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25 PICKERING PLACE – PHASE ONE

Transportation Impact Assessment

**Proposed Mixed-Use Development
25 Pickering Place – Phase One
Transportation Impact Assessment**

Prepared By:

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Dated: May 2024

Novatech File: 119240
Ref: R-2024-015

May 10, 2024

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

Attention: Mr. Mike Giampa, P.Eng
Senior Transportation Engineer, Infrastructure Applications

Dear Mr. Giampa:

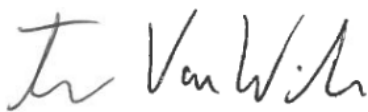
Reference: 25 Pickering Place – Phase One
Transportation Impact Assessment
Novatech File No. 119240

We are pleased to submit the following Transportation Impact Assessment (TIA), in support of a Site Plan application at Phase 1 of 25 Pickering Place, for your review and signoff. The structure and format of this report is in accordance with the City of Ottawa Revised Transportation Impact Assessment Guidelines (June 2023).

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

Yours truly,

NOVATECH



Trevor Van Wiechen, M.Eng.
E.I.T. | Transportation



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 licensed¹ or registered² 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.

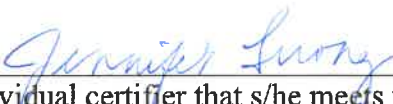
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Dated at Ottawa this 10 day of May, 2024 .
(City)

Name: Jennifer Luong
(Please Print)

Professional Title: P. Eng. - Senior Project Manager


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

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EXECUTIVE SUMMARY

This Transportation Impact Assessment (TIA) has been prepared in support of a Site Plan application for the mixed-use development at Phase One of 25 Pickering Place. The subject site was previously occupied by warehouse and office uses.

The subject site is located in the east side of the Pickering Place at its southern end and is surrounded by the following:

- Warehouse and Office buildings followed by Tremblay Road and the Queensway to the north,
- Warehouse developments and auto centre followed by Belfast Road to the east,
- Rail corridor followed by commercial and industrial developments to the south, and
- Via Rail and OC Transpo Tremblay rail stations to the west.

The proposed development includes approximately 483 residential units and 279m² of ground floor commercial. Underground parking, with roughly 250 parking spaces for both buildings, will be provided and accessed through the proposed access to Pickering Place. The proposed development is anticipated to be completed in one phase, with buildout occurring in 2027. The proposed development is the first phase of a larger overall development between Pickering Place and Avenue L south of Tremblay Road. A previous Draft Plan and Zoning Application was completed for the overall development.

The Subject Property is designated as a Hub with an Evolving Neighbourhood overlay within the Inner Urban Transect of the City of Ottawa Official Plan (2021). The property is zoned Transit Oriented Development Zone (TD3) in the City of Ottawa Zoning By-law 2008-250.

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

Forecasting

- As the current site plan proposes 96 fewer dwelling units and a decrease in ground floor commercial the trip generation and traffic analysis presented in the 2020 TIA is a conservative analysis.

Development Design

- Sidewalks will be provided between the proposed development and adjacent roadways and will connect to the main building entrances.
- Bicycle parking will be provided within the underground parking garage.
- OC Transpo stops #1369, #1371, #1836, #1837, and #3024 are within 400m walking distance of all entrances to the proposed development.
- All required TDM-supportive design and infrastructure measures in the TDM checklist are met.
- Sufficient intersection sight distance is available at each access for all turning movements.

Parking

- The proposed development includes 46 visitor parking spaces. As the development provides 46 visitor parking spaces the minimum vehicle parking requirement is met.
- A total of 373 bicycle parking spaces are proposed, which meets the 243 bicycle parking spaces as required by the Zoning By-law.
- The proposed development includes 250 parking spaces for tenants and visitors of the building. Per the Zoning By-law a maximum of 846 parking spaces is allowed for this development. As 250 parking spaces are provided the development does not exceed the maximum number of allowable parking spaces.

Boundary Streets

- A sidewalk on the east side of Pickering Place south of Bannermount Avenue is proposed as part of this site plan. A sidewalk can be considered on the east side of Pickering Place as part of the future site plan application for Block D of the 25 Pickering Place subdivision north of Bannermount Avenue.
- Pickering Place does not meet the target Bicycle Level of Service (BLOS) D. On Pickering Place a BLOS B can be achieved by either reducing the posted speed to 40km/h or painting 1.2m wide bike lanes. A reduced posted speed limit is considered appropriate for the 7m road width planned as part of the 25 Pickering subdivision. North of the subdivision the 10.5m road width is sufficient for two 1.25m bike lanes and two 4m travel lanes. This is identified for the City's consideration.

Access Design

- As the Pickering Place access meets Pickering Place at a perpendicular angle and no sightline obstructions have been identified based on a desktop review, available sightlines are within recommended guidelines to allow safe all directional access to the development.
- The proposed accesses adhere to all provisions of the City's Private Approach By-law.

1.0 SCREENING

1.1 Introduction

This Transportation Impact Assessment (TIA) has been prepared in support of a Site Plan application for the mixed-use development at Phase One of 25 Pickering Place. The subject site was previously occupied by warehouse and office uses.

The subject site is located in the east side of the Pickering Place at its southern end and is surrounded by the following:

- Warehouse and Office buildings followed by Tremblay Road and the Queensway to the north,
- Warehouse developments and auto centre followed by Belfast Road to the east,
- Rail corridor followed by commercial and industrial developments to the south, and
- Via Rail and OC Transpo Tremblay rail stations to the west.

An aerial of the vicinity around the subject site is provided in **Figure 1**.

Figure 1: View of the Subject Site



1.2 Proposed Development

The proposed development includes approximately 483 residential units and 279m² of ground floor commercial. Underground parking, with roughly 250 parking spaces for both buildings, will be

provided and accessed through the proposed access to Pickering Place. The proposed development is anticipated to be completed in one phase, with buildout occurring in 2027. The proposed development is the first phase of a larger overall development between Pickering Place and Avenue L south of Tremblay Road. A previous Draft Plan and Zoning Application was completed for the overall development.

The Subject Property is designated as a Hub with an Evolving Neighbourhood overlay within the Inner Urban Transect of the City of Ottawa Official Plan (2021). The property is zoned Transit Oriented Development Zone (TD3) in the City of Ottawa Zoning By-law 2008-250.

A copy of the site plan and overall master plan are included in **Appendix A**.

1.3 Screening Form

The City's 2023 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, which is included in **Appendix B**. The trigger results are as follows:

- Trip Generation Trigger – The development is expected to generate a net additional 60 peak hour person trips; further assessment is **required** based on this trigger.
- Location Triggers – The development is located within a hub, a Protected Transit Station Area, and a design priority area; further assessment is **required** based on this trigger.
- Safety Triggers – The development does not meet any safety triggers identified within the TIA Screening Form; further assessment is **not required** based on this trigger.

While the Trip Generation Trigger is met, new intersection analysis is not required as it was prepared for the parent 2020 TIA related to Draft Plan and Zoning applications for the whole site. A limited scope TIA is required for the Phase One site plan application based on the Location and Safety triggers.

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.

Tremblay Road is a major collector roadway that runs in an east-west direction between Riverside Drive and Triole Street. Tremblay Road is classified as a truck route allowing full loads. West of Pickering Place Tremblay Road has a four-lane divided urban cross-section, and east of Pickering Place it transitions a two-lane undivided cross-section. Within the vicinity of the subject site Tremblay Road has a posted speed limit of 50km/h.

Belfast Road runs in a north-south direction between Coventry Road and Michael Street, Belfast Road is a collector roadway south of Tremblay Road and a major collector roadway north of Tremblay Road. Belfast Road is classified as a truck route allowing full loads. Within the study area, it has a two-lane undivided urban cross-section with a posted speed limit of 50 km/h.

Pickering Place is a local roadway that runs in a north-south direction between Tremblay Road and the Via Rail Station parking lot. It has a two-lane undivided urban cross-section with an unposted regulatory speed limit of 50km/h.

Avenue J (Private) is a local roadway that runs in a north-south direction between Tremblay Road and Pickering Place. It has a two-lane undivided urban cross-section with an unposted regulatory speed limit of 50km/h.

Avenue K is a local roadway that runs in a north-south direction between Tremblay Road and a dead end to the south. It has a two-lane undivided urban cross-section with an unposted regulatory speed limit of 50km/h.

Avenue L is a local roadway that runs in a north-south direction between Tremblay Road and a dead end to the south. It has a two-lane undivided urban cross-section with an unposted regulatory speed limit of 50km/h.

2.1.2 Intersections

Tremblay Road/Via Rail Access

- Four-legged signalized intersection
- Northbound Approach (Via Rail Access): one left turn lane and one right turn lane
- Southbound Approach (OC Transpo Maintenance Access): one shared all-movement lane
- Westbound Approach (Tremblay Road): two through lanes and one left turn lane
- Eastbound Approach (Tremblay Road): two through lanes one right turn lane, and one left turn lane
- Standard pedestrian crossings on all approaches
- Westbound right turn and eastbound left turn lanes are provided for authorized vehicles only



Tremblay Road/Pickering Place

- Three-legged stop control intersection
- Northbound Approach (Pickering Place): one shared all-movement lane
- Westbound Approach (Tremblay Road): one left turn lane and two through lanes
- Eastbound Approach (Tremblay Road): one through lane and one right turn lane
- Standard pedestrian crossing on the northbound approach



Tremblay Road/Avenue J

- Three-legged stop control intersection
- Northbound Approach (Avenue J): one shared left/right turn lane
- Westbound Approach (Tremblay Road): one shared through/left turn lane
- Eastbound Approach (Tremblay Road): one shared through/right turn lane
- Depressed curb on the northbound approach



Tremblay Road/Avenue K

- Three-legged stop control intersection
- Northbound Approach (Avenue K): one shared left/right turn lane
- Westbound Approach (Tremblay Road): one shared through/left turn lane
- Eastbound Approach (Tremblay Road): one shared through/right turn lane
- Standard pedestrian crossing on the northbound approach



Tremblay Road/Avenue L

- Three-legged stop control intersection
- Northbound Approach (Avenue L): one shared left/right turn lane, left turn prohibited in peak hours
- Westbound Approach (Tremblay Road): one shared through/left turn lane
- Eastbound Approach (Tremblay Road): one through lane and one shared through/right turn lane
- Standard pedestrian crossing on the northbound approach



Belfast Road/Tremblay Road

- Four-legged signalized intersection
- Northbound/Southbound Approaches (Belfast Road): one left turn lane and one shared through/right turn lane
- Westbound/Eastbound Approaches (Tremblay Road): one left turn lane and one shared through/right turn lane
- Standard pedestrian crossings on all approaches



2.1.3 Driveways

A review of adjacent driveways along the boundary roads are provided as follows:

Pickering Place, East Side:

- Four driveways to various parking lots at 250 Tremblay Road and 1330 Avenue K

Pickering Place, West Side:

- None

Pickering Place, Southern End

- One access to Via Rail parking lot

2.1.4 Pedestrian and Cycling Facilities

Pedestrian facilities are provided at the following locations within the study area:

- A multi-use path is provided on the north side of Tremblay Road east of Via Rail;
- Sidewalks are provided on both sides of Belfast Road north of Tremblay Road;
- A multi-use path is provided on the west side of Belfast Road;
- Sidewalks are provided on both sides of the Via Rail access;
- A sidewalk is provided on the west side of Pickering Place; and
- A walking bridge begins within the Via Rail access and crosses over Tremblay Road and Highway 417 to the north.

2.1.5 Transit

The closest OC Transpo bus stops in the vicinity of the subject site are described in **Table 1** and all bus stops within the vicinity of the study area are shown in **Figure 2**. A summary of various routes which serve the study area is included in **Table 2**. Detailed route information and the network map are included in **Appendix C**.

Table 1: OC Transpo Transit Stops

Stop	Location	Routes Served
#1369	South Side of Tremblay Rd east of Via Rail Access	39
#1371	North Side of Tremblay Rd west of Via Rail Access	39
#1836	Northeast corner of Tremblay Rd/Belfast Rd	18, 39
#1837	South side of Tremblay Rd west of Avenue K	39

Stop	Location	Routes Served
#3024	Southeast of Tremblay Rd and northwest of the Via Rail Station	Confederation Line

Table 2: OC Transpo Route Information

Route	From ↔ To	Frequency
18	St. Laurent ↔ Parliament	30-minute headways, all-day service, 7-days per week
39	Blair ↔ N Rideau	30-minute headways, overnight service only within the study area, 7-days per week.
Confederation	Tunney’s Pasture ↔ Blair	5-minute headways, all-day service, 7-days per week

Figure 2: OC Transpo Bus Stop Locations



2.1.6 Area Traffic Management

There are no Area Traffic Management (ATM) studies within the study area that have been completed or are currently in progress.

2.1.7 Existing Traffic Volumes

Weekday traffic counts were taken from the parent September 2020 TIA completed by CIMA+ for previous zoning and Draft Plan applications for the whole site. As stated in the 2020 TIA there were no recent traffic counts completed at the Tremblay Road/Pickering Place, Tremblay Road/Avenue K, and Tremblay Road/Avenue L intersections at their time of writing. As the study was completed during the COVID-19 pandemic and new traffic counts would have been unreliable, traffic volumes

used in the study were calculated by estimating trip generation for existing developments within the study area.

A January 8, 2020 traffic count at Tremblay Road/Belfast Road and a January 30, 2019 traffic count at Tremblay Road/VIA Vail Access were used for intersection analysis within the 2020 TIA and to estimate through traffic along Tremblay Road at the Tremblay Road/Pickering Place, Tremblay Road/Avenue K, and Tremblay Road/Avenue L intersections.

As this report provides no new traffic analysis and builds upon the analysis presented in the September 2020 TIA the volumes used in the September 2020 TIA were used in this TIA. A January 27, 2015 count at the Pickering Place/Tremblay Road intersection was obtained from the City of Ottawa to compare to the assumed traffic volumes. A comparison of the 2015 traffic count and the generated 2020 traffic volumes showed that the volumes used in the 2020 analysis were conservative.

Traffic volume excerpts from the 2020 TIA and the 2015, 2019, and 2020 traffic counts are included in **Appendix D**. Traffic volumes within the study area are shown in **Figure 3**.

2.1.8 Collision Records

Historical collision data from the last five years was obtained from the City’s Public Works and Service Department for the study area intersections and road segments between intersections. Copies of the collision summary reports are included in **Appendix E**.

The collision data has been evaluated to determine if there are any identifiable collision patterns, defined in the *2023 TIA Guidelines* as ‘more than six collisions in five years’ for any one movement. The number of collisions at each intersection from January 1, 2017 to December 31, 2021 is summarized in **Table 3**.

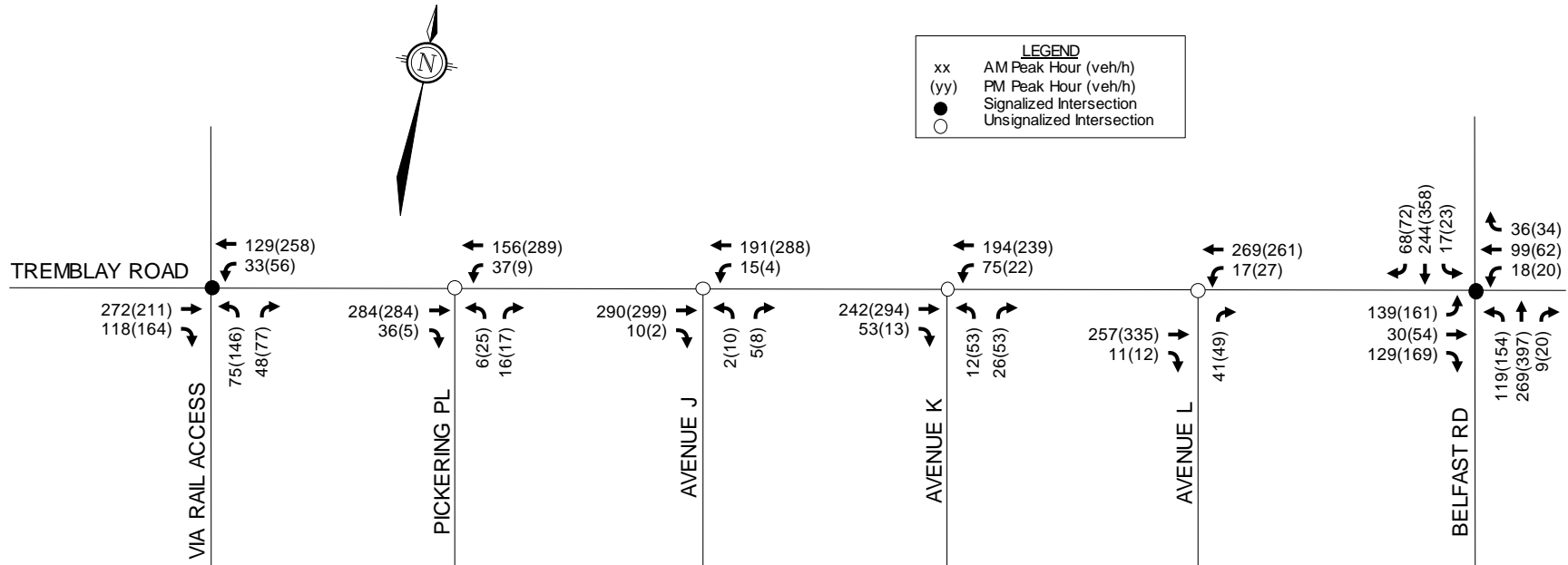
Table 3: Reported Collisions

Location	Impact Types						Total
	Approach	Angle	Rear End	Sideswipe	Turning Mvmt	SMV ⁽¹⁾ / Other	
Pickering Place/Tremblay Road	-	-	-	1	-	-	1
Pickering Place south of Tremblay Road	-	-	-	-	-	-	0

1. SMV = Single Motor Vehicle

As there are less than six collisions of any given type there is no discernible collision pattern within the study area.

Figure 3: Existing Traffic Volumes



2.2 Planned Conditions

2.2.1 Planned Roadway and Transit Projects

The City of Ottawa's 2013 Transportation Master Plan proposes widening of Tremblay Road from two to four lanes between Pickering Place and St. Laurent Boulevard within the 2031 Affordable Road Network (Phase 3: 2026-2031). The City of Ottawa's 2013 Transportation Master Plan also proposes widening of Belfast Road from two to four lanes between Tremblay Road and Coventry Road with the 2031 Network Concept.

The subject site is located within the Tremblay Transit Oriented Development (TOD) area. The Tremblay TOD Plan from the City's 2014 Transit-Oriented Development (TOD) Plans recommends improved pedestrian facilities within the study area including both sides of Tremblay Road west of the Via Rail access, the east side of Pickering Place, both sides of Avenue K and L and both sides of a future east-west road connections connecting the southern ends of Pickering Place and Avenues J, K, and L. A pedestrian tunnel connecting Via Rail Station to Terminal Road is also planned. Improved cycling facilities include dedicated cycling facilities on Tremblay Road and Belfast Road. The proposed pedestrian and bicycle network from the Tremblay TOD Plan are included in **Appendix F**.

2.2.2 Other Area Developments

In proximity of the proposed development, there are multiple developments that are approved, or in the approval process. Other developments in the area include:

- 400 Coventry Road – A TIA was prepared by CGH in 2023 in support of a mixed-use apartment development. The development includes 1,768 dwelling units and 1,500m² of commercial space. The development is anticipated to be complete by 2032. The TIA estimated that the development would generate 111 and 137 vehicle trips during the AM and PM peak hours, respectively.
- 300 Tremblay Road – A TIA was prepared by Parsons in 2021 in support of a mixed-use apartment development. The development includes 73 dwelling units and 150m² of retail space. The development was anticipated to be complete by 2022. The TIA estimated that the development would generate 8 and 7 vehicle trips during the AM and PM peak hours, respectively.
- 530 Tremblay Road (Residential) – A TIA was prepared by CGH in 2019 in support of a residential apartment development. A future mixed-use development to the east by Canada Lands Company was also considered. The proposed development includes 122 dwelling units. The apartment development was anticipated to be complete by 2021 in a single phase. The TIA estimated that the apartment development would generate 16 and 17 vehicle trips during the AM and PM peak hours, respectively.
- 530 Tremblay Road (Mixed-Use) – A TIA was prepared by WSP in 2021 in support of the future Canada Lands Company mixed-use development. The proposed development includes a 150,000 m² office space and 500 dwelling units. The development is anticipated to be complete by 2033 in three phases. The TIA estimated that the development would generate 350 and 360 vehicle trips during the AM and PM peak hours, respectively.

Excerpts from relevant transportation studies have been attached in **Appendix G**.

2.3 Study Area and Time Periods

The study area for this report includes the boundary roadway Pickering Place and the new road Bannermount Avenue, to be constructed as part of the parent Draft Plan application.

The weekday AM and PM peak hours have been considered, as this represents the worst-case combination of site generated traffic and adjacent street traffic.

2.4 Development Generated Traffic

The previous TIA completed by CIMA+ in 2020 included trips generated for the two towers proposed within the current site plan application. The 2020 analysis assumed a total of 579 units within the two proposed towers with 6,750ft² of ground floor commercial. The current site plan shows 483 units within the two proposed towers with 3,002ft² of ground floor commercial. As the current site plan proposes 96 fewer dwelling units and a negligible decrease in ground floor commercial the trip generation and traffic analysis presented in the 2020 TIA is a conservative analysis.

2.5 Access Location

The proposed access to the subject site has been evaluated based on the relevant requirements of the City's *Private Approach By-Law* (PABL), *Zoning By-law* (ZBL) and the *Transportation Association of Canada* (TAC).

Section 25(a) of the PABL identifies that a property with 20-34m of frontage may have a maximum of one two-way private approaches. This requirement is met, as the subject site has approximately 30m of frontage to Pickering Place and is proposing one two-way access to Pickering Place.

Section 25(c) of the PABL identifies a maximum width requirement of 9.0m for any two-way private approach, as measured at the street line. Since the proposed access is approximately 7.5m in width when measured at the property line, this requirement is met.

Section 25(p) of the PABL identifies a minimum separation requirement of 3.0m between the nearest edge of a private approach and the closest property line, as measured at the street line. Since the nearest edge of the access is proposed to be approximately 3.0m from the southern property line, this requirement is met.

Section 25(u) of the PABL identifies a maximum driveway grade of 2-6% for a distance of 9m within the property, for driveways serving more than 50 parking spaces, this requirement is met.

Intersection sight distance (ISD) at the proposed accesses have been determined using the TAC *Geometric Design Guidelines for Canadian Roads*. The ISD requirements for the Pickering Place access, based on a design speed of 60km/h, is as follows:

- Left Turn from Minor Road 130 metres
- Right Turn from Minor Road 110 metres

As the Pickering Place access meets Pickering Place at a perpendicular angle and no sightline obstructions have been identified based on a desktop review, available sightlines are within recommended guidelines to allow safe all directional access to the development.

The ISD requirements for the Bannermount Avenue access, based on a design speed of 50km/h, is as follows:

- Left Turn from Minor Road 105 metres
- Right Turn from Minor Road 95 metres

As shown on the proposed site plan shown in **Appendix A** the Bannermount Avenue access to the proposed loading is located on a curved section of Bannermount Avenue, based on a desktop review, vehicles exiting the access will have unobstructed sightlines to see vehicles approaching from the west and the north.

The TAC Geometric Design Guide for Canadian Roads identifies minimum clear throat lengths based on road classification and land use. Although no requirements are stated for local roads a minimum clear throat length of 8m is recommended.

The TAC Geometric Design Guide for Canadian Roads identifies a minimum corner clearance distance of 15m for an access on a local road. The access is roughly 150m away from the Tremblay Road/Pickering Place access.

2.6 Exemptions Review

This module reviews possible exemptions from the final Transportation Impact Assessment, as outlined in the *2023 TIA Guidelines*. The applicable exemptions for this site are shown in **Table 4**.

Table 4: TIA Exemptions

Module	Element	Exemption Criteria	Exemption Status
4.1 Development Design	4.1.2 Circulation and Access	<ul style="list-style-type: none"> • Only required for Site Plan and Zoning By-law Applications 	Not Exempt
	4.1.3 New Street Networks	<ul style="list-style-type: none"> • Only required for plans of subdivision 	Exempt
4.2 Parking	4.2.1 Parking Supply	<ul style="list-style-type: none"> • Only required for Site Plan and Zoning By-law Applications 	Not Exempt
4.5 TDM	<i>All elements</i>	<ul style="list-style-type: none"> • Required for any development that generates greater than 60 peak hour person trips 	Not Exempt
4.6 Neighbourhood Traffic Management	4.6.1 Adjacent Neighbourhoods	<ul style="list-style-type: none"> • If the development meets all of the following criteria along the route(s) site generated traffic is expected to utilize between arterial road and the site's access: <ol style="list-style-type: none"> 1. Access to a Collector or Local; 2. "Significant sensitive land use presence" exists where there is at least two of the following adjacent to the subject street segment (School, Park, Retirement/Older Adult Facility, Licenced Child Care Centre, Community Centre, or 50% or greater of the property is occupied by residential land uses) 3. Application is for Zoning By-Law Amendment or Draft Plan of Subdivision 4. At least 75 site generated auto trips 	Exempt

Module	Element	Exemption Criteria	Exemption Status
		5. Site Trip Infiltration expected	
4.7 Transit	4.7.1 <i>Transit Route Capacity</i>	<ul style="list-style-type: none"> Greater than 75 site transit trips 	Exempt
	4.7.2 <i>Transit Priority Requirements</i>	<ul style="list-style-type: none"> Greater than 75 site auto trips 	Exempt
4.8 Network Concept	<i>All elements</i>	<ul style="list-style-type: none"> Only required when proposed development generates more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by the established zoning 	Exempt
4.9 Intersection Design	4.9.1 <i>Intersection Controls</i>	<ul style="list-style-type: none"> Greater than 75 site auto trips 	Exempt
	4.9.2 <i>Intersection Design</i>	<ul style="list-style-type: none"> Greater than 75 site auto trips 	Exempt

While the Trip Generation Trigger is met, new intersection analysis is not required as it was prepared for the parent 2020 TIA related to Draft Plan and Zoning applications for the whole site. Therefore, all Network Impact modules (Modules 4.6 through 4.9) are exempt from further analysis. Therefore, the following modules will be included in the TIA report:

- Module 4.1: Development Design
- Module 4.2: Parking
- Module 4.3: Boundary Streets
- Module 4.5: Transportation Demand Management

3.0 FORECASTING

3.1 Trip Distribution

New intersection analysis has not been prepared as it was previously prepared for the parent 2020 TIA related to Draft Plan and Zoning applications for the whole site.

3.2 Background Traffic

3.2.1 Other Area Developments

A review of other area development traffic has been conducted, per the developments listed in Section 2.2.2. Traffic generated by these developments have been considered in other studies. Relevant excerpts of the traffic studies associated with the developments below are included in **Appendix G**.

400 Coventry Road

The proposed residential and retail development is expected to generate 111 and 137 vehicle trips during the AM and PM peak hours, respectively. Half of the site traffic for the proposed development has been included in 2027 background traffic and the 2032 background traffic includes the full buildout of the development.

300 Tremblay Road

The proposed residential and retail development is expected to generate 7-8 vehicle trips during the AM and PM peak hours. The 2021 TIA completed for this site considered site traffic negligible for the proposed development and it has not been included within the background traffic for this report.

530 Tremblay Road

The proposed residential development is expected to be completed in 2027 and generate 16 and 17 vehicle trips during the AM and PM peak hours, respectively.

The future adjacent development is expected to be completed in 2033 and generate 350 and 360 vehicle trips during the AM and PM peak hours, respectively. The development is expected to be built out in phases and the 150,000 m² office space and 200 dwelling units are expected to be completed by 2027.

Site traffic for the residential development and the 150,000 m² office space and 200 dwelling units of the mixed-use development has been included in 2027. The full build out of the mixed-use development has been included in 2032 background traffic. The site traffic was accounted for in the previous 2020 TIA.

3.2.2 General Background Growth Rate

A background growth rate of 0% was selected to be consistent with the previous 2020 TIA completed for the subject site.

3.3 Future Traffic Conditions

The background traffic volumes in 2027 and 2032 are shown in **Figures 4 and 5**.

Figure 4: 2027 Background Traffic

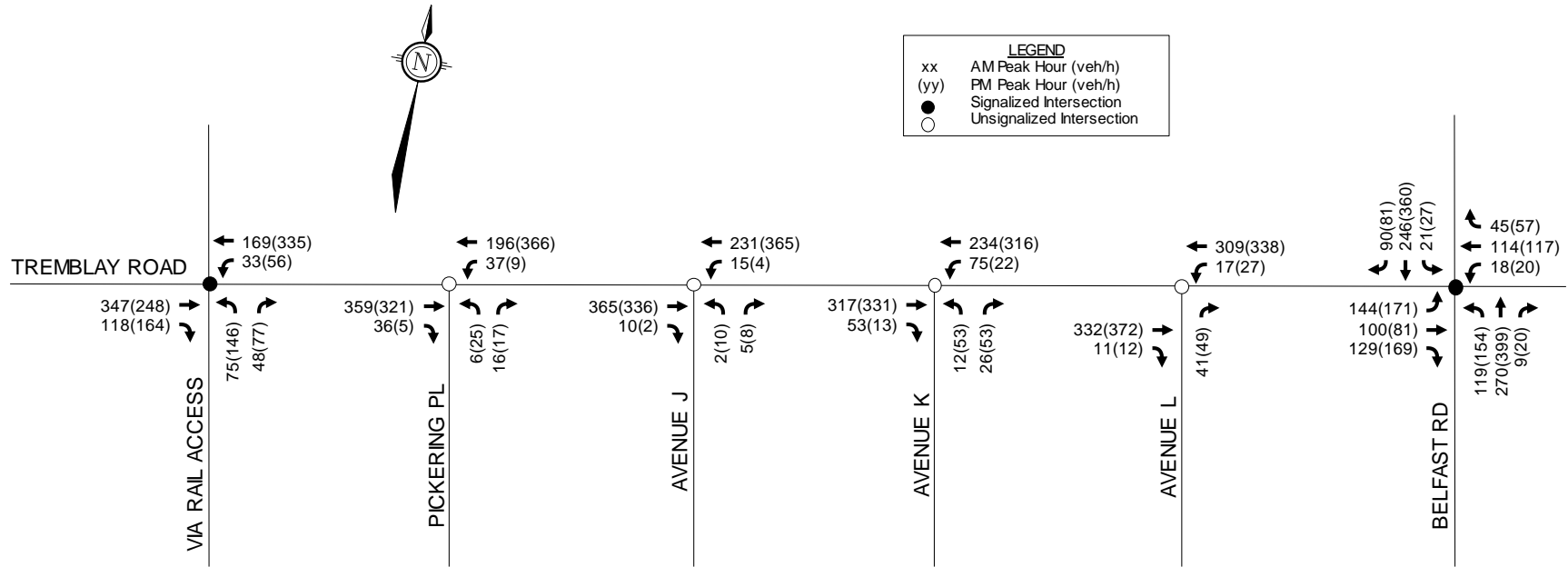
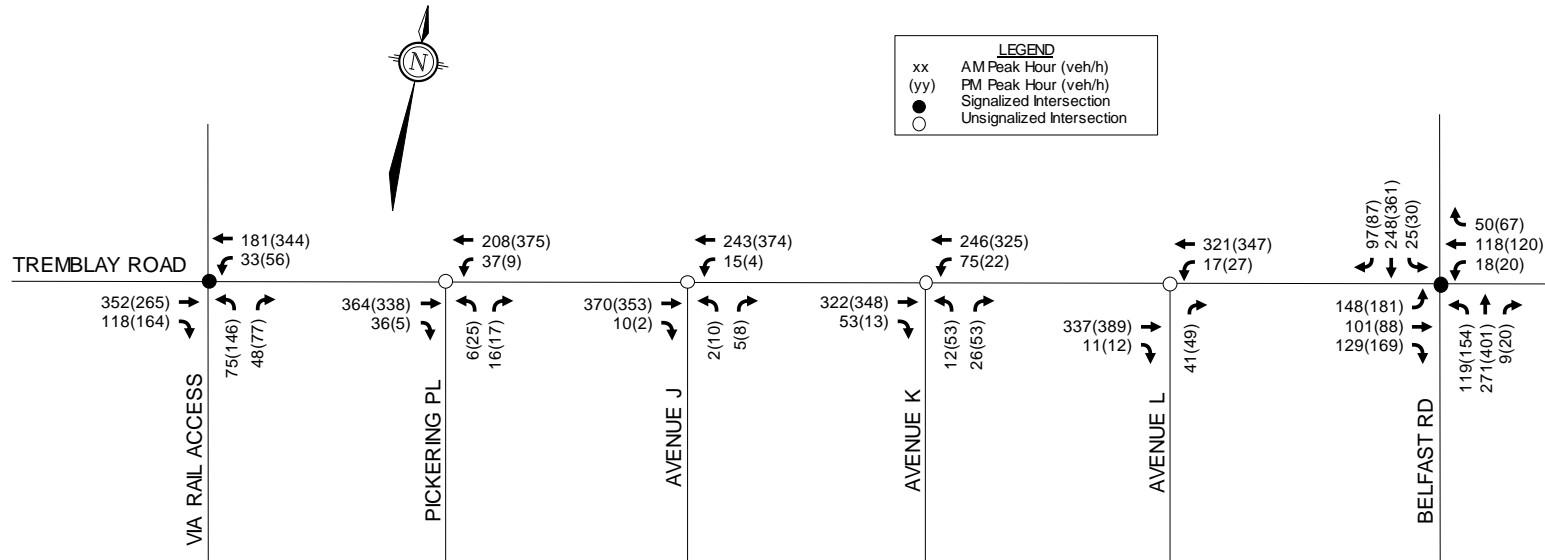


Figure 5: 2032 Background Traffic



3.4 Demand Rationalization

New intersection analysis has not been prepared as it was previously prepared for the parent 2020 TIA related to Draft Plan and Zoning applications for the whole site.

4.0 ANALYSIS

4.1 Development Design

4.1.1 Design for Sustainable Modes

Sidewalks will be provided between the proposed development and adjacent roadways and will connect to the main building entrances.

Bicycle parking will be provided within the underground parking garage.

All bus stops discussed in Section 2.1.5 (and shown in **Figure 2**) are within 400m walking distance of the entrances to the proposed development. These stops are served by Routes 18, 39, and the Confederation Line. A 400m walking distance is equivalent to a five-minute walk, per OC Transpo's service design guidelines.

A review of the City's *Transportation Demand Management (TDM)-Supportive Development Design and Infrastructure Checklist* has been conducted. All required TDM-supportive design and infrastructure measures in the TDM checklist are met. A copy of this checklist is included in **Appendix H**.

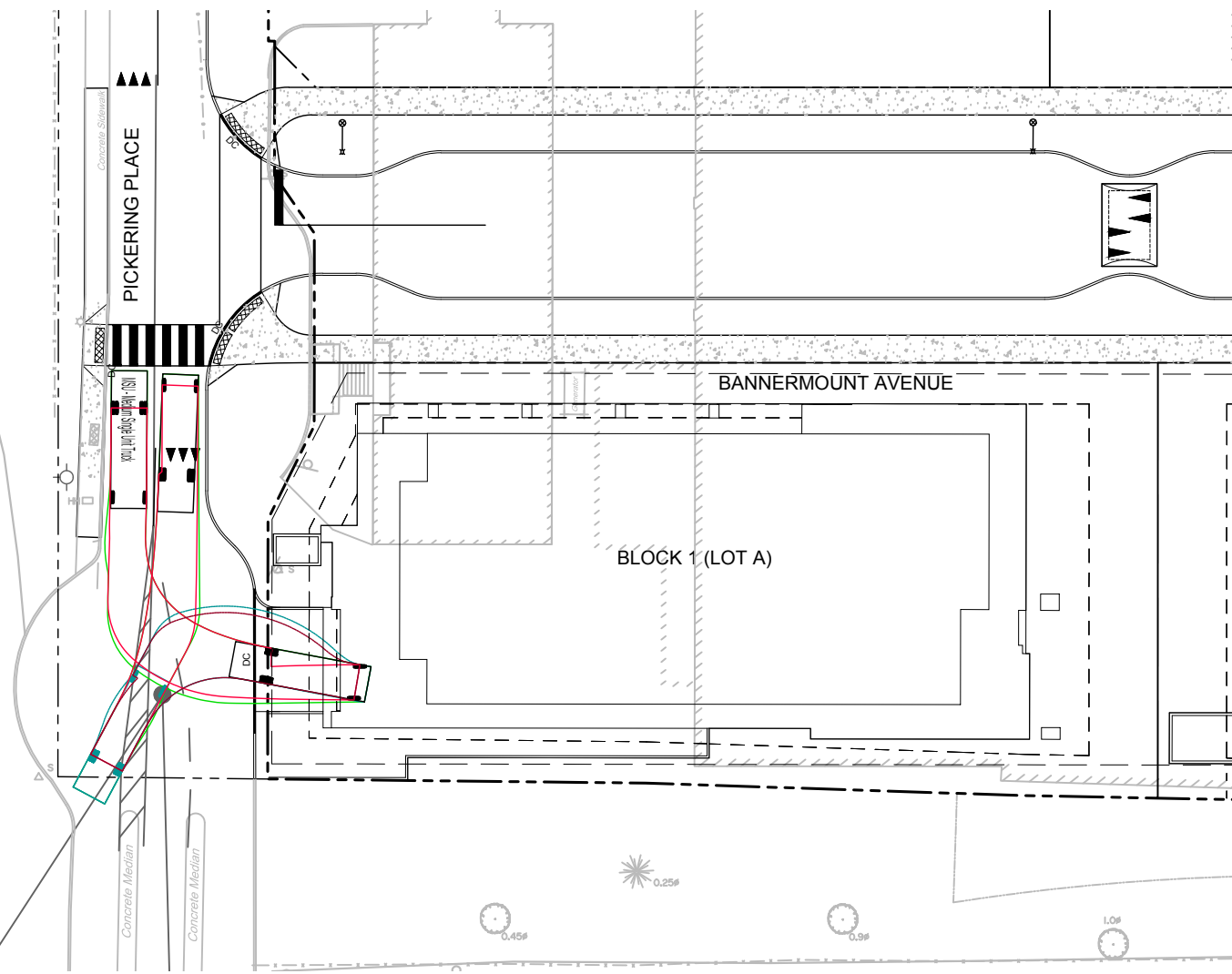
In order to encourage the use of sustainable modes, the following 'basic' and 'better' design measures from the City's TDM Infrastructure Checklist will be implemented for the proposed redevelopment:

- 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;
- Building doors and windows will ensure visibility of pedestrians from the building; and
- Walking routes from the development to nearby transit stops will be safe, direct, and attractive.

4.1.2 Circulation and Access

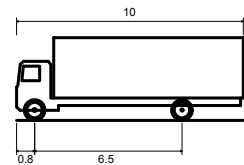
Garbage collection will occur on the ground floor near the lobby of each of the buildings, the garbage will then be brought to the curb for further collection. As shown in **Figure 6**, an MSU representing a garbage truck can turn at the Pickering Place access and collect garbage from the east curbside along Pickering Place. Loading areas for moving trucks are provided for each of the proposed buildings. The loading area for Building 1 is provided off of Pickering Place to the south of the garage access and the loading area for Building 2 is provided off of Bannermount Avenue to the east of the building. Turning movements of the design truck reversing into the loading areas are provided in **Figures 7** and **8**. An LSU moving truck is accommodated at Building 1 and an MSU moving truck is accommodated at Building 2. The fire route will be provided along the boundary roads on Pickering Place and Bannermount Avenue.

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Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com



MSU - Medium Single Unit Truck

Overall Length	10.000m
Overall Width	2.600m
Overall Body Height	3.650m
Min Body Ground Clearance	0.445m
Track Width	2.600m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	11.100m

25 PICKERING AVENUE LOT A

TURNING MOVEMENTS (MSU)

SCALE 1 : 500

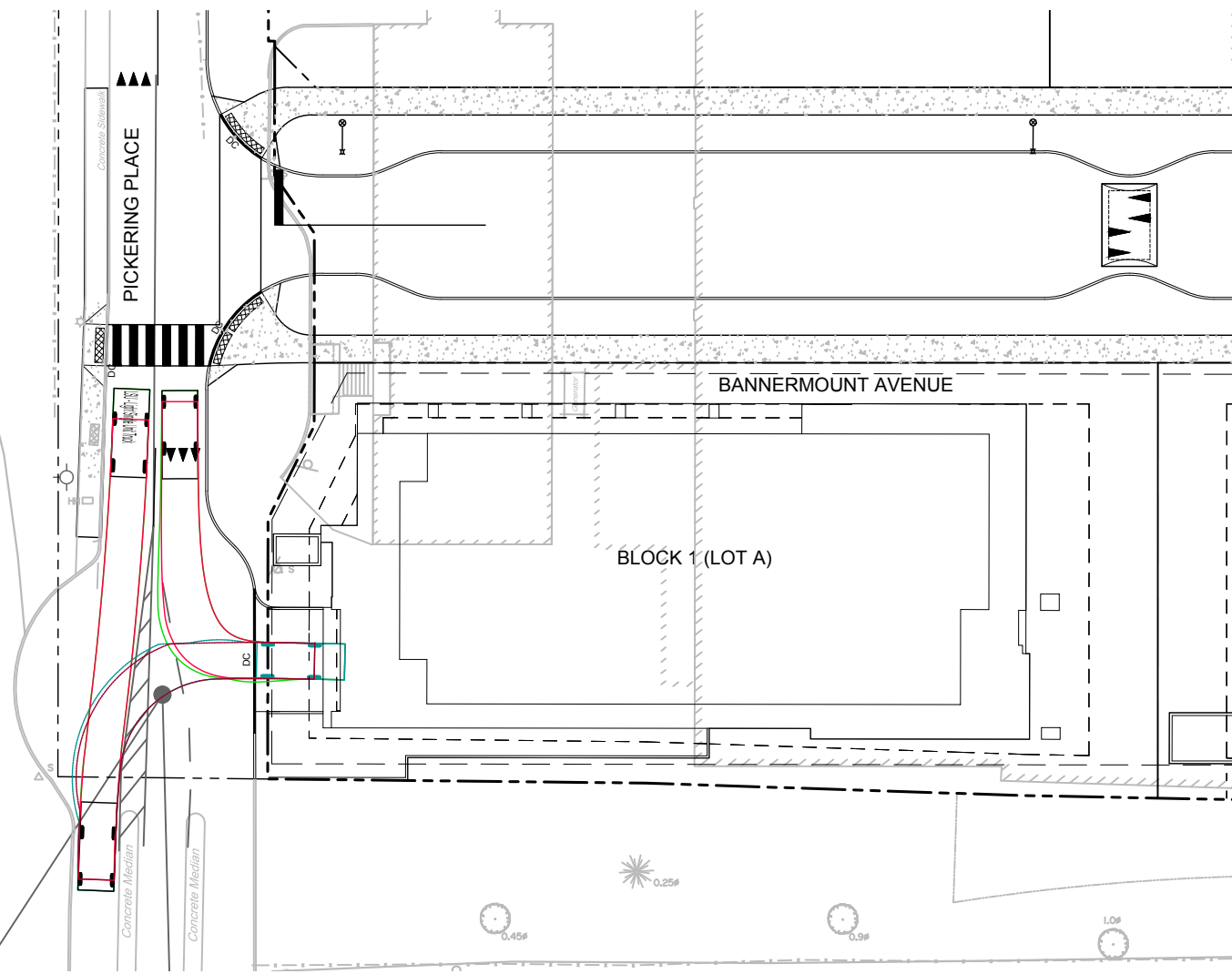


DATE APR 2024

JOB 119240

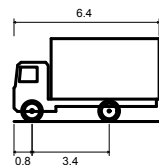
FIGURE FIGURE 6

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Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com



LSU - Light Single Unit Truck

Overall Length	6.400m
Overall Width	2.600m
Overall Body Height	3.650m
Min Body Ground Clearance	0.445m
Track Width	2.600m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.300m

25 PICKERING AVENUE LOT A

TURNING MOVEMENTS (LSU)

SCALE 1 : 500



DATE APR 2024	JOB 119240	FIGURE FIGURE 7
------------------	---------------	--------------------



BLOCK 6 (LOT E)
PARK

AVENUE K

BANNERMOUNT AVENUE

MSU - Medium Single Unit Truck

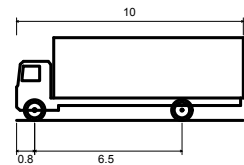
BLOCK 2 (LOT B)

A)



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Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com



MSU - Medium Single Unit Truck

Overall Length	10.000m
Overall Width	2.600m
Overall Body Height	3.650m
Min Body Ground Clearance	0.445m
Track Width	2.600m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	11.100m

25 PICKERING AVENUE
LOT A

TURNING MOVEMENTS
(MSU)



DATE APR 2024

JOB 119240

FIGURE 8

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4.2 Parking

The subject site is located in Area B of Schedule 1 and Area Z of Schedule 1A of the City’s ZBL. Per Section 101(2) no off-street motor vehicle parking is required for tenants or ground floor commercial. Per Section 102 visitor parking spaces are required at a minimum rate of 0.1 parking spaces per unit after the first 12 dwelling units and the minimum required visitor parking shall not exceed 30 parking spaces per building.

Minimum and maximum vehicle parking rates and minimum bicycle parking rates for the proposed development is summarized in **Table 5**.

Table 5: Parking Requirements

Land Use	Rate	Units/GFA	Required	Proposed
Minimum Vehicle Parking Requirements				
Dwelling Units within Mixed-Use Building	Residents: None	483	0	204
	Visitor: 0.1 per dwelling unit after the first 12 dwelling units		46	46
Total			46	250
Minimum Bicycle Parking Requirements				
High Rise Apartment	0.5 per dwelling unit	483	242	373
Retail	1.0 per 250m ² of GFA	279m ²	1	
Total			243	373
Maximum Vehicle Parking				
High Rise Apartment	1.75 per dwelling unit	483	846	250
Total			846	250

The proposed development includes 46 visitor parking spaces. As the development provides 46 visitor parking spaces the minimum vehicle parking requirement is met.

A total of 373 bicycle parking spaces are proposed, which meets the 243 bicycle parking spaces as required by the Zoning By-law.

The proposed development includes 250 parking spaces for residents and visitors. Per the Zoning By-law a maximum of 846 parking spaces is allowed for this development. As 250 parking spaces are provided the development does not exceed the maximum number of allowable parking spaces.

4.3 Boundary Street Design

This section provides a review of the boundary streets Pickering Place and Bannermount Avenue using complete streets principles. The Multi-Modal Level of Service (MMLOS) Guidelines, produced by IBI Group in October 2015, and the 2017 MMLOS Addendum were used to evaluate the levels of service for each alternative mode of transportation on the boundary streets. The subject site is located within a Mixed Use Centre (per Schedule B of the City’s previous Official Plan, which is referenced by the MMLOS Guidelines).

A detailed segment MMLOS review of the boundary streets is included in **Appendix I**. A summary of the segment MMLOS analysis is provided in **Table 6**.

Table 6: Segment MMLOS Summary

Segment	PLOS		BLOS		TLOS		TkLOS	
	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Pickering Place	F	C	F	D	-	-	B	-
Bannermount Avenue	A	C	D	D	-	-	E	-

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

- Pickering Place does not meet the target pedestrian level of service (PLOS);
- Pickering Place does not meet the target bicycle level of service (BLOS);
- No target transit level of service (TLOS) has been identified for Pickering Place or Bannermount Avenue and the actual TLOS has not been studied as no transit routes exist on Pickering Place or Bannermount Avenue; and
- Pickering Place and Bannermount Avenue do not have a target truck level of service (TkLOS) however Pickering Place achieves a TkLOS B and Bannermount Avenue achieves a TkLOS E.

Pedestrian Level of Service

The east side of Pickering Place does not meet the target PLOS C as there is no existing sidewalk. The west side of Pickering Place achieves the target PLOS C. A sidewalk on the east side of Pickering Place south of Bannermount Avenue is proposed as part of this site plan. A sidewalk can be considered on the east side of Pickering Place as part of the future site plan application for Block D of the 25 Pickering Place subdivision north of Bannermount Avenue.

Bicycle Level of Service

Pickering Place does not meet the target BLOS D. On Pickering Place a BLOS B can be achieved by either reducing the posted speed to 40km/h or painting 1.2m wide bike lanes. A reduced posted speed limit is considered appropriate for the 7m road width planned as part of the 25 Pickering subdivision. North of the subdivision the existing 10.5m road width is sufficient for two 1.25m bike lanes and two 4m travel lanes. This is identified for the City’s consideration.

4.4 Transportation Demand Management

4.4.1 Context for TDM

The proposed development will consist of two residential buildings with ground floor commercial and an underground parking area that provides parking for both buildings. Building 1 is 28-storeys high and has 309 dwelling units and roughly 130m² of ground floor retail. Building 2 is 14-storeys high and has 174 dwelling units and roughly 148m² of ground floor retail. A total of 250 vehicle parking spaces and 373 bicycles parking spaces are provided in the underground parking area.

4.4.2 Need and Opportunity

New intersection analysis has not been prepared as it was previously prepared for the parent 2020 TIA related to Draft Plan and Zoning applications for the subdivision. This TIA assumes the same modal share as the parent study. As the development is located in the Tremblay TOD zone the following mode share was assumed:

- 15% Auto Driver;
- 5% Auto Passenger;

- 65% Transit; and
- 15% Walking and Cycling.

It is expected that the TOD Zone modal share will be met, due to the proximity of the subject site to the Tremblay LRT Station and other public transit as well as pedestrian and cyclist facilities in the area including the Max Keeping walking bridge and multi-use pathways along Tremblay Road and Belfast Road.

4.4.3 TDM Program

A review of the City's *TDM Measures Checklist* has been conducted. The proponent 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; and
- Unbundle parking costs from the purchase price or monthly rent; and
- Provide a multimodal travel option information package to new residents.

A copy of the checklist is included in **Appendix H**.

5.0 CONCLUSIONS AND RECOMMENDATIONS

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

Forecasting

- As the current site plan proposes 96 fewer dwelling units and a decrease in ground floor commercial the trip generation and traffic analysis presented in the 2020 TIA is a conservative analysis.

Development Design

- Sidewalks will be provided between the proposed development and adjacent roadways and will connect to the main building entrances.
- Bicycle parking will be provided within the underground parking garage.
- OC Transpo stops #1369, #1371, #1836, #1837, and #3024 are within 400m walking distance of all entrances to the proposed development.
- All required TDM-supportive design and infrastructure measures in the TDM checklist are met.
- Sufficient intersection sight distance is available at each access for all turning movements.

Parking

- The proposed development includes 46 visitor parking spaces. As the development provides 46 visitor parking spaces the minimum vehicle parking requirement is met.

- A total of 373 bicycle parking spaces are proposed, which meets the 243 bicycle parking spaces as required by the Zoning By-law.
- The proposed development includes 250 parking spaces for tenants and visitors of the building. Per the Zoning By-law a maximum of 846 parking spaces is allowed for this development. As 250 parking spaces are provided the development does not exceed the maximum number of allowable parking spaces.

Boundary Streets

- A sidewalk on the east side of Pickering Place south of Bannermount Avenue is proposed as part of this site plan. A sidewalk can be considered on the east side of Pickering Place as part of the future site plan application for Block D of the 25 Pickering Place subdivision north of Bannermount Avenue.
- Pickering Place does not meet the target Bicycle Level of Service (BLOS) D. On Pickering Place a BLOS B can be achieved by either reducing the posted speed to 40km/h or painting 1.2m wide bike lanes. A reduced posted speed limit is considered appropriate for the 7m road width planned as part of the 25 Pickering subdivision. North of the subdivision the 10.5m road width is sufficient for two 1.25m bike lanes and two 4m travel lanes. This is identified for the City’s consideration.

Access Design

- As the Pickering Place access meets Pickering Place at a perpendicular angle and no sightline obstructions have been identified based on a desktop review, available sightlines are within recommended guidelines to allow safe all directional access to the development.
- The proposed accesses adhere to all provisions of the City's Private Approach By-law.

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

NOVATECH

Prepared by:



Trevor Van Wiechen, M.Eng.
E.I.T. | Transportation

Reviewed by:



Jennifer Luong, P.Eng.
Senior Project Manager | Transportation

APPENDIX A

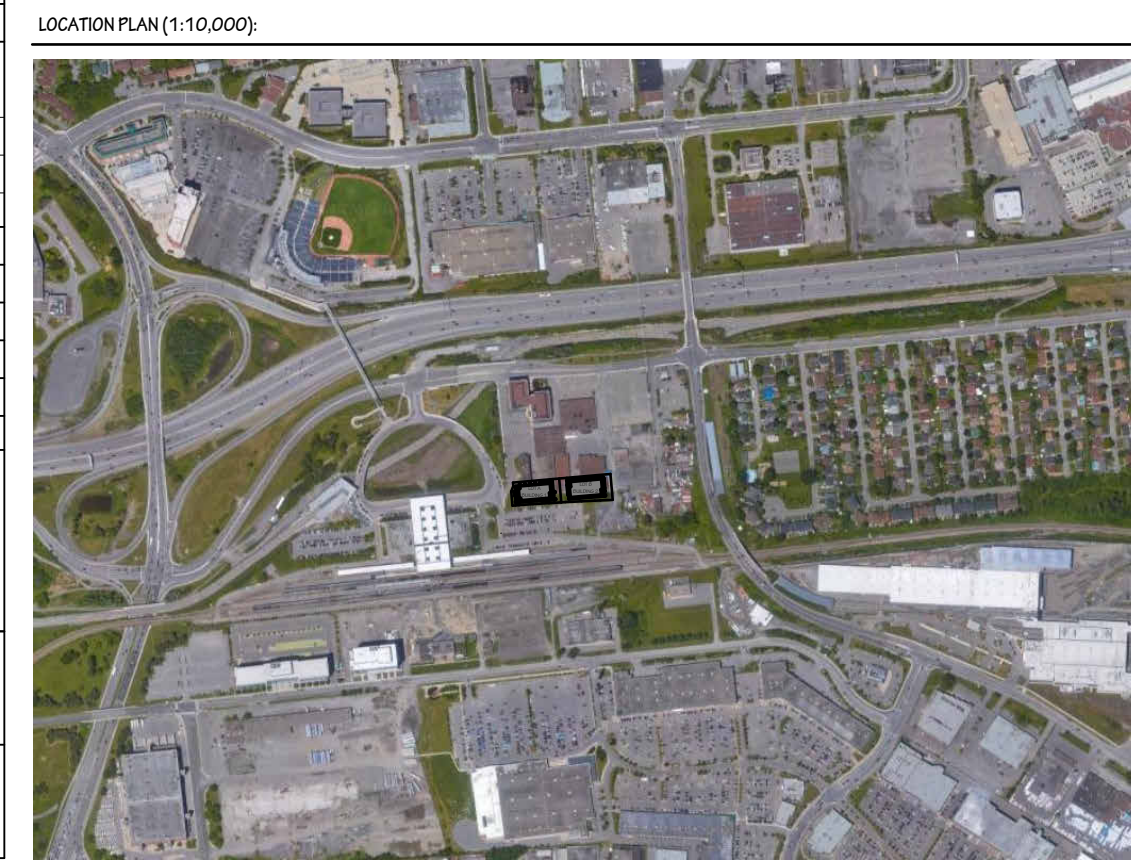
Site Plan

LOT A - BUILDING 1 (WEST) - ZONING TABLE			
Current Zoning	TD3 (2536) S448		
Site Area	1868 sq.m		
Number of Dwelling Units	329		
Dwelling Unit Ratios	TYPE	NO. %	
	Studio	54 17%	
	1 Bed (Internal)	27 8%	
	1 Bed	117 36%	
	1 Bed + Den	6 2%	
	2 Bed	109 34%	
REQUIRED	PROVIDED		
Lot Area	No minimum	1060 sq.m	
Lot Frontage	No minimum	30.2 m (regular)	
Minimum Lot Width	-	60.2 m (regular)	
Setbacks	Front Yard (Pickering)	0.5 m	3.6 m
	Corner Side Yard (Basement)	0.5 m	2.6 m
	Interior Side Yard	3 m	3.7 m
	Rear Yard	5 m	8.6 m
Maximum Building Height	80 m	80 m	
Area - Building Area	1092 m		
Area - Typical Podium	1162 m		
Area - Typical Tower Floor	827 m		
Area - Total Gross Building Area (GBA)	+/- 24,117 m		
Area - Total Gross Floor Area (GFA - City def)	+/- 18,732 m		
Annuity Area			
Total of 6m ² per dwelling unit of which 50% is required to be communal	Total (6m ² per dwelling unit): 1954 m ² Communal (50% of regional total): 927 m ²	Private Annuity Space: 1271 m ² Communal Annuity Space: 684 m ² Total Annuity Space: 2212 m ²	
Parking (Combined - Three Levels)	Minimum Required:	Maximum Required:	
	Residential: 8 spaces/unit Visitor: 1 space/unit after first 12 per block Bicycle Parking Requirements Residential: 8 spaces/unit	Residential (485 units) x 1.75 = 846 spaces + Visitor (485 (12x2)) x 1 = 48 spaces + 892 spaces total	Total Provided: 250 spaces (0.82 ratio) Residential: 204 spaces (0.42 ratio) Visitor: 46 spaces (0.1 ratio after 2.4 units deducted (12 from each building)) Total Provided: 373 spaces (1.85 vertical + 1.80 horizontal) = 0.77 ratio Outdoor: N/A Indoor: 373 spaces (located at grade (m.l.) and parking garage)

LOT B - BUILDING 2 (EAST) - ZONING TABLE			
Current Zoning	TD3 (2536) S448		
Site Area	2242 sq.m		
Number of Dwelling Units	174		
Dwelling Unit Ratios	TYPE	NO. %	
	Studio	40 23%	
	1 Bed (Internal)	- -	
	1 Bed	82 48%	
	1 Bed + Den	4 2%	
	2 Bed	32 18%	
REQUIRED	PROVIDED		
Lot Area	No minimum	2242 sq.m	
Lot Frontage	No minimum	68.0 m (regular)	
Minimum Lot Width	-	31.6 m (regular)	
Setbacks	Front Yard (Basement)	0.5 m	2.7 m
	Interior Side Yard	3 m	9.2 m
	Interior Side Yard	3 m	9.6 m
	Rear Yard	3 m	3.6 m
Maximum Building Height	80 m	80 m	
Area - Building Area	1170 m		
Area - Typical Podium	1185 m		
Area - Typical Tower Floor	881 m		
Area - Total Gross Building Area (GBA)	+/- 13,358 m		
Area - Total Gross Floor Area (GFA - City def)	+/- 11,181 m		
Annuity Area			
Total of 6m ² per dwelling unit of which 50% is required to be communal	Total (6m ² per dwelling unit): 1044 m ² Communal (50% of regional total): 522 m ²	Private Annuity Space: 448 m ² Communal Annuity Space: 1068 m ² Total Annuity Space: 1516 m ²	

NOTE: ALL EXISTING SITE INFORMATION AS PER TOPOGRAPHICAL SURVEY PLAN DATED JANUARY 21, 2020.
PREPARED BY: ANNE O'SULLIVAN, VLS0084, C.D.
PART PLAN OF LOTS 457, 458, 459, 460, 461, 462 AND LOTS 470 TO 482 (INCLUDING) AND LOTS 487 TO 500 (INCLUDING) AND LOTS 508 TO 522 (INCLUDING) AND PART OF LOTS 481, 482, 483, 484, 485 AND PART OF AVENUE J, CLOSED BY BY-LAW 193-90 (INF. 073287) AND BY-LAW 6-67 (INF. 0774046) AND PART OF AVENUE K, CLOSED BY BY-LAW 127-90 (INF. 072290).
REGISTERED PLAN 330 CITY OF OTTAWA.

LEGEND:



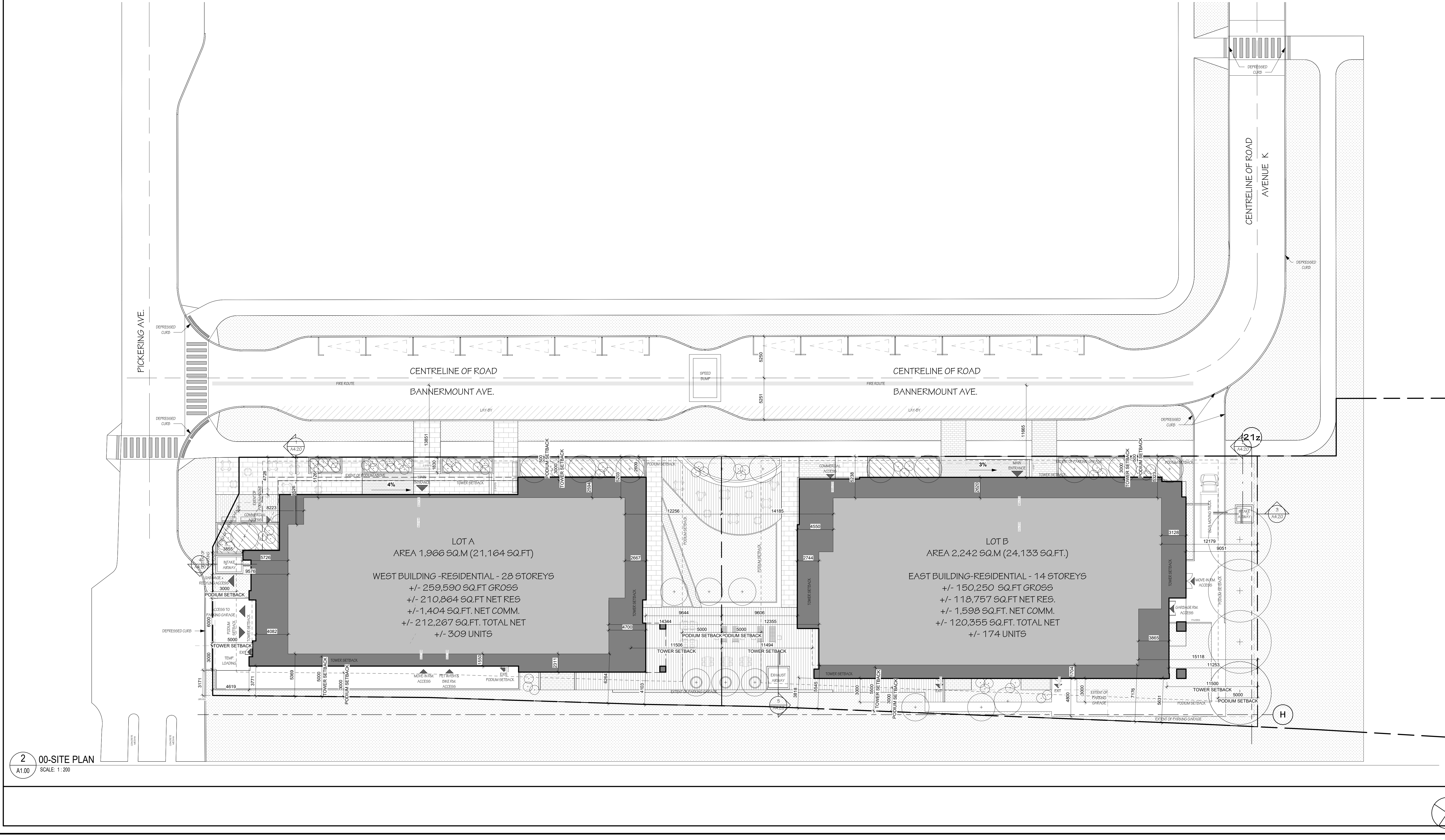
NOT FOR CONSTRUCTION

Note: All existing site information as per site survey plan dated September 18, 2015 and prepared by STANTEC GEOMATICS Ltd. Ref No. 1816133566-510

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ALL ERRORS AND/OR OMISSIONS TO THE ARCHITECT.
 ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS.
 DO NOT SCALE DRAWINGS.
 THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNTIL SIGNED.
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 F: 613-235-2025
 E: mail@hobinarc.com
 hobinarc.com

PROJECT		DESIGN OPTION 2	
DRAWING TITLE		SITE PLAN	
DRAWN	DATE	SCALE	PROJECT
Author	00/00/0000	As Indicated	PROJECT NUMBER
		DRAWING NO.	
		A1.00	
		REVISION NO.	



2 00-SITE PLAN
 A1.00 SCALE: 1:200

APPENDIX B

TIA Screening Form

City of Ottawa 2017 TIA Guidelines TIA Screening

1. Description of Proposed Development

Municipal Address	
Description of Location	
Land Use Classification	
Development Size (units)	
Development Size square metre (m ²)	
Number of Accesses and Locations	
Phase of Development	
Buildout Year	

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.

Transportation Impact Assessment Guidelines

	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

OC Transpo Route Maps

 EAST
EST

 Blair






 Cyrville

 St-Laurent

 Tremblay

 VIA

 Hurdman  SOUTH
SUD → 

 Lees

24 min.  uOttawa

 Rideau

 Parliament
Parlement

 Lyon

 Pimisi

 Bayview 

 Tunney's Pasture

 WEST
OUEST

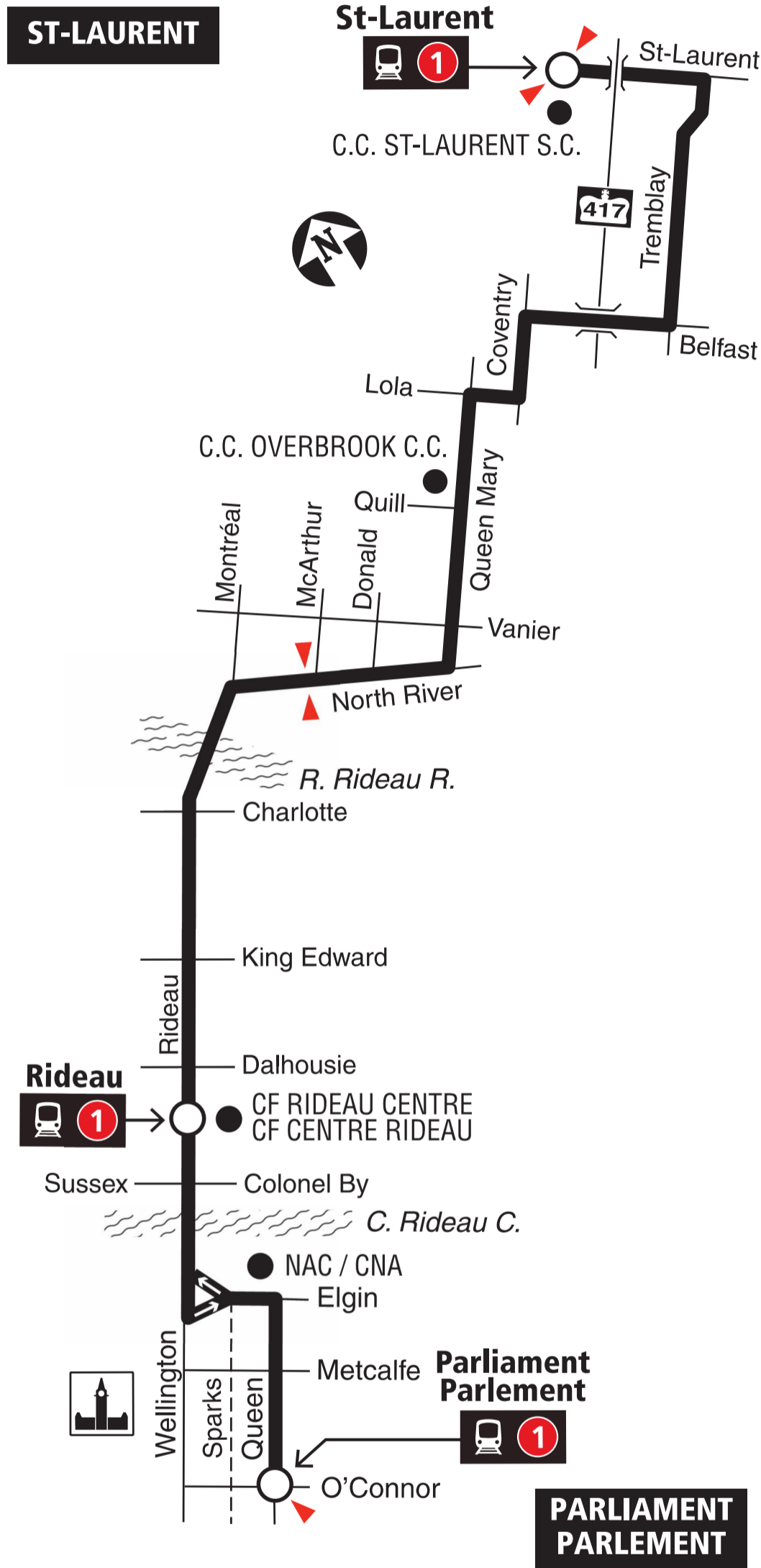


18

ST-LAURENT PARLIAMENT PARLEMENT

Local

7 days a week / 7 jours par semaine
All day service
Service toute la journée



○ Station
▲ Timepoint / Heures de passage

2023.08

2023.08

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 August 27, 2023
En vigueur 27 août 2023

39

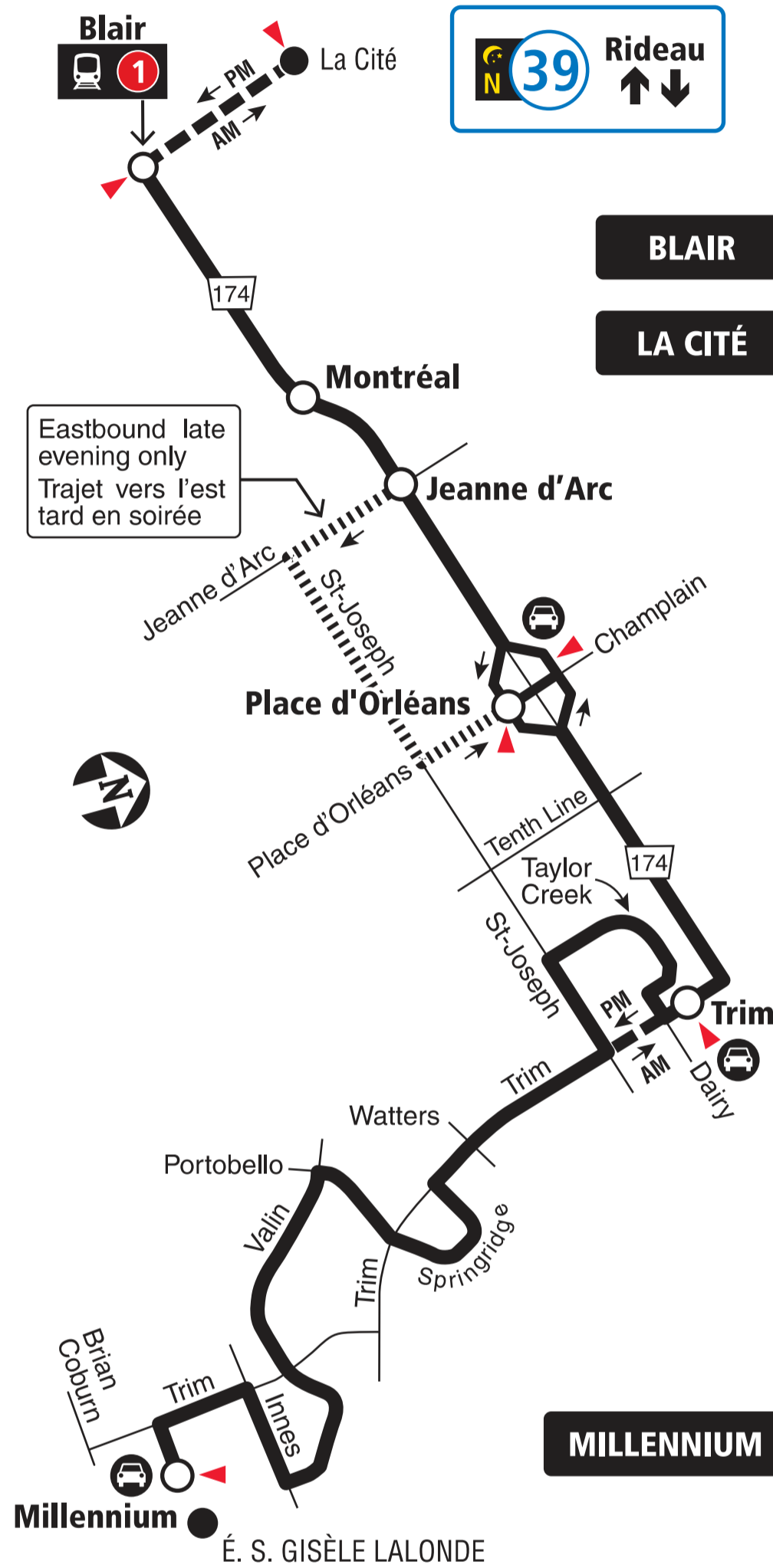
MILLENNIUM

BLAIR LA CITÉ

Rapid^e

7 days a week / 7 jours par semaine

All day service and limited overnight
Service toute la journée et limité la nuit



- Station
- Peak periods / Périodes de pointe
- Park & Ride / Parc-o-bus
- Timepoint / Heures de passage

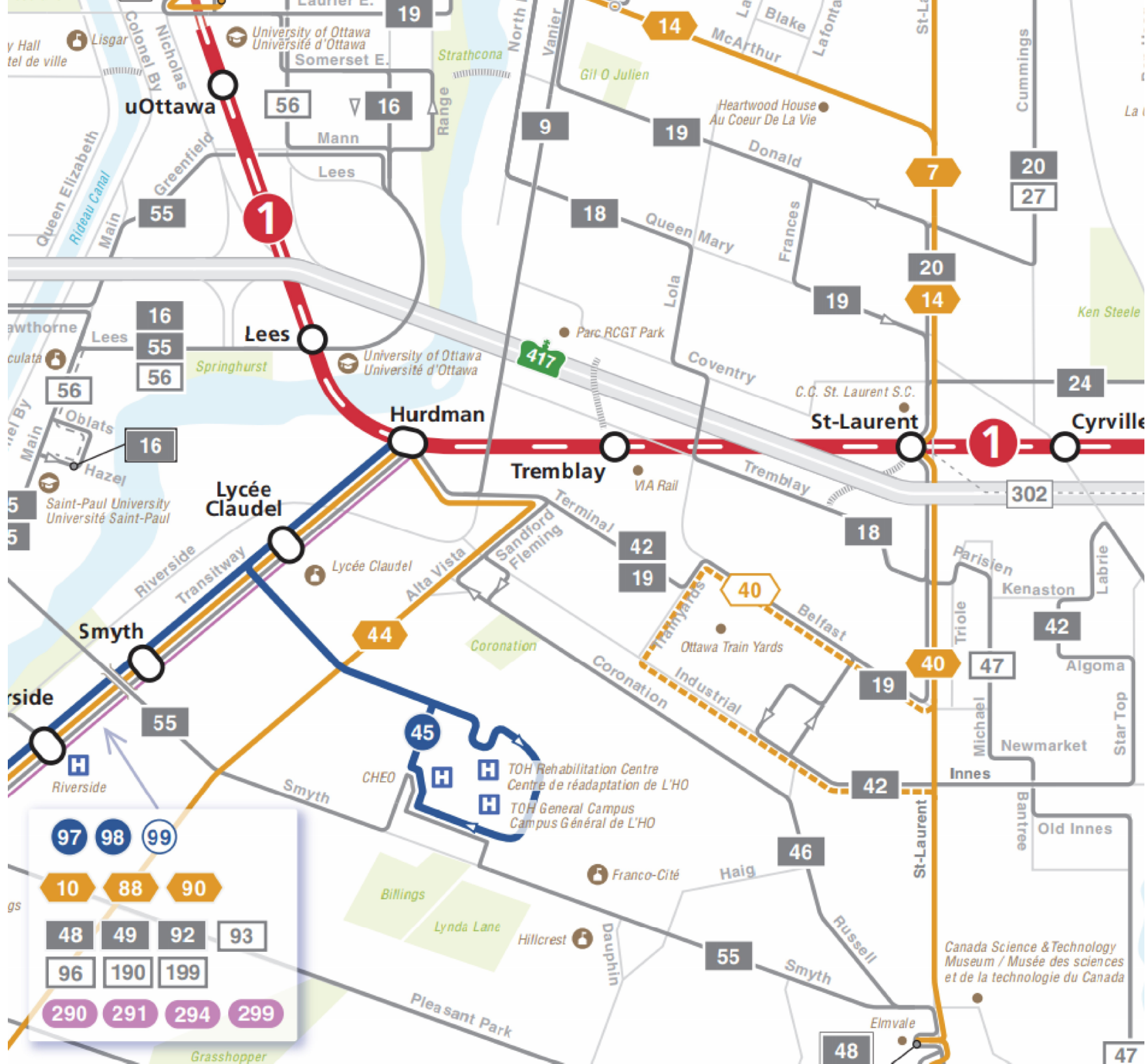
39 When O-Train Line 1 is not running overnight, Route 39 will be extended downtown to Rideau Station. / Lorsque la ligne 1 de l'O-Train ne circule pas la nuit, le circuit 39 sera prolongée au centre-ville jusqu'à la station Rideau.

2019.07

**Future route after O-Train Line 1 is open
Trajet du circuit après l'ouverture
de la Ligne 1 de l'O-Train**

Lost and Found / Objets perdus..... **613-563-4011**
Security / Sécurité..... **613-741-2478**

Transpo INFO 613-741-4390
octranspo.com



- 97 98 99
- 10 88 90
- 48 49 92 93
- 96 190 199
- 290 291 294 299

APPENDIX D

Traffic Count Data

Turning Movement Count - Peak Hour Diagram

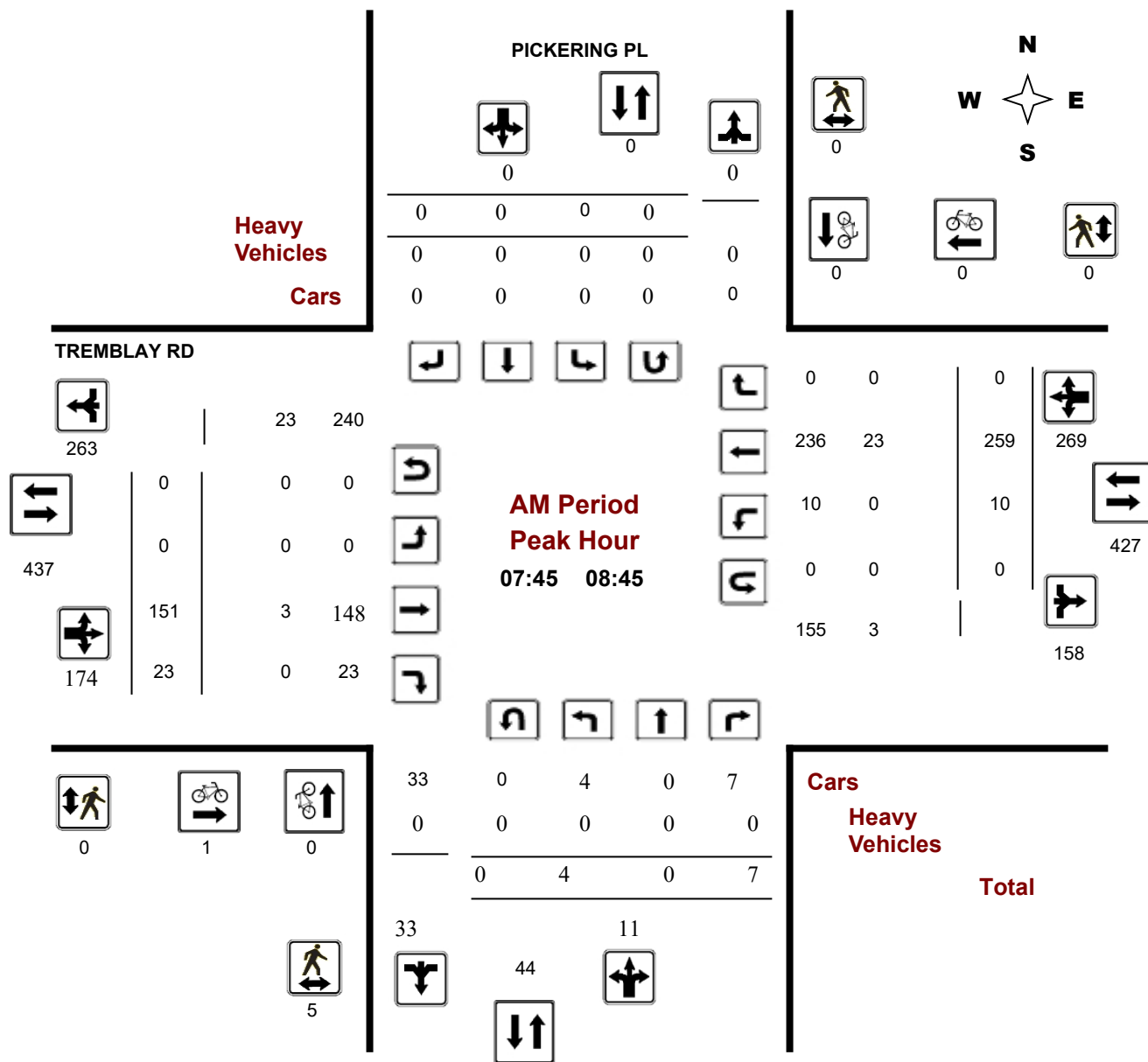
PICKERING PL @ TREMBLAY RD

Survey Date: Tuesday, January 27, 2015

WO No: 34317

Start Time: 07:00

Device: Miovision



Turning Movement Count - Peak Hour Diagram

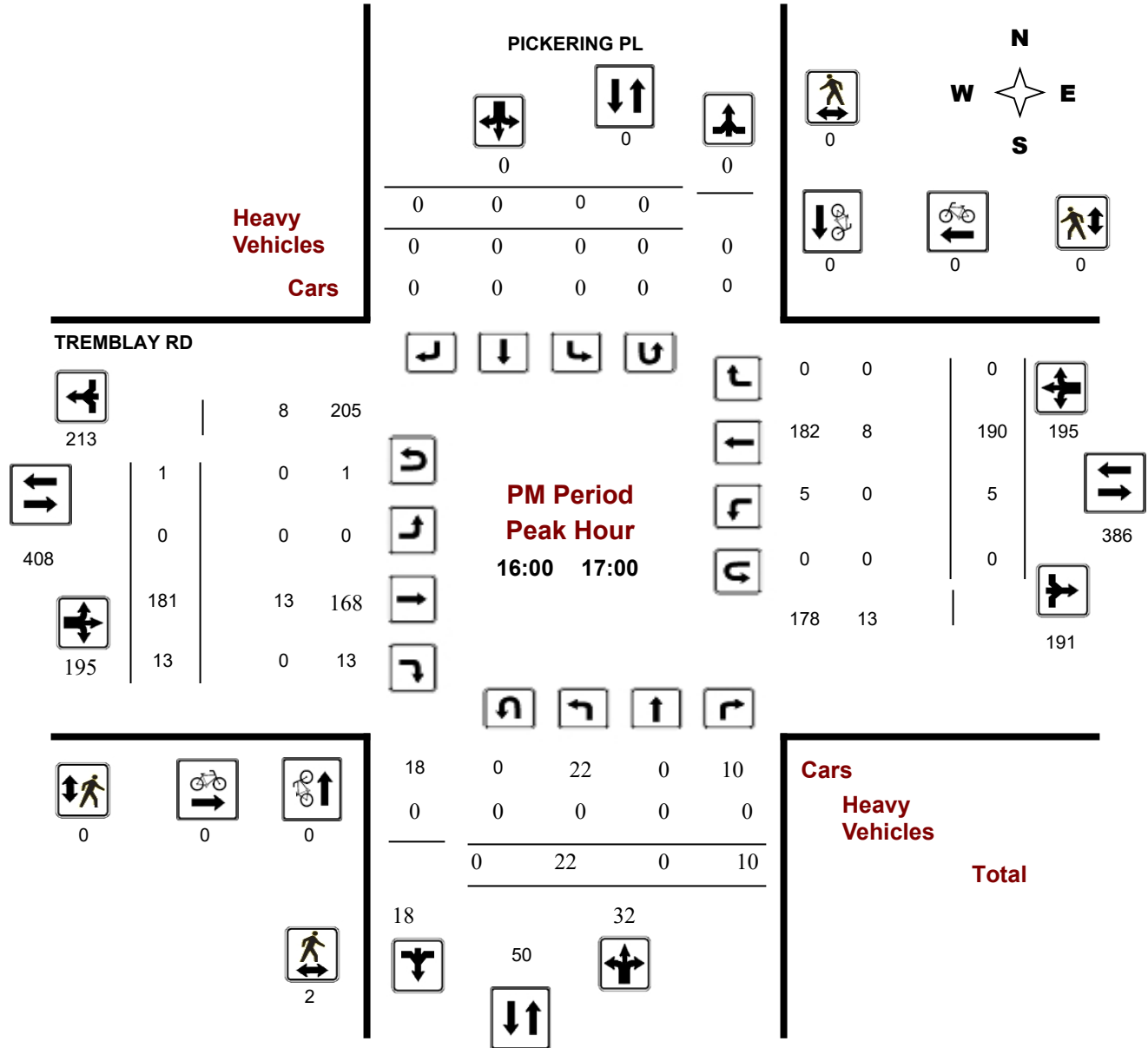
PICKERING PL @ TREMBLAY RD

Survey Date: Tuesday, January 27, 2015

Start Time: 07:00

WO No: 34317

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

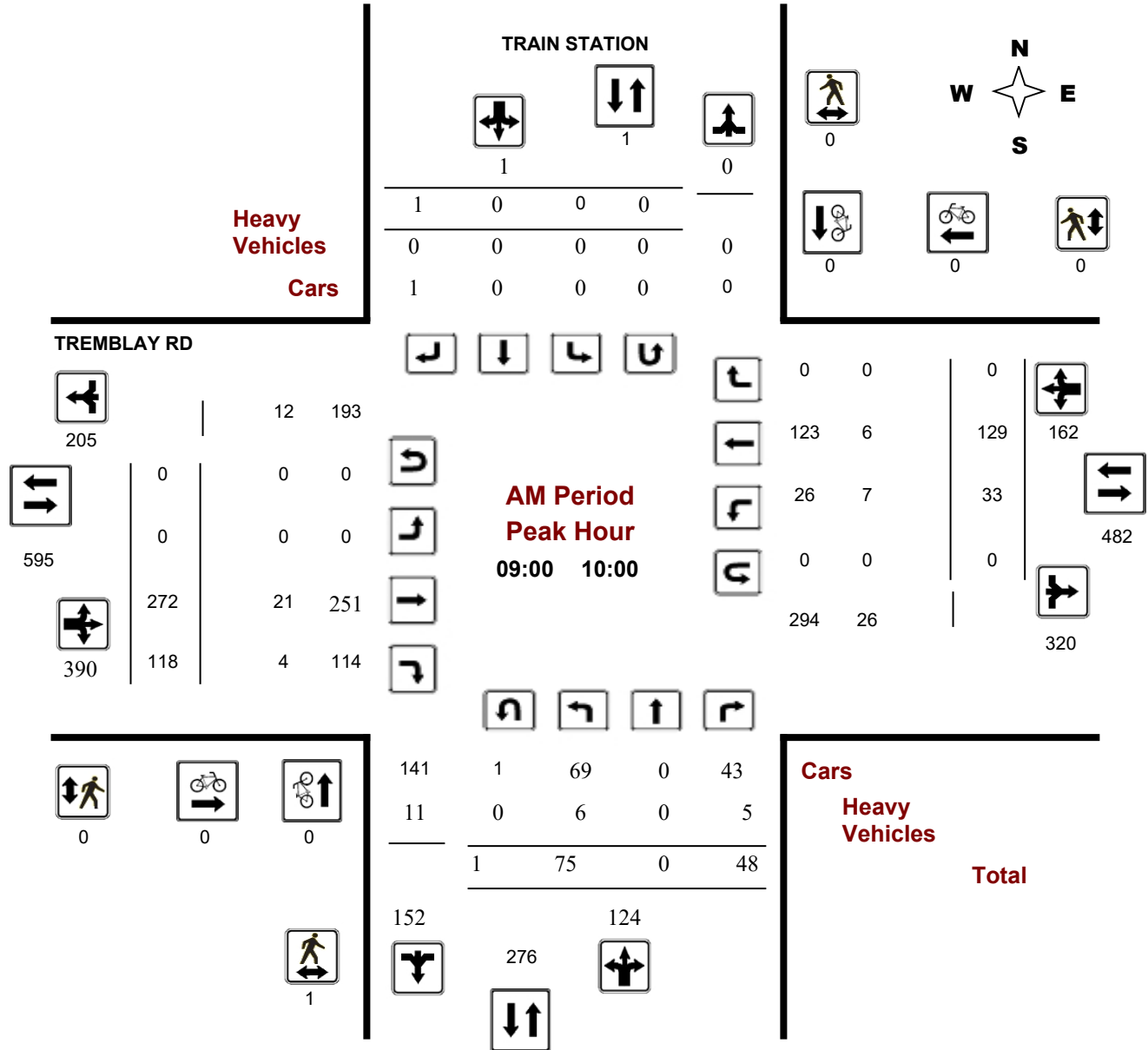
TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019

Start Time: 07:00

WO No: 38347

Device: Miovision



Turning Movement Count - Peak Hour Diagram

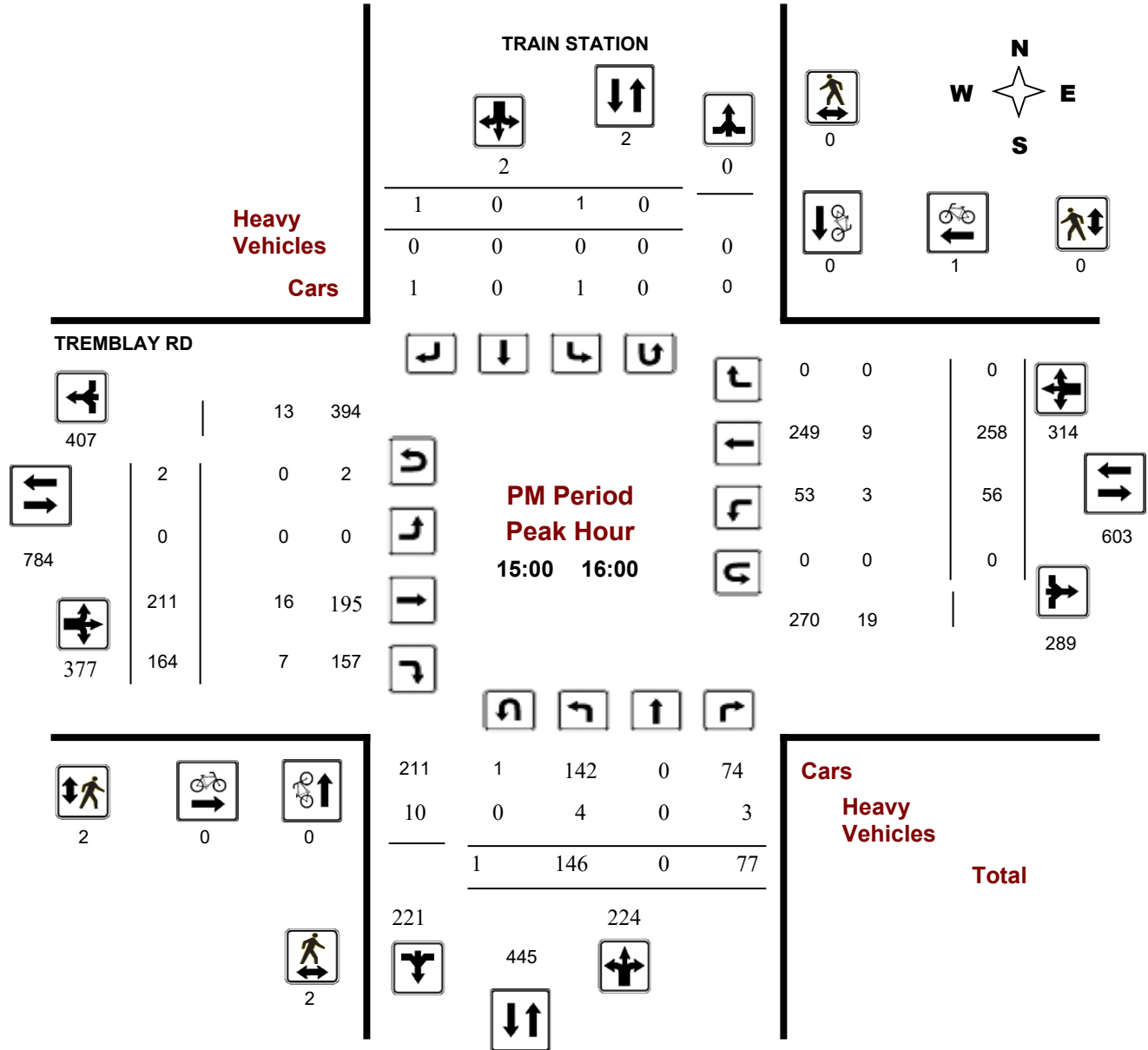
TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019

Start Time: 07:00

WO No: 38347

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

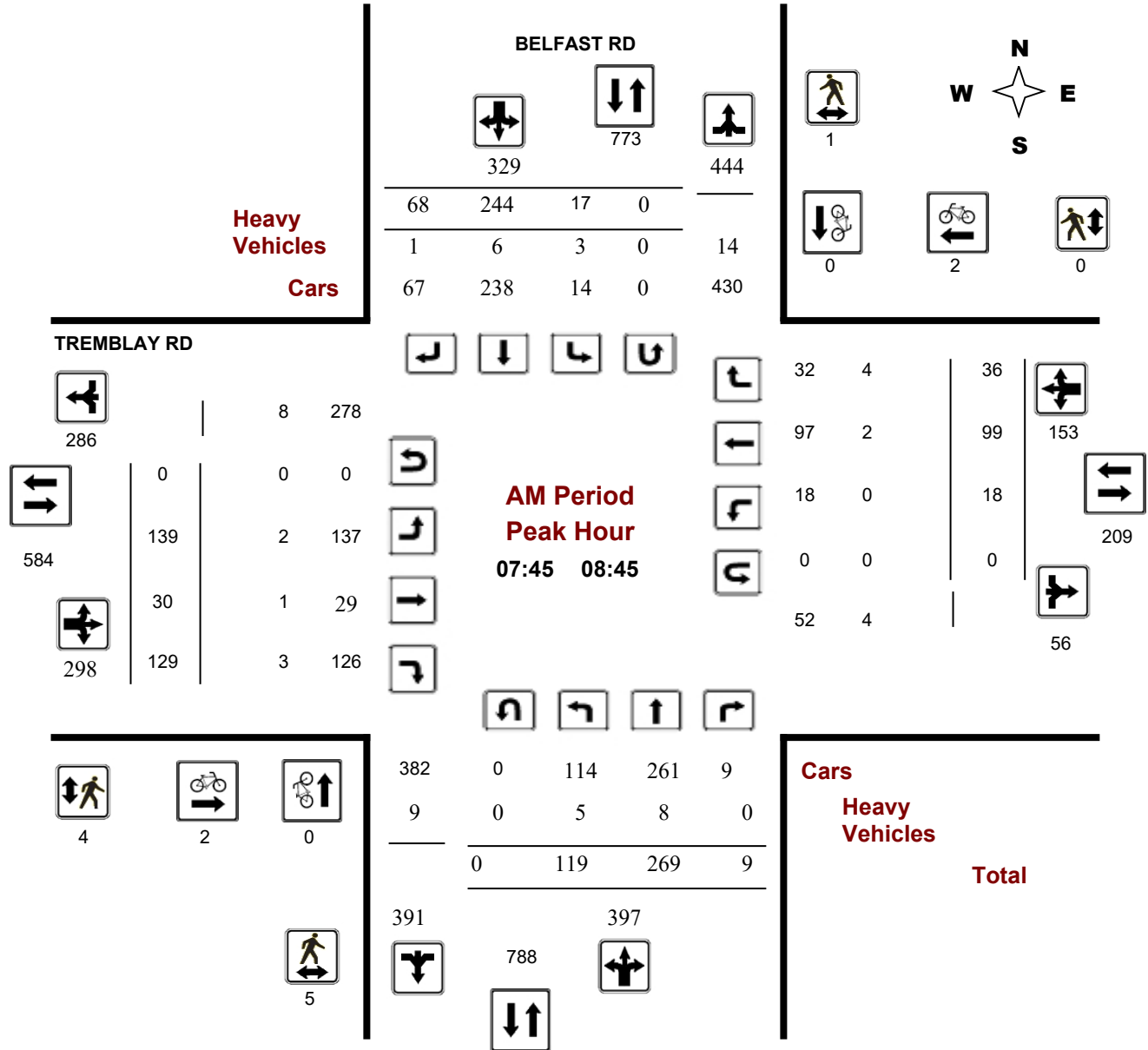
BELFAST RD @ TREMBLAY RD

Survey Date: Wednesday, January 08, 2020

Start Time: 07:00

WO No: 39277

Device: Miovision



Comments 5469218 - WED JAN 08, 2020 - 8HRS - LORETTA

Turning Movement Count - Peak Hour Diagram

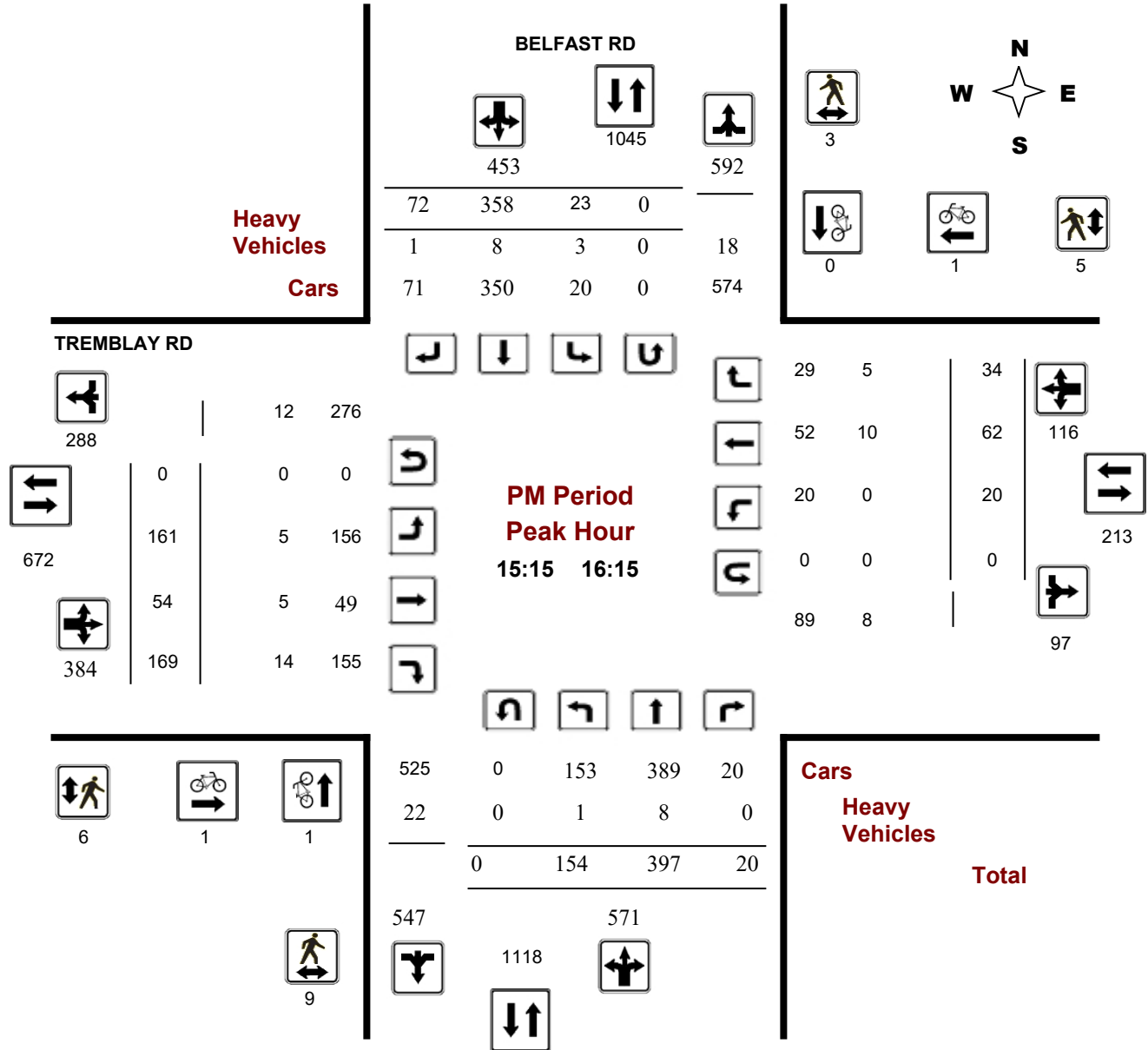
BELFAST RD @ TREMBLAY RD

Survey Date: Wednesday, January 08, 2020

Start Time: 07:00

WO No: 39277

Device: Miovision



Comments 5469218 - WED JAN 08, 2020 - 8HRS - LORETTA

APPENDIX E

Collision Records



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 To: December 31, 2021

Location: PICKERING PL @ TREMBLAY RD

Traffic Control: Stop sign

Total Collisions: 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2021-Nov-10, Wed,13:01	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Truck - open	Other motor vehicle	

APPENDIX F

Tremblay TOD Zone

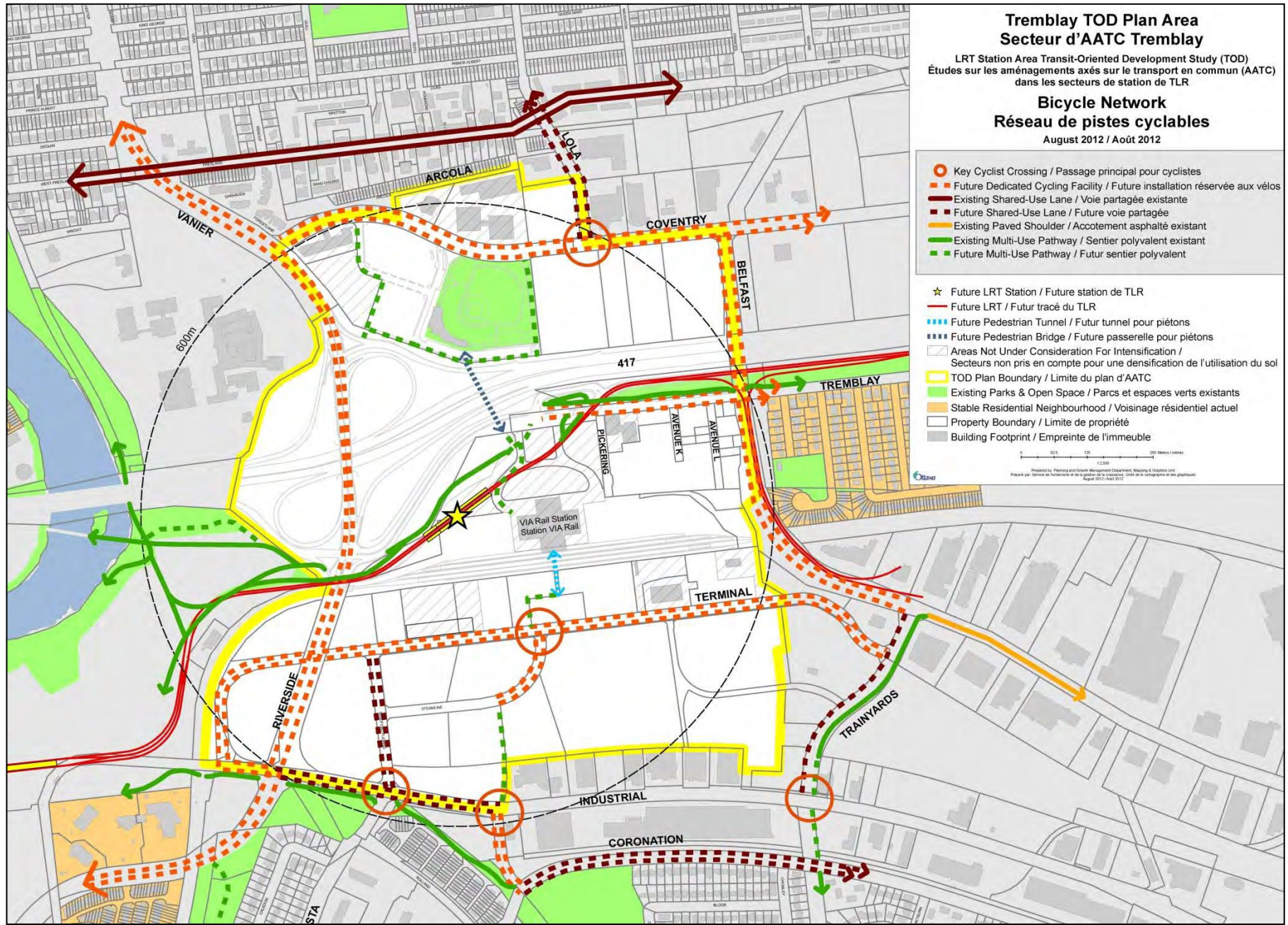
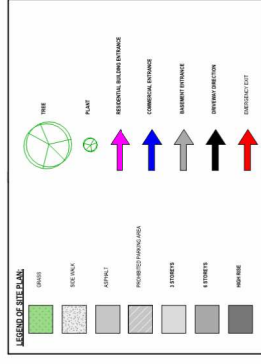


Figure 37: Tremblay Bicycle Network
 TOD Plans, Jan. 29, 2014.

APPENDIX G

Background Reports

400 COVENTRY RD OTTAWA



SITE INFORMATION

SITE AREA (LOT AREA)
NORTH SIDE 5,715
SOUTH SIDE 8,554

HEIGHT

TOWER	HEIGHT	MECHANICAL
TOWER E1	25 Storeys	78m
TOWER E2	23 Storeys	75m
TOWER D	20 Storeys	63m
TOWER A	18 Storeys	57m
TOWER B	30 Storeys	93m
TOWER C	27 Storeys	87m
TOWER C2	27 Storeys	87m

PARKING RATES

Residential 0.5 p/unit
Retail 1.25 p/100sqm

AMENITIES RATE

Required 6m²/unit

SETBACKS PROVIDED

DIRECTION	HEIGHT	WEST	EAST
NORTH side	2.2m	0.8m	5.3m
SOUTH side	2m	14.3m	2.2m

INFO SETBACK 4m from HWY 147

DEVELOPMENT STATISTICS

RESIDENTIAL UNITS

Apartment 1768

*Assumes an 85% efficiency and 80m² average net unit size

ESTIMATED GFA

Category	Required	Provided
Retail	1518	14455
Residential	1518	60135
TOTAL BUILDING AREA	1518	14455

PARKING

Category	Required	Provided
Residential	355	377
Visitor	71	57
Retail	106	71
Total	532	505

AMENITIES

Category	Required	Provided
NORTH SIDE	581	581
SOUTH SIDE	629	629
TOTAL	1210	1210

PARKLAND DEDICATION

Category	Required	Provided
Interior	5981	5981
Exterior	629	629
TOTAL	6610	6610

LOT COVERAGE

Category	Required	Provided
Interior	5981	5981
Exterior	629	629
TOTAL	6610	6610

NOTES

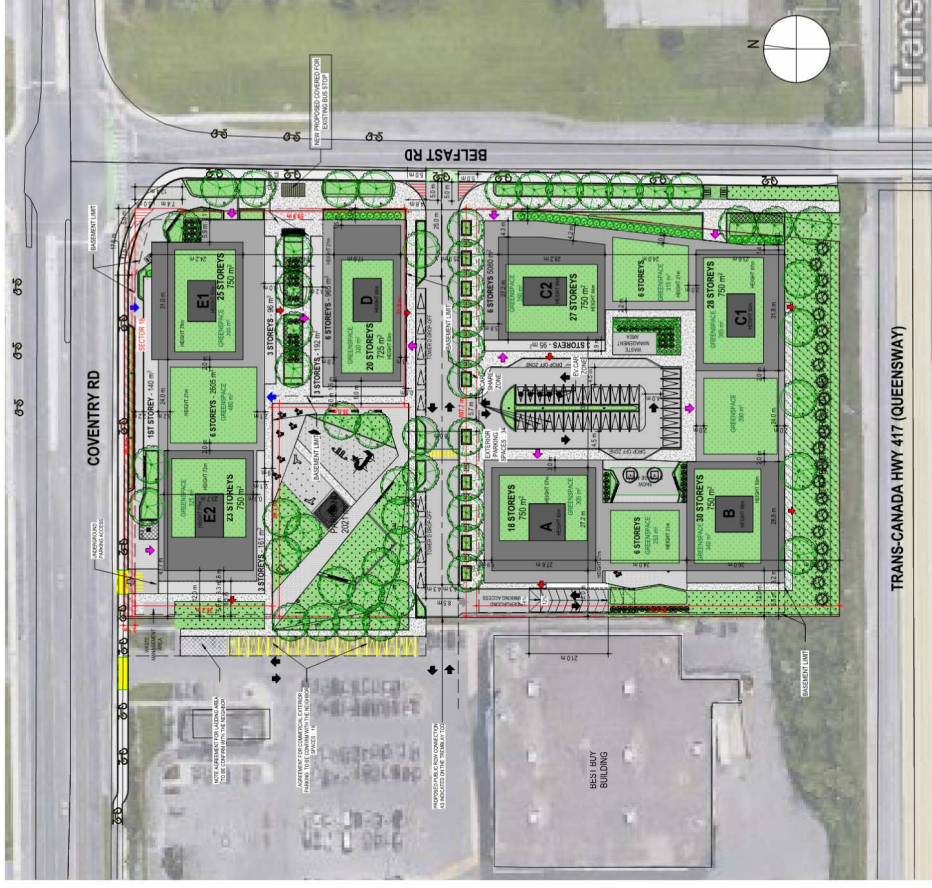
- Assumes typical residential floor height of 3m. Assumes retail ground floor height of 6m.
- For the purpose of this concept, an average of 80m²/2 (860sqf) unit size is used to calculate the approximate total number of units.
- The base plan (lot lines, existing roads and surrounding areas) is based on the City's open plan data and aerial images. The site area is approximate and all dimensions need to be confirmed by a legal survey.
- This concept considers the internal street envisioned in the Tremblay TOD plan as a public right-of-way, allowing for the park to be located in a more pedestrian scale streetscape. This solution would depend on negotiations with other landowners and temporary easements to allow for a road loop towards Coventry Road. In the case of the internal street being a private street or multi-use path, the park would likely need to be relocated to a public street frontage (Coventry Rd or Belfast Rd) reducing the commercial frontage.

No. REVISION DATE: 2023.06.01 BY: CR



630 René-Lévesque Blvd W Suite 3200, Montreal, Quebec H3B 1S6
www.neufarchitectes.com

DESIGNED BY CR
REVIEWED BY SP
DATE 2023.05.24



No. REVISION DATE: 2023.06.01 BY: CR



630 René-Lévesque Blvd W Suite 3200, Montreal, Quebec H3B 1S6
www.neufarchitectes.com

DESIGNED BY CR
REVIEWED BY SP
DATE 2023.05.24

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. Table 14 summarizes the proportional assignment to the study area roadways, Figure 18 and Figure 19 illustrate the new site-generated volumes and pass-by volumes, respectively.

Table 14: Trip Assignment

To/From	Via
North	5% Vanier Parkway (N)
	5% Lola Street (N)
	15% St. Laurent Boulevard (N)
South	5% Belfast Road (S)
	5% Riverside Drive (S)
	10% St. Laurent Boulevard (S)
East	15% to/from Highway 417/174 (E)
	10% Ogilvie Road (E)
West	25% to/from Highway 417 (W)
	5% Vanier Parkway (N)
Total	100%

Figure 18: New Site-Generated Auto Volumes

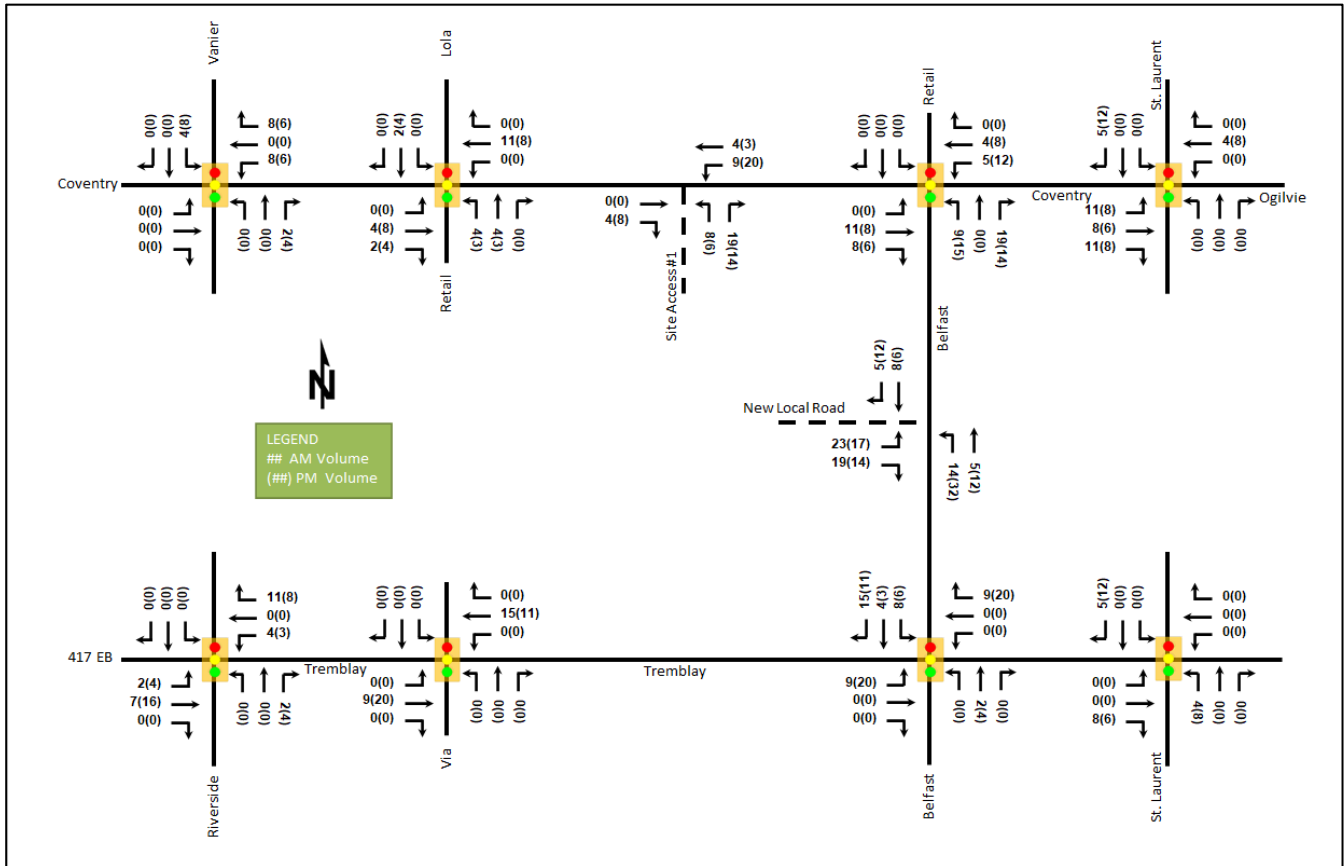
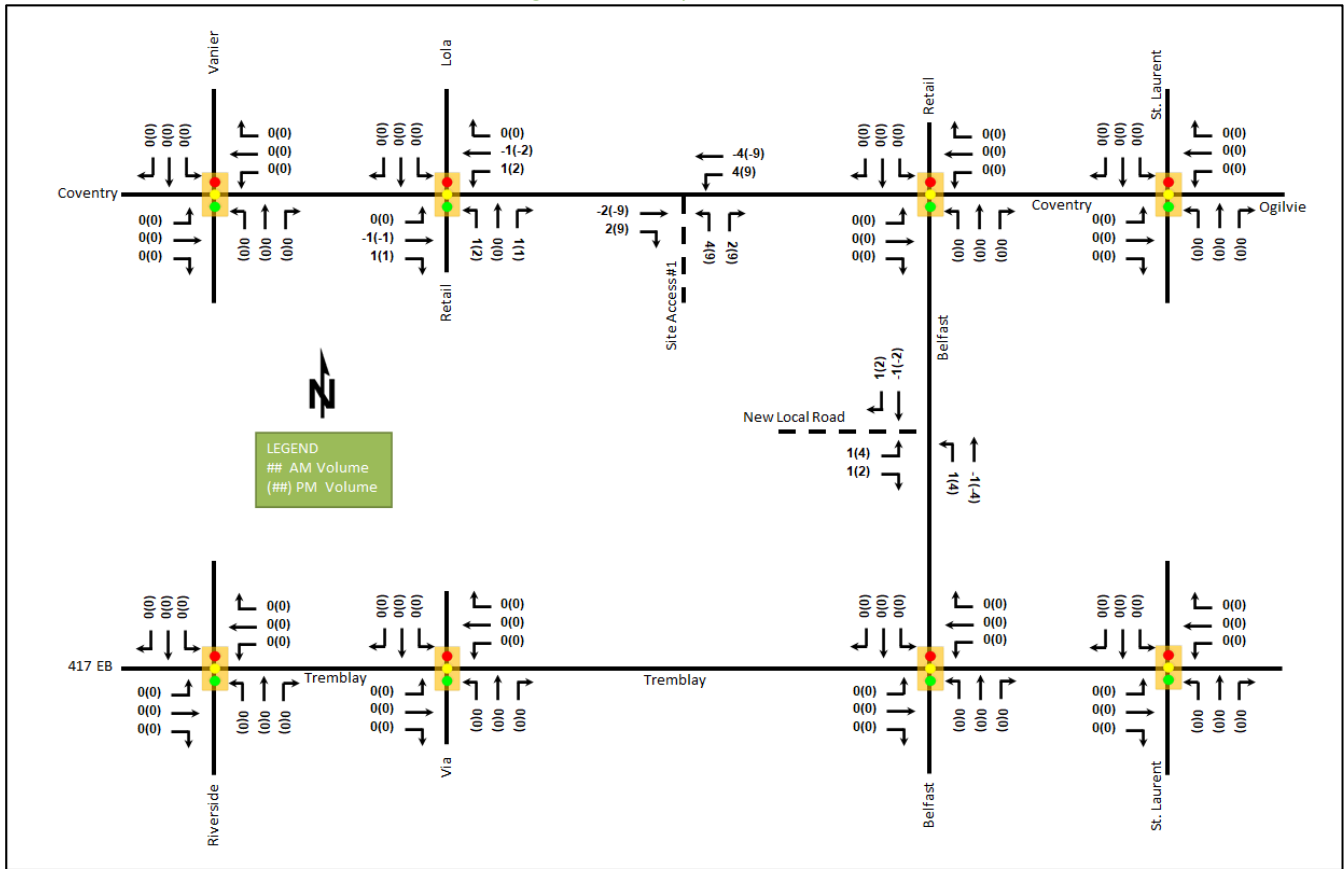


Figure 19: Pass-By Auto Volumes



6 Background Network Travel Demands

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3. A MUP has recently been completed on the west side of Belfast Road. The widening of Coventry Road and Belfast Road are assumed to be beyond 2037, and none of the proposed changes within the study horizons are considered to have any notable impact on the study area traffic volumes and travel patterns.

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. The background TRANS model growth rates are summarized in Table 15 and the TRANS model plots are provided in Appendix E.

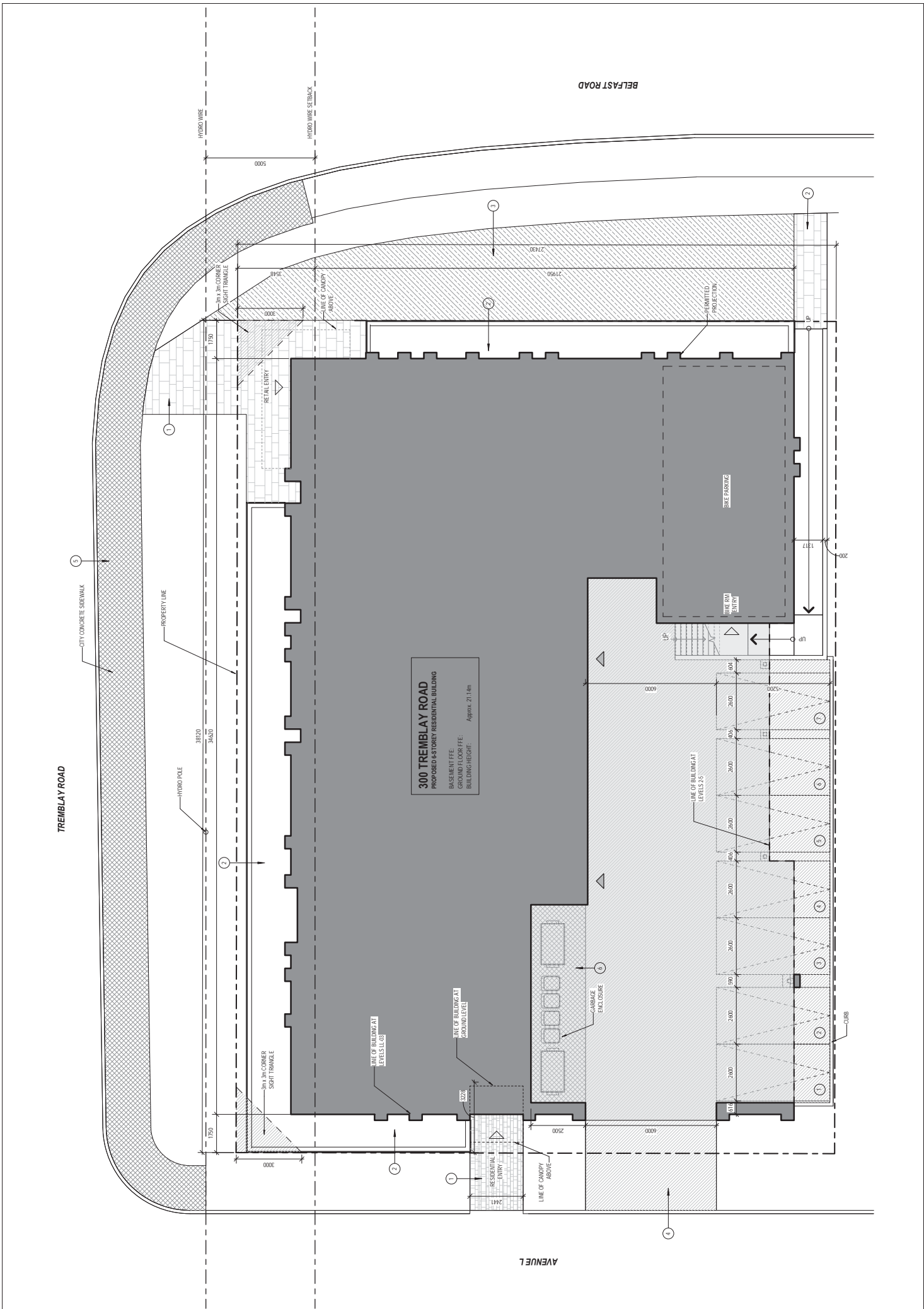
Table 15: TRANS Regional Model Projections – Study Area Growth Rates

Street	TRANS Rate		2011 to Existing		Existing to 2031	
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
Coventry	2.79%	1.95%	4.24%	7.80%	1.62%	-2.60%
Tremblay	2.71%	1.32%	0.46%	3.32%	4.58%	-1.05%
Hwy 417 Ramp	1.41%	0.70%	2.18%	-	0.79%	-

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 4. The Architect is not responsible for the design of any Mechanical, Electrical, or Plumbing systems shown on this drawing. The design of such systems shall be the responsibility of the respective Architect of Record for such systems.
 5. The Architect is not responsible for the design of any Mechanical, Electrical, or Plumbing systems shown on this drawing. The design of such systems shall be the responsibility of the respective Architect of Record for such systems.
 6. These documents are not to be used for construction unless specifically noted for such purposes.



4 LOCATION PLAN
 SP-01 SCALE: 1:1



SITE PLAN SYMBOLS LEGEND

	BUILDING ENTRANCE
	BUILDING EXIT
	FIRE HYDRANT
	NEWS STREET LIGHT
	STREET LIGHT TO BE REMOVED
	BICYCLE PARKING

SYMBOLS LEGEND
 SCALE: N.T.S.

SITE & PROJECT STATISTICS

STATISTICS AND ZONING INFORMATION
 ZONING DESIGNATION: TD1

Dwelling Units: 73

BICYCLE PARKING CALCULATION
 As per Table 11.4
 Required Parking: 37 spaces
 Existing Parking: 17 (14/3/0)
 Total Parking Provided: 38 spaces

PARKING CALCULATION
 As per Section 10.7 & Section 10.2
 Parking Space Rate Area: Area X
NEW BUILDING
 73 units
 Residential Units: 73
 Parking Provided: 6 spaces
Visitor Parking: 6 spaces
 0.7 spaces/unit beyond 12 units
 Total Required Parking: 6 spaces
 Total Required Parking: 7 spaces
 Total Parking Provided: 7 spaces

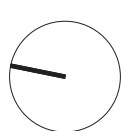
AMENITY AREA CALCULATION
 As per Table 13.7
 Total Amenity Area Req'd: 430m²
 8m²/unit
 Commercial Area Provided: 210m²
 Commercial Area Provided: 330m²
 Private Amenity Provided: 0m²
 Total Amenity Area Provided: 330m²

2 ZONING
 SP-01 SCALE: 1:1

KEYNOTE LEGEND
 SCALE: N.T.S.

	INTERLOCKED CONCRETE PAVERS
	WINDOW WELL
	SOFT LANDSCAPING
	ASHPALT
	CITY CONCRETE SIDEWALK
	CONCRETE PAD

ISSUE RECORD



project studio
 Project Studio Incorporated
 (613) 884-3839 | info@projectstudio.ca

300 TREMBLAY
 300 Tremblay Road
 Ottawa, ON

PROJ	SCALE	DRAWN	REVIEWED
2008	As indicated	IB	RMK

SITE PLAN

1 SITE PLAN
 SP-01 SCALE: 1:100

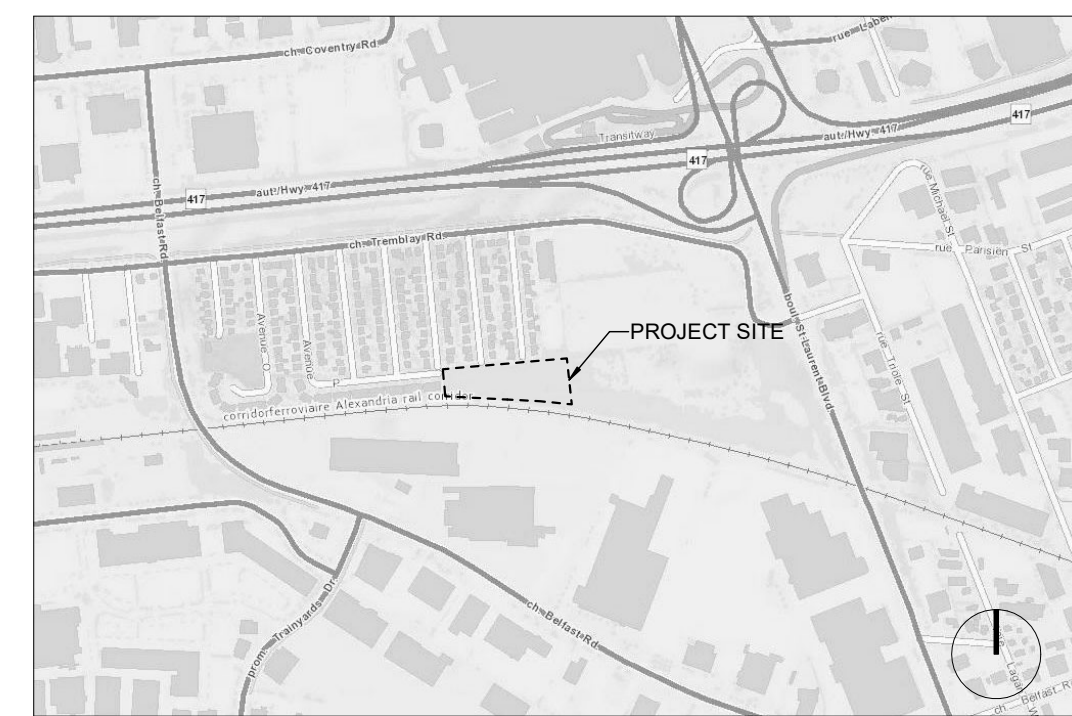
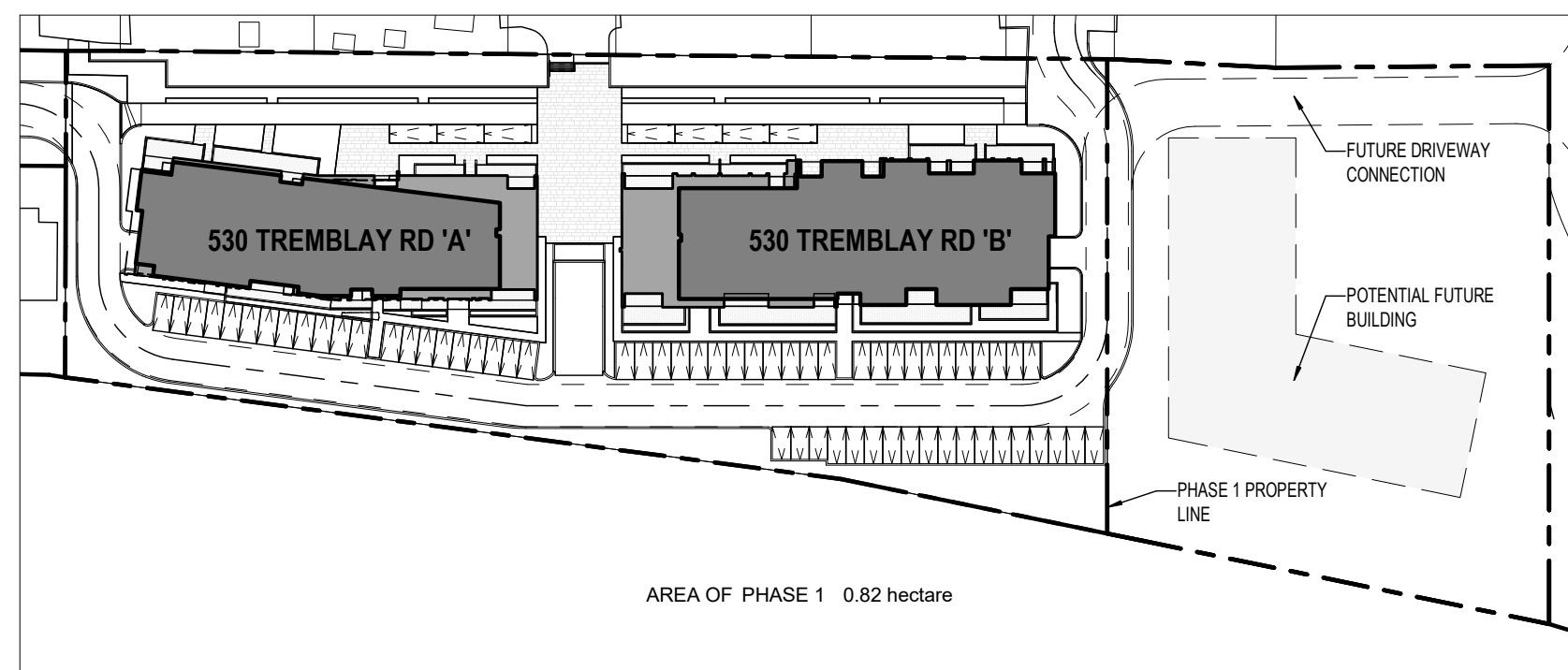
SP-01

Site & Project Statistics		
Zoning By-Law	TD1 (Transit Oriented Development Zone)	
Lot Width:	60m	
Lot Area:	1.27 hectares	
Lot Area Under this Application	0.82 hectares	
Number of Dwelling Units:	124 units	
	54 - Building 'A' 70 - Building 'B'	

Zoning Mechanism	Requirement	Proposed
Min. Front Yard Setback	3m	15m
Min. Interior Side Yard	3m	10m - West & 7.2m - East
Min. Rear Yard Setback	No Minimum	15m
Max. Building Height	20m In excess of 15m from a property line abutting an R1, R2, or R3 Zone	16.54m - Building 'A' 19.52m - Building 'B'
Minimum Separation distance between buildings	3m Higher than 14.5m	11.9m

Ground Floor Amenity Area		
	163.95m ²	1091.7m ²
	2% of the total lot area must be provided as outdoor communal spaces located at grade anywhere on the lot and such area can also be used towards complying with any amenity area requirements	
Minimum Density	123 units 150 units / hectare	124 units
Vehicle Parking	Resident Parking	0
	Visitor Parking	12 spaces 0.1 per dwelling unit (no visitor parking spaces required for the first 12 dwelling units). Maximum requirement per building: 30 spaces
		124 spaces 66 - Below Grade
		12 spaces
Total Parking		136 spaces
Bicycle Parking	Building 'A'	27 spaces
	Building 'B'	35 spaces
		0.5 per dwelling unit
		Total required: 62

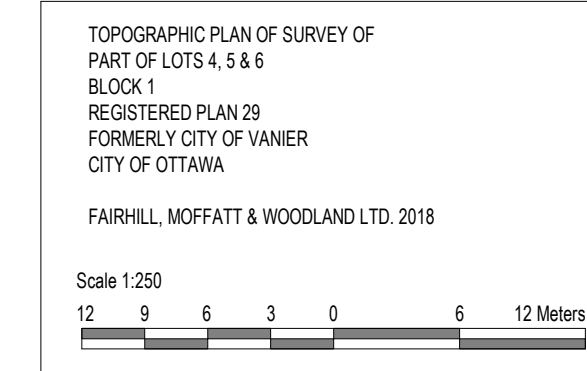
Amenity Area		
Total Amenity Area Building 'A'	324m ²	1283.17m ²
	6m ² per dwelling unit	
Communal Amenity Building 'A'	162m ²	852.39m ²
	A minimum of 50% of the required total amenity area	
Total Amenity Area Building 'B'	420m ²	1626.95m ²
	6m ² per dwelling unit	
Communal Amenity Building 'B'	162m ²	851.3m ²
	A minimum of 50% of the required total amenity area	
		545.9m ² - at Grade Area
		165.7m ² - Interior Amenity
		139.7m ² - Roof Top Amenity



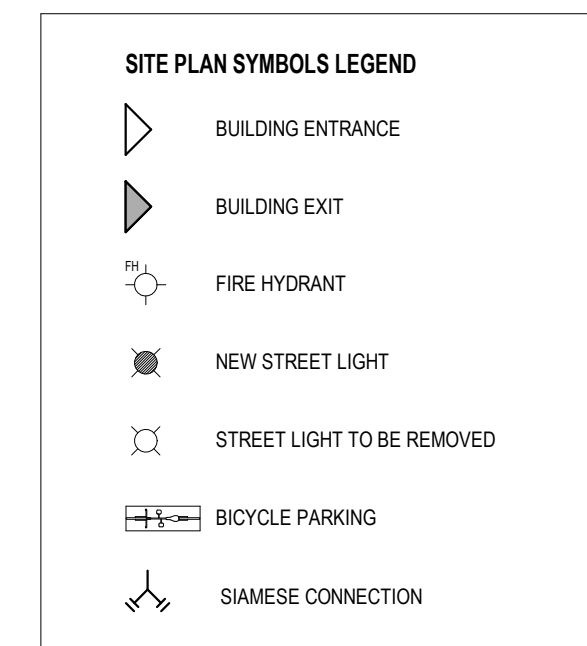
3 CONTEXT PLAN
SP-01 SCALE: 1 : 1000

LOCATION PLAN
SCALE: N.T.S.

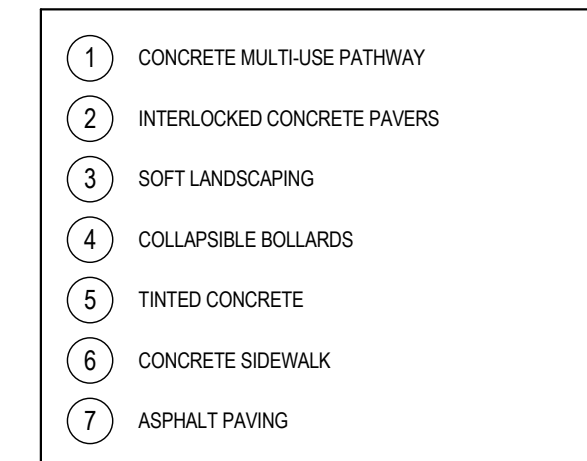
ZONING INFORMATION
SCALE: N.T.S.



SURVEY INFO
SCALE: N.T.S.



SYMBOLS LEGEND
SCALE: N.T.S.



KEYNOTE LEGEND
SCALE: N.T.S.

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 4. The Architectural Drawings are to be read in conjunction with all other Contract Documents including Project Manuals and the Structural, Mechanical and Electrical Drawings.
 5. Positions of proposed 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.



2 ISSUED FOR SITE PLAN CONTROL 19-10-25
 1 ISSUED FOR COORDINATION 19-08-30

ISSUE RECORD



530 TREMBLAY BUILDINGS 'A' & 'B'
 530 Tremblay road
 Ottawa, ON

PROJ	SCALE	DRAWN	REVIEWED
1906	NOTED	JDL	RMK

SITE PLAN

SP-01

1 SITE PLAN
SP-01 SCALE: 1 : 250

Figure 18: New Site Generation Auto Volumes Scenario 1

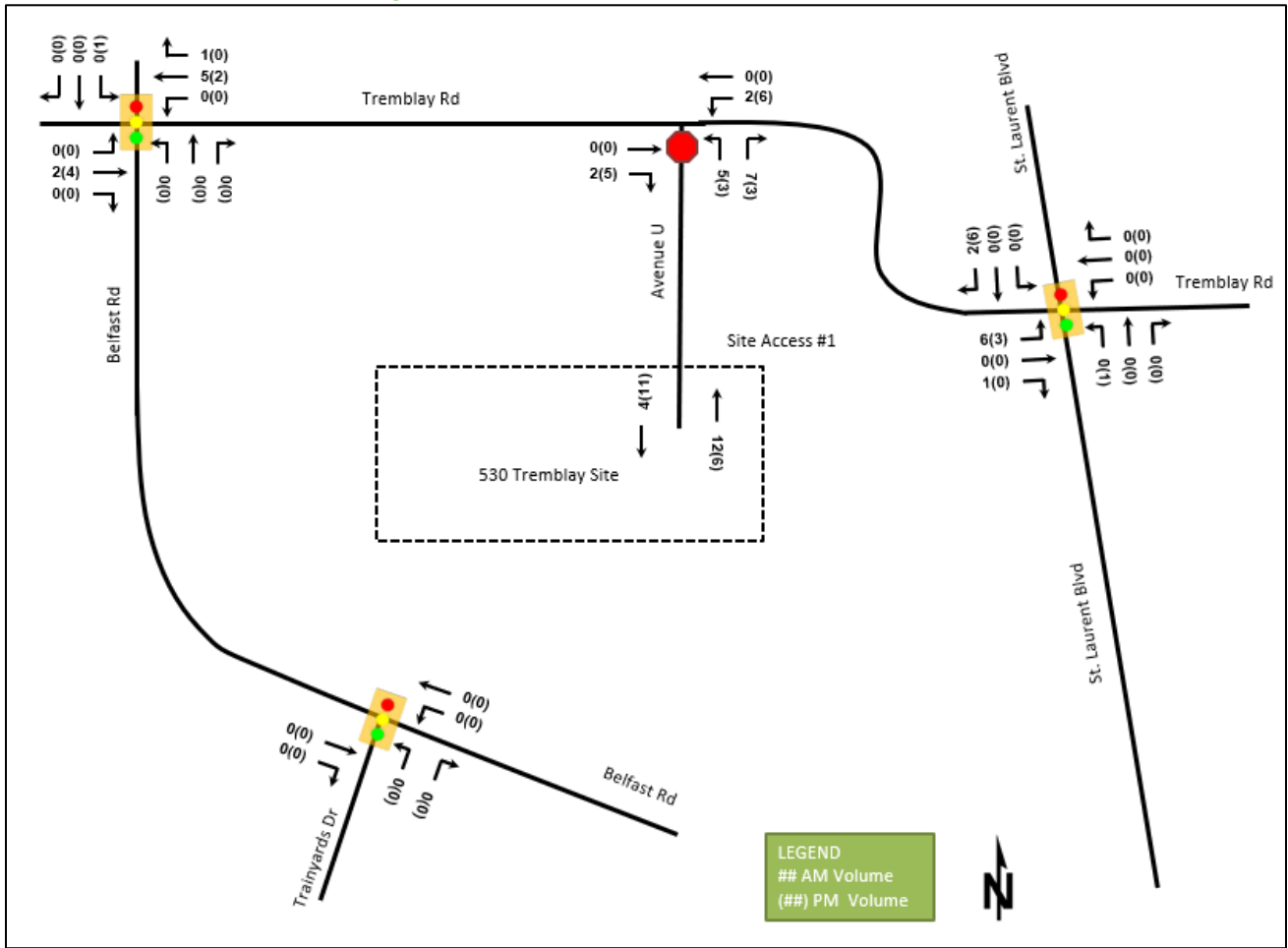
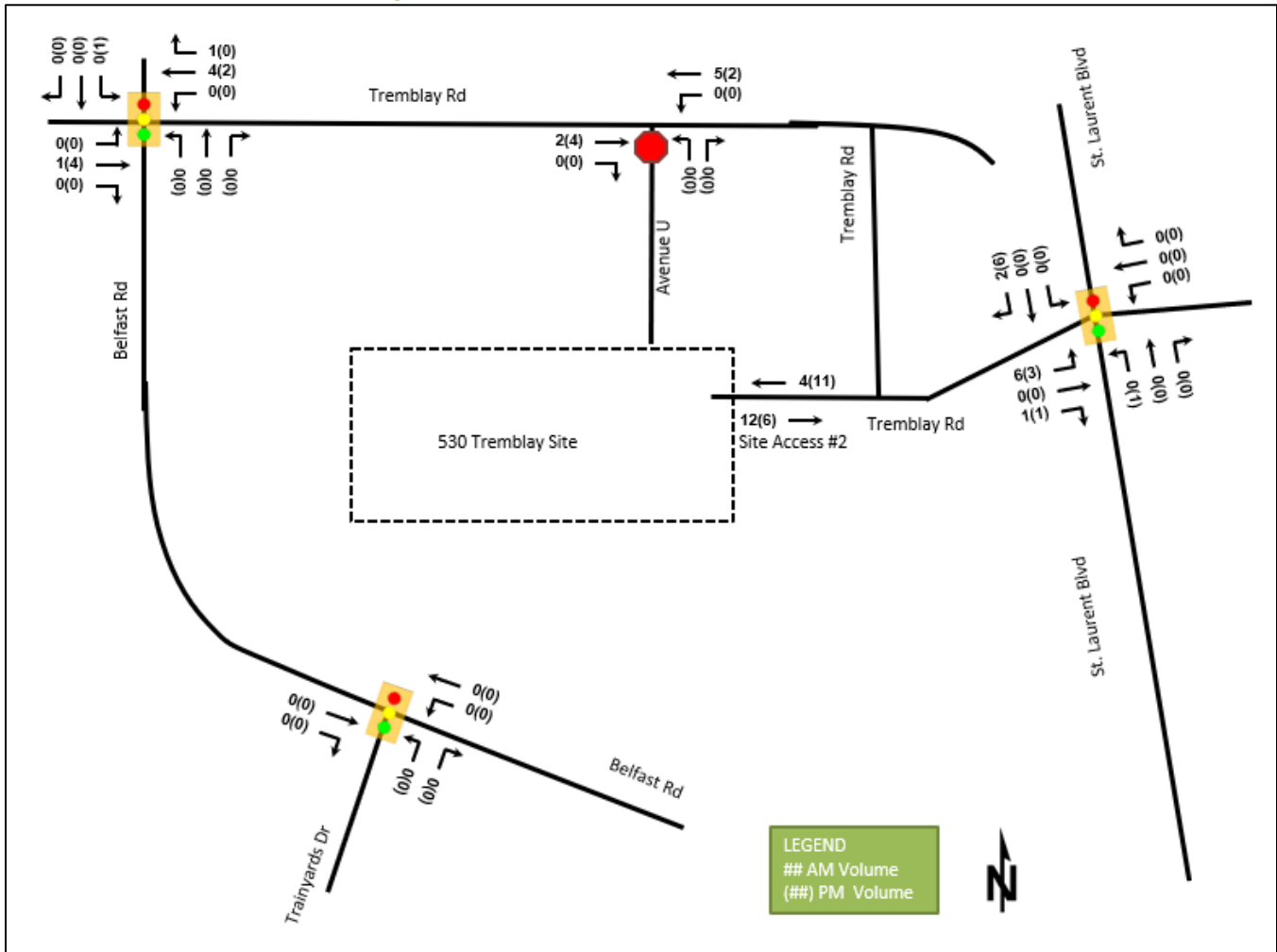


Figure 20: New Site Generation Auto Volumes Scenario 2



6 Background Network Travel Demands

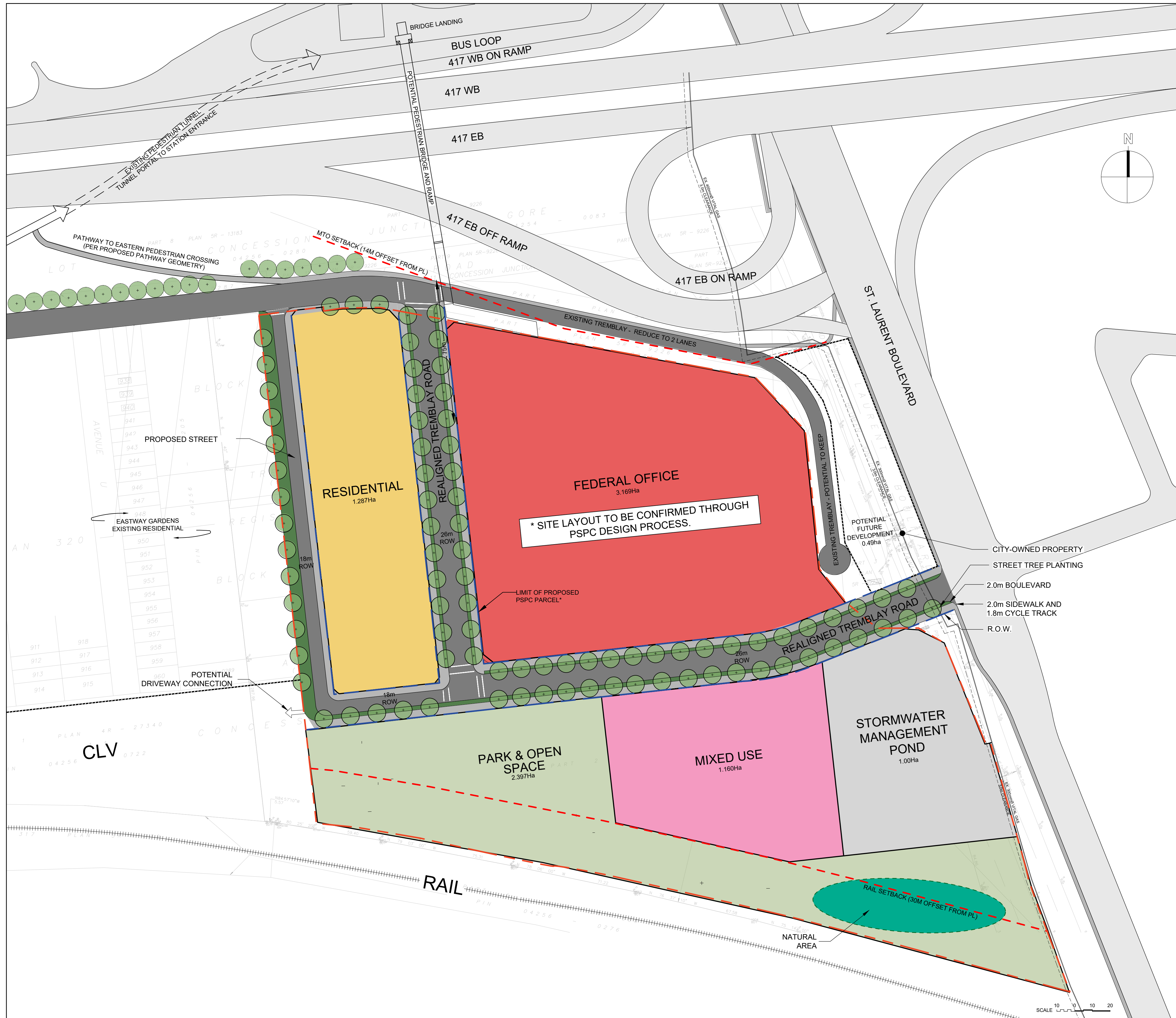
6.1 Transportation Network Plans

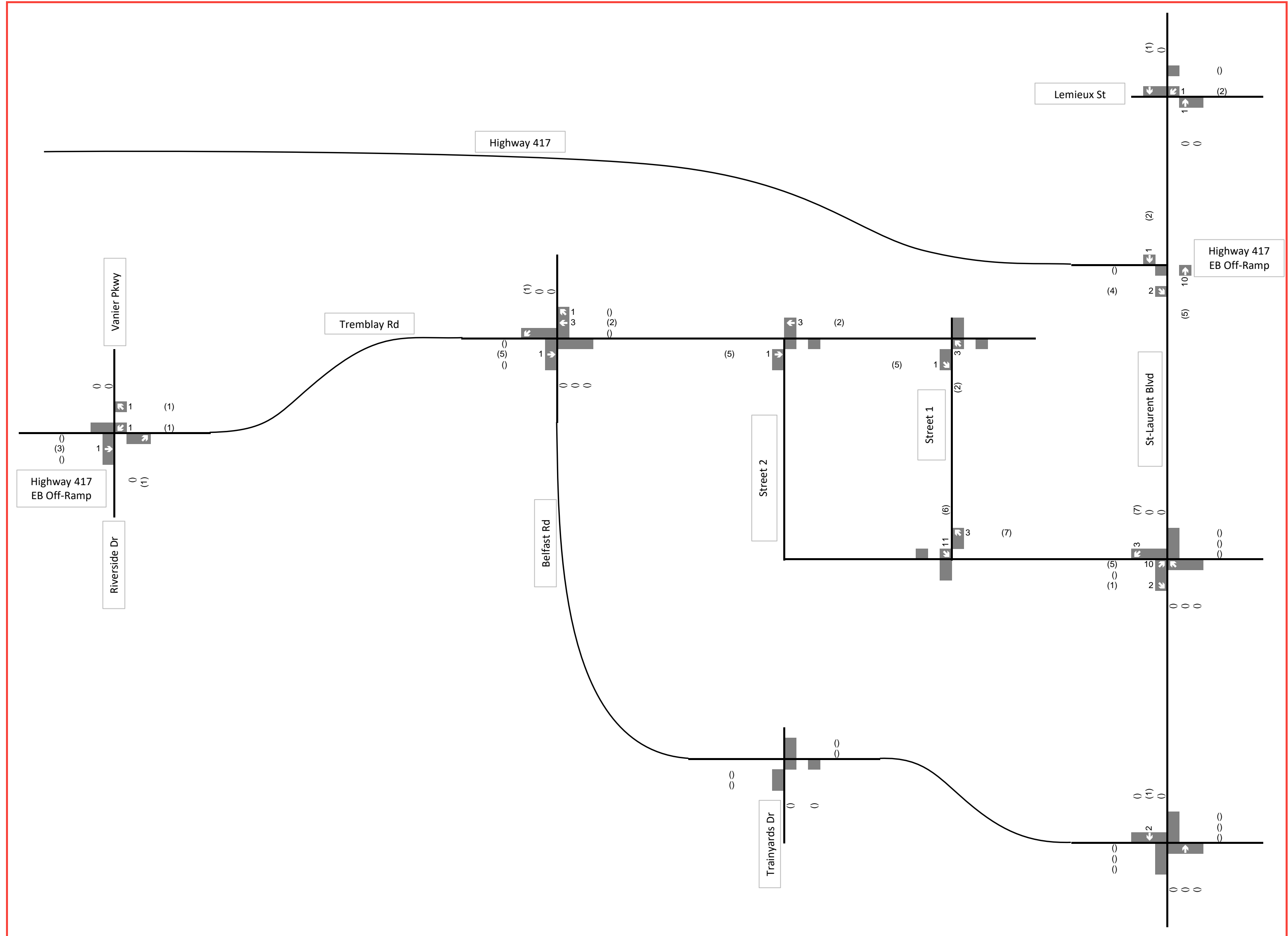
The transportation network plans were discussed in Section 2.3.1. The opening of the St. Laurent LRT station and TOD policies have been accounted for within the modal share assumptions. As part of Phase 3 (2026-2031) of the 2031 Affordable Network, a segment of Tremblay Road between Belfast Road and St. Laurent Boulevard, will be widened and realigned.

A multi-use pathway along Belfast Road between Trainyards Drive and Coventry Road will be completed as part of Phase 2 (2020-2025) of the 2031 Affordable Network. The additional connectivity provided by this will improve the active mode network but is not anticipated to significantly impact the modal shares used in the future trip generation.

6.2 Background Growth and Other Developments

Adjacent area transportation studies have used a 1% traffic growth. This growth rate was justified through historic traffic counts. As such, an annual background growth rate of 1% will be used (excluding Avenue U as growth is not expected there) in order to remain consistent with these studies.

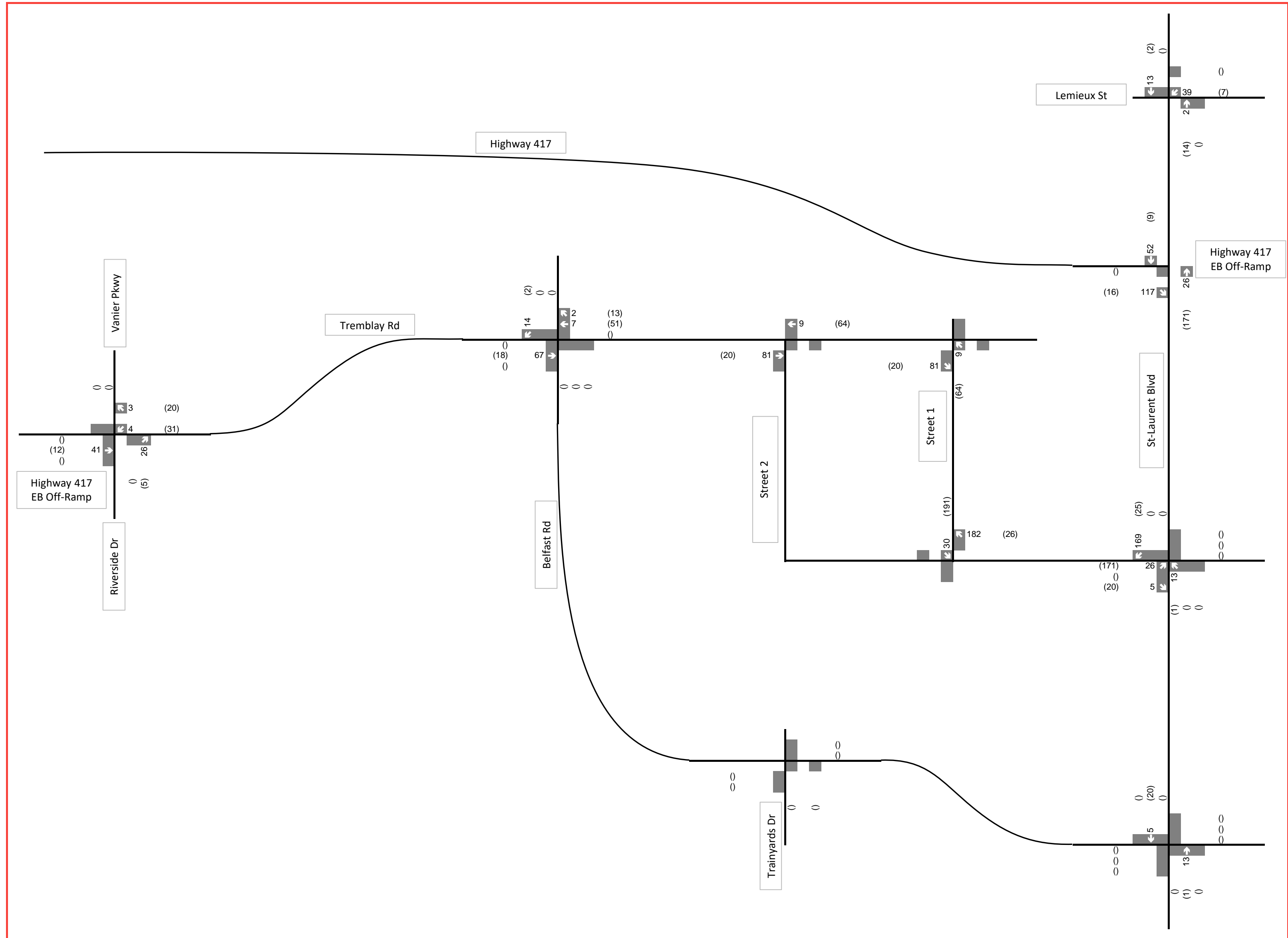




Legend

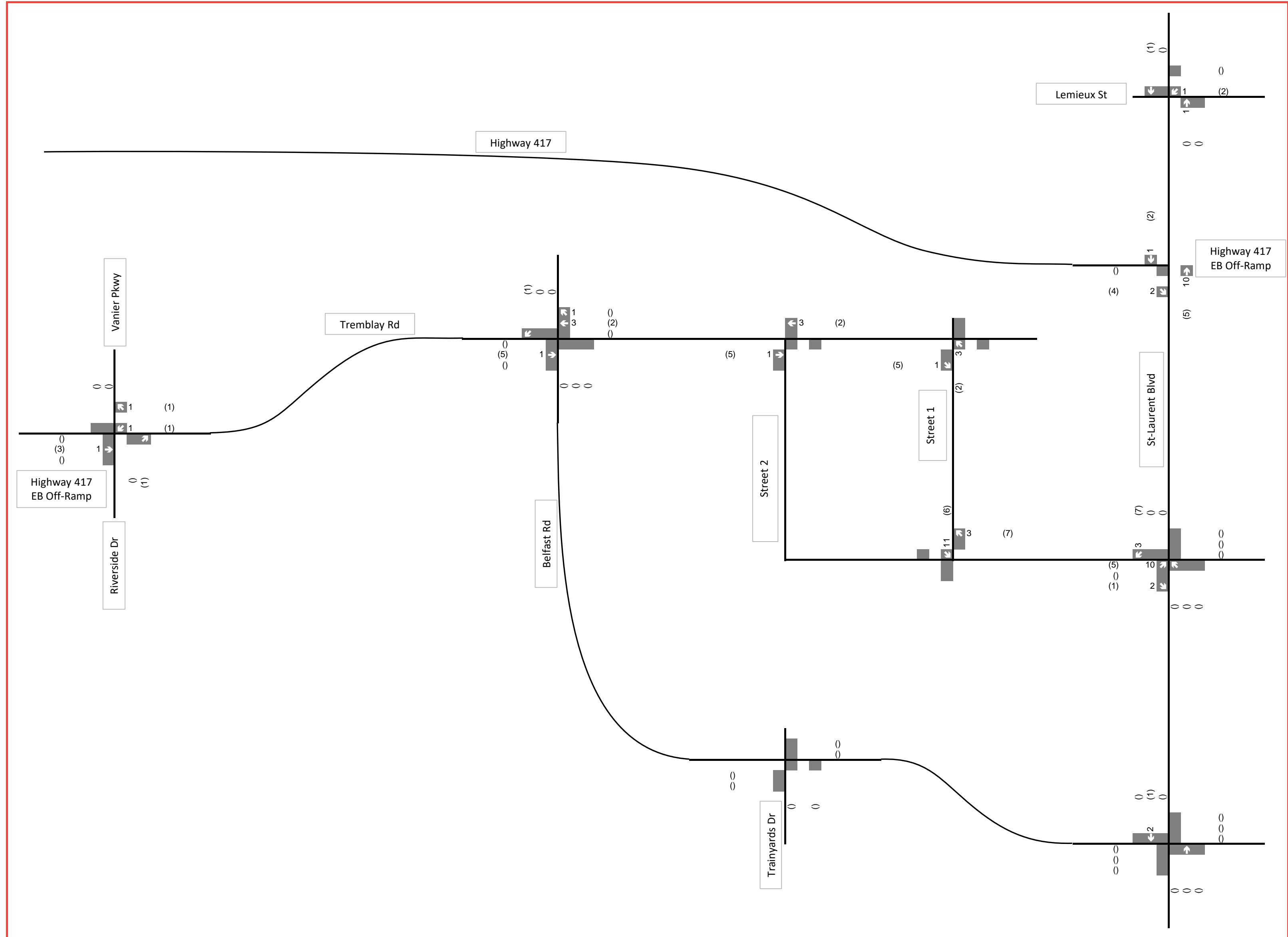
xx	A.M. Peak Hour Traffic Volumes	(xx)	P.M. Peak Hour Traffic Volumes
----	-----------------------------------	------	-----------------------------------

Figure 3-2
2025 Residential
Trips Generated



Legend
 xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

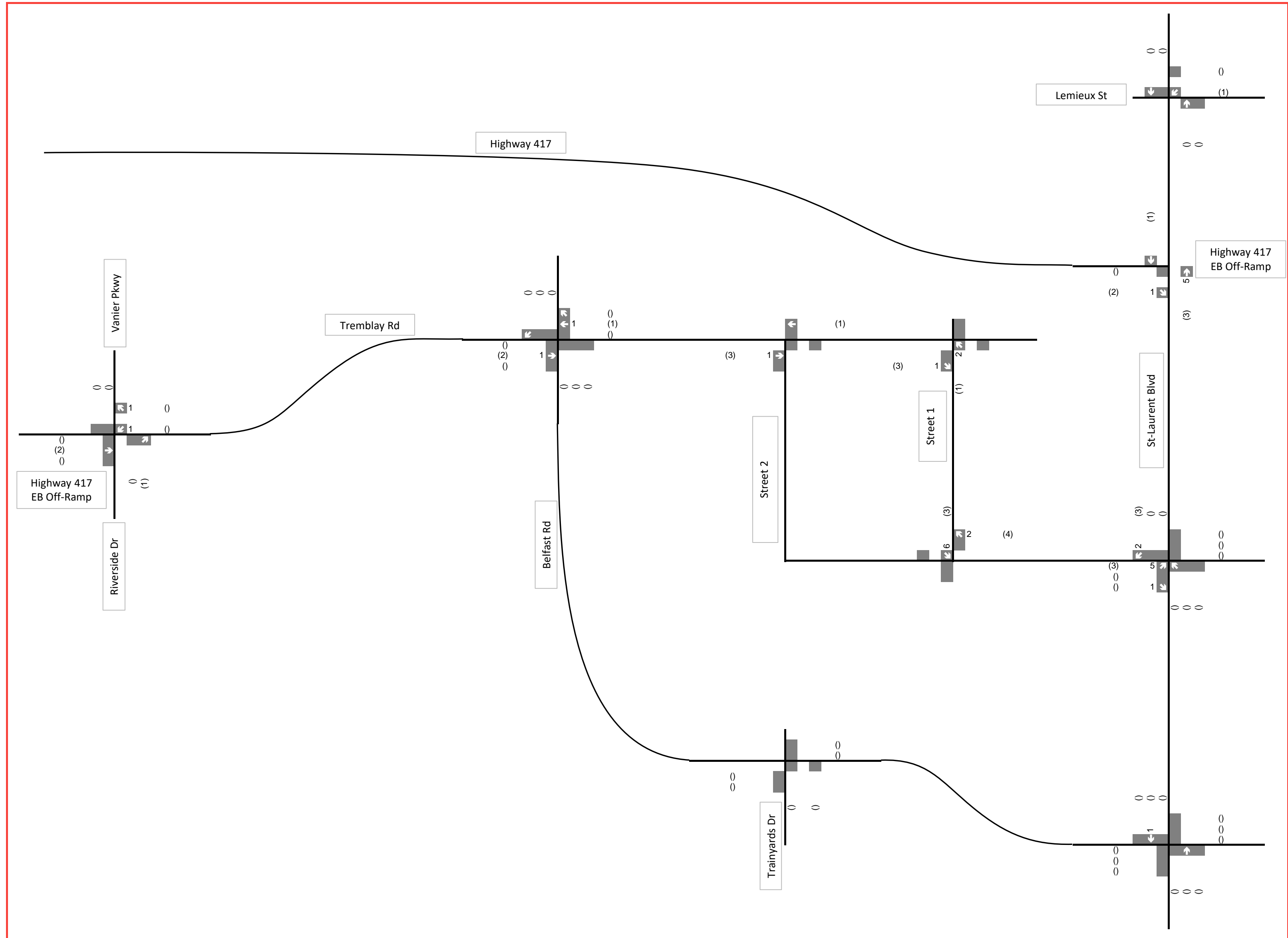
Figure 3-3
 2025 Office Trips Generated



Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 3-4
2029 Residential Trip Generation



Legend

xx	A.M. Peak Hour Traffic Volumes	(xx)	P.M. Peak Hour Traffic Volumes
----	-----------------------------------	------	-----------------------------------

Figure 3-5
2033 Residential
Trips Generated

APPENDIX H

Transportation Demand Management Checklists

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

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

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

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3 Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks (<i>see Official Plan policy 4.3.10</i>)	<input type="checkbox"/>
REQUIRED	1.2.4 Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps (<i>see Official Plan policy 4.3.10</i>)	<input type="checkbox"/>
REQUIRED	1.2.5 Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians (<i>see Official Plan policy 4.3.11</i>)	<input type="checkbox"/>
BASIC	1.2.6 Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	<input checked="" type="checkbox"/>
BASIC	1.2.7 Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	<input type="checkbox"/>
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	<input type="checkbox"/>
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	<input type="checkbox"/>
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)	<input type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
2. WALKING & CYCLING: END-OF-TRIP FACILITIES		
2.1 Bicycle parking		
REQUIRED	2.1.1 Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible (see <i>Official Plan policy 4.3.6</i>)	<input type="checkbox"/>
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 <i>Zoning By-law Section 111</i>)	<input type="checkbox"/>
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 <i>Zoning By-law Section 111</i>)	<input type="checkbox"/>
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	<input type="checkbox"/>
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 <i>Zoning By-law Section 111</i>)	<input type="checkbox"/>
BETTER	2.2.2 Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	<input type="checkbox"/>
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)	<input type="checkbox"/>
3. TRANSIT		
3.1 Customer amenities		
BASIC	3.1.1 Provide shelters, lighting and benches at any on-site transit stops	<input type="checkbox"/>
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	<input type="checkbox"/>
BETTER	3.1.3 Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	<input type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
4. RIDESHARING		
4.1 Pick-up & drop-off facilities		
BASIC	4.1.1 Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	<input type="checkbox"/>
5. CARSHARING & BIKESHARING		
5.1 Carshare parking spaces		
BETTER	5.1.1 Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses (see <i>Zoning By-law Section 94</i>)	<input type="checkbox"/>
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	<input type="checkbox"/>
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	<input type="checkbox"/>
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	<input type="checkbox"/>
BASIC	6.1.3 Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly (see <i>Zoning By-law Section 104</i>)	<input type="checkbox"/>
BETTER	6.1.4 Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking (see <i>Zoning By-law Section 111</i>)	<input type="checkbox"/>
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)	<input type="checkbox"/>

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

Legend	
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance
★	The measure is one of the most dependably effective tools to encourage the use of sustainable modes

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

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

TDM measures: <i>Residential developments</i>		Check if proposed & add descriptions
6. TDM MARKETING & COMMUNICATIONS		
6.1 Multimodal travel information		
BASIC ★	6.1.1 Provide a multimodal travel option information package to new residents	<input checked="" type="checkbox"/>
6.2 Personalized trip planning		
BETTER ★	6.2.1 Offer personalized trip planning to new residents	<input type="checkbox"/>

APPENDIX I

MMLOS Review

Segment MMLOS Analysis

This section provides a review of the boundary streets Pickering Place and Bannermount Avenue using complete streets principles. The *Multi-Modal Level of Service (MMLOS) Guidelines*, produced by IBI Group in October 2015 and the 2017 MMLOS Addendum, were used to evaluate the levels of service for each alternative mode of transportation, based on the targets for areas within 'Mixed Use Centre'.

Exhibit 4 of the *MMLOS Guidelines* has been used to evaluate the segment pedestrian level of service (PLOS) of Pickering Place and Bannermount Avenue. Exhibit 22 suggests a target PLOS C for all roadways within Mixed Use Centre areas. The results of the segment PLOS analysis are summarized in **Table 1**.

Exhibit 11 of the *MMLOS Guidelines* has been used to evaluate the segment bicycle level of service (BLOS) of Pickering Place and Bannermount Avenue. Within Mixed Use Centre areas, Exhibit 22 suggests a target BLOS D for local roadways with no cycling designation. The results of the segment BLOS analysis are summarized in **Table 2**.

Exhibit 15 of the *MMLOS Guidelines* has been used to evaluate the segment transit level of service (TLOS) of Pickering Place and Bannermount Avenue. Within Mixed Use Centre areas, Exhibit 22 does not identify a target TLOS for roadways that are not in the City's Transit Priority Network.

Exhibit 20 of the *MMLOS Guidelines* has been used to evaluate the segment truck level of service (TkLOS) of Pickering Place and Bannermount Avenue. Within Mixed Use Centre areas, Exhibit 22 does not identify a target TkLOS for local roadways with no truck route designation. The results of the segment TkLOS analysis are summarized in **Table 3**.

Table 1: PLOS Segment Analysis

Sidewalk Width	Boulevard Width	Avg. Daily Curb Lane Traffic Volume	Presence of On-Street Parking	Operating Speed ⁽¹⁾	PLOS
Pickering Place (east side, Tremblay Road to Southern End)					
N/A	N/A	< 3,000 vpd	No	60 km/h	F
Pickering Place (west side, Tremblay Road to Southern End)					
1.8m	0m	< 3,000 vpd	No	60 km/h	C
Bannermount Avenue (north side, Pickering Place to Avenue K)					
2.0m	2.0m	< 3,000 vpd	Yes	50 km/h	A
Bannermount Avenue (south side, Pickering Place to Avenue K)					
2.0m	2.0m	< 3,000 vpd	Yes	50 km/h	A

1. Operating speed taken as the speed limit plus 10 km/h.

Table 2: BLOS Segment Analysis

Road Class	Type of Route	Type of Bikeway	Travel Lanes	Operating Speed	BLOS
Pickering Place (Tremblay Road to Southern End)					
Local	N/A	Mixed Traffic	2	60 km/h	F
Bannermount Avenue (Pickering Place to Avenue K)					
Local	N/A	Mixed Traffic	2	50 km/h	D

Table 3: TkLOS Segment Analysis

Curb Lane Width	Number of Travel Lanes Per Direction	TkLOS
Pickering Place (both sides, Tremblay Road to Southern End)		
> 3.7m	1	B
Bannermount Avenue (Pickering Place to Avenue K)		
< 3.2m	1	E