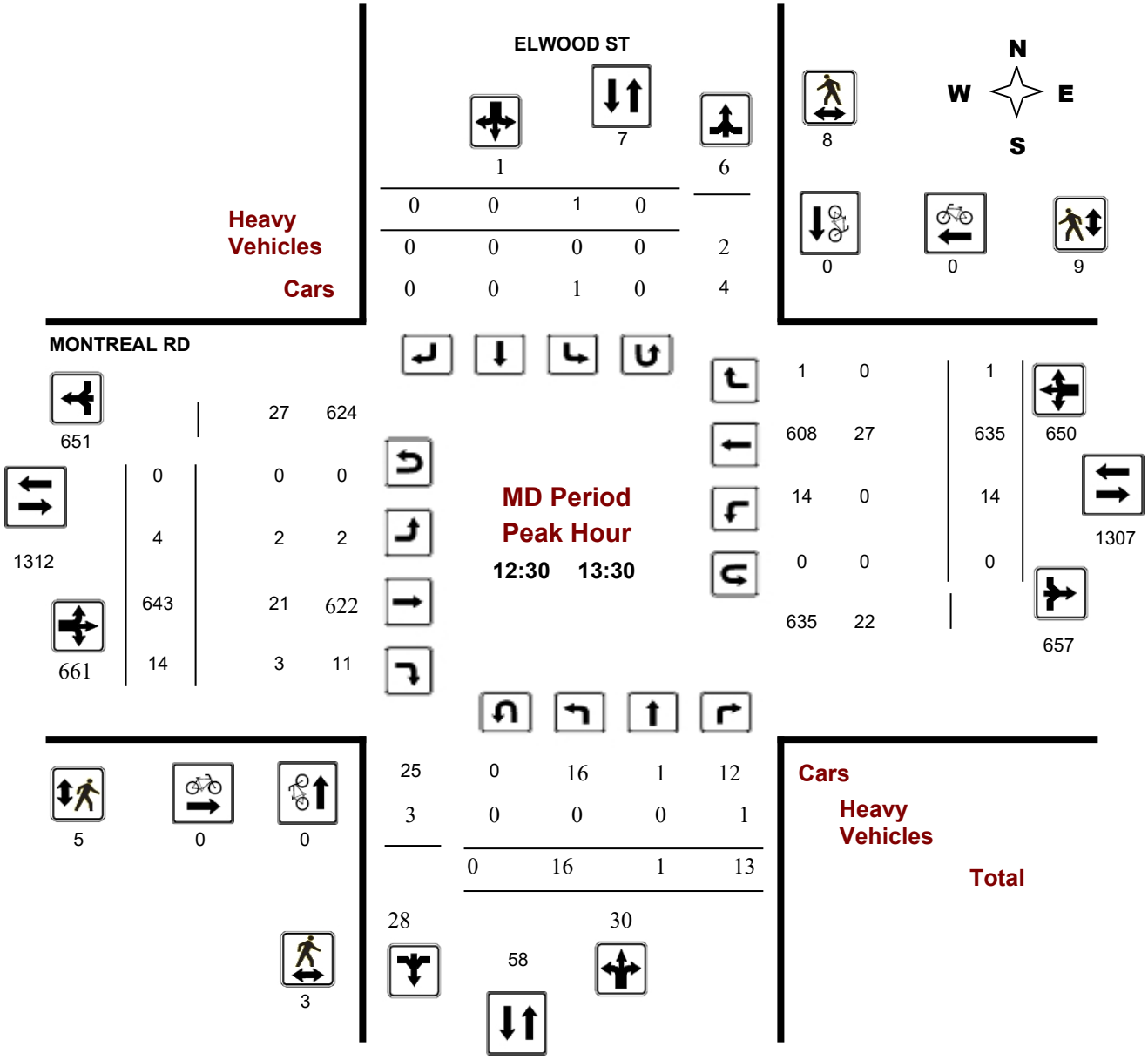
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ELWOOD ST @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38124

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



Comments

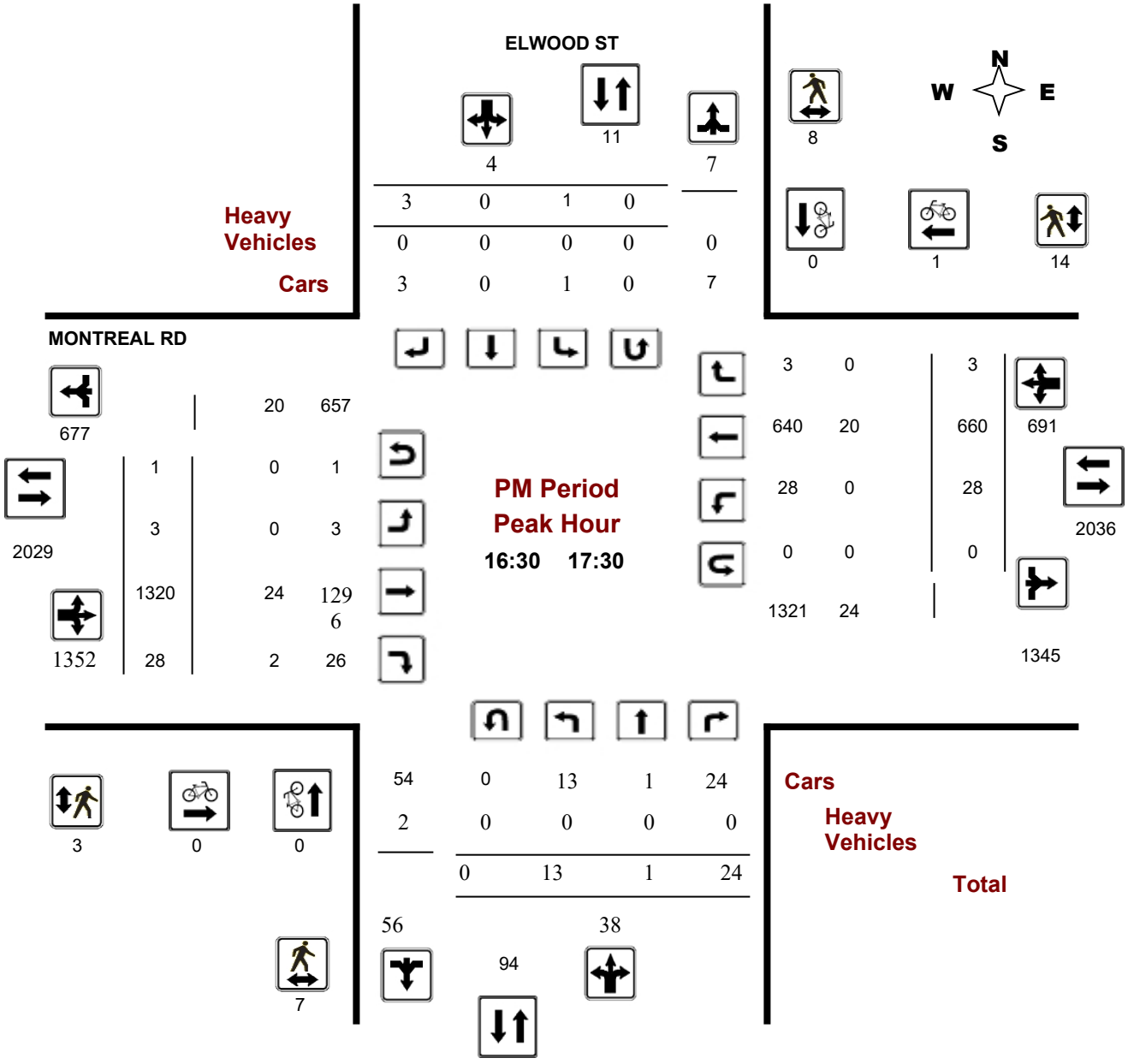
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ELWOOD ST @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38124

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



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

ELWOOD ST @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38124

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

Full Study Summary (8 HR Standard)

Survey Date: Thursday, November 15, 2018

Total Observed U-Turns

Northbound: 1 Southbound: 0

Eastbound: 11 Westbound: 3

AADT Factor

.90

	ELWOOD ST								MONTREAL RD									
	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	2	1	6	**9**	0	0	0	**0**	**9**	8	198	5	**211**	1	460	5	**466**	**677**	**686**
08:00 09:00	9	0	17	**26**	0	0	1	**1**	**27**	1	468	9	**478**	4	1265	2	**1271**	**1749**	**1776**
09:00 10:00	9	0	20	**29**	0	0	1	**1**	**30**	2	562	8	**572**	22	1188	1	**1211**	**1783**	**1813**
11:30 12:30	5	0	20	**25**	0	0	0	**0**	**25**	0	592	8	**600**	16	600	2	**618**	**1218**	**1243**
12:30 13:30	16	1	13	**30**	1	0	0	**1**	**31**	4	643	14	**661**	14	635	1	**650**	**1311**	**1342**
15:00 16:00	14	1	25	**40**	5	0	3	**8**	**48**	7	798	18	**823**	9	635	10	**654**	**1477**	**1525**
16:00 17:00	14	3	24	**41**	4	0	2	**6**	**47**	5	1259	21	**1285**	24	689	2	**715**	**2000**	**2047**
17:00 18:00	9	0	26	**35**	0	0	1	**1**	**36**	5	1267	38	**1310**	24	681	2	**707**	**2017**	**2053**
Sub Total	78	6	151	**235**	10	0	8	**18**	**253**	32	5787	121	**5940**	114	6153	25	**6292**	**12232**	**12485**
U Turns	1			**1**	0			**0**	**1**	**11**			**11**	3			**3**	**14**	**15**
Total	79	6	151	**236**	10	0	8	**18**	**254**	43	5787	121	**5951**	117	6153	25	**6295**	**12246**	**12500**
EQ 12Hr	110	8	210	**328**	14	0	11	**25**	**353**	60	8044	168	**8272**	163	8553	35	**8751**	**17023**	**17376**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	99	7	189	**295**	13	0	10	**23**	**318**	54	7240	151	**7445**	147	7698	32	**7877**	**15322**	**15640**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**.90**					
AVG 24Hr	130	9	248	**387**	17	0	13	**30**	**417**	71	9484	198	**9753**	193	10084	42	**10319**	**20072**	**20489**
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

ELWOOD ST @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38124

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

Full Study 15 Minute Increments

		ELWOOD ST									MONTREAL RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	0	0	0	0	0	0	0	**0**	4	33	0	37	1	60	1	62	**99**	**99**
07:15	07:30	1	0	3	4	0	0	0	0	**4**	6	43	2	51	0	90	2	92	**143**	**147**
07:30	07:45	0	0	2	2	0	0	0	0	**2**	2	58	0	60	0	133	2	135	**195**	**197**
07:45	08:00	1	1	1	3	0	0	0	0	**3**	4	64	3	71	0	177	0	177	**248**	**251**
08:00	08:15	0	0	1	1	0	0	0	0	**1**	0	68	0	68	4	249	0	253	**321**	**322**
08:15	08:30	0	0	5	5	0	0	0	0	**5**	0	105	3	108	1	321	0	322	**430**	**435**
08:30	08:45	5	0	2	7	0	0	1	1	**8**	1	143	4	148	0	317	1	318	**466**	**474**
08:45	09:00	4	0	9	13	0	0	0	0	**13**	0	152	2	154	0	378	1	379	**533**	**546**
09:00	09:15	0	0	4	4	0	0	0	0	**4**	1	137	0	138	6	343	0	349	**487**	**491**
09:15	09:30	7	0	5	12	0	0	0	0	**12**	0	120	3	123	9	312	0	321	**444**	**456**
09:30	09:45	1	0	6	7	0	0	0	0	**7**	1	164	2	167	3	275	1	279	**446**	**453**
09:45	10:00	1	0	5	6	0	0	1	1	**7**	1	141	3	145	4	258	0	262	**407**	**414**
11:30	11:45	1	0	6	7	0	0	0	0	**7**	0	149	3	152	7	157	0	164	**316**	**323**
11:45	12:00	0	0	4	4	0	0	0	0	**4**	0	161	1	162	3	151	2	156	**318**	**322**
12:00	12:15	3	0	5	8	0	0	0	0	**8**	0	145	1	146	2	137	0	139	**285**	**293**
12:15	12:30	1	0	5	6	0	0	0	0	**6**	0	137	3	140	6	155	0	161	**301**	**307**
12:30	12:45	4	1	7	12	0	0	0	0	**12**	0	145	1	146	6	138	0	144	**290**	**302**
12:45	13:00	6	0	3	9	0	0	0	0	**9**	1	183	4	188	3	150	0	153	**341**	**350**
13:00	13:15	3	0	2	5	1	0	0	1	**6**	0	157	4	161	2	168	1	171	**332**	**338**
13:15	13:30	3	0	1	4	0	0	0	0	**4**	3	158	5	166	3	179	0	182	**348**	**352**
15:00	15:15	3	0	9	12	0	0	0	0	**12**	1	182	3	186	3	131	5	139	**325**	**337**
15:15	15:30	3	0	5	8	1	0	0	1	**9**	3	203	5	211	3	143	4	150	**361**	**370**
15:30	15:45	2	1	5	8	0	0	3	3	**11**	3	195	7	205	1	179	0	180	**385**	**396**
15:45	16:00	6	0	6	12	4	0	0	4	**16**	1	218	3	222	2	182	1	185	**407**	**423**
16:00	16:15	3	0	5	8	1	0	0	1	**9**	3	309	5	317	5	187	1	193	**510**	**519**
16:15	16:30	4	2	7	13	2	0	0	2	**15**	2	300	6	308	5	169	0	174	**482**	**497**
16:30	16:45	4	1	6	11	0	0	1	1	**12**	1	321	6	328	9	154	0	163	**491**	**503**
16:45	17:00	4	0	6	10	1	0	1	2	**12**	0	329	4	333	5	179	1	185	**518**	**530**
17:00	17:15	3	0	7	10	0	0	1	1	**11**	0	320	11	331	7	176	1	184	**515**	**526**
17:15	17:30	2	0	5	7	0	0	0	0	**7**	3	350	7	360	7	151	1	159	**519**	**526**
17:30	17:45	2	0	5	7	0	0	0	0	**7**	1	311	7	319	7	163	0	170	**489**	**496**
17:45	18:00	2	0	9	11	0	0	0	0	**11**	1	286	13	300	3	191	0	194	**494**	**505**
Total:		79	6	151	236	10	0	8	18	**254**	43	5787	121	5951	117	6153	25	6295	**254**	**12,500**

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

ELWOOD ST @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38124

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

Full Study Cyclist Volume

Time Period		ELWOOD ST			MONTREAL RD			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	**0**	0	0	**0**	**0**
07:15	07:30	0	0	**0**	0	0	**0**	**0**
07:30	07:45	0	0	**0**	0	0	**0**	**0**
07:45	08:00	0	0	**0**	0	0	**0**	**0**
08:00	08:15	0	0	**0**	0	0	**0**	**0**
08:15	08:30	0	0	**0**	1	0	**1**	**1**
08:30	08:45	0	0	**0**	0	1	**1**	**1**
08:45	09:00	0	0	**0**	0	2	**2**	**2**
09:00	09:15	0	0	**0**	0	1	**1**	**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	0	0	**0**	0	0	**0**	**0**
15:45	16:00	0	0	**0**	0	0	**0**	**0**
16:00	16:15	0	0	**0**	0	0	**0**	**0**
16:15	16:30	0	0	**0**	0	0	**0**	**0**
16:30	16:45	0	0	**0**	0	0	**0**	**0**
16:45	17:00	0	0	**0**	0	0	**0**	**0**
17:00	17:15	0	0	**0**	0	1	**1**	**1**
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**	2	0	**2**	**2**
Total		0	0	**0**	3	5	**8**	**8**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

ELWOOD ST @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38124

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

Full Study Pedestrian Volume

		ELWOOD ST			MONTREAL RD			
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	2	**2**	0	1	**1**	**3**
07:15	07:30	1	4	**5**	2	1	**3**	**8**
07:30	07:45	0	1	**1**	1	0	**1**	**2**
07:45	08:00	1	2	**3**	1	2	**3**	**6**
08:00	08:15	1	0	**1**	0	1	**1**	**2**
08:15	08:30	0	0	**0**	1	0	**1**	**1**
08:30	08:45	1	1	**2**	3	1	**4**	**6**
08:45	09:00	0	1	**1**	0	3	**3**	**4**
09:00	09:15	0	2	**2**	0	0	**0**	**2**
09:15	09:30	2	1	**3**	0	2	**2**	**5**
09:30	09:45	1	1	**2**	1	0	**1**	**3**
09:45	10:00	1	2	**3**	1	1	**2**	**5**
11:30	11:45	0	2	**2**	1	1	**2**	**4**
11:45	12:00	1	1	**2**	0	2	**2**	**4**
12:00	12:15	0	0	**0**	0	0	**0**	**0**
12:15	12:30	1	3	**4**	1	3	**4**	**8**
12:30	12:45	0	3	**3**	3	0	**3**	**6**
12:45	13:00	0	0	**0**	0	1	**1**	**1**
13:00	13:15	1	3	**4**	0	5	**5**	**9**
13:15	13:30	2	2	**4**	2	3	**5**	**9**
15:00	15:15	1	0	**1**	1	3	**4**	**5**
15:15	15:30	1	1	**2**	1	2	**3**	**5**
15:30	15:45	1	0	**1**	1	0	**1**	**2**
15:45	16:00	0	1	**1**	0	2	**2**	**3**
16:00	16:15	4	2	**6**	2	6	**8**	**14**
16:15	16:30	2	1	**3**	0	7	**7**	**10**
16:30	16:45	5	2	**7**	3	3	**6**	**13**
16:45	17:00	0	5	**5**	0	0	**0**	**5**
17:00	17:15	1	0	**1**	0	6	**6**	**7**
17:15	17:30	1	1	**2**	0	5	**5**	**7**
17:30	17:45	2	1	**3**	0	1	**1**	**4**
17:45	18:00	0	2	**2**	0	3	**3**	**5**
Total	.....	31	47	**78**	25	65	**90**	**168**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

ELWOOD ST @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38124

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

Full Study Heavy Vehicles

		ELWOOD ST									MONTREAL RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	0	0	**0**	0	0	0	**0**	**0**	1	1	0	**2**	0	3	0	**3**	**5**	**6**
07:15	07:30	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	2	0	**2**	**2**	**2**
07:30	07:45	0	0	0	**0**	0	0	0	**0**	**0**	0	2	0	**2**	0	3	0	**3**	**5**	**5**
07:45	08:00	0	0	0	**0**	0	0	0	**0**	**0**	0	0	2	**2**	0	3	0	**3**	**5**	**5**
08:00	08:15	0	0	1	**1**	0	0	0	**0**	**1**	0	1	0	**1**	0	10	0	**10**	**11**	**12**
08:15	08:30	0	0	0	**0**	0	0	0	**0**	**0**	0	4	1	**5**	0	15	0	**15**	**20**	**20**
08:30	08:45	0	0	1	**1**	0	0	0	**0**	**1**	0	3	0	**3**	0	13	0	**13**	**16**	**17**
08:45	09:00	0	0	0	**0**	0	0	0	**0**	**0**	0	15	1	**16**	0	12	0	**12**	**28**	**28**
09:00	09:15	0	0	0	**0**	0	0	0	**0**	**0**	0	7	0	**7**	0	12	0	**12**	**19**	**19**
09:15	09:30	0	0	0	**0**	0	0	0	**0**	**0**	0	6	1	**7**	0	17	0	**17**	**24**	**24**
09:30	09:45	0	0	0	**0**	0	0	0	**0**	**0**	0	7	0	**7**	0	9	1	**10**	**17**	**17**
09:45	10:00	0	0	0	**0**	0	0	1	**1**	**1**	0	10	1	**11**	0	11	0	**11**	**22**	**23**
11:30	11:45	0	0	0	**0**	0	0	0	**0**	**0**	0	4	0	**4**	0	5	0	**5**	**9**	**9**
11:45	12:00	0	0	0	**0**	0	0	0	**0**	**0**	0	6	0	**6**	1	5	0	**6**	**12**	**12**
12:00	12:15	0	0	0	**0**	0	0	0	**0**	**0**	0	9	0	**9**	0	3	0	**3**	**12**	**12**
12:15	12:30	0	0	0	**0**	0	0	0	**0**	**0**	0	5	0	**5**	0	9	0	**9**	**14**	**14**
12:30	12:45	0	0	1	**1**	0	0	0	**0**	**1**	0	7	0	**7**	0	7	0	**7**	**14**	**15**
12:45	13:00	0	0	0	**0**	0	0	0	**0**	**0**	1	4	1	**6**	0	5	0	**5**	**11**	**11**
13:00	13:15	0	0	0	**0**	0	0	0	**0**	**0**	0	4	1	**5**	0	6	0	**6**	**11**	**11**
13:15	13:30	0	0	0	**0**	0	0	0	**0**	**0**	1	6	1	**8**	0	9	0	**9**	**17**	**17**
15:00	15:15	0	0	0	**0**	0	0	0	**0**	**0**	0	10	0	**10**	0	10	1	**11**	**21**	**21**
15:15	15:30	0	0	0	**0**	1	0	0	**1**	**1**	0	6	0	**6**	0	9	0	**9**	**15**	**16**
15:30	15:45	0	0	0	**0**	0	0	0	**0**	**0**	0	9	0	**9**	0	8	0	**8**	**17**	**17**
15:45	16:00	1	0	1	**2**	0	0	0	**0**	**2**	0	9	0	**9**	0	11	1	**12**	**21**	**23**
16:00	16:15	0	0	0	**0**	0	0	0	**0**	**0**	0	11	1	**12**	0	11	0	**11**	**23**	**23**
16:15	16:30	0	0	0	**0**	0	0	0	**0**	**0**	0	3	1	**4**	0	8	0	**8**	**12**	**12**
16:30	16:45	0	0	0	**0**	0	0	0	**0**	**0**	0	9	0	**9**	0	7	0	**7**	**16**	**16**
16:45	17:00	0	0	0	**0**	0	0	0	**0**	**0**	0	7	1	**8**	0	4	0	**4**	**12**	**12**
17:00	17:15	0	0	0	**0**	0	0	0	**0**	**0**	0	6	0	**6**	0	5	0	**5**	**11**	**11**
17:15	17:30	0	0	0	**0**	0	0	0	**0**	**0**	0	2	1	**3**	0	4	0	**4**	**7**	**7**
17:30	17:45	0	0	0	**0**	0	0	0	**0**	**0**	0	6	0	**6**	0	6	0	**6**	**12**	**12**
17:45	18:00	0	0	0	**0**	0	0	0	**0**	**0**	0	2	1	**3**	0	2	0	**2**	**5**	**5**
Total:	None	1	0	4	**5**	1	0	1	**2**	**7**	3	181	14	**198**	1	244	3	**248**	**446**	**454**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

ELWOOD ST @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38124

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

Full Study 15 Minute U-Turn Total

Time Period		ELWOOD ST Northbound U-Turn Total	ELWOOD ST Southbound U-Turn Total	MONTREAL RD Eastbound U-Turn Total	MONTREAL RD Westbound U-Turn Total	Total
07:00	07:15	0	0	1	0	**1**
07:15	07:30	0	0	4	0	**4**
07:30	07:45	0	0	1	0	**1**
07:45	08:00	0	0	2	0	**2**
08:00	08:15	0	0	0	1	**1**
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	1	0	**1**
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	2	**2**
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	1	0	**1**
15:45	16:00	0	0	0	0	**0**
16:00	16:15	1	0	0	0	**1**
16:15	16:30	0	0	0	0	**0**
16:30	16:45	0	0	1	0	**1**
16:45	17:00	0	0	0	0	**0**
17:00	17:15	0	0	0	0	**0**
17:15	17:30	0	0	0	0	**0**
17:30	17:45	0	0	0	0	**0**
17:45	18:00	0	0	0	0	**0**
Total		1	0	11	3	**15**

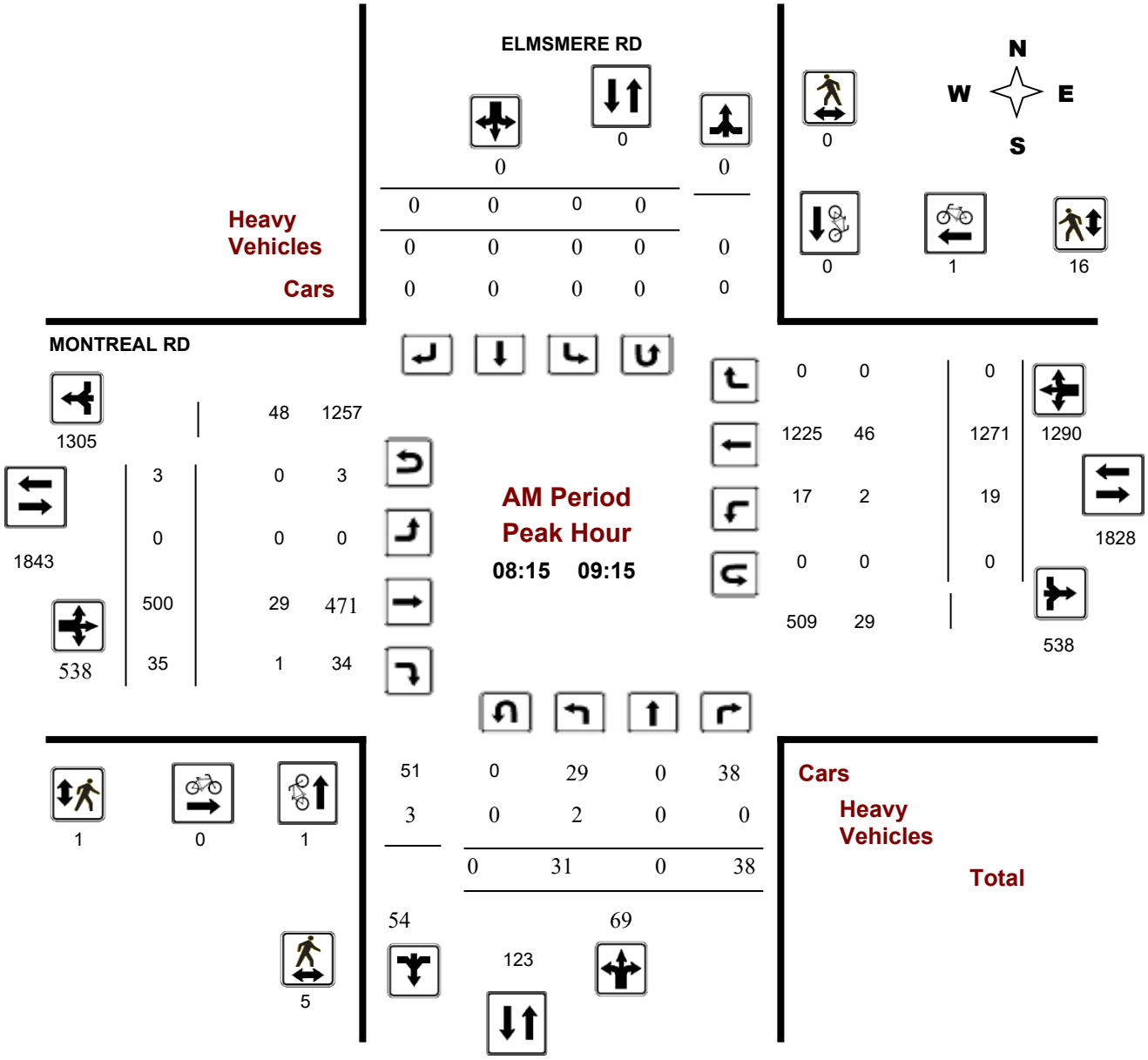
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ELMSMERE RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38123

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



Comments

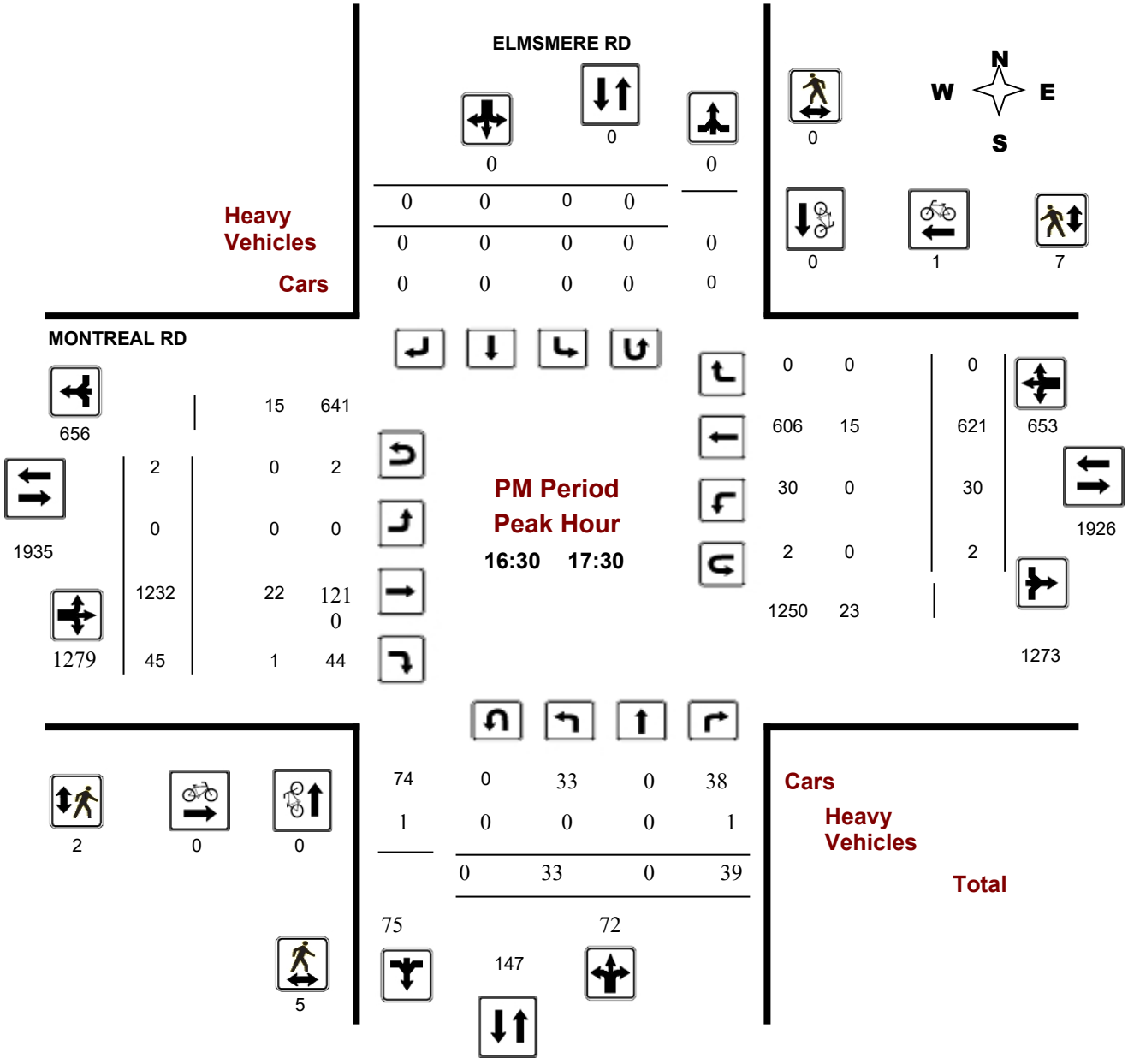
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ELMSMERE RD @ MONTREAL RD

Survey Date: Thursday, November 15, 2018 **WO No:** 38123

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



Comments

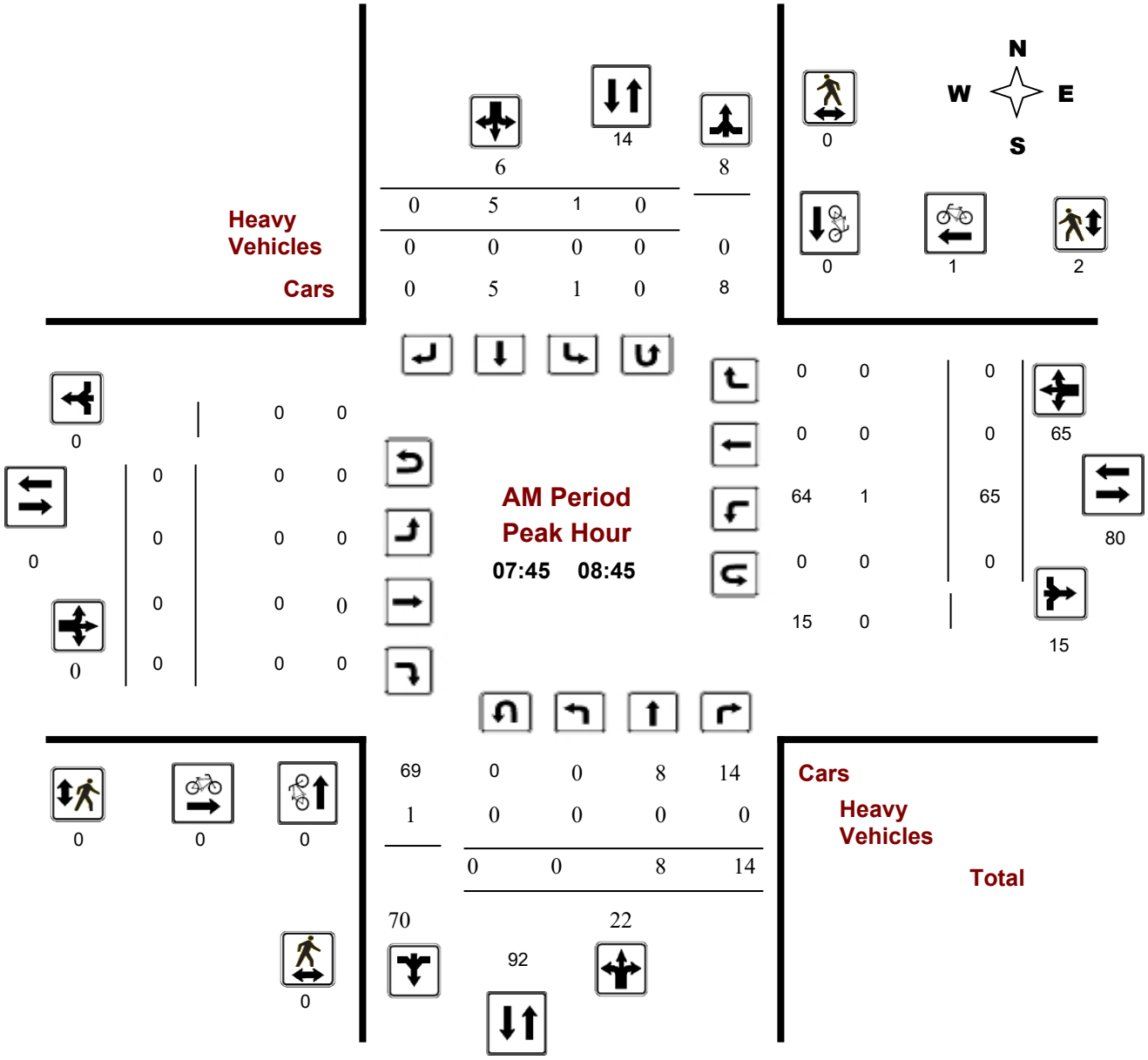
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BECKENHAM LANE @ CEDAR RD S

Survey Date: Thursday, July 25, 2019
Start Time: 07:00

WO No: 38700
Device: Miovision



Comments

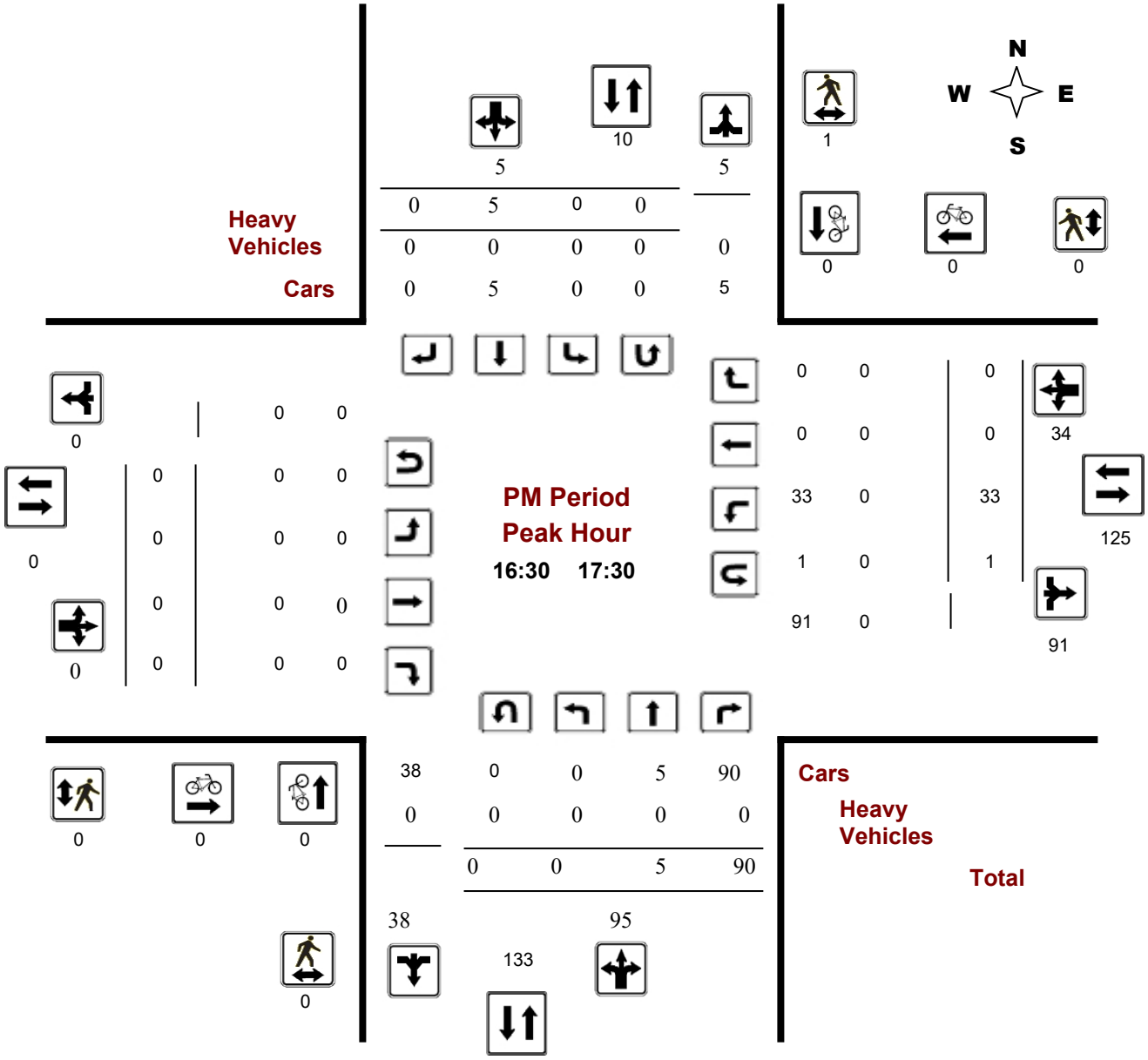
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BECKENHAM LANE @ CEDAR RD S

Survey Date: Thursday, July 25, 2019
Start Time: 07:00

WO No: 38700
Device: Miovision



Comments

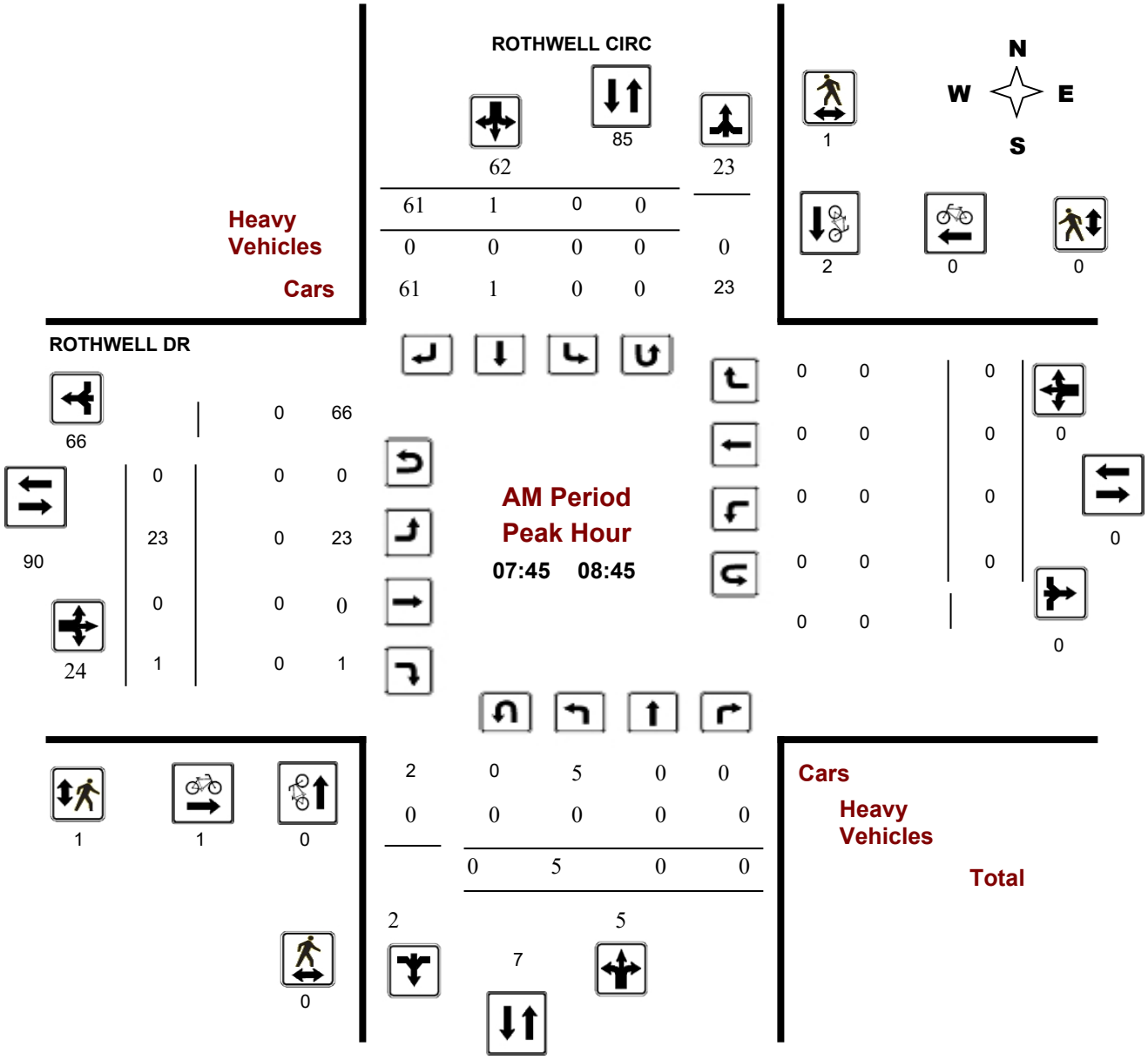
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ROTHWELL CIRC @ ROTHWELL DR

Survey Date: Wednesday, July 17, 2019 **WO No:** 38692

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



Comments

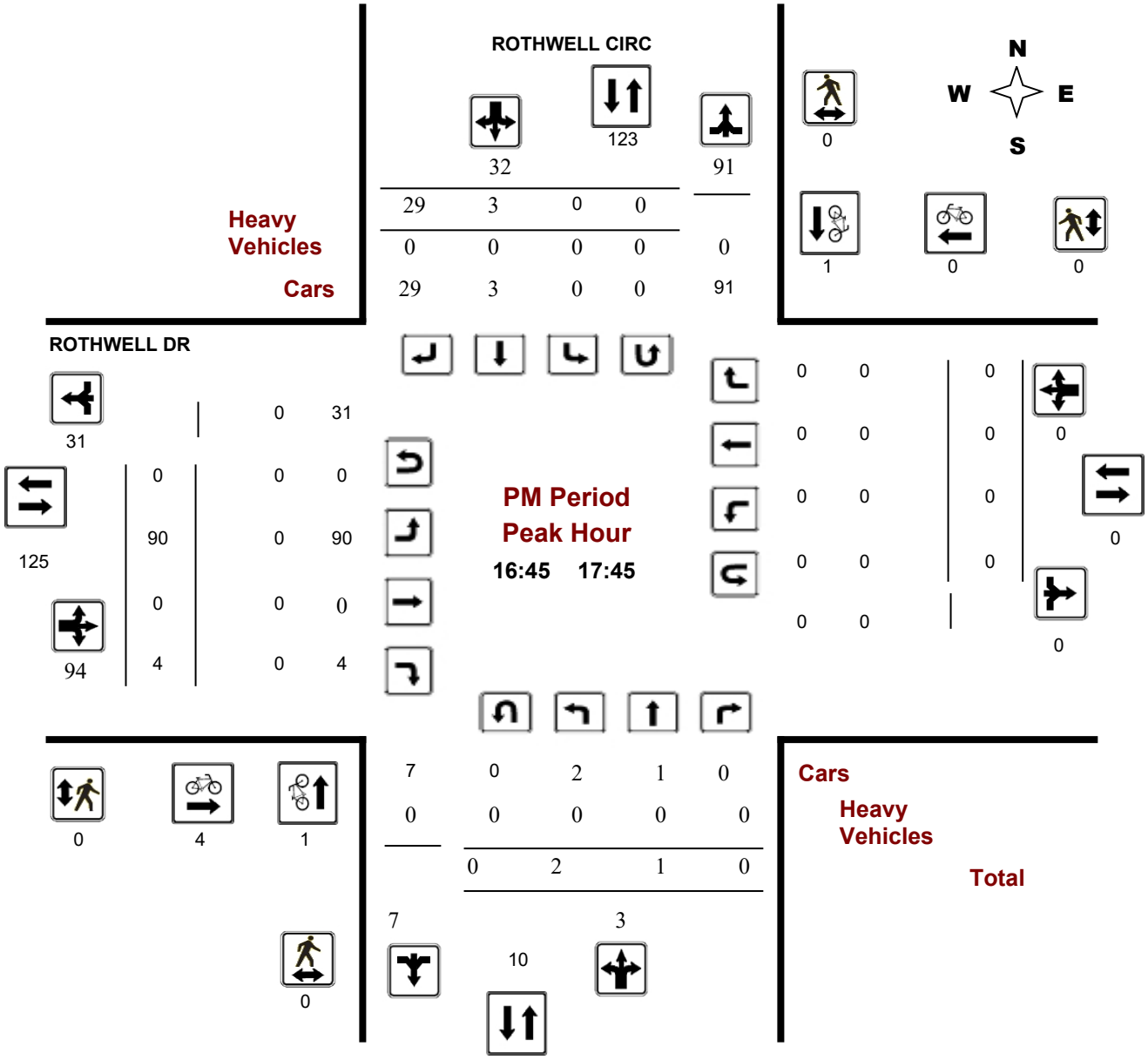
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ROTHWELL CIRC @ ROTHWELL DR

Survey Date: Wednesday, July 17, 2019 **WO No:** 38692

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



Comments

APPENDIX F

Collision Records

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: BECKENHAM LANE @ MONTREAL RD

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

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Jan-14, Sun,12:18	Clear	SMV other	P.D. only	Ice	South	Turning left	Automobile, station wagon	Skidding/sliding	0
2019-Jan-16, Wed,14:40	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	

Location: BLAIR RD @ MONTREAL RD

Traffic Control: Traffic signal **Total Collisions:** 32

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Mar-26, Mon,15:38	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Apr-08, Sun,13:52	Clear	Rear end	P.D. only	Dry	East	Unknown	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Sep-20, Thu,15:35	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Sep-30, Sun,19:38	Rain	Angle	Non-fatal injury	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
2018-Nov-02, Fri,11:52	Rain	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-05, Mon,17:30	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-Jan-22, Tue,08:20	Clear	Rear end	Non-fatal injury	Ice	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Feb-24, Sun,07:16	Rain	Rear end	Non-fatal injury	Wet	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, 2018 **To:** December 31, 2022

Location: BLAIR RD @ MONTREAL RD

Traffic Control: Traffic signal **Total Collisions:** 32

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-May-24, Fri,08:30	Clear	Rear end	Non-fatal injury	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Aug-16, Fri,20:29	Clear	Turning movement	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Aug-19, Mon,16:25	Rain	Rear end	Non-fatal injury	Wet	East	Slowing or stopping	Delivery van	Other motor vehicle	0
					East	Stopped	Unknown	Other motor vehicle	
2019-Aug-21, Wed,09:30	Clear	Rear end	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Oct-10, Thu,12:52	Clear	Rear end	Non-fatal injury	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Oct-17, Thu,09:40	Rain	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Jul-24, Fri,11:30	Clear	Rear end	P.D. only	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2020-Oct-08, Thu,11:09	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-Jan-16, Sat,15:00	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	
2021-Mar-30, Tue,14:05	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Passenger van	Other motor vehicle	
2021-May-04, Tue,10:00	Clear	Rear end	Non-fatal injury	Dry	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2021-May-19, Wed,06:51	Clear	SMV other	Non-fatal injury	Dry	East	Turning right	Pick-up truck	Curb	0

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: BLAIR RD @ MONTREAL RD

Traffic Control: Traffic signal **Total Collisions:** 32

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2021-Nov-25, Thu,17:46	Rain	Turning movement	P.D. only	Wet	West	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-Dec-10, Fri,15:00	Clear	Other	P.D. only	Dry	South	Reversing	School bus	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2022-Feb-01, Tue,13:32	Clear	Rear end	P.D. only	Wet	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2022-Feb-21, Mon,17:29	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Passenger van	Other motor vehicle	
2022-Feb-25, Fri,18:00	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	
2022-Apr-27, Wed,08:57	Rain	Sideswipe	P.D. only	Wet	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2022-May-27, Fri,17:20	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2022-Sep-18, Sun,03:56	Clear	Angle	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Ambulance	Other motor vehicle	
2022-Oct-07, Fri,13:10	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	
2022-Nov-15, Tue,13:45	Clear	Turning movement	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2022-Nov-16, Wed,16:00	Clear	Turning movement	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2022-Dec-09, Fri,13:15	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: ELMSMERE RD @ MONTREAL RD

Traffic Control: Traffic signal **Total Collisions:** 5

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Nov-16, Fri,14:30	Snow	Angle	P.D. only	Slush	East	Going ahead	Automobile, station wagon	Skidding/sliding	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Apr-25, Thu,18:30	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Passenger van	Other motor vehicle	
2020-Jan-06, Mon,17:54	Snow	SMV other	P.D. only	Loose snow	East	Slowing or stopping	Automobile, station wagon	Skidding/sliding	0
2020-May-01, Fri,17:34	Clear	Rear end	Non-fatal injury	Dry	East	Unknown	Unknown	Other motor vehicle	0
					East	Unknown	Pick-up truck	Other motor vehicle	
					East	Unknown	Unknown	Other motor vehicle	
2022-Jan-19, Wed,10:46	Snow	SMV other	P.D. only	Packed snow	West	Going ahead	Pick-up truck	Pole (utility, power)	0

Location: ELWOOD ST @ MONTREAL RD

Traffic Control: Traffic signal **Total Collisions:** 5

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Mar-23, Fri,14:13	Clear	SMV other	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Pedestrian	1
2019-Mar-18, Mon,07:40	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Pick-up truck	Other motor vehicle	
2020-Feb-05, Wed,00:00	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	
2021-Oct-17, Sun,20:21	Clear	SMV other	Non-fatal injury	Dry	West	Going ahead	Pick-up truck	Animal - domestic	1
2021-Nov-25, Thu,17:19	Rain	SMV other	Non-fatal injury	Wet	East	Going ahead	Pick-up truck	Pedestrian	1

Location: MONTREAL RD btwn BLAIR RD & CLOVELLY RD

Traffic Control: No control **Total Collisions:** 5

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: MONTREAL RD btwn BLAIR RD & CLOVELLY RD

Traffic Control: No control **Total Collisions:** 5

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Apr-03, Tue,17:20	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	
2018-Aug-28, Tue,16:05	Clear	SMV other	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Curb	0
2021-Jul-23, Fri,21:09	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Pick-up truck	Other motor vehicle	
2022-Jan-19, Wed,07:43	Snow	Turning movement	Non-fatal injury	Packed snow	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2022-Sep-16, Fri,17:13	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	

Location: MONTREAL RD btwn CHIMNEY HILL WAY & ELMSMERE RD

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
2019-Mar-08, Fri,00:04	Clear	SMV other	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Ran off road	0

Location: MONTREAL RD btwn CLOVELLY RD & ELWOOD ST

Traffic Control: No control **Total Collisions:** 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2020-Feb-10, Mon,09:00	Snow	Angle	P.D. only	Loose snow	South	Turning right	Unknown	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2022-Jan-05, Wed,10:05	Clear	Sideswipe	P.D. only	Wet	West	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: MONTREAL RD btwn ELWOOD ST & BECKENHAM LANE

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
2018-Oct-09, Tue,19:13	Clear	SMV other	Fatal injury	Dry	East	Going ahead	Automobile, station wagon	Pedestrian	1

APPENDIX G

Beckenham Lane – Vegetation in City ROW

Beckenham Lane - Overgrown vegetation in the City ROW

APPENDIX H

Other Area Developments

1 Screening

This study has been prepared according to the City of Ottawa's 2017 Transportation Impact Assessment (TIA) Guidelines. Accordingly, a Step 1 Screening Form has been prepared and is included as Appendix A, along with the Certification Form for the TIA Study PM. As shown in the Screening Form, a TIA is required including the Network Impact Component and the Design Review Component. This report accompanies a site plan application.

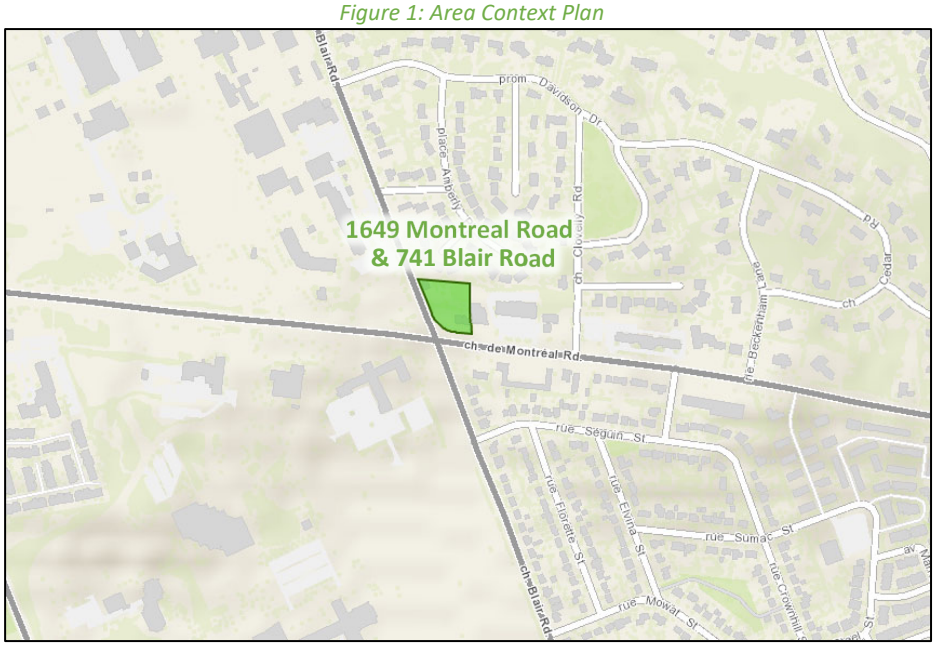
2 Existing and Planned Conditions

2.1 Proposed Development

The subject site, currently zoned as Arterial Mainstreet (AM10[2199]) for the 1649 Montreal Road parcel and Residential Third Density (R3K[1631]) for the 741 Blair Road parcel, intersects the Montreal Arterial Mainstreet Design Priority Area and currently consists of a mostly treed residential lot with a single detached dwelling, and an auto garage with surface parking lot. The subject development proposes the construction of a 26-storey mixed-use building on a four-storey podium, massed mostly on the 1649 Montreal Road parcel, comprising 252 residential dwelling units and 7,446 ft^2 of ground floor commercial space. The site access is proposed as being a full-movement access onto Blair Road. A total of 246 vehicle parking spaces and 196 bicycle parking spaces are proposed, and the development is anticipated to be built-out in a single phase by 2024.

Figure 1 illustrates the Study Area Context. Figure 2 illustrates the proposed concept plan.

Figure 1: Area Context Plan



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: February 10, 2021

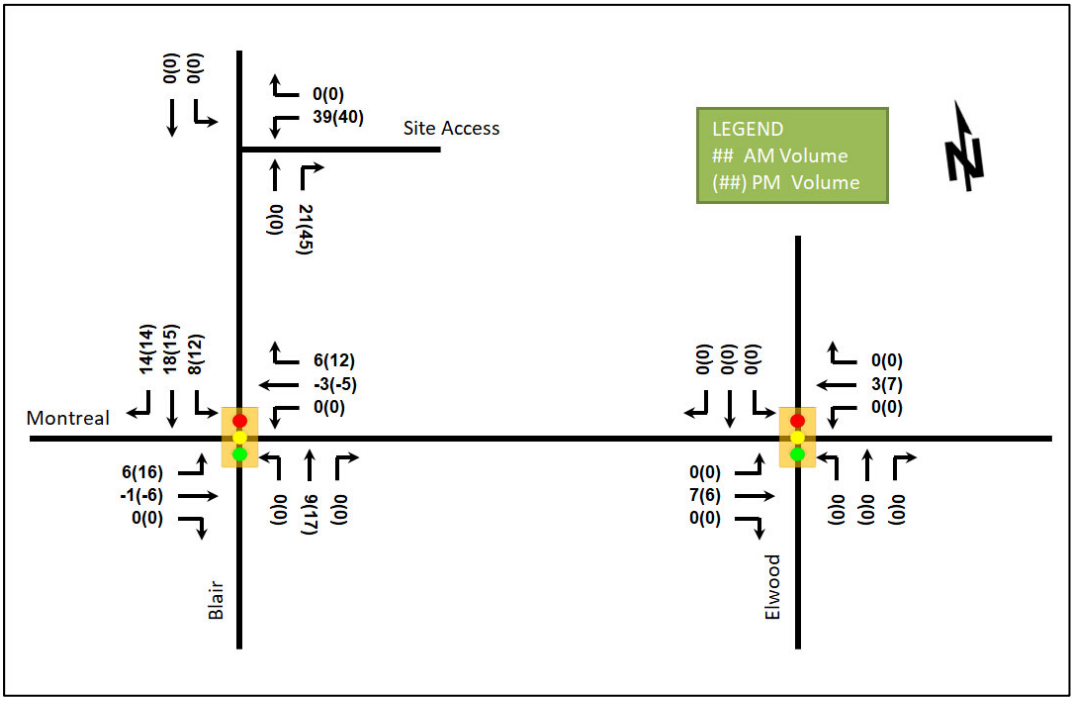
Table 12: OD Survey Distribution – Beacon Hill

To/From	% of Trips	Via
North	5%	Montreal Rd (W)
South	30%	Blair Rd
East	20%	Montreal Rd
West	45%	25% Montreal Rd, 20% Blair Rd
Total	100%	-

5.4 Trip Assignment

Using the distribution outlined above, turning movement splits, and access to major transportation infrastructure, the trips generated by the site have been assigned to the study area road network. Figure 12 illustrates the new site generated and pass-by volumes.

Figure 12: New Site-Generated and Pass-By Auto Volumes



6 Background Network Travel Demands

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3. The Montreal-Blair Road Transit Priority Corridor is the only confirmed project within the study expected to impact traffic operations. This work is assumed to be planned for completion between the TIA study horizons and will be modelled in the 2029 horizon.

6.2 Background Growth

A review of the background projections from the City's TRANS Regional Model for the 2011 and 2031 horizons was completed to determine the background growth for each of the study area roadways. Table 13 summarizes the results of the model, and the projections are provided in Appendix F.

1 Screening

This study has been prepared according to the City of Ottawa's 2017 Transportation Impact Assessment (TIA) Guidelines, incorporating the 2023 Revision to Transportation Impact Assessment Guidelines. Accordingly, a Step 1 Screening Form has been prepared and is included as Appendix A, along with the Certification Form for the TIA Study PM. As shown in the Screening Form, a TIA is required, and this study has been prepared to support a zoning bylaw amendment application. Based on the exemption review provided in Section 5, the scope of review required the design review components only.

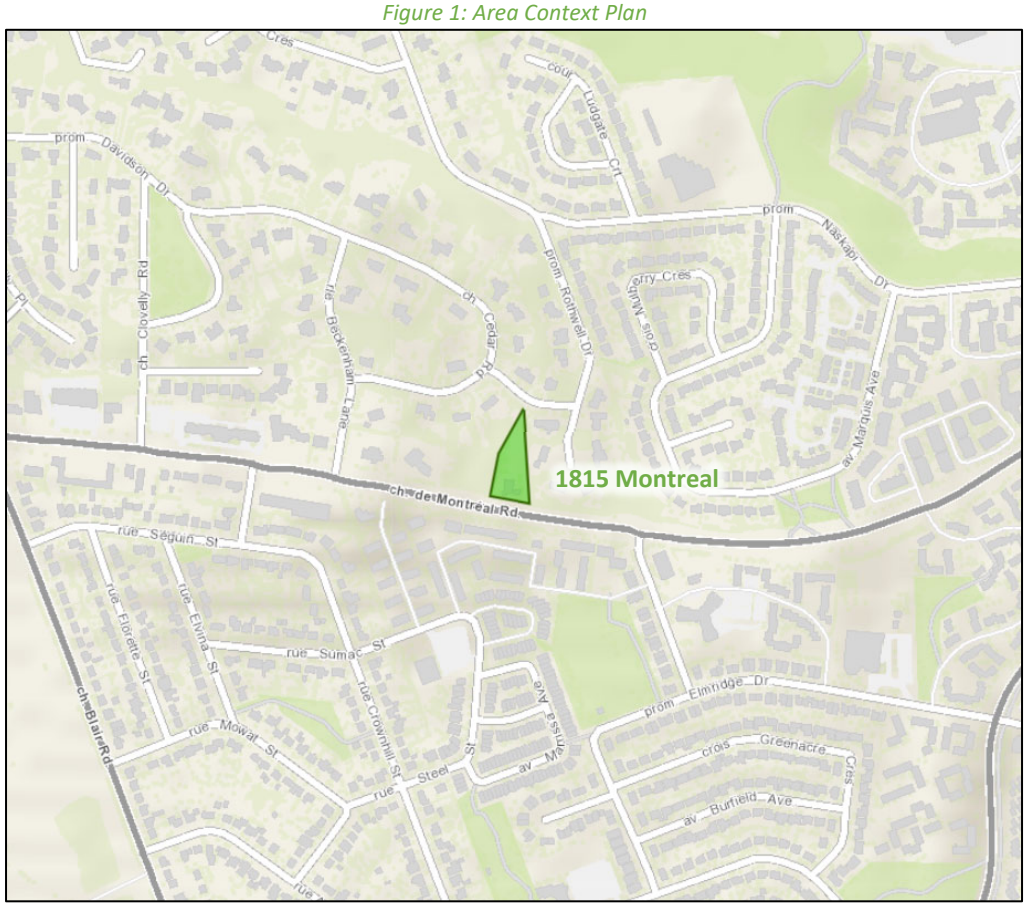
2 Existing and Planned Conditions

2.1 Proposed Development

The existing site, located at 1815 Montreal Road, is zoned as Residential First Density Zone (R1AA). The site currently includes a single dwelling unit with a driveway onto Montreal Road. The proposed redevelopment consists of a 21-storey residential building comprising 191 dwelling units. The site is proposed to be accessed by two right-in/right-out connections onto Montreal Road, where the western access will function primarily as an outbound access with respect to vehicular traffic, outside of occasional loading/garbage collection use. One hundred sixty vehicle parking spaces and 156 bicycle parking spaces are proposed. The anticipated full build-out and occupancy horizon is 2028 with construction occurring in a single phase.

Figure 1 illustrates the study area context. Figure 2 illustrates the proposed concept plan.

Figure 1: Area Context Plan

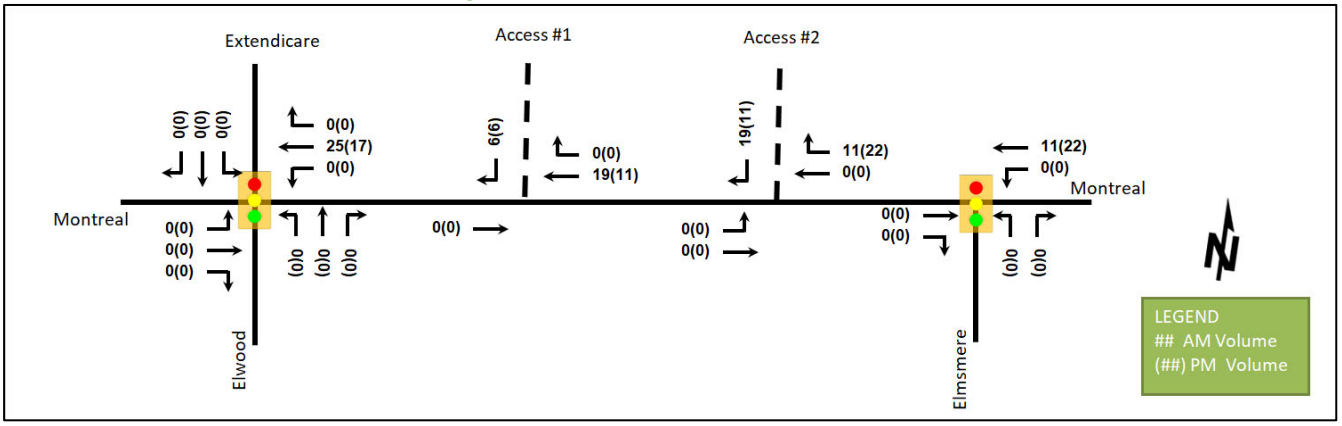


Source: http://maps.ottawa.ca/geoOttawa/ Accessed: September 26, 2024

Table 10: Trip Assignment

To/From	Via
North	5% Montreal Rd (E)
South	30% Montreal Rd (E)
East	20% Montreal Rd (E)
West	35% Montreal Rd (E)
Total	**100%**

Figure 13: New Site Generation Auto Volumes



5 Exemption Review

Table 11 summarizes the exemptions for this TIA.

Table 11: Exemption Review

Module	Element	Explanation	Exempt/Required
Site Design and TDM			
Development Design	4.1.2 Circulation and Access	Only required for site plan and zoning by-law applications	Required
	4.1.3 New Street Networks	Only required for plans of subdivision	Exempt
Parking	4.2.1 Parking Supply	Only required for site plan and zoning by-law applications	Required
Boundary Street Design		All applications	Required
Transportation Demand Management	All Elements	Only required when the development generates more than 60 person-trips	Required
Network Impact			
Background Network Travel Demand	All Elements	Only required when one or more other Network Impact Modules are triggered when the development generates more than 75 auto or transit trips	Exempt
Demand Rationalization		Only required when one or more other Network Impact Modules when the development generates more than 75 auto trips	Exempt
Neighbourhood Traffic Calming	4.6.1 Adjacent Neighbourhoods	If the development meets all of the following criteria along the route(s) site	Exempt

1 Screening

This study has been prepared according to the City of Ottawa's 2017 Transportation Impact Assessment (TIA) Guidelines. Accordingly, a Step 1 Screening Form has been prepared and is included as Appendix A, along with the Certification Form for the TIA Study PM. As shown in the Screening Form, the trip generation trigger was not met, but the safety and location triggers were met indicating a TIA is required including the Design Review component. This report accompanies a site plan application.

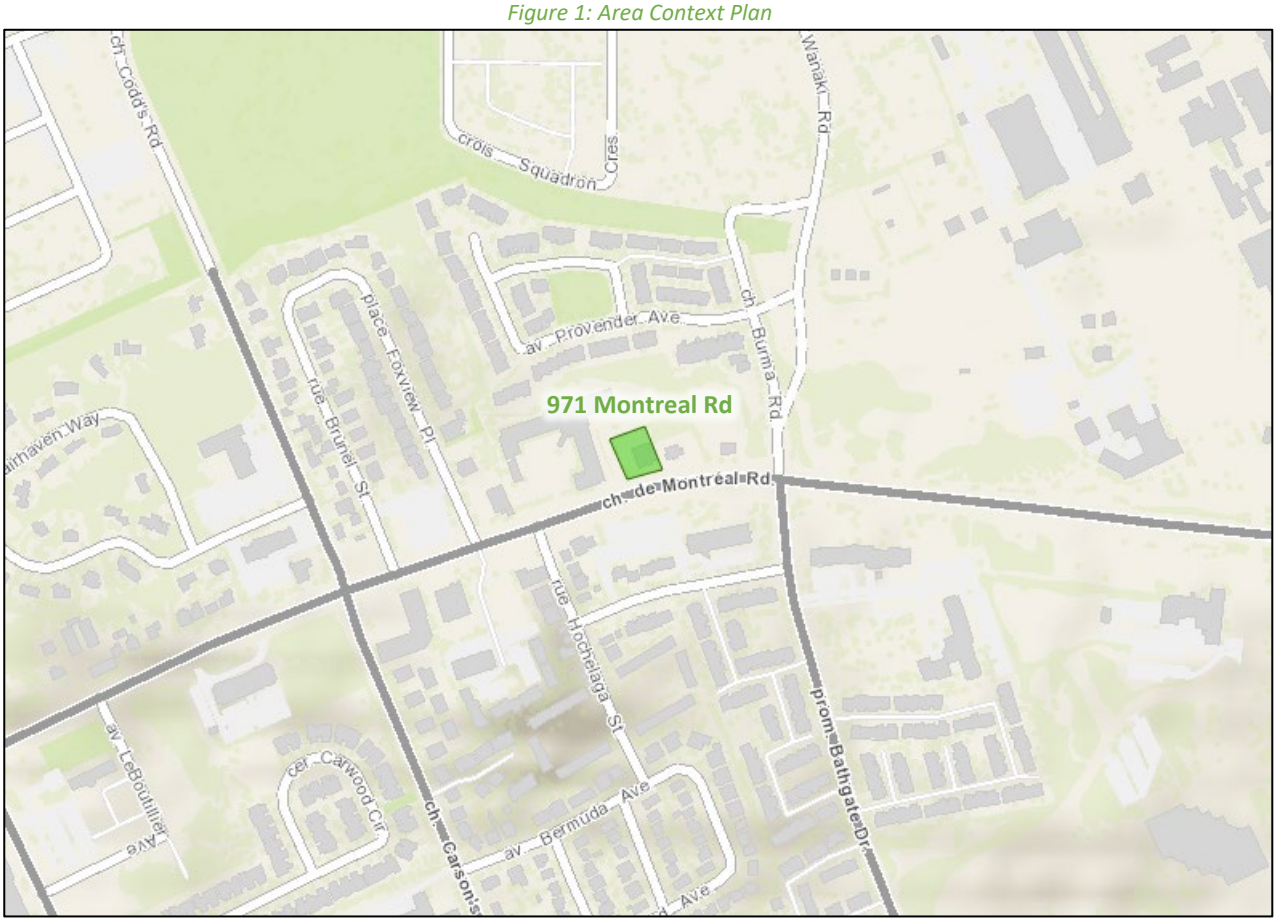
2 Existing and Planned Conditions

2.1 Proposed Development

The existing site, zoned as Arterial Mainstreet (AM10[2199]) and within the Montreal Arterial Mainstreet Design Priority Area, is currently occupied by a restaurant and surface parking lot. The proposed redevelopment of the site includes a 9-storey apartment building comprising 78 apartment units, to be built-out in a single phase by 2025. The development proposes use of the existing full-movement east access and the removal of the existing west access and proposes 40 vehicle and 78 bicycle parking stalls.

Figure 1 illustrates the Study Area Context. Figure 2 illustrates the proposed concept plan.

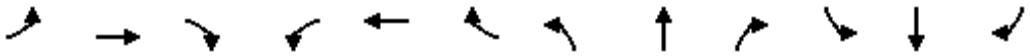
Figure 1: Area Context Plan



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: March 11, 2021

APPENDIX I

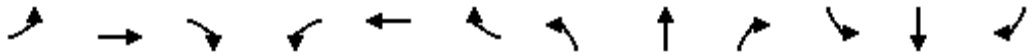
Detailed Synchro Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	574	1	0	1003	4	0	0	0	4	0	88
Future Volume (Veh/h)	54	574	1	0	1003	4	0	0	0	4	0	88
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	60	638	1	0	1114	4	0	0	0	4	0	98
Pedestrians		1			4			8			6	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1124			647			1422	1890	332	1565	1889	566
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1124			647			1422	1890	332	1565	1889	566
tC, single (s)	4.2			4.1			7.5	6.5	6.9	8.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	4.0	4.0	3.3
p0 queue free %	90			100			100	100	100	91	100	79
cM capacity (veh/h)	586			927			68	61	656	43	62	459

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	60	425	214	0	743	375	0	102
Volume Left	60	0	0	0	0	0	0	4
Volume Right	0	0	1	0	0	4	0	98
cSH	586	1700	1700	1700	1700	1700	1700	332
Volume to Capacity	0.10	0.25	0.13	0.00	0.44	0.22	0.00	0.31
Queue Length 95th (m)	2.6	0.0	0.0	0.0	0.0	0.0	0.0	9.7
Control Delay (s)	11.8	0.0	0.0	0.0	0.0	0.0	0.0	20.6
Lane LOS	B						A	C
Approach Delay (s)	1.0			0.0			0.0	20.6
Approach LOS							A	C

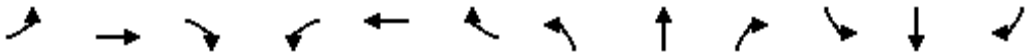
Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	49.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	869	1	5	771	4	5	0	2	7	1	64
Future Volume (Veh/h)	85	869	1	5	771	4	5	0	2	7	1	64
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	94	966	1	6	857	4	6	0	2	8	1	71
Pedestrians		3			2			8			11	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	872			975			1678	2046	494	1557	2045	444
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	872			975			1678	2046	494	1557	2045	444
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	88			99			87	100	100	88	98	87
cM capacity (veh/h)	761			698			47	47	516	67	47	553

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	94	644	323	6	571	290	8	80
Volume Left	94	0	0	6	0	0	6	8
Volume Right	0	0	1	0	0	4	2	71
cSH	761	1700	1700	698	1700	1700	60	297
Volume to Capacity	0.12	0.38	0.19	0.01	0.34	0.17	0.13	0.27
Queue Length 95th (m)	3.2	0.0	0.0	0.2	0.0	0.0	3.3	8.1
Control Delay (s)	10.4	0.0	0.0	10.2	0.0	0.0	73.5	21.5
Lane LOS	B			B			F	C
Approach Delay (s)	0.9			0.1			73.5	21.5
Approach LOS							F	C

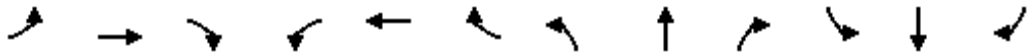
Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	44.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	604	1	0	1057	4	0	0	0	4	0	88
Future Volume (Veh/h)	54	604	1	0	1057	4	0	0	0	4	0	88
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	54	604	1	0	1057	4	0	0	0	4	0	88
Pedestrians		1			4			8			6	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1067			613			1338	1788	314	1479	1786	538
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1067			613			1338	1788	314	1479	1786	538
tC, single (s)	4.2			4.1			7.5	6.5	6.9	8.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	4.0	4.0	3.3
p0 queue free %	91			100			100	100	100	92	100	82
cM capacity (veh/h)	616			955			83	72	673	51	73	479

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	54	403	202	0	705	356	0	92
Volume Left	54	0	0	0	0	0	0	4
Volume Right	0	0	1	0	0	4	0	88
cSH	616	1700	1700	1700	1700	1700	1700	351
Volume to Capacity	0.09	0.24	0.12	0.00	0.41	0.21	0.13	0.26
Queue Length 95th (m)	2.2	0.0	0.0	0.0	0.0	0.0	0.0	7.8
Control Delay (s)	11.4	0.0	0.0	0.0	0.0	0.0	0.0	18.8
Lane LOS	B						A	C
Approach Delay (s)	0.9			0.0			0.0	18.8
Approach LOS							A	C

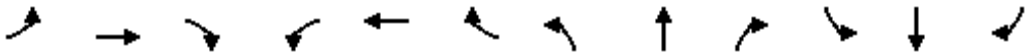
Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	50.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	910	1	5	831	4	5	0	2	7	1	64
Future Volume (Veh/h)	85	910	1	5	831	4	5	0	2	7	1	64
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	85	910	1	5	831	4	5	0	2	7	1	64
Pedestrians		3			2			8			11	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	846			919			1582	1944	466	1483	1943	432
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	846			919			1582	1944	466	1483	1943	432
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			99			91	100	100	91	98	89
cM capacity (veh/h)	778			733			57	56	538	77	56	564

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	85	607	304	5	554	281	7	72
Volume Left	85	0	0	5	0	0	5	7
Volume Right	0	0	1	0	0	4	2	64
cSH	778	1700	1700	733	1700	1700	76	323
Volume to Capacity	0.11	0.36	0.18	0.01	0.33	0.17	0.09	0.22
Queue Length 95th (m)	2.8	0.0	0.0	0.2	0.0	0.0	2.2	6.4
Control Delay (s)	10.2	0.0	0.0	9.9	0.0	0.0	56.7	19.3
Lane LOS	B			A			F	C
Approach Delay (s)	0.9			0.1			56.7	19.3
Approach LOS							F	C

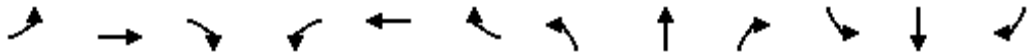
Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	45.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	633	1	0	1107	4	0	0	0	4	0	88
Future Volume (Veh/h)	54	633	1	0	1107	4	0	0	0	4	0	88
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	54	633	1	0	1107	4	0	0	0	4	0	88
Pedestrians		1			4			8			6	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1117			642			1392	1866	329	1544	1865	562
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1117			642			1392	1866	329	1544	1865	562
tC, single (s)	4.2			4.1			7.5	6.5	6.9	8.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	4.0	4.0	3.3
p0 queue free %	91			100			100	100	100	91	100	81
cM capacity (veh/h)	589			931			75	64	659	45	64	462

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	54	422	212	0	738	373	0	92
Volume Left	54	0	0	0	0	0	0	4
Volume Right	0	0	1	0	0	4	0	88
cSH	589	1700	1700	1700	1700	1700	1700	329
Volume to Capacity	0.09	0.25	0.12	0.00	0.43	0.22	0.09	0.28
Queue Length 95th (m)	2.3	0.0	0.0	0.0	0.0	0.0	0.0	8.5
Control Delay (s)	11.7	0.0	0.0	0.0	0.0	0.0	0.0	20.2
Lane LOS	B						A	C
Approach Delay (s)	0.9			0.0			0.0	20.2
Approach LOS							A	C

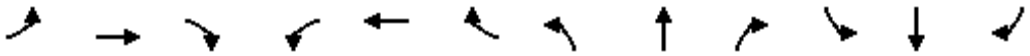
Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	52.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	953	1	5	869	4	5	0	2	7	1	64
Future Volume (Veh/h)	85	953	1	5	869	4	5	0	2	7	1	64
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	85	953	1	5	869	4	5	0	2	7	1	64
Pedestrians		3			2			8			11	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	884			962			1644	2026	487	1542	2024	450
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	884			962			1644	2026	487	1542	2024	450
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			99			90	100	100	90	98	88
cM capacity (veh/h)	753			706			51	49	521	69	49	548

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	85	635	319	5	579	294	7	72
Volume Left	85	0	0	5	0	0	5	7
Volume Right	0	0	1	0	0	4	2	64
cSH	753	1700	1700	706	1700	1700	68	302
Volume to Capacity	0.11	0.37	0.19	0.01	0.34	0.17	0.10	0.24
Queue Length 95th (m)	2.9	0.0	0.0	0.2	0.0	0.0	2.5	6.9
Control Delay (s)	10.4	0.0	0.0	10.1	0.0	0.0	63.6	20.6
Lane LOS	B			B			F	C
Approach Delay (s)	0.8			0.1			63.6	20.6
Approach LOS							F	C

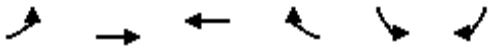
Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	46.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	605	1	0	1066	5	0	0	0	9	0	106
Future Volume (Veh/h)	65	605	1	0	1066	5	0	0	0	9	0	106
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	65	605	1	0	1066	5	0	0	0	9	0	106
Pedestrians		1			4			8			6	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1077			614			1384	1820	315	1511	1818	542
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1077			614			1384	1820	315	1511	1818	542
tC, single (s)	4.2			4.1			7.5	6.5	6.9	8.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	4.0	4.0	3.3
p0 queue free %	89			100			100	100	100	81	100	78
cM capacity (veh/h)	611			954			72	68	673	47	68	476

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	65	403	203	0	711	360	0	115
Volume Left	65	0	0	0	0	0	0	9
Volume Right	0	0	1	0	0	5	0	106
cSH	611	1700	1700	1700	1700	1700	1700	278
Volume to Capacity	0.11	0.24	0.12	0.00	0.42	0.21	0.00	0.41
Queue Length 95th (m)	2.7	0.0	0.0	0.0	0.0	0.0	0.0	14.7
Control Delay (s)	11.6	0.0	0.0	0.0	0.0	0.0	0.0	26.8
Lane LOS	B						A	D
Approach Delay (s)	1.1			0.0			0.0	26.8
Approach LOS							A	D

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	52.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	613	1062	3	4	9
Future Volume (Veh/h)	1	613	1062	3	4	9
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)	1	613	1062	3	4	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1065				1372	532
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1065				1372	532
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				97	98
cM capacity (veh/h)	650				137	492

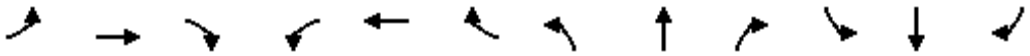
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	205	409	708	357	13
Volume Left	1	0	0	0	4
Volume Right	0	0	0	3	9
cSH	650	1700	1700	1700	273
Volume to Capacity	0.00	0.24	0.42	0.21	0.05
Queue Length 95th (m)	0.0	0.0	0.0	0.0	1.1
Control Delay (s)	0.1	0.0	0.0	0.0	18.8
Lane LOS	A				C
Approach Delay (s)	0.0		0.0		18.8
Approach LOS					C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	23	0	58	12	0	92
Future Volume (Veh/h)	23	0	58	12	0	92
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	23	0	58	12	0	92
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	156	64			70	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	156	64			70	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			100	
cM capacity (veh/h)	835	1000			1531	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	23	70	92
Volume Left	23	0	0
Volume Right	0	12	0
cSH	835	1700	1531
Volume to Capacity	0.03	0.04	0.00
Queue Length 95th (m)	0.6	0.0	0.0
Control Delay (s)	9.4	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.4	0.0	0.0
Approach LOS	A		

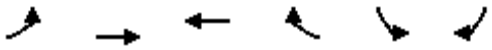
Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	15.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	912	1	5	837	6	5	0	2	10	1	75
Future Volume (Veh/h)	106	912	1	5	837	6	5	0	2	10	1	75
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	106	912	1	5	837	6	5	0	2	10	1	75
Pedestrians		3			2			8			11	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	854			921			1640	1996	466	1533	1994	436
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	854			921			1640	1996	466	1533	1994	436
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	86			99			90	100	100	85	98	87
cM capacity (veh/h)	773			731			49	50	538	69	50	561

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	106	608	305	5	558	285	7	86
Volume Left	106	0	0	5	0	0	5	10
Volume Right	0	0	1	0	0	6	2	75
cSH	773	1700	1700	731	1700	1700	66	288
Volume to Capacity	0.14	0.36	0.18	0.01	0.33	0.17	0.11	0.30
Queue Length 95th (m)	3.6	0.0	0.0	0.2	0.0	0.0	2.6	9.3
Control Delay (s)	10.4	0.0	0.0	10.0	0.0	0.0	65.6	22.8
Lane LOS	B			A			F	C
Approach Delay (s)	1.1			0.1			65.6	22.8
Approach LOS							F	C

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	47.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	922	842	6	2	6
Future Volume (Veh/h)	2	922	842	6	2	6
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)	2	922	842	6	2	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	848				1310	424
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	848				1310	424
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				99	99
cM capacity (veh/h)	785				150	579

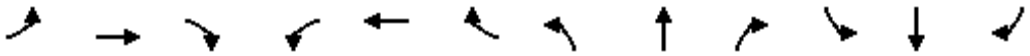
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	309	615	561	287	8
Volume Left	2	0	0	0	2
Volume Right	0	0	0	6	6
cSH	785	1700	1700	1700	338
Volume to Capacity	0.00	0.36	0.33	0.17	0.02
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.6
Control Delay (s)	0.1	0.0	0.0	0.0	15.9
Lane LOS	A				C
Approach Delay (s)	0.0		0.0		15.9
Approach LOS					C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	14	0	89	23	0	72
Future Volume (Veh/h)	14	0	89	23	0	72
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	14	0	89	23	0	72
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	172	100			112	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	172	100			112	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	818	955			1478	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	112	72
Volume Left	14	0	0
Volume Right	0	23	0
cSH	818	1700	1478
Volume to Capacity	0.02	0.07	0.00
Queue Length 95th (m)	0.4	0.0	0.0
Control Delay (s)	9.5	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.5	0.0	0.0
Approach LOS	A		

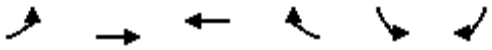
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	16.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	634	1	0	1116	5	0	0	0	9	0	106
Future Volume (Veh/h)	65	634	1	0	1116	5	0	0	0	9	0	106
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	65	634	1	0	1116	5	0	0	0	9	0	106
Pedestrians		1			4			8			6	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1127			643			1438	1900	330	1576	1898	568
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1127			643			1438	1900	330	1576	1898	568
tC, single (s)	4.2			4.1			7.5	6.5	6.9	8.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	4.0	4.0	3.3
p0 queue free %	89			100			100	100	100	78	100	77
cM capacity (veh/h)	584			930			65	60	658	41	60	458

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	65	423	212	0	744	377	0	115
Volume Left	65	0	0	0	0	0	0	9
Volume Right	0	0	1	0	0	5	0	106
cSH	584	1700	1700	1700	1700	1700	1700	256
Volume to Capacity	0.11	0.25	0.12	0.00	0.44	0.22	0.11	0.45
Queue Length 95th (m)	2.8	0.0	0.0	0.0	0.0	0.0	0.0	16.5
Control Delay (s)	11.9	0.0	0.0	0.0	0.0	0.0	0.0	30.0
Lane LOS	B						A	D
Approach Delay (s)	1.1			0.0			0.0	30.0
Approach LOS							A	D

Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	54.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	642	1112	3	4	9
Future Volume (Veh/h)	1	642	1112	3	4	9
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)	1	642	1112	3	4	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1115				1436	558
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1115				1436	558
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				97	98
cM capacity (veh/h)	622				124	473

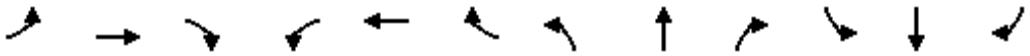
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	215	428	741	374	13
Volume Left	1	0	0	0	4
Volume Right	0	0	0	3	9
cSH	622	1700	1700	1700	254
Volume to Capacity	0.00	0.25	0.44	0.22	0.05
Queue Length 95th (m)	0.0	0.0	0.0	0.0	1.2
Control Delay (s)	0.1	0.0	0.0	0.0	20.0
Lane LOS	A				C
Approach Delay (s)	0.0		0.0		20.0
Approach LOS					C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	23	0	58	12	0	92
Future Volume (Veh/h)	23	0	58	12	0	92
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	23	0	58	12	0	92
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	156	64			70	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	156	64			70	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			100	
cM capacity (veh/h)	835	1000			1531	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	23	70	92
Volume Left	23	0	0
Volume Right	0	12	0
cSH	835	1700	1531
Volume to Capacity	0.03	0.04	0.00
Queue Length 95th (m)	0.6	0.0	0.0
Control Delay (s)	9.4	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.4	0.0	0.0
Approach LOS	A		

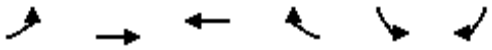
Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	15.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	955	1	5	875	6	5	0	2	10	1	75
Future Volume (Veh/h)	106	955	1	5	875	6	5	0	2	10	1	75
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	106	955	1	5	875	6	5	0	2	10	1	75
Pedestrians		3			2			8			11	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	892			964			1702	2078	488	1592	2075	454
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	892			964			1702	2078	488	1592	2075	454
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	86			99			89	100	100	84	98	86
cM capacity (veh/h)	748			704			44	44	520	62	44	545

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	106	637	319	5	583	298	7	86
Volume Left	106	0	0	5	0	0	5	10
Volume Right	0	0	1	0	0	6	2	75
cSH	748	1700	1700	704	1700	1700	59	267
Volume to Capacity	0.14	0.37	0.19	0.01	0.34	0.18	0.12	0.32
Queue Length 95th (m)	3.7	0.0	0.0	0.2	0.0	0.0	2.9	10.2
Control Delay (s)	10.6	0.0	0.0	10.1	0.0	0.0	73.9	24.8
Lane LOS	B			B			F	C
Approach Delay (s)	1.1			0.1			73.9	24.8
Approach LOS							F	C

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	48.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	965	880	6	2	6
Future Volume (Veh/h)	2	965	880	6	2	6
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)	2	965	880	6	2	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	886				1370	443
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	886				1370	443
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				99	99
cM capacity (veh/h)	760				137	562

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	324	643	587	299	8
Volume Left	2	0	0	0	2
Volume Right	0	0	0	6	6
cSH	760	1700	1700	1700	317
Volume to Capacity	0.00	0.38	0.35	0.18	0.03
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.6
Control Delay (s)	0.1	0.0	0.0	0.0	16.7
Lane LOS	A				C
Approach Delay (s)	0.0		0.0		16.7
Approach LOS					C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	39.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	14	0	89	23	0	72
Future Volume (Veh/h)	14	0	89	23	0	72
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	14	0	89	23	0	72
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	172	100			112	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	172	100			112	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	818	955			1478	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	112	72
Volume Left	14	0	0
Volume Right	0	23	0
cSH	818	1700	1478
Volume to Capacity	0.02	0.07	0.00
Queue Length 95th (m)	0.4	0.0	0.0
Control Delay (s)	9.5	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.5	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	16.4%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX J

Transportation Demand Management Checklists

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	☐
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	☐

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	☐
	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)	☐
	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	☒
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)	☐

APPENDIX K

Detailed MMLOS Analysis

1.0 SEGMENT MMLOS

1.1.1 Pedestrian Level of Service (PLOS)

Exhibit 4 of the MMLOS guidelines has been used to evaluate the segment PLOS of Montreal Road and Beckenham Lane. Exhibit 22 of the MMLOS guidelines suggests a target PLOS C for a local roadway in the general urban area and on arterial mainstreets. The results of the segment PLOS analysis are summarized in **Table 1**.

Table 1: Segment PLOS

Sidewalk Width (m)	Boulevard Width (m)	Avg. Daily Curb Lane Traffic Volume	Prescence of On-Street Parking	Operating Speed	Segment PLOS
Montreal Road (North Curb)					
> 2.0	0.0	> 3000	No	70 km/h	F
Montreal Road (South Curb)					
1.5	1.5	> 3000	No	70 km/h	E
Beckenham Lane (East Curb)					
0.0	0.0	≤ 3000	No	50 km/h	F
Beckenham Lane (West Curb)					
0.0	0.0	≤ 3000	Yes	50 km/h	F
Cedar Road (North Curb)					
0.0	0.0	≤ 3000	No	50 km/h	F
Cedar Road (South Curb)					
0.0	0.0	≤ 3000	Yes	50 km/h	F

1.1.2 Bicycle Level of Service (BLOS)

Exhibit 11 of the MMLOS guidelines has been used to evaluate the segment BLOS of Montreal Road and Beckenham Lane. Exhibit 22 of the MMLOS guidelines suggests a target BLOS C for Montreal Road and BLOS D for Beckenham Lane. The results of the segment BLOS analysis are summarized in **Table 2**.

Table 2: Segment BLOS

Road Class	Bike Route	Type of Bikeway	Travel Lanes	Operating Speed	Segment BLOS
Montreal Road					
Arterial Road	Spine Route	Mixed Traffic	4	70 km/h	F
Beckenham Lane					
Local Road	-	Mixed Traffic	2	50 km/h	B
Cedar Road					
Local Road	-	Mixed Traffic	2	50 km/h	B

1.1.3 Transit Level of Service (TLOS)

Exhibit 15 of the MMLOS guidelines has been used to evaluate the segment TLOS of Montreal Road. Exhibit 22 of the MMLOS guidelines suggests a target TLOS D for arterial mainstreets along a transit priority corridor (isolated measures). Since Beckenham Lane does not provide

transit service, the transit level of service (TLOS) has not been evaluated. The results of the segment TLOS analysis are summarized in **Table 3**.

Table 3: Segment TLOS

Facility Type	Congestion	Frictions	Incident Potential	Segment TLOS
Montreal Road				
Mixed Traffic	Yes	Medium	Medium	E

1.1.4 Truck Level of Service (TkLOS)

Exhibit 20 of the MMLOS guidelines has been used to evaluate the segment TkLOS of Montreal Road and Beckenham Lane. Exhibit 22 of the MMLOS guidelines suggests a target TkLOS D for Montreal Road and no target for Beckenham Lane. The results of the segment TkLOS analysis are summarized in **Table 4**.

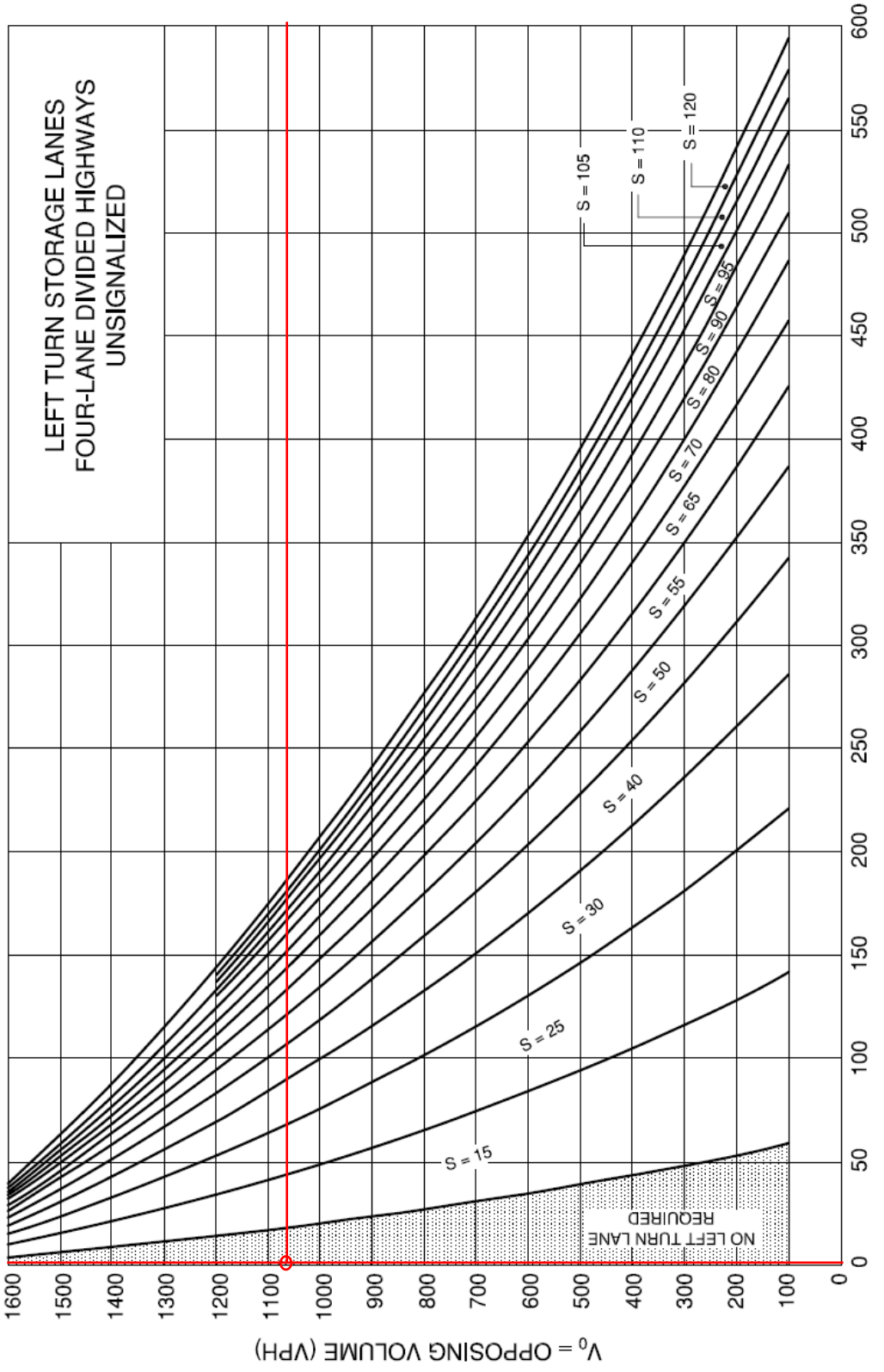
Table 4: Segment TkLOS

Curb Lane Width	Number of Travel Lanes per Direction	Segment TkLOS
Montreal Road		
> 3.7m	2	A
Beckenham Lane		
< 3.3m	1	D

APPENDIX L

MTO Left Turn Lane Warrants

Exhibit 9A-32



Left Turn Lane Warrant
Eastbound Montreal Road & Site Access
2029 Total Traffic AM Peak

Left Turns = 1 vehicle
Vo = 1065 vehicles

Left Turn Lane Warrant
Eastbound Montreal Road & Site Access
2029 Total Traffic PM Peak

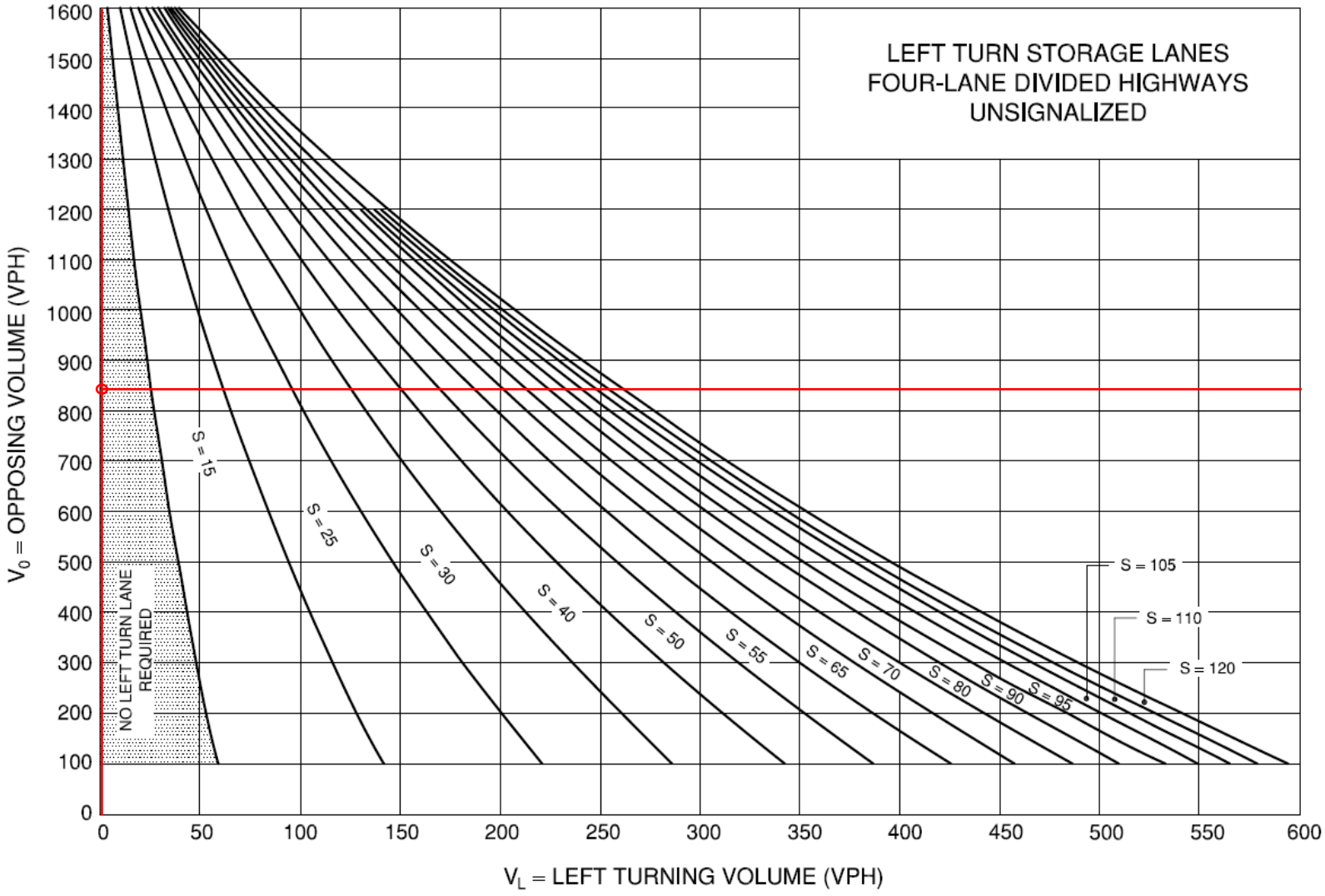
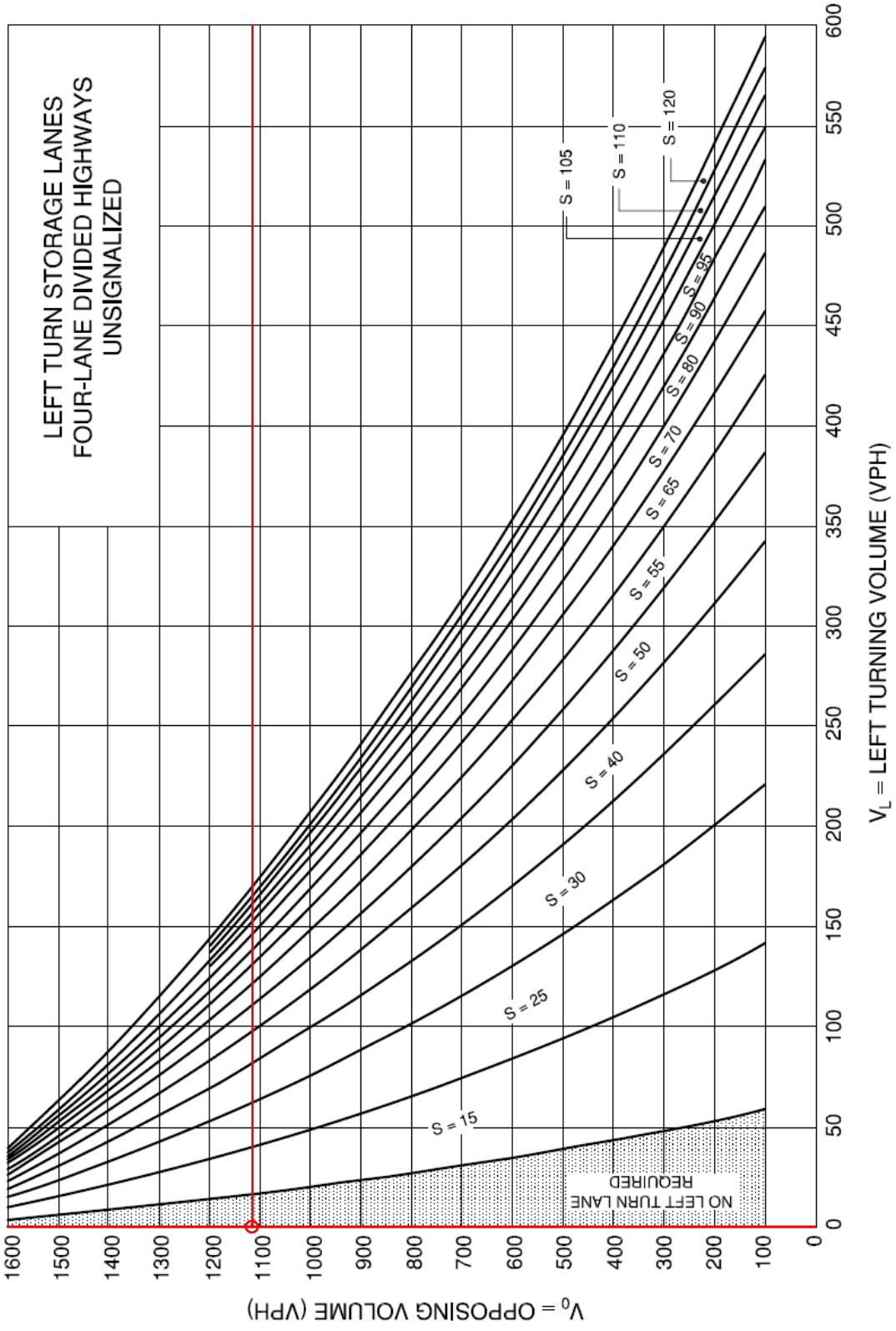


Exhibit 9A-32

Left Turns = 2 vehicles
Vo = 848 vehicles

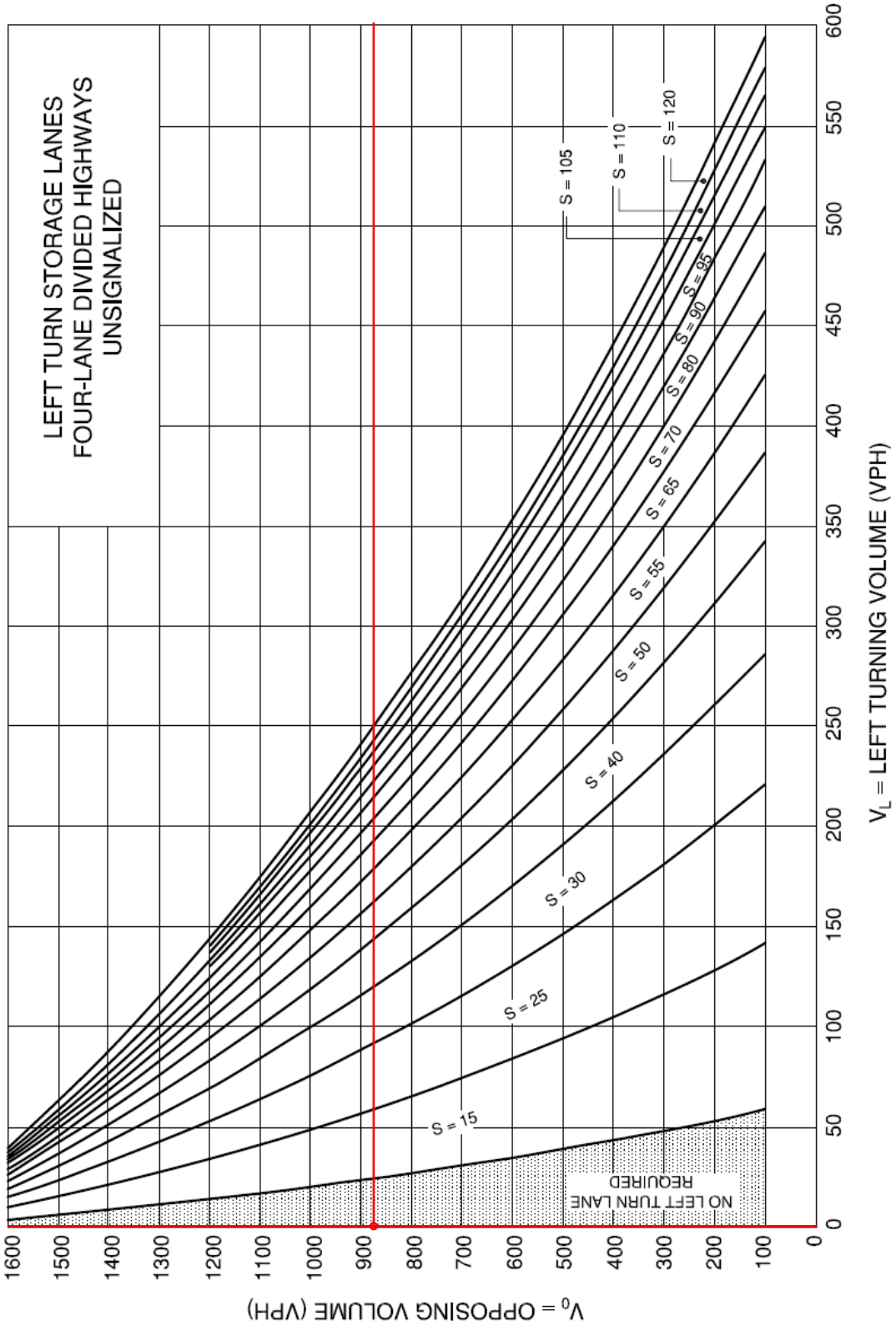
Exhibit 9A-32



Left Turn Lane Warrant
Eastbound Montreal Road & Site Access
2034 Total Traffic AM Peak

Left Turns = 1 vehicles
Vo = 1115 vehicles

Exhibit 9A-32



Left Turn Lane Warrant
Eastbound Montreal Road & Site Access
2034 Total Traffic PM Peak

Left Turns = 2 vehicles
Vo = 886 vehicles

APPENDIX M

OTM Traffic Signalization Warrants

Engineers, Planners & Landscape Architects

TRAFFIC SIGNAL JUSTIFICATION
USING PROJECTED VOLUMES

LOCATION: **Montreal Road** **at** **Beckenham Lane**

YEAR: **Total2029**

JUSTIFICATION	DESCRIPTION	MINIMUM REQUIREMENT		COMPLIANCE		
		FREE FLOW	RESTRICTED FLOW	SECTIONAL		ENTIRE % (2)
		OPERATING SPEED ≥ 70KM/H	OPERATING SPEED < 70 KM/H	NUMERICAL	PERCENT	
1. MINIMUM VEHICULAR WARRANT	A. Vehicle volume, all approaches (average hour)	480 600 (2 or more lane approach)	720 900 (2 or more lane approach)	954	159%	43%
	B. Vehicle volume along minor street (average hour)	120 180 (tee intersection)	170 255 (tee intersection)	52	43%	
2. DELAY TO CROSS TRAFFIC	A. Vehicle volume along major street (average hour)	480 600 (2 or more lane approach)	720 900 (2 or more lane approach	899	150%	26%
	B (1). Combined vehicle and pedestrian volume crossing the major street (average hour)	50	75	13	26%	

NOTES

1) For definition of crossing volume refer to the Ontario Traffic Manual Book 12, Section 4.5 (July 2024).
2) The lowest sectional percentage governs the entire Justification.
3) Average hourly volumes estimated from peak hour volumes, AHV = PM / 2 or AHV = (AM + PM) / 4.

NOVATECH
Engineers, Planners & Landscape Architects

TRAFFIC SIGNAL JUSTIFICATION
USING PROJECTED VOLUMES

LOCATION: **Montreal Road** **at** **Beckenham Lane**

YEAR: **Total2034**

JUSTIFICATION	DESCRIPTION	MINIMUM REQUIREMENT		COMPLIANCE		
		FREE FLOW	RESTRICTED FLOW	SECTIONAL		ENTIRE % (2)
		OPERATING SPEED ≥ 70KM/H	OPERATING SPEED < 70 KM/H	NUMERICAL	PERCENT	
1. MINIMUM VEHICULAR WARRANT	A. Vehicle volume, all approaches (average hour)	480 600 (2 or more lane approach)	720 900 (2 or more lane approach)	994	166%	43%
	B. Vehicle volume along minor street (average hour)	120 180 (tee intersection)	170 255 (tee intersection)	52	43%	
2. DELAY TO CROSS TRAFFIC	A. Vehicle volume along major street (average hour)	480 600 (2 or more lane approach)	720 900 (2 or more lane approach	939	157%	26%
	B (1). Combined vehicle and pedestrian volume crossing the major street (average hour)	50	75	13	26%	

NOTES

1) For definition of crossing volume refer to the Ontario Traffic Manual Book 12, Section 4.5 (July 2024).
2) The lowest sectional percentage governs the entire Justification.
3) Average hourly volumes estimated from peak hour volumes, AHV = PM / 2 or AHV = (AM + PM) / 4.