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593-601 Laurier Avenue West

Transportation Impact Assessment

593-601 Laurier Avenue West

Transportation Impact Assessment

Prepared By:

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

December 18, 2024

Novatech File: 124024
Ref: R-2024-118

NOVATECH
Engineers, Planners & Landscape Architects

December 18, 2024

City of Ottawa
Planning, Development, and Building Services Department
110 Laurier Ave. W., 4th Floor,
Ottawa, Ontario K1P 1J1

Attention: **Mrs. Rochelle Fortier-Lesage**
Transportation Project Manager, Infrastructure Approvals

Dear Mrs. Fortier-Lesage:

Reference: **593-601 Laurier Avenue West**
Transportation Impact Assessment Report
Novatech File No. 124024

We are pleased to submit the following Transportation Impact Assessment report in support of Official Plan Amendment, Zoning By-law Amendment, and Site Plan Control applications for the above address. The structure and format of this report is in accordance with the City of Ottawa Transportation Impact Assessment Guidelines (June 2017).

A revised Transportation Impact Assessment (TIA) dated December 2020 was submitted in support of Zoning By-law Amendment and Site Plan Control applications for the above noted property.

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

Yours truly,

NOVATECH

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

Suite 200, 240 Michael Cowpland Drive, Ottawa ON K2M 1P6 Tel: 613.254.9643 Fax: 613.254.5867 www.novatech-eng.com

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 18 day of December, 2024 .

Name: Brad Byvelds
(Please Print)

Professional Title: P. Eng. - Senior 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 Transportation Impact Assessment (TIA) report has been prepared in support of Official Plan Amendment, Zoning By-law Amendment, and Site Plan Control applications for 593-601 Laurier Avenue West. Currently the properties are occupied by a heritage building at 593 Laurier Avenue West and two low-rise residential buildings at 601 and 603 Laurier Avenue West. As part of a different application the property at 593 Laurier Avenue West had previously received site plan approval from an application completed in 2022.

The subject properties are located at the northwest corner of the Bronson Avenue/Laurier Avenue West intersection and is surrounded by the following:

- An apartment building to the north;
- Bronson Avenue and the Nanny Goat Hill Community Garden to the east;
- Laurier Avenue West and an apartment building to the south; and
- Slater and Albert Street to the west.

593 Laurier Avenue is currently zoned Residential Fifth Density (R5Q) and 601 Laurier Avenue is currently zoned Residential Fourth Density (R4UD). Both 593 and 601 Laurier Avenue are located in a neighbourhood with and Evolving Neighbourhood overlay, Bronson Avenue is designated as a Mainstreet Corridor.

The proposed redevelopment includes a 28-storey tower plus additional 6-storey podium in addition to the existing residential building at 593 Laurier Avenue West. The proposed redevelopment will maintain the six dwelling units in the existing building and provide 327 units in the new addition. As part of the development 94 vehicle parking spaces and 302 bicycle parking spaces are proposed. A single loading/underground parking access is proposed on Laurier Avenue West.

The development is anticipated to be completed in a single phase, with full build out by 2026.

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

Access Design

- The site proposes one combined access for passenger vehicles entering the underground parking garage and truck access for an MSU truck to reverse into a loading area to assist residents with moving in/out.

- The driveway width, location, and grade within the property adhere to the requirements of the City's Private Approach By-law and Zoning By-law.

- 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. Section 107 (1)(a) identifies a minimum width of 6m for a double traffic lane that leads to a parking lot and Section 107 (1)(aa) of the ZBL identifies that the maximum permitted width is 6.7m for a double traffic lane that leads to more than 20 parking spaces. The proposed access is roughly 11.0m wide at the edge of property. The portion of the access serving the parking ramp is roughly 6.5m wide. This is assumed to be acceptable and relief of the PABL and ZBL is sought as the additional width is required to serve the move in/out area which will be infrequently used.

- Section 25(u) of the PABL identifies a maximum driveway grade of 2% for a distance of 9m within the property, for driveways serving more than 50 parking spaces. A grade of 2% is proposed between the property line and the garage door (approximately 2m), followed by a 6% grade for 2.5m within the garage, before ramping down to the underground lot. Figure 2.4.1 in TAC identifies that passenger cars have a maximum wheelbase of 3.2m. The proposed 2-6% ramp grade for 4.5m within the property will allow one vehicle to stop with adequate sight lines along Laurier Avenue.

- Sight lines looking east from the access meet the SSD and ISD requirements. Sight lines looking west meet the SSD requirements but do not meet ISD requirements. As the SSD requirements are met, drivers along Laurier Avenue will have adequate distance to slow or stop, in the event that a driver exiting the proposed development chooses an inadequate gap in traffic.

- The TAC Geometric Design Guide for Canadian Roads identifies a minimum corner clearance distance of 15m for an access downstream of a signal on an undivided local road. As the access is roughly 20m away this requirement is met.

Trip Generation

- The proposed redevelopment is estimated to generate 144 person trips (including 19 vehicle trips) during the AM peak hour, and 171 person trips (including 19 vehicle trips) during the PM peak hour.

Development Design

- Pedestrian walkways will be provided between the proposed building entrances and the sidewalk along Laurier Avenue West.

- OC Transpo's service design guideline for peak period service is to provide service within a five minute (400m) walk of the home, school and work location of 95% of urban residents. The actual walking distance from the main building entrance to the nearest bus stops was measured. Stop #6626 is a 75m walk, stop #6627 is a 60m walk, stop #3004 is a 360m walk, and stop #3005 is a 240m walk from the proposed redevelopment.

- Bicycle parking for the proposed redevelopment will be in accordance with the City of Ottawa's Zoning By-Law (ZBL). Bicycle parking will be provided in a storage room on the second parking level.

- Garbage collection and loading will occur in the alleyway between the parking ramp and the existing house on the corner of Bronson Avenue and Laurier Avenue. Garbage bins will be wheeled out to meet the garbage trucks within the alleyway.

Parking

- The proposed 302 bicycle parking spaces will exceed the minimum requirement of 166 bicycle parking spaces per the ZBL. However, relief from the minimum vehicle parking provisions is required for the resident parking as 142 parking spaces is required, and 62 parking spaces are provided. The requirement of 32 visitor parking spaces as specified in the ZBL is met.

Boundary Streets

- Laurier Avenue West meets the target BLOS but does not meet the target PLOS. As part of the development, the sidewalk along the site frontage will be widened to 1.8m in width, achieving a PLOS B.

- The east side of Bronson Avenue is currently operating with a PLOS F. The target PLOS A is unachievable on this side of the roadway due to the operating speed of 60km/hr and the average daily curb traffic in excess of 3,000 vehicles.

- The west side of Bronson Avenue is currently operating with a PLOS B. To achieve the target PLOS A, either a 1.8m sidewalk and 2.0m boulevard or 2.0m sidewalk and 0.5m or greater boulevard is required.

- Mixed use traffic lanes are currently provided along Bronson Avenue adjacent to the subject site, achieving a BLOS F. To achieve the target BLOS D, bike lanes are required along Bronson Avenue.

Transportation Demand Management

- The following measures will be implemented upon opening of the proposed redevelopment:

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

- In addition to the TDM measures identified above, the proposed redevelopment will provide a reduced number of vehicle parking spaces and an increased number of bicycle parking spaces.

1.0 SCREENING

1.1 Introduction

This Transportation Impact Assessment (TIA) report has been prepared in support of Official Plan Amendment, Zoning By-law Amendment, and Site Plan Control applications for 593-601 Laurier Avenue West. Currently the properties are occupied by a heritage building at 593 Laurier Avenue West and two low-rise residential buildings at 601 and 603 Laurier Avenue West. As part of a different application the property at 593 Laurier Avenue West had previously received site plan approval from an application completed in 2022.

The subject properties are located at the northwest corner of the Bronson Avenue/Laurier Avenue West intersection and is surrounded by the following:

- An apartment building to the north;
- Bronson Avenue and the Nanny Goat Hill Community Garden to the east;
- Laurier Avenue West and an apartment building to the south; and
- Slater and Albert Street to the west.

It is worth noting that the section of Slater Street north of the subject properties has been decommissioned as part of the Albert Street and Slater Street Reconstruction project. An aerial view of the subject site is provided in **Figure 1**.

1.2 Proposed Development

593 Laurier Avenue is currently zoned Residential Fifth Density (R5Q) and 601 Laurier Avenue is currently zoned Residential Fourth Density (R4UD). Both 593 and 601 Laurier Avenue are located in a neighbourhood with and Evolving Neighbourhood overlay, Bronson Avenue is designated as a Mainstreet Corridor.

The proposed redevelopment includes a 28-storey tower plus additional 6-storey podium in addition to the existing residential building at 593 Laurier Avenue West. The proposed redevelopment will maintain the six dwelling units in the existing building and provide 327 units in the new addition. As part of the development 94 vehicle parking spaces and 302 bicycle parking spaces are proposed. A single loading/underground parking access is proposed on Laurier Avenue West.

The development is anticipated to be completed in a single phase, with full build out by 2026.

A copy of the proposed site plan is included in **Appendix A**.

Figure 1: Aerial View of the Subject Site

1.3 Screening Form

The City's 2017 TIA Guidelines identifies 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. A copy of the TIA screening form is included in **Appendix B**.

The trigger results are as follows:

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

- Location Triggers – The development has frontage to a Mainstreet Corridor within a Design Priority Area (Bronson Avenue); further assessment is required based on this trigger

- Safety Triggers – A driveway is within 150m of the traffic signal at Bronson Avenue/Laurier Avenue West; further assessment is required based on this trigger.

Based on the foregoing, the proposed redevelopment meets the trip generation, location, and safety triggers for completing a TIA.

2.0 SCOPING

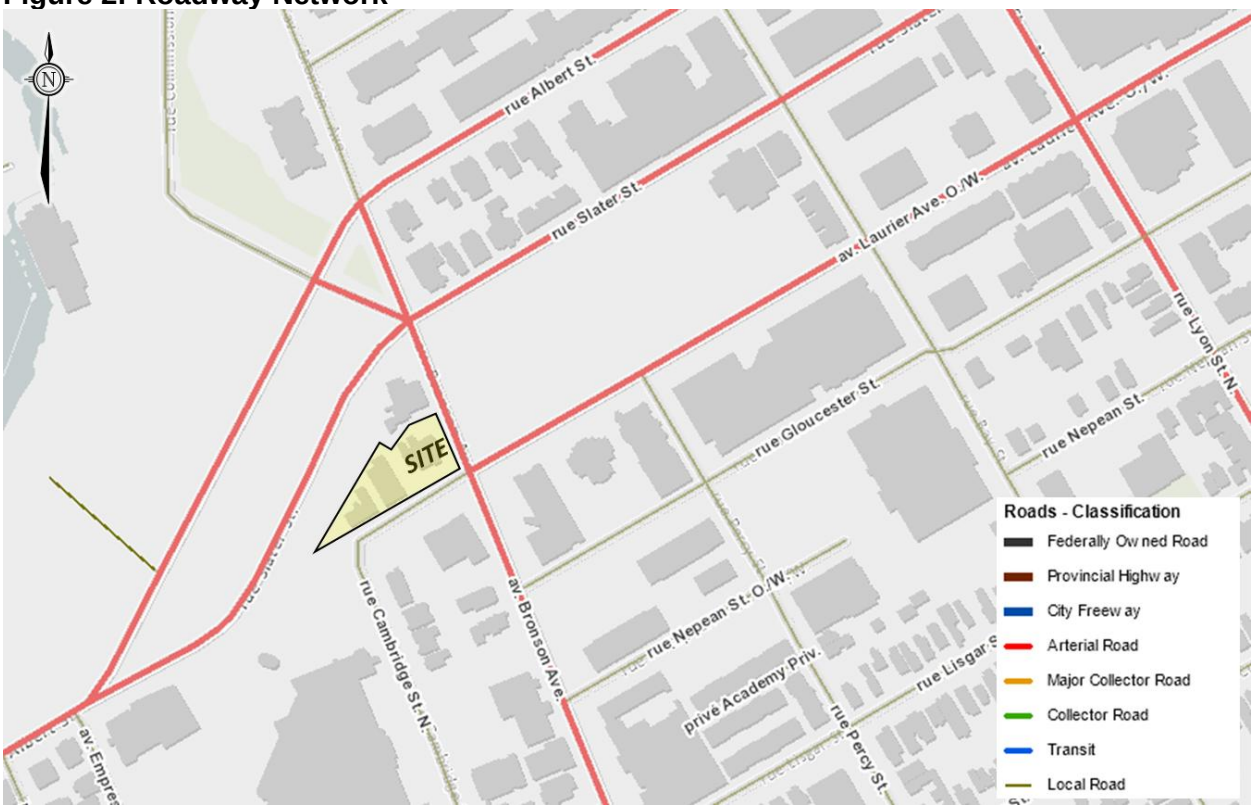
2.1 Existing Conditions

This section provides a review of existing conditions in the vicinity of the subject site including: roadways, intersections, driveways, pedestrian and cycling facilities, transit, area traffic management measures, traffic volumes, and collision records.

2.1.1 Roadways

The roadway network of the greater area surrounding the subject site is illustrated in **Figure 2**.

Figure 2: Roadway Network



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

Laurier Avenue West is an east-west roadway that is classified as a local road west of Bronson Avenue and an arterial road east of Bronson Avenue. West of Bronson Avenue, it has a two-lane undivided urban cross section with on-street parking prohibitions on both sides of the roadway. East of Bronson Avenue it has a two-lane undivided urban cross section with cycle tracks and an

eastbound parking lane. Laurier Avenue West has a posted speed limit of 30km/hr in the vicinity of the subject site. East of Bronson, Laurier Avenue West is a truck route.

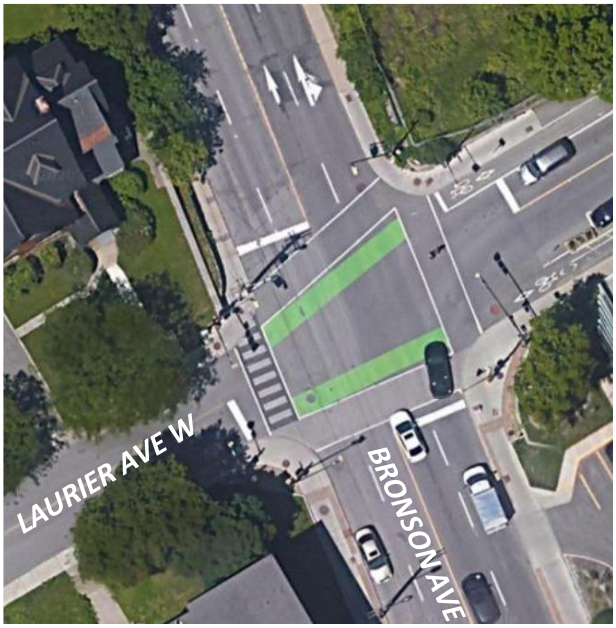
Bronson Avenue is a north-south arterial roadway with a four-lane undivided urban cross section and a regulatory speed limit of 50km/h in the vicinity of the subject site. South of Laurier Avenue West, the curbside lanes are generally used for parking on evenings and weekends. Bronson Avenue is a truck route. The City of Ottawa's Official Plan identifies a right of way (ROW) protection of 23m along Bronson Avenue between Albert Street and Colonel By Drive. The existing right-of-way along the frontage of the subject site is approximately 20m. Given the location of the existing retaining wall abutting the eastern property line which has been identified as a contributing heritage feature, it will not be practical to provide a widening along the Bronson Avenue frontage.

Cambridge Street North is a north-south local roadway with a two-lane undivided urban cross section and a regulatory speed limit of 50km/h in the vicinity of the subject site. It connects to and continues as Laurier Avenue West at a 90-degree bend adjacent to the site. The west side of Cambridge Street has a parking prohibition.

2.1.2 Intersections

Bronson Avenue/Laurier Avenue West

- Signalized intersection, with bike signals on the east/west approaches
- Eastbound/Westbound: one approach lane.
- Northbound/Southbound: two approach lanes
- Eastbound/Westbound right turn on red prohibitions
- Westbound through movements are prohibited.
- Southbound left turns are prohibited.
- Zebra painted crosswalks are provided on the east and north approaches, a textured crosswalk is provided on the south approach, and a textured crosswalk with zebra/ladder markings is provided on the west approach.
- Cross-rides with green thermoplastic paint are provided in the east-west direction.
- The northern leg of Bronson Avenue has a significant downward slope travelling north



2.1.3 Driveways

In accordance with the City's 2017 TIA guidelines, a review of adjacent driveways along the boundary roads (within 200m of the subject site) was conducted:

Bronson Avenue, west side:

- One driveway to the residential building at 140 Bronson Avenue
- One driveway serving the residential building at 600 Laurier Avenue West and the law office at 176 Bronson Avenue
- One driveway to the office building at 176 Bronson Avenue
- One driveway to the office building at 190 Bronson Avenue
- One Driveway to a parking garage at 192 Bronson Avenue

Bronson Avenue, east side:

- Two one-way accesses serving the lay-by for the residential building at 175 Bronson Avenue

Laurier Avenue West, north side:

- Access to residence at 593 Laurier Avenue

Laurier Avenue West, south side:

- One driveway to the residential building at 600 Laurier Avenue West
- One access to underground parking for the residential building at 175 Bronson Avenue
- One access to underground parking for the residential building at 556 Laurier Avenue West

Cambridge Street North, west side:

- Depressed curb along the northwest corner of the Laurier Avenue West/Cambridge Street North bend at 18 Cambridge Street North
- Four driveways to Saint-Vincent Hospital at 60 Cambridge Street North

Cambridge Street North, east side:

- Four driveways to the residential building properties at 21-29 Cambridge Street North
- One access to above ground parking lot at 200 Bronson Avenue
- One access to underground parking for the residential building at 51 Cambridge Street North
- Two accesses to residential buildings at 57 Cambridge Street North and 23 Primrose Avenue East

2.1.4 Pedestrian and Cycling Facilities

The existing pedestrian and cycling infrastructure provided in the greater area surrounding the subject site is illustrated in **Figure 3**.

Figure 3: Existing Pedestrian and Cycling Infrastructure

Within the vicinity of the subject site, sidewalks are provided along both sides of all study area roadways.

Cycle tracks are provided on Laurier Avenue West, east of Bronson Avenue. Sharrows are painted along Laurier Avenue West, west of Bronson Avenue. Bike lanes are provided along Percy Street, Bay Street and Lyon Street. A Multi-Use Pathway (MUP) is provided along the north side of Albert Street, west of Commissioner Street. A MUP is also provided from Laurier Avenue West at Percy Street, to Bronson Avenue at Slater Street, continuing along the south side of Commissioner Street/Albert Street and crossing Albert Street at a midblock location.

Part 1 of the City's 2023 Transportation Master Plan identifies a Cross-town Bikeway on Laurier Avenue West east of Bronson Street and connects to Albert Street through the MUP between the Laurier Avenue West/Percy Street and Bronson Avenue/Slater Street intersections.

2.1.5 Area Traffic Management

As described above, several movements are restricted at the Laurier Avenue West/Bronson Avenue intersection, including:

- No right turn on red for eastbound and westbound movements
- Westbound through movement prohibited (with the exception of bicycles)

West of Bronson Avenue, Laurier Avenue West is located in a 30km/h posted speed limit area.

Currently, there are no other existing Area Traffic Management (ATM) measures within the study area.

2.1.6 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 4**. A summary of various routes which serve the study area is included in **Table 2**. Detailed route information is included in **Appendix C**.

Table 1: OC Transpo Stops

OC Transpo Bus Stop	Location	Route(s) Serviced
#6626	West side of Bronson Avenue, south of Laurier Avenue West	10
#6627	East side of Bronson Avenue, south of Laurier Avenue West	10
#3005	South side of Slater Street, between Bronson Avenue and Bay Street	10, 16, 57, 61, 75
#3004	North side of Albert Street, between Bronson Avenue and Bay Street	10, 16, 57, 61, 75
#2392	North side of Albert Street, east of Empress Avenue North	16, 57, 61, 75
#2396	South side of Albert Street, west of Empress Avenue North	16, 57, 61, 75
Lyon Station: #3051	Lyon Street at Queen Street	Line 1 (LRT) Buses: 10, 15, 16, 57, 61, 75
Pimisi Station: #3010	Booth Street, north of Albert Street	Line 1 (LRT) Buses: 61, 63, 66, 75, 85

Table 2: OC Transpo Route Information

Route	From ↔ To	Frequency
1	Tunney's Pasture ↔ Blair	5-minute headways, 7-days per week
10	Lyon ↔ Hurdman	15-minute headways, all-day service, 7-days per week
15	Blair ↔ Chapel Hill	15-minute headways, peak periods only, Monday to Friday
16	Main ↔ Tunney's Pasture Westboro	30-minute headways, all-day service, 7-days per week

Route	From ↔ To	Frequency
57	Bayshore Crystal Bay ↔ Tunney's Pasture	30-minute headways, limited night service, 7-days per week
61	Terry Fox/Stittsville ↔ Tunney's Pasture/Gatineau	30-minute headways, limited night service, 7-days per week
63	Briarbrook via Innovation ↔ Tunney's Pasture via Briarbrook & Gatineau	30-minute headways, all-day service, 7-days per week
66	Kanata-Solandt ↔ Gatineau	30-minute headways, peak periods only, Monday to Friday
75	Cambrian/Barrhaven Centre ↔ Tunney's Pasture/Gatineau	30-minute headways, limited night service, 7-days per week
85	Gatineau ↔ Bayshore	15-minute headways, all-day service, 7-days per week

Figure 4: Study Area Transit Network

In addition to the previously listed OC Transpo transit stations and routes, the following STO routes are served by the Lyon Station: Route 20, 23, 25, 26, 27, 29, 30, 32, 34, 36, 37, 38, 40, 41, 45, 47, 48, 55, 59, 67, 85, 87, 93, 95, 371, and 400.

Within the study area the following routes will experience modifications due to the City's planned New Ways to Bus plan:

- Route 10: Will be extended to run between Hurdman Station and Main Street (Saint Paul University). Will replace Route 16 service from Lyon Station east to Main Street.
- Route 15: Will be shortened to run between Parliament and Blair stations. Service to/from Gatineau will be removed and replaced by new Routes 8 and 13.
- Route 16: Will be removed and replaced by:

    - Route 10 between Lyon Station and Main St. / St. Paul's University
    - Route 12 between Lyon and Tunney's Pasture stations
    - Route 81 between Tunney's Pasture and Westboro stations

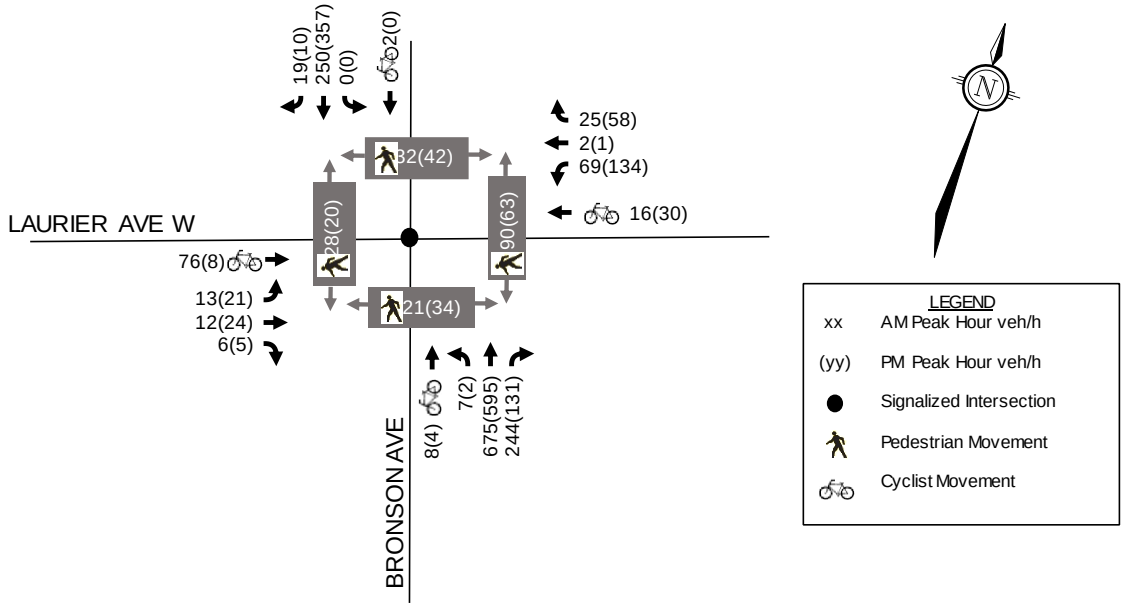
- Route 61: Service to/from Gatineau will be removed and replaced by new Route 13.
- Route 63: Service to/from Gatineau will be removed and replaced by Route 13. Will be changed to run on Klondike Road between Halton Terrace and Marconi Avenue, and on Halton Terrace between Klondike Road and March Road. Service along Shirley's Brook Drive, Helmsdale Drive, and Morgan's Grant Way will be replaced by changed Route 110.
- Route 66: Will be changed to run between Tunney's Pasture and Innovation stations. Service to/from Gatineau will be removed and replaced by new Route 13. Service on Leggett Drive and Solandt Road will be removed.
- Route 75: Service to/from Gatineau will be removed and replaced by new Route 13. Will be extended south of Kilbirnie Drive on River Mist Road, Cappamore Drive, and Greenbank Road.
- Route 85: Will be changed to run between Bayshore and Lees stations. Service along Preston Street, Albert Street, Booth Street, to Gatineau will be removed and replaced by new Route 8. Will run on Carling Avenue, Bronson Avenue/Booth Street, Catherine Street/Chamberlain Avenue/Isabella Street, Hawthorne Avenue, and Lees Avenue, replacing current Route 55.

2.1.7 Existing Traffic Volumes

Weekday traffic counts were obtained from the City of Ottawa at the Bronson Avenue/Laurier Avenue West intersection to determine the existing pedestrian, cyclist and vehicular traffic volumes. The traffic count was completed on August 29, 2017 (Tuesday). As the City of Ottawa does not have a more recent traffic count at this intersection and since this TIA will be limited in scope, City staff have confirmed that a new traffic count will not be required.

Existing traffic volumes within the study area are shown in **Figure 5**. Traffic count data is included in **Appendix D**.

Figure 5: Existing Traffic Volumes



As described in Section 2.1.5, there are turn movement restrictions at the Laurier Avenue West/Bronson Avenue intersection. A total of 31 vehicles performed the prohibited westbound through manoeuvre while 4 vehicles performed the prohibited southbound left turn manoeuvre over the course of the 8-hour traffic count.

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. Copies of the collision summary report are included in **Appendix E**.

The collision data has been evaluated to determine if there are any identifiable collision patterns. **Table 3** summarizes the number of collisions from January 1, 2017 to December 31, 2021.

Table 3: Reported Collisions

Intersection	Impact Types					Total Number of Collisions
	Angle	Sideswipe	Rear End	Turning Movement	SMV/ Other	
Bronson Ave/Laurier Ave West	5	-	-	1	1	**7**
Bronson Ave between Laurier Ave & Gloucester St	-	-	-	-	3	**3**
Bronson Ave between Slater St & Laurier Ave	-	2	-	-	-	**2**
Laurier Ave between Bronson Ave & Percy St	-	1	-	1	3	**5**

As there are no locations with six or more collisions of any one type, there are no identifiable collision patterns within the study area.

Bronson Avenue/Laurier Avenue West
A total of seven collisions were reported at this intersection over the last five years, of which there were five angle collisions, one turning movement collision, and one single motor vehicle collision. Three of the collisions involved an injury and none involved a fatality. One of the collisions involved a cyclist and one involved a pedestrian.

Of the seven collisions at this location, one of them occurred during rain conditions, one of them occurred during snow conditions, and one of them occurred during freezing rain conditions, for all other collisions weather was not a factor. Additionally, of the seven collisions, three of them occurred during daylight hours. Six of the seven collisions at this intersection involved northbound vehicles.

Of the five angle collisions three involved northbound and eastbound vehicles and two involved northbound and westbound vehicles.

Calculations of the intersection collision rate per Million Entering Vehicles (MEV) for all collision types across the five-year study period showed an intersection collision rate of 0.29/MEV. Based on this analysis, Bronson Avenue/Laurier Avenue West does not experience an abnormally high rate of collisions.

Within the study area the collision that involved a pedestrian was located at the Bronson Avenue/Laurier Avenue intersection and involved a southbound vehicle during freezing rain and dark lighting conditions. The collisions that involved cyclists were located at the Bronson Avenue/Laurier Avenue intersection and on Laurier Avenue between Bronson Avenue and Percy Street. The Bronson Avenue/Laurier Avenue intersection collision involved a northbound right turning vehicle and the Laurier Avenue collision involved a westbound left turning vehicle.

Based on the most recent data available at the time of the collision data request, no collisions were observed on Laurier Avenue West within the subject sites' frontage.

2.2 Planned Conditions

2.2.1 Planned Transportation Projects

The City of Ottawa's Transportation Master Plan (TMP) identifies Bronson Avenue as a Transit Priority Corridor with isolated measures in the 2031 Rapid Transit and Transit Priority (RTTP) Network. The TMP's 2031 Affordable Network includes transit signal priority along Bronson Avenue between the Southeast Transitway and Carling Avenue. The 2031 Network Concept also includes transit signal priority and queue jump lanes between Carling Avenue and the Confederation Line, however this is currently unaffordable.

The City of Ottawa Albert Street/Queen Street/Slater Street from Empress Avenue to Bay Street and Bronson Avenue from Queen Street to Laurier Avenue Reconstruction Project is ongoing. This project is currently under construction and scheduled to be completed in 2024. The draft design for this project is included in **Appendix F.**

The City of Ottawa is also planning the reconstruction of Albert Street and Slater Street between Bay Street and Elgin Street. This project will repurpose the existing bus lanes to provide improved pedestrian and cycling facilities along the corridor. The design is ongoing with anticipated completion of construction in 2027. Preliminary Design plans for the Albert and Slater Street Improvement Project are attached in **Appendix G.**

A new traffic signal is planned at the Laurier Avenue/Percy Street intersection. The signal will provide a protected pedestrian and cyclist crossing of Laurier Avenue for improved connectivity to/from the existing multi-use pathway between Laurier Avenue and Slater Street. Geometric features will include protected corners at the south side of the intersection; a separation of the multi-use pathway into dedicated pedestrian and cycling facilities approaching the intersection, including separate space for southbound cyclists traveling through and turning left; and a bidirectional crossride and crosswalk crossing Laurier Avenue. Construction is planned for completion in 2025.

The Escarpment District Community Design Plan identified a pedestrian and cyclist 'Escarpment Linkage' between the Laurier Avenue / Cambridge Street North transition and Slater Street. There are no plans in place to implement this link. It is anticipated that public lands will be used for this link.

2.2.2 Other Area Developments

In proximity of the proposed redevelopment, there are multiple other developments that have recently been completed, are under construction, approved, or are in the approval process. Developments significant enough to require a transportation study and distribute new trips through the study area of this TIA are summarized as follows.

343 Gloucester Street
A 21-storey residential apartment building containing 116 units and 12 underground parking spaces are proposed at 343 Gloucester Street. A TIA was prepared by Parsons, dated July 2019 in support of this development. Based on the TIA, this development is anticipated to generate approximately 12 vehicle trips during the morning and afternoon peak hours and is anticipated to have a negligible impact on the area roadways.

555 Albert Street
A TIA was prepared by WSP in July 2022 in support of the proposed joint Ottawa Public Library and Library and Archives Canada development. This development is currently under construction. The TIA estimated that the development would generate approximately 135 and 1,835 person trips during the AM and PM peak hours, respectively.

LeBreton Flats
A TIA was prepared by Morrison Hershfield in May 2023 in support of an Official Plan Amendment application for the LeBreton Flats lands. The LeBreton Flats lands include an area of roughly 29 hectares generally bound by Booth Street, Wellington Street, and Wellington Street/Kichi Zībī Mīkan. The National Capital Commission's (NCC) application proposes to amend the Official Plan to remove the Preston Street Extension in favour of an active-modes bridge. The TIA studied a worst case scenario that assumed the highest possible density of the site and estimated that the development could generate up to 4,810 and 8,112 person trips during the AM and PM peak hours, respectively. The TIA report aims to provide the necessary analysis to support the proposed Official Plan Amendment. It is worth noting that the 665 Albert Street parcel is currently

under construction, the trip generation of the 665 Albert Street parcel was included in the 2023 TIA. Additional TIA's will be prepared for each future development phase within the LeBreton Flats Lands once more details are known.

336 Queen Street
A revised TIA was prepared by Novatech in May 2019 in support of a site plan application in support of a residential development with ground floor commercial. The development was anticipated to be completed in 2023. The TIA estimated that the development would generate approximately 40 and 70 person trips during the AM and PM peak hours, respectively.

400 Albert Street
A TIA was prepared by Parsons in July 2021 in support of a site plan application for a mixed-use development including residential towers, supermarket, shopping centre, and hotel. The development is expected to be built out in phases with the first phase being completed in 2026 with full buildout in 2026. At full buildout, the TIA estimated that the development would generate approximately 754 and 990 person trips during the AM and PM peak hours, respectively.

412 Sparks Street
A TIA was prepared by Parsons in March 2019 in support of a site plan application in support of a retirement residence. The development was anticipated to be built out in 2023 This development is currently under construction. The TIA estimated that the development would generate approximately 39 and 49 person trips during the AM and PM peak hours, respectively.

301 Lett Street
A TIA was prepared by Novatech in September 2021 in support of a site plan application in support of a retirement residence. The development was anticipated to be completed in 2023 and is currently under construction. The TIA estimated that the development would generate approximately 86 and 105 person trips during the AM and PM peak hours, respectively.

2.3 Study Area and Time Periods

The study area for this report includes the boundary roadways Bronson Avenue and Laurier Avenue, as well as the following intersection:

- Bronson Avenue/Laurier Avenue West

The selected time periods for the analysis are the weekday AM and PM peak hours, as they represent the 'worst case' combination of site generated traffic and adjacent street traffic. This TIA will consider the buildout year 2026 and five-year horizon 2031.

2.4 Access Design

The site proposes one combined access for passenger vehicles entering the underground parking garage and truck access for an MSU truck to reverse into a loading area to assist residents with moving in/out. The proposed vehicle 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) *Geometric Design Guidelines for Canadian Roads*.

Section 25(a) of the PABL identifies that a property with 46-150m of frontage may have a maximum of two two-way private approaches. This requirement is met, as the subject site has approximately 75m of frontage to Laurier Avenue and is proposing one two-way accesses to Laurier Avenue.

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. Section 107 (1)(a) identifies a minimum width of 6m for a double traffic lane that leads to a parking lot and Section 107 (1)(aa) of the ZBL identifies that the maximum permitted width is 6.7m for a double traffic lane that leads to more than 20 parking spaces. The proposed access is roughly 11.0m wide at the edge of property. The portion of the access serving the parking ramp is roughly 6.5m wide. This is assumed to be acceptable and relief of the PABL and ZBL is sought as the additional width is required to serve the move in/out area which will be infrequently used.

Section 25(m) of the PABL identifies a minimum distance requirement of 18m for a private approach and the nearest intersecting street line. As the proposed loading access is roughly 17.5m from the Bronson Avenue intersecting street line, the access is slightly short of the requirement. The underground parking ramp is approximately 22m from the Bronson Avenue street line, meeting the PABL requirement. As the loading access will be used for infrequent deliveries/garbage collection and is only 0.5m short of the PABL requirement, relief from section 25(m) if the PABL is requested for the loading access.

Section 25(u) of the PABL identifies a maximum driveway grade of 2% for a distance of 9m within the property, for driveways serving more than 50 parking spaces. A grade of 2% is proposed between the property line and the garage door (approximately 2m), followed by a 6% grade for 2.5m within the garage, before ramping down to the underground lot. Figure 2.4.1 in TAC identifies that passenger cars have a maximum wheelbase of 3.2m. The proposed 2-6% ramp grade for 4.5m within the property will allow one vehicle to stop with adequate sight lines along Laurier Avenue.

Intersection sight distance (ISD) and stopping sight distance (SSD) at the proposed accesses have been determined using the TAC *Geometric Design Guidelines for Canadian Roads.* The ISD and SSD requirements for the Laurier Avenue West access are based on a design speed of 30km/h for vehicles approaching from the west and a design speed of 40km/h for vehicles approaching from the east. The design speed of 40km/h for westbound vehicles is based on the posted speed of 30km/h in proximity of the subject site. The design of 30km/h for eastbound vehicles is due to the 90-degree bend where Laurier Avenue meets Cambridge Street limiting the speed of vehicles exiting the turn and travelling eastbound towards the proposed access. The required ISD and SSD for the site accesses is as follows:

- ISD for Left Turn from Minor Road (30km/h design speed) 65 metres
- ISD for Right Turn from Minor Road (40km/h design speed) 75 metres
- SSD for Eastbound Vehicles (30km/h design speed) 35 metres
- SSD for Westbound Vehicles (40km/h design speed) 50 metres

The development has roughly 50m of clear sightlines from the access to oncoming traffic emerging from the 90-degree bend, this would not meet the ISD guideline of 65m but would meet the SSD requirement of 35m. The development has roughly 30m of space between the proposed access and the Bronson Avenue/Laurie Avenue intersection with clear sightlines through the intersection meeting the sightline requirements for westbound vehicles.

Given the low traffic volumes on Laurier Avenue and the low projected traffic volumes exiting the site access, potential conflicts between vehicles exiting the proposed development and vehicle traveling on Laurier Avenue are anticipated to be infrequent. Drivers along Laurier Avenue will have adequate distance to slow or stop, in the event that a driver exiting the proposed development chooses an inadequate gap in traffic. It is noteworthy that the proposed access is located in roughly the same location as the previously approved site plan.

The TAC Geometric Design Guide for Canadian Roads does not identify minimum clear throat lengths based on a local road classification.

The TAC Geometric Design Guide for Canadian Roads identifies a minimum corner clearance distance of 15m for an access downstream of a signal on an undivided local road. As the access is roughly 20m away this requirement is met.

2.5 Development-Generated Travel Demand

2.5.1 Trip Generation

The proposed redevelopment includes a 28-storey tower plus additional 6-storey podium in addition to the existing residential building at 593 Laurier Avenue West. The proposed redevelopment will maintain the six dwelling units in the existing building and provide 327 units in the new addition.

Proposed Residential Development
Trips generated by the proposed residential development have been estimated using the *2020 TRANS Trip Generation Manual*. The proposed redevelopment is located within the Ottawa Inner Area along the border with the Ottawa Centre District. As the subject site is also located within 600m of the Lyon Street and Pimisi LRT Stations, the site is also located within a Transit-Oriented Development (TOD) Zone. In TOD Zones, the transit share is assumed to increase significantly compared to the TRANS O-D district.

A comparison of the assumed modal shares for a TOD zone and the modal shares for both the Ottawa Inner Area and Ottawa Centre District is presented in **Table 4**. The modal shares for the TRANS districts are based on all observed trips from/within the district during the AM peak and to/within the district during the PM peak.

Table 4: Modal Share by District/Zone

Travel Mode	TOD Zone	Ottawa Inner Area	Ottawa Centre
Auto Driver	15%	25%	20%
Auto Passenger	5%	10%	5%
Transit	65%	25%	25%
Cycling	5%	5%	0%
Walking	10%	35%	50%

Given the proximity to multiple LRT stations and the amount of resident parking spaces provided (62 spaces) for the amount of dwelling units (327 units) the TOD Zone modal shares were used but modified to reflect a higher walking modal share and lower transit modal share associated with the Ottawa Inner Area and Ottawa Centre.

The trip generation rates for the development are taken from Table 3 and correspond to Multi-Unit (High-Rise) residential. The directional split between inbound and outbound trips are based on the splits presented in Table 9 of the report. The estimated trip generation are summarized in **Table 5** and a breakdown of the trips by mode is shown in **Table 6**.

Table 5: Residential Person Trip Generation

Land Use	Trip Rate	Units/GFA	AM Peak (ppp)[1]			PM Peak (ppp)[1]		
			IN	OUT	TOT	IN	OUT	TOT
Multi-Unit (High Rise)	AM: 0.80 PM: 0.90	327	81	181	262	171	123	294

1. ppp: person trips per period

Table 6: Residential Peak Period Person Trips by Mode

Travel Mode	Mode Share	AM Peak (ppp)[1]			PM Peak (ppp)[1]		
		IN	OUT	TOT	IN	OUT	TOT
TOTAL		**81**	**181**	**262**	**171**	**123**	**294**
Auto Driver	15%	13	26	39	26	18	44
Auto Passenger	5%	4	9	13	9	6	15
Transit	35%	28	64	92	60	43	103
Cyclist	5%	4	9	13	9	6	15
Pedestrian	40%	32	73	105	68	50	118

1. ppp: person trips per period

Table 4 of the *2020 TRANS Trip Generation Manual* includes adjustment factors to convert the estimated number of trips generated for each mode from peak period to peak hour. A breakdown of the peak hour trips by mode is shown in **Table 7**.

Table 7: Residential Peak Hour Person Trips by Mode

Travel Mode	Adjustment Factor		AM Peak (pph)[1]			PM Peak (pph)[1]		
	AM	PM	IN	OUT	TOT	IN	OUT	TOT
TOTAL			**45**	**99**	**144**	**99**	**72**	**171**
Auto Driver	0.48	0.44	6	13	19	11	8	19
Auto Passenger	0.48	0.44	2	4	6	4	2	6
Transit	0.55	0.47	16	34	50	32	24	56
Cyclist	0.58	0.48	2	6	8	4	3	7
Pedestrian	0.58	0.52	19	42	61	48	35	83

1. pph: person trips per hour

From the previous tables, the proposed redevelopment is estimated to generate 144 person trips (including 19 vehicle trips) during the AM peak hour, and 171 person trips (including 19 vehicle trips) during the PM peak hour.

2.5.2 Trip Distribution and Assignment

As the proposed redevelopment is projected to generate 19 vehicle trips during the peak hours, and no intersection analysis is required per Section 2.6, the site-generated volumes have not been distributed to the study area intersections. All peak hour vehicle trips would be assigned to the underground parking garage access to Laurier Avenue West.

2.6 Exemptions Review

This module reviews possible exemptions from the final TIA, as outlined in the TIA Guidelines. The applicable exemptions for this site are shown in **Table 8**.

Table 8: TIA Exemptions

Module	Element	Exemption Criteria	Status
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
4.6 Neighbourhood Traffic Calming	*All elements*	• If all of 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% or more along the route between the site and an arterial roadway 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 child care 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 generated more than 75 vehicle trips	Exempt
4.8 Network Concept	*All elements*	• 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	*All elements*	• Required when proposed development generated more than 75 vehicle trips	Exempt

Based on the foregoing, 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

As the vehicle trip generation trigger is not met, trip distribution assumptions have not been included.

3.2 Background Traffic

A review of the City of Ottawa's Strategic Long-Range Transportation Model (comparing snapshots of 2011 and 2031 AM peak hour volumes) to determine an appropriate background growth rate for the study area roadways. Based on discussions with City staff, following removal of transit lanes, Slater Street is anticipated to be more attractive to drivers due to less friction from bus traffic. As such, the removal of bus lanes along Slater Street will have implications on the traffic volumes and travel patterns on the adjacent road network.

Based on the Long-Range Model, traffic volumes along Bronson Avenue are anticipated to increase by approximately 3% per annum north of Laurier Avenue West and increase by approximately 1% per annum south of Laurier Avenue West. Traffic volumes along Laurier Avenue West west of Bronson are anticipated to increase by approximately 1% per annum, while Laurier Avenue West east of Bronson Avenue is anticipated to decrease by approximately 1% per annum. Captures of the Long-Range Model in the vicinity of the subject site are included in **Appendix H**.

For the purposes of this study, a 2% per annum growth rate has been applied to through volumes along Bronson Avenue, a 1% per annum growth rate has been applied to Laurier Avenue west of Bronson Avenue, and no growth is assumed for Laurier Avenue east of Bronson Avenue.

A summary of other area developments was described in Section 2.2.2. Traffic generated by the developments identified in Section 2.2.2 are not anticipated to have a significant impact the study area intersection and are assumed to be captured by the aforementioned background growth rates. Relevant excerpts from the other area developments are included in **Appendix I**.

Background traffic volumes for the 2021 build out and 2026 horizon year are shown in **Figures 6** and **7**.

4.0 ANALYSIS

4.1 Development Design

4.1.1 Design for Sustainable Modes

Pedestrian walkways will be provided between the proposed building entrances and the sidewalk along Laurier Avenue West.

OC Transpo's service design guideline for peak period service is to provide service within a five minute (400m) walk of the home, school and work location of 95% of urban residents. The actual walking distance from the main building entrance to the nearest bus stops was measured. Stop #6626 is a 75m walk, stop #6627 is a 60m walk, stop #3004 is a 360m walk, and stop #3005 is a 240m walk from the proposed redevelopment.

Figure 6: 2021 Background Traffic Volumes

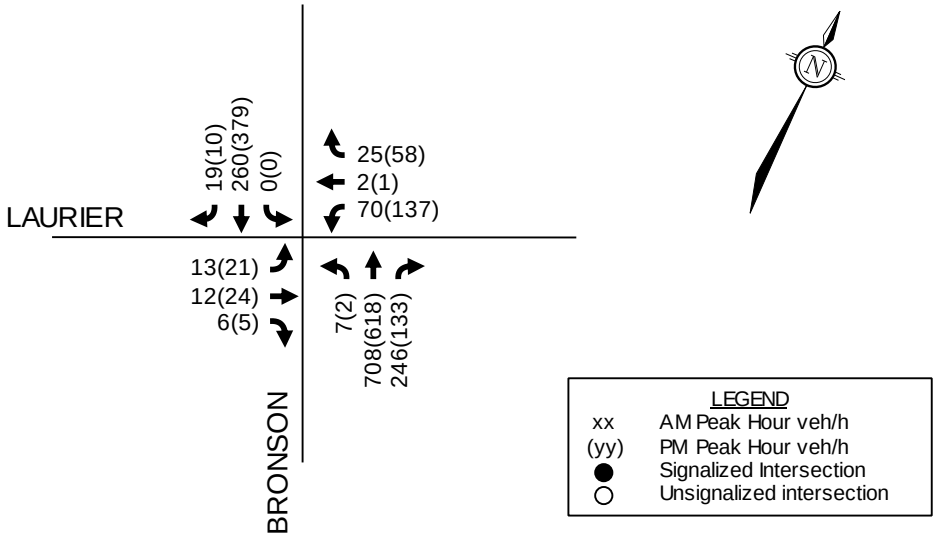
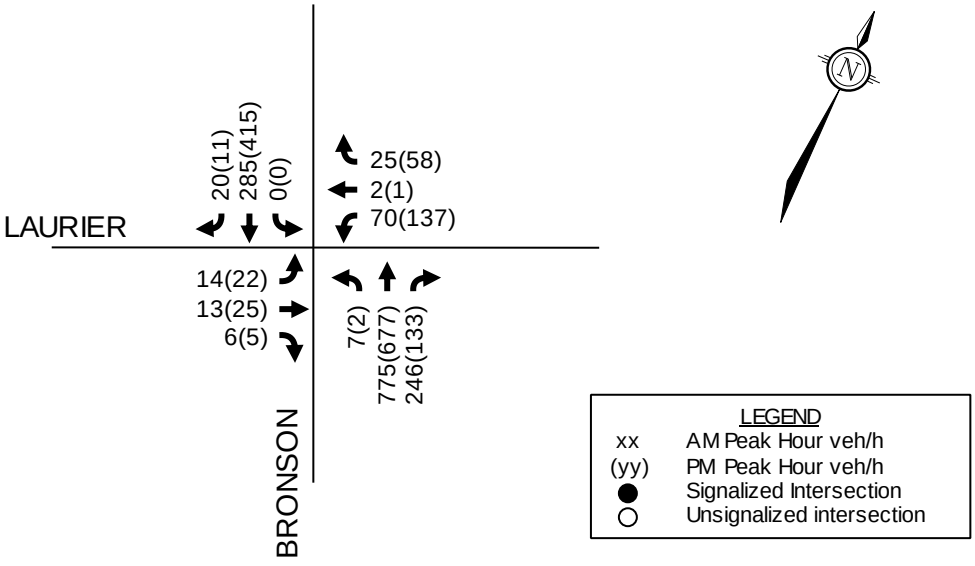


Figure 7: 2026 Background Traffic Volumes



Bicycle parking for the proposed redevelopment will be in accordance with the City of Ottawa's Zoning By-Law (ZBL). Bicycle parking will be provided in a storage room on the second parking level.

A review of the Transportation Demand Management (TDM) – Supportive Development Design and Infrastructure Checklist has been completed. A copy of the TDM checklist is included in **Appendix J**. All TDM requirements in the TDM Infrastructure Checklist are met, excluding measure 6.1.1. Relief of the minimum resident and visitor parking requirements in the ZBL is being sought for the proposed redevelopment.

4.1.2 Circulation and Access

Garbage collection and loading will occur in the alleyway between the parking ramp and the existing house on the corner of Bronson Avenue and Laurier Avenue. Garbage bins being wheeled out to meet the garbage trucks within the alleyway. The on-site loading area is consistent with Policy 4.6.5.3 of the City's Official Plan, which identifies that loading should be internalized if possible.

MSU sized trucks will be able to back into the move in/out area provided on the east side of the development. Turning movements of the MSU truck driving in/reversing out, and reversing in/driving out are provided in **Figures 8-11**.

4.2 Parking

The subject site is located in Area B on Schedule 1 and Area X on Schedule 1A of the City of Ottawa's ZBL.

Per Section 101(6)(c) of the ZBL, where all parking is provided below grade in the same building the required resident parking may be reduced by the lesser of 10% of the required spaces or 20 parking spaces.

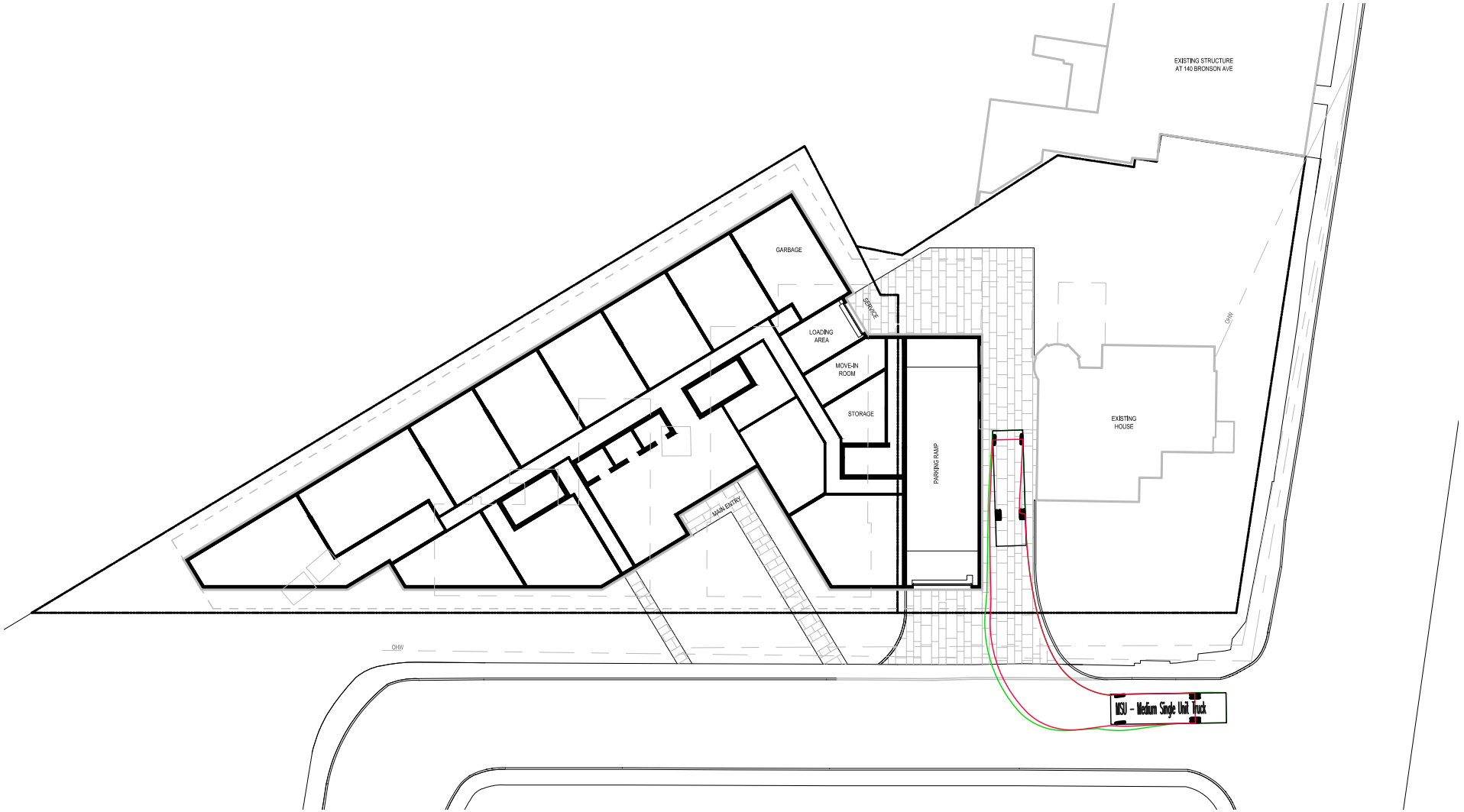
Table 9: Parking Requirements per Zoning By-Law

Land Use	Rate	Units	Required	Proposed
Vehicle Parking				
Apartment	0.5 per unit in excess of 12 (Resident)	327	142[1]	62
	0.1 per unit in excess of 12 (Visitor)		32	32
Bicycle Parking				
Apartment	0.5 per unit	327	166	302

1: Reduced by 10% per Section 101(6)(c) of ZBL

The proposed 302 bicycle parking spaces will exceed the minimum requirement of 166 bicycle parking spaces per the ZBL. However, relief from the minimum vehicle parking provisions is required for the resident parking as 142 parking spaces is required, and 62 parking spaces are provided. The requirement of 32 visitor parking spaces as specified in the ZBL is met.

The expectation is that residents will choose walking, cycling and using transit for their daily commutes. The subject site is located in close proximity to local transit along Bronson Avenue and Slater Street/Albert Street, the Lyon Street and Pimisi Transit Stations, and numerous carshare services.



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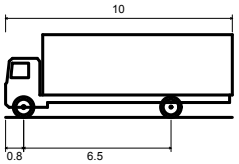

MSU - Medium Single Unit Truck

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

593 LAURIER

TURNING MOVEMENT (MSU/GARBAGE TRUCK)

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

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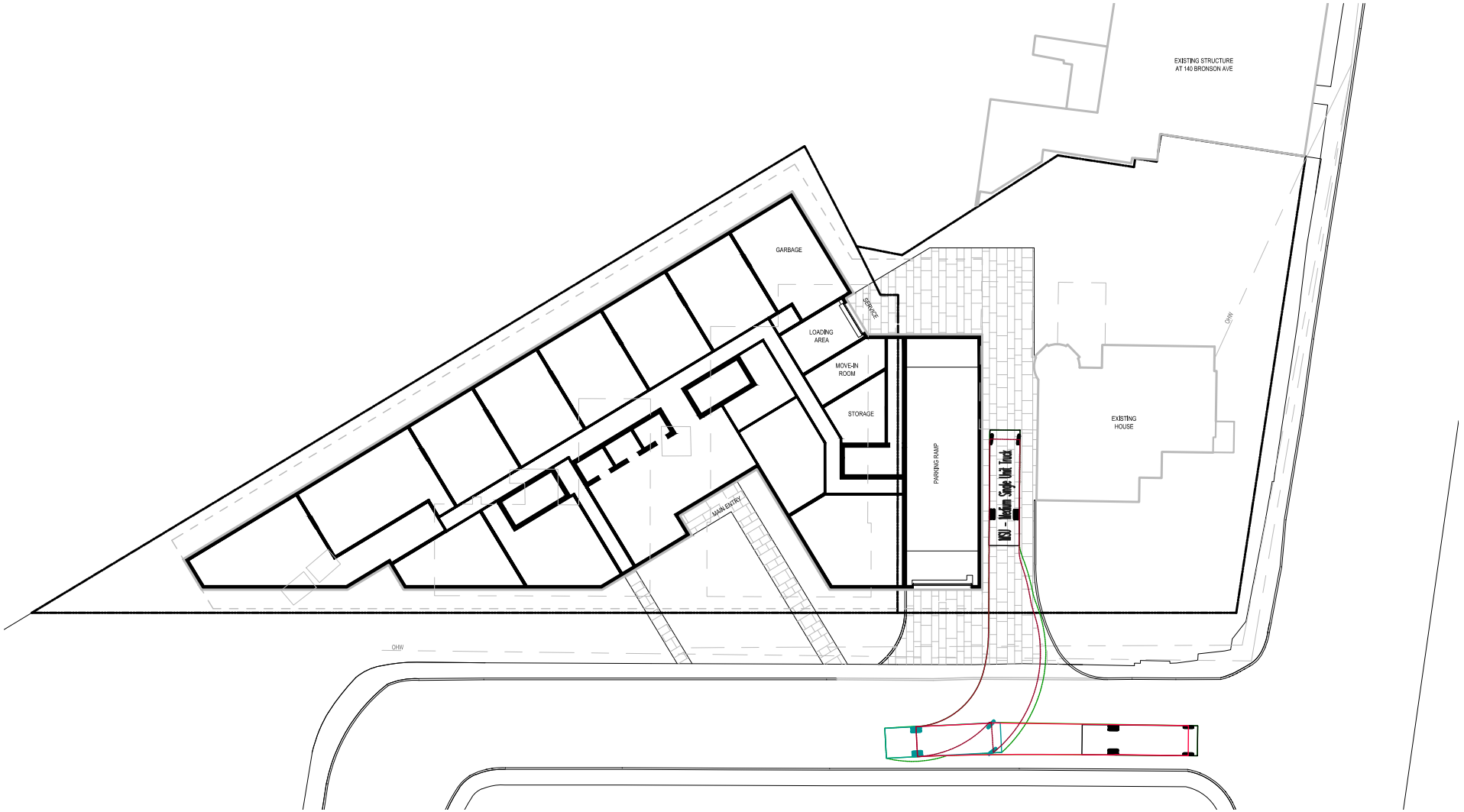

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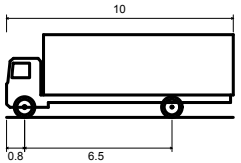

MSU - Medium Single Unit Truck

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

593 LAURIER

TURNING MOVEMENT (MSU/GARBAGE TRUCK)

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

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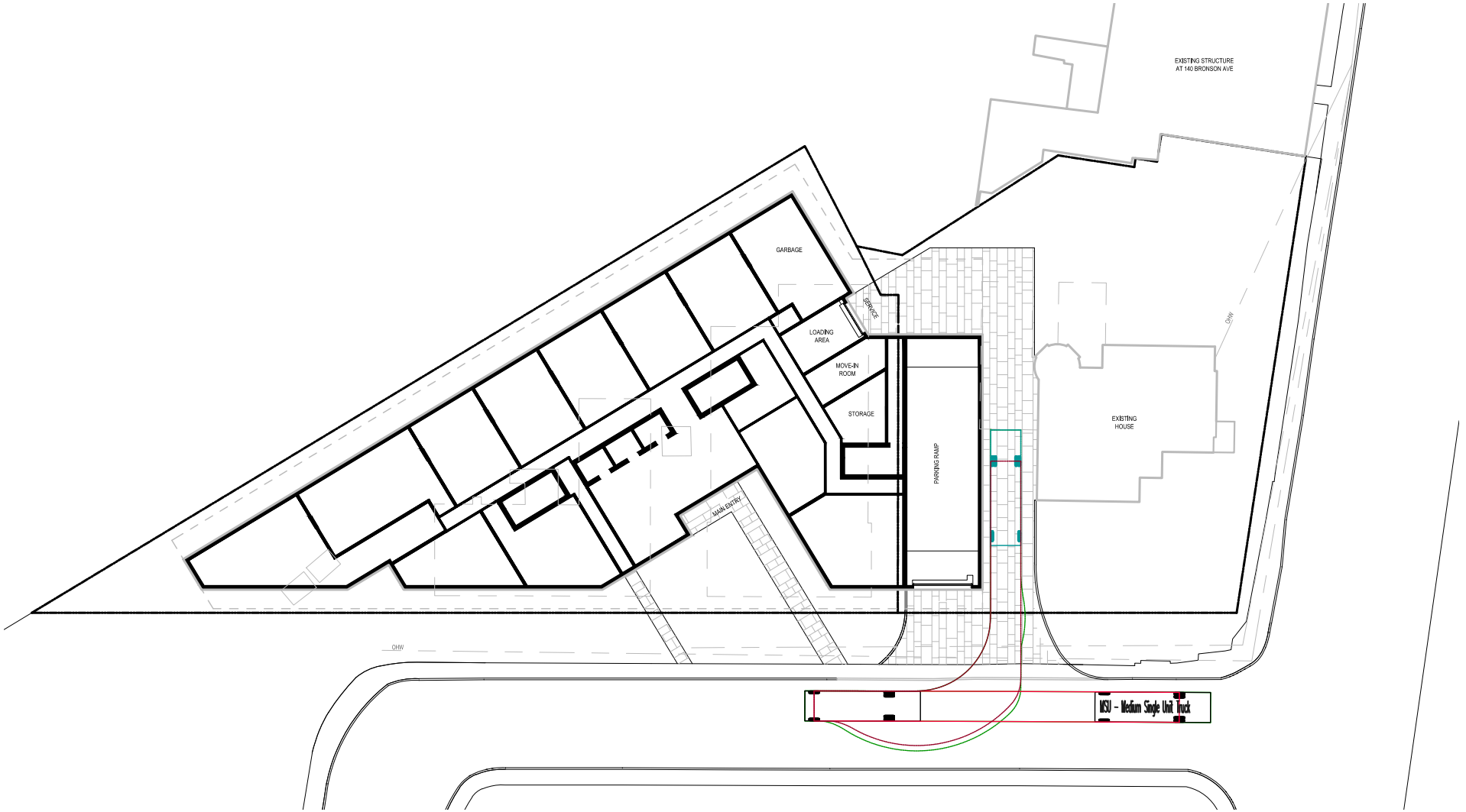

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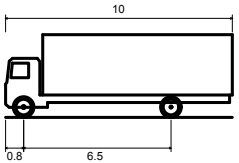

MSU - Medium Single Unit Truck

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

593 LAURIER

TURNING MOVEMENT (MSU/GARBAGE TRUCK)

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

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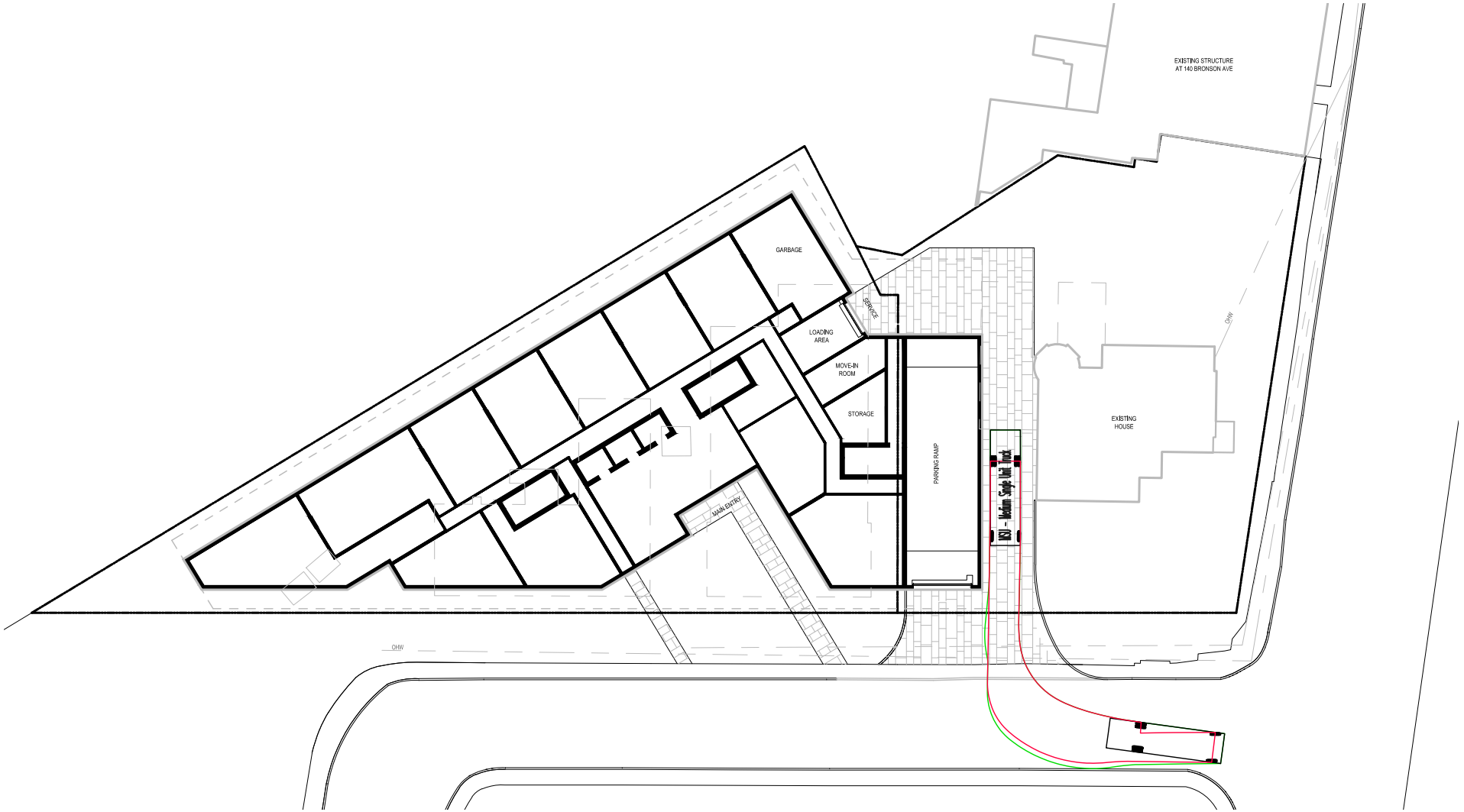

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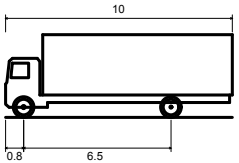

MSU - Medium Single Unit Truck

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

593 LAURIER

TURNING MOVEMENT (MSU/GARBAGE TRUCK)

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

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4.3 Boundary Street Design

This section provides a review of the boundary streets (Laurier Avenue West and Bronson Avenue) using complete streets principles. The Multi-Modal Level of Service (MMLOS) guidelines produced by IBI Group in 2015 were used to evaluate the LOS of the boundary roadways for each mode of transportation. Schedule 'B' of the City of Ottawa's Official Plan indicates both boundary roadways are in the 'General Urban Area'. Both boundary streets are also located within 600m of a rapid transit station (Lyon and Pimisi Stations).

Targets for the Pedestrian Level of Service (PLOS), Bicycle Level of Service (BLOS), Transit Level of Service (TLOS), and Truck Level of Service (TkLOS) for the study area roadways are based on the targets for General Urban Area and targets within 600m of a rapid transit station, as identified in Exhibit 22 of the MMLOS guidelines.

The following summarizes the findings of the MMLOS segment analysis.

4.3.1 Pedestrian Level of Service (PLOS)

Exhibit 4 of the MMLOS guidelines has been used to evaluate the segment PLOS of the boundary roadways. Exhibit 22 of the MMLOS guidelines suggest a target PLOS A for all road classes within 600m of a rapid transit station. The results of the segment PLOS analysis are summarized in the following table.

Table 10: PLOS Segment Analysis

Sidewalk Width	Boulevard Width	Avg. Daily Curb Lane Traffic Volume	Presence of On-Street Parking	Operating Speed	Segment PLOS
Laurier Avenue West (North Side)					
1.5m	0 m	< 3,000 vpd	No	40 km/h	E
Laurier Avenue West (South Side)					
1.5m	0 m	< 3,000 vpd	No	40 km/h	E
Bronson Avenue (East Side)					
1.5 m	0m	> 3,000 vpd	No	60 km/h	F
Bronson Avenue (West Side)					
1.8m	0 m	< 3,000 vpd	No	60 km/h	C

4.3.2 Bicycle Level of Service (BLOS)

Exhibit 11 of the MMLOS guidelines has been used to evaluate the segment BLOS of the boundary roadways. Exhibit 22 of the MMLOS guidelines suggest a target BLOS B for Local Routes on local roads (Laurier Avenue West) and a target BLOS D for arterial roads without cycling classification (Bronson Avenue) within 600m of a rapid transit station. The results of the segment BLOS analysis are in the following table.

Table 11: BLOS Segment Analysis

Road Class	Bike Route	Type of Bikeway	Travel Lanes	Operating Speed	Segment BLOS
Laurier Avenue West					
Local	Local	Mixed Traffic	One in each direction	40 km/h	B
Bronson Avenue					
Arterial	None	Mixed Traffic	Two in each Direction	60 km/h	F

4.3.3 Transit Level of Service (TLOS)

Exhibit 15 of the MMLOS guidelines has been used to evaluate the TLOS of the boundary roadways. Exhibit 22 of the MMLOS guidelines suggest a target TLOS D for arterial roadways along transit priority corridors with isolated measures. As transit service is not provided along Laurier Avenue West adjacent to the site, the TLOS has not been analyzed along this roadway. The results of the TLOS analysis are summarized in the following table

Table 12: TLOS Segment Analysis

Facility Type	Level/Exposure to Congestion Delay, Friction and Incidents			Segment TLOS
	Congestion	Friction	Incident Potential	
Bronson Avenue				
Mixed Traffic	Yes	Low	Medium	D

4.3.4 Truck Level of Service (TkLOS)

Exhibit 20 of the MMLOS guidelines has been used to evaluate the segment TkLOS of the boundary roadways. Exhibit 22 of the MMLOS guidelines suggests a target TkLOS D for truck routes on arterial roadways within 600m of a rapid transit station (Bronson Avenue). As Laurier Avenue West adjacent to the site is not designated as a truck route, the TkLOS has not been analyzed along this roadway. The results of the segment TkLOS analysis are summarized in the following table.

Table 13: TkLOS Segment Analysis

Curb Lane Width	Number of Travel Lanes per Direction	Segment TkLOS
Bronson Avenue (Northbound)		
> 3.7m	2	A
Bronson Avenue (Southbound)		
3.5m	2	A

4.3.5 Segment MMLOS Summary

A summary of the results of the segment MMLOS analysis for the boundary roadways is provided in the following table.

Table 14: Segment MMLOS Summary

Segment	PLOS	BLOS	TLOS	TkLOS
Laurier Avenue West	E	B	-	-
Target	**A**	**B**	**-**	**-**
Bronson Avenue	F	F	D	A
Target	**A**	**D**	**D**	**D**

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

- Neither boundary street meets the target PLOS; and
- Bronson Avenue does not meet the target BLOS.

Laurier Avenue West
Laurier Avenue West meets the target BLOS but does not meet the target PLOS. As part of the development, the sidewalk along the site frontage will be widened to 1.8m in width, achieving a PLOS B.

Bronson Avenue
Bronson Avenue meets the target TLOS and TkLOS but does not meet the target PLOS and BLOS.

The east side of Bronson Avenue is currently operating with a PLOS F. The target PLOS A is unachievable on this side of the roadway due to the operating speed of 60km/hr and the average daily curb traffic in excess of 3,000 vehicles. The west side of Bronson Avenue is currently operating with a PLOS B. To achieve the target PLOS A, either a 1.8m sidewalk and 2.0m boulevard or 2.0m sidewalk and 0.5m or greater boulevard is required.

Mixed use traffic lanes are currently provided along Bronson Avenue adjacent to the subject site, achieving a BLOS F. To achieve the target BLOS D, bike lanes are required along Bronson Avenue.

The above modifications to improve the PLOS and BLOS along Bronson Avenue have been identified for the City's consideration as funding becomes available.

4.4 Transportation Demand Management

4.4.1 Context for TDM

The proposed redevelopment will include 327 dwellings. The dwellings can be broken down by number of bedrooms as follows:

- 5 studio units;
- 197 one-bedroom units;
- 104 two-bedroom units;
- 21 three-bedroom units.

4.4.2 Need and Opportunity

Based on the trip generation presented in Section 2.5.1, the assumed auto modal share is anticipated to be consistent with the City's targets in a TOD Zone. Due to the proposed reduction in parking and proximity to LRT, the TOD modal shares are anticipated to be met.

Should the development exceed the TOD modal shares and be in line with the Ottawa inner area auto modal share of 25%, the development is anticipated to generate an additional 13-14 vehicles during peak hours. The additional traffic is considered marginal and not anticipated to impact intersection operations in the area.

4.4.3 TDM Program

A review of the TDM – Measures Checklist has been conducted, and is included in **Appendix J**.

The following measures will be implemented upon opening of the proposed redevelopment:

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

The aforementioned TDM initiatives will help promote non-auto modes of transportation to residents and reduce the parking demand by the proposed redevelopment.

In addition to the TDM measures identified above, the proposed redevelopment will provide a reduced number of vehicle parking spaces and an increased number of bicycle parking spaces.

5.0 CONCLUSIONS AND RECOMMENDATIONS

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

Access Design

- The site proposes one combined access for passenger vehicles entering the underground parking garage and truck access for an MSU truck to reverse into a loading area to assist residents with moving in/out.

- The driveway width, location, and grade within the property adhere to the requirements of the City’s Private Approach By-law and Zoning By-law.

- 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. Section 107 (1)(a) identifies a minimum width of 6m for a double traffic lane that leads to a parking lot and Section 107 (1)(aa) of the ZBL identifies that the maximum permitted width is 6.7m for a double traffic lane that leads to more than 20 parking spaces. The proposed access is roughly 11.0m wide at the edge of property. The portion of the access serving the parking ramp is roughly 6.5m wide. This is assumed to be acceptable and relief of the PABL and ZBL is sought as the additional width is required to serve the move in/out area which will be infrequently used.

- Section 25(u) of the PABL identifies a maximum driveway grade of 2% for a distance of 9m within the property, for driveways serving more than 50 parking spaces. A grade of 2% is proposed between the property line and the garage door (approximately 2m), followed by a 6% grade for 2.5m within the garage, before ramping down to the underground lot. Figure 2.4.1 in TAC identifies that passenger cars have a maximum wheelbase of 3.2m. The proposed 2-6% ramp grade for 4.5m within the property will allow one vehicle to stop with adequate sight lines along Laurier Avenue.

- Sight lines looking east from the access meet the SSD and ISD requirements. Sight lines looking west meet the SSD requirements but do not meet ISD requirements. As the SSD requirements are met, drivers along Laurier Avenue will have adequate distance to slow or stop, in the event that a driver exiting the proposed development chooses an inadequate gap in traffic.

- The TAC Geometric Design Guide for Canadian Roads identifies a minimum corner clearance distance of 15m for an access downstream of a signal on an undivided local road. As the access is roughly 20m away this requirement is met.

Trip Generation

- The proposed redevelopment is estimated to generate 144 person trips (including 19 vehicle trips) during the AM peak hour, and 171 person trips (including 19 vehicle trips) during the PM peak hour.

Development Design

- Pedestrian walkways will be provided between the proposed building entrances and the sidewalk along Laurier Avenue West.

- OC Transpo's service design guideline for peak period service is to provide service within a five minute (400m) walk of the home, school and work location of 95% of urban residents. The actual walking distance from the main building entrance to the nearest bus stops was measured. Stop #6626 is a 75m walk, stop #6627 is a 60m walk, stop #3004 is a 360m walk, and stop #3005 is a 240m walk from the proposed redevelopment.

- Bicycle parking for the proposed redevelopment will be in accordance with the City of Ottawa's Zoning By-Law (ZBL). Bicycle parking will be provided in a storage room on the second parking level.

- Garbage collection and loading will occur in the alleyway between the parking ramp and the existing house on the corner of Bronson Avenue and Laurier Avenue. Garbage bins will be wheeled out to meet the garbage trucks within the alleyway.

Parking

- The proposed 302 bicycle parking spaces will exceed the minimum requirement of 166 bicycle parking spaces per the ZBL. However, relief from the minimum vehicle parking provisions is required for the resident parking as 142 parking spaces is required, and 62 parking spaces are provided. The requirement of 32 visitor parking spaces as specified in the ZBL is met.

Boundary Streets

- Laurier Avenue West meets the target BLOS but does not meet the target PLOS. As part of the development, the sidewalk along the site frontage will be widened to 1.8m in width, achieving a PLOS B.

- The east side of Bronson Avenue is currently operating with a PLOS F. The target PLOS A is unachievable on this side of the roadway due to the operating speed of 60km/hr and the average daily curb traffic in excess of 3,000 vehicles.

- The west side of Bronson Avenue is currently operating with a PLOS B. To achieve the target PLOS A, either a 1.8m sidewalk and 2.0m boulevard or 2.0m sidewalk and 0.5m or greater boulevard is required.

- Mixed use traffic lanes are currently provided along Bronson Avenue adjacent to the subject site, achieving a BLOS F. To achieve the target BLOS D, bike lanes are required along Bronson Avenue.

Transportation Demand Management

- The following measures will be implemented upon opening of the proposed redevelopment:

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

- In addition to the TDM measures identified above, the proposed redevelopment will provide a reduced number of vehicle parking spaces and an increased number of bicycle parking spaces.

NOVATECH

Prepared by:

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

Reviewed by:

Brad Byvelds, P.Eng.
Project Manager | Transportation

APPENDIX A

Site Plan

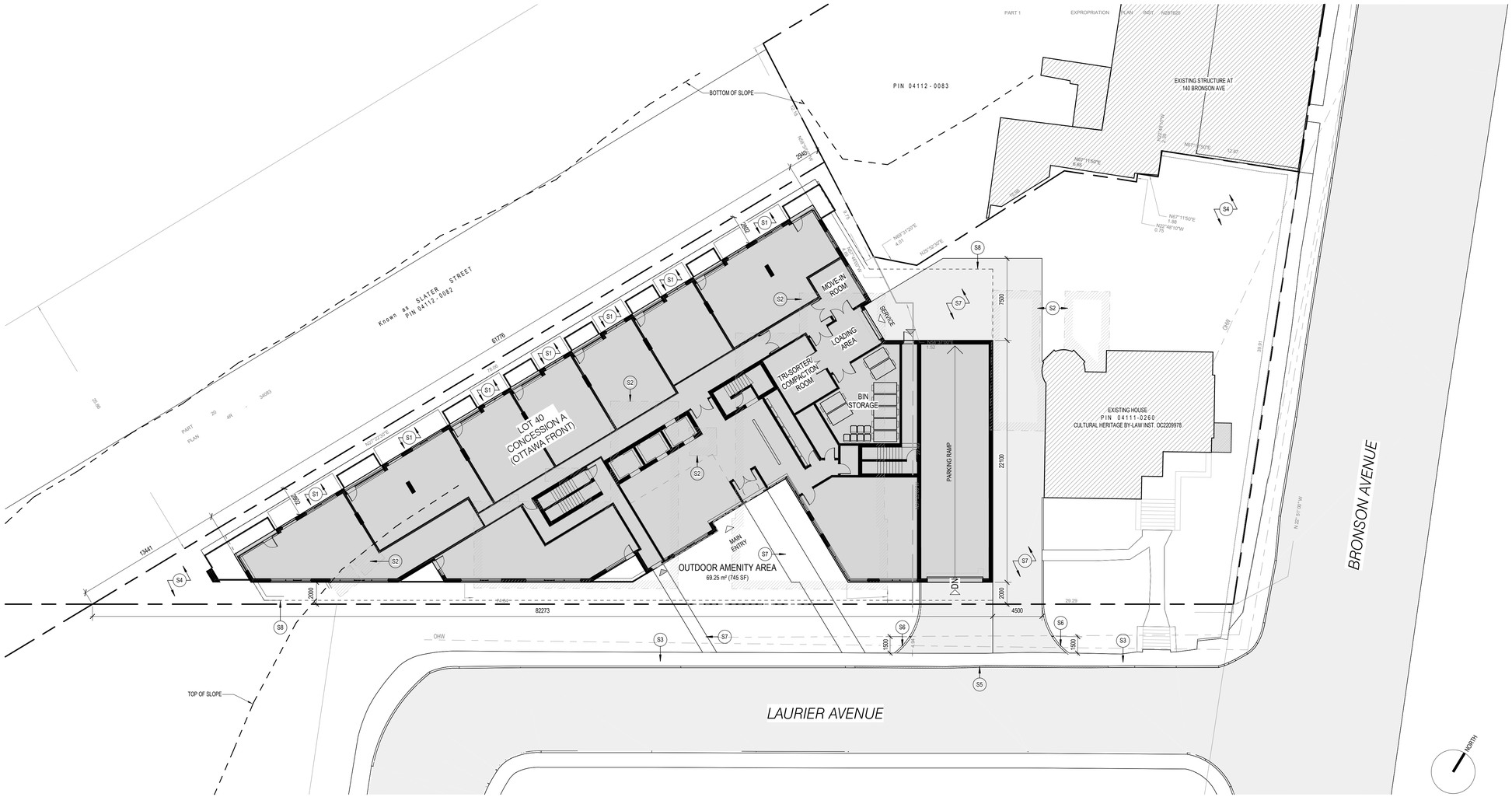
SITE PLAN SYMBOLS LEGEND

- 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

2 SP-01 LOCATION PLAN
SCALE: NTS

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

0 2m 4m 10m 20m

PLAN OF SURVEY OF

PART OF LOT 40
CONCESSION A (OTTAWA FRONT)
Geographic Township of Nepean
CITY OF OTTAWA

Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

SURVEY INFO
SCALE: 1 : 100

SITE PLAN NOTES

S1 RAISED PLANTER
S2 EXISTING STRUCTURE TO BE DEMOLISHED
S3 CONCRETE SIDEWALK
S4 SOFT LANDSCAPING
S5 DEPRESSED CURB
S6 CURB TRANSITION
S7 HARD LANDSCAPING
S8 LINE OF UNDERGROUND STRUCTURE BELOW

OWNER
XX

ARCHITECT
PROJECT1 STUDIO
260 ST. PATRICK ST, SUITE 300
OTTAWA, ON, K1N 5K5

PLANNER
XXX

CIVIL ENGINEER
XXX

LANDSCAPE ARCHITECT
XXX

SURVEYOR
ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
14 CONCOURSE GATE, SUITE 500
NEPEAN, ON, K2E 7S6

2	ISSUED FOR COORDINATION	2024-08-09
1	ISSUED FOR CITY REVIEW	2024-04-29

ISSUE RECORD

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

601 LAURIER

601 Laurier Avenue
Ottawa, ON
K1R 6K9

PROJ	SCALE	DRAWN	REVIEWED
2318	NOTED	BH	JH

SITE PLAN

SP-01

APPENDIX B

TIA Screening Form

City of Ottawa 2017 TIA Guidelines TIA Screening

1. Description of Proposed Development

Municipal Address	593-601 Laurier Avenue West
Description of Location	Northwest corner of Laurier Ave/Bronson Ave
Land Use Classification	Residential
Development Size (units)	331
Development Size square metre (m^2)	
Number of Accesses and Locations	One to Laurier Avenue West
Phase of Development	
Buildout Year	2025

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.

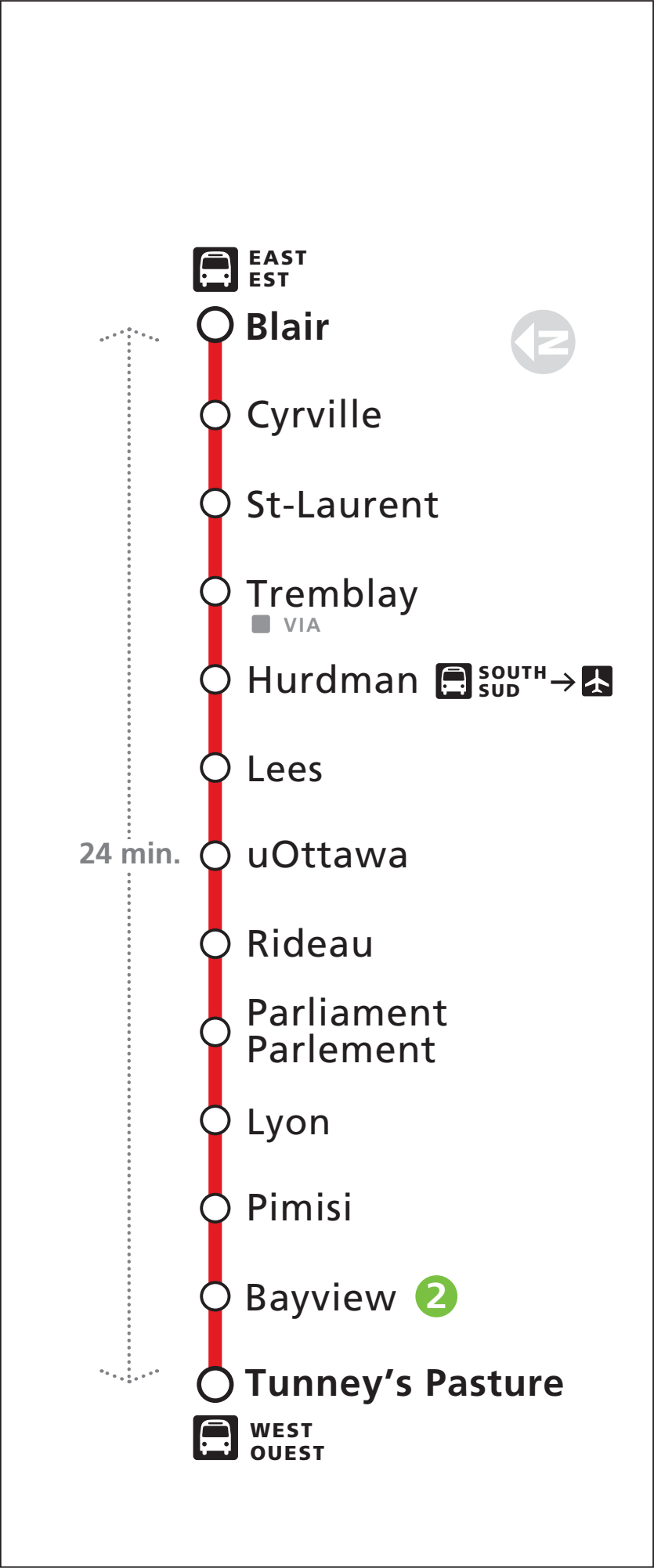
5. Summary

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

OC Transpo System Information


EAST
EST
Blair
Cyrville
St-Laurent
Tremblay
VIA
Hurdman
SOUTH
SUD
Lees
24 min.
uOttawa
Rideau
Parliament
Parlement
Lyon
Pimisi
Bayview
2
Tunney's Pasture
WEST
OUEST

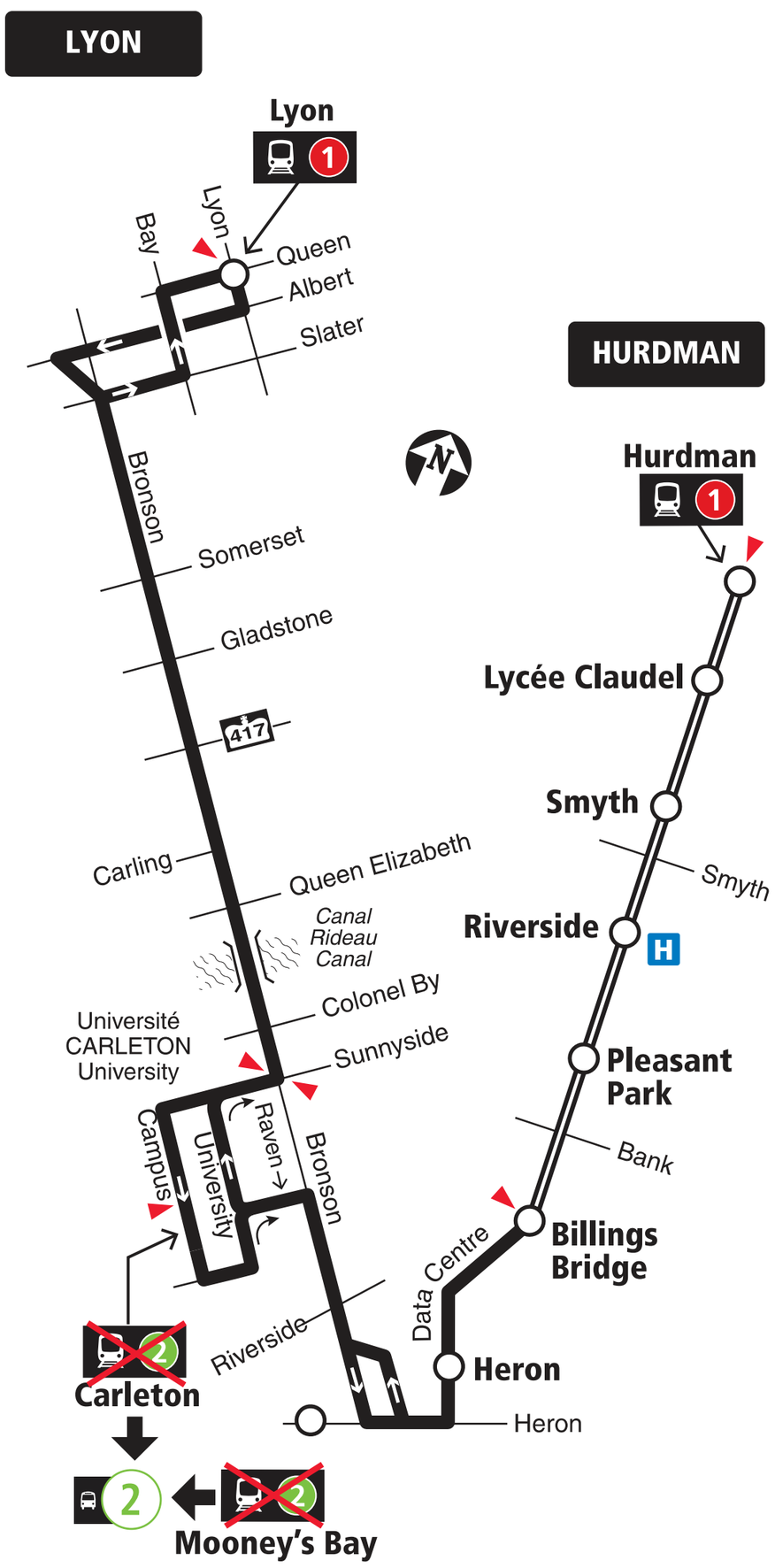
10 LYON HURDMAN

Fréquent

7 days a week / 7 jours par semaine

All day service

Service toute la journée



Transitway & Station

Timepoint / Heures de passage

2020.09

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 August 30, 2020
En vigueur 30 août 2020

OC Transpo

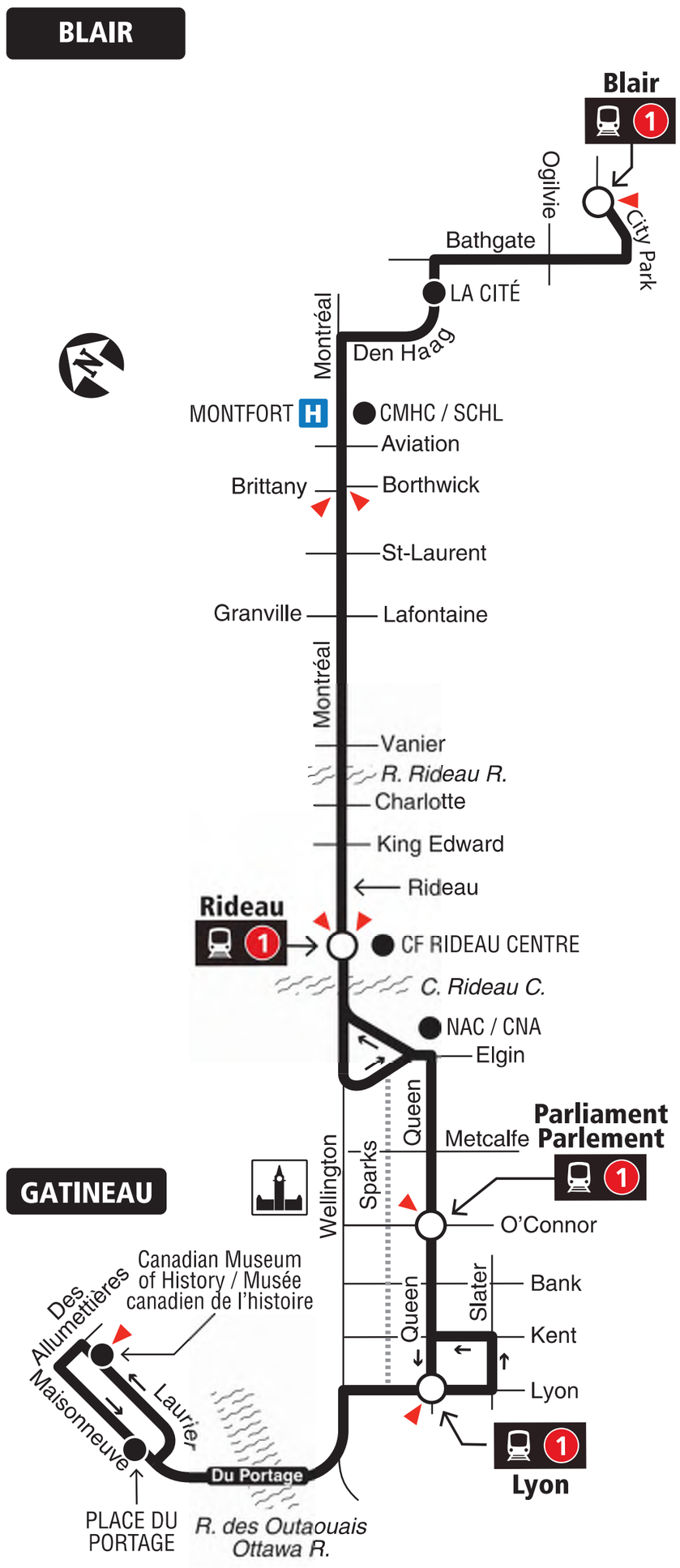
INFO 613-741-4390
octranspo.com

15

GATINEAU
BLAIR

Local

Monday to Friday / Lundi au vendredi
Peak Periods
Périodes de pointe



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

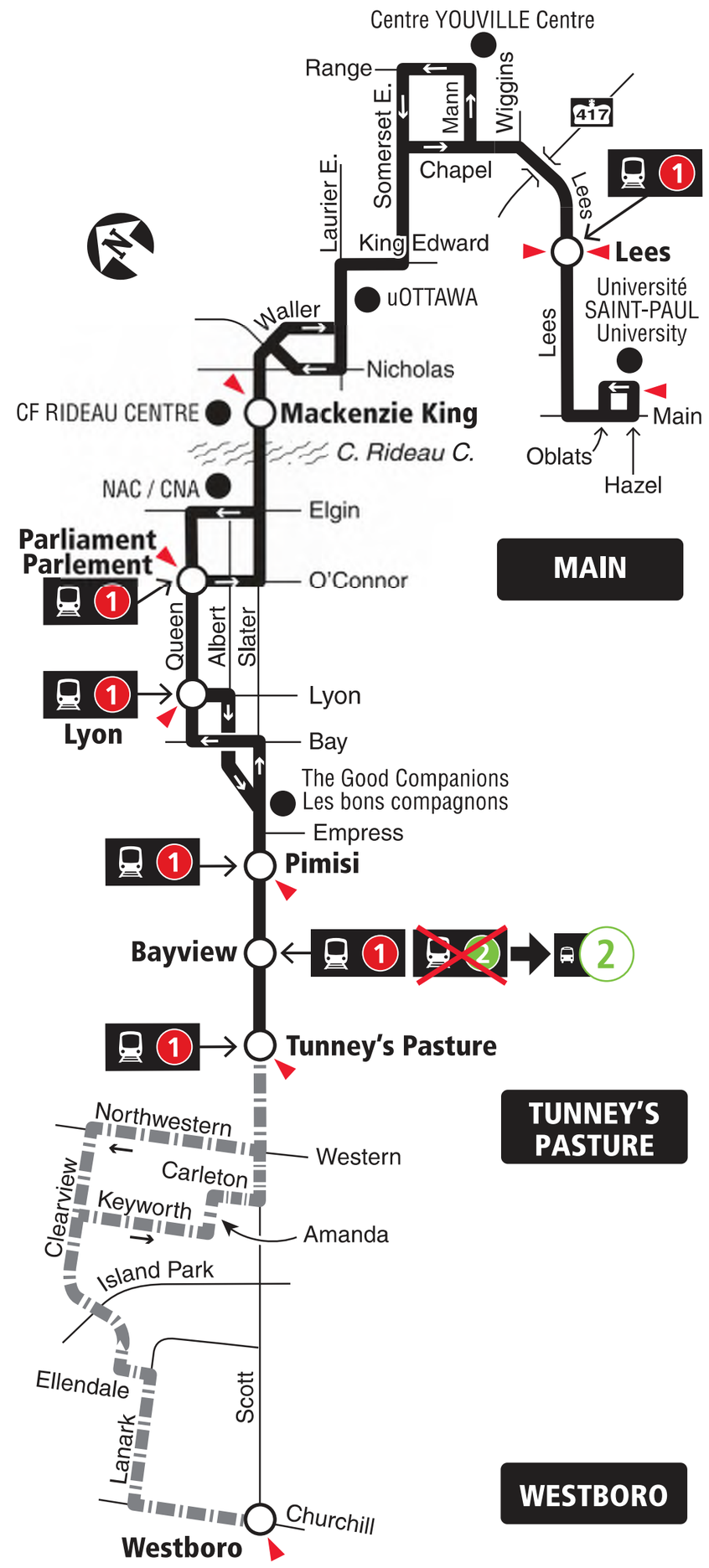
OC Transpo

INFO 613-560-5000
octranspo.com

16 MAIN

TUNNEY'S PASTURE
WESTBORO

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



Station

No Sunday service / Aucun service le dimanche

Timepoint / Heures de passage

2020.04

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 May 3, 2020
En vigueur 3 mai 2020

OC Transpo

INFO 613-741-4390
octranspo.com

57 Rapide

BAYSHORE
CRYSTAL BAY
TUNNEY'S PASTURE

7 days a week / 7 jours par semaine

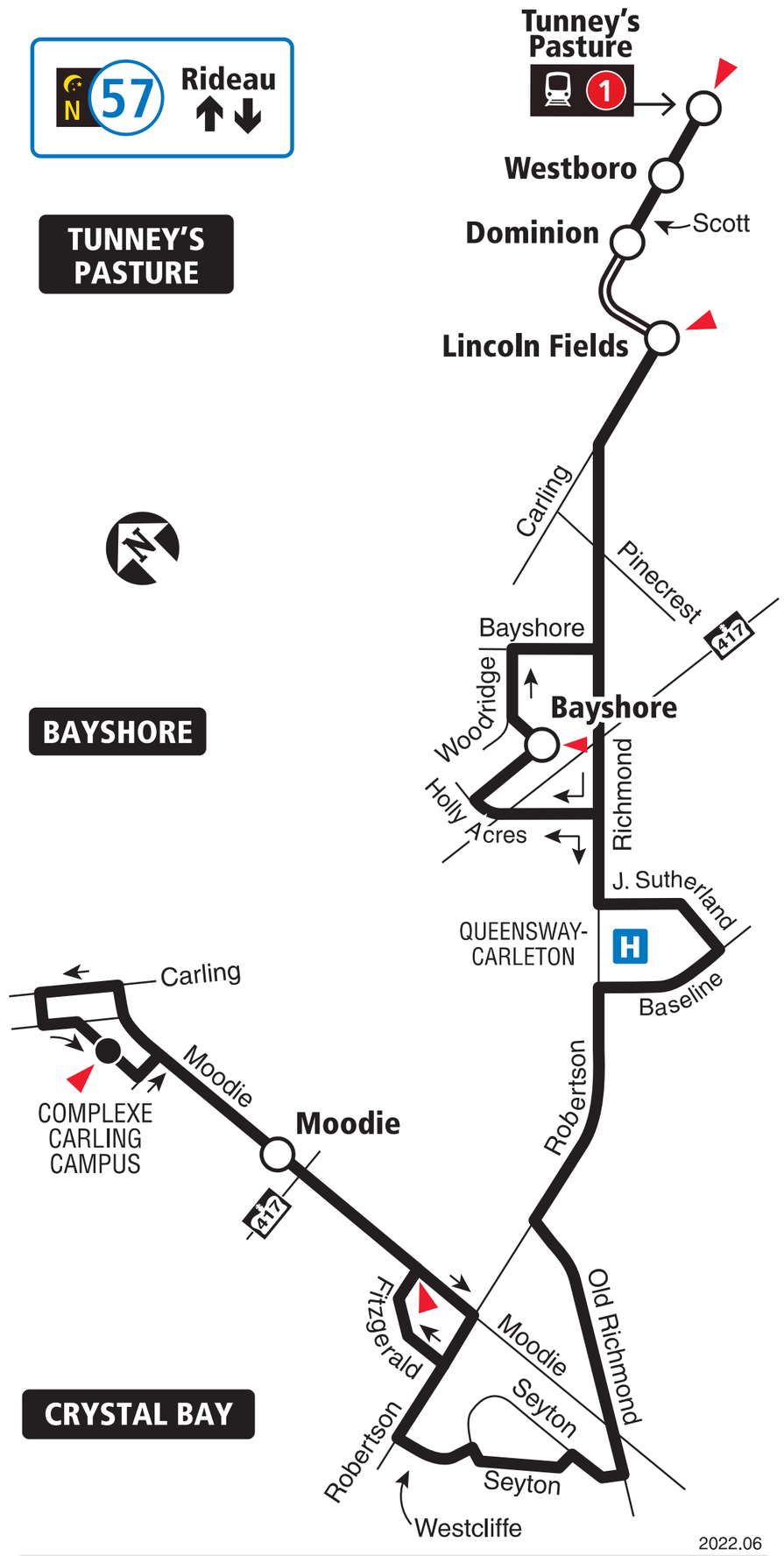
All day and limited overnight service
Service toute la journée et limité la nuit

N 57 Rideau

TUNNEY'S PASTURE

BAYSHORE

CRYSTAL BAY



2022.06

Transitway & Station

Timepoint | Heures de passage

N 57 When O-Train Line 1 is not running overnight, Route 57 will be extended downtown to Rideau Station. / Lorsque la Ligne 1 de l'O-Train ne circule pas la nuit, le circuit 57 sera prolongée au centre-ville jusqu'à la station Rideau.

2022.06

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 June 26, 2022
En vigueur 26 juin 2022

OC Transpo

INFO 613-560-5000
octranspo.com

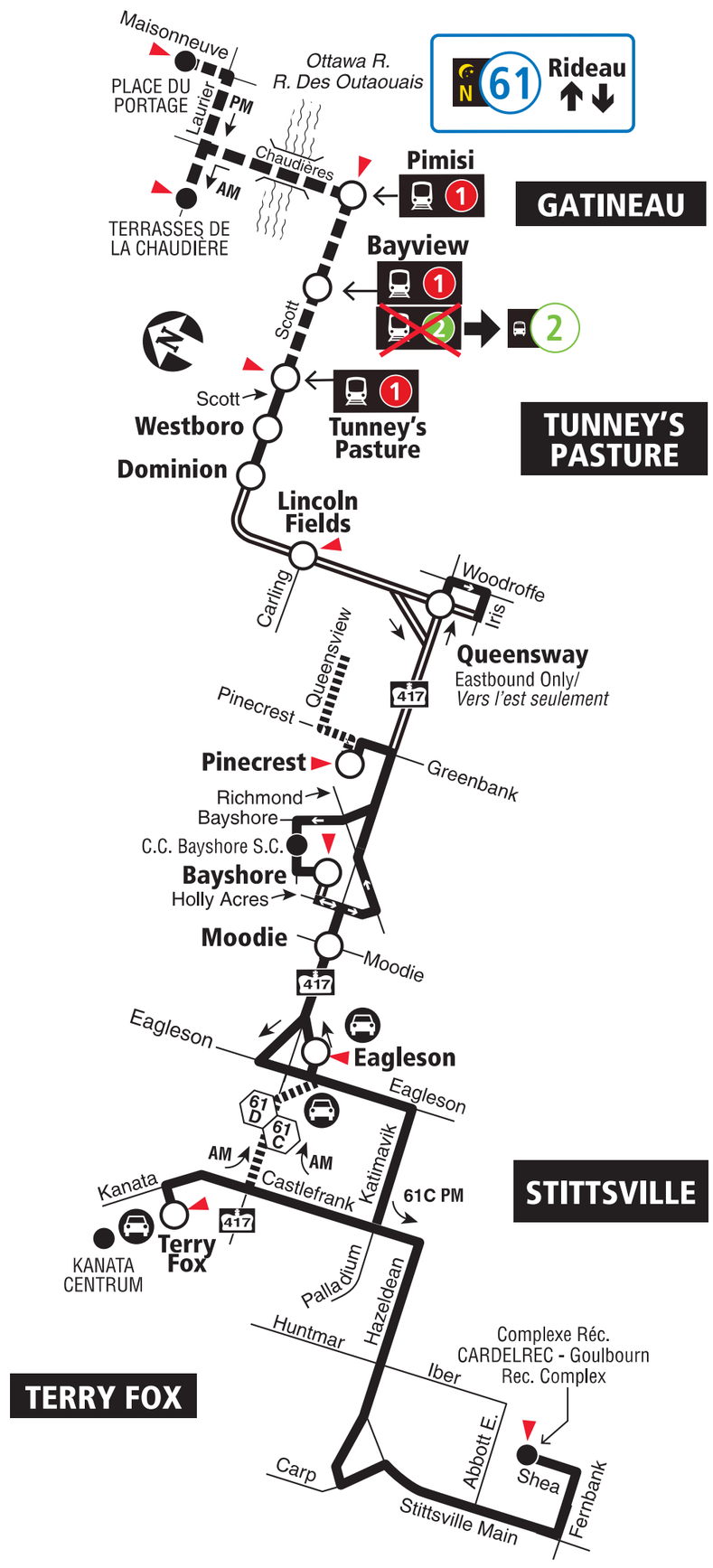
61 Rapide

TERRY FOX STITTSVILLE

TUNNEY'S PASTURE GATINEAU

7 days a week / 7 jours par semaine

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



Transitway & Station
Peak trips / Trajets de pointe
Selected time periods / Périodes sélectionnées
Park & Ride / Parc-o-bus
Timepoint / Heures de passage

2022.06

When O-Train Line 1 is not running overnight, Route 61 will be extended downtown to Rideau Station. / Lorsque la Ligne 1 de l'O-Train ne circule pas la nuit, le circuit 61 sera prolongée au centre-ville jusqu'à la station Rideau.

2022.06

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 June 26, 2022
En vigueur 26 juin 2022

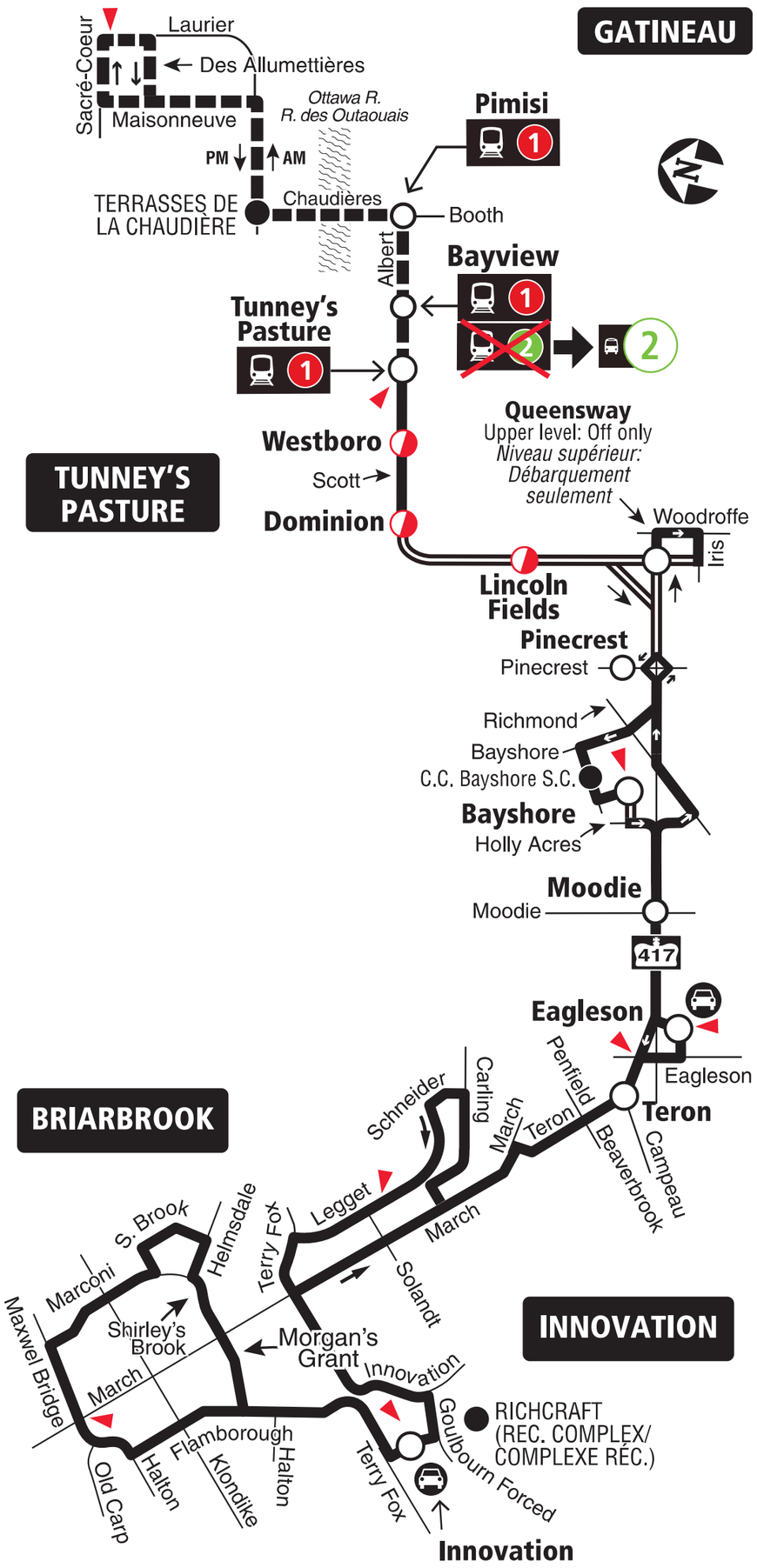
OC Transpo
INFO 613-560-5000
octranspo.com

63 Rapide

INNOVATION BRIARBROOK
TUNNEY'S PASTURE GATINEAU

7 days a week / 7 jours par semaine

All day service
Service toute la journée



2022.06

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 June 26, 2022
En vigueur 26 juin 2022

Transpo

INFO 613-560-5000
octranspo.com

66

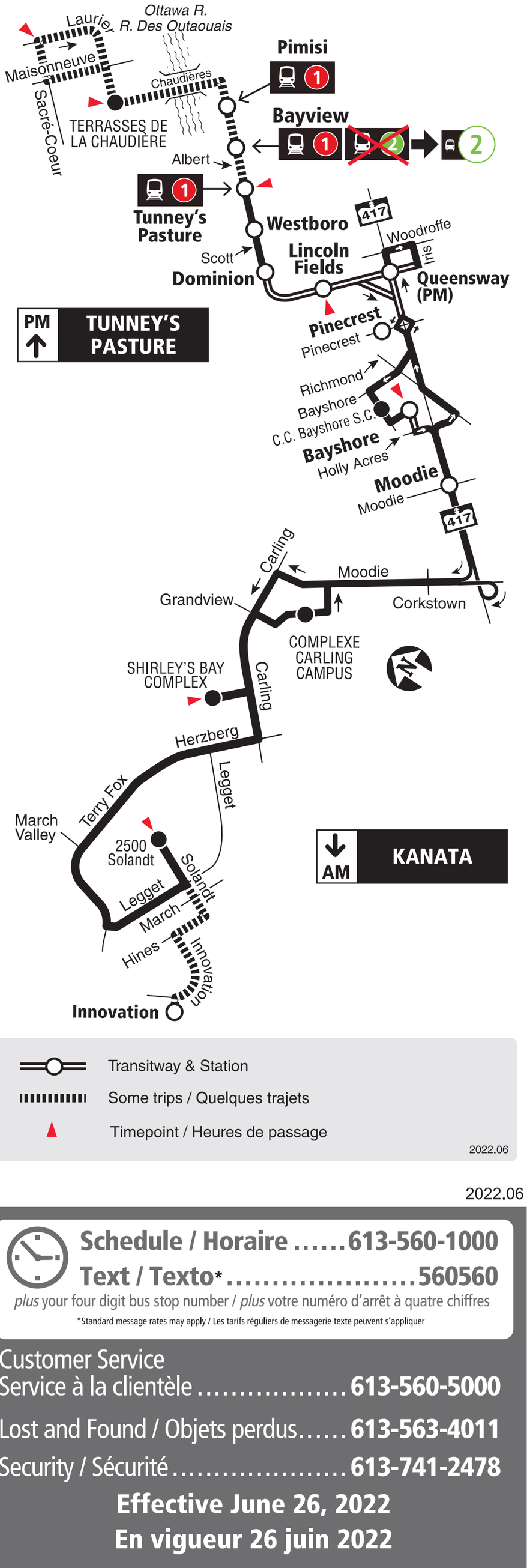
Local

KANATA
TUNNEY'S PASTURE
GATINEAU

Monday to Friday / Lundi au vendredi

Peak periods only

Périodes de pointe seulement



Transitway & Station

Some trips / Quelques trajets

Timepoint / Heures de passage

2022.06

2022.06

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 June 26, 2022

En vigueur 26 juin 2022

OC Transpo

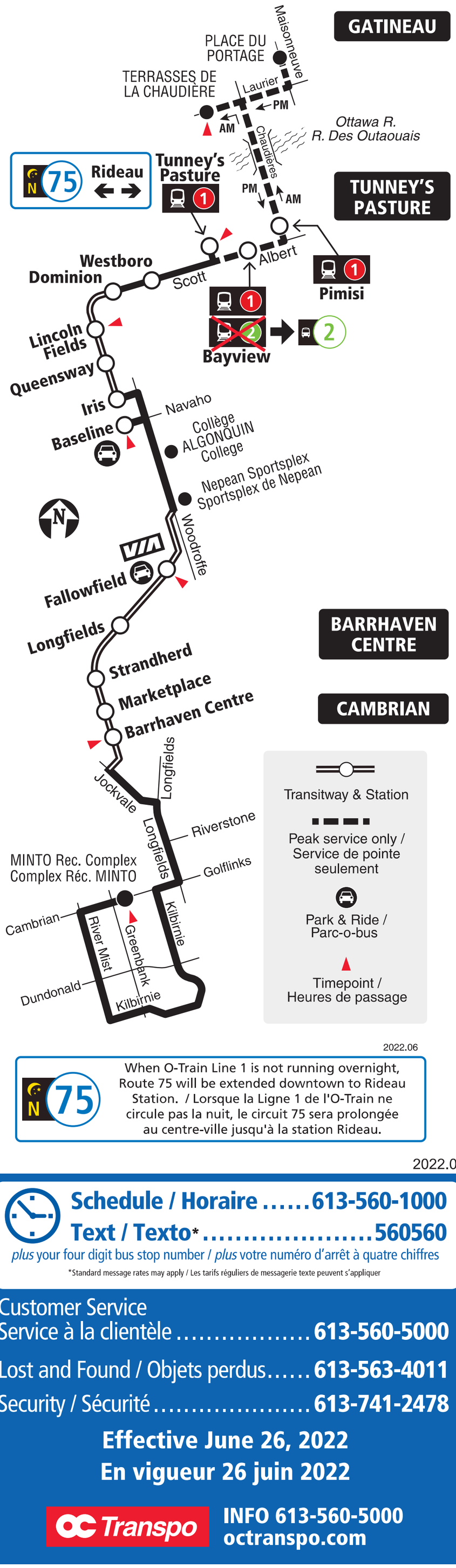
INFO 613-560-5000
octranspo.com

75 Rapide

CAMBRIAN BARRHAVEN C.
TUNNEY'S PASTURE GATINEAU

7 days a week / 7 jours par semaine

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



2022.06

When O-Train Line 1 is not running overnight, Route 75 will be extended downtown to Rideau Station. / Lorsque la Ligne 1 de l'O-Train ne circule pas la nuit, le circuit 75 sera prolongée au centre-ville jusqu'à la station Rideau.

2022.06

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 June 26, 2022
En vigueur 26 juin 2022

Transpo
INFO 613-560-5000
octranspo.com

85 Fréquent

GATINEAU
BAYSHORE

7 days a week / 7 jours par semaine

All day service
Service toute la journée

GATINEAU

BAYSHORE

12.2022

Station

Timepoint / Heures de passage

12.2022

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 December 18, 2022
En vigueur 18 décembre 2022

OC Transpo

INFO 613-560-5000
octranspo.com

APPENDIX D

Traffic Count Data

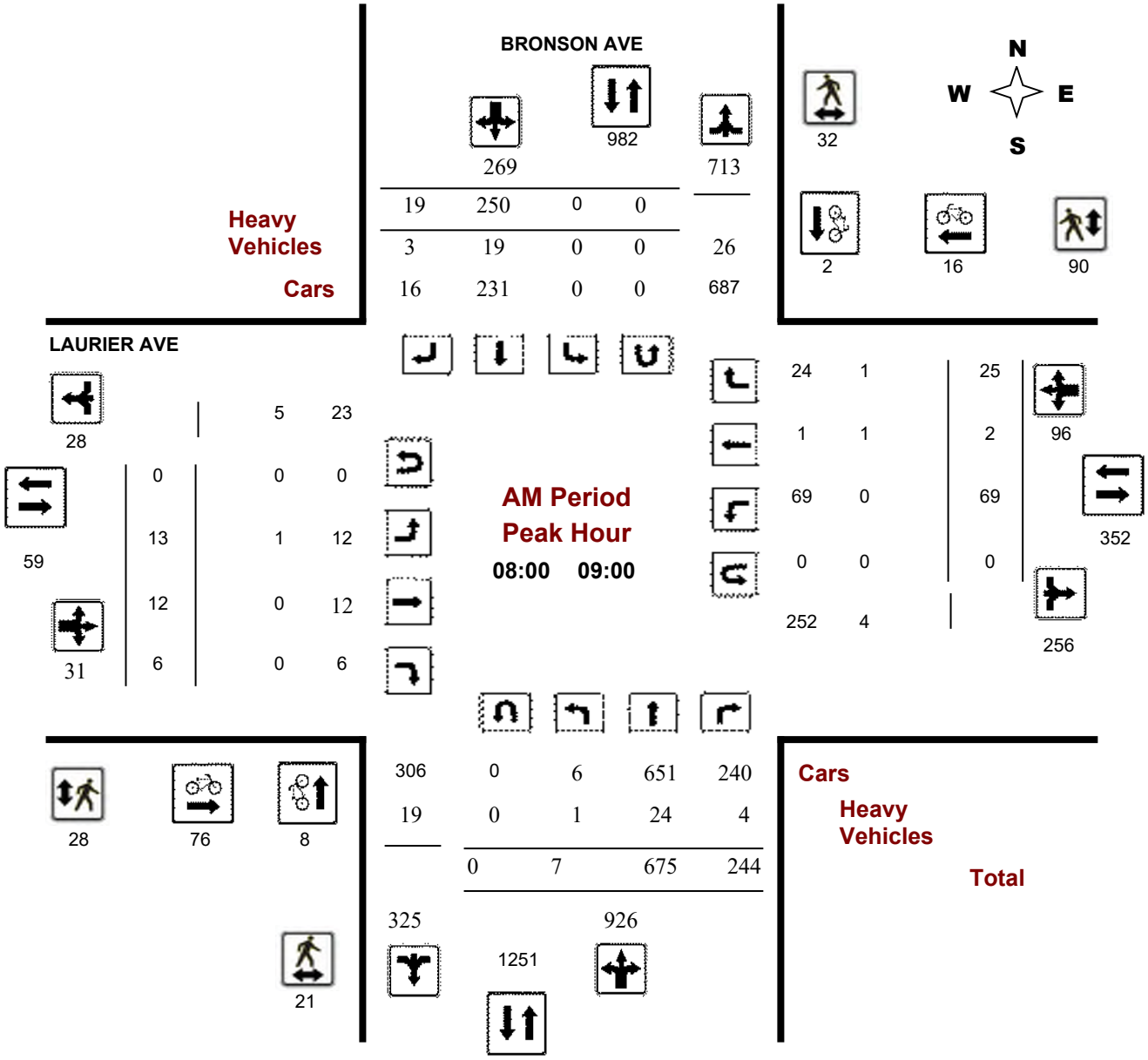
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BRONSON AVE @ LAURIER AVE

Survey Date: Tuesday, August 29, 2017 **WO No:** 37217

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



Comments

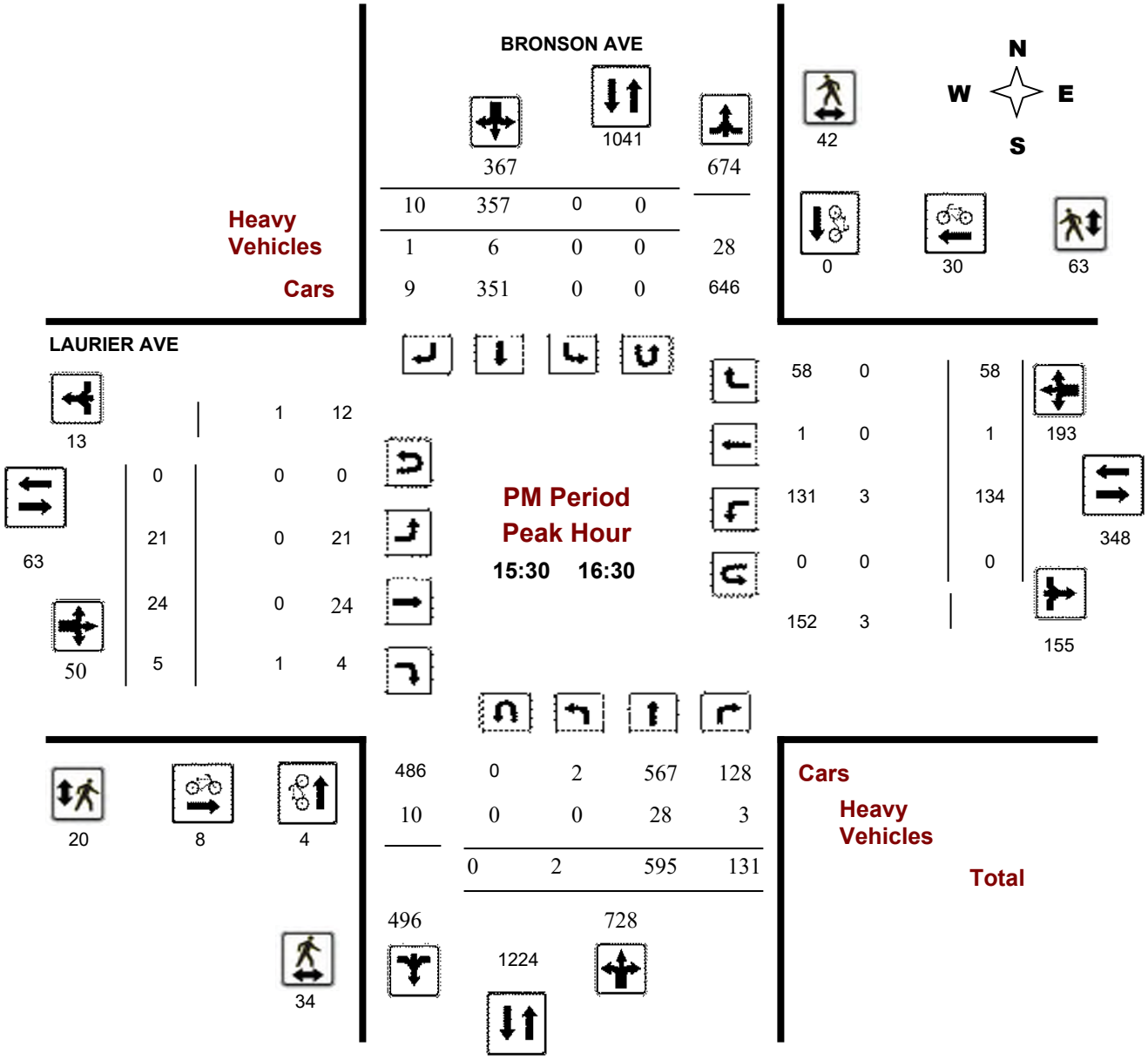
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BRONSON AVE @ LAURIER AVE

Survey Date: Tuesday, August 29, 2017 **WO No:** 37217

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



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BRONSON AVE @ LAURIER AVE

Survey Date: Tuesday, August 29, 2017 **WO No:** 37217

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

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, August 29, 2017

Total Observed U-Turns

Northbound: 3 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor

1.25

	BRONSON AVE								LAURIER AVE									
	Northbound				Southbound				Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	6	522	196	**724**	0	258	17	**275**	**999**	9	9	5	**23**	50	2	15	**67**	**90**	**1089**
08:00 09:00	7	675	244	**926**	0	250	19	**269**	**1195**	13	12	6	**31**	69	2	25	**96**	**127**	**1322**
09:00 10:00	4	466	142	**612**	0	205	9	**214**	**826**	9	13	9	**31**	67	15	19	**101**	**132**	**958**
11:30 12:30	6	311	141	**458**	1	206	9	**216**	**674**	4	13	9	**26**	82	5	25	**112**	**138**	**812**
12:30 13:30	4	336	130	**470**	1	181	16	**198**	**668**	11	11	15	**37**	81	2	19	**102**	**139**	**807**
15:00 16:00	6	606	116	**728**	0	332	8	**340**	**1068**	30	19	6	**55**	134	2	56	**192**	**247**	**1315**
16:00 17:00	6	551	145	**702**	2	314	8	**324**	**1026**	17	18	11	**46**	159	1	60	**220**	**266**	**1292**
17:00 18:00	5	484	121	**610**	0	282	11	**293**	**903**	10	10	14	**34**	111	2	48	**161**	**195**	**1098**
Sub Total	44	3951	1235	**5230**	4	2028	97	**2129**	**7359**	103	105	75	**283**	753	31	267	**1051**	**1334**	**8693**
U Turns				**3**				**0**	**3**				**0**				**0**	**0**	**3**
Total	44	3951	1235	**5233**	4	2028	97	**2129**	**7362**	103	105	75	**283**	753	31	267	**1051**	**1334**	**8696**
EQ 12Hr	61	5492	1717	**7274**	6	2819	135	**2959**	**10233**	143	146	104	**393**	1047	43	371	**1461**	**1854**	**12087**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	55	4943	1545	**6546**	5	2537	121	**2663**	**9210**	129	131	94	**354**	942	39	334	**1315**	**1669**	**10878**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**0.9**					
AVG 24Hr	72	6475	2024	**8576**	7	3324	159	**3489**	**12065**	169	172	123	**464**	1234	51	438	**1722**	**2186**	**14251**
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.

APPENDIX E

Collision Records

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: BRONSON AVE @ LAURIER AVE

Traffic Control: Traffic signal **Total Collisions:** 7

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Mar-06, Mon,18:41	Freezing Rain	SMV other	Non-fatal injury	Slush	South	Going ahead	Automobile, station wagon	Pedestrian	1
2017-Aug-19, Sat,14:11	Clear	Angle	Non-fatal injury	Dry	North	Turning right	Automobile, station wagon	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	
2018-Apr-25, Wed,08:50	Rain	Angle	Non-fatal injury	Wet	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2018-Oct-13, Sat,21:59	Clear	Turning movement	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2020-Nov-22, Sun,18:30	Snow	Angle	P.D. only	Loose snow	North	Turning right	Automobile, station wagon	Skidding/sliding	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2021-Jul-24, Sat,12:04	Clear	Angle	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2021-Nov-01, Mon,03:19	Clear	Angle	P.D. only	Dry	West	Unknown	Unknown	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	

Location: BRONSON AVE btwn LAURIER AVE & GLOUCESTER ST

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

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Nov-06, Mon,17:12	Clear	SMV other	P.D. only	Dry	South	Unknown	Unknown	Pole (utility, power)	0
2018-Jun-18, Mon,20:31	Clear	SMV unattended vehicle	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Unattended vehicle	0
2020-Nov-02, Mon,21:16	Snow	SMV unattended vehicle	P.D. only	Loose snow	North	Slowing or stopping	Truck and trailer	Unattended vehicle	0

Location: BRONSON AVE btwn SLATER ST & LAURIER AVE

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

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: BRONSON AVE btwn SLATER ST & LAURIER AVE

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
2017-Apr-11, Tue,07:19	Clear	Sideswipe	P.D. only	Wet	South	Changing lanes	Truck - closed	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2019-Feb-07, Thu,17:04	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Passenger van	Other motor vehicle	0
					South	Going ahead	Truck - closed	Other motor vehicle	

Location: LAURIER AVE btwn BRONSON AVE & PERCY ST

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
2017-Mar-04, Sat,12:58	Clear	SMV other	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Curb	0
2017-Sep-08, Fri,08:22	Clear	SMV other	P.D. only	Dry	West	Slowing or stopping	Truck and trailer	Tree, shrub, stump	0
2018-Jul-12, Thu,09:00	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	
2019-Sep-07, Sat,11:44	Clear	Sideswipe	P.D. only	Dry	East	Pulling away from shoulder or curb	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-22, Wed,14:53	Clear	SMV unattended vehicle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Unattended vehicle	0

APPENDIX F

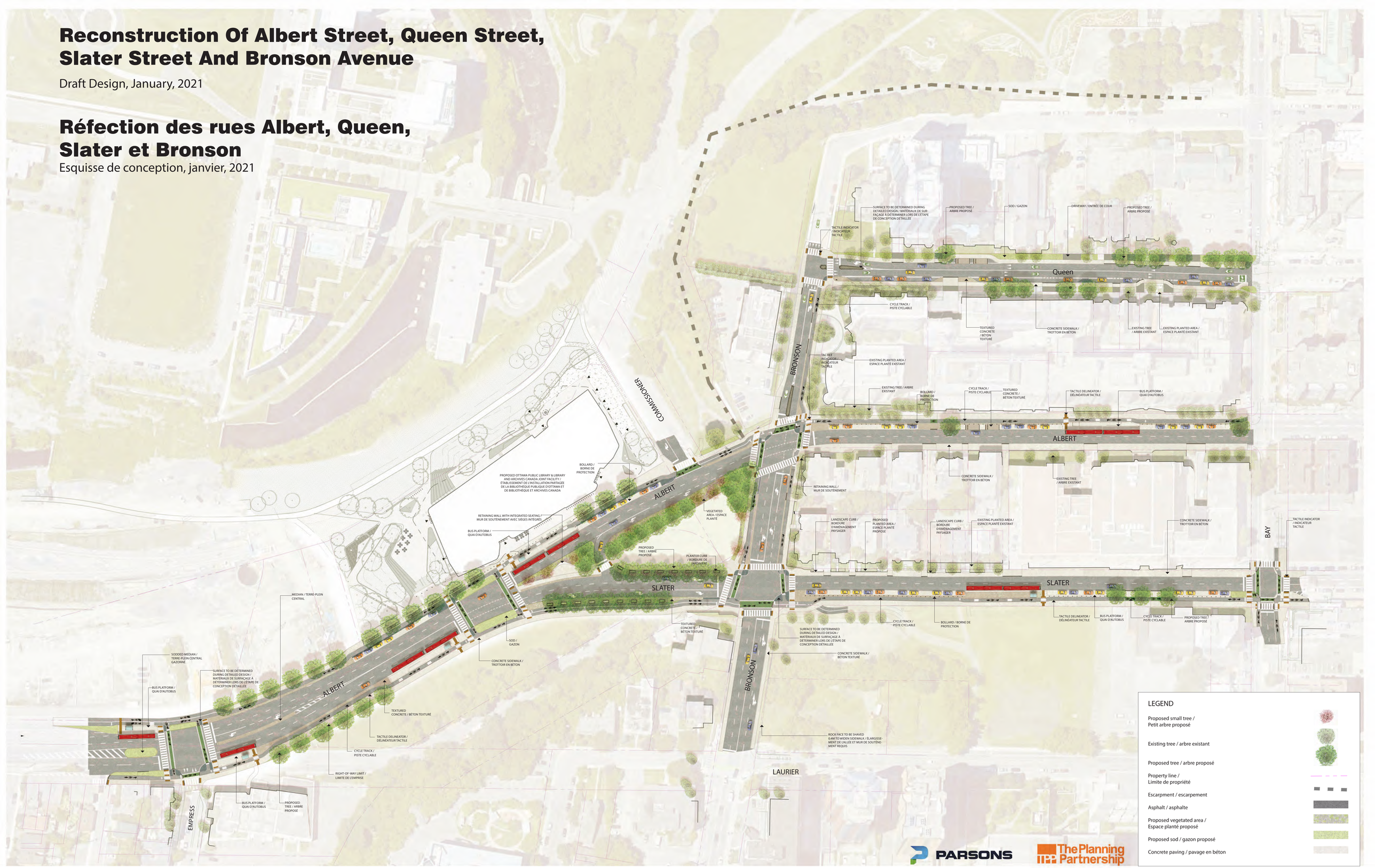
Reconstruction of Albert Street, Queen Street, Slater Street and Bronson Street

Reconstruction Of Albert Street, Queen Street, Slater Street And Bronson Avenue

Draft Design, January, 2021

Réfection des rues Albert, Queen, Slater et Bronson

Esquisse de conception, janvier, 2021



LEGEND

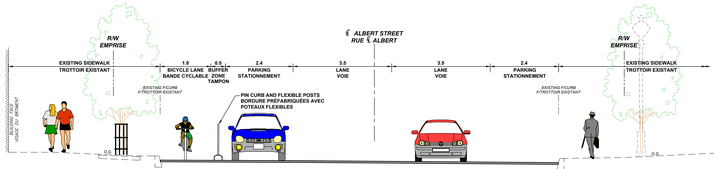
- Proposed small tree / Petit arbre proposé
- Existing tree / arbre existant
- Proposed tree / arbre proposé
- Property line / Limite de propriété
- Escarpment / escarpement
- Asphalt / asphalte
- Proposed vegetated area / Espace planté proposé
- Proposed sod / gazon proposé
- Concrete paving / pavage en béton

PARSONS

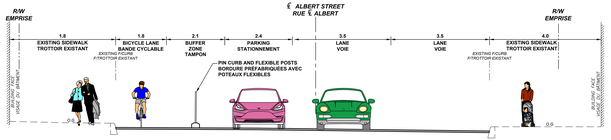
The Planning Partnership

APPENDIX G

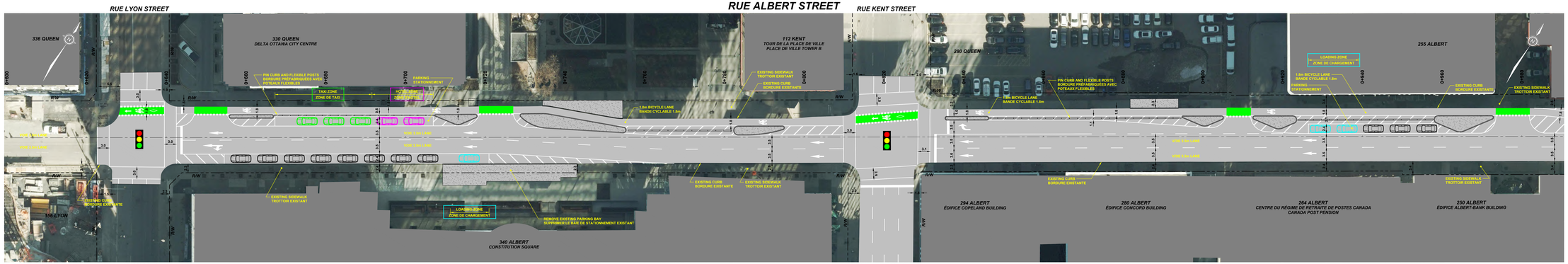
Albert Street and Slater Street Improvements



TYPICAL SECTION / COUPE TYPIQUE
STA. 0+700



TYPICAL SECTION / COUPE TYPIQUE
STA. 0+940



STREET IMPROVEMENTS
ALBERT AND SLATER
BAY STREET TO ELGIN STREET

PROPOSED DESIGN

AMÉLIORATIONS DES RUES
ALBERT ET SLATER
DE LA RUE BAY À LA RUE ELGIN

CONCEPTION PROPOSÉE

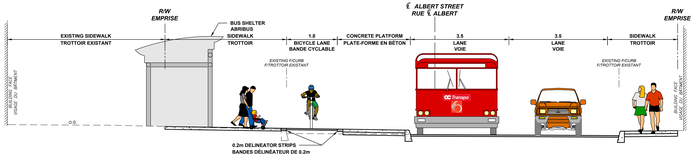
LEGEND:
LÉGENDE:

- RW — EXISTING ROAD RIGHT-OF-WAY / EMPRISE ROUTIÈRE EXISTANTE
- DC — DEPRESSED CURB / BORDURE EN DÉPRESSION
- CONCRETE / BÉTON
- ASPHALT / ASPHALTE
- INTERLOCKING PAVING STONES / PAVÉS AUTOBLOQUANTS
- SOD / GAZON
- PAVEMENT THERMOPLASTIC - GREEN / REVÊTEMENT THERMOPLASTIQUE - VERT
- TRAFFIC SIGNAL / FEUX DE CIRCULATION

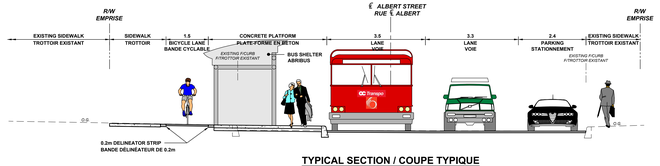
September 26, 2024

STREET IMPROVEMENTS
ALBERT AND SLATER
BAY STREET TO ELGIN STREET
PROPOSED DESIGN

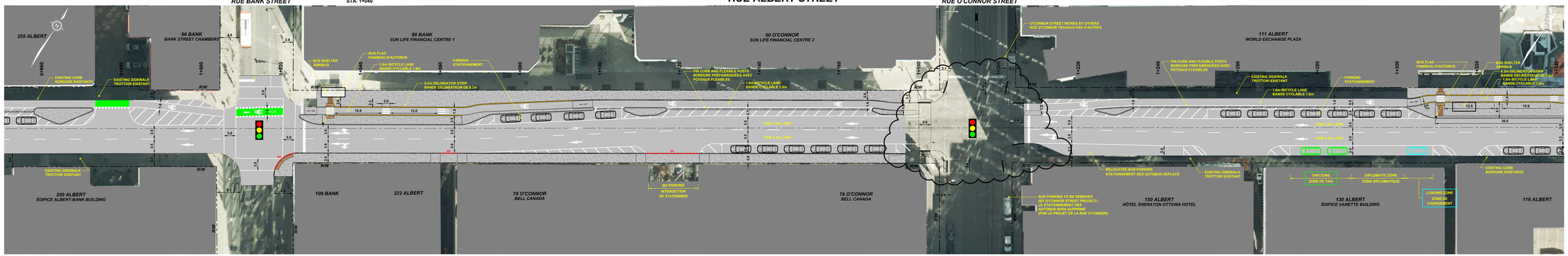
AMÉLIORATIONS DES RUES
ALBERT ET SLATER
DE LA RUE BAY À LA RUE ELGIN
CONCEPTION PROPOSÉE



TYPICAL SECTION / COUPE TYPIQUE
STA. 1+040



TYPICAL SECTION / COUPE TYPIQUE
STA. 1+330



LEGEND:
LÉGENDE:

- R/W — EXISTING ROAD RIGHT-OF-WAY / EMPRISE ROUTIÈRE EXISTANTE
- DC — DEPRESSED CURB / BORDURE EN DÉPRESSION
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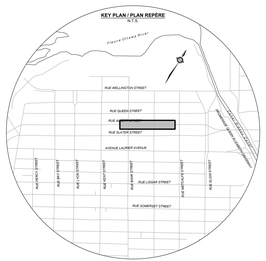
- TRAFFIC SIGNAL / FEUX DE CIRCULATION

KEY PLAN / PLAN REPÈRE
N.T.S.



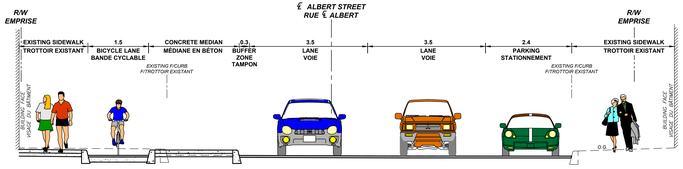
September 26, 2024

STREET IMPROVEMENTS
ALBERT AND SLATER
BAY STREET TO ELGIN STREET

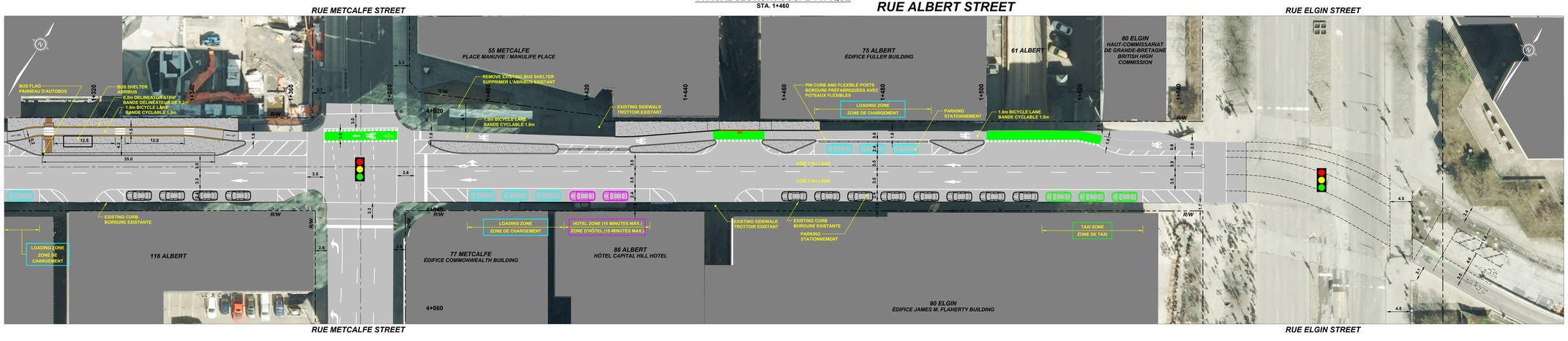
PROPOSED DESIGN

AMÉLIORATIONS DES RUES
ALBERT ET SLATER
DE LA RUE BAY À LA RUE ELGIN

CONCEPTION PROPOSÉE



TYPICAL SECTION / COUPE TYPIQUE
STA. 1+460



Stantec

Scale / Échelle 1:250
7.5m 3.75 0 2.5 5 10m

LEGEND:
LÉGENDE:

- R/W — EXISTING ROAD RIGHT-OF-WAY / EMPRISE ROUTIÈRE EXISTANTE
- DC — DEPRESSED CURB / BORDURE EN DÉPRESSION
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- TRAFFIC SIGNAL / FEUX DE CIRCULATION

KEY PLAN / PLAN REPÈRE
N.T.S.

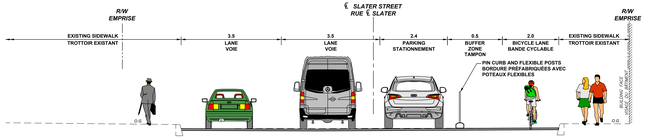
September 26, 2024

STREET IMPROVEMENTS ALBERT AND SLATER
BAY STREET TO ELGIN STREET

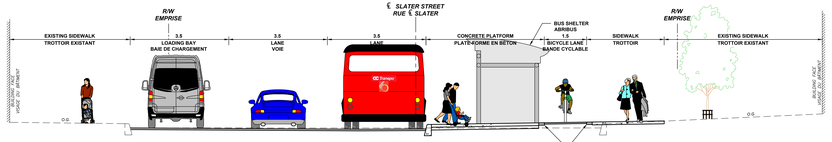
PROPOSED DESIGN

AMÉLIORATIONS DES RUES ALBERT ET SLATER
DE LA RUE BAY À LA RUE ELGIN

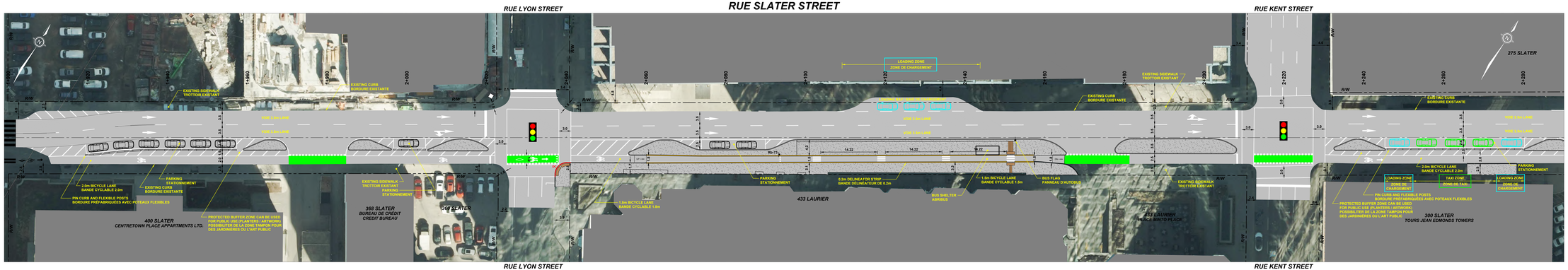
CONCEPTION PROPOSÉE



TYPICAL SECTION / COUPE TYPIQUE
STA. 2+000



TYPICAL SECTION / COUPE TYPIQUE
STA. 2+130



LEGEND:
LÉGENDE:

- R/W — EXISTING ROAD RIGHT-OF-WAY / EMPRISE ROUTIÈRE EXISTANTE
- DC — DEPRESSED CURB / BORDURE EN DÉPRESSION
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- ASPHALT / ASPHALTE
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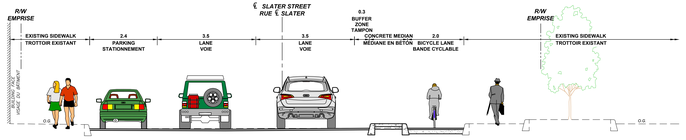
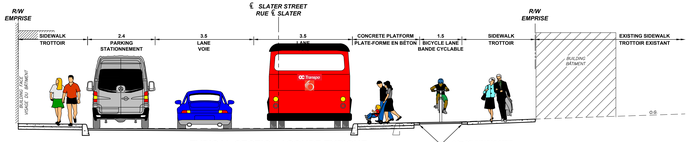
- TRAFFIC SIGNAL / FEUX DE CIRCULATION

KEY PLAN / PLAN REPÈRE
N.T.S.

September 26, 2024



TYPICAL SECTION / COUPE TYPIQUE
STA. 2+360

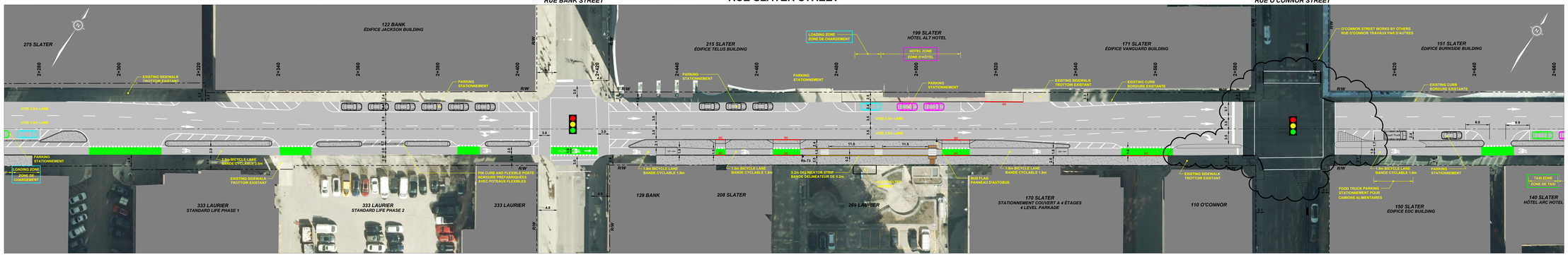


TYPICAL SECTION / COUPE TYPIQUE
STA. 2+500

RUE SLATER STREET

RUE BANK STREET

RUE O'CONNOR STREET



RUE BANK STREET

RUE O'CONNOR STREET

STREET IMPROVEMENTS ALBERT AND SLATER
BAY STREET TO ELGIN STREET

PROPOSED DESIGN

AMÉLIORATIONS DES RUES ALBERT ET SLATER
DE LA RUE BAY À LA RUE ELGIN

CONCEPTION PROPOSÉE

Stantec

Scale / Échelle 1:250

7.5m 5.0m 2.5 0 2.5 5 10m

LEGEND:
LÉGENDE:

- R/W — EXISTING ROAD RIGHT-OF-WAY / EMPRISE ROUTIÈRE EXISTANTE
- DC — DEPRESSED CURB / BORDURE EN DÉPRESSION
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- TRAFFIC SIGNAL / FEUX DE CIRCULATION

KEY PLAN / PLAN REPÈRE
N.T.S.

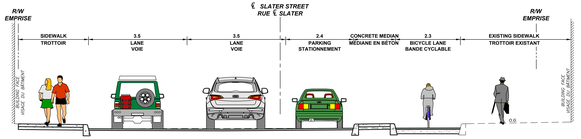
September 26, 2024

STREET IMPROVEMENTS
ALBERT AND SLATER
BAY STREET TO ELGIN STREET

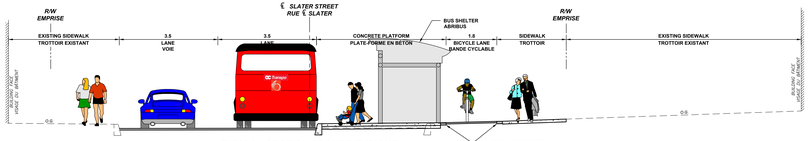
PROPOSED DESIGN

AMÉLIORATIONS DES RUES
ALBERT ET SLATER
DE LA RUE BAY À LA RUE ELGIN

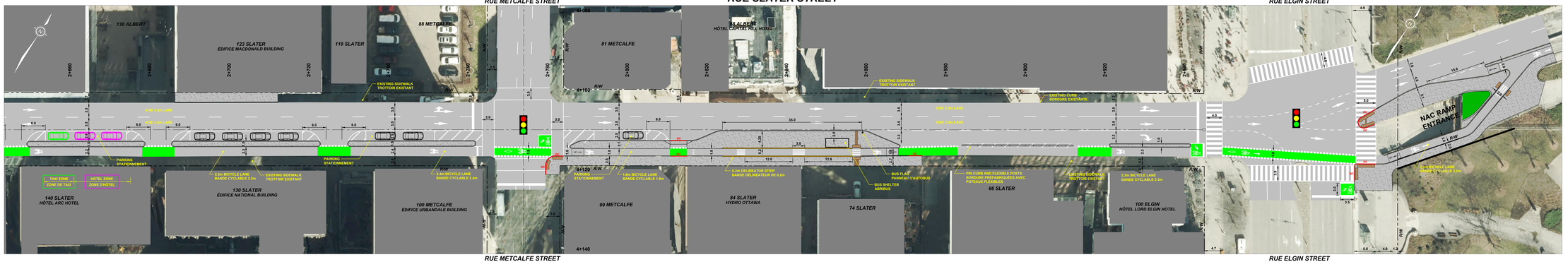
CONCEPTION PROPOSÉE



TYPICAL SECTION / COUPE TYPIQUE
STA. 2+700



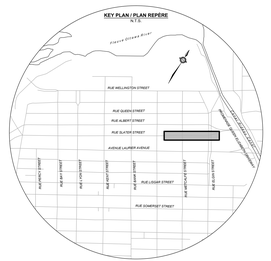
TYPICAL SECTION / COUPE TYPIQUE
STA. 2+850



LEGEND:
LÉGENDE:

- R/W — EXISTING ROAD RIGHT-OF-WAY / EMPRISE ROUTIÈRE EXISTANTE
- DC — DEPRESSED CURB / BORDURE EN DÉPRESSION
- CONCRETE / BÉTON
- ASPHALT / ASPHALTE
- INTERLOCKING PAVING STONES / PAVÉS AUTOBLOQUANTS
- SOD / GAZON
- PAVEMENT THERMOPLASTIC - GREEN / REVÊTEMENT THERMOPLASTIQUE - VERT
- TRAFFIC SIGNAL / FEUX DE CIRCULATION

KEY PLAN / PLAN REPÈRE
N.T.S.



September 26, 2024

APPENDIX H

Strategic Long-Range Model Snapshots

TRANS Regional Model

Version 2.15 - Assigned June 16, 2020

AM Peak Hour Total Traffic Volume

Laurier Avenue

2011 Model - Basecase

N/A

User : Manav
Plot Prepared: Feb 14, 2024
EMME Scenario: 21713

TRANS

Legend

AM Peak Hour Total Traffic Volume

1000 2000 3000 4000 5000

N

Distance (m)

50 100 150 200

TRANS Regional Model

Version 2.15 - Assigned June 16, 2020

AM Peak Hour Total Traffic Volume

Laurier Avenue

2031 Model - Basecase

N/A

User : Manav
Plot Prepared: Feb 14, 2024
EMME Scenario: 21717

TRANS

Legend

AM Peak Hour Total Traffic Volume

1000 2000 3000 4000 5000

N

Distance (m)

50 100 150 200

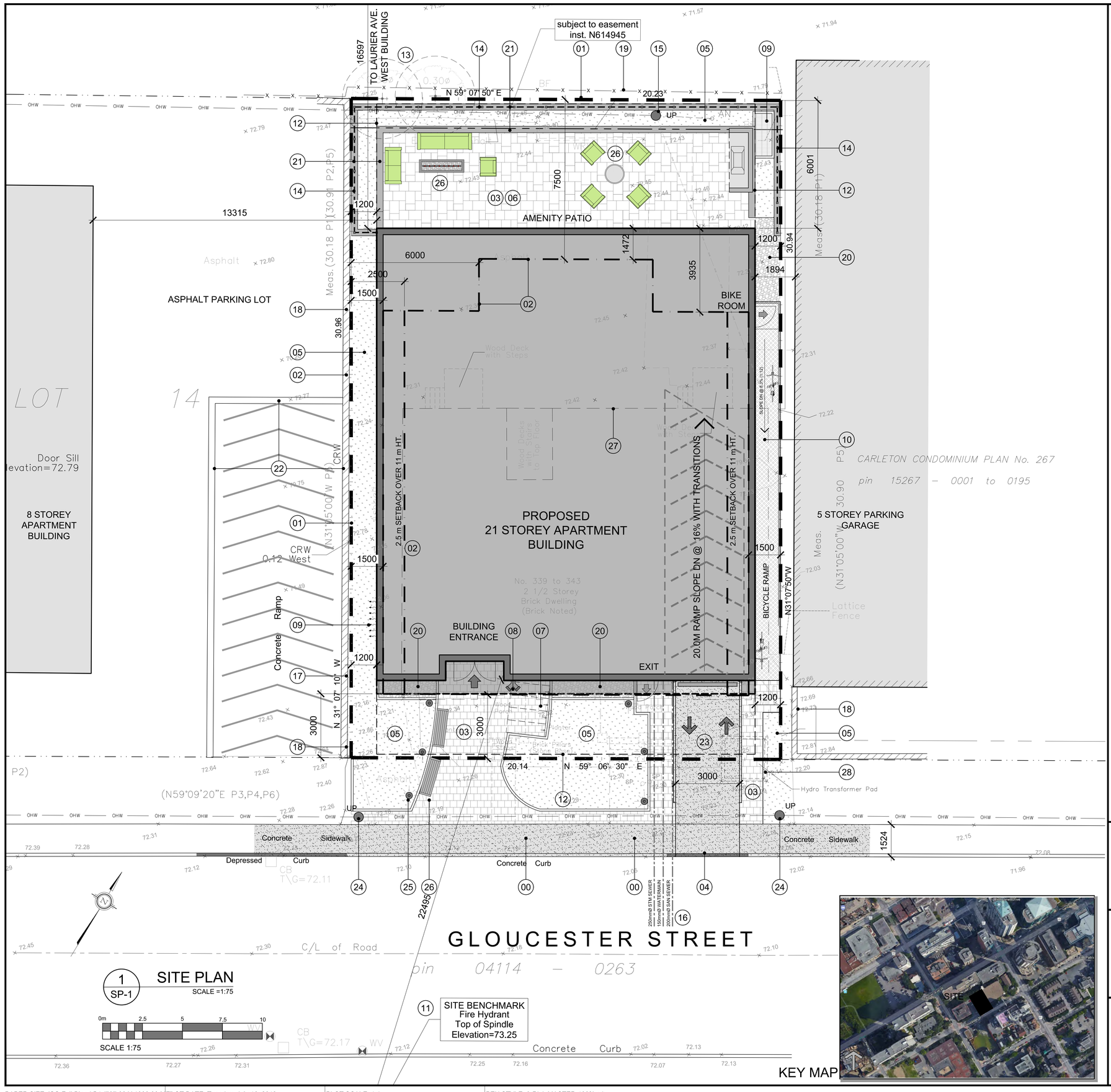
The TRANS model is continuously refined & maintained, and all information is provided in good faith. However, model outputs are provided "as is", and no warranty or guarantee is provided as to the accuracy, reliability or reasonableness of the results. In using this data, you agree to accept any and all risks arising from any incorrect, incomplete, or misleading information.

Recipients are required to use caution and professional judgement in using and interpreting model outputs. In particular, caution should be used when focusing on a geographically limited area (such as a single road or intersection), as the model is primarily designed to simulate regional-scale phenomena and has been calibrated at a regional level.

As general good practice, it is recommended that the user confirm the network coding within the area of interest, and compare base year forecasts against traffic count data to assess the extent to which the model may be over- or under-estimating the travel demand.

APPENDIX I

Relevant Excerpts from Other Transportation Studies



1 SITE PLAN
SP-1
SCALE =1:75

0m 2.5 5 7.5 10
SCALE 1:75

DRAWING NOTES

1. PROPERTY LINE
2. EXISTING BUILDING SETBACKS
3. HARD SURFACE PAVING, SEE LANDSCAPE PLAN FOR PATTERN AND TYPE
4. DEPRESSED CURB AND SIDEWALK TO CITY OF OTTAWA STANDARD DETAIL
5. SOFT LANDSCAPING, SEE LANDSCAPE PLAN
6. PRIVATE PATIOS OVER UNDERGROUND PARKING LEVEL
7. BICYCLE PARKING SPACES
8. SIAMESE CONNECTION
9. AIR INTAKE / EXHAUST GRILL
10. 1100mm WIDE ACCESS WALK TO BICYCLE ROOM, HANDRAILS AS REQUIRED
11. EXISTING FIRE HYDRANT
12. OUTLINE OF UNDERGROUND PARKING LEVELS
13. EXISTING TREE TO BE REMOVED
14. 1800mm HT. PRIVACY SCREEN
15. RELOCATE EXISTING UTILITY POLE AND GUIDE CABLES
16. PROPOSED LOCATION OF UNDERGROUND UTILITIES
17. GAS REGULATOR AND OR METERS
18. EXISTING PRECAST CONCRETE UNIT WALL ON ADJACENT PROPERTY
19. EXISTING ±1800mm HT. BOARD FENCE ON ADJACENT PROPERTY
20. WASHED RIVER STONE SURFACE
21. LOW LANDSCAPE WALL
22. EXISTING RAMP AND RETAINING WALL TO U/G PARKING
23. ENTRY DRIVEWAY TO U/G PARKING GARAGE
24. EXISTING UTILITY POLE
25. BOLLARD LIGHTING
26. SITE / PATIO FURNITURE
27. EXISTING 2 ½ STOREY BUILDING TO BE REMOVED
28. EXISTING HYDRO TRANSFORMER TO BE REMOVED

SITE PLAN SYMBOLS

- CONCRETE UNIT PAVERS SURFACE
- PROPOSED CONCRETE SURFACE
- EXISTING CONCRETE CITY SIDEWALK
- SOFT LANDSCAPING
- BIKE RACK
- TWO WAY VEHICLE CIRCULATION
- MAIN ENTRANCE
- UNIT BALCONY DOOR / FIRE EXIT
- PROPERTY LINE
- ZONING SETBACKS

PROJECT INFORMATION

ZONING BY-LAW 2008-250	R5Q H(64)
SITE AREA	623.8 sq. m. 6,715 sq. ft.
GRADE (GEODETIC ELEVATION)	72.40 m.
BUILDING HEIGHT	64.0 m.
AMENITY AREA (6m²)	696.0 sq. m.
LANDSCAPE AREA	30%
FRONT YARD SETBACK	3.0 m
INTERIOR SIDE YARD SETBACK UNDER 11m HT.	1.5 m
INTERIOR SIDE YARD SETBACK OVER 11m HT.	2.5 m
INTERIOR SIDE YARD SETBACK OVER 21 m BACK	6.0 m
REAR YARD SETBACK	7.5 m

PROJECT STATISTICS

BUILDING HEIGHT	64.0 m.
FRONT YARD SETBACK	3.0 m
INTERIOR SIDE YARD SETBACK	1.2 m
REAR YARD SETBACK	6.0 m

AMENITY SPACE

EXTERIOR AT GRADE =	174.3 sq. m.
1st FLOOR COMMUNAL INTERIOR =	80.8 sq. m.
6th FLOOR EXTERIOR PATIO =	45.6 sq. m.
6th FLOOR COMMUNAL INTERIOR =	155.2 sq. m.
22nd LEVEL EXTERIOR PATIO =	114.2 sq. m.
ROOF LEVEL EXTERIOR PATIO =	144.5 sq. m.
(ALL COMMUNAL) TOTAL =	714.6 sq. m.

SITE COVERAGE

BUILDING FOOTPRINT =	60.0%	374.6 sq. m.
DRIVING SURFACE =	2.3%	14.4 sq. m.
LANDSCAPE AREA =	37.7%	243.2 sq. m.
TOTAL =	100.0%	623.8 sq. m.

GROSS BUILDING FLOOR AREA
(OTTAWA ZONING DEFINITION)

BELOW GRADE LEVELS (3)		0.0 sq. m. 0.0 sq. ft.
GROUND FLOOR		0.0 sq. m. 0.0 sq. ft.
2nd TO 5th FLOOR	4 x 291.3 sq. m. 4 x 3,136 sq. ft.	1,165.4 sq. m. 12,544 sq. ft.
6th FLOOR		151.0 sq. m. 1,625 sq. ft.
7th TO 21st FLOOR	15 x 291.3 sq. m. 15 x 3,136 sq. ft.	4,370.2 sq. m. 47,040 sq. ft.
MECHANICAL LEVEL		0.0 sq. m. 0.0 sq. ft.
TOTAL AREA ABOVE GRADE		5,686.6 sq. m. 61,210 sq. ft.

UNIT STATISTICS

1 BEDROOM UNIT	97
2 BEDROOM UNIT	19
TOTAL	116

CAR PARKING

REQUIRED

RESIDENCE	- AREA Z - NON REQUIRED	0
VISITOR	- 0.1 PER UNIT (AFTER 12 UNITS)	10
TOTAL		10

PROVIDED

RESIDENCE	- 0.017 PER UNIT (116 UNITS)	2
VISITOR	- 0.1 PER UNIT (104 UNITS)	10
TOTAL		12

BICYCLE PARKING

REQUIRED	- 0.5 PER UNIT (116 UNITS)	58

PROVIDED

GROUND FLOOR - ABOVE RAMP	22
PARKING LEVEL P3	116
EXTERIOR	4
TOTAL	142

NOTATION SYMBOLS:

- 00 — INDICATES DRAWING NOTES, LISTED ON EACH SHEET,
- 00 — INDICATES ASSEMBLIE TYPE; REFER TO TYPICAL ASSEMBLIES SCHEDUAL.
- 00 — INDICATES WINDOW TYPE; REFER TO WINDOW ELEVATIONS AND DETAILS ON A900 SERIES.
- 000 — INDICATES DOOR TYPE; REFER TO DOOR SCHEDULE AND DETAILS ON A900 SERIES.
- 00 TITLE / SCALE — DETAIL NUMBER; DETAIL REFERENCE PAGE; DETAIL CROSS REFERENCE PAGE

No.	DESCRIPTION	DATE
2	ISSUED FOR SPC & ZONING AMENDMENT	July 16, 19
1	ISSUED FOR DESIGN CONCEPT	Feb.15, 18

REVISIONS:

ARCHITECT SEAL: ONTARIO ASSOCIATION OF ARCHITECTS — RODERICK J. LAHEY LICENCE 4375 — SEAL DATE: STAMP DATE

NORTH ARROW:

CLIENT:
upscale HOMES
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ARCHITECT:
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56 Beech Street, Ottawa, Ontario K1S 3J6
t.613.724.9932 f.613.724.1209 www.rodericklahey.ca

URBAN PLANNER
FoTenn Consultants Inc.
223 McLeod Street
Ottawa, ON Canada, K2P 0Z8
Tel.: (613) 730-5709
Fax: (613) 730-1136
E-Mail: carrara@fotenn.com

PROPERTY OWNER
UPSCALE HOMES
324 Donald Street
Ottawa, ON
K1K 1M5
E-Mail: ISSA@ihamzo.com

LANDSCAPE ARCHITECT
James B. Lennox & Associates Inc.
Landscape Architects
3332 Carling Ave.
Ottawa, Ontario K2H 5A8
Tel: 613-722-5168
Fax: 1-866-343-3942
Email: JL@jbla.ca

LEGAL DESCRIPTION
SURVEYOR'S REAL PROPERTY REPORT
PART 1 Plan of **LOT 15**
(North Gloucester Street)
REGISTERED PLAN 2996
CITY OF OTTAWA
Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

CIVIL ENGINEER
David Schaeffer Engineering ltd.
120 Iber Road, Unit 203
Stittsville, ON K2S 1E9
Tel: (613) 836-0856
Fax: (613) 836-7183
Email: rfreel@DSEL.ca

SURVEYOR
Annis O'Sullivan Vollebekk Ltd.
Ontario Land Surveyors
14 Concourse Gate, Suite 500,
Nepean, Ontario K2E 7S6
Tel: (613) 727-0850
Fax: (613) 727-1079
E-Mail: EdL@aovltd.com

PROJECT TITLE:
341 GLOUCESTER AVENUE
OTTAWA ONTARIO

SHEET TITLE:
SITE PLAN

DRAWN:	CHECKED:
RV	R.V.
SCALE: 1:75	SHEET No. SP-1
PROJECT No. 1735	

The MMLoS analysis for the Lyon/Gloucester signalized study area intersection is summarized in Table 9. The existing detailed MMLoS analysis is provided as Appendix E.

Table 9: MMLoS – Signalized Lyon/Gloucester Intersection, Existing Conditions

Intersection	Level of Service									
	Pedestrian (PLoS)		Bicycle (BLoS)		Transit (TLoS)		Truck (TkLoS)		Vehicle (LoS)	
	PLoS	Target	BLoS	Target	TLoS	Target	TkLoS	Target	LoS	Target
Lyon/Gloucester	C	A	B	C	E	No target	E	No target	A	E

Given the development's location within close proximity to existing and future rapid transit and its location adjacent to a cross-town bikeway, the target levels of service for pedestrians and cyclists are high ('A'). As there is no transit along Lyon Street and Gloucester Street within the study area, there is no transit level of service target. As Gloucester Street and Lyon Street are not part of the truck route there is no truck level of service target. As shown in Table 9, the bicycle and vehicle level of service targets are met.

With regard to pedestrians, the PLoS is not met due to the pedestrian delay on the north and south crosswalks. Should the effective walk time be increased for these crossings, the PLoS will increase to a "B". This could be completed by the City when the signal timing is updated at this location.

4.9.2. TOTAL PROJECTED 2021 CONDITIONS – FULL BUILD-OUT

There are only approximately 12 two-way vehicle trips projected in both peak hours which equates to approximately 1 vehicle every 5 minutes. Given the low projected number of vehicle trips projected to be generated by the proposed development, the future roadway network and intersection impact is considered negligible. As such, no further traffic assessment is included herein.

Multi-Modal Level of Service –Projected Build-Out Conditions

As there are no planned changes to the Lyon/Gladstone intersection, the projected MMLoS is expected to be the same as the existing MMLoS in Section 4.9.1.

4.9.3. TOTAL PROJECTED 2026 CONDITIONS – FULL BUILD-OUT + 5 YEARS

There are only approximately 12 two-way vehicle trips projected in both peak hours which equates to approximately 1 vehicle every 5 minutes. Given the low projected number of vehicle trips projected to be generated by the proposed development, the future roadway network and intersection impact is considered negligible. As such, no further traffic assessment is included herein.

Multi-Modal Level of Service –Projected Build-Out Conditions + 5 Years

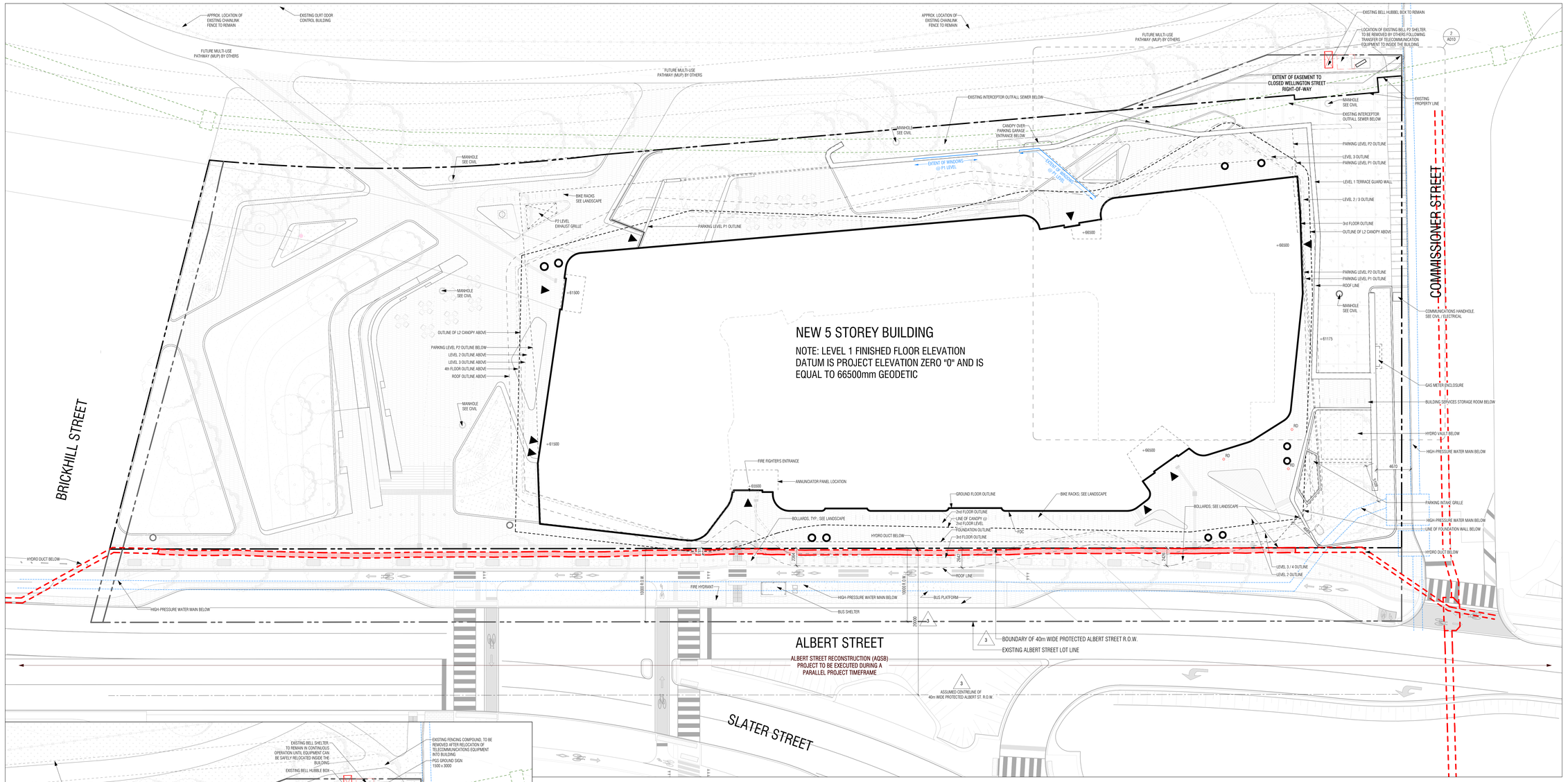
As there are no planned changes to the Lyon/Gladstone intersection, the projected MMLoS is expected to be the same as the existing MMLoS in Section 4.9.1.

5. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

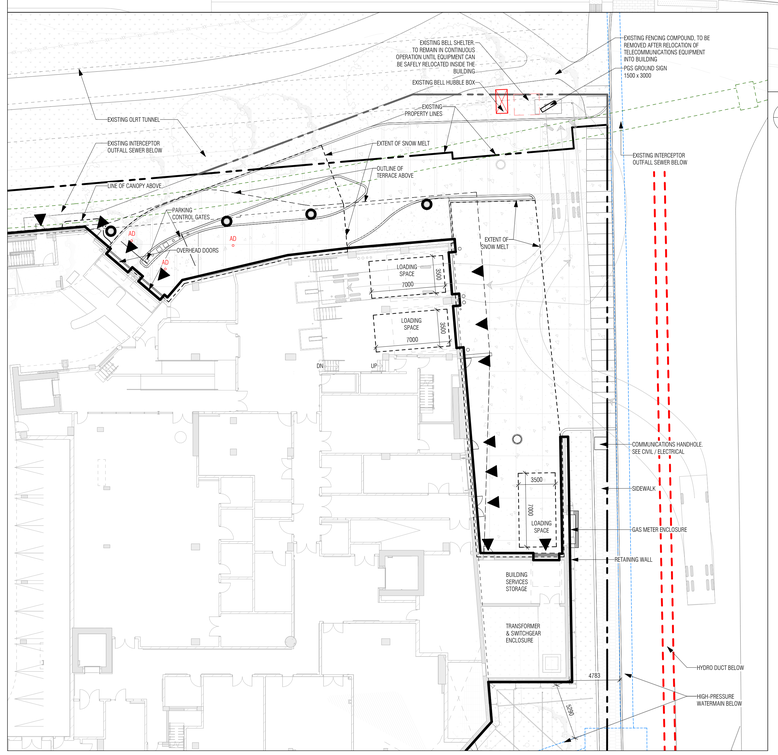
Based on the analysis herein, the following conclusions are provided:

Proposed Site

- The development will include 116 apartment units with 2 proposed underground residential parking spaces and 10 visitor parking spaces;



1 / A010 **SITE PLAN**
1 : 200



2 / A010 **SITE PLAN DETAIL - LOADING BAY**
1 : 200

BIM 360://1855-OPL-LAC-P20/1855-ARCH-OSA-Building-R20.rvt
2021-12-08 5:34:01 PM

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ISSUED

No.	Date	Description
0	2020-05-28	ISSUED FOR CD 30%
1	2020-09-29	ISSUED FOR CD 60%
2	2020-10-06	ISSUED FOR CD 60% (ADDENDUM 1)
3	2020-11-16	RE-ISSUED FOR SITE PLAN CONTROL
4	2021-01-18	ISSUED FOR CD 90%
5	2021-02-26	ISSUED FOR COORDINATION
6	2021-03-19	ISSUED FOR REVIEW
7	2021-03-23	ISSUED FOR BUILDING PERMIT
8	2021-04-09	ISSUED FOR CONSULTANT COORDINATION
9	2021-05-11	ISSUED FOR TENDER
10	2021-05-11	ISSUED FOR BUILDING PERMIT UPDATE
11	2021-06-23	ISSUED FOR ADDENDUM NO. 4
12	2021-08-18	ISSUED FOR ADDENDUM NO. 17
13	2021-11-22	ISSUED FOR CONSTRUCTION
14	2021-12-09	ISSUED FOR SI-001 R1
15	2021-12-09	ISSUED FOR CONSTRUCTION UPDATE

Project Zoning Review/Statistics

Municipality:	City of Ottawa
Municipal Address:	555 Albert Street
Registered Owner:	City of Ottawa
Lot Area:	9,543 m² (2.39 acres)
Zoning Analysis	
Ottawa	
Zoning By-law:	2008-250
Zone:	MD H(40)
Proposed Use:	Library / Parking Facility

Building Areas

	Gross Floor Area (m²) (as per Zoning By-Law, Section 54)
Level P2 - Parking	---
Level P1 - Parking	1,585
Level 1	2,430
Level 1 Mezzanine	72
Level 2	2,717
Level 3	2,175
Level 4	2,732
Level 5	1,327
Level 5 Mezzanine	---
Grand Total	13,636

Development Standards

	Required	Provided	
Minimum Lot Area	No min.	9,343 m²	
Minimum Lot Width	No min.	119.9m	
Minimum Required Yard			
Front Yard (min.)	No min.	0 to -2.63m	Aerial Encroachment @ Albert St. R.O.W.
Corner Side Yard (min.)	No min.	11.9m	
Interior Side Yard (min.)	No min.	44.3m	
Rear Yard (min.)	No min.	7.65m	
Maximum Building Height	40m	28.69m	

Parking, Loading, Queuing — Area Z, Schedule 1A

Parking Spaces

Within the area shown as Area Z on Schedule 1A, no off-street motor vehicle parking is required to be provided under this section. (By-Law 2016-249)

Parking Provided: *(below grade)*

	P1 Level	P2 Level	Totals
Standard Spaces (2.6mx 5.2m)	39	119	158
EV Parking Spaces	3	3	6
Reduced Spaces (2.4m x 5.2)	1	5	6
Reduced Spaces (2.6m x 4.6m)	4	8	12
Accessible Type A	3	---	3
Accessible Type B	3	4	7
Total Provided:	*53*	*139*	**192**
Reduced Spaces:	*14*	---	**9%**

Bicycle Parking

Required: Library (1 / 500 m²) — *27 (Table 111A)*

Provided:

	Exterior	Interior	Totals
Horizontal Spaces	62	---	62
Vertical Spaces	---	21	21
Total Provided:			**83**

Loading Spaces (3.5m x 7.0m)	Required:	2 *(Table 113A)*
	Provided:	3

3 / A010 **LOCATION PLAN**
N.T.S.

SURVEY INFORMATION:

STRATA PLAN OF SURVEY of

LOTS A, B, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 AND 18
PART OF LOT 6
IN BLOCK "L":
PART OF WELLINGTON STREET
(CLOSED BY INST. S-LT1743128 AND OC1457912)

REGISTERED PLAN 2
CITY OF OTTAWA

SURVEY PREPARED BY STANTEC GEOMATICS LTD., DATED NOVEMBER 14, 2019

Diamond Schmitt Architects
KWC Architects Inc.
Architects in Joint Venture for the OPL/LAC Joint Facility
384 Adelaide Street West, Suite 100, Toronto, Canada M5V1R7
Tel: 416 862 8800 Fax: 416 862 5508 info@dsai.ca www.dsai.ca

PN TN

OTTAWA PUBLIC LIBRARY - LIBRARY AND ARCHIVES CANADA JOINT FACILITY

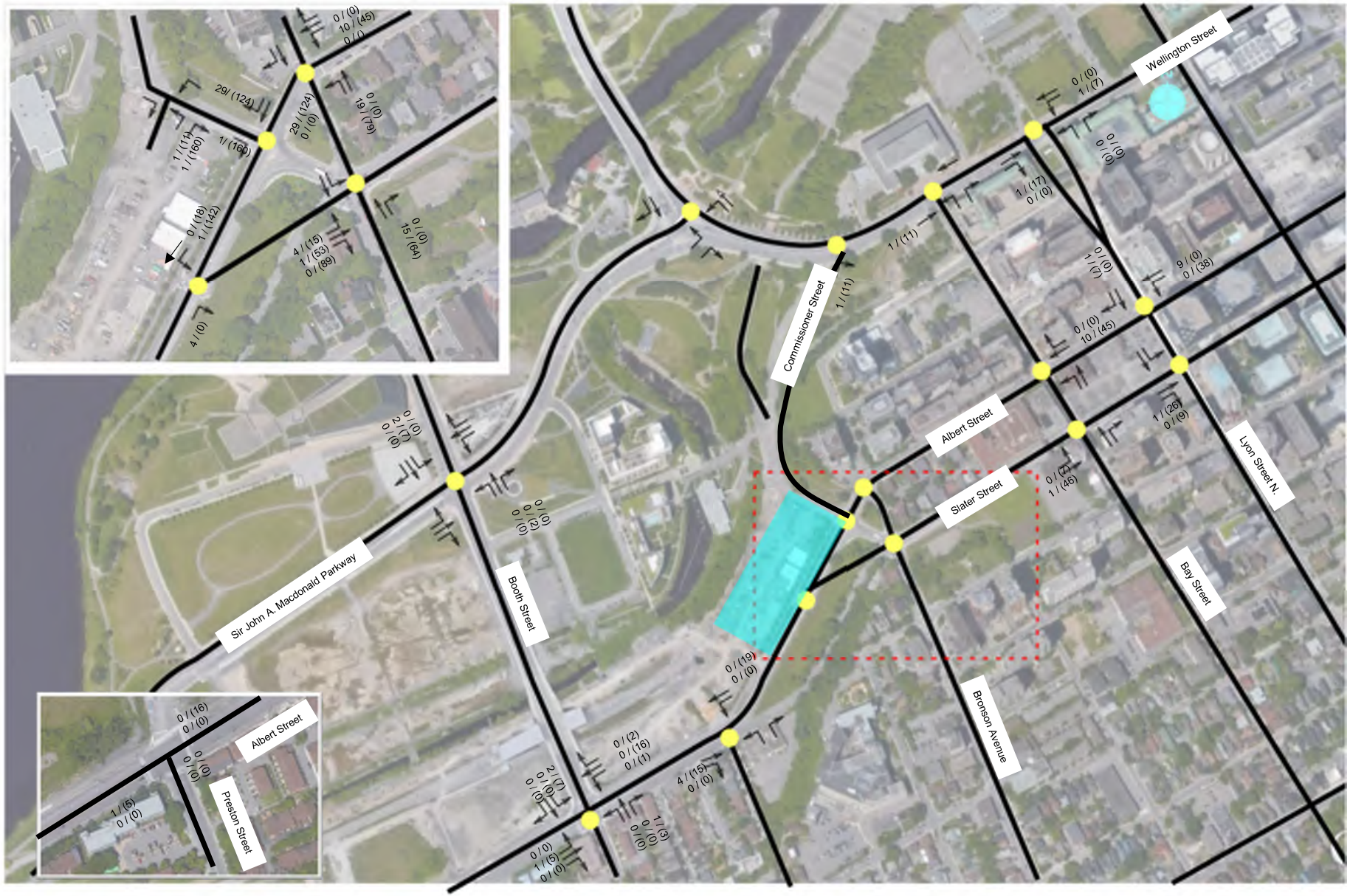
555 Albert St, Ottawa, ON, K1R 7X3

SITE PLAN

Scale: 1:200
Project No: 1855
Date:

A010 DWG # 18176

D07-12-20-077



Ottawa Public Library – Library Archives Canada Joint Facility

Transportation Impact Assessment

Figure 3.1

Site Generated Vehicle Trips

WSP Canada Group Ltd.
Suite 300
2611 Queensview Drive
Ottawa, ON
K2B 8K2

www.wsp.com

Figure 12: Projected Site-Generated Traffic – Phase 1

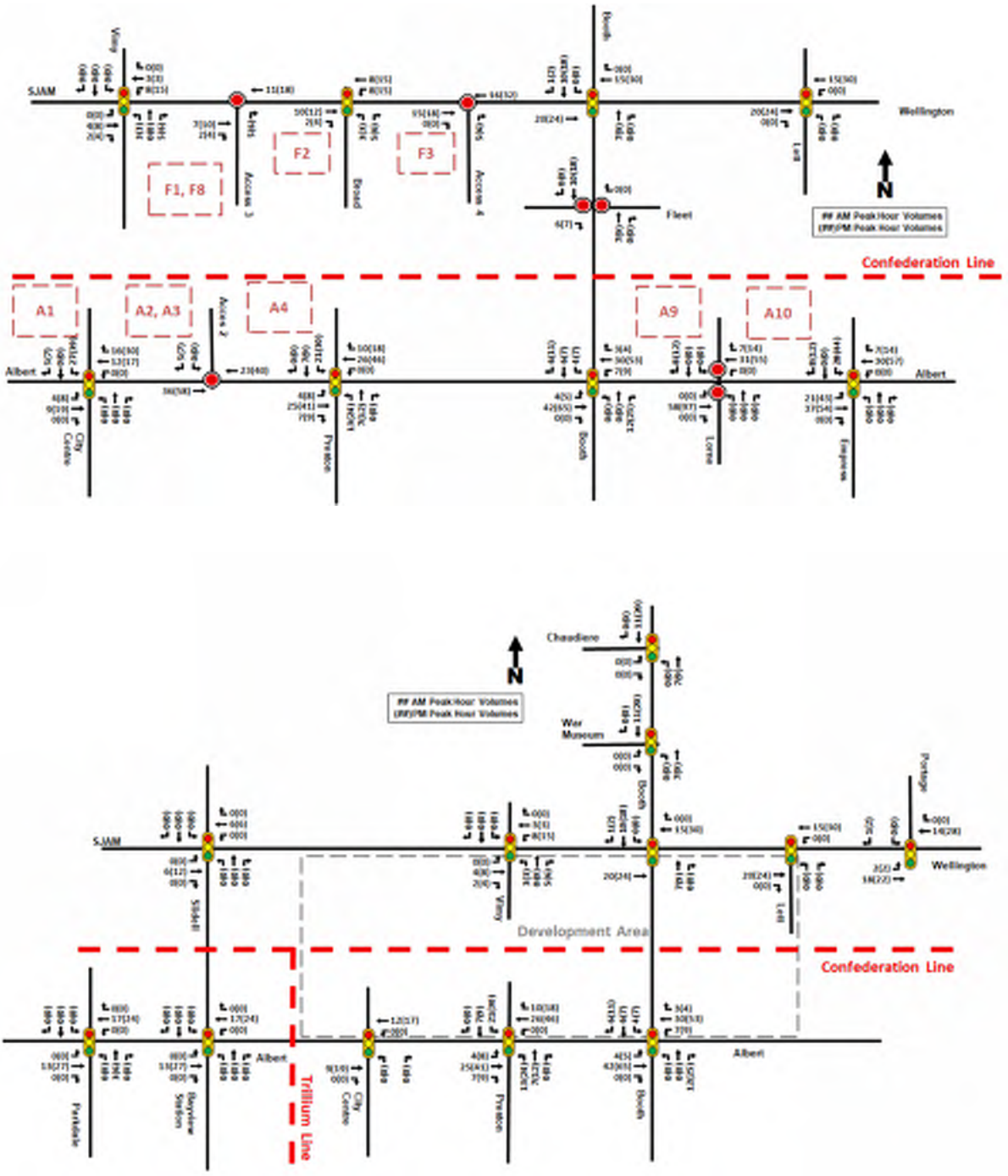


Figure 13: Projected Site-Generated Traffic – Phase 2

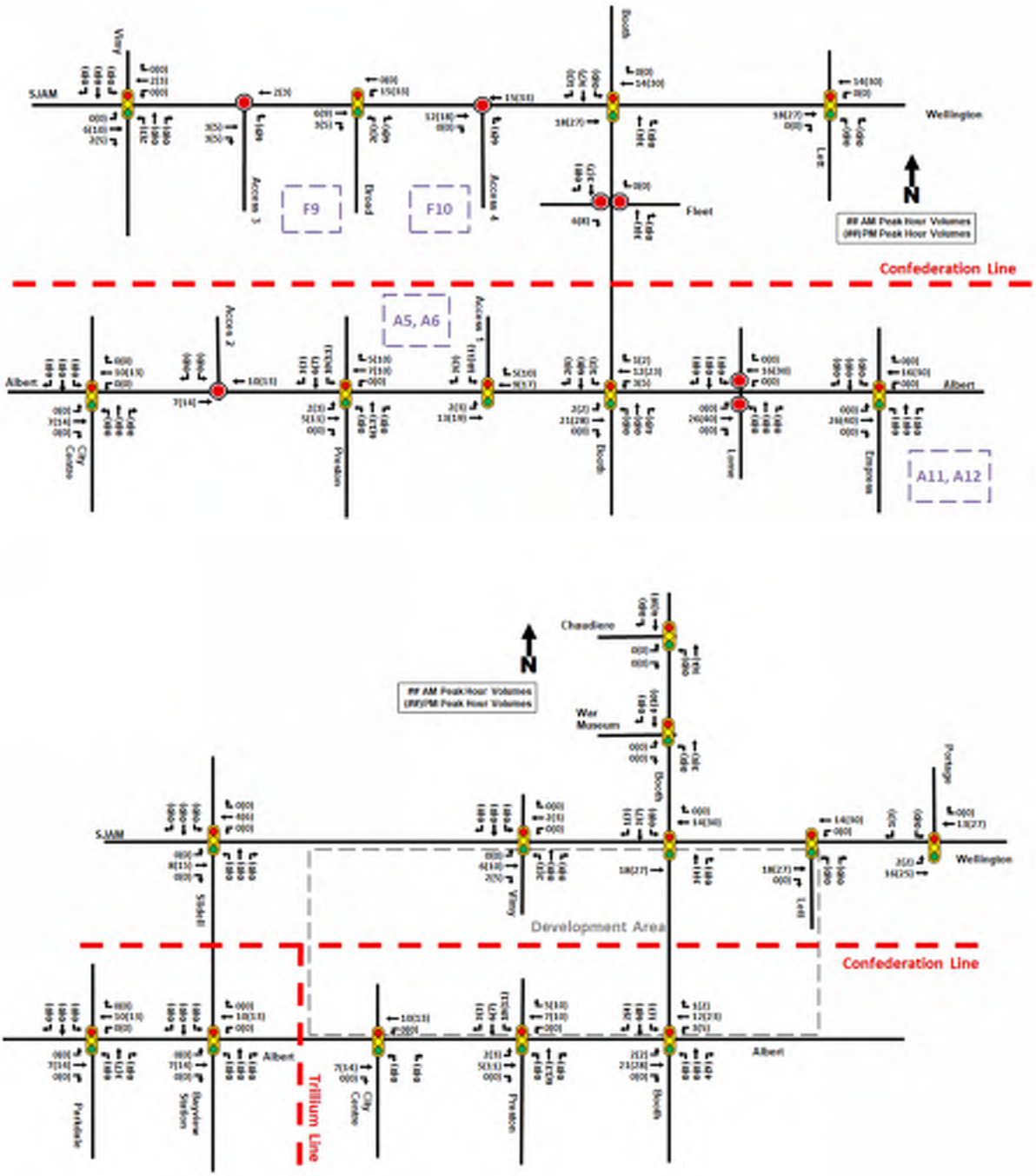


Figure 14: Projected Site-Generated Traffic – Phase 3

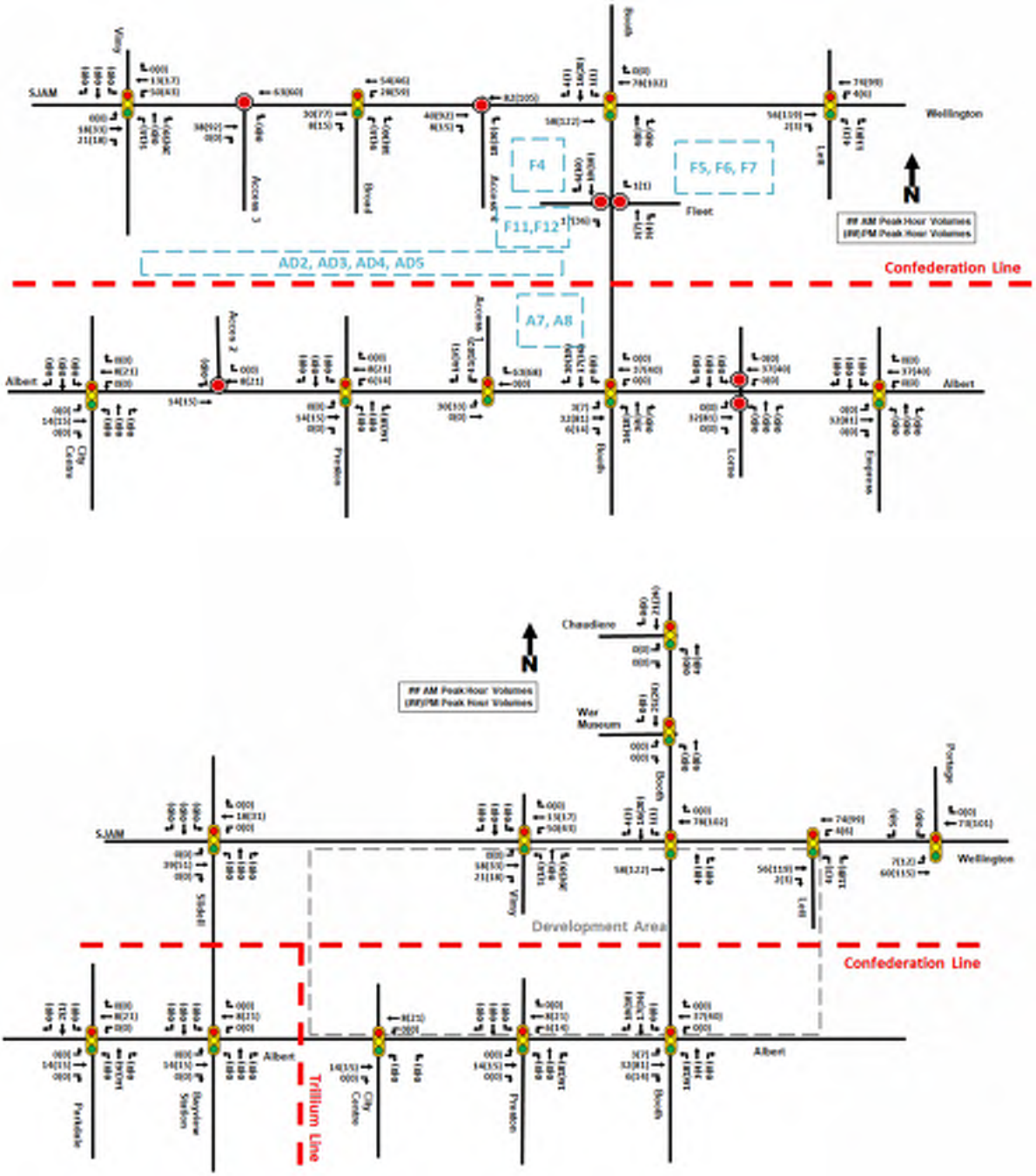
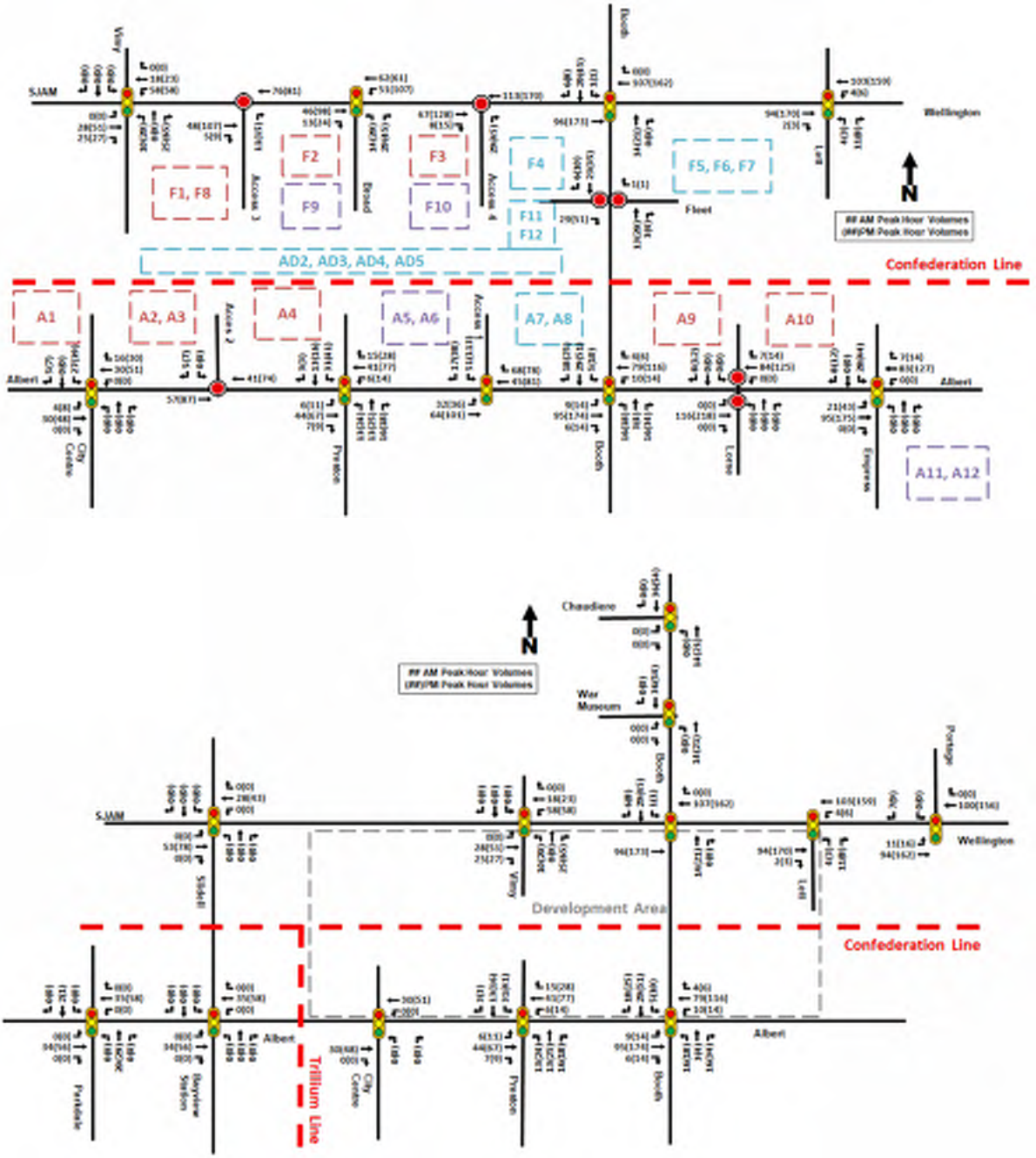
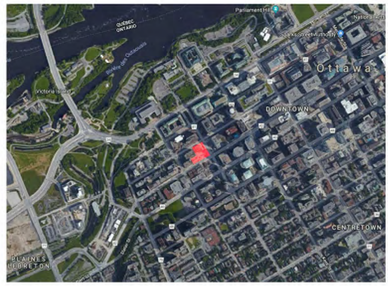


Figure 15: Projected Site-Generated Traffic – Full Build-Out





MIXED-USE RESIDENTIAL WITH GROUND FLOOR COMMERCIAL AND TWO RESIDENTIAL BUILDINGS
383 ALBERT ST ZONED RSC(240) H(64) AND 340 QUEEN ST ZONED RSPH(64)
SUBJECT TO OMB DECISION CASE NO. PL101388

ZONING MECHANISM	REGULATION	PROVIDED
Minimum lot area	540m²	3848.5m²
Minimum lot width	18m	45.09m
Maximum building height	Part A : 81m Part C: 64m	Part A : 80.95m Part B: 29.05m Part C: 80.82m
Minimum front yard Setback (Queen St.)	2.5m	1.10m
Minimum corner side yard setback (Lyon St.)	1.5m	1.513m
Minimum interior side yard setback	Along West property line, adjacent to Part C: 1.5m Along north property line, adjacent to Part C: 1.5m (podium only); 7.5m for remainder Along west property line, adjacent to Part A: 3.075m	Along West property line, adjacent to Part C: 1.502m Along north property line, adjacent to Part C: 1.518m (podium only); 8.403m for remainder Along west property line, adjacent to Part A: 0.032m
Minimum rear yard setback (Albert St.)	0.25m	0.267m
Minimum landscaped area (hard and soft landscaping, at-grade only)	8.9% of the total lot area (0.089x3848.5m² = 342.5m²)	8.9% (342.75m²)
Commercial uses	Can occupy 100% of the total ground floor area (1935m²)	100% of GFA (1935m²)
Minimum amenity area	Total amenity area = 6m² per dwelling unit (588units x 6 m² = 3528 m² required total amenity area) Communal amenity area = 33% of total amenity area (33% x 3528 m² = 1164 m² required communal amenity area) Layout = Aggregated into areas up to 54 m², and where more than one aggregated area is provided, at least one must be a minimum of 54 m².	Total amenity area: 4051 m² provided Communal amenity area: 1771 m² provided (Lounges: 90+108+109m²; Pool Rooms: 141+141m²; Business Centers: 78+55m²; Fitness Rooms: 93+98m²; Terraces: 400+422m²; Theatre: 36m²) Private amenity area : 2280m² provided (Part A/B/C: balconies)

	PART A	PART C / PART B
Number of Units	Total: 267 units (46 xStudio; 163 x1BR; 56 x2BR; 2 x3BR)	Total: 321 units (58 xStudio; 155 x1BR; 108 x2BR)
Number of Storeys	27	27 (Part C) / 9 (Part B)
GFA by Use	Residential (Condo) : 15824m²	Residential (Rental) : 19086m²
	Retail (Podium Part A, B, C): 1935m²	

AREA Z: NEAR LRT STATIONS ON SCHEDULE A1, ZONING BY-LAW 2008-250

ZONING MECHANISM	REGULATION	PROVIDED
Minimum parking space requirement	Residential: 0 Non residential use: 0 (Area Z) Visitor: 30 spaces Total = 27 required spaces (30-3 spaces as per Section 101(6)(c))	Residential: 314 spaces Retail: 15 spaces Visitor: 30 spaces Total: 359 spaces
Maximum parking space requirement (within 600m of rapid transit station)	Residential: 1.5/dwelling (Max. 882 spaces) Retail store: 1.0 per 100m² of GFA (1935m² /100m² ·19 spaces)	Residential: 314 spaces Retail: 15 spaces
Minimum parking spaces reserved for physically disabled persons	4 spaces (given 300-399 spaces)	10 spaces
Minimum bicycle parking	Residential: 0.5/dwelling (0.5*588=294 spaces required) Retail : 1.0 per 250m² of GFA (1935m²/250m²= 8 spaces required)	Residential : 350 interior spaces (96 vertical spaces; 254 horizontal spaces) 72% of required spaces located on P1+P2 Retail : 9 exterior spaces (Queen St.)
Minimum loading spaces	Retail, retail food store = 2 (assuming entire ground floor is one space)	2
Minimum driveway width	6m	6.7m
Minimum aisle width	6m	6m

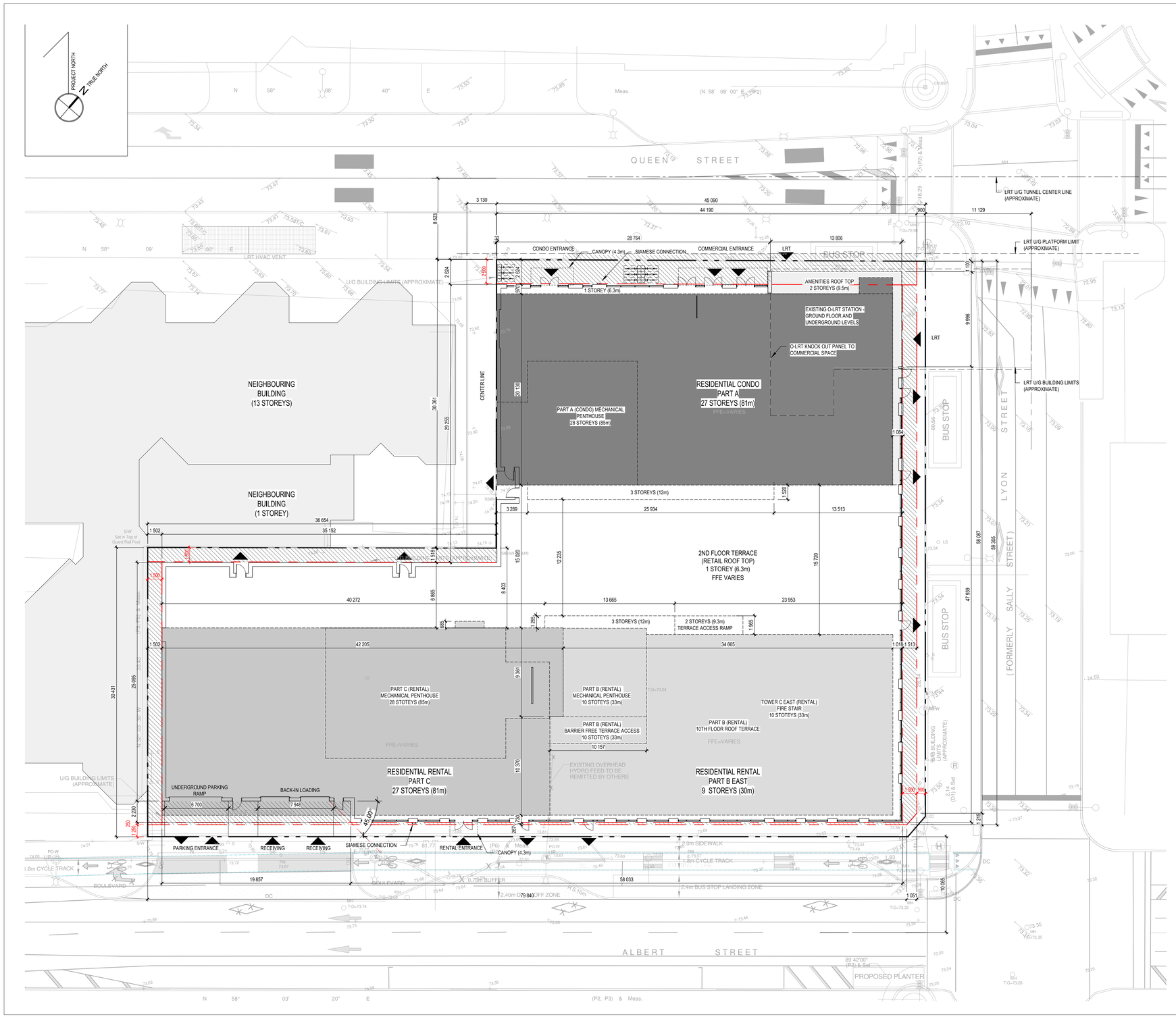
WASTE MANAGEMENT : SINGLE CHUTE TRI-SORTER WITH ORGANICS COLLECTION IN CENTRAL ROOM (P1)

ZONING MECHANISM	REGULATION	PROVIDED
PART A (261 units)	GARBAGE (loose): 0.110 cubic yards/unit FIBER: 0.038 cubic yards/unit GLASS/METAL/PLASTIC: 0.018 cubic yards/unit ORGANICS : 1x (240L bin)/ 50 units	GARBAGE: 6 x (4 yard) + 2 x (3 yard) bins FIBER : 3 x (4 yard) bins GLASS/METAL/PLASTIC : 2 x (3 yard) bins ORGANICS: 6 x (240L) bins
PART C / PART B (321 units)	GARBAGE (loose): 0.110 cubic yards/unit FIBER: 0.038 cubic yards/unit GLASS/METAL/PLASTIC: 0.018 cubic yards/unit ORGANICS : 1x (240L bin)/ 50 units	GARBAGE: 7 x (4 yard) + 3 x (3 yard) bins FIBER : 3 x (4 yard) + 1 x (3 yard) bins GLASS/METAL/PLASTIC : 2 x (3 yard) bins ORGANICS: 7 x (240L) bins

LEGEND

PROPERTY LINE
SETBACK LIMIT
A — REQUIRED SETBACK
PEDESTRIAN EASEMENT / LANDSCAPED AREA
BICYCLE LANE DEMARCATION
HP/UP — EXISTING HYDRO / UTILITY POLE

0 2000 4000 6000 8000
BAR SCALE 1:200



SITE PLAN AT GROUND FLOOR
1 : 200
1 / A100

NOTES GÉNÉRALES General Notes

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4. Les dimensions sur ces documents doivent être lues et non mesurées. / The dimensions on these documents must be read and not measured.

MÉCANIQUE ÉLECTRIQUE Mechanical Electrical
Smith + Andersen
1600, Carling Avenue, Suite 530, Ottawa, ON K1Z 1G3
T 613 230 1186 smithandandersen.com

STRUCTURE Structural
Goodeve Manhire Inc.
18-77, Auriga Drive, Ottawa, ON K2E 7Z7
T 613 226 4558 goodevemanhire.ca

ARCHITECTURE DE PAYSAGE Landscape Architect
James B. Lennox & Associates
3332, Carling Avenue, Ottawa, ON, K2H 5A8
T 613 722 5168 jbla.ca

CIVIL Civil
Novatech Eng. Consultants Ltd.
240, Michael Cowpland Drive, Suite 200, Ottawa ON K2M 1P6
T 613 234 9643 novatech-eng.com

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NEUF architect(e)s SENCRL
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CLIENT Client
CLARIDGE HOMES

OUVRAGE Project
MOON - PARKING, PODIUM & RENTAL TOWER "C"

EMPLACEMENT Location
383 ALBERT ST.
OTTAWA,ON

NO PROJET No.
11679.00

NO	RÉVISION	DATE (aa-mm-jj)
0	SITE PLAN APPLICATION REVISION	2019.05.03

DESSINÉ PAR Drawn by
CR/PV/RB

VÉRIFIÉ PAR Checked
LH/AC

DATE (aa.mm.jj)
NOV 2018

ÉCHELLE Scale
As indicated

TITRE DU DESSIN Drawing Title
SITE PLAN AT GROUND FLOOR

RÉVISION Revision
0

NO. DESSIN Dwg Number
A100

The projected person trips by modal share, compared to the assumed trip generation for the subject site in the previous TIS is summarized in **Table 3**.

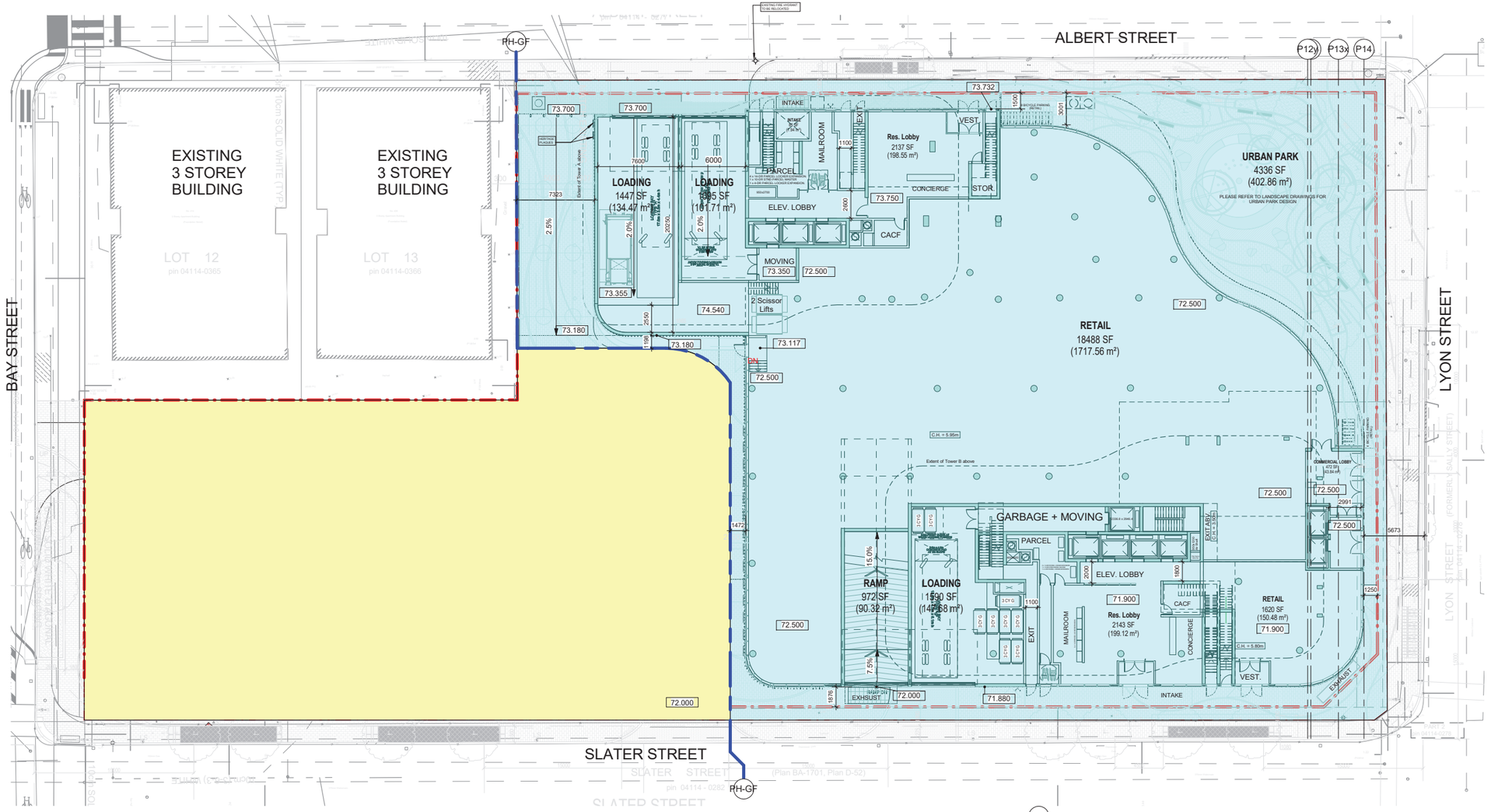
Table 3: Person Trips by Modal Share

Travel Mode	Modal Share		AM Peak			PM Peak		
	AM	PM	IN	OUT	TOT	IN	OUT	TOT
Previous TIS								
Residential Person Trips			*52*	*219*	*271*	*188*	*115*	*303*
Auto Driver	35%	26%	18	77	95	49	30	79
Auto Passenger	3%	10%	3	6	9	19	11	30
Transit	19%	26%	9	42	51	49	30	79
Non-Auto	43%	38%	22	94	116	71	44	115
Commercial Person Trips			*0*	*0*	*0*	*48*	*49*	*97*
Auto Driver	35%	26%	0	0	0	12	13	25
Auto Passenger	3%	10%	0	0	0	5	5	10
Transit	19%	26%	0	0	0	13	13	26
Non-Auto	43%	38%	0	0	0	18	18	38
Auto Driver (Total)			**18**	**77**	**95**	**61**	**43**	**104**
Auto Passenger (Total)			**3**	**6**	**9**	**24**	**16**	**40**
Transit (Total)			**9**	**42**	**51**	**62**	**43**	**105**
Non-Auto (Total)			**22**	**94**	**116**	**89**	**62**	**151**
Proposed Development								
Residential Person Trips			*49*	*207*	*256*	*177*	*109*	*286*
Auto Driver	10%		5	20	25	19	11	30
Auto Passenger	5%		2	11	13	10	6	16
Transit	60%		30	124	154	105	65	170
Non-Auto	25%		12	52	64	43	27	70
Supermarket Person Trips			*55*	*35*	*90*	*129*	*124*	*253*
Auto Driver	15%		10	5	15	20	20	40
Auto Passenger	5%		3	2	5	7	6	13
Transit	40%		21	14	35	51	49	100
Non-Auto	40%		21	14	35	51	49	100
Auto Driver (Total)			**15**	**25**	**40**	**39**	**31**	**70**
Auto Passenger (Total)			**5**	**13**	**18**	**17**	**12**	**29**
Transit (Total)			**51**	**138**	**189**	**156**	**114**	**270**
Non-Auto (Total)			**33**	**66**	**99**	**94**	**76**	**170**
Auto Driver (Difference)			-3	-52	-55	-22	-12	-34
Auto Pass. (Difference)			2	7	9	-7	-4	-11
Transit (Difference)			42	96	138	94	71	165
Non-Auto (Difference)			11	-28	-17	5	14	19

Based on the revised modal shares shown above in **Table 3**, the proposed development is anticipated to generate 55 fewer vehicle trips during the AM peak hour and 34 fewer vehicle trips during the PM peak hour, compared to the projections of the previous TIS.

It is recognized that some trips generated by the proposed development will be internally captured (for example, a resident making a trip to the ground level to buy groceries at the supermarket and

Figure 2: Proposed Site Plan



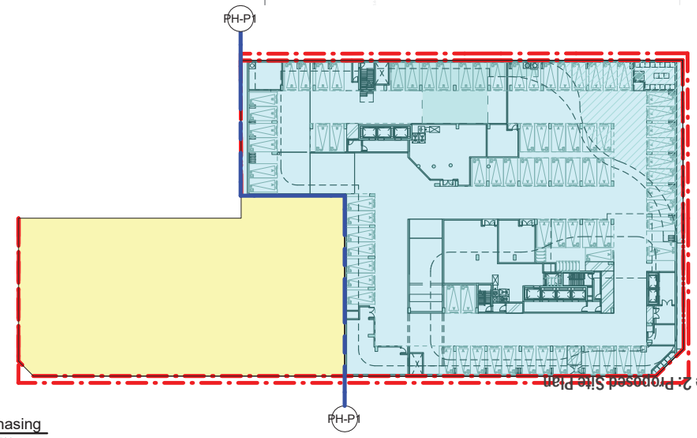
1 / A103 GROUND FLOOR - PHASING
Scale: 1 : 200

PHASE 1

PHASE 2

PROPOSED PHASING LINE

PROPOSED PHASES ARE SUBJECT TO OTHER CONSULTANTS REVIEW



2 / A103 P1 - Phasing
Scale: 1 : 500

CLIENT
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109 Atlantic Avenue, Toronto, ON, M6K 1X4

ISSUES

SEAL
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PROJECT
400 Albert Street
383 Slater Street/400 Albert Street
Ottawa, Ontario

PROJECT NO:
120068

SCALE:	DATE
As indicated	02/07/2021

SHEET TITLE
PHASING PLAN

SHEET NUMBER
A103

D07-12-17-0069

#18258

3.1.2. TRIP DISTRIBUTION

The projected 'new' and 'pass-by' trips were distributed based on the site's connectivity to the existing road network and our knowledge of the surrounding area. The resultant distribution is assumed to be:

- 55% to/from the west via Slater Street. Albert Street, Kent Street, and Laurier Avenue; and
- 45% to/from the north via Lyon Street, Bay Street, and Queen Street.

100%

3.1.3. TRIP ASSIGNMENT

A full movement driveway connection to Slater Street is proposed to serve the subject development's underground parking lot. There is a proposed pick-up/drop-off driveway connection to/from Slater Street and Albert Street and truck loading is proposed to Albert Street and Slater Street. For the purposes of this analysis, the vehicle trips are assigned to the Slater Street access only as the number of vehicle trips to/from the Albert and Slater Street driveways are expected to be negligible in terms of capacity analysis. As 'pass-by' trips are trips that are already travelling along the roadway, they have not been added to the network, but they have they been added to the site's driveway. 'New' and 'Pass-by' site-generated vehicle trips are assigned to the study area network for Phase 1 and full build-out and are illustrated as Figure 10 and Figure 11.

Figure 10: 'New' and 'Pass-by' Site-Generated Traffic, Phase 1

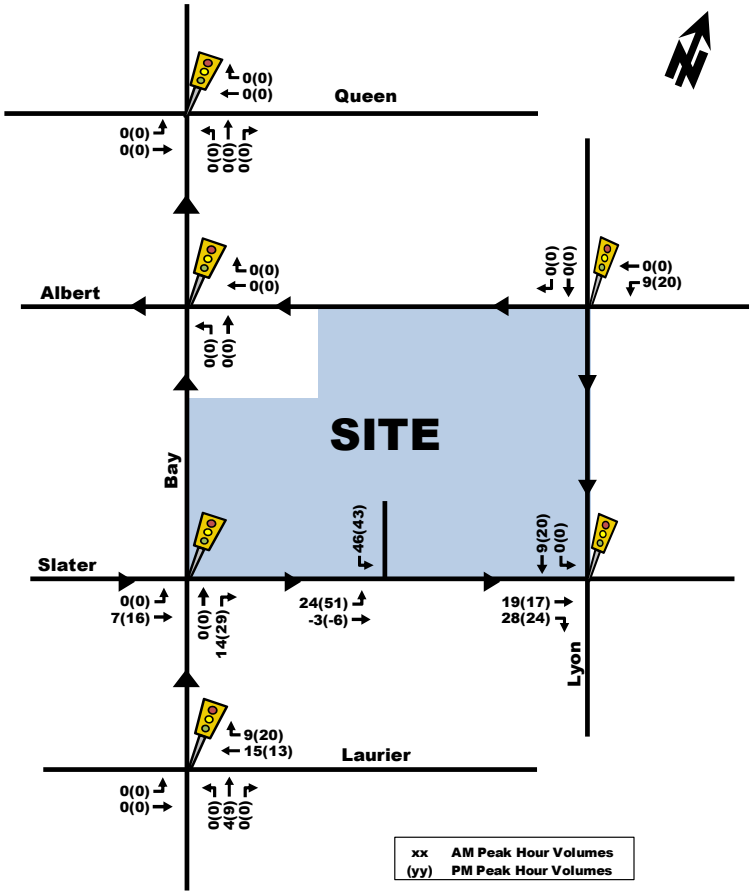
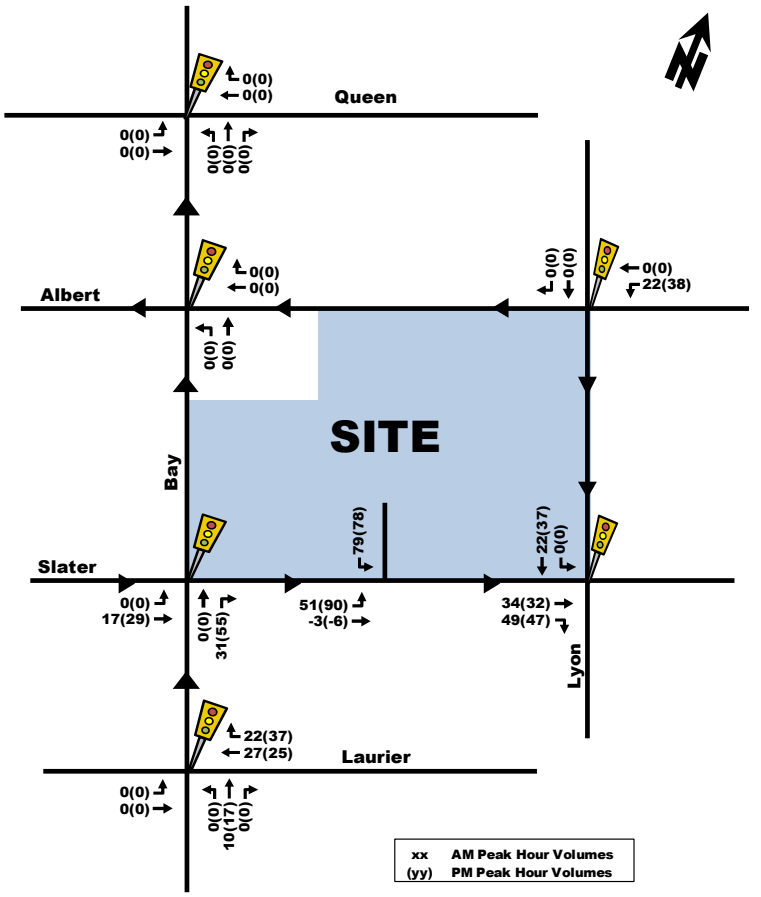


Figure 11: 'New' and 'Pass-by' Site-Generated Traffic, Full Build-Out



3.2. BACKGROUND NETWORK TRAVEL DEMANDS

3.2.1. TRANSPORTATION NETWORK PLANS

Refer to Section 2.1.3 Planned Conditions – Planned Study Area Transportation Network Changes.

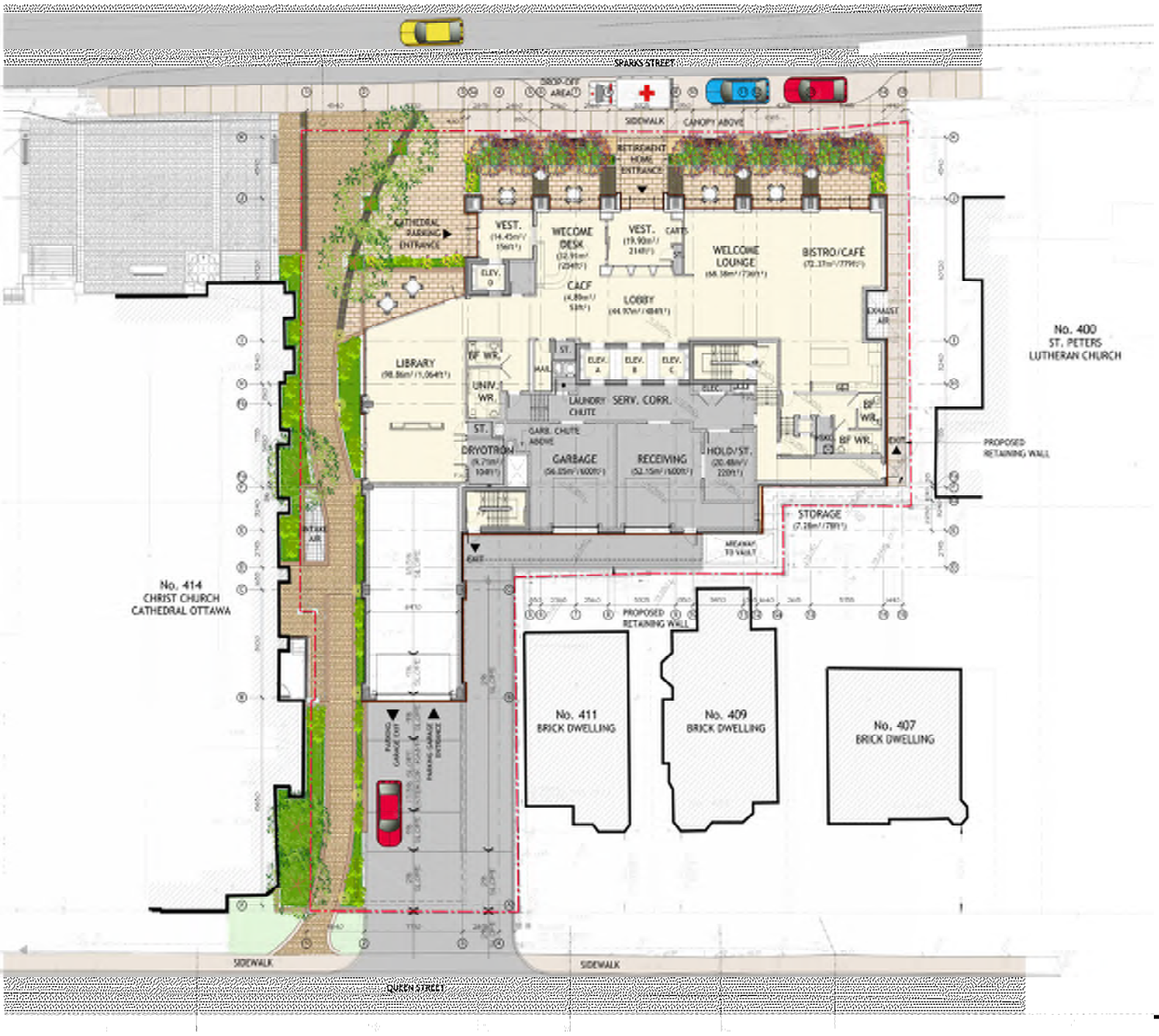
3.2.2. BACKGROUND GROWTH

The following background traffic growth (summarized in
Table 14) was calculated based on historical traffic count data (years 2007, 2011 and 2015) provided by the City of Ottawa at the Bay/Slater intersection. Detailed background traffic growth analysis is included as Appendix E. Because of LRT construction, using more current data would not reflect actual growth conditions as there were many changes due to construction within the study area in the past four years.

Table 14: Bay/Slater Historical Background Growth (2007 – 2015)

Time Period	Percent Annual Change				
	North Leg	South Leg	East Leg	West Leg	Overall
8 hrs	-1.10%	-2.30%	-2.00%	-2.00%	-1.84%
AM Peak	-3.44%	-4.49%	-2.13%	-2.01%	-2.48%
PM Peak	-1.12%	-2.78%	-2.15%	-5.32%	-2.77%

As shown in Table 14, the Bay/Slater intersection has experienced negative overall growth (calculated as weighted average) over an 8-year time period. As an average background traffic growth rate of -2% was calculated, and since the study area is located within the downtown core, directly adjacent to the LRT, no overall growth rate has been applied on forecasted background traffic volumes. This is consistent with the anticipated decline in vehicular traffic within this area outline in the TMP.



PARSONS

Figure 2: Proposed Site Plan

As shown in Table 5, the resulting number of potential 'new' two-way vehicle trips for the proposed development is approximately 14 and 18 veh/h during the weekday morning and afternoon peak hours, respectively. This results in approximately 1 vehicle every 3 to 4 minutes which is considered negligible. As such, no future intersection analysis was needed.

3.1.2. TRIP DISTRIBUTION

This section of the TIA process is exempt from a need for completion since the proposed development generates less than 60 person-trips during weekday peak hours.

3.1.3. TRIP ASSIGNMENT

As previously discussed, no future horizons were analyzed in this TIA since the proposed development is expected to generate fewer than 60 person-trips during weekday peak hours. Therefore, this section was exempt.

3.2. BACKGROUND NETWORK TRAVEL DEMANDS

3.2.1. TRANSPORTATION NETWORK PLANS

Refer to Section 2.1.3 Planned Conditions – Planned Study Area Transportation Network Changes.

3.2.2. BACKGROUND GROWTH

The following background traffic growth (summarized in Table 6) was calculated based on historical traffic count data (years 2007, 2011 and 2015) provided by the City of Ottawa at the Bay/Albert intersection. Detailed background traffic growth analysis is included as Appendix D.

Table 6: Bay/Albert Historical Background Growth (2007 – 2015)

Time Period	Percent Annual Change				
	North Leg	South Leg	East Leg	West Leg	Overall
8 hrs	-1.75%	-1.57%	-2.03%	-1.90%	-1.82%
AM Peak	-3.70%	-4.26%	-2.19%	-2.67%	-3.19%
PM Peak	-2.53%	-2.41%	-1.67%	-1.41%	-2.00%

As shown in Table 6, Bay Street, at the Bay/Albert intersection, has experienced approximately 1.57 to 4.26% annual decrease within recent years during the weekday morning and afternoon peak hours and over an 8-hour count. This is consistent with the decline in vehicular traffic outline in the TMP. Therefore, the was expected to be no background traffic growth within the study area.

3.2.3. OTHER DEVELOPMENTS

Refer to Section 2.1.4 Planned Conditions – Other Area Developments.

3.3. DEMAND RATIONALIZATION

As previously discussed, the trip generation estimates for the proposed development are not expected to exceed 60 person-trips during the peak hour. Vehicular traffic in the Central Area is also expected plateau or decrease over time when the Confederation Line LRT opens in 2019. Therefore, there are no concerns with network capacity and traffic demand related to or associated with the proposed development.

NOTE: PROJECTION NAD 83, MTM 3°; ZONE 9

Project
National Capital Commission
LeBreton Flats Infrastructure and Remediation Project

Title
BLOCK SUBDIVISION OF LEBRETON FLATS

DESSAU SOPRIN

Dessau-Soprin inc.
920, blvd Saint-Joseph
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Prepared D.MORIN	Discipline AR	Project Manager D.MORIN
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Verified C.MARCOTTE	Date 2002-11-18	

Project	Lot	Disc.	Drawing No.	Rev.
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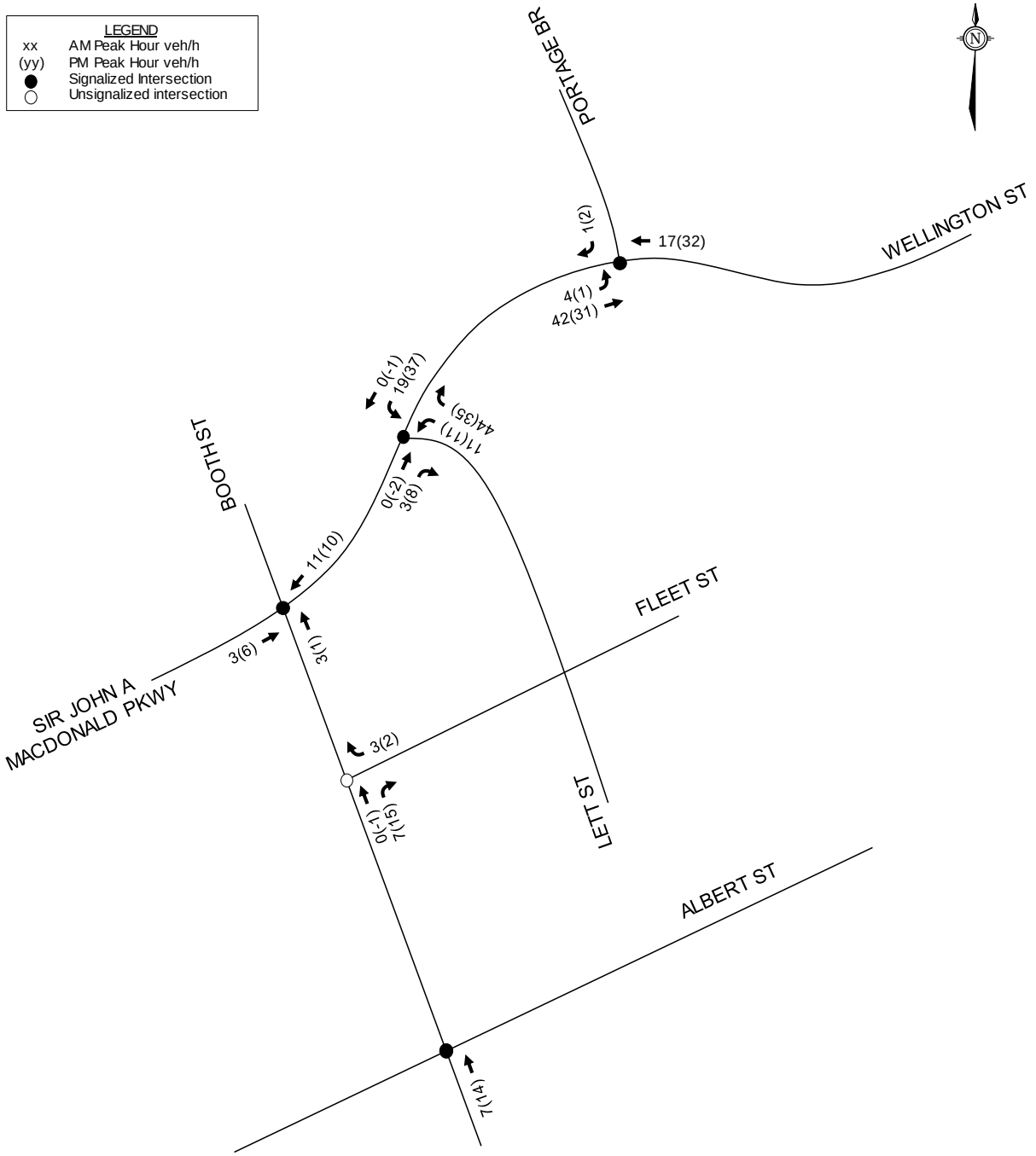
Figure 5: Site Generated Traffic



APPENDIX J

TDM Checklists

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

Legend

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

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

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

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	2.	**WALKING & CYCLING: END-OF-TRIP FACILITIES**	
	2.1	**Bicycle parking**	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)*	☒
REQUIRED	2.1.2	Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)*	☒
REQUIRED	2.1.3	Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)*	☒
BASIC	2.1.4	Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists	☐
	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)	☐

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	☐